CITY OF HOUSTON

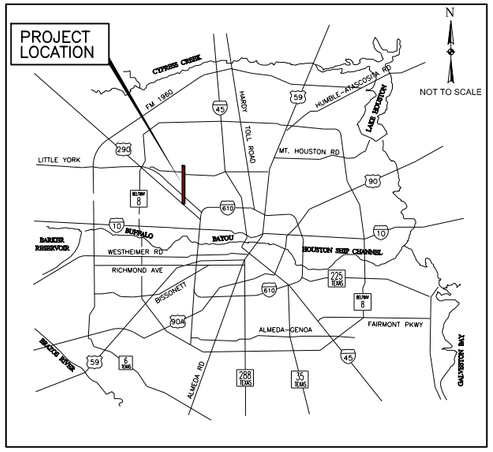
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING AND CONSTRUCTION DIVISION

ANTOINE DRIVE PAVING AND DRAINAGE IMPROVEMENTS PROJECT SEGMENT II

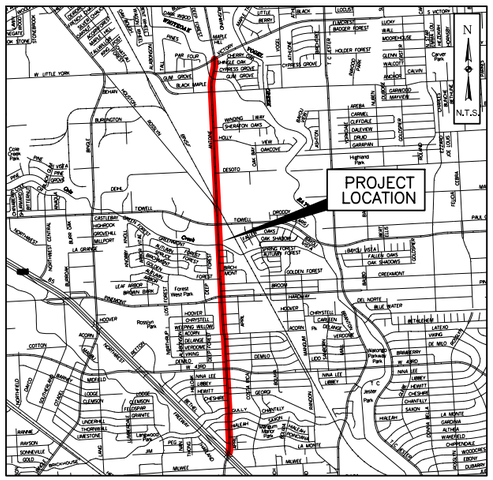
FROM US 290 TO VICTORY DRIVE

WBS NO. N-100030-0GEC-3

CSJ NO. 0912-72-615



VICINITY MAP



LOCATION MAP

KEY MAP NO. 411U, 411Y, 451C, 451L, 451G
GIMS MAP NO. 5160A, 5160C, 5161A, 5161C, 5162C

TDLR EABPR TABS2026014758

MAYOR
JOHN WHITMIRE

CONTROLLER
CHRIS HOLLINS

DISTRICT COUNCIL MEMBERS

AMY PECK, DISTRICT A
TARSHA JACKSON, DISTRICT B
ABBIE KAMIN, DISTRICT C
CAROLYN EVANS–SHABAZZ, DISTRICT D
FRED FLICKINGER, DISTRICT E
TIFFANY D. THOMAS, DISTRICT F
MARY NAN HUFFMAN, DISTRICT G
MARIO CASTILLO, DISTRICT H
JOAQUIN MARTINEZ, DISTRICT I
EDWARD POLLARD, DISTRICT J
MARTHA CASTEX–TATUM, DISTRICT K

COUNCIL MEMBERS AT–LARGE

JULIAN RAMIREZ, POSITION 1
WILLIE DAVIS, POSITION 2
TWILA CARTER, POSITION 3
LETITIA PLUMMER, POSITION 4
SALLIE ALCORN, POSITION 5

Gauge ENGINEERING
11750 KATY FREEWAT, SUITE 400
Houston, TX 77079
www. GaugeEngineerIng.com
Texas PE Firm Reg. #20017

DOCUMENT INCOMPLETE: NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION

ENGINEER: KARAM QADDO
P.E. SERIAL No.: 125611
FIRM.: GAUGE ENGINEERING LLC
FIRM No.: F-20017
DATE: 3/12/2026

SURVEYED BY: KUO & ASSOCIATES
FB NO. ######

PARKS–FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

CITY ENGINEER DATE

DIRECTOR OF HOUSTON PUBLIC WORKS DATE

FOR CITY OF HOUSTON USE ONLY

SHEET NO 1 OF 1067 SHEETS

Plotted on: 3/12/2026 2:11:09 PM $USER$
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STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT NO.			
F 2025(161)			
CONT	SECT	JOB	HIGHWAY
0912	72	615	ANTOINE
DIST	COUNTY		SHEET NO.
HOU	HARRIS		

DESIGN SPEED = 30 & 35 MPH
ANTOINE ADT (2027)= 29,143 VPD
ANTOINE ADT (2047)= 37,374 VPD

PLANS OF PROPOSED
ANTOINE DRIVE PAVING & DRAINAGE IMPROVEMENTS

WBS No. N-100030-0GEC-3
CSJ : No. 0912-72-615

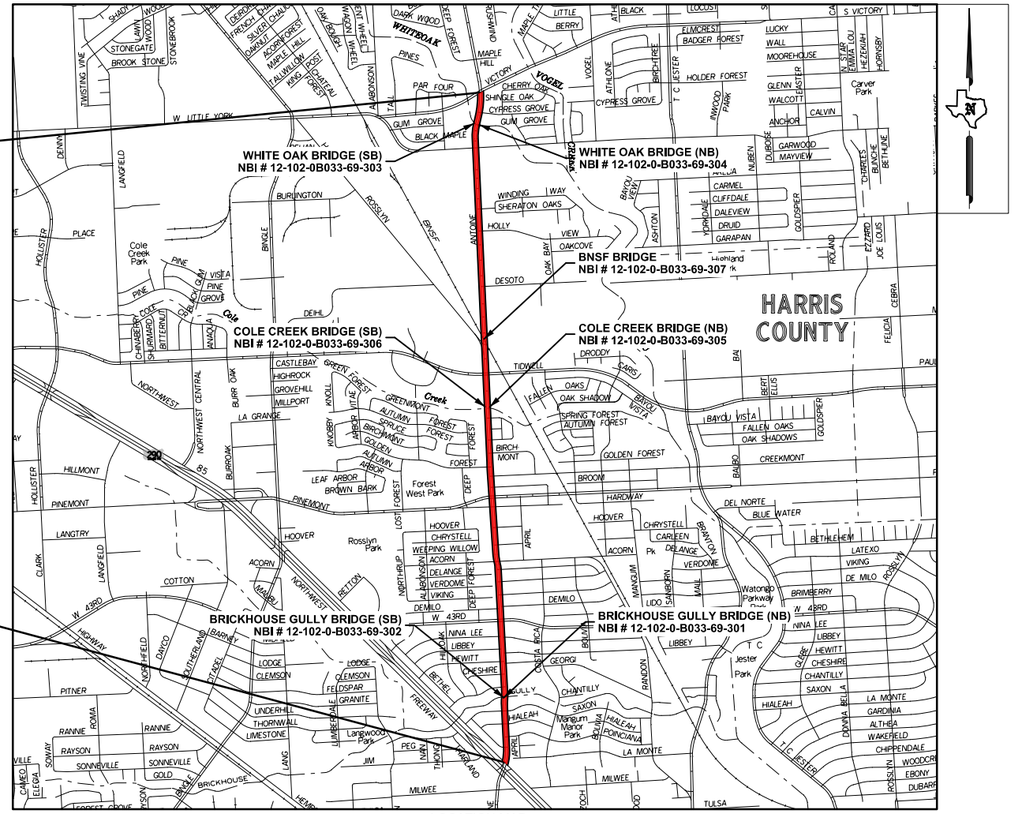
NET LENGTH OF ROADWAY = 14,203.94 FEET = 2.69 MILES
NET LENGTH OF BRIDGES = 1,348.00 FEET = 0.25 MILES
NET LENGTH OF PROJECT = 15,551.94 FEET = 2.94 MILES

FROM US 290 TO VICTORY DRIVE

TYPE OF WORK: SAFETY INPROVEMENT PROJECT
CONSISTING OF: ROADWAY RECONSTRUCTION, INTERSECTION IMPROVEMENTS,
BRIDGES, RETAINING WALLS, DRAINAGE IMPROVEMENTS, WATER AND WASTEWATER IMPROVMENTS,
SIDEWALKS, SHARE-USE-PATH, TRAFFIC SIGNAL AND PAVEMENT MARKINGS

END PROJECT
CSJ:0912-72-615
STA: 159+16.41
N: 13881365.9118
E: 3086667.8162

BEGIN PROJECT
CSJ: 0912-72-615
STA: 3+64.46
N: 13865853.6800
E: 3087034.2566



LOCATION MAP
NOT TO SCALE

KEY MAP NO. 411U, 411Y, 451C, 451L, 451G
GIMS MAP NO. 5160A, 5160C, 5161A, 5161C, 5162C

EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: BNSF

NOTE:

1. ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

2. ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVID88), (GEOID '12A).

3. THE RIGHT OF WAY SHOWN HEREON IS BASED ON THE BEST AVAILABLE EVIDENCE FOUND IN THE FIELD AT THE TIME OF SURVEY COUPLED WITH THE DOCUMENTS OF RECORD IN THE COUNTY CLERK'S OFFICE PROVIDED BY COURTHOUSE SPECIALIST.

4. THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENTS (N1020080) PUBLISHED DATUM NAVID 1988, 1991 ADJUSMENT AND CITY OF HOUSTON MONUMENT'S (5162-0610) DATUM NAVID 1988, GEOID '12A ID IS 0.19'. NAVID 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVID 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION +0.19 FT.

REGISTER ACCESSIBILITY SPECIALIST (RAS) INSPECTION REQUIRED TDLR NO. TABS2026014758

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KARAM QADDO
P.E. 125611

60% SUBMITTAL
3/12/2026

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, SUITE 400
HOUSTON, TX 77079

CONCURRENCE FOR LETTING

SIGNATURE DATE
NAME
POSITION
CITY OF HOUSTON

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DATE
SUBMITTED FOR LETTING:
PROJECT MANAGER

DATE
APPROVED FOR LETTING:
DISTRICT ENGINEER

DATE: 3/12/2026 2:47:20 PM
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No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

INDEX OF SHEETS

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WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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SHEET NO. 3 OF 1067	

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GENERAL CONSTRUCTION NOTES (WITHIN CITY OF HOUSTON ROW)

NOTES:

1. CONSTRUCT WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING IN ACCORDANCE WITH THE LATEST EDITION OF THE PUBLICATIONS STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING, AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS. WATER LINES, STORM DRAINAGE, AND STREET PAVING PUBLISHED BY HOUSTON PUBLIC WORKS.
2. THE GEOTECHNICAL INVESTIGATION FOR THIS PROJECT WAS CONDUCTED IN ACCORDANCE WITH CHAPTER 11 OF THE LATEST EDITION OF THE PUBLICATION INFRASTRUCTURE DESIGN MANUAL, PUBLISHED BY HOUSTON PUBLIC WORKS. SOILS REPORT WAS PREPARED BY AVILES ENGINEERING CORPORATION REPORT NO. G142-20., DATED NOVEMBER 16, 2021.
3. UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/811 OR 800-344-8377 AND LONE STAR NOTIFICATION CENTER AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION. UTILITIES MARKED WITHIN THE PUBLIC RIGHT OF WAY OR IN EASEMENTS SHALL COMPLY WITH TAC TITLE 16, PART 1, CHAPTER 18, RULE 15#6418.6 AND THE AMERICAN PUBLIC WORKS ADMINISTRATION (APWA) UNIFORM COLOR CODE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER, STORM WATER LINES AND TRAFFIC CONTROL DEVICES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS, STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, AND STREET PAVING AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING, REFERENCED ABOVE, AT NO ADDITIONAL COST.
5. CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, HOUSTON PUBLIC WORKS @ 832-394-9098 OR VIA FAX AT 832-395-4424 FOR INSPECTION AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
6. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.
7. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
8. CONTRACTOR SHALL COMPLY WITH LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.
9. CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS AND RECORD AS-BUILT CONDITIONS DURING CONSTRUCTION. THESE REDLINE MARKED UP DRAWINGS WILL BE SUBMITTED TO THE DESIGN CONSULTANT WHO WILL MAKE THE CHANGES ON THE ORIGINAL TRACINGS, LABEL EACH SHEET IN THE SET AS "RECORD DRAWINGS", AND RETURN IT TO THE OFFICE OF THE CITY ENGINEER.

SANITARY SEWER NOTES

1. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HOUSTON "STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC" AND ALL CURRENT AMENDMENTS THERETO AND BE SUBJECT TO A STANDARD EXFILTRATION TEST. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE CITY REQUIREMENTS ARE MORE STRINGENT.
2. ALL MANHOLES ARE TO BE PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02082-01, 02082-02, 02082N-02, 02082-03, AND 02082N-03 UNLESS OTHERWISE NOTED. USE 2019 VERSION AS APPLICABLE.
3. SANITARY SEWER MANHOLES WILL HAVE BEDDING AND BACKFILL PER CITY OF HOUSTON STANDARD DETAILS DRAWING NO. 02317-08 UNLESS OTHERWISE NOTED.
4. THE SANITARY SEWER PVC PIPE SHALL BE ASTM D 3034 TYPE PSM SDR 26 GRAVITY SEWER PIPE, ASTM D2241 SDR 26 PRESSURE RATED SEWER PIPE OR AWWA C-900 DR-18 GREEN PVC PRESSURE RATED SEWER PIPE BASED ON CONSTRUCTION CONDITION REQUIREMENT AND CONFORMING TO ASTM D1784 AND CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02506 POLYVINYL CHLORIDE PIPE.
5. WHEN SS PRESSURE RATED PVC PIPE IS USED ON WATERLINE (WL) CROSSING UNDER CONDITION 1 OF COH IDM TABLE 7.3, THE SAME TYPE OF D2241 SDR 26 PVC PIPE OR C-900 GREEN DR-18 PVC GREEN PRESSURED TO BE UTILIZING IN-BETWEEN TWO SS MH'S. OR TO UTILIZE A DI TRANSITION ADAPTER FOR THE CONNECTING OF ASTM D-3034 PVC GRAVITY PIPE TO DI-OD AWWA C-900 PVC PIPE CENTERED AT WL WHEN CONNECTING TWO DIFFERENT TYPES OF PVC PIPES FOR SEWER CONSTRUCTION.
6. AWWA C-900 DR-18 PVC PIPE USES EITHER AWWA C900 DR-18 PVC FITTINGS OR DIP FITTINGS.
7. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02317-01, 02317-02, OR 02317-03 AS APPLICABLE, WITH 1 1/2 SACK CEMENT/CY STABILIZED SAND BACKFILL UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE. 100 PSI PERFORMANCE RESULTS ARE STILL REQUIRED.
8. ALL SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN 12 INCHES AND 9 FEET SHALL HAVE A MINIMUM OF ONE 18' JOINT OF 150 PSI DUCTILE IRON OR (GREEN) C900 PVC PIPE MEETING ASTM SPECIFICATION D2241 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER, PROVIDE MINIMUM 2 FOOT SEPARATION.
9. CONTRACTOR SHALL PROVIDE A MINIMUM HORIZONTAL CLEARANCE OF 9 FEET BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.
10. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3"-6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADED FOR STORM WATER TO DRAIN AWAY FROM MANHOLE RIM.
12. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5% IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 217.57 LATEST AMENDMENT AND WITHOUT MECHANICAL PULLING DEVICES. NO BALL-TYPE MANDREL IS ALLOWED.
13. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.57 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.

A. INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET.

B. LOW-PRESSURE AIR TEST: PERFORM TEST ACCORDING TO UNI-B-6-90 OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36" (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL BE AS FOLLOWS:

6"	340 SECONDS OR 0.855(L) FOR TEST LENGTHS GREATER	THAN 398'
8"	454 SECONDS OR 1.520(L) FOR TEST LENGTHS GREATER	THAN 298'
10"	567 SECONDS OR 2.374(L) FOR TEST LENGTHS GREATER	THAN 239'
12"	680 SECONDS OR 3.419(L) FOR TEST LENGTHS GREATER	THAN 199'
15"	850 SECONDS OR 5.342(L) FOR TEST LENGTHS GREATER	THAN 159'
18"	1020 SECONDS OR 7.693(L) FOR TEST LENGTHS GREATER	THAN 133'

WHERE L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET.

14. "SAN. S. E." INDICATES "SANITARY SEWER EASEMENT"
15. FOR SANITARY MANHOLE (MH) RIMS SET INSIDE OF OR @ CURB & GUTTER PAVEMENT AND/OR BELOW T.C., MH RIMS WILL BE SET FLUSHED WITH AN ABUTTING PAVED SURFACE. THE (VALCUN, NEENAH OR EQUAL) HEAVY DUTY BOLTED SOLID MH COVER SHALL BE PROPERLY (AND SECURELY) ATTACHED AND SEALED TO ITS COMPATIBLE GASKETED FRAME BY USING BOTH A NEOPRENE GASKET AND (AT LEAST) 4 COUNTER-SUNK HEXHEAD COARSE THREADED 1/2"-13 UNC STAINLESS STEEL BOLTS. THE HEAVY DUTY FRAME MH COVER SHALL BE SOLID (NO AIR HOLES). SAID FRAME SHALL BE BOTH EMBEDDED INTO THE MH'S TOP ALSO SECURELY ANCHORED TO THE UNDERLYING MH STRUCTURE WITH EITHER SECURELY ATTACHED EMBEDDED ANCHOR BOLTS OR THE CONCRETE MH'S EXPOSED REBARS WELDED TO THE FRAME OR OTHER EQUALLY SECURED METHODS TO PREVENT MH COVER/FRAME BLOW-OFFS/EJECTIONS.

STORM NOTES

1. STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACK FILLED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 2317-02, 02317-3, 02317-05, 02317-06, AND 02317-07 (OCT. 2002) AS APPLICABLE UNLESS OTHERWISW SHOWN ON THE DRAWINGS.
2. ALL STORM SEWER CONSTRUCTED IN SIDELOT EASMENT SHALL BE R.C.P (C-76, CLASSIII) AND SHALL BE EMBEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.
3. ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT/C.Y. STABLIZED SAND IN ACCORDANCE WITH CITY OF HOUSTON DRAWING NOS. 02317-03 THROUGH 02317-07 . THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.
4. ALL TRENCH BACKFILL SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND MECHNICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMACTION TEST (ASTM D-698/AASHTO T99).
5. CIRCULAR AND ARCH REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINT CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.
6. ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24" AND LARGER R.C.P. (C-76, CLASSIII).
7. ALL PRPOSED PIPE STUB-OUTS FROM MANHOLES AND INLET LEADS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
8. MINIMUM HORIZONTAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 48-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES. MINIMUM VERTICAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 18-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES.
9. ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS, AND VALAVE BOXES TO GRADE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF THIS WORK.
11. ALL DITCHES SHALL BE GRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.
12. ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.

STREET AND BRIDGE NOTES

1. HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS"AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN IS CONSISTENT WITH THE MINIMUM STANDARDS ESTABLISHED IN THE "INFRASTRUCTURE DESIGN MANUAL" REFERENCED AT: https://www.houstonpermittingcenter.org/media/2276/download
2. FILL AREAS ON PLANS SHALL BE FILLED IN LAYERS NOT EXCEEDING 8" IN DEPTH AND EACH COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF WATER LINE AND FILL AREA SHALL BE SEEDED AND FERTILIZED WITHIN 10 WORKING DAYS.
3. UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURBED INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
4. CONTRACTOR SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE 1 CURB INLETS.
5. EXISTING PAVEMENTS, CURBS, DRIVEWAYS, AND SIDEWALKS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF HOUSTON STANDARDS, WITH LATEST ADDENDA AND AMENDMENTS THERETO.
6. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.

STREET PAVING".

7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO SATISFACTION OF THE OWNING AUTHORITY.
8. EXPOSED 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS 24" LONG 24" C-C DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL.
9. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG AREAS OF EXCAVATION.
10. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING AND SHORING AS SPECIFIED IN CITY OF HOUSTON ORDINANCE #87-1457.
11. WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE SIDEWALKS EXIST AND THE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
12. WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS. WATER LINES, STORM DRAINAGE AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN SHOULD BE CONSISTENT WITH THE MINIMUM STANDARD ESTABLISHED IN THE "DESIGN MANUAL FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORMS DRAINAGE AND STREET PAVING".
13. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGES TO EXISTING WATER, WASTEWATER, STORM SEWER AND TRAFFIC SIGNAL CONDUITS, ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" WITH LATEST ADDENDA AND AMENDMENTS THERETO, AT NO COST TO THE CITY OF HOUSTON.
14. PRIOR TO STREET CONSTRUCTION, THE CONTRACTOR SHALL CONTACT HOUSTON PUBLIC WORKS AT (PHONE) 832-394-9578 AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.
15. DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATIONS BY THE PAVING CONTRACTOR. HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET.

SWPPP CONSTRUCTION NOTES

1. HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS"AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN IS CONSISTENT WITH THE MINIMUM STANDARDS ESTABLISHED IN THE "INFRASTRUCTURE DESIGN MANUAL" REFERENCED AT: https://www.houstonpermittingcenter.org/media/2276/download
2. FILL AREAS ON PLANS SHALL BE FILLED IN LAYERS NOT EXCEEDING 8" IN DEPTH AND EACH COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF WATER LINE AND FILL AREA SHALL BE SEEDED AND FERTILIZED WITHIN 10 WORKING DAYS.
3. UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURBED INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
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6. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.
7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO SATISFACTION OF THE OWNING AUTHORITY.
8. EXPOSED 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS 24" LONG 24" C-C DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL.
9. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG AREAS OF EXCAVATION.
10. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING AND SHORING AS SPECIFIED IN CITY OF HOUSTON ORDINANCE #87-1457.
11. WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE SIDEWALKS EXIST AND THE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.

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HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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GENERAL CONSTRUCTION NOTES

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SWPPP CONSTRUCTION NOTES (CONTINUED)

12. WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS. WATER LINES, STORM DRAINAGE AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN SHOULD BE CONSISTENT WITH THE MINIMUM STANDARD ESTABLISHED IN THE "DESIGN MANUAL FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORMS DRAINAGE AND STREET PAVING".

13. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGES TO EXISTING WATER, WASTEWATER, STORM SEWER AND TRAFFIC SIGNAL CONDUITS, ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" WITH LATEST ADDENDA AND AMENDMENTS THERETO, AT NO COST TO THE CITY OF HOUSTON.

14. PRIOR TO STREET CONSTRUCTION, THE CONTRACTOR SHALL CONTACT HOUSTON PUBLIC WORKS AT (PHONE) 832-394-9578 AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.

15. DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATIONS BY THE PAVING CONTRACTOR. HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET.

TRAFFIC NOTES (CONTINUED)

CONTRACTOR OR OWNER SHALL SUBMIT TRAFFIC CONTROL PLANS WITH THE MOBILITY PERMIT APPLICATION. THE PLANS SHALL BE DRAWN TO SCALE AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS.

THE GENERAL NOTES THAT SHALL BE INCLUDED ON THE TRAFFIC CONTROL PLAN CAN BE FOUND IN CHAPTER 15 (15.12 TRAFFIC CONTROL PLAN) OF THE CITY OF HOUSTON S (CITY) INFRASTRUCTURE DESIGN MANUAL (IDM). BELOW ARE SEVERAL KEY NOTES FROM THE IDM TO BE AWARE OF:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) LATEST EDITION WITH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.

2. NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00PM TO 7:00AM.

3. CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF LANES OF TRAFFIC IN EACH DIRECTION DURING CONSTRUCTION WORKING HOURS. TRAFFIC CONTROL PLANS SHALL INCLUDE ONE-WAY AND/OR DETOUR PLANS. CONTRACTOR SHALL MAINTAIN ADA COMPLAINT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO THE BUS STOP.

4. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.

5. CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM TRANSPORTATION & DRAINAGE OPERATIONS (MOBILITY PERMIT SECTION AT WWW.GIMS.HOUSTONTX.GOV) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN BUSINESS DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.

6. CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES

7. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAY, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE CITY OF HOUSTON.

8. ADDITIONAL OFF DUTY POLICE OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DIRECTION OF THE CITY EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.

TRAFFIC SIGNAL NOTES

1. ALL EQUIPMENT / MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT CITY OF HOUSTON STANDARD SPECIFICATIONS AND STANDARD DRAWINGS, THE PROJECT SPECIFIC SPECIFICATIONS AND THE PLANS.

2. ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE PROVISIONS AND REQUIREMENTS OF THE CITY ELECTRICAL CODE.

ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

3. THE CONTRACTOR SHALL ARRANGE THE INSTALLATION OF SIGNALS, POLES AND CONDUIT SO AS TO PERMIT THE CONTINUOUS MOVEMENT OF TRAFFIC IN ALL DIRECTIONS AT ALL TIMES. THE CONTRACTOR SHALL NOT CLOSE MORE THAN ONE LANE OF A ROADWAY AT ONE TIME WITHOUT PRIOR APPROVAL OF THE CITY.

4. THE CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE WORK AREA ALL LOOSE MATERIAL RESULTING FROM CONTRACT OPERATIONS EACH DAY PRIOR TO WORK BEING SUSPENDED FOR THAT DAY.

TRAFFIC SIGNAL NOTES

5. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND/OR THE APPROVED CITY OF HOUSTON REPRESENTATIVE TO ARRANGE FOR METER AND ELECTRICAL SERVICE CONNECTION FROM THE POWER COMPANY

6. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND/OR THE APPROVED CITY OF HOUSTON REPRESENTATIVE TO ARRANGE FOR METER AND ELECTRICAL SERVICE CONNECTION FROM THE POWER COMPANY.

7. ALL PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL MEET ADA REQUIREMENTS. THE SIGNS THAT SHALL BE USED ARE IDENTIFIED IN THE TMUTCD AS R10-3E. CITY OF HOUSTON STANDARDS FOR PEDESTRIAN FACILITIES SHALL BE MET IN ADDITION TO ANY TEXAS ACCESSIBILITY STANDARDS BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).

8. PEDESTRIANS PUSH BUTTONS SHALL BE SEPARATED BY A MINIMUM OF 10 FEET. EXCEPTIONS ONLY AS SPECIFIED BY THE ENGINEER WITH AUTHORIZATION FROM THE APPROVED CITY OF HOUSTON REPRESENTATIVE.

9. OVERHEAD STREET NAME SIGNS SHALL BE INSTALLED SUCH THAT THE BOTTOM OF THE SIGN IS NO LESS THAN 17 FEET ABOVE THE ROADWAY PAVEMENT OR NO LESS THAN 16 FEET ABOVE THE FINISHED GRADE BEYOND THE SHOULDER.

10. THE LOCATION OF EACH NEW POLE FOUNDATION, PULL BOX, CONTROLLER CABINET FOUNDATION, UPS CABINET FOUNDATION AND ELECTRIC SERVICE PEDESTAL FOUNDATION SHALL BE MARKED IN THE FIELD AS SHOWN ON THE PLANS. THE EXACT LOCATION SHALL BE APPROVED BY THE ENGINEER AND/OR THE APPROVED CITY OF HOUSTON REPRESENTATIVE PRIOR TO BEGINNING INSTALLATION OF THE FOUNDATION.

11. NO POLES SHALL BE LOCATED IN WHEELCHAIR RAMPS OR SUCH THAT THEY ARE AN OBSTRUCTION TO PEDESTRIANS OR WHEELCHAIRS.

12. THE TOP OF THE POLE FOUNDATION SHALL BE LEVELED WITH THE FINISHED GRADE. IF THE SLOPE OR SHOULDER DROPS OFF FROM FINISHED GRADE, THE CONTRACTOR SHALL GRADE AROUND POLE FOUNDATION. THE TOP OF THE FOUNDATION SHALL EXTEND NO MORE THAN 4 INCHES ABOVE SURROUNDING GRADE. GROUTING SHALL BE USED TO FILL ANY GAP BETWEEN THE POLE BASE AND FOUNDATION.

13. POLES SHALL BE LOCATED SUCH THAT ALL PORTIONS OF THE POLES AND ATTACHED EQUIPMENT HAVE CLEARANCES FROM OVERHEAD UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL UTILITY AND THE NATIONAL ELECTRICAL SAFETY CODE (NESC).

14. ALL CONCRETE USED FOR TRAFFIC SIGNAL POLE AND CABINET FOUNDATIONS SHALL BE CLASS 7#32A9#32(REFER TO THE CITY OF HOUSTON SPECIFICATION FOR CONCRETE).

15. MAST ARM AND STRAIN POLES SHALL NOT BE INSTALLED ON THE FOUNDATIONS LESS THAN SEVEN DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR THE FOUNDATION.

16. ANCHOR BOLTS FOR SIGNAL POLES SHALL BE SET SO THAT TWO ARE IN COMPRESSION AND TWO ARE IN TENSION. PRIOR TO THE INSTALLATION OF THE NUT, THE THREADS OF THE ANCHOR BOLT SHALL BE COATED WITH PIPE JOINT COMPOUND.

17. ALL UNDERGROUND CONSTRUCTION (CONDUIT, FOUNDATIONS AND PULL BOXES) FOR THE INTERSECTION SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF POLES, SIGNALS AND CABINETS. THE CONTRACTOR SHALL NOT PROCEED TO ABOVE GROUND WORK UNTIL THE ENGINEER AND/OR APPROVED CITY OF HOUSTON REPRESENTATIVE HAD CONFIRMED THAT THE MATERIALS FOR A COMPLETE INSTALLATION ARE AVAILABLE.

18. UNDERGROUND CONDUIT FOR SIGNAL CABLE SHALL BE EITHER RIGID STEEL, HOT-DIPPED GALVANIZED CONDUIT OR SCHEDULE 80 ELECTRICAL PVC CONDUIT OF THE DIAMETER SHOWN ON THE PLANS, UNLESS OTHERWISE NOTED. ALL COUPLINGS AND CONNECTIONS SHALL BE TIGHT AND WATERPROOF.

19. ALL ABOVE GROUND CONDUIT FOR SIGNAL CABLE AND INTERCONNECT MEDIA SHALL BE HOT DIPPED GALVANIZED STEEL RIGID METAL CONDUIT OF THE DIAMETERS SHOWN ON THE PLANS, UNLESS OTHERWISE NOTED. ALL COUPLINGS AND CONNECTIONS SHALL BE TIGHT AND WATERPROOF.

20. ONLY NEW CONDUIT AND CABLE SHALL BE INSTALLED.

21. CONDUIT INSTALLED UNDER EXISTING PAVED DRIVEWAYS, ROADWAYS OR SIDEWALKS, WHICH ARE NOT SCHEDULED TO BE RECONSTRUCTED AS PART OF THIS PROJECT, SHALL BE INSTALLED BY MEANS OF BORING. THE CONTRACTOR SHALL NOT CUT OPEN ANY STREET OR DRIVEWAY FOR CONDUIT INSTALLATION WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND/OR THE APPROVED CITY OF HOUSTON REPRESENTATIVE.

22. CONDUIT NOT PLACED UNDER PAVED DRIVEWAYS, ROADWAY PAVEMENT OR SIDEWALK MAY BE PLACED BY CUTTING A TRENCH, INSTALLING THE CONDUIT AND BACKFILLING. ANY TRENCHING FOR CONDUIT WIDER THAN THEE (3) INCHES SHALL BE RESODDED.

23. PULL BOXES SHALL NOT BE INSTALLED WITHIN CONCRETE CURB ACCESS RAMPS. IN ADDITION, ANY PULL BOXES INSTALLED BEHIND CURBS SHALL BE INSTALLED BETWEEN THE CURB AND THE PROPOSED / FUTURE SIDEWALK OR BEYOND THE PROPOSED / FUTURE SIDEWALK. AN EXCEPTION TO THIS NOTE WOULD BE PULL BOXES INSTALLED IN A MEDIAN. ANY PULL BOXES INSTALLED ALONG AN UNCURBED ROADWAY SHALL BE INSTALLED ADJACENT TO, BUT NOT WITHIN, THE SHOULDER. DRAINAGE AREAS SHOULD BE AVOIDED WHEN PLACING JUNCTION BOXES.

24. A 5/8 IN. X 10 FT. GROUND ROD SHALL BE INSTALLED IN THE NO. 7 PULL BOX LOCATED ON EACH CORNER. TWO GROUND ROD CLAMPS SHALL BE FURNISHED FOR GROUNDING THE GROUND WIRE.

25. ALL CONDUITS SHALL BE CLEANED BY COMPRESSED AIR AND A PROPERLY SIZED CONDUIT PISTON OR MANDREL SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO CABLE INSTALLATION.

26. WHEN PULLING TRAFFIC SIGNAL SYSTEM CABLES THROUGH CONDUIT, THE CABLES SHALL BE LUBRICATED WITH A LUBRICANT NORMALLY USED FOR THIS PURPOSE. ANY ABRASION TO ANY CONDUCTOR INSULATION WHICH OCCURS WHILE PULLING CABLE FOR THE TRAFFIC SIGNAL SYSTEM WILL BE CAUSE FOR THE IMMEDIATE REJECTION OF THE CABLE. IF THIS OCCURS, THE CONTRACTOR SHALL REMOVE AND REPLACE THE ENTIRE CABLE RUN AT THEIR EXPENSE.

27. A MINIMUM OF THREE (3) FEET OF EACH WIRE AND CABLE MEASURED FROM THE TOP OF THE PULL BOX SHALL BE LEFT IN EACH PULL BOX AND AT EACH POLE BASE.

28. ALL CABLES SHALL BE STRIPPED, FORMED AND TERMINATED IN A NEAT AND UNIFORM MANNER WHETHER IN THE SIGNAL HEAD OR CONTROLLER CABINET. ALL CABLE SHALL BE BROUGHT INTO THE TERMINAL HOUSING OF SIGNALS AND/OR CONTROLLER CABINETS AND A SUFFICIENT LENGTH OF CABLE SHALL BE LEFT SO THAT ALL TERMINAL CONNECTIONS MAY BE MADE WITHOUT THE NECESSITY OF SPLICING THE CABLE.

29. THE HIGH VOLTAGE CABLES SHOULD BE SEPARATED FROM THE LOW VOLTAGE CABLES AS MUCH AS POSSIBLE.

30. NO LOOP DETECTOR SHALL BE CUT IN A PARALLEL EXPANSION JOINT. LOOPS CUT ACROSS EXPANSION JOINTS SHALL HAVE A SLACK IN THE CABLE FOR EXPANSION.

31. ALL VEHICLE ROADWAY DETECTION LOOP CABLES SHALL BE #14 AWG IMSA 51-5-1985 CABLE. LEAD-IN CABLES SHALL BE #16 AWG IMSA 50-2-1984 CABLE. NO SPLICES SHALL BE ALLOWED IN THE ROADWAY DETECTION LOOP CABLE EXCEPT AT THE PULL BOX ADJACENT TO LOOP. THE DETECTOR LEAD-IN CABLE SHALL NOT BE SPLICED.

32. DETECTION LOOP SAW CUTS SHALL BE FLUSHED WITH WATER UNDER PRESSURE AND THEN DRIED WITH AIR UNDER PRESSURE.

33. THERE SHALL BE NO SPLICING IN CONDUCTORS EXCEPT FOR THE NECESSARY SPLICE BETWEEN ROADWAY LOOP WIRE AND DETECTOR LEAD-IN CABLE IN THE PULL BOX ADJACENT TO THE DETECTOR. THESE SPLICES SHALL BE WATERPROOF AND SHALL BE IN COMPLIANCE WITH THE CITY OF HOUSTON STANDARD DRAWINGS FOR TRAFFIC SIGNAL CONSTRUCTION. THESE SPLICES SHALL BE MADE BY THE CONTRACTOR. DO NOT GROUND THE CABLE SHIELD AT THE PULL BOX.

34. TWO #10 AWG-XHHW CONDUCTORS SHALL BE INSTALLED FROM EACH LUMINAIRE TO THE CONTROLLER CABINET, LEAVING THREE FEET OF SLACK FOR EACH CONDUCTOR (MEASURED FROM THE TOP OF THE PULL BOX) IN EACH PULL BOX. ROUTE FOUR CONDUCTORS TO THE LUMINAIRE WITH THE PHOTOELECTRIC CELL. AN IN-LINE FUSE SHALL BE INSTALLED FOR EACH LUMINAIRE IN THE ASSOCIATED PULL BOX.

35. THE EMERGENCY VEHICLE PRE-EMPTION SENSOR CABLE SHALL BE OPTICOM DETECTOR CABLE MODEL NO. 138. THE CABLE SHALL NOT BE SPLICED.

36. ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED.

37. THE CONTRACTOR SHALL BAG ALL NEWLY INSTALLED VEHICULAR AND/OR PEDESTRIAN TRAFFIC SIGNAL HEADS WITH BURLAP OR OTHER APPROVED MATERIAL UNTIL THE FINAL INSPECTION AND ACCEPTANCE BY THE CITY TRAFFIC ENGINEER AND/OR APPROVED CITY OF HOUSTON REPRESENTATIVE. THE BURLAP OR OTHER APPROVED MATERIAL/DEVICE SHALL COMPLETELY COVER THE TRAFFIC SIGNAL HEAD AND SHALL OBSCURE THE VIEW OF THE TRAFFIC SIGNAL INDICATIONS SO THAT THEY CANNOT BE SEEN UNTIL THE TRAFFIC SIGNAL IS PLACED IN OPERATION. DURING CONSTRUCTION, THE TRAFFIC SIGNAL WILL BE DE-ENERGIZED WHILE NOT IN USE FOR TESTING.

38. THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

39. ALL STRIPING AND PAVEMENT MARKINGS ARE TO BE DONE UNDER THIS CONTRACT AND SHALL BE IN PLACE PRIOR TO THE ACTIVATION OF THE TRAFFIC SIGNAL. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL STOP LINES PRIOR TO THE INSTALLATION OF LOOP DETECTORS.

40. ALL CROSSWALK MARKINGS SHALL BE 10-FT. WIDE FOLLOWING CITY OF HOUSTON STANDARD DETAILS

41. ALL CONSTRUCTION SIGNING AND CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

42. CONSULTANT AND CONTRACTOR WILL BE RESPONSIBLE TO DESIGN AND IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING PATTERNS FOR THE DURATION OF CONSTRUCTION.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

GENERAL CONSTRUCTION NOTES

SHEET 2 OF 3

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WATER CONSTRUCTION NOTES

1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL, STANDARD SPECIFICATION, AND CONSTRUCTION DETAILS.

2. ALL 4" THROUGH 12" WATER LINE TO BE AWWA C-900 PVC DR-18 BLUE PRESSURE RATED WATER MAIN WITH 2" AND SMALLER WATER SERVICE LINE TO BE CONTINUOUS TYPE K COPPER TUBING PER COH STANDARD SPECIFICATION SECTION 02503. ALL 4" THRU 54" DI PIPE WATER LINES SHALL BE AWWA C151 WITH INSIDE LINING WITH AWWA C104 AND DOUBLE WRAPPED WITH 8-MIL POLYETHYLENE SHEETS.

3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. USE RESTRAINED JOINTS WHERE PREVENTING MOVEMENT OF 16" OR GREATER PIPE IS NECESSARY DUE TO THRUST.

4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT OF ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.

5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF HOUSTON AND TCEQ REGULATIONS.

6. ALL WATER VALVES SHALL BE SUPPLIED AND INS TALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.

7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EVERY 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTMINATION PERSISTS.

8. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.

9. 4" THRU 12" FIT TINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.

GRADING NOTES

1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.

2. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND.

3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN PAVED AREAS, AND SHALL NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.

4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.

5. ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. DISPOSAL SHALL BE AT AN APPROVED OFF-SITE, LAWFUL LOCATION, UNLESS DIRECTED OTHERWISE BY THE OWNER.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

GENERAL CONSTRUCTION NOTES

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 6 OF 1067	

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PRIVATE UTILITY NOTES:

AT&T TEXAS/SWBT FACILITIES:

1. THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.

2. THE CONTRACTOR SHALL CALL 1-800-344-8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.

3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.

4. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.

5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.

6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER ROOSEVELT LEE JR. AT (713) 567-4552 OR EMAIL HIM AT RL7259@ATT.COM IF CABLE LOCATE REQUESTS ARE NOT COMPLETED FOR OUR AT&T TEXAS/SWBT FACILITIES.

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

1. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
   - WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL 713-207-5463 OR 713-945-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
   - WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
   - WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
   - FOR EMERGENCIES REGARDING GAS LINES CALL 713-659-2111 OR 713-207-4200

2. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:
   - ANY ACTIVITY WHERE PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
   - OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

2. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT 713-207-2222.

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

1. NO APPROVAL TO USE, CROSS, OR OCCUPY NO CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING AND RIGHT OF WAY DIVISION AT (713) 207-6348 OR (713) 207-5769

WARNING: UNDERGROUND ELECTRICAL UTILITIES

THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- ALL INFORMATION CONCERNING TYPE AND LOCATION UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTORS ARE RESPONSIBLE MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND PIPELINES, CONDUITS, AND STRUCTURES BY CONTACTING OWNERS OF UNDERGROUND UTILITIES OR BY EXCAVATING IN ADVANCE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES WHEN AND WHERE THEY FALL IN THE PATH OF CONSTRUCTION.
- THE CONTRACTOR IS ALSO RESPONSIBLE FOR CONTACTING THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 AND TEXAS ONE CALL AT 1-800-245-4545, FORTY- EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION.
- THE LOCATION OF ANY CENTERPOINT ENERGY UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. THEY AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- ALL PROPOSED FACILITIES SHALL MAINTAIN 12" CLEAR FROM ALL EXISTING UTILITIES.

STANDARD NOTES FOR CONSTRUCTION DRAWINGS(HCFCD)

1. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM ENGINEER, IF NECESSARY. OBTAIN PERMIT(CERTIFICATION) FROM HARRIS COUNTY ENGINEER TO ENTER HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY.

2. NOTIFY THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT IN WRITING AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. SUBMIT THE HCFCD 48 HOUR PRE-CONSTRUCTION NOTIFICATION FORM, A COPY OF THE APPROVED CONSTRUCTION DRAWINGS, AND A COPY OF THE CORPS OF ENGINEERS INDIVIDUAL SECTION 404 PERMIT, IF APPLICABLE TO HCFCD. 9900 NORTHWEST FREEWAY, HOUSTON, TEXAS 77092, ATTN: PROPERTY MANAGEMENT DEPT. BY HAND DELIVERY, OR FAX TO 713-684-4129(FAX NUMBER)

3. ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOR CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT REQUESTING INSPECTION OF ITEMS CONSTRUCTED IN HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY. PRIOR TO REQUESTING INSPECTION, THE DRAINAGE RIGHT-OF-WAY AND/OR EASEMENTS SHALL BE STAKED AND FLAGGED.

4. PROTECT, MAINTAIN, AND RESTORE EXISTING BACKSLOPE DRIANAGE SYSTEMS.

5. BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIGIED BY THE ENGINEER PRIOR TO INSTALLATION.

6. ESTABLISH TURF GRASS ON ALL DISTURBED AREAS WITHIN THE CHANNEL OR DETENTION RIGHT-OF-WAY, EXCEPT THE CHANNEL BOTTOM WHERE STRUCTURAL EROSION MEASURES ARE USED. MINIMUM ACCEPTANCE CRITERIA ARE 75% COVERAGE OF LIVE BERMUDA GRASS AND NO EROSION OR RILLS DEEPER THAN 4".

7. BACKFILL IN ACCORDANCE WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02314 - EXCAVATING AND BACKFILLING, OR EQUIVALENT.

8. EXCAVATE CHANNEL FLOWLINE TO DESIGN ELEVATION AS SHOWN ON PLANS AND DOWNSTREAM, AS NECESSARY, TO ENSURE NO WATER REMAINS IN THE FACILITY(STORM SEWER, LATERAL CHANNEL, OR DRY BOTTOM DETENTION BASIN) DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL, SO THE FACILITY WILL FUNCTION AS INTENDED. FOR WET BOTTOM DETENTION BASINS, ENSURE NO WATER IS ABOVE THE DESIGN LEVEL IN THE WET BOTTOM DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL.

9. MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.

10. REMOVE ALL EXCAVATED MATERIAL FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT OR DRAINAGE RIGHT-OF-WAY. NO FILL IS TO BE PLACED WITHIN A DESIGNATED FLOOD PLAIN AREA WITHOUT FIRST OBTAINING A FILL PERMIT FROM THE APPROPRIATE JURISDICTIONAL AUTHORITY.

GENERAL NOTES - METRO

1. CONTRACTOR SHALL NOTIFY METRO AT 713-615-6195 TWO WEEKS PRIOR TO DISTURBING EXISTING BUS STOPS.

2. CONTRACTOR SHALL COORDINATE WITH METRO TO REMOVE EXISTING AMENITIES.

3. BUS STOPS SHALL BE CONSTRUCTED PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL AND MEET CURRENT ADA REQUIREMENT.

METRO's Notes for Work Adjacent to Bus Stops

1. The Contractor shall be responsible for repairs to any METRO facilities damaged during construction. If the Contractor cannot immediately make the repairs to METRO's satisfaction, METRO will make the repairs and bill the cost to the Contractor.
2. Prior to construction the Contractor shall verify in the field that there are no conflicts with our electrical power, fiber optics, communication, signaling, high voltage cables or any other METRO infrastructure.
3. The Contractor shall "hand excavate" in the vicinity of communication and power lines feeding the METRO system.
4. The Contractor shall contact the Director of Universal Accessibility, Tim Mills by email at TM14@ridemetro.org or by phone 713-739-6861 one week prior to construction. METRO may assign an inspector to assure no damages are made to METRO's facilities. Universal Accessibility will coordinate any permanent or temporary impact on bus stops, shelters and sidewalk to maintain accessibility.
5. The Contractor shall contact METRO Bus Operations a minimum of ten (10) working days prior to construction impacting bus stops and bus routes. The contact information is Carl Taylor, Carl.Taylor@ridemetro.org 713-615-7219 or Shirley Mitchell, Shirley.Mitchell@ridemetro.org 713-615-7212.
6. The Contractor shall provide any temporary bus stop facilities needed, except for bus stop signs, at no cost to METRO and shall restore any affected bus stops per COH IDM and meet current American Disability Act (ADA) requirements as required by local, state and federal code and requirements. No bus stop shall be permanently removed without approval from METRO.

No.	DATE	REVISIONS	APP.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PRIVATE UTILITY, HCFCD AND METRO NOTES

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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SHEET NO. 7 OF 1067	

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PROPOSED PLAN VIEW

WM	WATER METER
WV	WATER VALVE (GATE)
BFWV	WATER VALVE (BUTTERFLY)
FH, WV	FIRE HYDRANT/FLUSHING VALVE
TS&V	TAPPING SLEEVE & VALVE
12" 8"	REDUCER
	ROUND CONNECTION
CO, SAN MH	SANITARY SEWER CLEANOUT & MANHOLE
STM MH	STORM SEWER MANHOLE
'B' 'B-B' 'C' 'C-1' 'C-2' 'C-2A' 'GRATE'	STORM SEWER INLETS
	CULVERT PIPE AND HEADWALL
TC=XX.XX	TOP OF CURB ELEVATION
G=XX.XX	GUTTER ELEVATION
TP=XX.XX	TOP OF PAVEMENT ELEVATION
XX.X'	CONTOUR LINE
	ROW LINE
	PROPERTY LINE
	LOT LINES
	EASEMENT LINE
	CENTER LINE OF ROW
	TRANSIT LINE
	EDGE OF DITCHES
	CENTER LINE OF DITCHES
	EDGE OF DITCHES
	FENCE LINE, WOOD
x x x	FENCE LINE, CHAIN LINK
x x x	FENCE LINE, BARBED WIRE
	FENCE LINE, HOG WIRE
	EDGE OF CONCRETE
	CURB LINE
	CONCRETE WALK
	EDGE OF ASPHALT
	EDGE OF SHELL OR GRAVEL
28" 3-17	DIMENSION LINE
P P	AERIAL POWER LINE
	UNDERGROUND POWER LINE
	GAS LINE
MISC (IDENTIFY CONDUIT)	UNKNOWN UNDERGROUND LINE
OGP	OIL PIPELINE
	UNDERGROUND TELCOMM LINE W/ VAULT
	AERIAL TELECOMM LINE
	RAILROAD LINE
20" (AND SMALLER) WATER LDWL 24" (LARGER THAN 20") WATER LDWL	WATER LINE
24" (AND SMALLER) SANITARY SEWER 30" (LARGER THAN 24") SANITARY SEWER	SANITARY SEWER LINE
24" (AND SMALLER) STORM SEWER 30" (LARGER THAN 24") STORM SEWER	STORM SEWER LINE
	SANITARY SEWER FORCE MAIN
RWL RWL	RECLAIMED WATER LINE
NPW NPW	NON-POTABLE WATER LINE
	GAS METER
	GAS VALVE
PROPANE	PROPANE LINE
STEAM	STEAM LINE
A2	MISC UNDERGROUND PIPELINE LABLE
	MATCH LINE

EXISTING PLAN VIEW

	PAVING HEADER
RES. 1-STORY BR BLDG.	BUILDING, RESIDENTIAL
COMM. 1-STORY BR BLDG.	BUILDING, COMMERCIAL
	TREE
	HEDGE
3/4" IP	IRON PIPE OR IRON ROD MONUMENT
	POINT OF INTERSECTION (PI)
P P P P	POINT OF CURVE (PC) POINT OF TANGENCY (PT)
	NORTH OR EAST PROPERTY LINE
	SOUTH OR WEST PROPERTY LINE
	NORTH OR EAST CURB
	SOUTH OR WEST CURB
	NORTH OR EAST DITCH
	SOUTH OR WEST DITCH
	NORTH OR EAST NATURAL GROUND
	SOUTH OR WEST NATURAL GROUND
CULVERT	
CULVERT	
CENTERPOINT ENERGY CONDUIT	
GAS LINE	
OGP WESTERN UNION OGP	
AT&T CONDUIT	
20" (AND SMALLER) WATER LINE	
24" (LARGER THAN 20") WATER	
24" (AND SMALLER) SANITARY SEWER	
30" (LARGER THAN 24") SANITARY SEWER	
24" (AND SMALLER) STORM SEWER	
30" (LARGER THAN 24") STORM SEWER	
RWL RWL	
NPW NPW	

N

1 VIEW TITLE
SCALE: 1:1

1 XX

1 XX

1 XX

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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CITY OF HOUSTON
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SPECIFICATION

FOR

INSTALLATION OF CONDUIT SYSTEM FOR THOROUGHFARE STREET LIGHTING

CenterPoint Energy
Distribution Engineering
P.O. Box 1700
Houston, Texas 77251

REFERENCE DRAWINGS:
004-237-16 Revision 4

REFERENCE STANDARDS:

CITY OF HOUSTON STREET LIGHT APPROVAL

By signing below, I acknowledge that I am the City of Houston's (COH)'s authorized representative of this project and that I have read and understand all statements, notes, detail drawings, and all attendant contracts and agreements (collectively the "materials") furnished to COH regarding street light construction indicated on conduit layout.

Signature _____ Title _____

Printed Name _____ Date _____

NO.	DATE	ITEMS REVISED	BY	CH	APP
5	7-25-07	Revised for practical application	KTN	JCD	MMG
4	2-23-99	Added conduit run for high density area	KTN	JCD	LHH

CenterPoint Energy
HOUSTON, TEXAS

WRITTEN	9-13-90	N.T. Khanh
CHECKED	9-13-90	JCD / RKM
APPROVED	9-14-90	Robert Boucher

Sheet 1 of 16

SPEC ID.		007	371	08

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No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CENTERPOINT
CONDUIT SPECIFICATIONS

SHEET 1 OF 9

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1.0 SCOPE

This Specification covers CenterPoint Energy (CNP) requirements concerning the installation of pull-boxes and conduits for underground electrical service to street lights. Number, size and direction of conduits to be specified on layout at CNP's discretion. Where there is a conflict between this specification and the CNP project drawing, the drawing will take precedence.

2.0 GENERAL

The following sub-articles state the general procedures to be followed for coordination of conduit system installation:

2.1 For City/County Contractor installed conduit: City/County Street Light Division shall approve proposed street light locations. City/County shall forward proposed locations to CNP. CNP shall design the conduit system and return design to City/County for contracting.

2.2 For Metro Contractor installed conduit: Metro shall forward construction drawings to COH Street Light Division for proposed street light locations. COH shall submit their approved locations to CNP. CNP shall design the conduit system and return design to COH. (For conduit to be located in utility or side lot easements, CNP will perform the work in conjunction with street light installation, with reimbursement from Metro).

2.3 CNP shall require, and note on drawings, when pull-boxes are required at the beginning and ending of each continuous conduit run, in addition to those areas where pull-boxes are currently required for crossings or distance.

2.4 CNP Street Light Engineering shall attend City/County/Metro utility coordinating meeting prior to the start of construction. The proposed conduit installation (as well as potential conflicts with existing CNP facilities) will be reviewed at that time.

2.5 In conjunction with the utility coordinating meeting, Contractor, CNP representative, Metro (if applicable) and City/County or other municipal representative shall review proposed light locations in the field.

2.6 Contractor will notify CNP Street Light Engineering, at least 2 (two) working days in advance, of Contractor's schedule for conduit installation. CNP Street Light Engineering will perform final inspections with Contractor present when all conduits had been installed.

2.7 Contractor shall attempt to determine if existing underground utilities or any other obstructions would prohibit CNP's installation of proposed new street lights. If such obstructions exist, Contractor may revise the proposed location of the light up to 5 feet in any direction within street right-of-way in order to avoid obstructions. For revised street light locations greater than 5 feet in any direction, Contractor must obtain prior approval as follows:

For projects being performed for City/County, Contractor shall notify the City Inspector, who will notify the City/County 's Public Works Department. Public Works will review the problem with the City's Street Light Division and CNP for approval of any changes. (In the case of municipalities other than City/County, Contractor shall notify City Inspector who shall notify appropriate Department of City. City shall consult with CNP for approval of any changes)

For projects being performed for Metro, Contractor must notify the Metro Inspector, who will in turn contact Metro's Utility Coordination Section. The Utility Coordination Section will review the problem with the COH's Street Light Division (or other municipality if applicable) and CNP for approval of any changes.

2.8 For any contractor-proposed changes to CNP's conduit system design, Contractor must obtain prior approval from CNP. Contractor shall first notify City/County or Metro Inspector of requested changes, who will in turn notify City/County Public Works, other municipality or Metro's Utility Coordination Section. City/County Public Works, other municipality or Metro Utility Coordination will review the requested changes with CNP for approval.

2.9 For proposed street lights on bridges or elevated roads, Contractor shall design and install foundations that meet the loading requirements of CNP Specification for Galvanized Street Light Standards 007-371-04. For information on pull-boxes and conduit, see Article 8.0.

3.0 MATERIAL FURNISHED BY CNP

CNP shall only furnish the pull-boxes (see Article 4.0) and the warning tape (see Article 5.0). Pull-boxes will not be furnished for installation on bridges or elevated roads.

3.1 The Customer's Contractor shall notify CNP Street Light Engineering when pull-boxes and warning tape are required, seven working days in advance of planned pick-up. Pull-boxes and tape can be obtained Tuesday through Friday, excluding holidays, from the South Houston Complex-Building D, located at 4500 South Shaver, Houston, Texas, 77034.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CENTERPOINT
CONDUIT SPECIFICATIONS

SHEET 2 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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SHEET NO. 10 OF 1067	

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3.2 After Contractor's notification, CNP will provide Contractor with a work order number for reference when picking up materials at the South Houston Complex-Building D.

4.0 PULL-BOX

The following sub-articles state the general requirements for pull-boxes:

4.1 The pull-boxes shall be furnished by CNP and shall be installed by the Customer's Contractor as a part of the conduit system.

4.2 Pull-boxes shall be installed in accordance with sheet 9 & 10 of this specification. The conduit layout will specify the type of pull-box to be installed.

4.3 At the point of entrance to the pull-box, the conduits shall always have a minimum ground cover as noted on pull-box drawing. Conduit shall run up a maximum of 5 inches into the pull-box. The bends to be used with the pull-box shall have a minimum radius as shown on pull-box drawing.

5.0 WARNING TAPE

5.1 Warning tape shall be furnished by CNP and installed by the Customer's Contractor (see sheet 11).

5.2 Warning tape shall be installed approximately 12 inches above the street light conduit.

6.0 MATERIAL FURNISHED BY THE CUSTOMER

The Customer or Customer's Contractor shall furnish the conduits (see Article 7.0), the conduits and pull-boxes installed in bridges or elevated roadways (see Artical 8.0), the conduit plugs (see Article 9.0), and all other materials not furnished by CNP.

7.0 CONDUIT

The following sub-articles state the general requirements, unless specifically stated otherwise on the layout, for the number, size and installation of the conduit system from the pull-box to the street light or terminal pole.

7.1 Conduit shall be PVC Nema Tc2 Schedule 40 or Schedule 80, U.L. label, US trade size, and meet the standards of the National Electrical Code (NEC). Size to be determined by layout.

7.2 A No. 14 Aluminum or Copper wire, and a fiber pulling cord of at least 1200 pounds breaking strength shall be installed in the conduit.
Pulling cord shall be installed in such a manner as to provide adequate access and be free to pull without hindrance. Pulling cord shall not be glued or permanently attached to conduit in any manner. The pulling cord and wire shall beviewable from outside the end of conduit run.

7.3 The conduit runs shall be made "continuous" with all sections connected from beginning to end, including the conduit crossing the street. Stub-out will be required at all conduit end and street light locations (see drawing #004-237-16).

7.4 The conduit shall be placed 3 feet behind curb unless sidewalk is to be installed. Where sidewalks exist, conduit shall be placed up to 6 inches behind the sidewalk (or in grassy area between the curb and the start of sidewalk, where 12 inches or more of grassy area exists) (see sheet 12). Even though sidewalks exist, CNP will install street light approximately 3 feet back of curb. City/County/Metro Contractor shall design a block-out area for the street light installation in concrete area (see sheet 16).

7.5 The conduit shall have a minimum cover of 36 inches from final grade except as noted on pull-box and manhole drawing, or where city, county or state regulators require a greater depth, and shall consist of PVC conduit.

7.6 For the burial of street light conduits crossing under driveways or sidewalks, schedule 40 PVC or better is required. When crossing under streets, the conduit shall be PVC conduit schedule 80.

7.7 For terminal pole source locations specified on the layout, the bend of the conduits at the terminal pole shall be 90 degrees, 24 inch radius bend, schedule 40 PVC conduit. This bend shall be brought to the face of the pole and stubbed out approximately 12 inches above the final grade (see sheet 14).

7.8 For pad mounted transformer source locations specified on the layout, conduit shall be brought to within 1 foot of transformer pad, opposite the small notch "V" on the pad, stubbed out approximately 12 inches above the final grade.

7.9 For secondary pedestal source locations specified on the layout, conduit shall be brought to within 1 foot of pedestal and stubbed out approximately 12 inches above the final grade.

7.10 For manhole source location, the conduit shall enter the manhole a minimum of 12 inches from the inside ceiling or as specified on the layout. A ductbell terminator will be installed in the manhole wall for conduit termination. CNP shall be notified 48 hours prior to the actual coring of the manhole wall so that CNP can verify the location in each manhole to be penetrated. CNP will stand-by only during the actual coring. The contractor shall do the coring and installation of the ductbell terminator. The contractor shall seal around the ductbell terminator with packaged, dry, rapid hardening cementitious material conforming to ASTM C928-80 specifications, to ensure a water

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CENTERPOINT
CONDUIT SPECIFICATIONS

SHEET 3 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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tight seal.

8.0 CONDUIT INSTALLED IN BRIDGE OR ELEVATED ROADWAY

Customer or Customer's Contractor shall be responsible for designing, furnishing and installing the conduits and pull-boxes. The pull-boxes should be located to provide CNP personnel safe and reasonable access, without using ladders or other special equipment, for cable installation, inspection and maintenance. Where there are junction-boxes in addition to the pull-boxes, reasonable access shall also be provided.

8.1 The conduit shall be at least 2 inches, in diameter and meet all requirements of the latest National Electrical Code (NEC) and National Electrical Safety Code (NESC).

8.2 The conduits shall run to each street light location. The conduits shall be arranged to allow the source conductor to be pulled in and out of each street light location or Contractor shall provide junction-boxes on main conduit run at each street light location and run tap conduit to the street light location (see sheet 15 for examples of conduit runs).

8.3 A #14 Aluminium or Copper wire, and a fiber pulling cord of at least 1200 pound breaking strength shall be installed in the conduit.

A toning wire and pulling cord shall be installed in such a manner as to provide adequate access and be free to pull without hindrance. Pulling cord shall not be glued or permanently attached to conduit in any manner. The wire and pulling cord shall be attached and viewable outside the end of conduit run.

8.4 The pull-boxes used to pull the main circuit cable through the conduit system shall have a minimum opening of 15" x 15" x 12".

8.5 Junction boxes used as tap location shall meet all requirements of the latest NEC.

9.0 CONDUIT PLUGS

Plugs shall be installed on all conduit terminator points at the time the conduits are installed, to prevent blockage, until the cable is installed.

10.0 LIABILITY

10.1 Upon completion of the conduit installation, the Customer (or Customer's Contractor) shall forward to CNP Street Light Engineering notification in writing from a City or County Inspector that the installation meets CNP Specifications. In addition, Customer shall provide CNP with as-built drawings (showing conduits, pull-box, blockout, etc.).

10.2 The Customer shall be responsible for either: (1) correcting any violations of said Specifications and clearing any blockage or repairing any breaks within the street light conduits prior to street lights and circuit installation by CNP, or (2) reimbursing CNP for correcting violation.

10.3 Upon installation of street lights, with the exception of street lights on bridges or elevated roadways, CNP shall furnish, install, own, and at all times have complete control over said street light service conduit system and shall be responsible for the location and maintenance thereof. Maintenance of conduit systems on bridges or elevated roadways will be the Customer's responsibility.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CENTERPOINT CONDUIT SPECIFICATIONS

SHEET 4 OF 9

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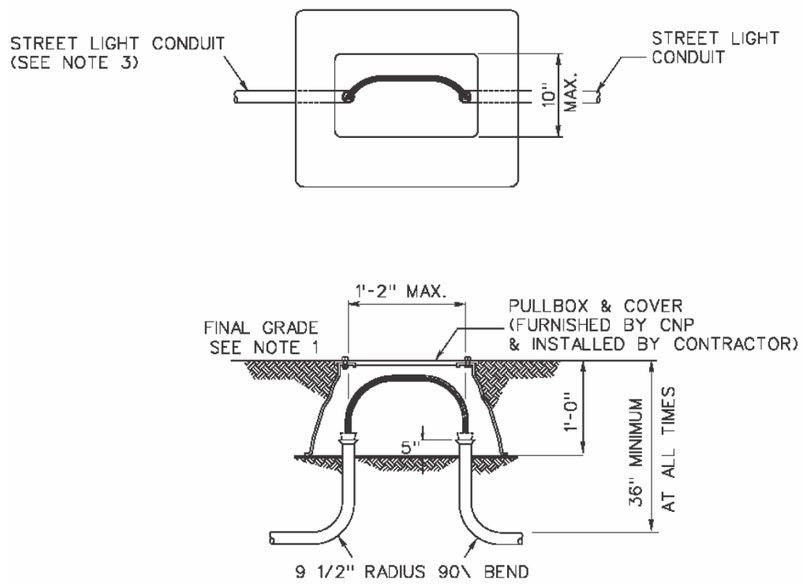

SMALL PULL BOX

NOTES:

1. GRADE AT TIME OF INSTALLATION SHALL BE CONSIDERD DEVELOPER'S FINAL GRADE.
2. THE SMALL CONCRETE PULL-BOX CAN BE INSTALLED IN DRIVEWAYS AND PARKING LOTS BUT NOT IN STREET.
3. THE NUMBER, SIZE AND DIRECTION OF CONDUITS TO BE SPECIFIED ON CNP CONDUIT LAYOUT.

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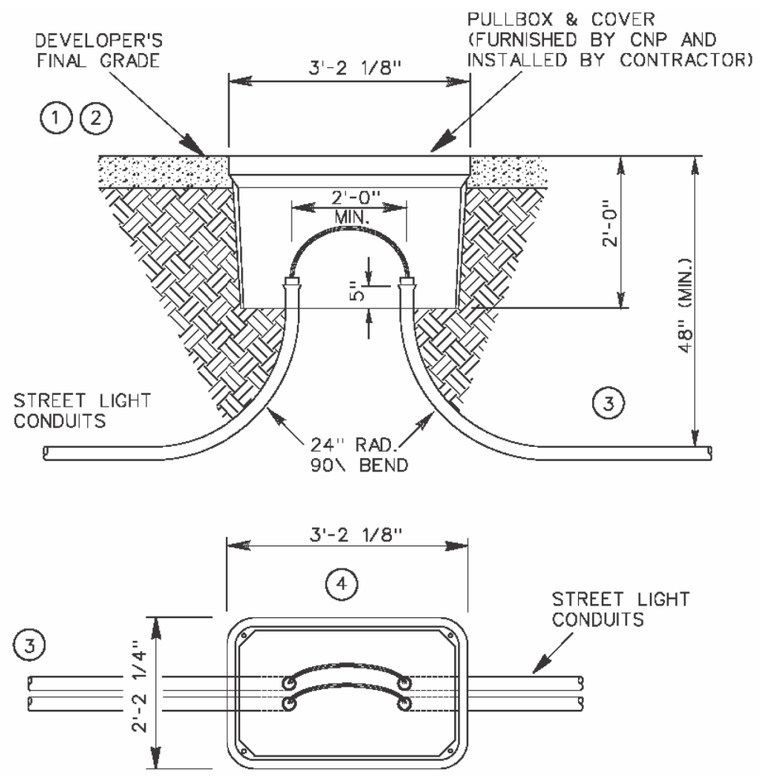

LARGE PULL BOX

1. GRADE AT TIME OF INSTALLATION SHALL BE CONSIDERED DEVELOPER'S FINAL GRADE.
2. WHEN INSTALLING PULL BOXES IN INCIDENTAL TRAFFIC LOADING AREA, DEVELOPER'S FINAL GRADE REFERS TO THE SURFACE OF THE PAVEMENT.
3. THE NUMBER, SIZE AND DIRECTION OF CONDUITS TO BE SPECIFIED ON CNP CONDUIT LAYOUT.
4. THIS PULL-BOX CAN BE INSTALLED IN DRIVEWAYS AND PARKING LOTS BUT NOT IN STREET.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CENTERPOINT
CONDUIT SPECIFICATIONS

SHEET 5 OF 9

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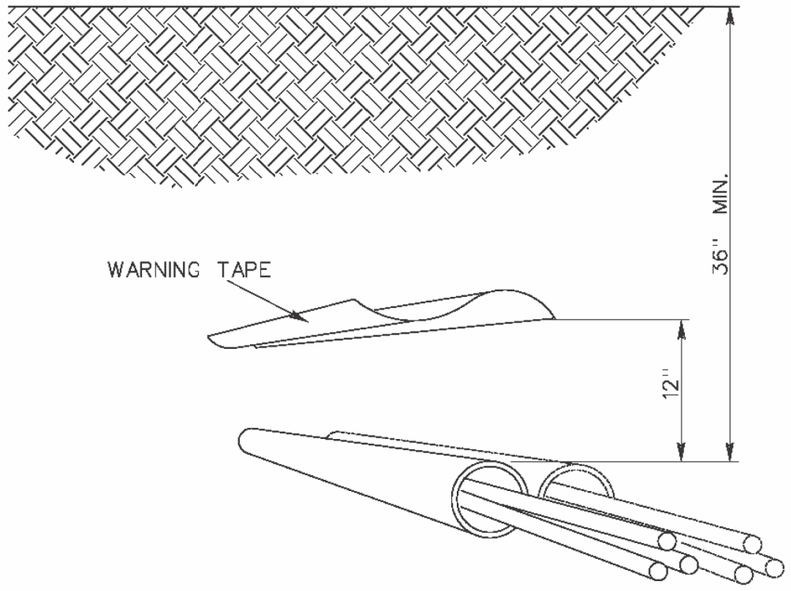

TYPICAL STREET LIGHT CONDUIT LAYOUT

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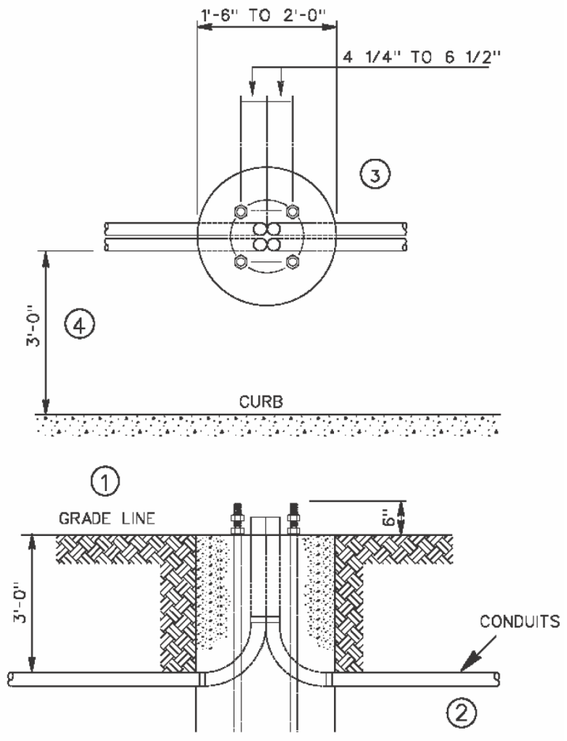

MULTIPLE CONDUIT RUN IN STREET LIGHT FOUNDATION

1. GRADE AT TIME OF INSTALLATION SHALL BE CONSIDERED DEVELOPER'S FINAL GRADE.
2. THE QUANTITY, SIZE AND DIRECTION OF CONDUITS TO BE SPECIFIED BY ENGINEERING DEPARTMENT.
3. SEE ACCOMPANING CNP STANDARDS FOUNDATION FOR ACTUAL SIZE AND ANCHOR BOLT POSITION.
4. CNP STANDARD LOCATION OF STREET LIGHT IS 3' BEHIND THE 6" CURB, UNLESS SPECIFIED DIFFERENTLY BY CITY / COUNTY / METRO.

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HOUSTON PUBLIC WORKS

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CONDUIT SPECIFICATIONS

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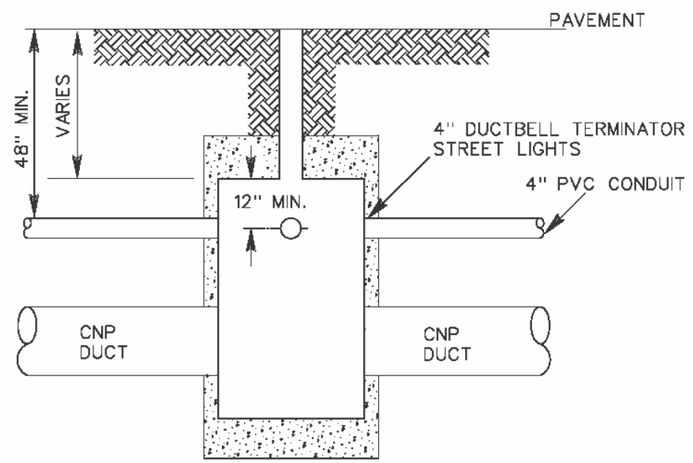
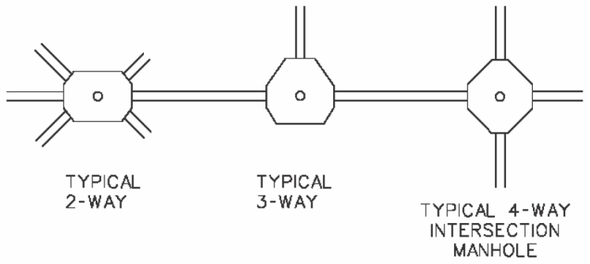
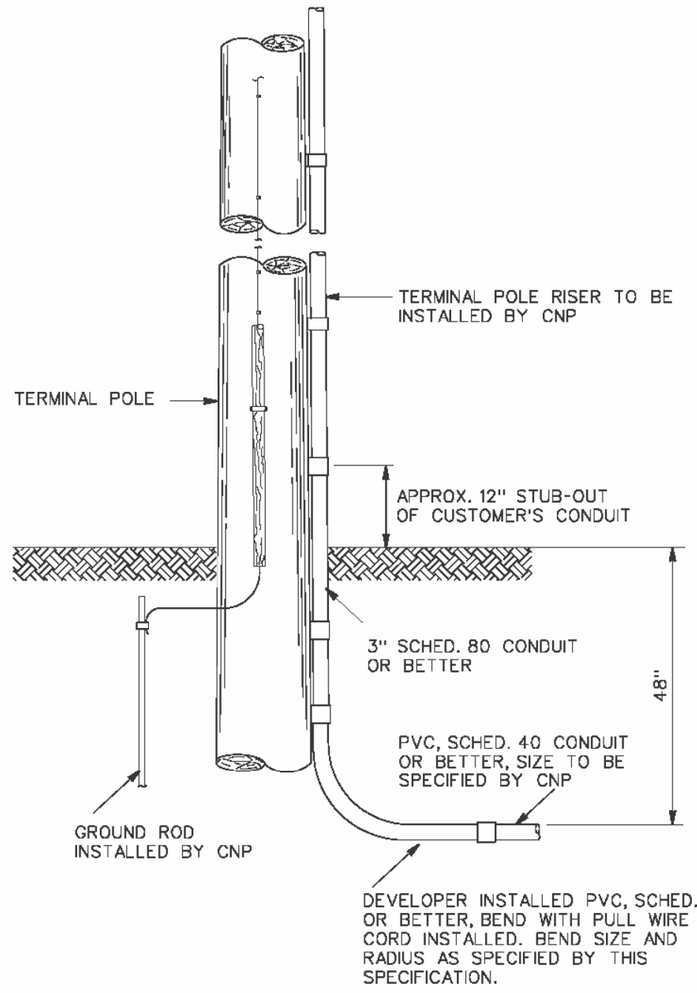




STREET LIGHT CONDUIT RUN FROM MANHOLE

1. CONDUITS SHALL TYPICALLY ENTER THE MANHOLE THROUGH THE SHORT WALLS. CNP MUST APPROVE ENTRY THROUGH OTHER WALLS.
2. THE NUMBER, SIZE AND DIRECTION OF CONDUITS TO BE SPECIFIED BY ENGINEERING DEPARTMENT.
3. CNP TO BE NOTIFIED 48 HOURS PRIOR TO THE ACTUAL CORING TO THE MANHOLE WALL.

REV. NO. #5	SPEC. ID.		007	371	08	Sheet 13 of 16



TYPICAL TERMINAL POLE LAYOUT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CENTERPOINT
CONDUIT SPECIFICATIONS

SHEET 7 OF 9

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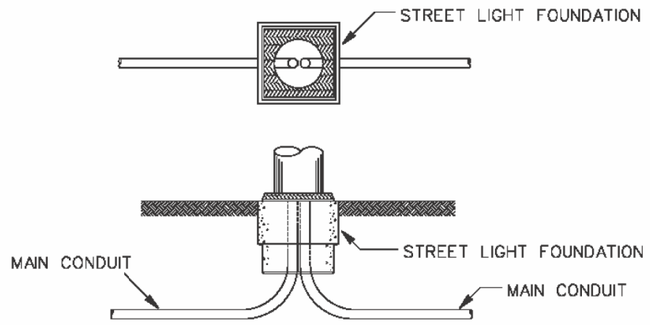
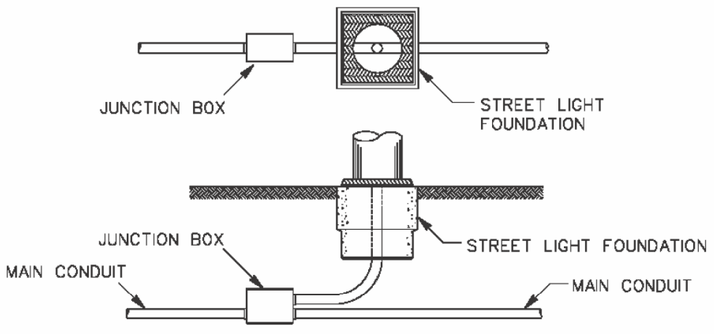


MAIN CONDUIT INSTALLED TO EACH STREET LIGHT
(SOURCE WIRE PULLED TO EACH LOCATION)



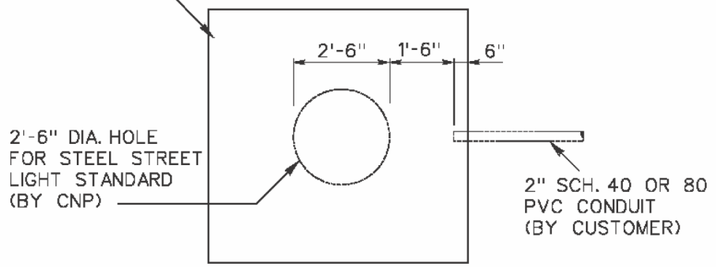
MAIN CONDUIT WITH TAPS FEEDING EACH LOCATION

NOTE:
ALL MATERIAL INSTALLED IN BRIDGE OR
ELEVATED ROADWAY CONSTRUCTION SHALL
BE FURNISHED BY CUSTOMER.

CONDUIT INSTALLED IN BRIDGE OR ELEVATED ROADWAY

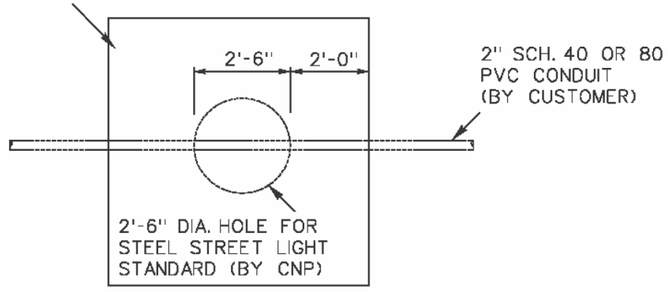
REV. NO. #5	SPEC. ID.		007	371	08	Sheet 15 of 16

6'-6" X 6'-6" CONCRETE BLOCK-OUT
REQUIRED FOR STREET LIGHT INSTALLATION
(BLOCK-OUT TO BE CENTERED ON PROPOSED
STREET LIGHT LOCATION (BY CUSTOMER).



STREET LIGHT @ END OF CIRCUIT

6'-6" X 6'-6" CONCRETE BLOCK-OUT
REQUIRED FOR STREET LIGHT INSTALLATION
(BLOCK-OUT TO BE CENTERED ON PROPOSED
STREET LIGHT LOCATION (BY CUSTOMER).



STREET LIGHT @ CONTINUOUS CIRCUIT

BLOCK-OUT DETAIL FOR STREET LIGHTS LOCATED IN CONCRETE AREAS

REV. NO. #5	SPEC. ID.		007	371	08	Sheet 16 of 16

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

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CONDUIT SPECIFICATIONS

SHEET 8 OF 9

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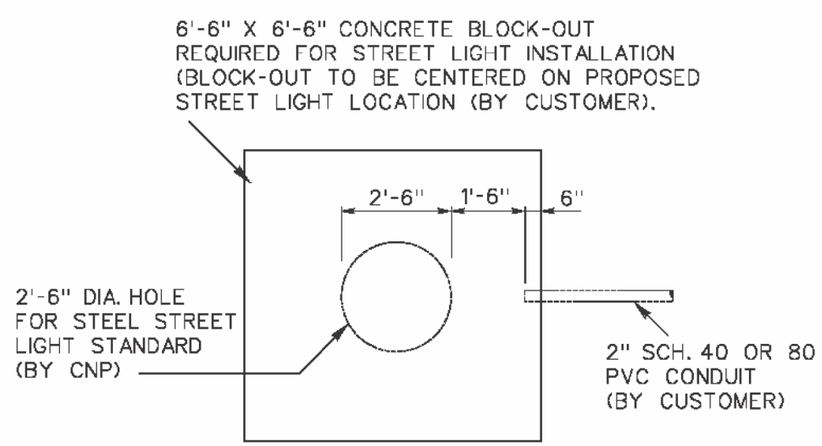
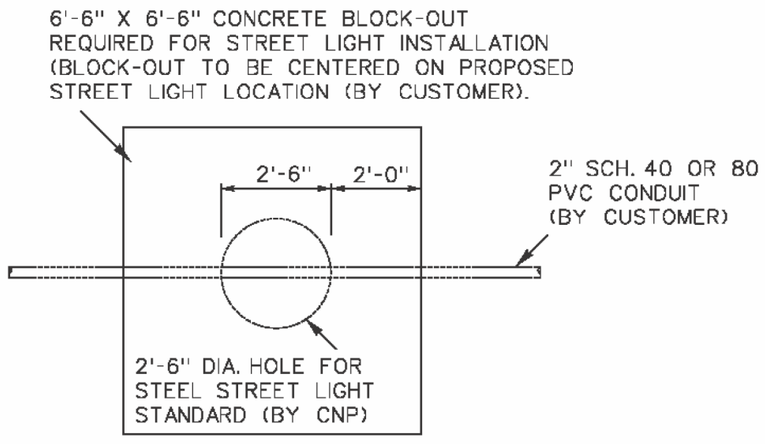


STREET LIGHT @ END OF CIRCUIT



STREET LIGHT @ CONTINUOUS CIRCUIT

BLOCK-OUT DETAIL FOR STREET LIGHTS LOCATED IN CONCRETE AREAS

REV. NO. #5	SPEC. ID.		007	371	08	Sheet 16 of 16

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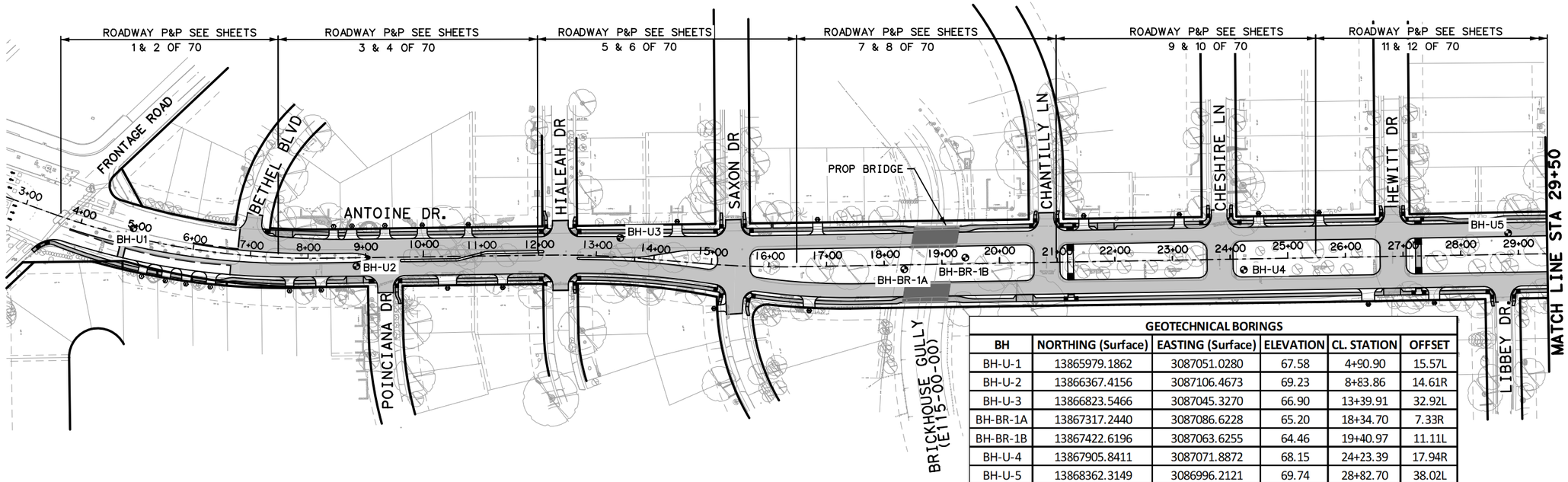

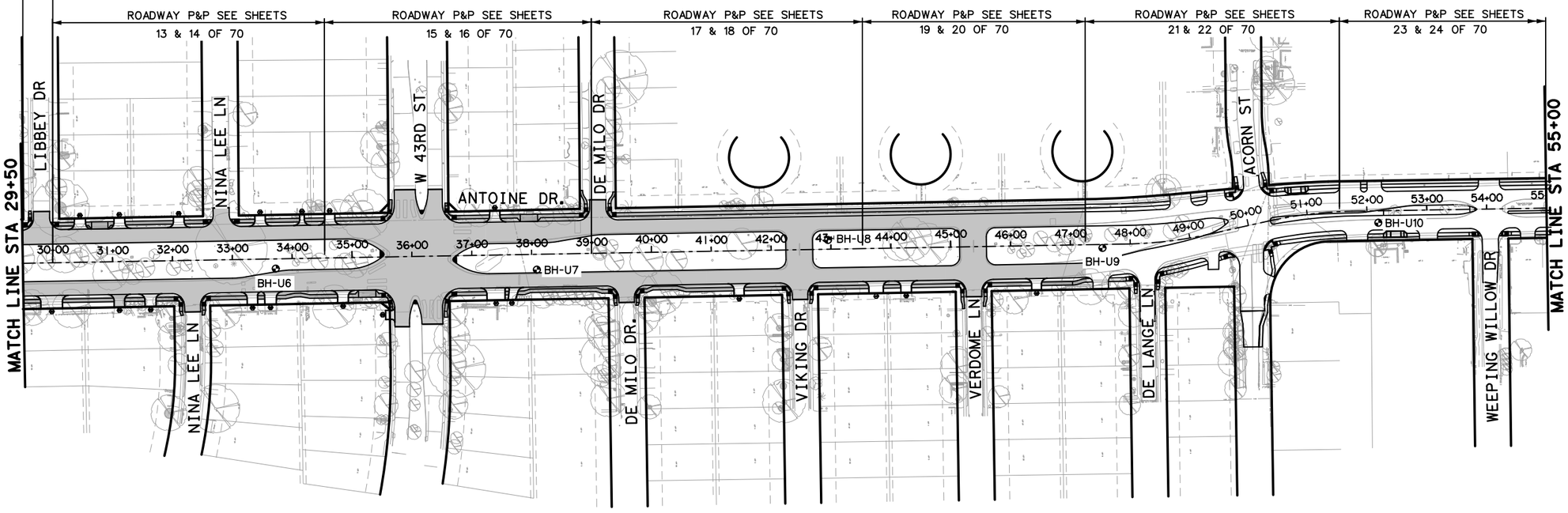

LEGEND

PROP PAVEMENT

SOIL BORING

GEOTECHNICAL BORINGS

BH	NORTHING (Surface)	EASTING (Surface)	ELEVATION	CL. STATION	OFFSET
BH-U-1	13865979.1862	3087051.0280	67.58	4+90.90	15.57L
BH-U-2	13866367.4156	3087106.4673	69.23	8+83.86	14.61R
BH-U-3	13866823.5466	3087045.3270	66.90	13+39.91	32.92L
BH-BR-1A	13867317.2440	3087086.6228	65.20	18+34.70	7.33R
BH-BR-1B	13867422.6196	3087063.6255	64.46	19+40.97	11.11L
BH-U-4	13867905.8411	3087071.8872	68.15	24+23.39	17.94R
BH-U-5	13868362.3149	3086996.2121	69.74	28+82.70	38.02L
BH-U-6	13868853.7122	3087027.7966	70.86	33+72.25	14.91R
BH-U-7	13869289.6759	3087017.9747	71.89	38+08.22	24.71R
BH-U-8	13869774.3972	3086955.5416	73.77	42+95.25	15.86L
BH-U-9	13870233.1563	3086956.7267	74.43	47+53.50	5.96R
BH-U-10	13870692.5088	3086902.2847	74.89	52+18.78	19.91R

0′ 100′ 200′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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3/12/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROJECT LAYOUT

SHEET 1 OF 3

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 18 OF 1067

FOR CITY OF HOUSTON USE ONLY

No.	DATE	REVISIONS	APP.

Plotted on: 3/12/2026 2:11:28 PM $USER$

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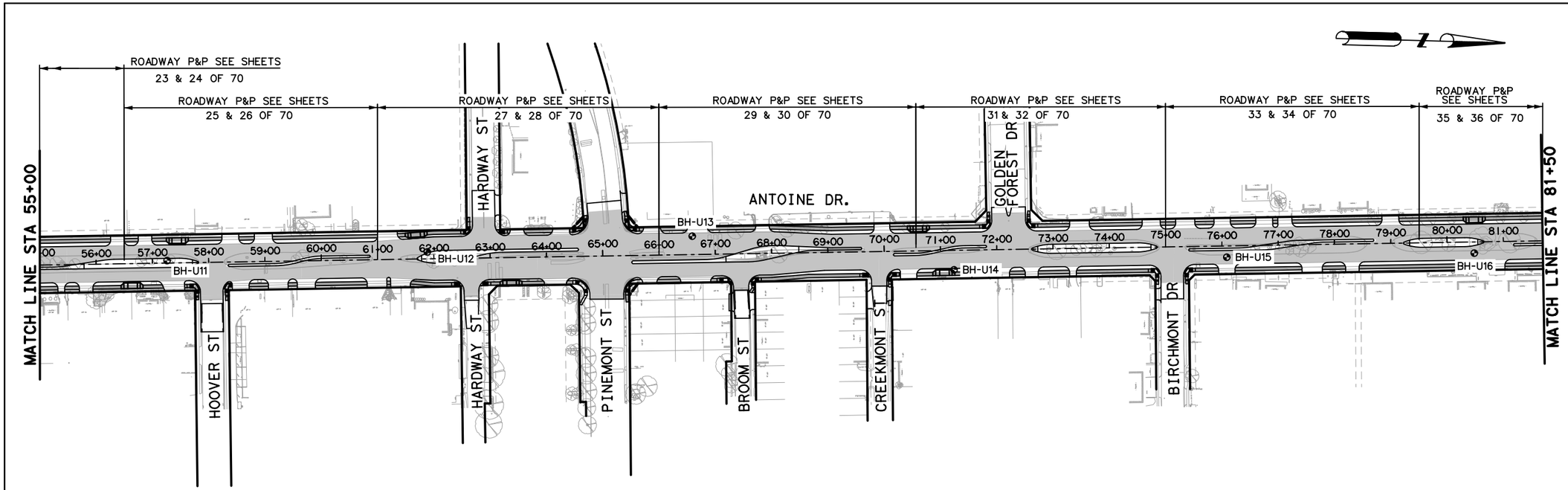

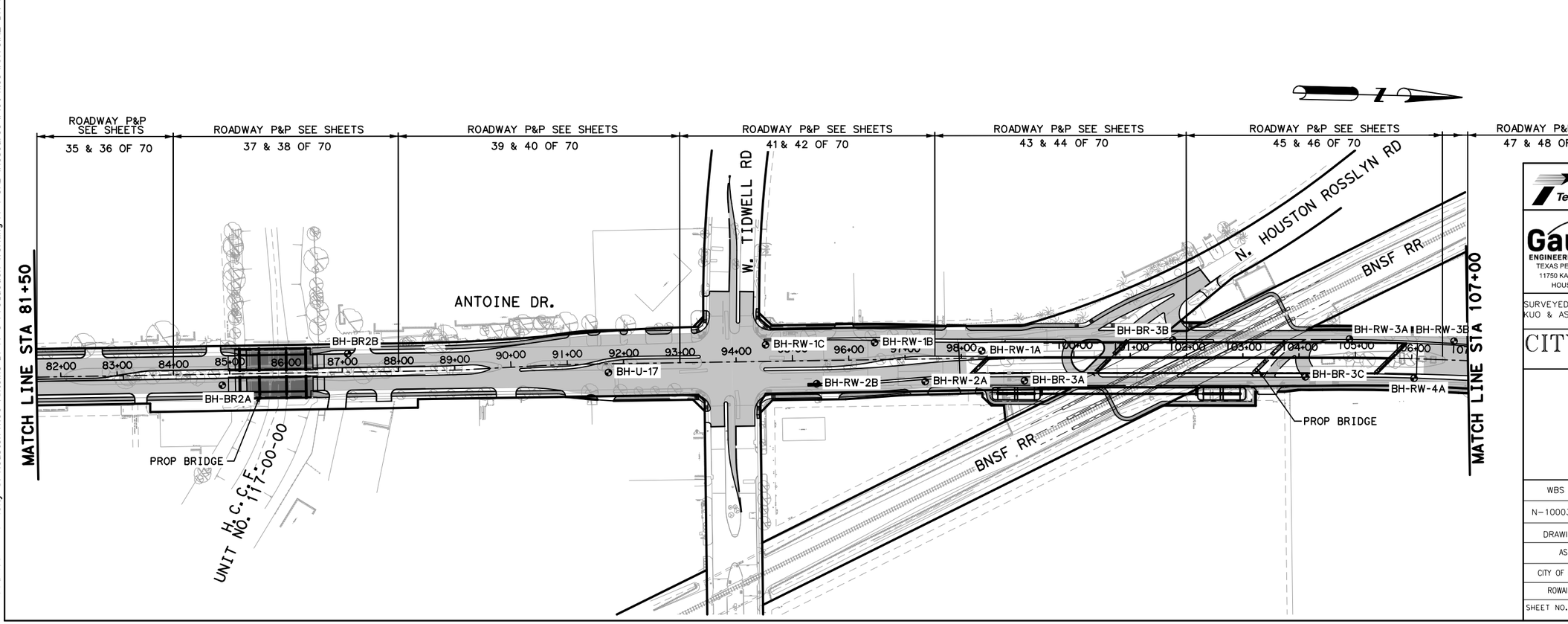

LEGEND

PROP PAVEMENT

SOIL BORING

0' 100' 200'

SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROJECT LAYOUT

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 19 OF 1067	

Pen Table: TX_Pen.tbl
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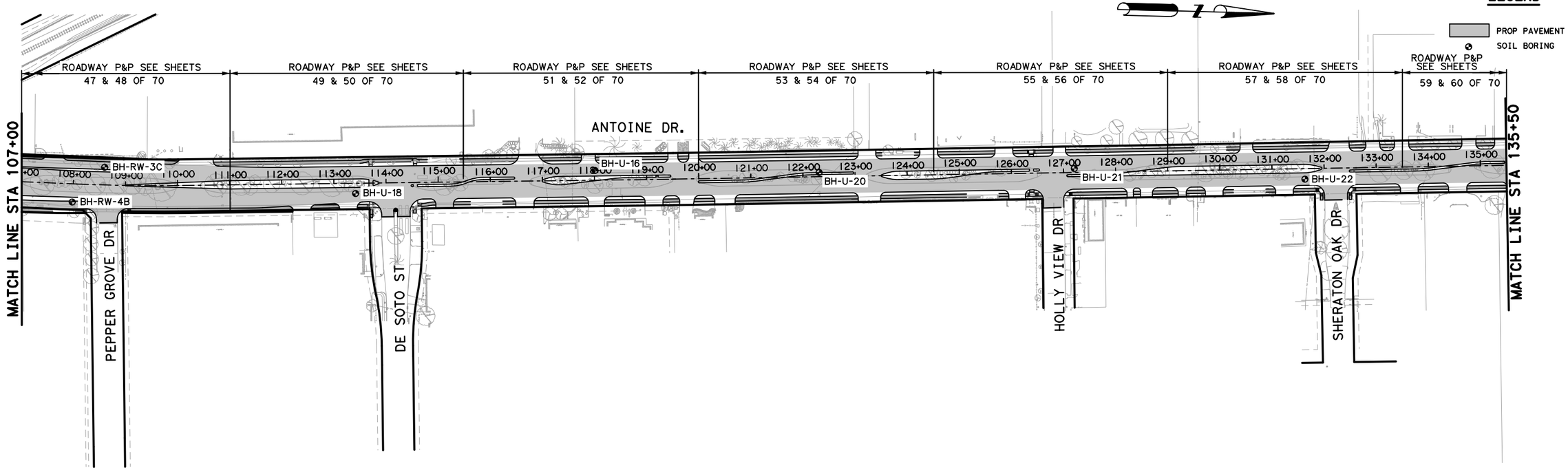
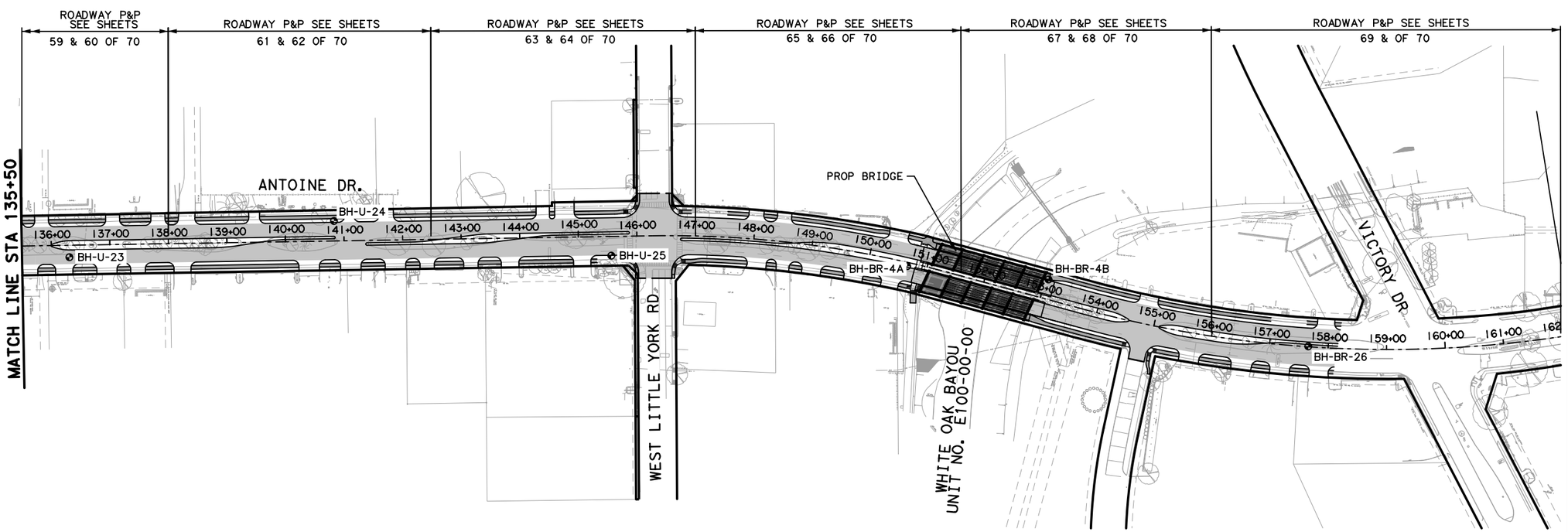
LEGEND

PROP PAVEMENT
SOIL BORING





0′ 100′ 200′
SCALE IN FEET

Texas Department of Transportation

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Date 125611
3/12/2026
for 60% SUBMITTAL
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

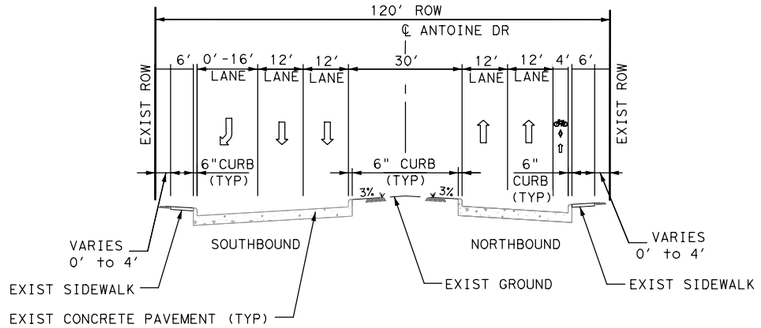
PROJECT LAYOUT

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 20 OF 1067	

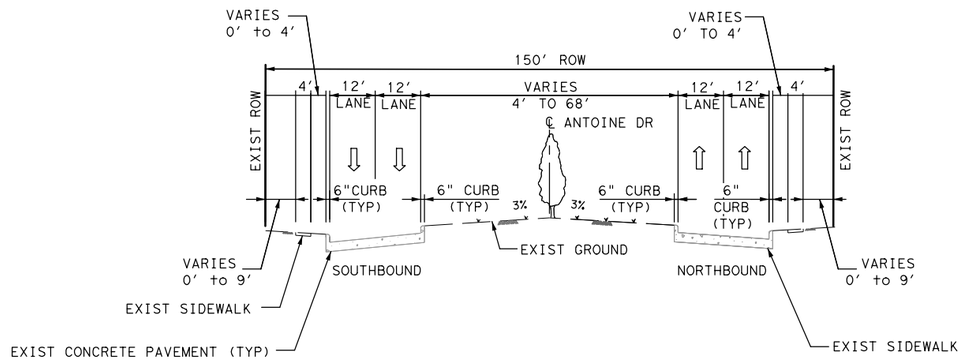
No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Project Layout\PR-PROJECT LAYOUT 03.dgn



ANTOINE DRIVE EXISTING TYPICAL SECTION

STA 3+73.11 TO STA 7+00.00
(120' ROW)
N.T.S.



ANTOINE DRIVE EXISTING TYPICAL SECTION

STA 3+73.11 TO STA 47+25.44
(150' ROW)
N.T.S.

No.	DATE	REVISIONS	APP.

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ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

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Texas Registered Engineering Firm F-4575

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING TYPICAL SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 21 OF 1067	

Plotted on: 2/19/2026 emma

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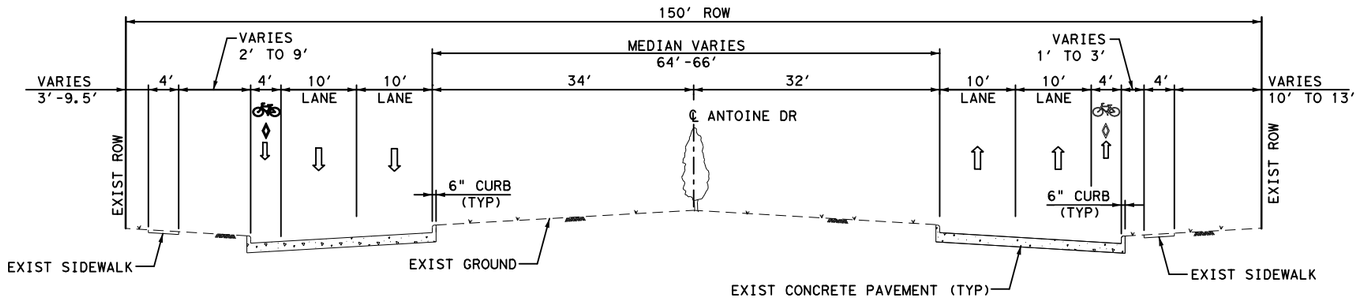
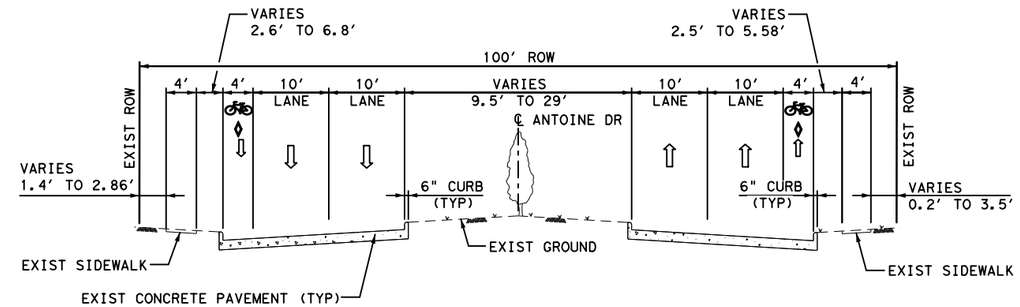
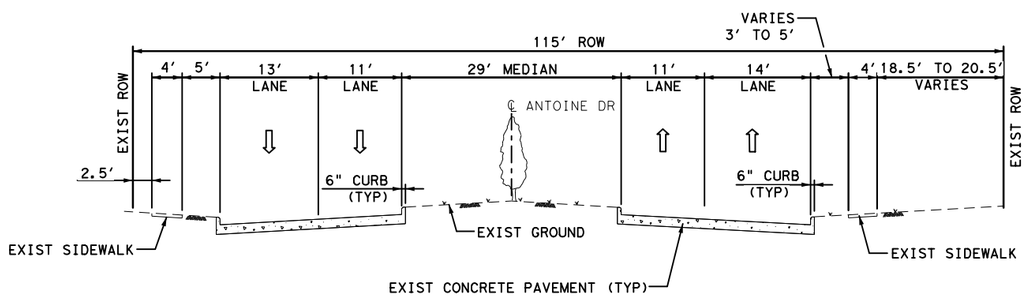


STA 47+25 TO STA 50+00
N.T.S.



STA 51+77.34 TO STA 83+57.90
N.T.S.



STA 83+57.90 TO STA 88+33.50
N.T.S.

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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91874
3/10/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXIST TYPICAL SECTION

SHEET 02 OF 04

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 22 OF 1067	

Plotted on: 3/10/2026 11:10:32 AM
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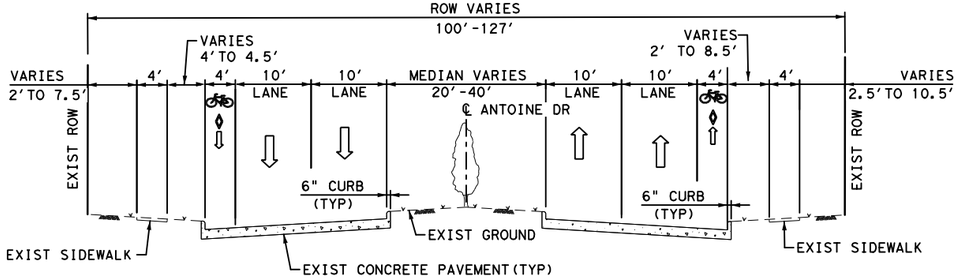
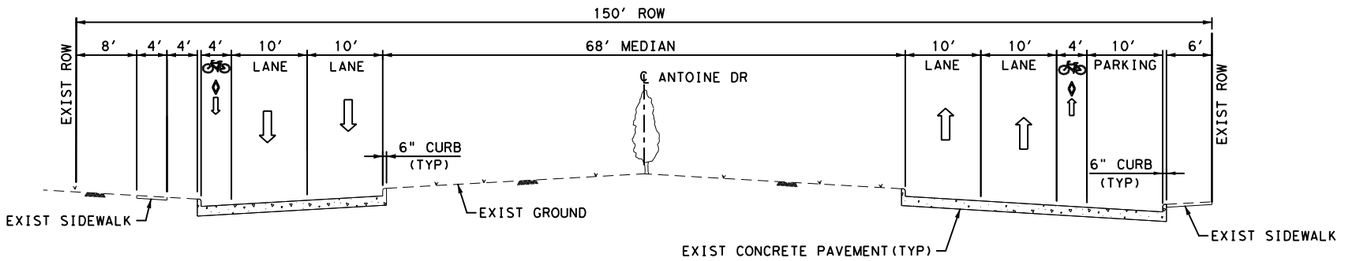


ANTOINE DRIVE

STA 7+00 TO STA 15+50
N. T. S.



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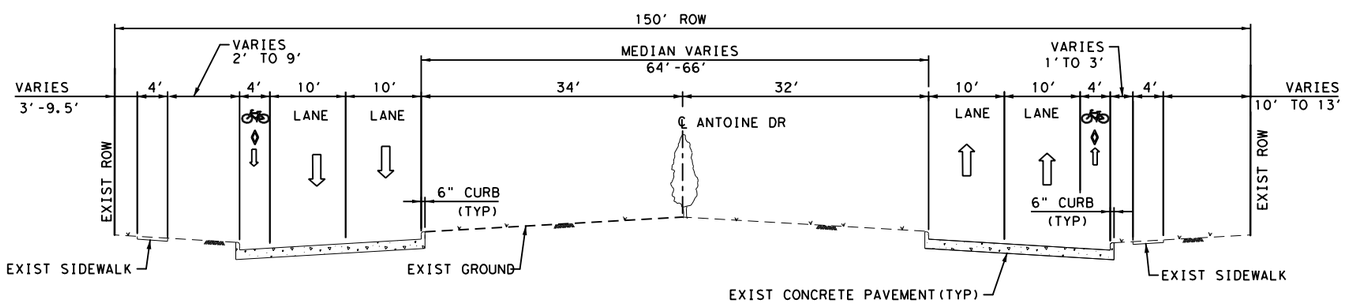
STA 15+50 TO STA 26+00
N. T. S.



ANTOINE DRIVE

STA 26+00 TO STA 50+00
N. T. S.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXIST TYPICAL SECTION

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 23 OF 1067	

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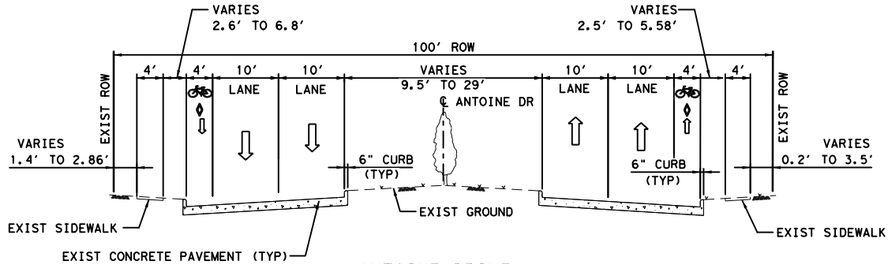
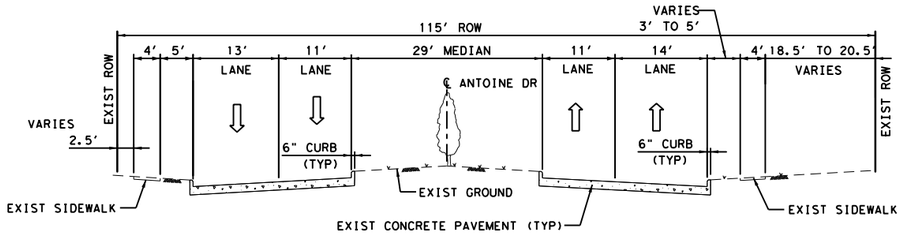


ANTOINE DRIVE

STA 51+77.34 TO STA 83+57.90
N.T.S.

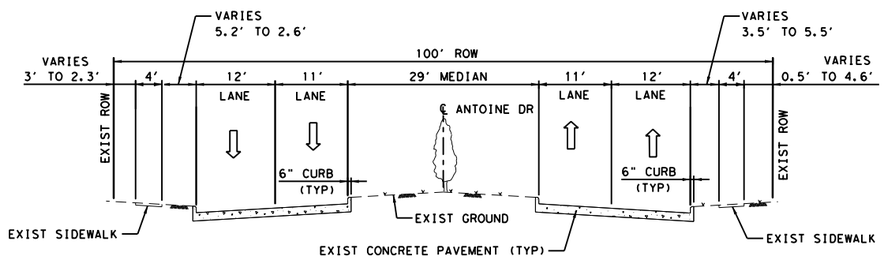


ANTOINE DRIVE

STA 83+57.90 TO STA 88+33.5
N.T.S.

ANTOINE DRIVE

STA 88+33.5 TO STA 98+77.4
N.T.S.



ANTOINE DRIVE

STA 104+30.76 TO END PROJECT
N.T.S.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXIST TYPICAL SECTION

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 24 OF 1067	

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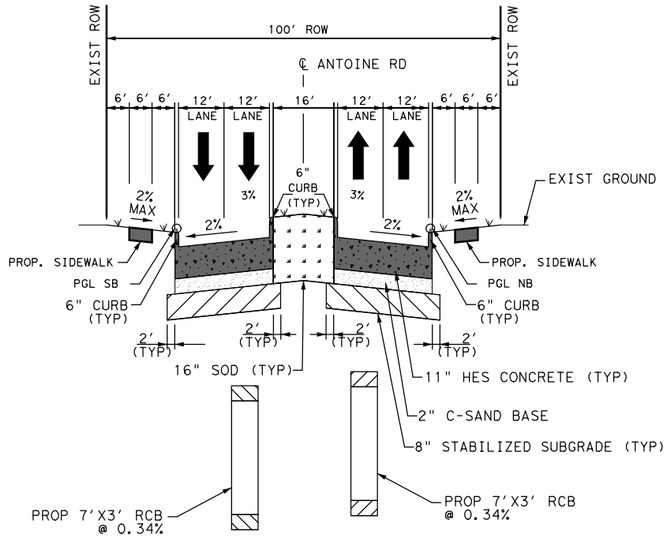
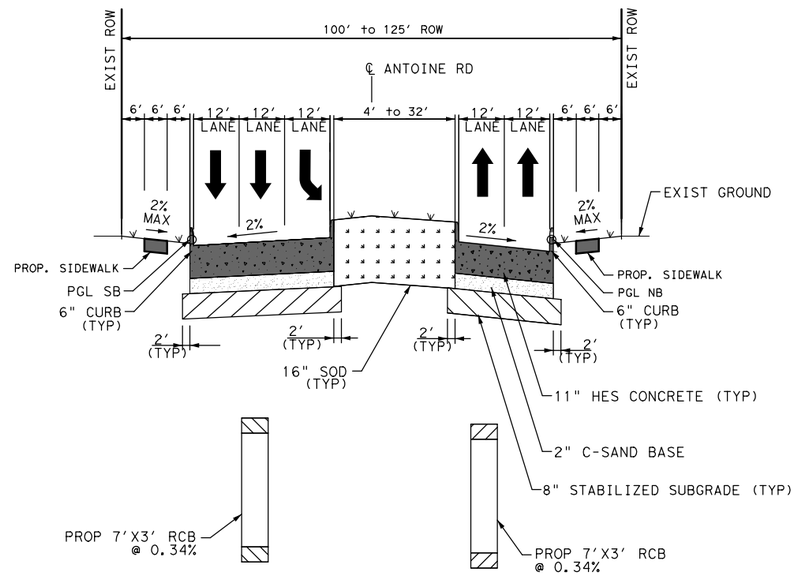


ANTOINE DRIVE PROPOSED TYPICAL SECTION

STA 7+01.90 TO 9+36.67
(100' ROW)
N.T.S.



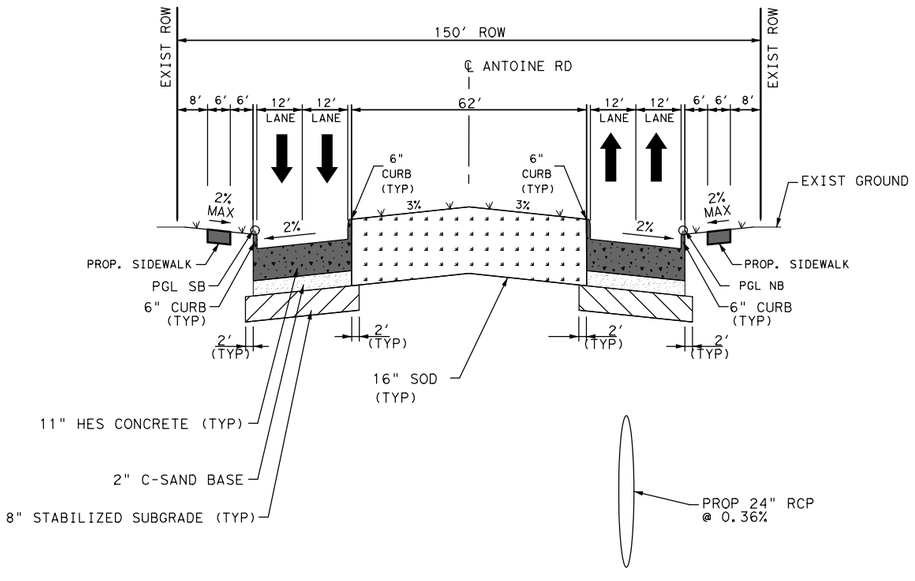
ANTOINE DRIVE PROPOSED TYPICAL SECTION

STA 9+36.67 TO STA 14+92.43
(100 to 125' ROW)
N.T.S.

NOTE:

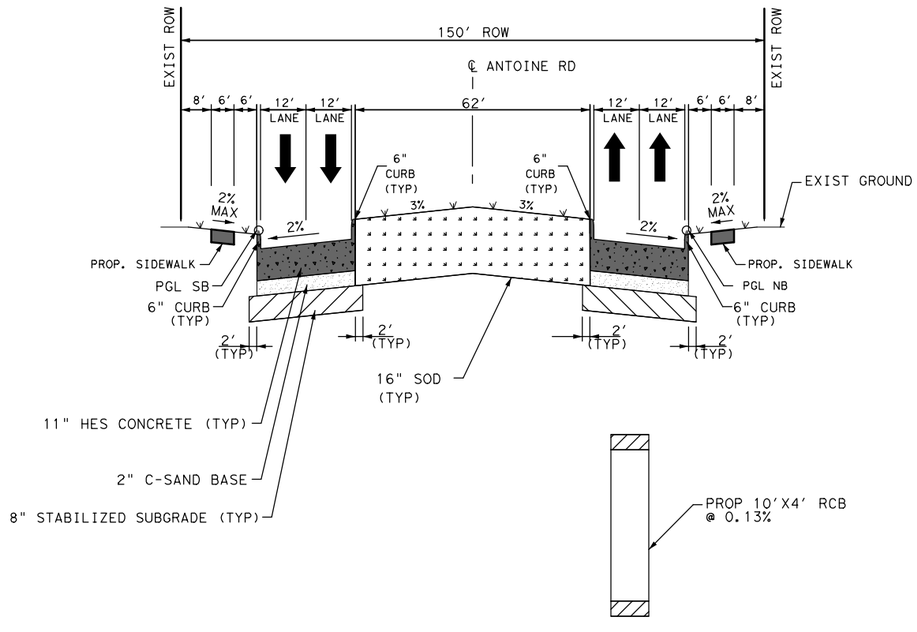
ALL DISTURBED AREAS NOT DESIGNATED FOR SODDING SHALL BE REVEGATED VIA HYDROMULCH SEEDING

No.	DATE	REVISIONS	APP.



ANTOINE DRIVE PROPOSED TYPICAL SECTION

STA 14+92.43 TO STA 18+21.63
(150' ROW)
N.T.S.



ANTOINE DRIVE PROPOSED TYPICAL SECTION

STA 22+30.54 TO STA 47+50.00
(150' ROW)
N.T.S.

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ISANI civil | design | engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 25 OF 1067	

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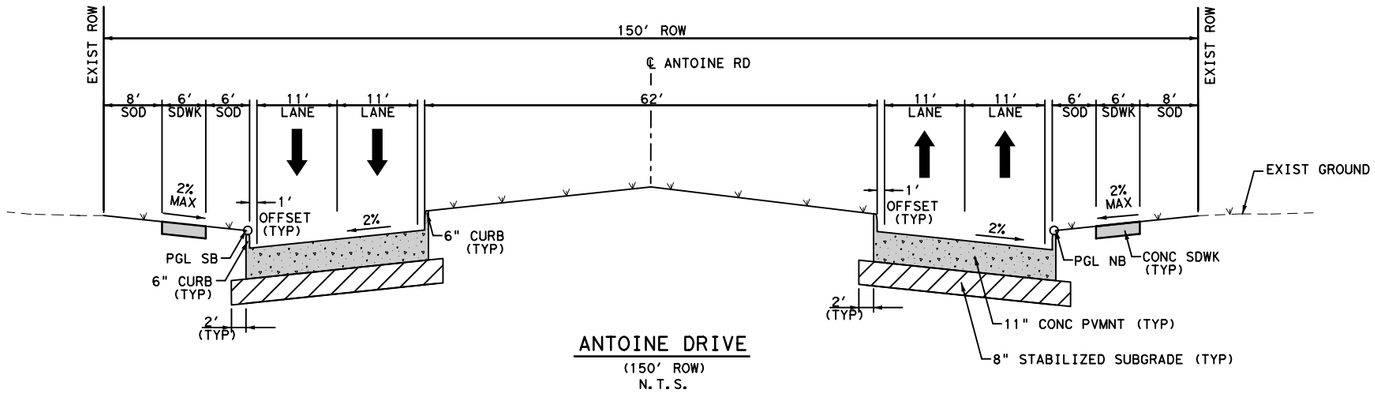
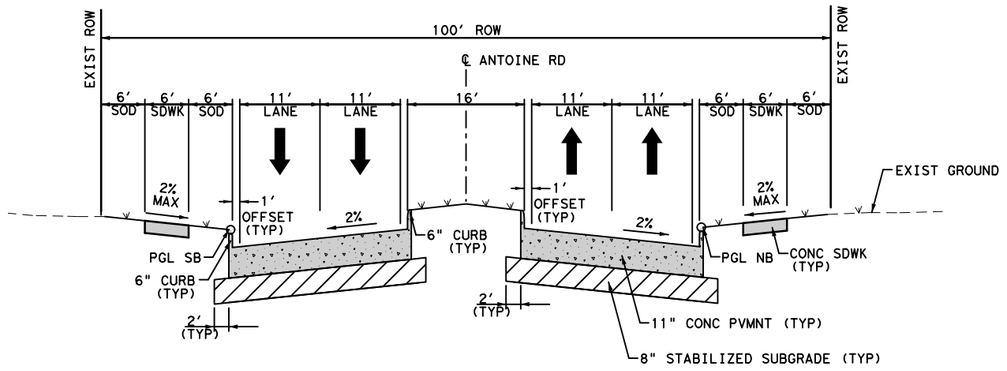
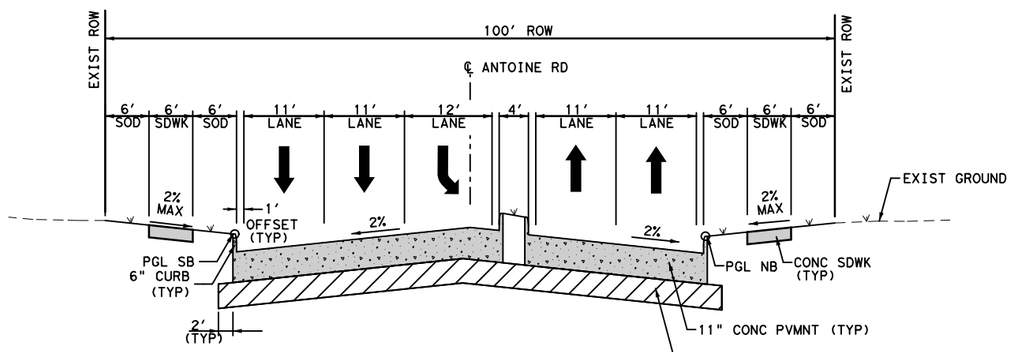
Plotted on: 2/19/2026 emma



ANTOINE DRIVE
(150' ROW)
N. T. S.



ANTOINE DRIVE
(100' ROW)
N. T. S.



ANTOINE DRIVE
(100' ROW)
N. T. S.

NOTES:
1. SUBSURFACE UTILITIES ARE NOT SHOWN IN TYPICAL SECTIONS.

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3200 Southwest Freeway, Suite 3150
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Texas Registered Engineering Firm F-3401

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTION

SHEET 03 OF 08

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. OF 1067	

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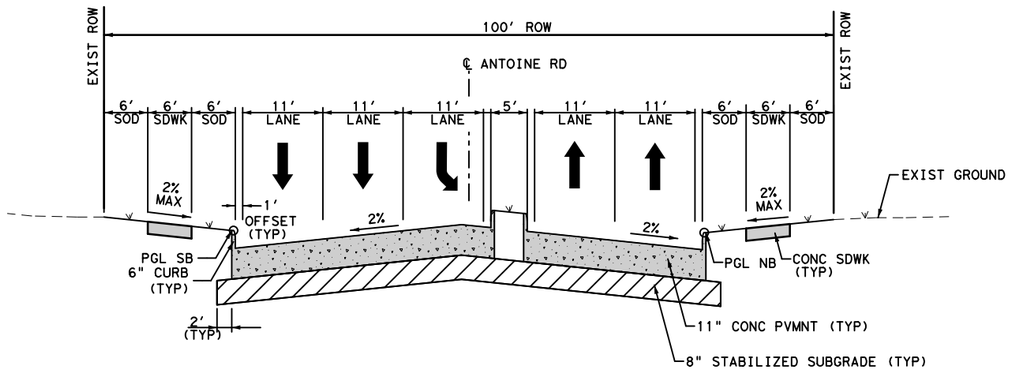
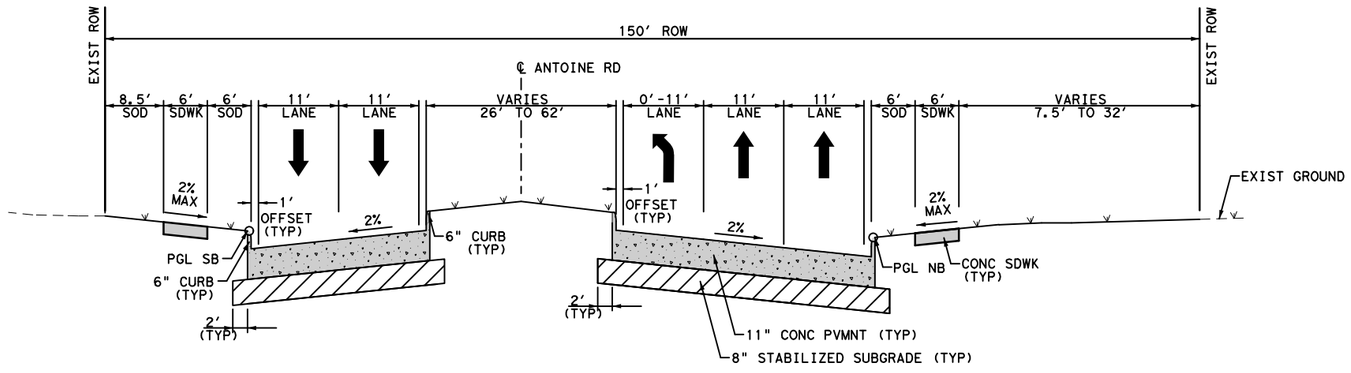
NOTES:
1. SUBSURFACE UTILITIES ARE NOT SHOWN IN TYPICAL SECTIONS.



ANTOINE DRIVE
@ ACORN ST
N.T.S.



ANTOINE DRIVE
@ ACORN ST
N.T.S.

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RS&H®
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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RS&H, Inc.
Texas Registered Engineering Firm F-3401

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTION

SHEET 04 OF 08

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. OF 1067	

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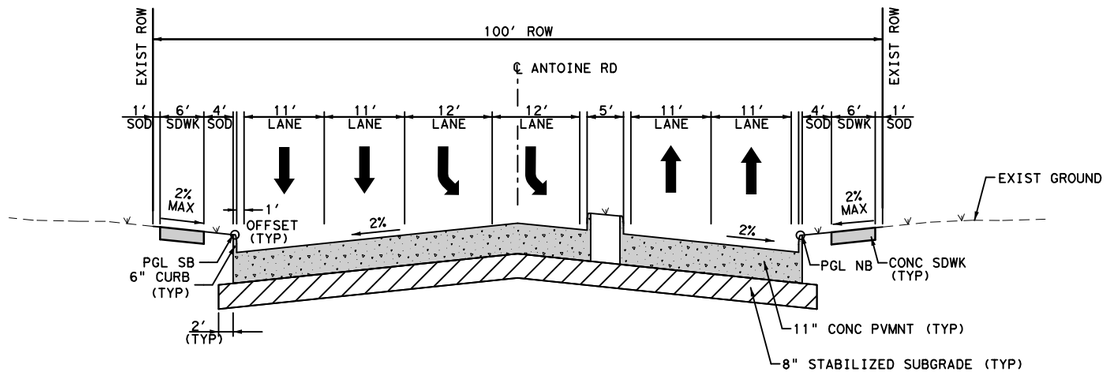
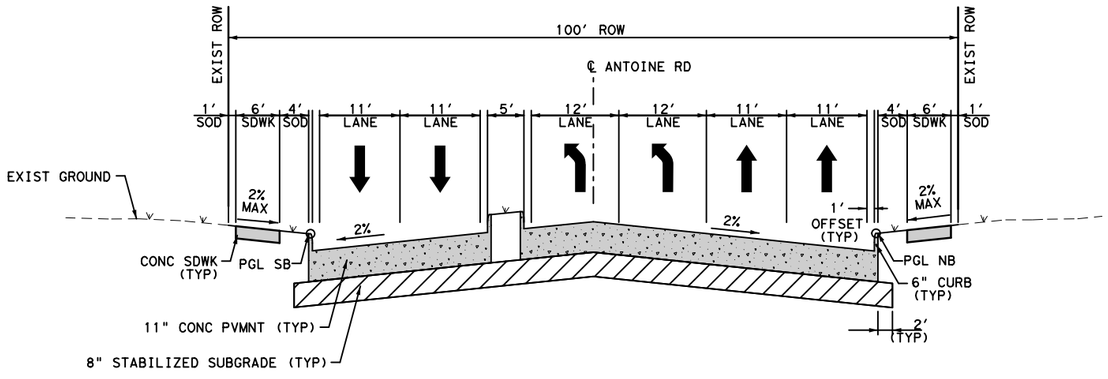
NOTES:
1. SUBSURFACE UTILITIES ARE NOT SHOWN IN TYPICAL SECTIONS.



ANTOINE DRIVE
@ PINEMONT DR
N.T.S.



ANTOINE DRIVE
@ PINEMONT DR
N.T.S.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTION

SHEET 05 OF 08

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. OF 1067	

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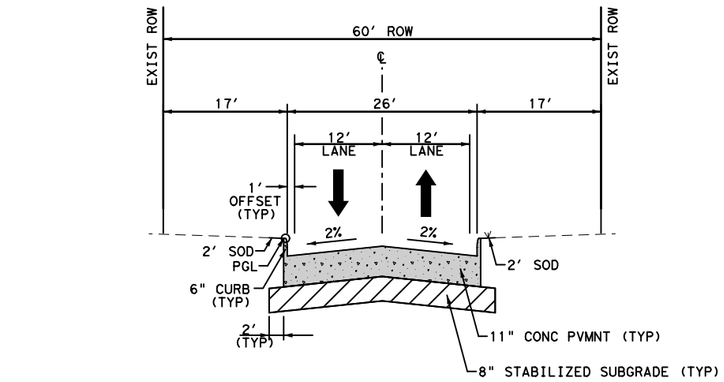
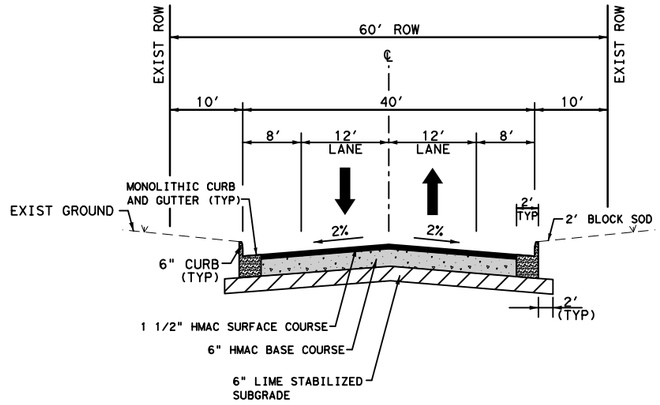
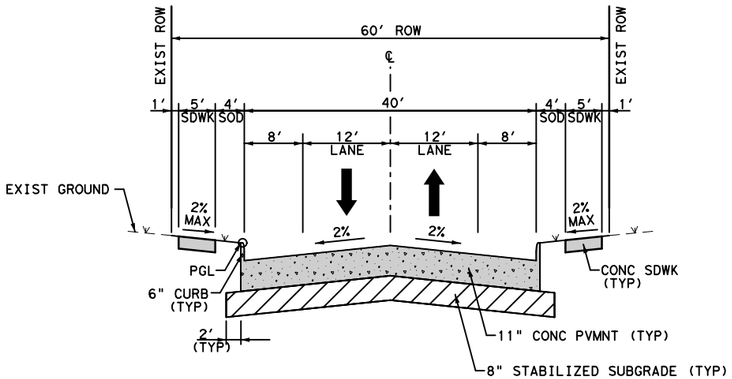


PROPOSED TYPICAL SECTION
SIDESTREET
26' WIDE RDWY
(60' ROW TYP)
N. T. S.

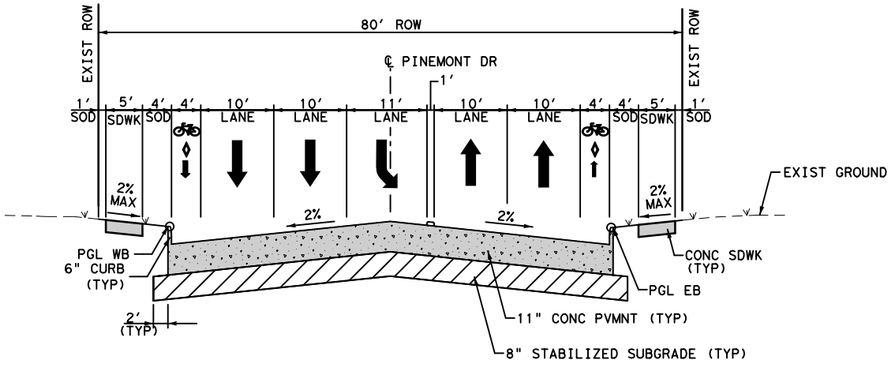


PROPOSED TYPICAL SECTION
SIDESTREET (ASPHALT TRANSITION)
40' WIDE RDWY
(60' ROW TYP)
N. T. S.

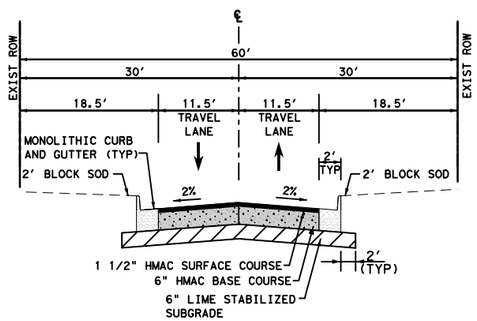
NOTES:
1. SUBSURFACE UTILITIES ARE NOT SHOWN IN TYPICAL SECTIONS.



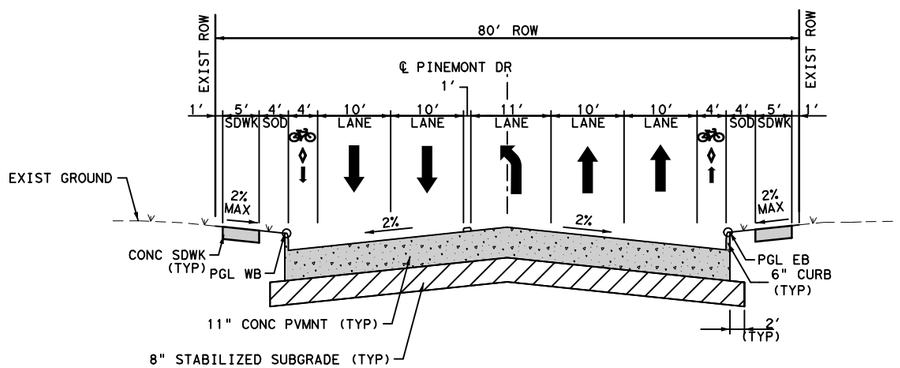
PROPOSED TYPICAL SECTION
SIDESTREET
40' WIDE RDWY
(60' ROW TYP)
N. T. S.



PINEMONT DRIVE
N. T. S.



PROPOSED TYPICAL SECTION
SIDESTREET (ASPHALT TRANSITION)
26' WIDE RDWY
(60' ROW TYP)
N. T. S.



PINEMONT DRIVE
N. T. S.

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RS&H

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTION

SHEET 06 OF 08

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. OF 1067	

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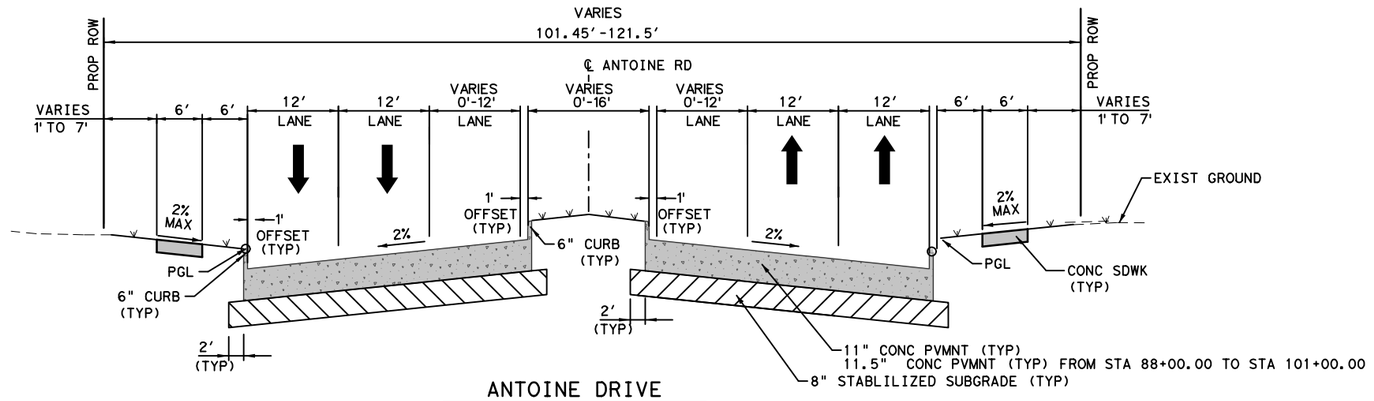
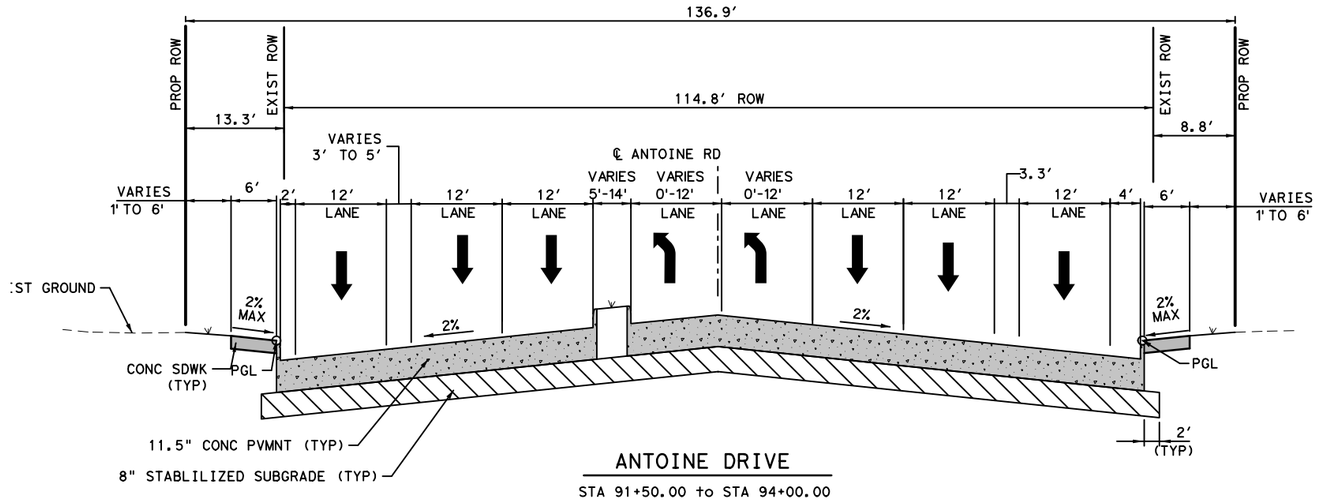


ANTOINE DRIVE

STA 88+00.00 TO STA 91+50.00
STA 109+00.00 TO END PROJECT (EB)
STA 109+06.10 TO END PROJECT (WB)
N.T.S.

NOTES:

1. SUBSURFACE UTILITIES ARE NOT SHOWN IN TYPICAL SECTIONS.



ANTOINE DRIVE

STA 91+50.00 to STA 94+00.00
N.T.S.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Engineer
125611
Date
3/12/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTION

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 30 OF 1067	

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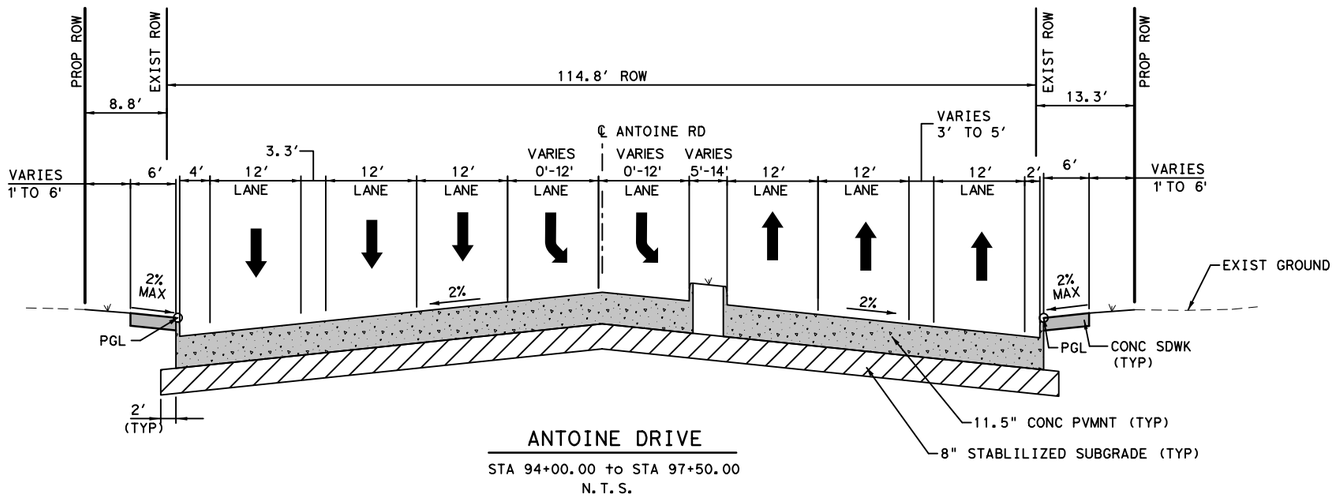
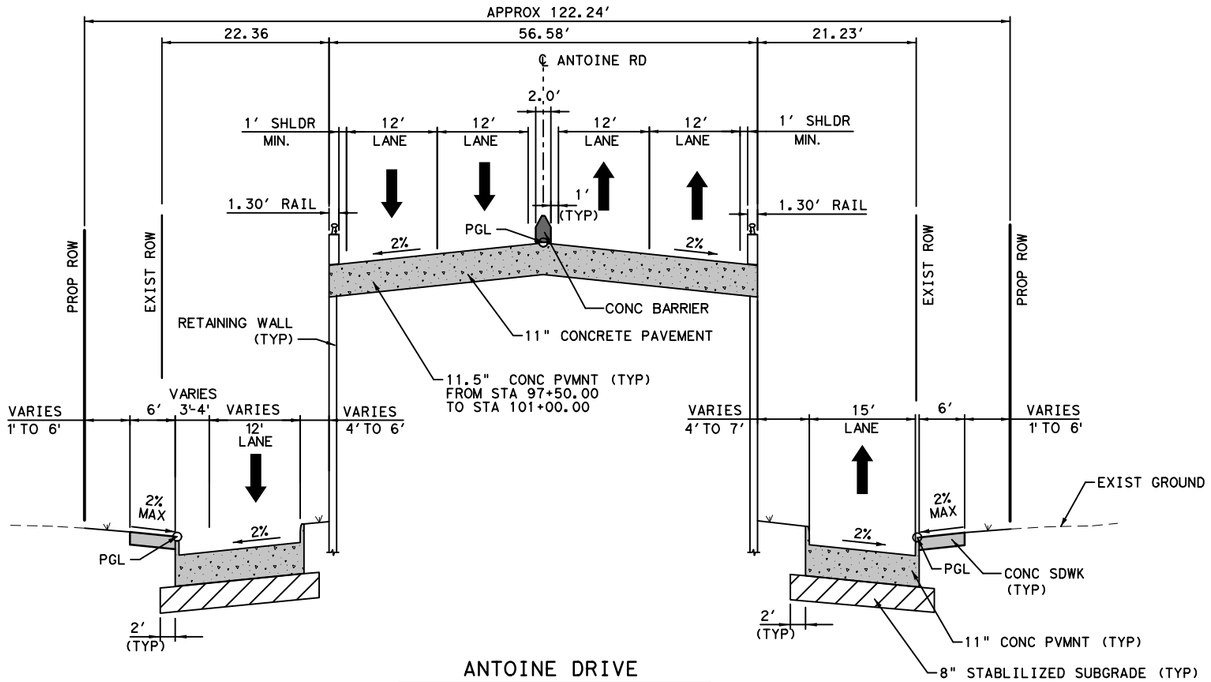


ANTOINE DRIVE

STA 94+00.00 to STA 97+50.00
N.T.S.

NOTES:

1. SUBSURFACE UTILITIES ARE NOT SHOWN IN TYPICAL SECTIONS.



ANTOINE DRIVE

STA 97+50.00 TO STA 109+00.00 (EB)
STA 97+50.00 TO STA 109+06.10 (WB)
N.T.S.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TYPICAL SECTION

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 31 OF 1067	

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SEQUENCE OF CONSTRUCTION

PHASE 1

STEP 1
FROM THE PROJECT START TO STA 18+50, SHIFT ANTOINE DR. SOUTHBOUND AND NORTHBOUND TRAFFIC TO THE OUTER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED STORM SEWER, MEDIANS, AND PAVEMENT ON THE INNER LANES.

STEP 2
FROM STA 19+50 TO STA 85+00, SHIFT TRAFFIC TO THE OUTER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED WATER LINE OFFSET, SANITARY SEWER, STORM SEWER, MEDIANS, AND PAVEMENT ON THE INNER LANES.

STEP 3
FROM STA 87+00 TO STA 94+71, SHIFT TRAFFIC TO THE OUTER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED WATER LINE OFFSET, SANITARY SEWER, STORM SEWER, MEDIANS, AND PAVEMENT ON THE INNER LANES. WORK AT INTERSECTION WILL BE CONSTRUCTED IN MULTI STEPS (REFER TO ANTOINE-W TIDWELL INTERSECTION SHEETS)

STEP 4
FROM STA 87+00 TO STA 94+71, SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED WATER LINE, SANITARY SEWER, STORM SEWER, AND PAVEMENT ON THE OUTER LANES. WORK AT INTERSECTION WILL BE CONSTRUCTED IN MULTI STEPS (REFER TO ANTOINE-W TIDWELL INTERSECTION SHEETS)

STEP 5
FROM STA 94+71 TO STA 110+00, SHIFT TRAFFIC TO THE INNER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED SANITARY SEWER, WATER LINE, STORM SEWER, SIDEWALK, AND PAVEMENT ON THE OUTER LANES (FRONTAGE ROAD). MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

STEP 6
FROM STA 110+00 TO STA 145+50, SHIFT TRAFFIC TO THE OUTER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED WATER LINE & SANITARY SEWER LATERALS, STORM SEWER, MEDIANS, AND PAVEMENT ON THE INNER LANES. WORK AT INTERSECTION WILL BE CONSTRUCTED IN MULTI STEPS (REFER TO ANTOINE-W LITTLE YORK INTERSECTION SHEETS). WORK AT MEDIAN OPENINGS WILL BE CONSTRUCTED IN MULTI STEPS (REFER TO DE SOTO DR TYPICAL SIDE STREET TCP AND DETOUR SHEETS)

STEP 7
FROM STA 147+00 TO THE END OF THE PROJECT, SHIFT TRAFFIC TO THE OUTER LANES. MAINTAIN A MINIMUM 11-FT LANE WIDTH. USE A TYPICAL ONE-LANE CLOSURE TO INSTALL THE PROPOSED WATER LINE OFFSET, SANITARY SEWER, AND THEN STORM SEWER IN THE SAME LOCATION AS THE ABANDONED SANITARY SEWER FORCE MAIN, ALONG WITH MEDIANS AND PAVEMENT ON THE INNER LANES.

PHASE 2

STEP 1
FROM THE PROJECT START TO STA 18+50, SHIFT ANTOINE DRIVE SOUTHBOUND AND NORTHBOUND TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET. UTILIZE A TYPICAL ONE-LANE CLOSURE TO INSTALL PROPOSED INLETS, SIDEWALK, DRIVEWAY, AND PAVEMENT ON THE OUTER LANES.

STEP 2
FROM STA 19+50 TO STA 85+00, SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET. UTILIZE A TYPICAL ONE-LANE CLOSURE TO INSTALL PROPOSED INLETS, SIDEWALK, DRIVEWAY, AND PAVEMENT ON THE OUTER LANES.

STEP 3
FROM STA 110+00 TO STA 145+50, SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET. UTILIZE A TYPICAL ONE-LANE CLOSURE TO INSTALL PROPOSED SANITARY SEWER, INLETS, SIDEWALK, DRIVEWAY, AND PAVEMENT ON THE OUTER LANES. WORK AT INTERSECTION WILL BE CONSTRUCTED IN MULTI STEPS (REFER TO ANTOINE-W LITTLE YORK INTERSECTION SHEETS). WORK AT SIDE STREET WILL BE CONSTRUCTED IN MULTI STEPS (REFER TO DE SOTO DR TYPICAL SIDE STREET TCP AND DETOUR SHEETS)

STEP 4
FROM STA 147+00 TO STA 151+00, SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET. UTILIZE A TYPICAL ONE-LANE CLOSURE TO INSTALL PROPOSED INLETS, SIDEWALK, DRIVEWAY, AND PAVEMENT ON THE OUTER LANES.

STEP 5
FROM STA 153+00 TO THE END OF THE PROJECT, SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET. UTILIZE A TYPICAL ONE-LANE CLOSURE TO INSTALL PROPOSED INLETS, SIDEWALK, DRIVEWAY, AND PAVEMENT ON THE OUTER LANES.

BRIDGES

BRICKHOUSE GULLY, COLE CREEK AND WHITE OAK BRIDGES

STEP 1
ALONG ANTOINE DRIVE, PLACE TEMPORARY ASPHALT AS NEEDED TO SHIFT NORTHBOUND TRAFFIC ONTO THE SOUTHBOUND TRAVEL LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET IN EACH DIRECTION. CONSTRUCT THE PROPOSED BRIDGE, SANITARY SEWER, STORM SEWER, AND PAVEMENT ALONG THE NORTHBOUND TRAVEL LANES.

STEP 2
ALONG ANTOINE DRIVE, PLACE TEMPORARY ASPHALT AS NEEDED TO SHIFT SOUTHBOUND TRAFFIC ONTO THE NEWLY CONSTRUCTED NORTHBOUND TRAVEL LANES. MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET IN EACH DIRECTION. CONSTRUCT THE PROPOSED BRIDGE, SANITARY SEWER, STORM SEWER, AND PAVEMENT ALONG THE SOUTHBOUND TRAVEL LANES.

BNSF BRIDGE
SHIFT BOTH SOUTHBOUND AND NORTHBOUND ANTOINE DRIVE TRAFFIC TO THE NEWLY CONSTRUCTED OUTER LANES (FRONTAGE ROAD). MAINTAIN A MINIMUM LANE WIDTH OF 11 FEET. CONSTRUCT THE PROPOSED BNSF BRIDGE.

NOTES:

1. INTERSECTIONS TO BE CONSTRUCTED IN MULTI STEPS TO MAINTAIN TRAFFIC IN ALL DIRECTIONS.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAYS, COORDINATE WITH PROPERTY OWNER TO PROVIDE ACCESS TO BUSINESSES AND RESIDENCES AT ALL TIMES.
3. CONTRACTOR TO FAST TRACK ALL ACCESS DRIVEWAYS AND INTERSECTIONS.
4. CONTRACTOR TO MAINTAIN SCHOOL ZONE.
5. ADJUST TEMP. SIGNAL HEAD AS REQUIRED TO ALIGN WITH PHASING TRAVEL LANES
6. TEMPORARY VIDEO IMAGE VEHICLE DETECTION SYSTEM(VIVDS) SHALL BE USED AT W 43RD ST, ACORN ST, PINEMONT DR, W TIDWELL RD, DE SOTO ST, W LITTLE YORK RD AND VICTORY DR. SIGNALS TO ACCOMMODATE THE CLOSURE OF THE LEFT TURN LANES. REFER TO TRAFFIC SIGNAL SHEET FOR MORE INFORMATION.
7. ALL THE STORM SEWER RCB/SANITARY SEWER PIPES MUST BE INSTALLED FROM THE DOWNSTREAM TO THE UPSTREAM.
8. USE TEMPORARY ASPHALT AS NEEDED ON LOCATIONS THAT WILL REQUIRE LATERALS CONNECTION.
9. CONTRACTOR SHALL MAINTAIN PEDESTRIAN FACILITIES ON EITHER SIDE (EAST OR WEST) OF ANTOINE DRIVE AT ALL TIMES. IF ACCESS IS TO BE DISRUPTED DURING CONSTRUCTION, CONTRACTOR SHALL PROVIDE ADEQUATE SIGNAGE AND TEMPORARILY DIRECT PEDESTRIAN TRAFFIC TO ANOTHER SAFE ALTERNATIVE ROUTE UNTIL THE CONTINUOUS ACCESS IS RESTORED AGAIN. ALL TEMPORARY ALTERNATIVE PEDESTRIAN DETOURS SHALL HAVE PRIOR APPROVAL OF THE CONSTRUCTION MANAGER. NO SEPARATE PAY. FLAGMAN WILL ASSIST PEDESTRIAN CROSSING WHEN CONSTRUCTION IS ACTIVE. INCIDENTAL TO TRAFFIC CONTROL AND REGULATION. NO SEPARATE PAY.
10. CONTRACTOR MUST MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. WORK IS INCIDENTAL AND WILL NOT BE PAID SEPARATELY.
11. CONTRACTOR TO MAINTAIN MEDIAN OPENING AT ALL TIMES, EXCEPT DURING ACTIVE WORK ON IT.
12. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.

EXISTING SPEED LIMIT:
FROM US 290 TO W LITTLE YORK RD=35 MPH
FROM W LITTLE YORK RD TO VICTORY=30 MPH

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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AHMED ALOSBAIDI
P.E. 155052
3/13/2026
DATE
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SEQUENCE OF CONSTRUCTION

SHEET 1 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 32 OF 1067	

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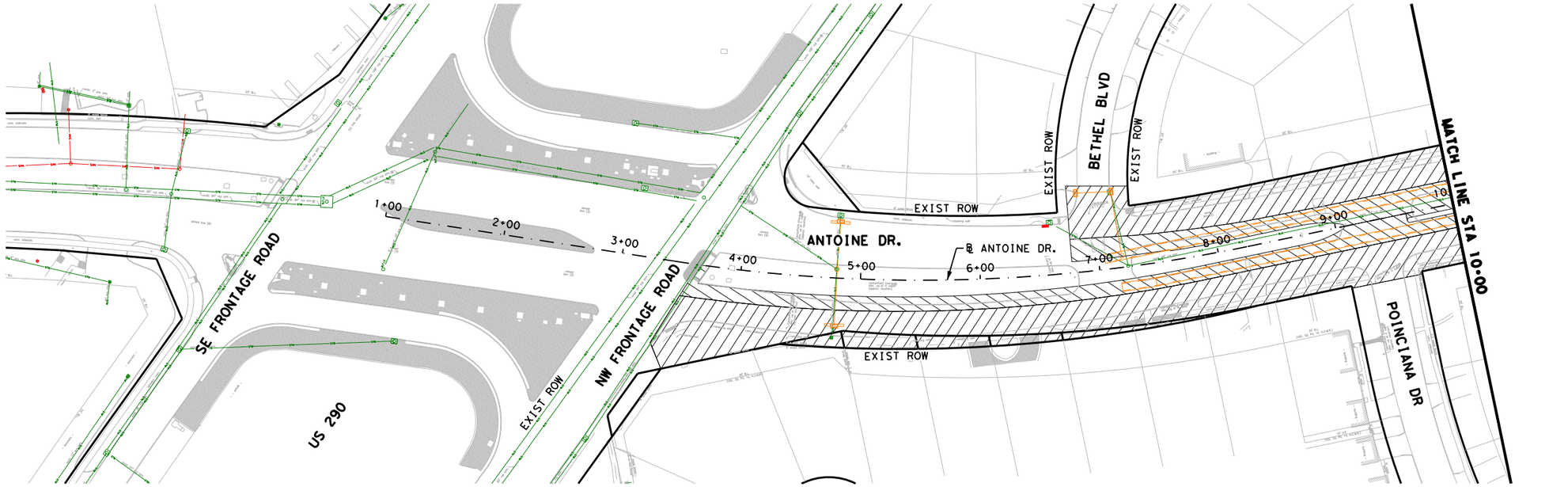

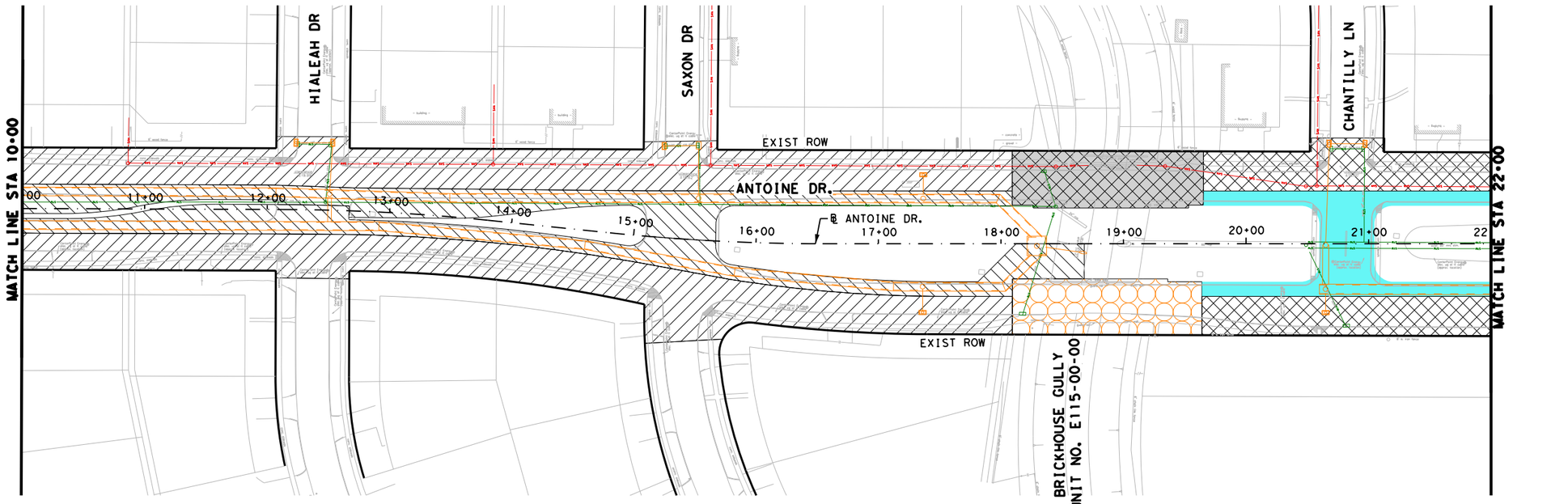

LEGEND

- TCP PHASE 1 - STEP 1
- TCP PHASE 1 - STEP 2
- TCP PHASE 1 - STEP 3
- TCP PHASE 1 - STEP 4
- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

No.	DATE	REVISIONS	APP.

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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AHMED ALOBAIDI
Texas
155052
3/13/2026
Date
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SEQUENCE OF CONSTRUCTION

SHEET 2 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 33 OF 1067	

Plotted on: 3/13/2026 11:47:02 AM $USER$
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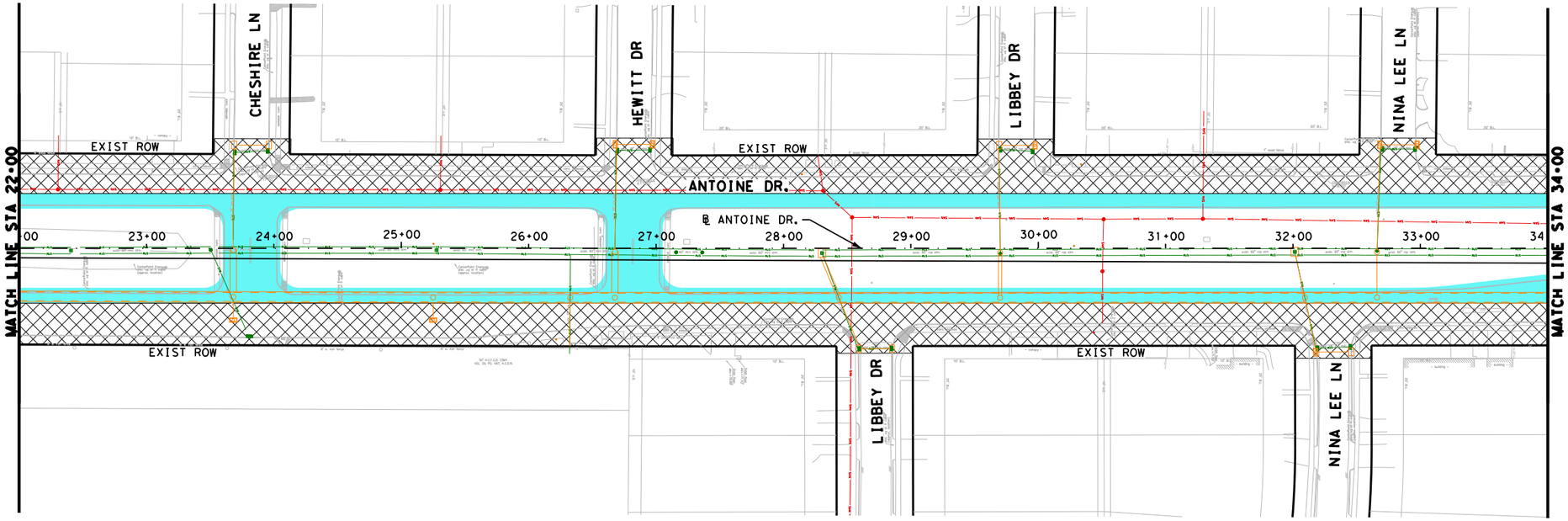

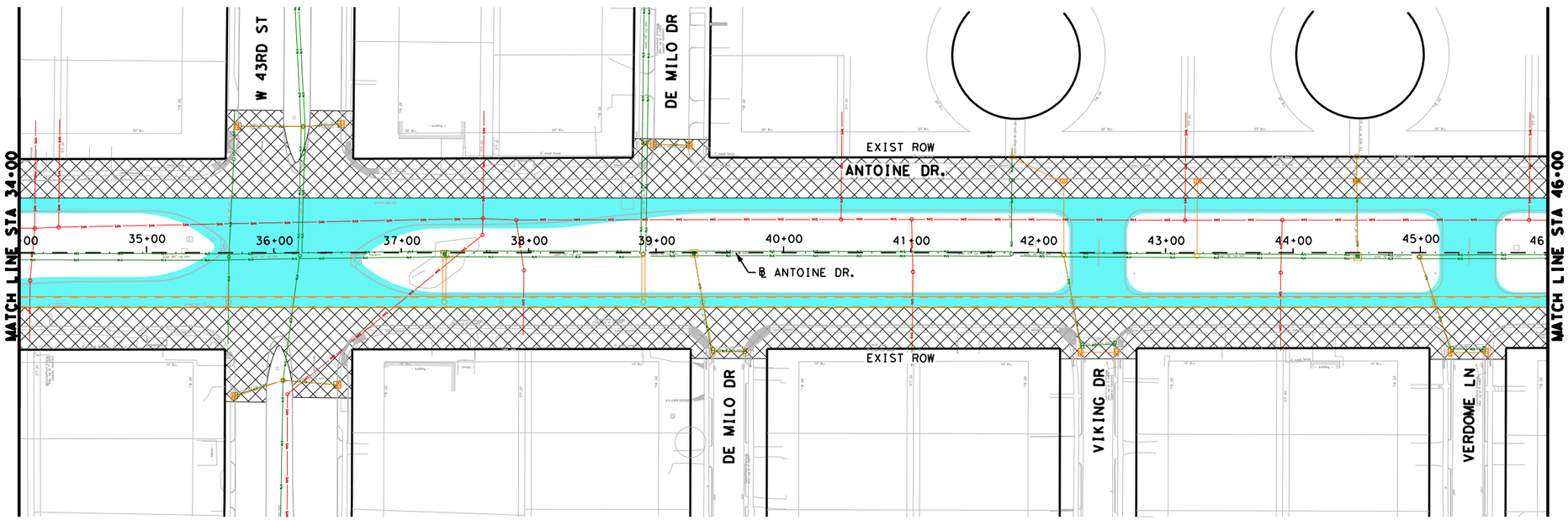

LEGEND

- TCP PHASE 1 - STEP 1
- TCP PHASE 1 - STEP 2
- TCP PHASE 1 - STEP 3
- TCP PHASE 1 - STEP 4
- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

No.	DATE	REVISIONS	APP.

0' 50' 100'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SEQUENCE OF CONSTRUCTION

SHEET 3 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 34 OF 1067	

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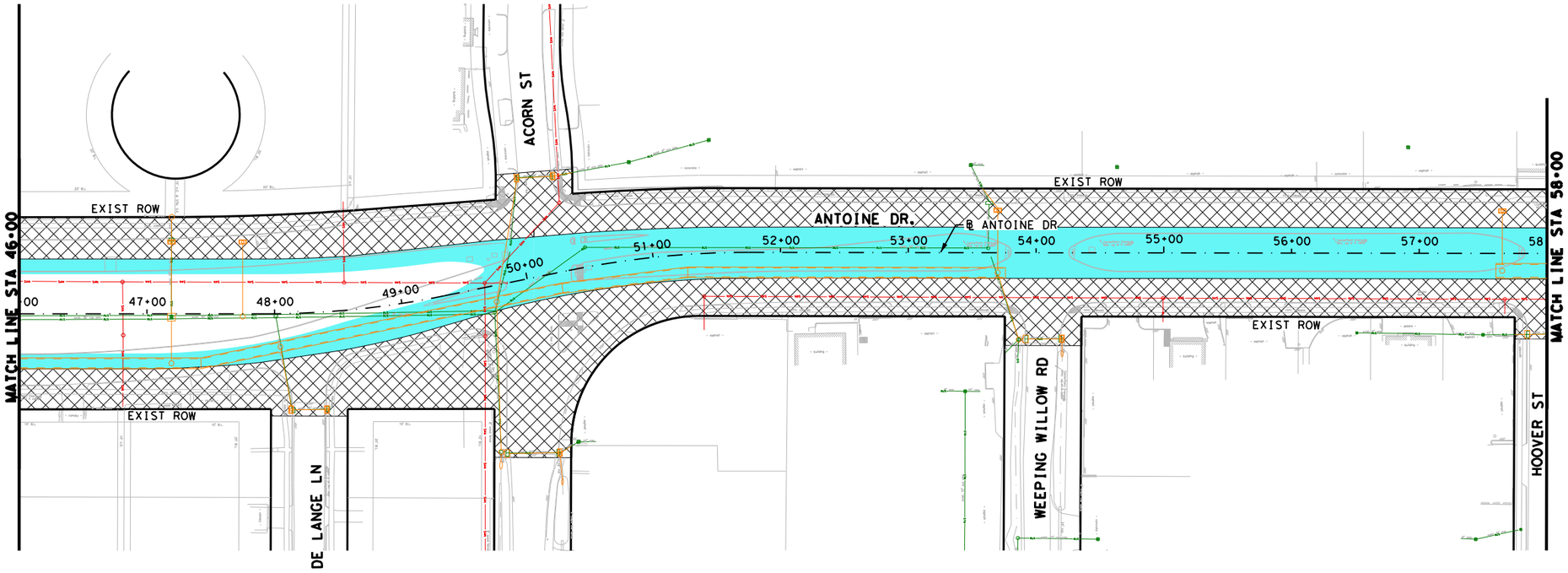

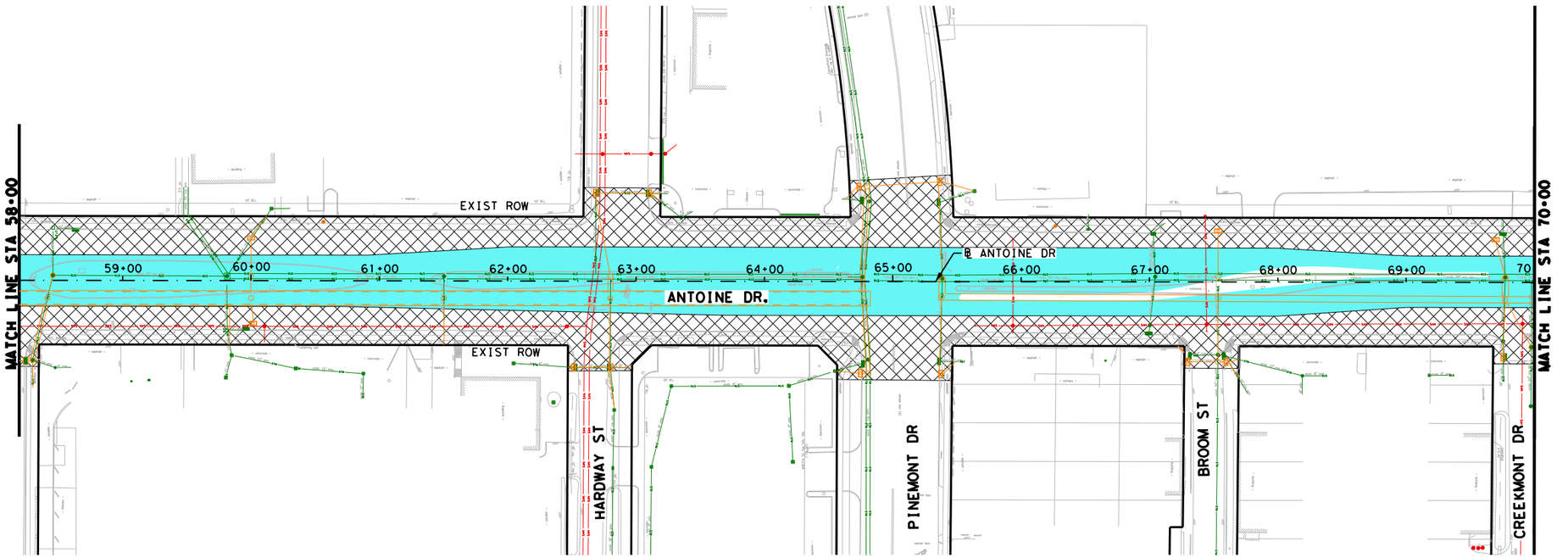

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- TCP PHASE 1 - STEP 1
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- TCP PHASE 1 - STEP 3
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- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

No.	DATE	REVISIONS	APP.

N

0' 50' 100'

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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SEQUENCE OF CONSTRUCTION

SHEET 4 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 35 OF 1067	

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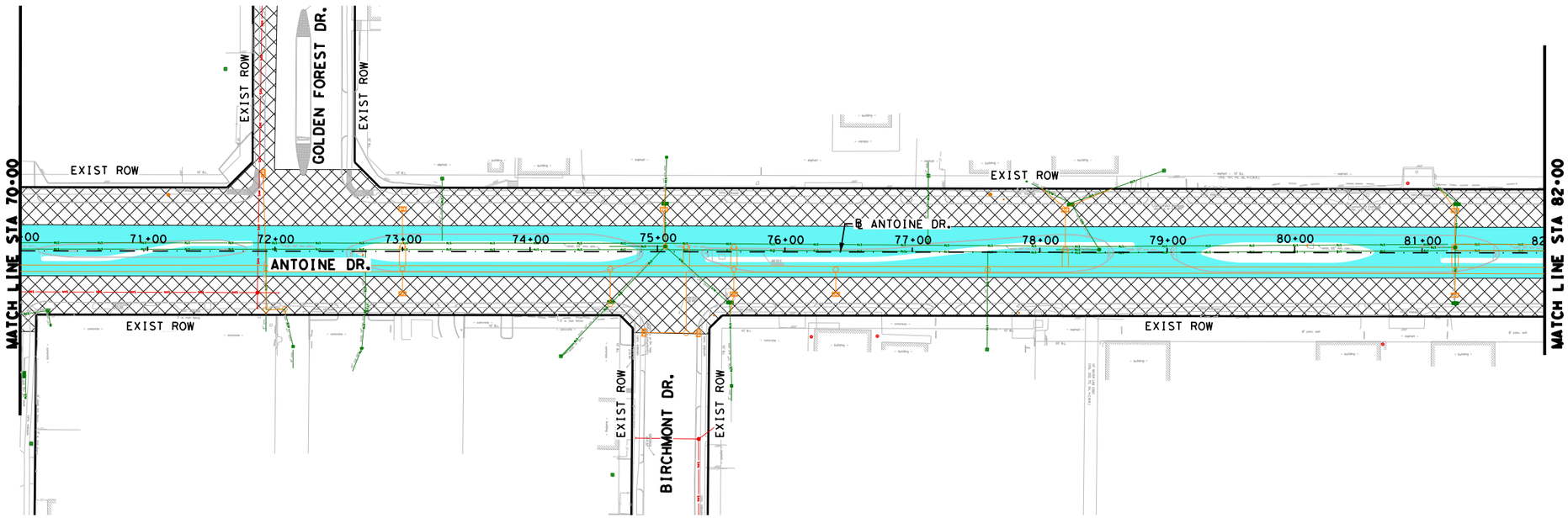

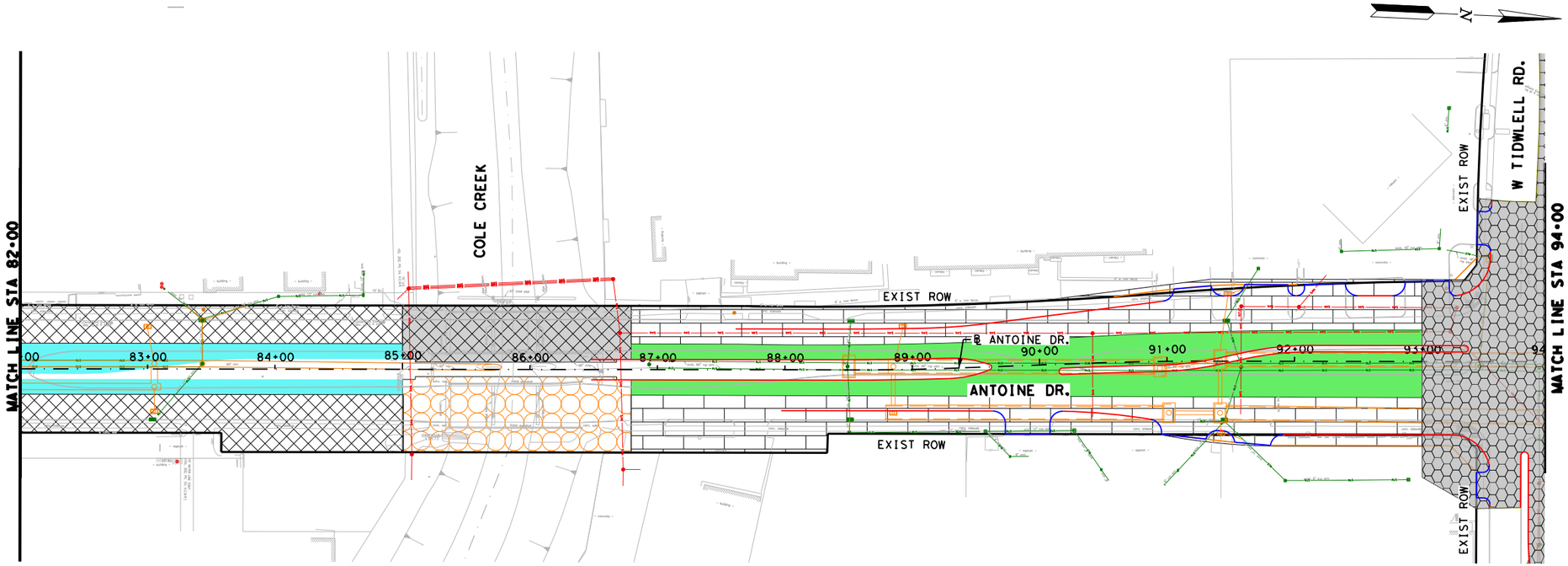

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- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

No.	DATE	REVISIONS	APP.

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TEXAS PE FIRM REG. # 20017
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HOUSTON PUBLIC WORKS

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SHEET 5 OF 8

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SHEET NO. 36 OF 1067	

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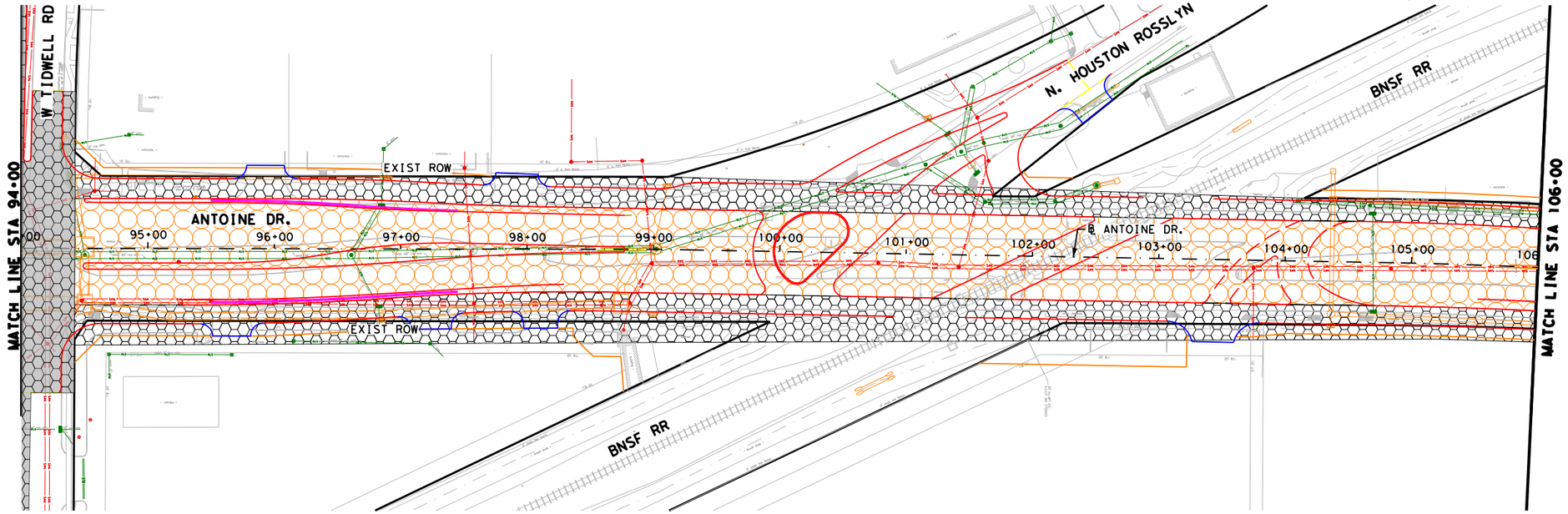

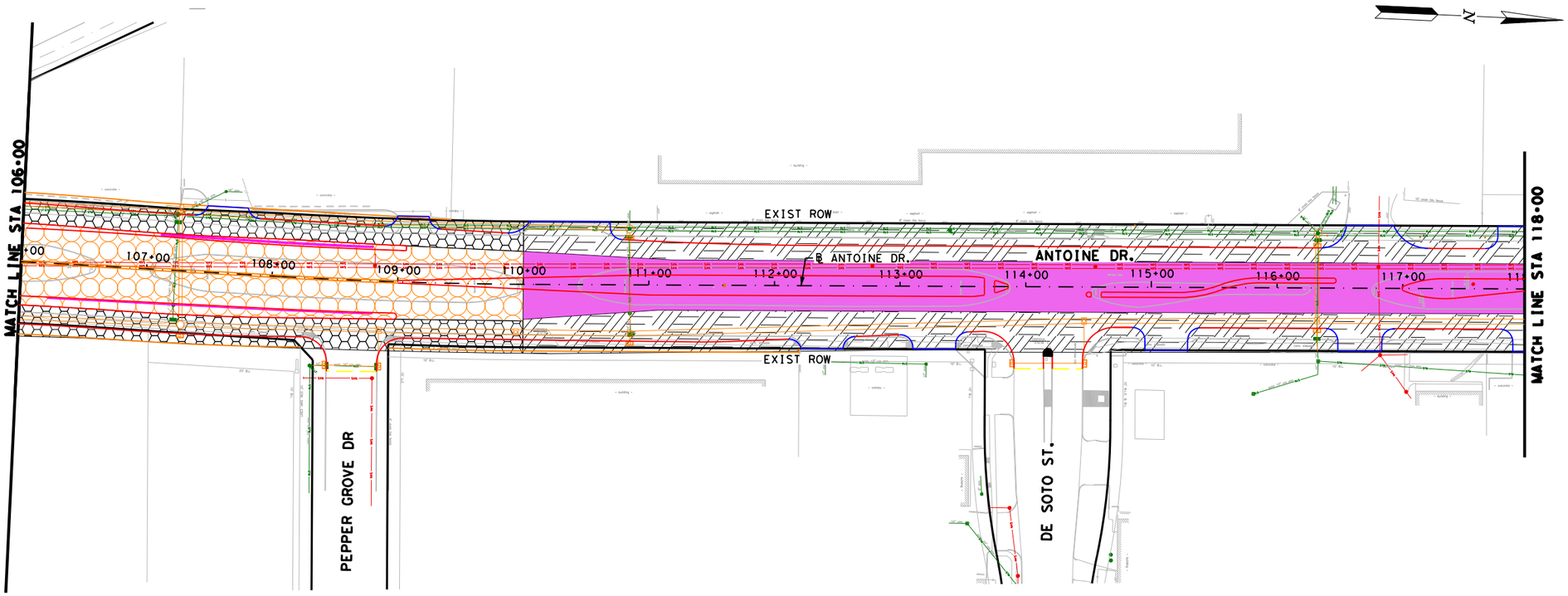

LEGEND

- TCP PHASE 1 - STEP 1
- TCP PHASE 1 - STEP 2
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- TCP PHASE 1 - STEP 4
- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

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SHEET 6 OF 8

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DRAWING SCALE	
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SHEET NO. 37 OF 1067	

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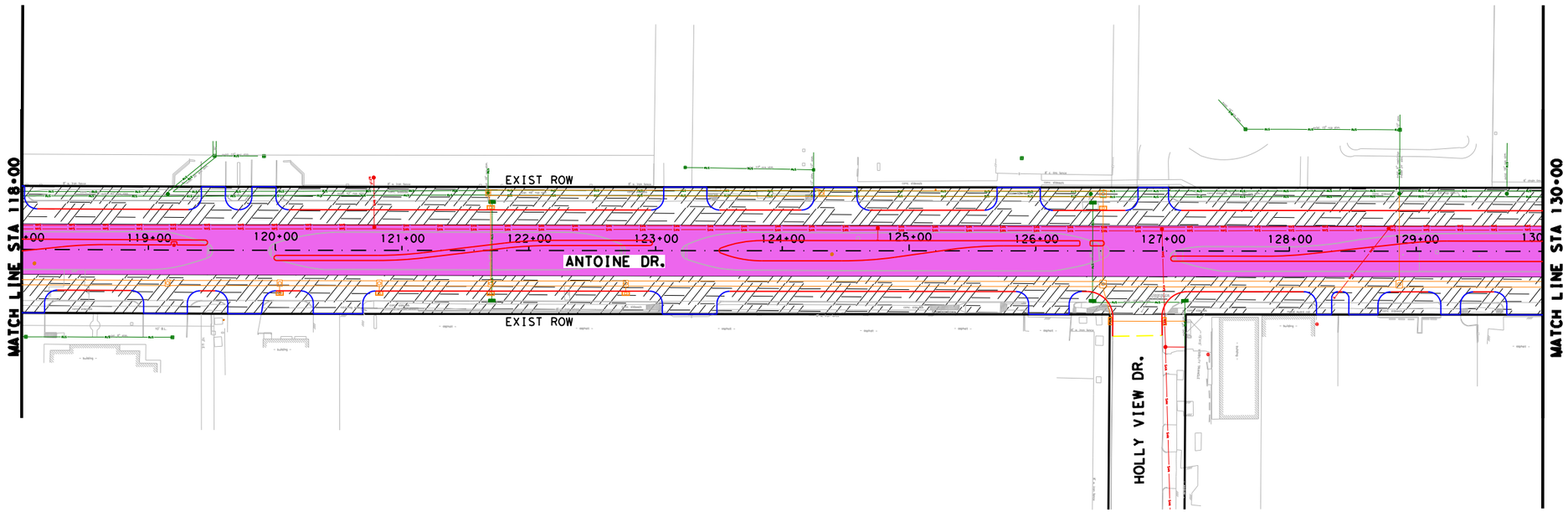

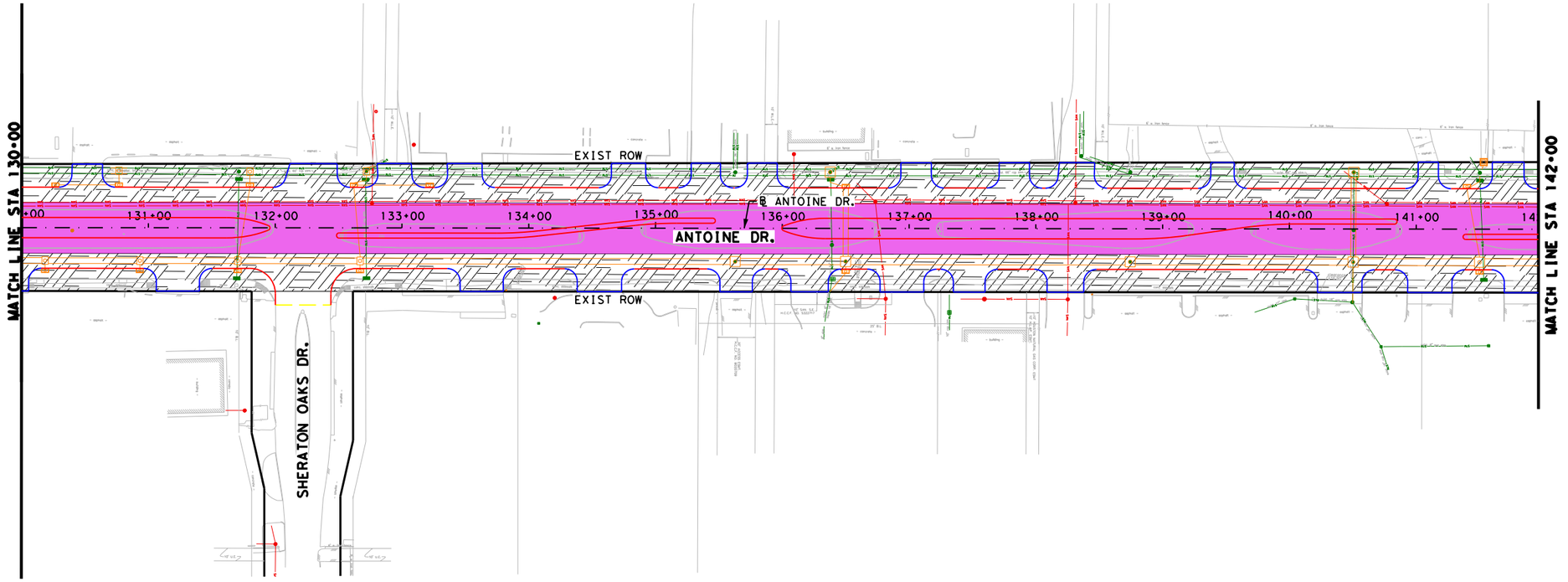

LEGEND

- TCP PHASE 1 - STEP 1
- TCP PHASE 1 - STEP 2
- TCP PHASE 1 - STEP 3
- TCP PHASE 1 - STEP 4
- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

No.	DATE	REVISIONS	APP.

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SHEET 7 OF 8

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DRAWING SCALE	
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SHEET NO. 38 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Traffic Control\07 SEQUENCE OF CONSTRUCTION 06.dgn

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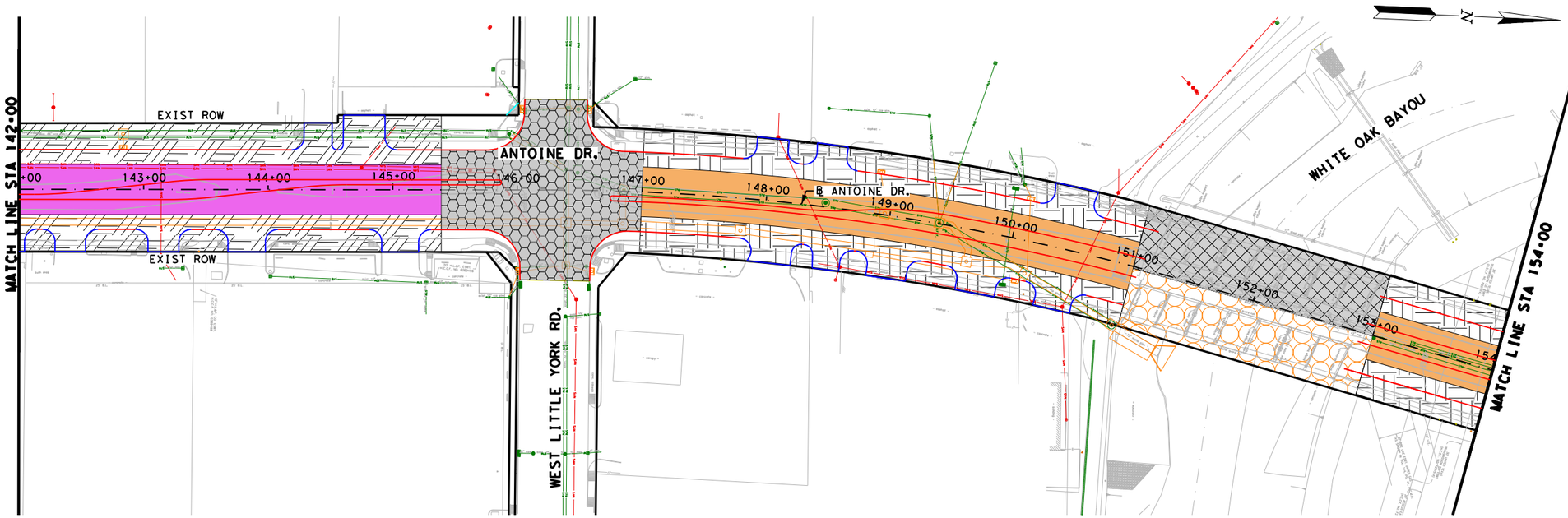

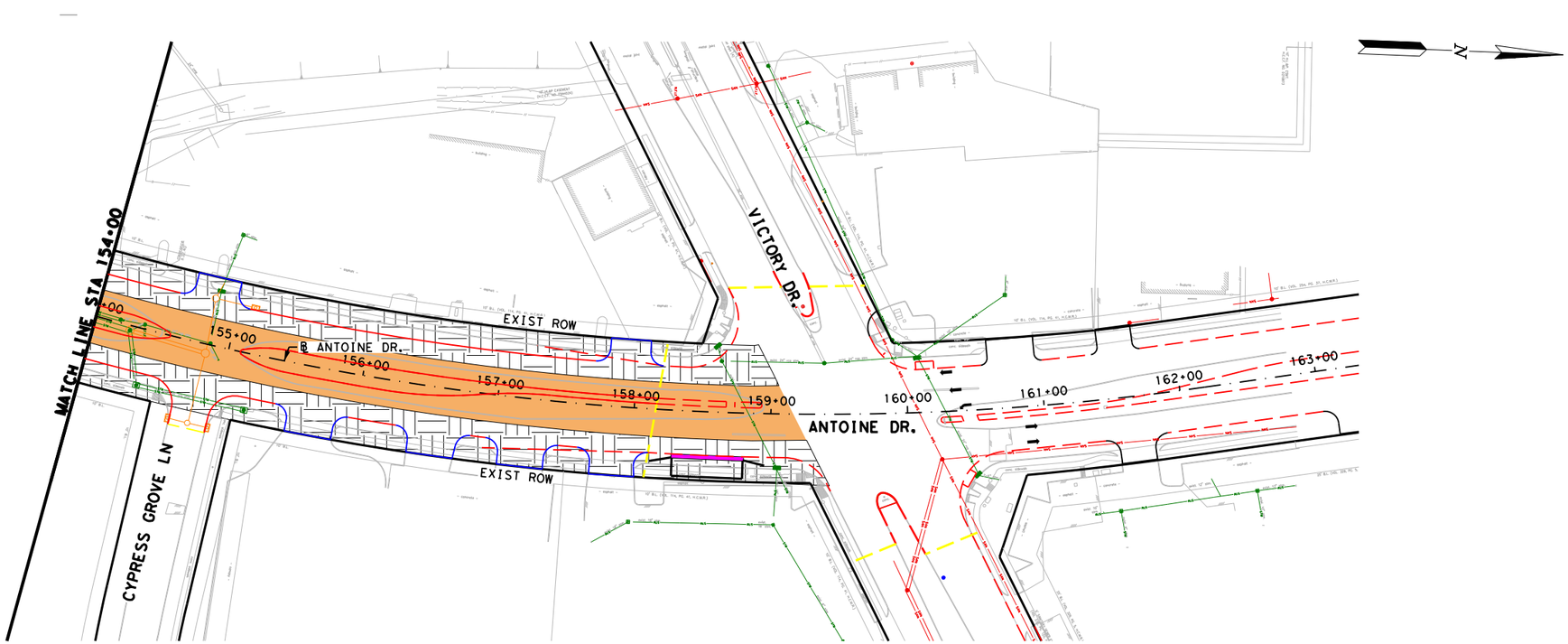

LEGEND

- TCP PHASE 1 - STEP 1
- TCP PHASE 1 - STEP 2
- TCP PHASE 1 - STEP 3
- TCP PHASE 1 - STEP 4
- TCP PHASE 1 - STEP 5
- TCP PHASE 1 - STEP 6
- TCP PHASE 1 - STEP 7
- BRIDGES STEP 1
- BRIDGES STEP 2
- INTERSECTIONS
- TCP PHASE 2 - STEP 1
- TCP PHASE 2 - STEP 2
- TCP PHASE 2 - STEP 3
- TCP PHASE 2 - STEP 4

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SHEET 8 OF 8

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SHEET NO. 39 OF 1067	

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TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL SIGNS, DEVICES, AND BARRICADES ON THESE DRAWINGS CONSTITUTE MINIMUM REQUIREMENTS AND ARE NOT INTENDED TO COVER SPECIAL CIRCUMSTANCES OR OTHER CONDITIONS THAT MAY ARISE DUE TO UNFORESEEN FIELD CONDITIONS. THE CONTRACTOR SHALL PLACE AND MAINTAIN SUFFICIENT ADDITIONAL SIGNS, BARRICADES, AND WARNING DEVICES TO WARN THE PUBLIC AND PROVIDE FOR THE SAFE MOVEMENT OF TRAFFIC AND THE CONSTRUCTION ZONE SAFETY. WHERE PROJECT REQUIREMENTS ARE NOT FULLY SATISFIED BY THE STANDARDS SHOWN HEREON "THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL GOVERN.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS M.U.T.C.D.), MOST RECENT EDITION WITH REVISIONS, DURING CONSTRUCTION.
3. BARRICADES, SIGNS, CHANNELIZING DEVICES, AND TRAFFIC HANDLING DEVICES AS SHOWN SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
4. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS INSTALLED DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS M.U.T.C.D., UNLESS SPECIFICALLY DIRECTED BY THE TRAFFIC ENGINEER OR SPECIFIED ON THESE PLANS.
5. CONTRACTOR SHALL PROVIDE ACCESS TO ALL BUSINESSES AND RESIDENCES ALONG THIS PROJECT AT ALL TIMES DURING CONSTRUCTION UNLESS OTHERWISE AUTHORIZED SPECIFICALLY BY THE ENGINEER.
6. ALL EXISTING STOP SIGNS, STREET NAME SIGNS, AND WARNING SIGNS SHALL BE MAINTAINED IN PLACE DURING THE ENTIRE PERIOD OF CONSTRUCTION BY THE CONTRACTOR. SIGNS IN CONFLICT WITH TRAFFIC CONTROL SIGNS SHALL BE COVERED.
7. NO WORK WILL BE PERFORMED IN THE ACTIVE TRAVELED LANES INCLUDING LOADING AND UNLOADING OF TRUCKS.
8. THE ENGINEER MAY DIRECT THE CONTRACTOR TO FURNISH ADDITIONAL SIGNS, BARRICADES, AND CHANNELIZING DEVICES AS REQUIRED TO MAINTAIN TRAFFIC AND CONSTRUCTION ZONE SAFETY DURING CONSTRUCTION. ANY SUCH ADDITIONAL SIGNS, BARRICADES, ETC. SHALL BE CONSIDERED A PART OF THE LUMP SUM PAY ITEM.
9. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE FLAGGERS TO DIRECT TRAFFIC. FLAGGERS SHALL BE OFF-DUTY UNIFORMED POLICE OFFICERS AND SHALL BE PAID FOR BY THE CONTRACTOR. THIS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OR TAKING OTHER STEPS AND PROVIDING OTHER PERSONNEL WHICH THE CONTRACTOR MAY DEEM NECESSARY FOR PROTECTION OF WORK AND THE PUBLIC.
10. WHEN USING MORE THAN ONE FLAGGER, THE FLAGMEN SHALL BE USE TWO WAY RADIOS CONTACT AT ALL TIMES.
11. CONTRACTOR SHALL ENSURE THAT ALL BARRICADES, SIGNS, CHANNELIZING DEVICES, WARNING LIGHTS, AND TRAFFIC HANDLING DEVICES ARE MAINTAINED IN A CLEAN FUNCTIONAL CONDITION AT ALL TIMES.
12. ALL SIGNS, WARNING DEVICES, AND BARRICADES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ACTS OF VANDALISM OR ACCIDENT.
13. ALL CONSTRUCTION SIGNS MOUNTED ON BARRICADES SHALL BE EQUIPPED WITH TYPE "A" WARNING LIGHTS (TWO PER STRUCTURE).
14. PORTABLE SIGNS MAY BE PROVIDED BETWEEN LOCATIONS AS REQUIRED FOR CONSTRUCTION. THESE HAVE TO BE APPROVED BY THE TRAFFIC ENGINEER.
15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL TEMPORARY AND EXISTING PAVEMENT MARKINGS IN A GOOD VISIBLE CONDITION THROUGHOUT THE LENGTH OF THE PROJECT.
16. THE CONTRACTOR SHALL SEQUENCE THE CONSTRUCTION IN SUCH A MANNER THAT NO ADJACENT CROSS STREETS AND MEDIAN OPENINGS ARE CLOSED AT SAME TIME UNLESS SPECIFIED ON THESE PLANS.
17. THE CONTRACTOR SHALL MAINTAIN BARRICADES AND SAFETY FENCES AT EACH SITE WHERE PEDESTRIAN TRAFFIC IS EVIDENT.
18. THE CONSTRUCTION SIGNS, WARNING DEVICES, AND BARRICADES SHALL REMAIN IN PLACE UNTIL THEIR REMOVAL IS DIRECTED BY THESE PLANS OR BY THE ENGINEER.
19. THE CONTRACTOR SHALL REMOVE ALL EXISTING STRIPING AND SIGNS, WHICH ARE IN CONFLICT WITH THE CONSTRUCTION SIGNS AND STRIPING. EXISTING PAVEMENT MARKINGS SHALL BE REMOVED IN AREAS WHERE TRAFFIC IS DIRECTED TO CROSS THEM. THE SIGNS SHALL BE PROPERLY STORED IN A SAFE PLACE UNTIL THE CONSTRUCTION HAS BEEN COMPLETED.
20. AT THE CONCLUSION OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO THEIR ORIGINAL CONDITION WITH TRAFFIC PAINT STRIPES, RAISED PAVEMENT MARKER BUTTONS AND RE-INSTALL THE SIGNS AT THEIR EXISTING LOCATION OR AS DIRECTED ON THE PLANS.
21. CONSTRUCTION IN ANY AREA THAT IS ADVERSELY AFFECTING TRAFFIC FLOW AND SAFETY, MUST BE PURSUED DILIGENTLY BY THE CONTRACTOR. IF, IN THE OPINION OF THE ENGINEER, THE CONTRACTOR IS NOT DIRECTLY PURSUING THE CONSTRUCTION IN THOSE AREAS, THE ENGINEER MAY REQUIRE THE CONTRACTOR TO CHANGE HIS/HER WORK SCHEDULE TO EXPEDITE COMPLETION IN THOSE AREAS OF CONCERN.
22. CONTRACTOR SHALL PERFORM WORK DURING THE PERIOD OF 7:00 AM TO 7:00 PM, SEVEN DAYS A WEEK ON RESIDENTIAL STREETS.
23. NO SHORT-TERM LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY, UNLESS DIRECTED BY THE CITY ENGINEER.
24. CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC DURING WORKING HOURS.
25. CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS AND OPEN LANES FOR NORMAL TRAFFIC FLOW AS DIRECTED BY THE ENGINEER.
26. OFF DUTY UNIFORMED PEACE OFFICERS ARE REQUIRED TO DIRECT TRAFFIC WHENEVER ADDITIONAL TRAFFIC LANES ARE TEMPORARILY BLOCKED FOR CONSTRUCTION PURPOSES. NO ADDITIONAL LANES SHALL BE BLOCKED MON-FRI BETWEEN THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM.
27. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" AND LANE/SIDEWALK CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE AT ALL TIMES. CONTRACTOR MUST SECURE "LANE/SIDEWALK CLOSURE PERMITS" FROM THE CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST TEN BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED.
28. IN THE EVENT THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF TRAFFIC CONTROL DURING THE CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING AN ALTERNATE SET OF "TRAFFIC CONTROL PLANS" TO TRAFFIC MANAGEMENT AND MAINTENANCE DIVISION, PUBLIC WORKS AND ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL TEN (10) WORKING DAYS PRIOR TO IMPLEMENTATION. PLANS SHALL BE TO SCALE ON MYLAR AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, AND SHALL BECOME PART OF THE CONTRACT. APPROVED COPIES OF THE "TRAFFIC CONTROL PLANS" AND LANE/SIDEWALK CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE AT ALL TIMES.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY OF HOUSTON TRAFFIC MANAGEMENT AND MAINTENANCE DIVISION OF PUBLIC WORKS AND ENGINEERING FOR REMOVAL AND INSTALLATION OF ANY PARKING RESTRICTIONS AND TRAFFIC SIGNAL ALTERATIONS MADE NECESSARY BY THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON TRAFFIC MANAGEMENT AND MAINTENANCE DIVISION AT LEAST FIVE (5) WORKING DAYS PRIOR TO IMPLEMENTATION OF TRAFFIC ROUTING AROUND THE CONSTRUCTION AREA, AND AGAIN UPON COMPLETION OF WORK AT EACH SITE.
30. THE CONTRACTOR SHALL CONDUCT HIS OPERATION IN A MANNER SUCH THAT TRUCKS AND OTHER VECHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY PUBLIC OR PRIVATE STREET.
31. THE CONTRACTOR AND SUBCONTRACTORS SHALL COMPLY WITH ALL FEDERAL STATE AND LOCAL LAWS CODES AND ORDINANCES APPLICABLE TO THE WORK AND ALL REQUIREMENTS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS HAVING JURISDICTION. IF THE ABOVE LAWS, CODES, OR ORDINANCES CONFLICT WITH SPECIFICATIONS THEN THE LAWS, CODES OR ORDINANCES SHALL GOVERN EXCEPT WHERE SPECIFICATIONS EXCEEDS THEM IN QUALITY OR QUANITY OF MATERIAL OR LABOR. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED IN CONNECTION WITH THE EXECUTION OF THE WORK. UNDER NO CIRCUMSTANCES SHALL ANY WORK BE STARTED BEFORE THE REQUIRED PERMITS ARE OBTAINED THE ENGINEER SHALL BE FURNISHED WITH CERTIFIED COPIES IF HE SO REQUESTS.
32. DESIGN SPEED FOR T.C.P. IS 35 MPH ON ALL MAJOR/MINOR STREETS (EXCEPT AS NOTED) AND 30 MPH ON ALL OTHER STREETS.
33. ALL BARRICADES, SIGNS, STRIPING, CHANNELIZATION DEVICES, AND ALL EQUIPMENT INCIDENTALS, AND LABOR REQUIRED TO CONSTRUCT BARRICADES AND SIGNS, ETC. AS SHOWN IN THE DETAILS ON THESE PLANS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR TRAFFIC HANDLING.
34. THE CONTRACTOR SHALL ADJUST ALL UTILITIES THAT MAY AFFECT TRAFFIC FLOW PRIOR TO TRAFFIC DISRUPTION.
35. THE CONTRACTOR SHALL MAINTAIN A 1' SAFETY BUFFER BETWEEN TRENCH AND LPCB.
36. WORK IN AREAS THAT REQUIRE FLAGGING OPERATIONS SHALL BE RESTRICTED TO THE HOURS OF 9:00 AM – 4:00 PM MONDAY THRU FRIDAY, UNLESS DIRECTED BY THE ENGINEER.

SITE SPECIFIC NOTES

1. ALL SIGNS AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (TMUTCD).
2. CONTRACTOR MUST MAINTAIN ACCESS FOR ALL DRIVEWAYS WITHIN WORK AREA.
3. CONTRACTOR TO USE HIGH EARLY STRENGTH CONCRETE WHEN CLOSING MORE THAN ONE LANE FOR REPAIR.

STREET NAMES	POSTED SPEED LIMIT
MAJOR/MINOR STREETS:	
ANTOINE DRIVE	35 MPH
NORTHWEST FWY	50 MPH
BETHEL DRIVE	30 MPH
POINCIANA DRIVE	30 MPH
HIALEAH DRIVE	30 MPH
SAXON DRIVE	30 MPH
CHANTILLY LANE	30 MPH
CHESHIRE LANE	30 MPH
HEWITT DRIVE	30 MPH
LIBBEY DRIVE	30 MPH
NINA LEE LANE	30 MPH
W 43RD STREET	35 MPH
DE MILO DRIVE	30 MPH
VIKING DRIVE	30 MPH
VERDOME LANE	30 MPH
DE LANGE LANE	30 MPH
ACRON STREET	30 MPH
WEEPING WILLOW RD	30 MPH
HOOVER STREET	30 MPH
HARDWAY STREET	30 MPH
PINEMONT DRIVE	40 MPH
BROOM STREET	30 MPH
CREEKMONT DRIVE	30 MPH
GOLDEN FOREST DRIVE	30 MPH
BIRCHMONT DRIVE	30 MPH
W TIDWELL RD	35 MPH
N HOUSTON ROSSLYN RD	45 MPH
DE SOTO STREET	30 MPH
HOLLY VIEW DRIVE	30 MPH
SHERATON OAKS DRIVE	30 MPH
W LITTLE YORK RD	35 MPH
CYPRESS GROVE LANE	30 MPH
VICTORY DRIVE	35 MPH

LENGTH FOR LONGITUDINAL BUFFER		TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZING DEVICES				
				Min. Desirable Taper Length "L"		
Posted Speed (mph)	Length in Feet (B)	Posted Speed (mph)	Sign Spacing "X"	10' Offset	11' Offset	12' Offset
20	35					
25	55					
30	85	30	120'	150'	165'	180'
35	120	35	160'	205'	225'	245'
40	170	40	240'	265'	295'	320'
45	220	45	320'	450'	495'	540'
50	280	50	400'	500'	550'	600'
55	335	55	500'	550'	605'	660'

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPPED	
Posted Speed (mph)	Distance "D" in Feet (D)
30	200
35	250
40	305
45	360
50	425
55	495

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP-1
GENERAL NOTES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 40 OF 1067	

Design Filename:

Mar 13 2026 1:05PM saif
S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\01-02010 TCP - General Notes.dwg
Includes Xref(s): COH BDR-TCP.dwg

SEQUENCE OF CONSTRUCTION

PHASE 1 (US 290 TO ACORN ST)

USE TYPICAL ONE LANE CLOSURE TO INSTALL PROPOSED WATER LINE AND FIRE HYDRANTS PRIOR TO EACH STEP IN PHASE 1. USE TEMPORARY ASPHALT AS NEEDED TO RESTORE PAVEMENT AND REOPEN THE ROAD TO TRAFFIC.

STEP 1:

STA 19+64.57 TO STA 28+70.68 (WEST SIDE):
REDUCE ANTOINE DRIVE SOUTHBOUND TRAFFIC TO THE OUTER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TCP–5 FOR INTERIOR LANE CLOSURES TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, MEDIAN/MEDIAN OPENINGS AND PAVEMENT ON THE INNER LANE. USE TCP–6 FOR ACCESS ACROSS MEDIANS.

STA 19+64.57 TO STA 28+00 (EAST SIDE):
REDUCE ANTOINE DRIVE NORTHBOUND TRAFFIC TO THE OUTER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TCP–5 FOR INTERIOR LANE CLOSURES TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, MEDIAN/MEDIAN OPENINGS AND PAVEMENT ON THE INNER LANE. USE TCP–6 FOR ACCESS ACROSS MEDIANS.

STEP 2

STA 28+70.68 TO STA 50+05.24 (WEST SIDE):
REDUCE ANTOINE DRIVE SOUTHBOUND TRAFFIC TO THE OUTER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TCP–5 FOR INTERIOR LANE CLOSURES TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, MEDIAN/MEDIAN OPENINGS AND PAVEMENT ON THE INNER LANE. USE TCP–6 FOR ACCESS ACROSS MEDIANS.

STA 28+00 TO STA 50+05.24 (EAST SIDE):
REDUCE ANTOINE DR NORTHBOUND TRAFFIC LANES TO THE OUTER LANE. USE TCP–5 FOR INTERIOR LANE CLOSURES TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, MEDIAN/MEDIAN OPENINGS AND PAVEMENT ON THE INNER LANE. USE TCP–6 FOR ACCESS ACROSS MEDIANS.

INTERSECTION OF ANTOINE DRIVE AND W 43RD ST.
USE TCP–9 FOR THE INTERIOR LANE CLOSURES AT THE INTERSECTION OF ANTOINE DRIVE AND W 43RD ST. SHIFT THE EASTBOUND TRAFFIC ALONG W 43RD ACROSS THE MEDIAN AND CREATE A TWO–WAY STREET WITHIN THE WESTBOUND LANES OF W 43RD. AFTER THE INTERIOR PANEL IS COMPLETED, SHIFT THE WESTBOUND TRAFFIC WITHIN THE EASTBOUND LANES OF W 43RD ST. AND PERFORM THE NECESSARY PAVEMENT AND UTILITY WORK. WHILE THE WESTBOUND TRAFFIC IS SHIFTED IN THE EASTBOUND LANES OF W 43RD. MAINTAIN MINIMUM 11' LANES IN ALL DIRECTIONS.

INTERSECTION OF ANTOINE DRIVE AND ACORN ST.
USE TCP–8 FOR THE INTERIOR SEGMENT CLOSURE AT THE INTERSECTION OF ACORN ST. AND W ANTOINE DRIVE. TRAFFIC FROM ACORN ST. MAINTAIN MINIMUM 11–FT WIDE LANES IN ALL DIRECTIONS.

STEP 3

STA 19+64.57 TO STA 28+70.68 (WEST SIDE):
SHIFT SOUTHBOUND TRAFFIC TO NEWLY CONSTRUCTED INNER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TCP–5 FOR EXTERIOR LANE CLOSURES TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, SIDEWALKS AND PAVEMENT ON THE OUTER LANE. MAINTAIN ACCESS TO THE PROPERTIES DURING CONSTRUCTION AT ALL TIMES. USE TCP–7 TO PROVIDE A ONE–WAY ROAD ACCESS TO THE RESIDENTIAL SIDE STREETS AT ALL TIMES.

STA 19+64.57 TO STA 28+00 (EAST SIDE):
SHIFT ANTOINE DR NORTHBOUND TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANE.
MAINTAIN MINIMUM 11–FT WIDE LANE. USE TCP–5 FOR EXTERIOR LANE CLOSURES TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, SIDEWALKS AND PAVEMENT ON THE OUTER LANE. MAINTAIN ACCESS TO THE PROPERTIES DURING CONSTRUCTION AT ALL TIMES. USE TCP–7 TO PROVIDE A ONE–WAY ROAD ACCESS TO THE RESIDENTIAL STREETS AT ALL TIMES.

STEP 4

STA 28+70.68 TO STA 50+05.24 (WEST SIDE):
SHIFT SOUTHBOUND ANTOINE DR TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TCP–5 FOR EXTERIOR LANE CLOSURE TO INSTALL PROPOSED STORM SEWER, SIDEWALKS AND PAVEMENT ON THE OUTER LANE. MAINTAIN ACCESS TO THE PROPERTIES DURING CONSTRUCTION AT ALL TIMES.

STA 28+00 TO STA 50+05.24 (EAST SIDE):
SHIFT ANTOINE DR NORTHBOUND TRAFFIC TO NEWLY CONSTRUCTED INNER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. TCP–5 FOR EXTERIOR LANE CLOSURES TO INSTALL PROPOSED STORM SEWER, SIDEWALKS AND PAVEMENT ON THE OUTER LANE. MAINTAIN ACCESS TO THE PROPERTIES DURING CONSTRUCTION AT ALL TIMES.

STEP 5

STA US 290 TO 18+09.26 (WEST SIDE):
REMOVE A PORTION OF THE EXISTING MEDIAN UP TO THE PROPOSED MEDIAN LIMIT TO HAVE A MINIMUM 11–FT WIDE LANE. REDUCE ANTOINE DR SOUTHBOUND TRAFFIC LANES TO THE INNER LANE. USE TCP–5 TO INSTALL PROPOSED SANITARY SEWER, STORM SEWER, SIDEWALK AND PAVEMENT ON THE OUTER LANE. MAINTAIN ACCESS TO THE PROPERTIES DURING CONSTRUCTION AT ALL TIMES.

STA US 290 TO 18+09.26 (EAST SIDE):
REMOVE A PORTION OF THE EXISTING MEDIAN UP TO THE PROPOSED MEDIAN LIMIT TO HAVE A MINIMUM 11–FT WIDE LANE REDUCE ANTOINE DR NORTHBOUND TRAFFIC LANES TO THE OUTER LANE. USE TCP–5 TO INSTALL PROPOSED STORM SEWER, MEDIAN/MEDIAN OPENINGS AND PAVEMENT ON THE INNER LANE.

STEP 6

US 290 TO STA 18+09.26 (WEST SIDE):
SHIFT ANTOINE DR SOUTHBOUND TRAFFIC TO NEWLY CONSTRUCTED OUTER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TYPICAL ONE LANE CLOSURE TO INSTALL PROPOSED STORM SEWER, MEDIAN/OPENINGS AND PAVEMENT ON THE INNER LANE.

STA US 290 TO 18+09.26 (EAST SIDE):
SHIFT ANTOINE DR NORTHBOUND TRAFFIC TO THE NEWLY CONSTRUCTED INNER LANE. MAINTAIN MINIMUM 11–FT WIDE LANE. USE TYPICAL ONE LANE CLOSURE TO INSTALL PROPOSED STORM SEWER, SIDEWALKS AND PAVEMENT ON THE OUTER LANE. MAINTAIN ACCESS TO THE PROPERTIES DURING CONSTRUCTION AT ALL TIMES.

BRICKHOUSE GULLY(E115–00–00) BRIDGE:

CONSTRUCT SOUTHBOUND AND NORTHBOUND BRIDGES CONSECUTIVELY BY REDUCING TRAFFIC TO ONE LANE IN EACH DIRECTION AND SHIFTING TRAFFIC TO THE SB/NB BRIDGE WHILE CONSTRUCTING THE OTHER NB/SB BRIDGE WITHIN THE WORK ZONE. USE TCP–10 FOR THE SHIFTING OF THE EASTBOUND AND WESTBOUND TRAFFIC INTO A TWO–WAY TRAFFIC.

NOTES:

1. INTERSECTIONS TO BE CONSTRUCTED IN SECTIONS, REFER TO COH 4–WAY INTERSECTION DETAILS.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAYS, COORDINATE WITH PROPERTY OWNER TO PROVIDE ACCESS TO BUSINESSES AND RESIDENCES AT ALL TIMES.
3. CONTRACTOR TO FAST TRACK ALL ACESS DRIVEWAYS AND INTERSECTIONS.
4. CONTRACTOR TO MAINTAIN SCHOOL ZONE.
5. ADJUST TEMP. SIGNAL HEAD AS REQUIRED TO ALIGN WITH PHASING TRAVEL LANES
6. TEMPORARY VIDEO IMAGE VEHICLE DETECTION SYSTEM(VIVDS) SHALL BE USED AT W 43RD ST, ACORN ST, PINEMONT DR, W TIDWELL RD, DE SOTO ST, W LITTLE YORK RD AND VICTORY DR. SIGNALS TO ACCOMODATE THE CLOSURE OF THE LEFT TURN LANES. REFER TO TRAFFIC SIGNAL SHEET FOR MORE INFORMATION.

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP–2
SEQUENCE OF CONSTRUCTION

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 41 OF 1067	

Design Filename:

Mar 13 2026 3:29PM saif
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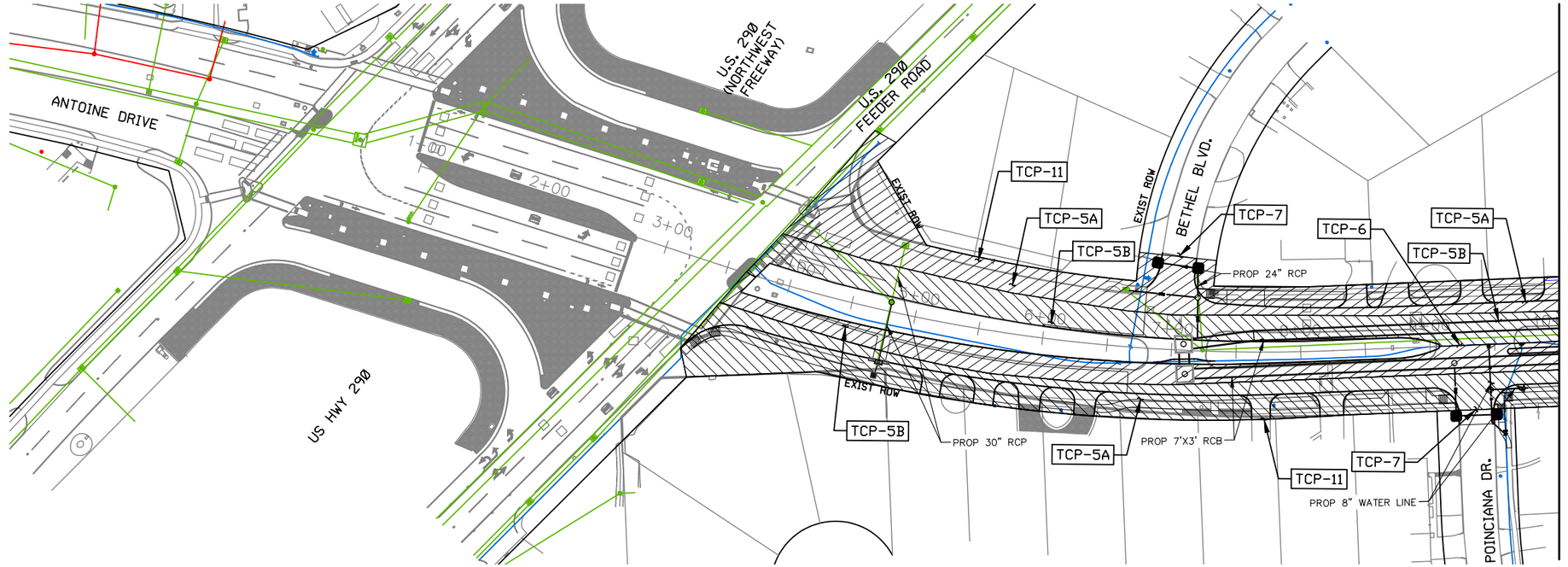
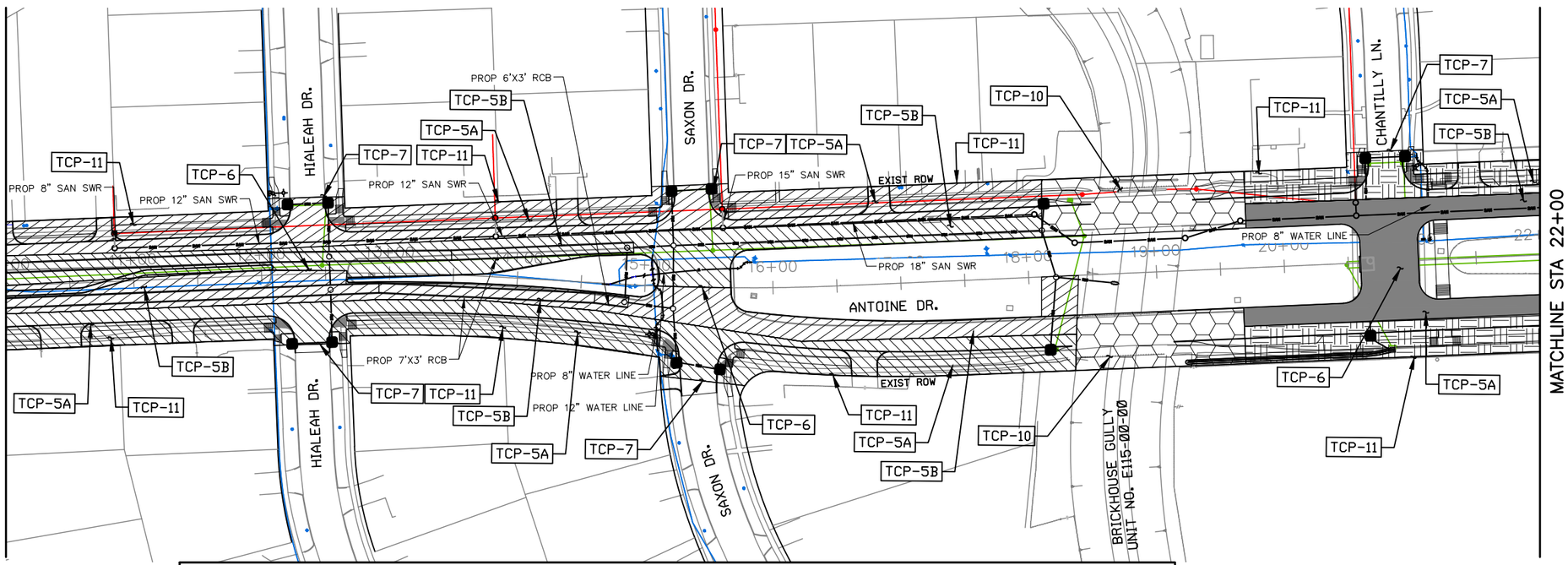
Includes Xref(s): COH BDR–TCP.dwg





LEGEND:

- TCP PHASE 1 STEP 1
- TCP PHASE 1 STEP 2
- TCP PHASE 1 STEP 3
- TCP PHASE 1 STEP 4
- TCP PHASE 1 STEP 5
- TCP PHASE 1 STEP 6
- BRICKHOUSE GULLY BRIDGE

APP. | REVISIONS | DATE | No.

NOTES:

1. PRIOR TO CONSTRUCTION ACROSS DRIVEWAYS, COORDINATE WITH PROPERTY OWNERS TO PROVIDE ACCESS TO BUSINESSES AND RESIDENTS AT ALL TIMES.
2. LANE CLOSURES TO HAVE A MAXIMUM LENGTH OF 800 FT. CONTRACTOR TO IMPLEMENT ROLLING CLOSURES TO COMPLETE CONSTRUCTION.

N

0′ 50′ 100′
SCALE IN FEET

LEGEND

TCP-4	TYPICAL TRAFFIC CONTROL PLAN FOR ONE LANE CLOSURE	TCP-7	TYPICAL 3-WAY INTERSECTION LANE CLOSURE OF MULTILANE ROAD	TCP-10	TYPICAL TRAFFIC CONTROL PLAN FOR BRICKHOUSE GULLEY BRIDGE CLOSURE
TCP-5	TYPICAL TRAFFIC CONTROL PLAN FOR INTERIOR AND EXTERIOR LANE CLOSURE	TCP-8	TRAFFIC CONTROL PLAN FOR FOR ANTOINE DR. AND ACORN ST. INTERSECTION	TCP-11	TYPICAL TRAFFIC CONTROL PLAN FOR SIDEWALK AND PEDESTRIAN DETAILS
TCP-6	TYPICAL LANE CLOSURE FOR BOULEVARD STREET	TCP-9	TRAFFIC CONTROL PLAN FOR FOR ANTOINE DR. AND W 43RD ST. INTERSECTION		

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-3
TCP PHASING & OVERALL LAYOUT
(SHEET 1 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 42 OF 1067	

Design Filename:

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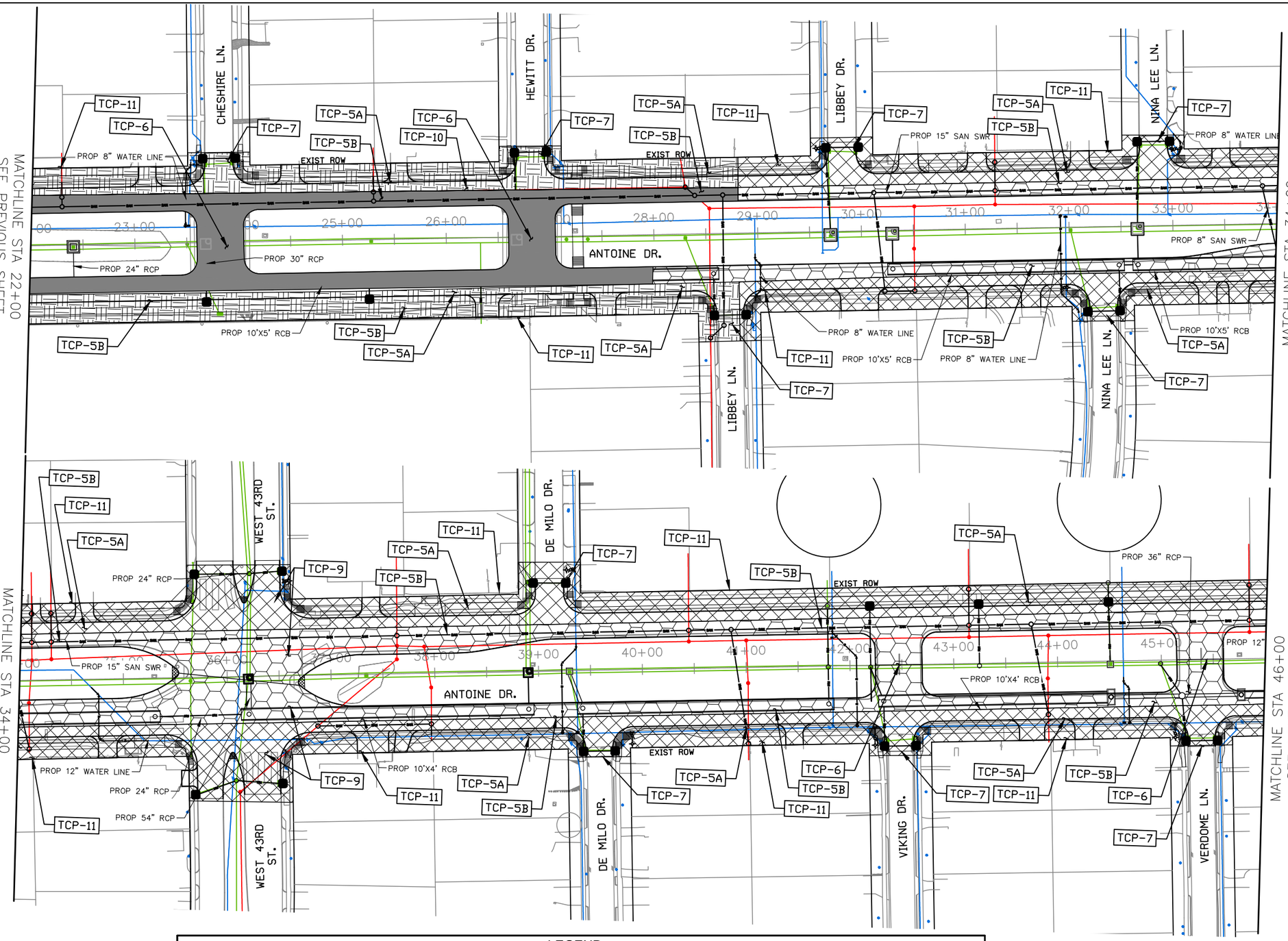
Includes Xref(s): COH BDR-TCP.dwg; PR_DRN.dwg; PR-WW.dwg; PR_RDWY.dwg; PR-W.dwg; Topo-21080.dwg; PR-WW_Default-3D.dwg



LEGEND:

- TCP PHASE 1 STEP 1
- TCP PHASE 1 STEP 2
- TCP PHASE 1 STEP 3
- TCP PHASE 1 STEP 4
- TCP PHASE 1 STEP 5
- TCP PHASE 1 STEP 6
- BRICKHOUSE GULLY BRIDGE

No.	DATE	REVISIONS	APP.

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2. LANE CLOSURES TO HAVE A MAXIMUM LENGTH OF 800 FT. CONTRACTOR TO IMPLEMENT ROLLING CLOSURES TO COMPLETE CONSTRUCTION.

N

0' 50' 100'
SCALE IN FEET

LEGEND

TCP-4	TYPICAL TRAFFIC CONTROL PLAN FOR ONE LANE CLOSURE	TCP-7	TYPICAL 3-WAY INTERSECTION LANE CLOSURE OF MULTILANE ROAD	TCP-10	TYPICAL TRAFFIC CONTROL PLAN FOR BRICKHOUSE GULLEY BRIDGE CLOSURE
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TCP-6	TYPICAL LANE CLOSURE FOR BOULEVARD STREET	TCP-9	TRAFFIC CONTROL PLAN FOR FOR ANTOINE DR. AND W 43RD ST. INTERSECTION		

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-3
TCP PHASING & OVERALL LAYOUT
(SHEET 2 OF 3)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	HORIZ 1"=100'
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	43 OF 1067

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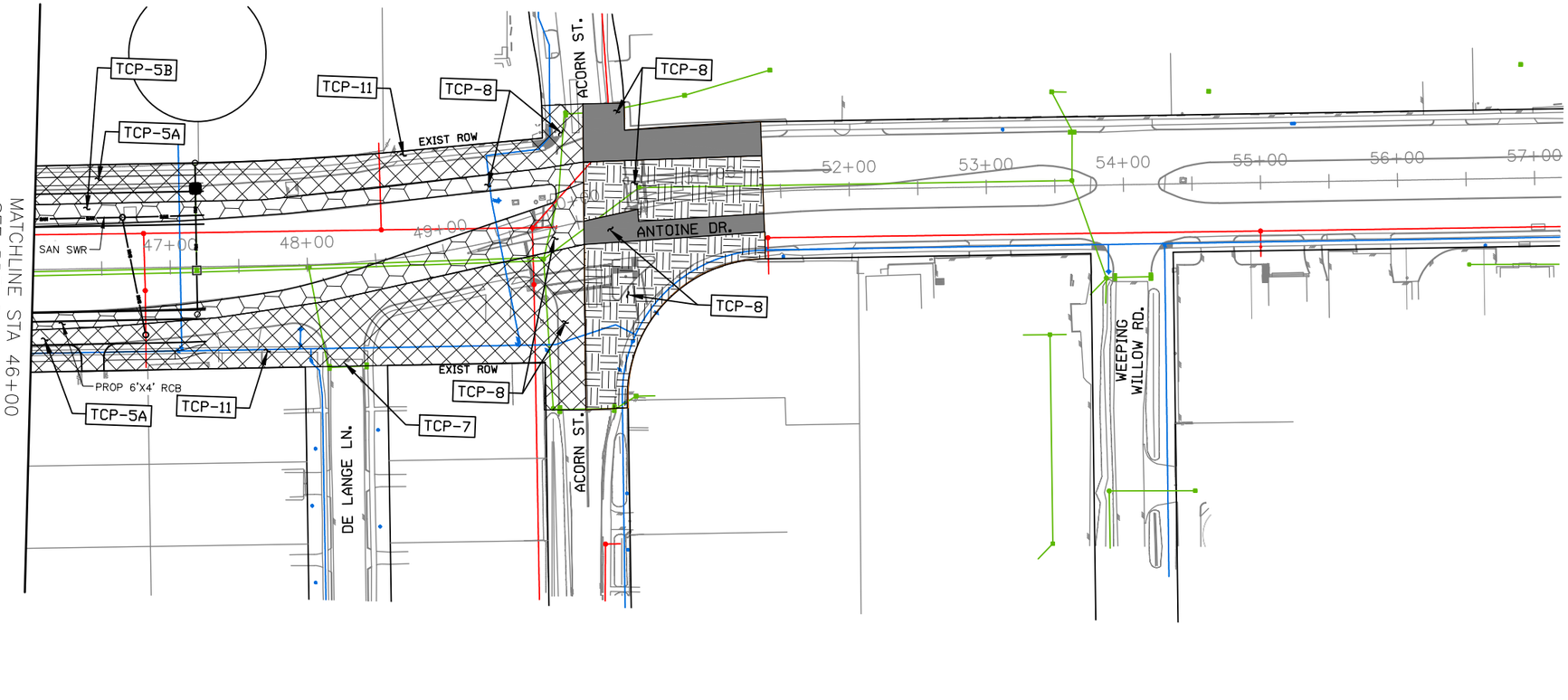
Includes Xref(s): COH BDR-TCP.dwg; PR_DRN.dwg; PR-WW.dwg; PR_RDWY.dwg; PR-W.dwg; Topo-21080.dwg; PR-WW_Default-3D.dwg



LEGEND:

- TCP PHASE 1 STEP 1
- TCP PHASE 1 STEP 2
- TCP PHASE 1 STEP 3
- TCP PHASE 1 STEP 4
- TCP PHASE 1 STEP 5
- TCP PHASE 1 STEP 6
- BRICKHOUSE GULLY BRIDGE

APP. | DATE | No. | REVISIONS

NOTES:

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2. LANE CLOSURES TO HAVE A MAXIMUM LENGTH OF 800 FT. CONTRACTOR TO IMPLEMENT ROLLING CLOSURES TO COMPLETE CONSTRUCTION.

N

0' 50' 100'
SCALE IN FEET

LEGEND

TCP-4	TYPICAL TRAFFIC CONTROL PLAN FOR ONE LANE CLOSURE	TCP-7	TYPICAL 3-WAY INTERSECTION LANE CLOSURE OF MULTILANE ROAD	TCP-10	TYPICAL TRAFFIC CONTROL PLAN FOR BRICKHOUSE GULLEY BRIDGE CLOSURE
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-3
TCP PHASING & OVERALL LAYOUT
(SHEET 3 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 44 OF 1067	

Design Filename:

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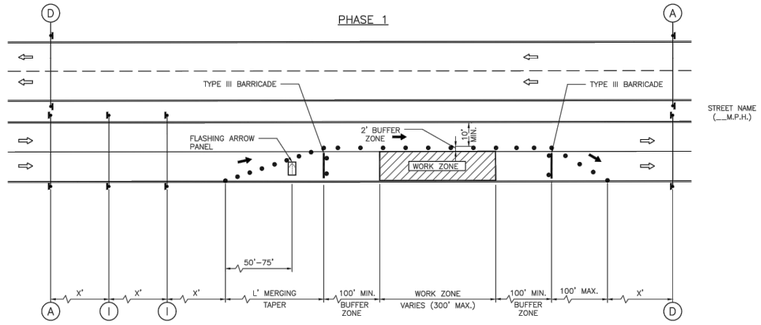
Includes Xref(s): COH BDR-TCP.dwg; PR_DRN.dwg; PR-WW.dwg; PR_RDWY.dwg; PR-W.dwg; Topo-21080.dwg; PR-WW_Default-3D.dwg

DocuSign Envelope ID: C871C116-B716-4899-A5EE-0D2F2CC55AF6

A	D	I	J
ROAD WORK AHEAD	END ROAD WORK	RIGHT LANE CLOSED AHEAD	LEFT LANE CLOSED AHEAD
CW20-1	G20-2	CW20-5(2) CW16-3	CW20-5(1) CW16-3

PHASE 1



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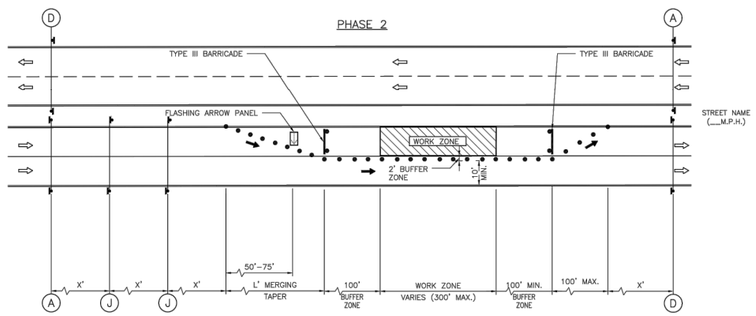

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. RETURN TAPERS AND DOWNSTREAM BARRICADES ARE OPTIONAL ON A DIVIDED ROADWAY SECTION.
2. DOUBLE SIGNS SHALL BE USED ONLY ON ROADWAYS WITH MEDIANS.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukut Iranvar	DocuSigned by: Hilding Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-04

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP ONE LANE CLOSURE
PHASE 1 & 2

DRAWING SCALE	FOR CITY OF HOUSTON USE ONLY
NOT TO SCALE	

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

No.	DATE	REVISIONS	APP.

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ON 03/16/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP-4
TYPICAL ONE-LANE CLOSURE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 45 OF 1067	

Design Filename:

Mar 13 2026 2:38PM saif
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Includes Xref(s): COH BDR-TCP.dwg

Mar 13 2026 1:17PM saif
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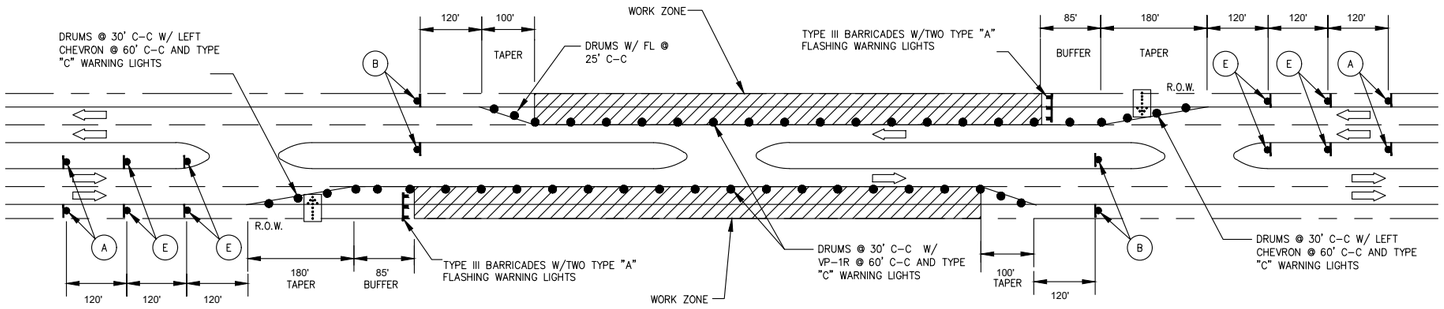
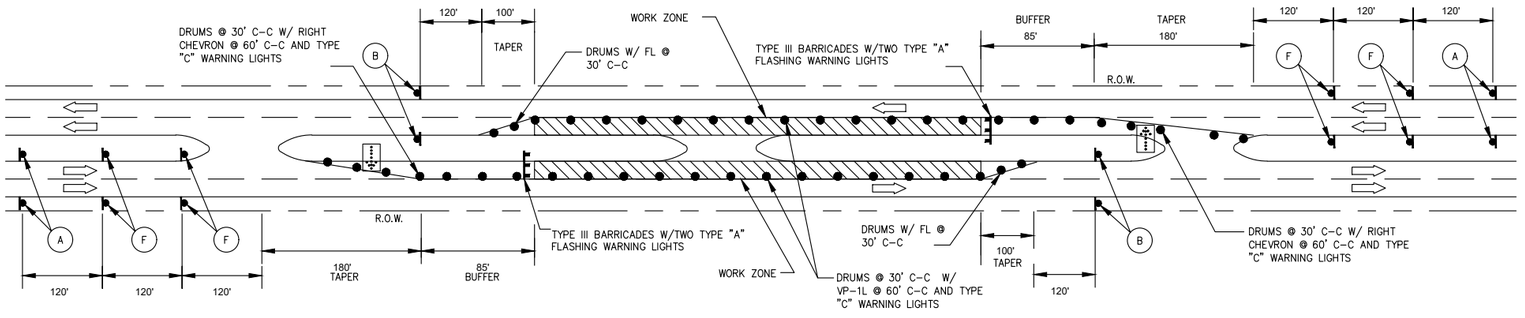
Plotted on: 3/13/26 13:17:21
Includes Xref(s): COH BDR-TCP.dwg



TYPICAL TRAFFIC CONTROL PLAN FOR EXTERIOR LANE CLOSURE

(ONLY ONE LANE CLOSURE AT ANY TIME. SIMULTANEOUS CONSTRUCTION ON BOTH SIDES OF THE STREETS IS NOT PERMITTED)



TYPICAL TRAFFIC CONTROL PLAN FOR INTERIOR LANE CLOSURE

NOTES:

1. **SEE SHEET REF. NO. TCP-1 FOR TRAFFIC CONTROL NOTES.**
2. **REFER TO TCP-6 FOR INTERIOR LANE ACCESS FOR BOULEVARD CROSSING SEGMENTS**

LEGEND

- WORK ZONE
- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE W/TWO TYPE "A" FLASHING WARNING LIGHTS
- FLASHING ARROW PANEL
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- TUBULAR MARKER
- FLAGGER

LENGTH FOR LONGITUDINAL BUFFER		TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZING DEVICES				
Posted Speed (mph)	Length in Feet (B)	Posted Speed (mph)	Sign Spacing "X"	Min. Desirable Taper Length "L" 10' Offset	11' Offset	12' Offset
20	35					
25	55					
30	85	30	120'	150'	165'	180'
35	120	35	160'	205'	225'	245'
40	170	40	240'	265'	295'	320'
45	220	45	320'	450'	495'	540'
50	280	50	400'	500'	550'	600'
55	335	55	500'	550'	605'	660'

A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S				
UTILITY WORK AHEAD	END ROAD WORK		ONE LANE ROAD AHEAD	RIGHT LANE CLOSED AHEAD	LEFT LANE CLOSED AHEAD					20 M.P.H.	DO NOT ENTER	ROAD CLOSED	ROAD WORK AHEAD	DO NOT PASS	DETOUR	TYPE III BARRICADE	LEFT	RIGHT	8"-12"	8"-12"	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON
CW21-7D 48 X 48	G20-2a 36 X 18	CW20-7a 48 x 48	CW20-4D 48 X 48	CW20-5RD 48 X 48 PLAQUE 30 X 12	CW20-5LD 48 X 48 PLAQUE 30 X 12	CW6-3 30 X 30	CW1-6a 30 X 30	CW1-3L 30 X 30	CW1-3R 30 X 30	CW13-1 18 X 18	R5-1 36 X 36	R11-2 48 X 30	CW20-1D 48 X 48	R4-1 18 X 24	M4-10L 48 X 18		CW1-8 18 x 24	CW1-8 18 x 24	VP-1L	VP-1R	36" DRUM

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

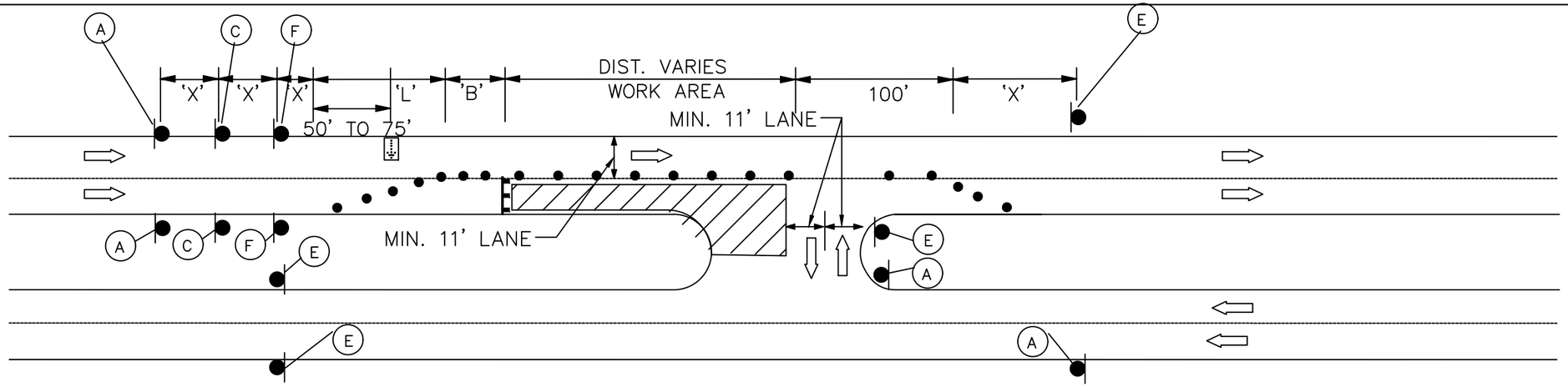
ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP-5
TYPICAL INTERIOR & EXTERIOR LANE CLOSURES

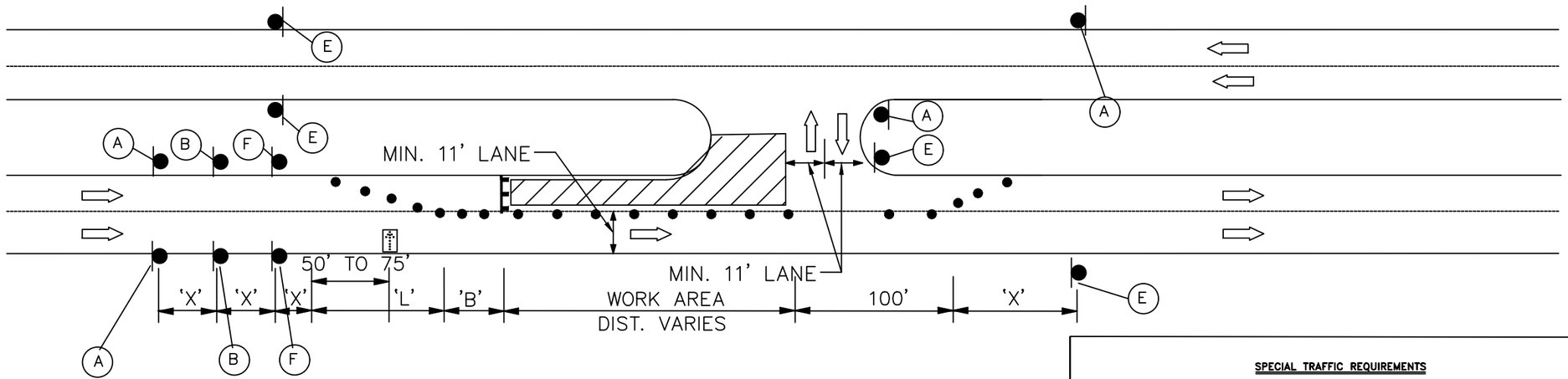
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=200'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 46 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: $FILEL$



TYPICAL RIGHT LANE CLOSURE OF A MULTILANE STREET BOULEVARD



TYPICAL LEFT LANE CLOSURE OF A MULTILANE STREET BOULEVARD

A	B	C	E	F			
ROAD WORK AHEAD CW21-7D 48 X 48	LEFT LANE CLOSED AHEAD CW20-5L 48 X 48 PLAQUE 30 X 12	RIGHT LANE CLOSED AHEAD CW20-5R 48 X 48 PLAQUE 30 X 12	END ROAD WORK G20-2a 48 X 24	CW4-2R 36 X 36	CHEVRON CW1-8 18 x 24	8"-12" VP-1	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON 36" PLASTIC DRUM

SPECIAL TRAFFIC REQUIREMENTS

1. Contractor shall provide and install traffic control devices in conformance with part VI of the Texas Manual on Uniform Traffic Control Devices (Texas MUTCD, most recent edition with revisions) during construction.
2. Contractor will be responsible for replacing and maintaining pavement markings which include centerline, barrier lines, lane lines and raised pavement markings.
3. This traffic control plan represents the minimum required by traffic conditions in the field. Contractor to maintain access to adjacent properties at all times.

4a. No lanes shall be closed from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Monday thru Friday.

4b. No lanes shall be blocked between 7:00 a.m. to 6:00 p.m. Monday thru Friday in downtown area. Exception to these times, if necessary, should be sought during lane closure permit application.

5. Contractor shall cover open pavement excavations with anchored steel plates during non-working hours, and open lanes for normal traffic flow.
6. Off-duty Uniformed Police Officers are required to direct traffic when lanes are blocked.
7. Lane closure time(s) shall be specified on the lane closure permit.
8. If the contractor chooses to use a different method of "Traffic Control Plans" during the construction than what is outlined in the contract drawings, they shall be responsible to prepare and submit an alternate set of plans* to Plan Review Section for approval ten working days prior to implementation.
   *These plans shall be drawn to scale on reproducible mylars and sealed by a Licensed Engineer in the State of Texas. Plans will become a part of the contract drawings.
9. Approved copies of Traffic Control Plans and lane closure permits shall be available for inspection at job site at all times. Contractor must secure 'Lane Closure Permits' from City's Mobility Permit Department before closing a lane/sidewalk. The request must be made at least ten business days prior to the date for which the closure is sought. Note that working hours may be restricted or the request may be denied. Call 832-395-3020 for an application.
10. Lanes shall be kept closed during pavement surface restoration and opened only after pavement is restored completely.

SPACING FOR CHANNELIZING DEVICES

1. Plastic drums on merging taper @ 30' c-c with chevron sign @ 60' c-c and type 'C' warning light (for overnight closure)
2. Plastic drums on downstream taper @ 35' c-c
3. Plastic drums on radii @ 5' c-c
4. Plastic drums on tangent @ 35' c- c with vertical panel @ 70' c-c and type 'C' warning light @ 70' c-c (for overnight closure)
5. Plastic drums in front of construction zone @ 20' c-c with vertical panel @ 40' c-c and Type 'A' warning light @ 40' c-c (for overnight closure)
6. Concrete traffic barrier (CTB) or low profile concrete traffic barrier (lpctb) with reflectors @ 10' c-c if pavement drop is more than twelve inches (12")
7. Tubular marker @ 20' C-C.

Note: Spacing shown on traffic control plans shall supersede the above spacings.

REVISIONS

No.	DATE	APP.

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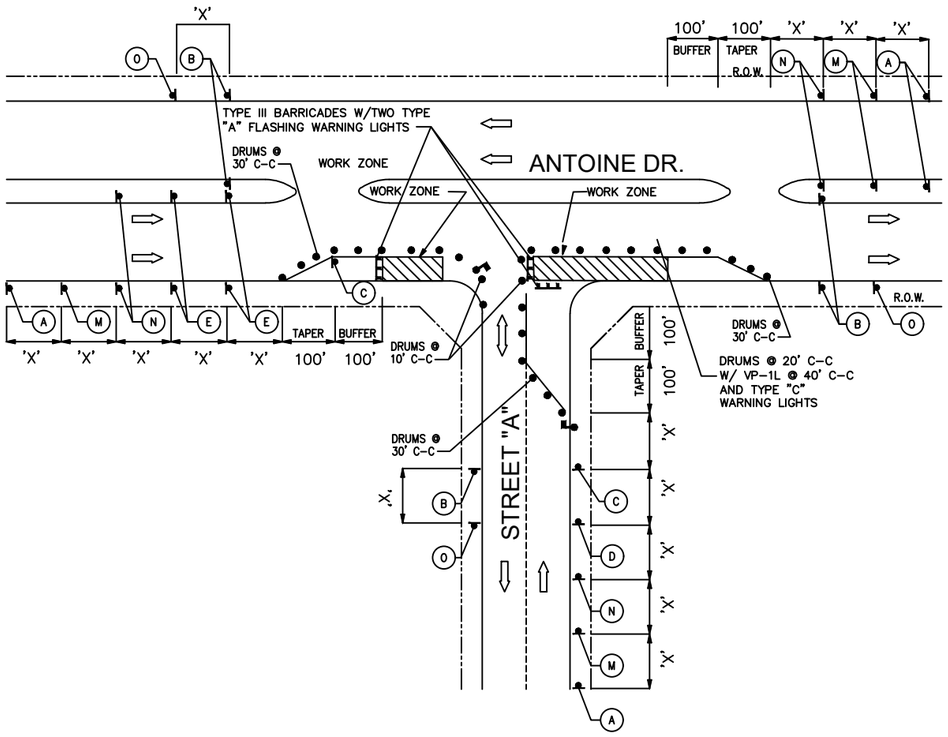
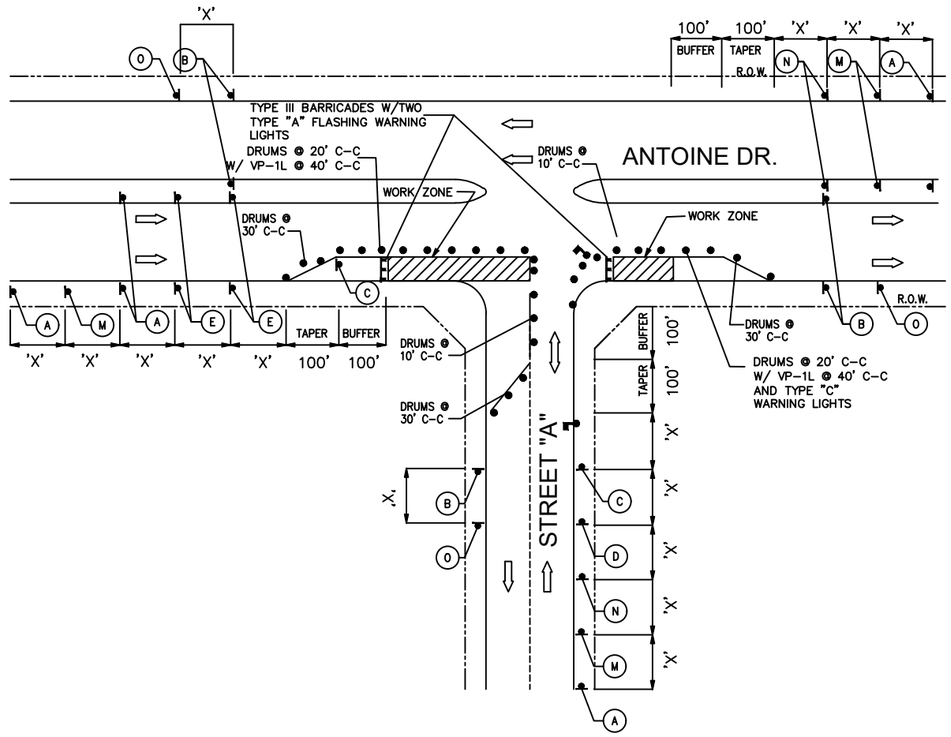
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP-6
TYPICAL LANE CLOSURE FOR BOULEVARD STREET

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=200'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 47 OF 1067	





LEGEND

- WORK ZONE
- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- FLASHING ARROW PANEL
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- TUBULAR MARKER
- FLAGGER

TRAFFIC CONTROL OPERATION FOR THE WORK AT "T" INTERSECTION ALONG ANTOINE DRIVE (DURING WEEKEND/ OFF-PEAK HOURS)

REMOVE OR COVER " FLAGMAN AHEAD" SIGN (CW20-7A) DURING NON-WORKING/NIGHTTIME HOURS IF NO FLAGMAN IS EMPLOYED.

A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
ROAD WORK AHEAD	END ROAD WORK		ONE LANE ROAD AHEAD	RIGHT LANE CLOSED AHEAD	CENTER LANE CLOSED AHEAD					20 M.P.H.	TOP DO NOT ENTER	ROAD CLOSED	ROAD WORK AHEAD	DO NOT PASS	DETOUR
CW21-7D 48 X 48	G20-2a 36 X 18	CW20-7a 48 x 48	CW20-4D 48 X 48	CW20-5RD 48 X 48 PLAQUE 30 X 12	W20-5C 48 X 48 PLAQUE 30 X 12	CW6-3 30 X 30	CW1-6a 30 X 30	CW1-3L 30 X 30	CW1-3R 30 X 30	CW13-1 18 X 18	R5-1 36 X 36	R11-2 48 X 30	CW20-1D 48 X 48	R4-1 18 X 24	M4-10L 48 X 18

TYPE III BARRICADE

LEFT CW1-8 18 x 24

RIGHT CW1-8 18 x 24

8"-12" VP-1L

8"-12" VP-1R

MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON

36" DRUM

REVISIONS			
No.	DATE		APP.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLAN

TCP-7

TYPICAL 3-WAY INTERSECTION LANE CLOSURE OF MULTILANE ROAD

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 48 OF 1067	

Design Filename:

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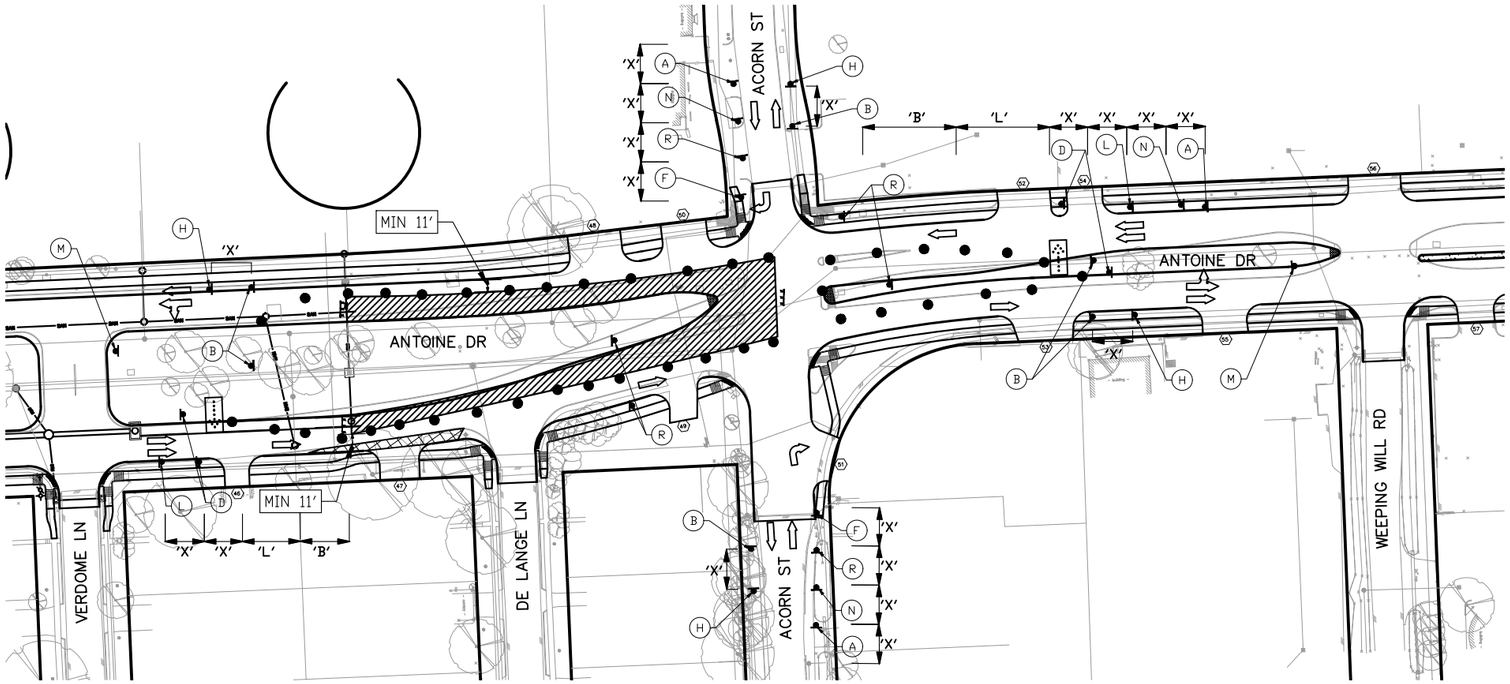
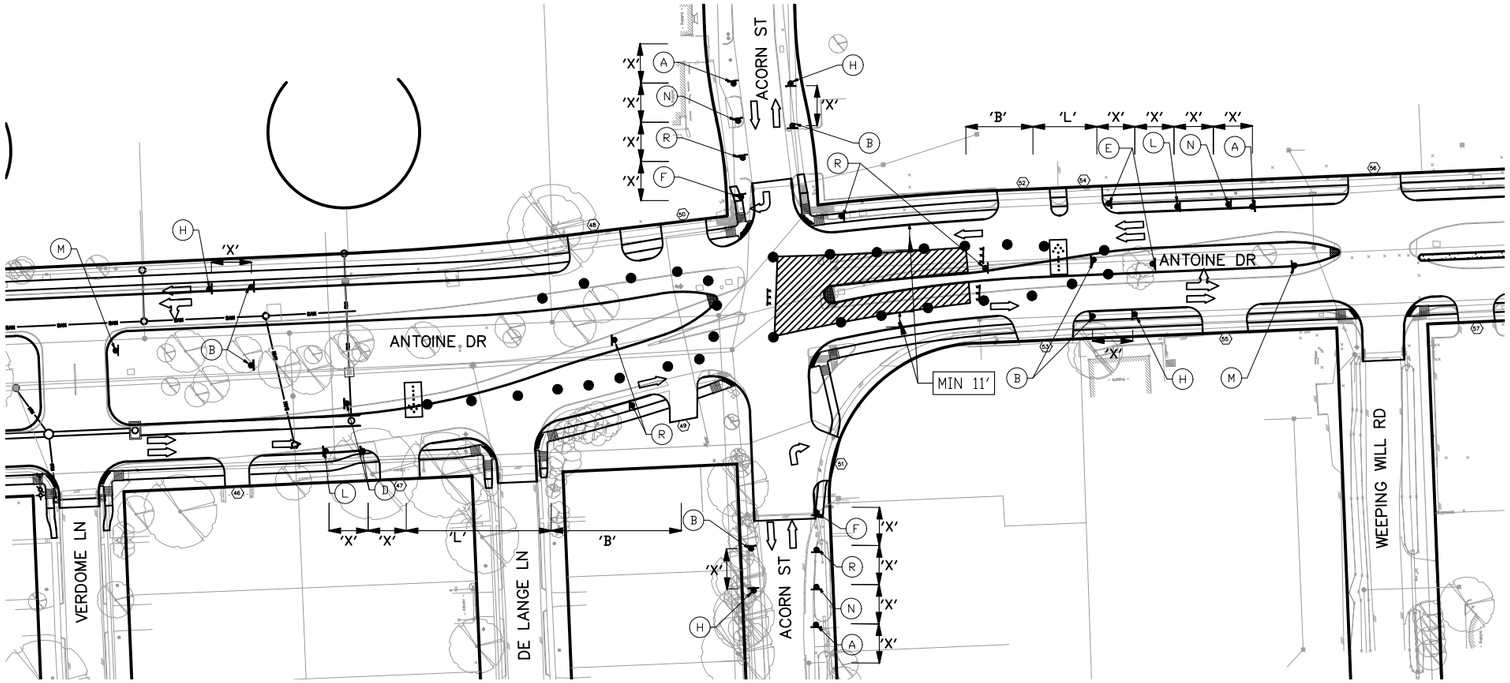
Includes Xref(s): COH BDR-TCP.dwg





LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE
- FLAGGER

N

0' 25' 50' 100'

SCALE: 1"=100'

REVISIONS	DATE	APP.
No.		

A	B	C	D	E
ROAD WORK AHEAD CW21-7D 48" X 48"	END ROAD WORK G20-2C 36" X 18"	RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	CW1-4R (36"X36")	CW1-4L (36"X36")
F	G	H	I	L
ONLY R3-5R	CW1-7 (36"X18")	END WORK ZONE SPEED LIMIT R2-12 36"X54"	R3-1 (24"X24")	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")
M	N	O	P	R
M4-12T ANTOINE DR M4-8 DETOUR ONLY R3-8U	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	ROAD CLOSED R11-2 48" X 30"	ONE LANE ROAD CW20-4 (36"X36")	R3-1 (24"X24")
LEFT CW1-8 18 x 24	RIGHT CW1-8 18 x 24	8"-12" 8"-12" VP-1L VP-1R	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON 36" DRUM	TYPE III BARRICADE

NOTES:

1. SEE SHEET REF. NO. TCP-1 FOR TRAFFIC CONTROL NOTES.
2. CONTRACTOR MUST MAINTAIN ACCESS FOR ALL DRIVEWAYS WITHIN WORK AREA.
3. ANTOINE DR POSTED SPEED = 35 MPH
4. CONTRACTOR SHALL MAINTAIN ACCESS TO PEDESTRIAN AND RESIDENTS THROUGH AND AROUND WORK ZONE DURING CONSTRUCTION AT ALL TIMES.
5. CONTRACTOR TO NOTIFY RESIDENTS 10 DAYS PRIOR TO CLOSURE OF STREET.
6. PROVIDE METAL PLATE OVER EXCAVATION AND MAINTAIN OPENING THRU CONCRETE TRAFFIC BARRIER AT EACH DRIVEWAY FOR SAFE VEHICLE MANEUVERING.
7. WORK AT THE INTERSECTION OF ACRON ST AND ANTOINE DR SHALL OCCUR DURING THE WEEKEND ONLY.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLAN

TCP-8

TRAFFIC CONTROL PLAN FOR ANTOINE DRIVE AND ACORN ST. INTERSECTION (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 8P 1067	

Design Filename:

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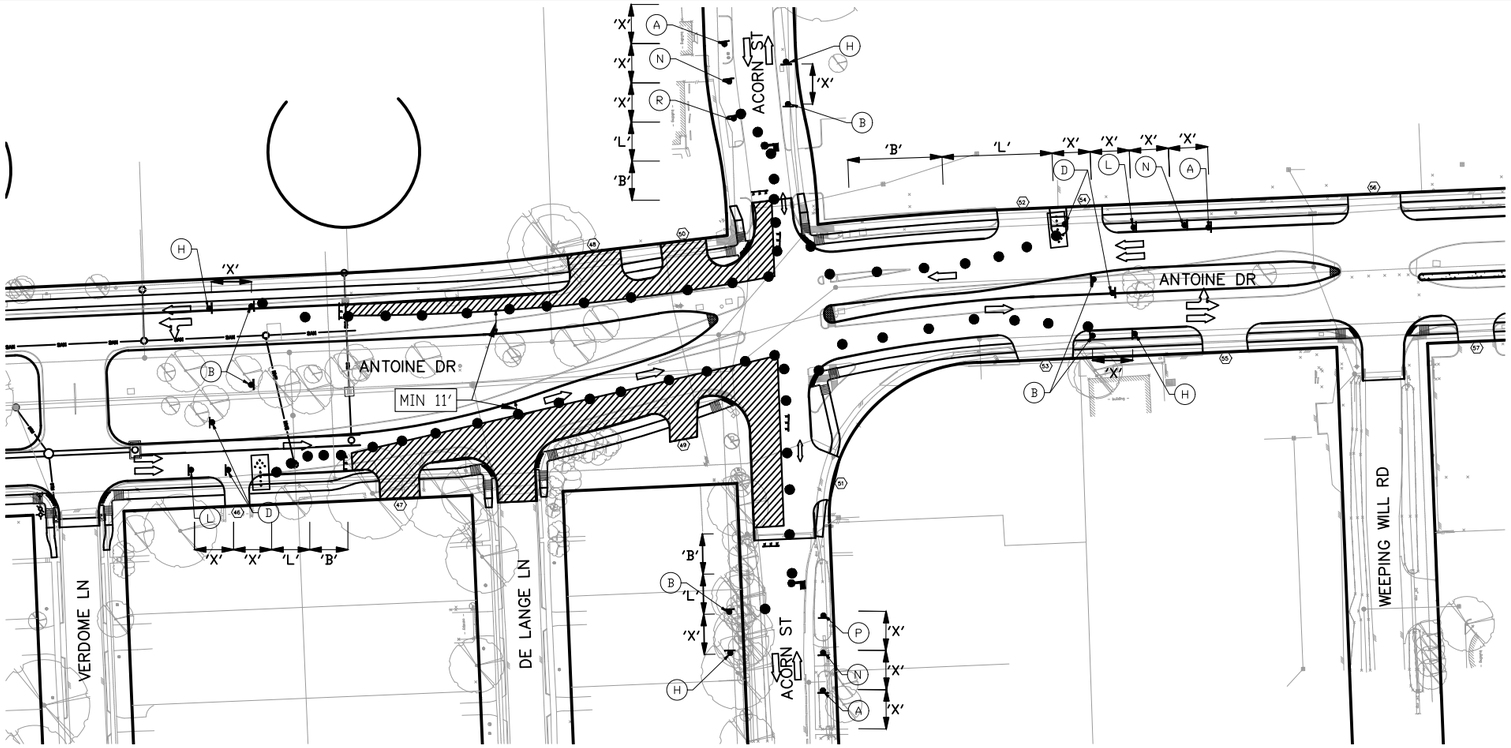
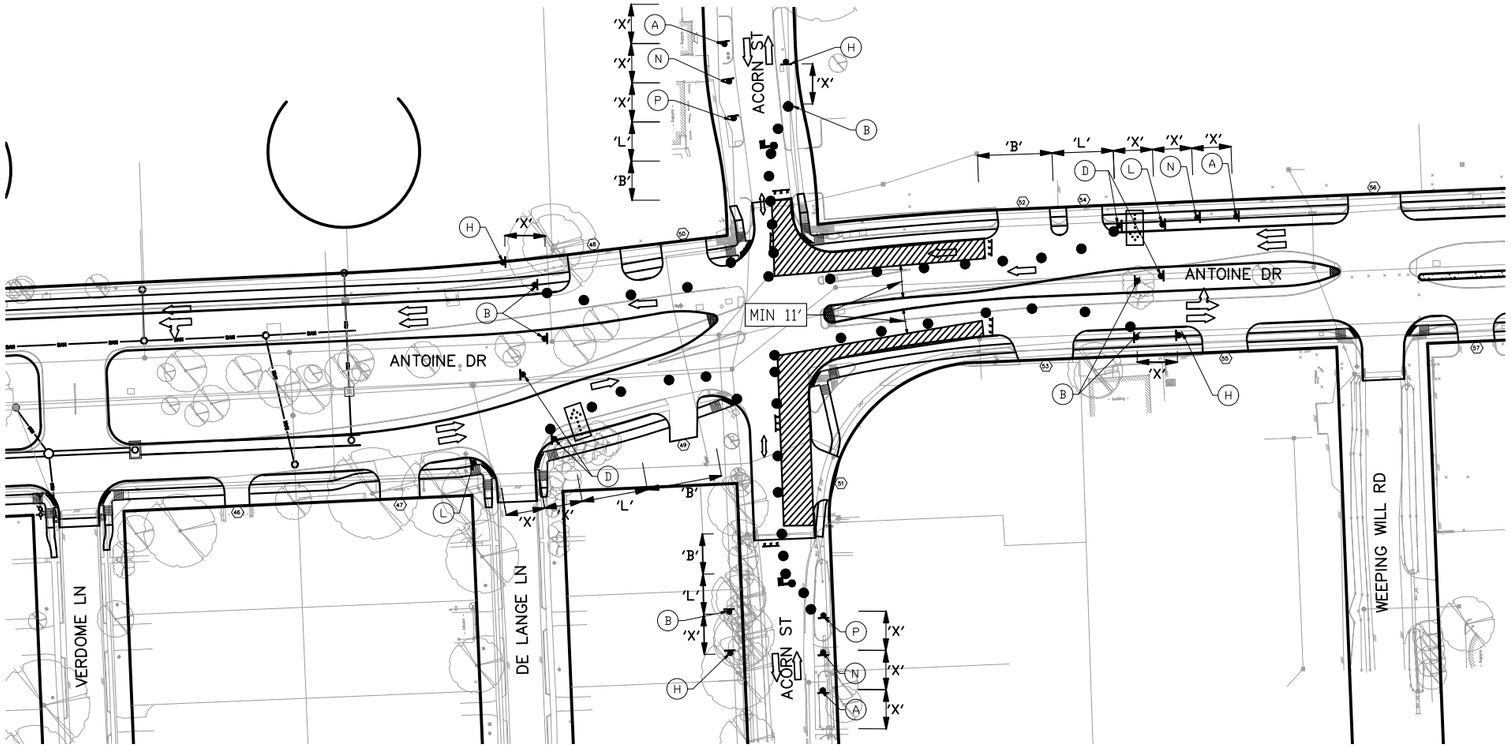
H: 1"=100'





LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE
- FLAGGER

N

0' 25' 50' 100'

SCALE: 1"=100'

No.	DATE	REVISIONS	APP.

A ROAD WORK AHEAD CW21-7D 48" X 48"	B END ROAD WORK G20-2C 36" X 18"	C RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	D CW1-4R (36"X36")	E CW1-4L (36"X36")
F ONLY R3-5R	G CW1-7 (36"X18")	H END WORK ZONE SPEED LIMIT R2-12 36"X54"	I R3-1 (24"X24")	L LEFT LANE CLOSED AHEAD CW16-3 (24"X12")
M M4-12T ANTOINE DR M4-8 DETOUR ONLY R3-8U	N G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	O ROAD CLOSED R11-2 48" X 30"	P ONE LANE ROAD CW20-4 (36"X36")	R R3-1 (24"X24")
LEFT CW1-8 18 x 24	RIGHT CW1-8 18 x 24	8"-12" 8"-12" VP-1L VP-1R	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON 36" DRUM	TYPE III BARRICADE

NOTES:

1. SEE SHEET REF. NO. TCP-1 FOR TRAFFIC CONTROL NOTES.
2. CONTRACTOR MUST MAINTAIN ACCESS FOR ALL DRIVEWAYS WITHIN WORK AREA.
3. ANTOINE DR POSTED SPEED = 35 MPH
4. CONTRACTOR SHALL MAINTAIN ACCESS TO PEDESTRIAN AND RESIDENTS THROUGH AND AROUND WORK ZONE DURING CONSTRUCTION AT ALL TIMES.
5. CONTRACTOR TO NOTIFY RESIDENTS 10 DAYS PRIOR TO CLOSURE OF STREET.
6. PROVIDE METAL PLATE OVER EXCAVATION AND MAINTAIN OPENING THRU CONCRETE TRAFFIC BARRIER AT EACH DRIVEWAY FOR SAFE VEHICLE MANEUVERING.
7. WORK AT THE INTERSECTION OF ACRON ST AND ANTOINE DR SHALL OCCUR DURING THE WEEKEND ONLY.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-8
TRAFFIC CONTROL PLAN FOR ANTOINE DRIVE AND ACORN ST. INTERSECTION
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 59 1067	

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Mar 13 2026 3:30PM akhan
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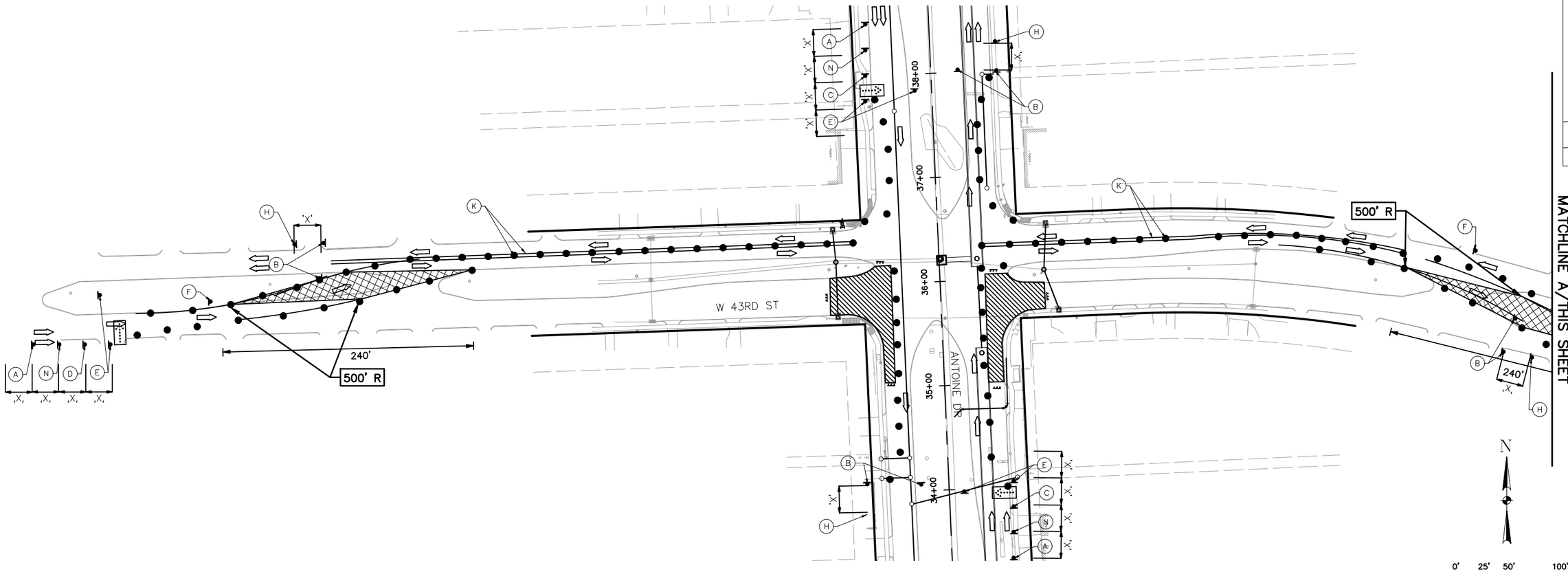
Includes Xref(s): 02010-TCP Base Combined.dwg; PR_DRN.dwg; PR-W.dwg; PR-WW.dwg; Topo-21080.dwg; COH BDR-TCP.dwg; PR-WW_Default-3D.dwg



NOTES:

1. SEE SHEET REF. NO. TCP-1 FOR TRAFFIC CONTROL NOTES.
2. CONTRACTOR MUST MAINTAIN ACCESS FOR ALL DRIVEWAYS WITHIN WORK AREA.
3. ANTOINE DR POSTED SPEED = 35 MPH
4. CONTRACTOR SHALL MAINTAIN ACCESS TO PEDESTRIAN AND RESIDENTS THROUGH AND AROUND WORK ZONE DURING CONSTRUCTION AT ALL TIMES.
5. CONTRACTOR TO NOTIFY RESIDENTS 10 DAYS PRIOR TO CLOSURE OF STREET.
6. PROVIDE METAL PLATE OVER EXCAVATION AND MAINTAIN OPENING THRU CONCRETE TRAFFIC BARRIER AT EACH DRIVEWAY FOR SAFE VEHICLE MANEUVERING.

LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- K — WRK ZN MRK REMOVABLE 4" (Y) (SLD) & TEMP CONSTRUCTION (REMOV) BUTTONS (Y)
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE

A	B	C	D	E	F	G	H	I	L	M	N	O	P	R
ROAD WORK AHEAD CW21-7D 48" X 48"	END UTILITY WORK G20-2C 36" X 18"	RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	CW1-4R (36"X36")	CW1-4L (36"X36")	CW6-3 (36"X36")	CW1-7 (36"X18")	END WORK ZONE SPEED LIMIT R2-12 36"X54"	R3-1 (24"X24")	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	ROAD CLOSED R11-2 48" X 30"	ROAD CLOSED AHEAD CW20-3 (36"X36")	R3-1 (24"X24")

LEFT	RIGHT	8"-12" 8"-12"	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON	
CW1-8 18 x 24	CW1-8 18 x 24	VP-1L VP-1R	36" DRUM	TYPE III BARRICADE

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Texas Firm Registration No. F-4578
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

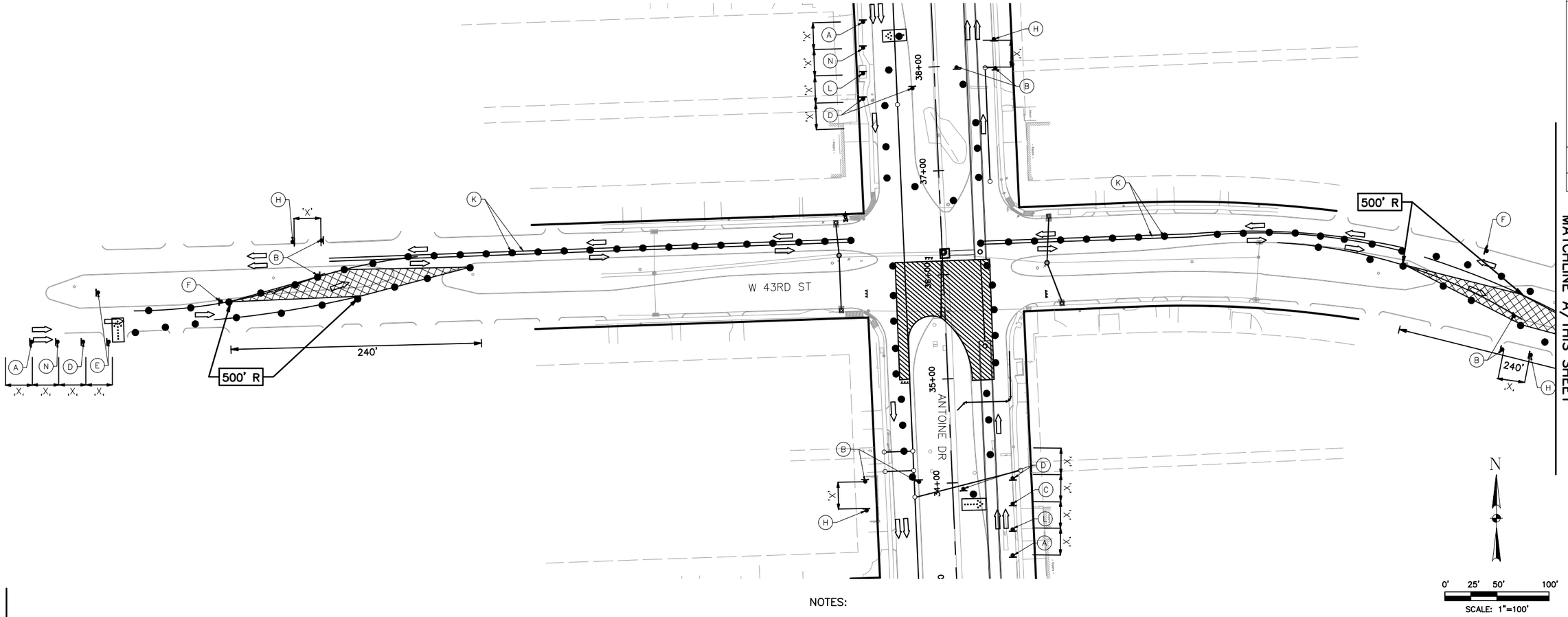
ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-9
TRAFFIC CONTROL PLAN FOR ANTOINE DRIVE AND W 43RD ST. INTERSECTION
(SHEET 1 OF 4)

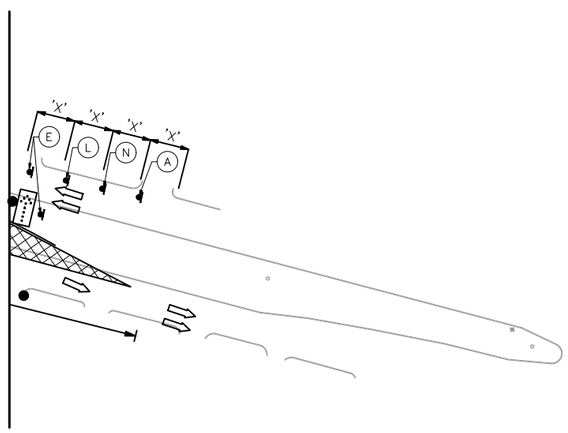
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 5 OF 1067	

No.	DATE	REVISIONS	APP.

Mar 13 2026 5:43PM akhan
S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\TCP - W43 & Antoine.dwg
Includes Xref(s): Topo-21080- Extended.dwg; COH BDR-TCP.dwg; PR_DRN.dwg; PR-W.dwg; PR-WW.dwg; PR_RDWY.dwg; PR_SHADING.dwg; PR-WW_Default-3D.dwg

Design Filename:



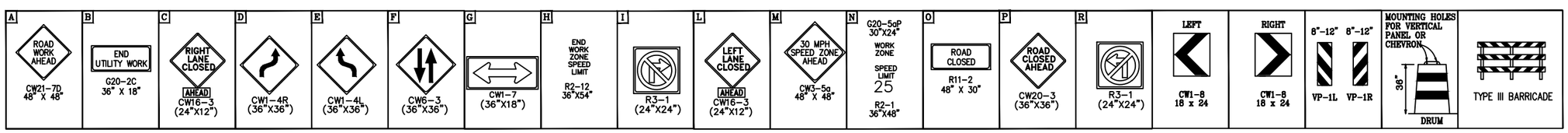


NOTES:

1. SEE SHEET REF. NO. TCP-1 FOR TRAFFIC CONTROL NOTES.
2. CONTRACTOR MUST MAINTAIN ACCESS FOR ALL DRIVEWAYS WITHIN WORK AREA.
3. ANTOINE DR POSTED SPEED = 35 MPH
4. CONTRACTOR SHALL MAINTAIN ACCESS TO PEDESTRIAN AND RESIDENTS THROUGH AND AROUND WORK ZONE DURING CONSTRUCTION AT ALL TIMES.
5. CONTRACTOR TO NOTIFY RESIDENTS 10 DAYS PRIOR TO CLOSURE OF STREET.
6. PROVIDE METAL PLATE OVER EXCAVATION AND MAINTAIN OPENING THRU CONCRETE TRAFFIC BARRIER AT EACH DRIVEWAY FOR SAFE VEHICLE MANEUVERING.

LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- K — WRK ZN MRK REMOVABLE 4" (Y) (SLD) & TEMP CONSTRUCTION (REMOV) BUTTONS (Y)
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

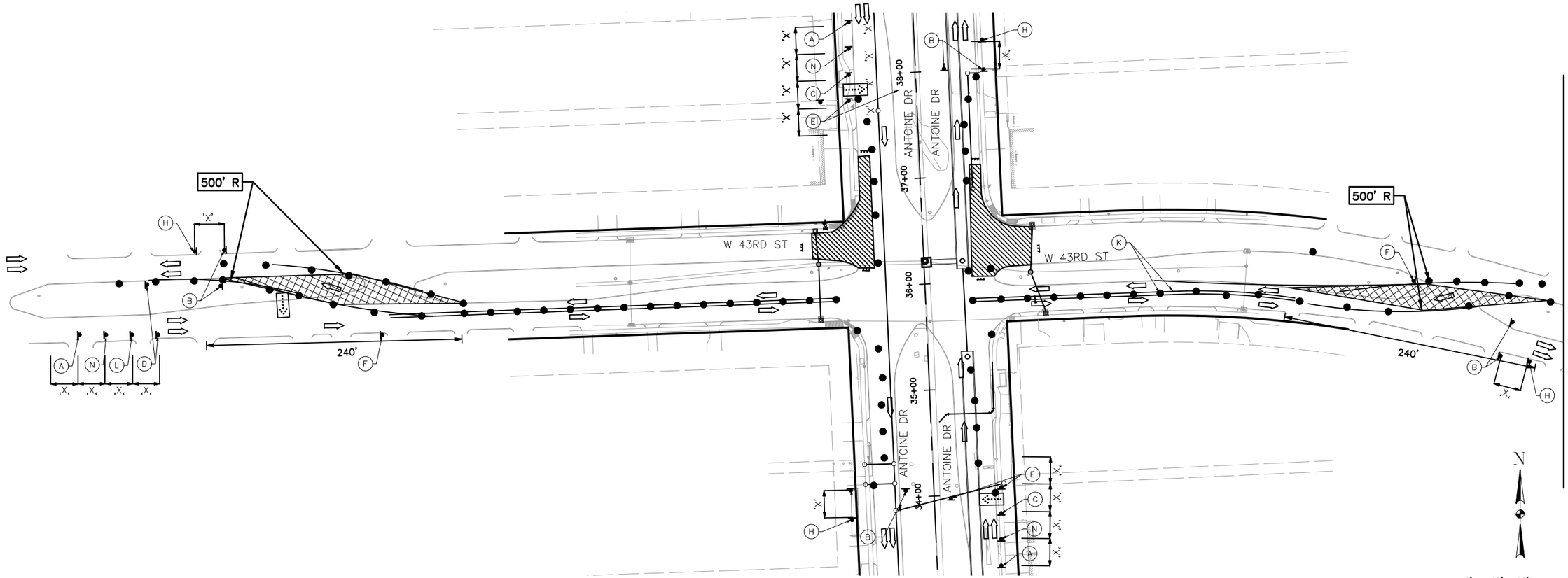
ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-9
TRAFFIC CONTROL PLAN FOR ANTOINE DRIVE AND W 43RD ST. INTERSECTION
(SHEET 2 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 52 1067	

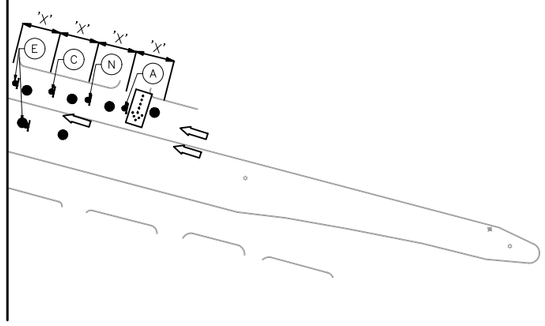
No.	DATE	REVISIONS	APP.

Design Filename:

Mar 13 2026 5:44PM akhan
S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\TCP - W43 & Antoine.dwg
Includes Xref(s): Topo-21080- Extended.dwg; COH BDR-TCP.dwg; PR_DRN.dwg; PR-W.dwg; PR-WW.dwg; PR_RDWY.dwg; PR_SHADING.dwg; PR-WW_Default-3D.dwg



MATCHLINE A/THIS SHEET



MATCHLINE A/THIS SHEET

NOTES:

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6. PROVIDE METAL PLATE OVER EXCAVATION AND MAINTAIN OPENING THRU CONCRETE TRAFFIC BARRIER AT EACH DRIVEWAY FOR SAFE VEHICLE MANEUVERING.

LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- K — WRK ZN MRK REMOVABLE 4" (Y) (SLD) & TEMP CONSTRUCTION (REMOV) BUTTONS (Y)
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE

A	B	C	D	E	F	G	H	I	L	M	N	O	P	R				
ROAD WORK AHEAD CW21-7D 48" X 48"	END UTILITY WORK G20-2C 36" X 18"	RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	CW1-4R (36"X36")	CW1-4L (36"X36")	CW6-3 (36"X36")	CW1-7 (36"X18")	END WORK ZONE SPEED LIMIT R2-12 36"X54"	R3-1 (24"X24")	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	ROAD CLOSED R11-2 48" X 30"	ROAD CLOSED AHEAD CW20-3 (36"X36")	R3-1 (24"X24")	LEFT CW1-8 18 x 24	RIGHT CW1-8 18 x 24	8"-12" VP-1L	8"-12" VP-1R	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON 36" DRUM	TYPE III BARRICADE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-9
TRAFFIC CONTROL PLAN FOR ANTOINE DRIVE AND W 43RD ST. INTERSECTION
(SHEET 3 OF 4)

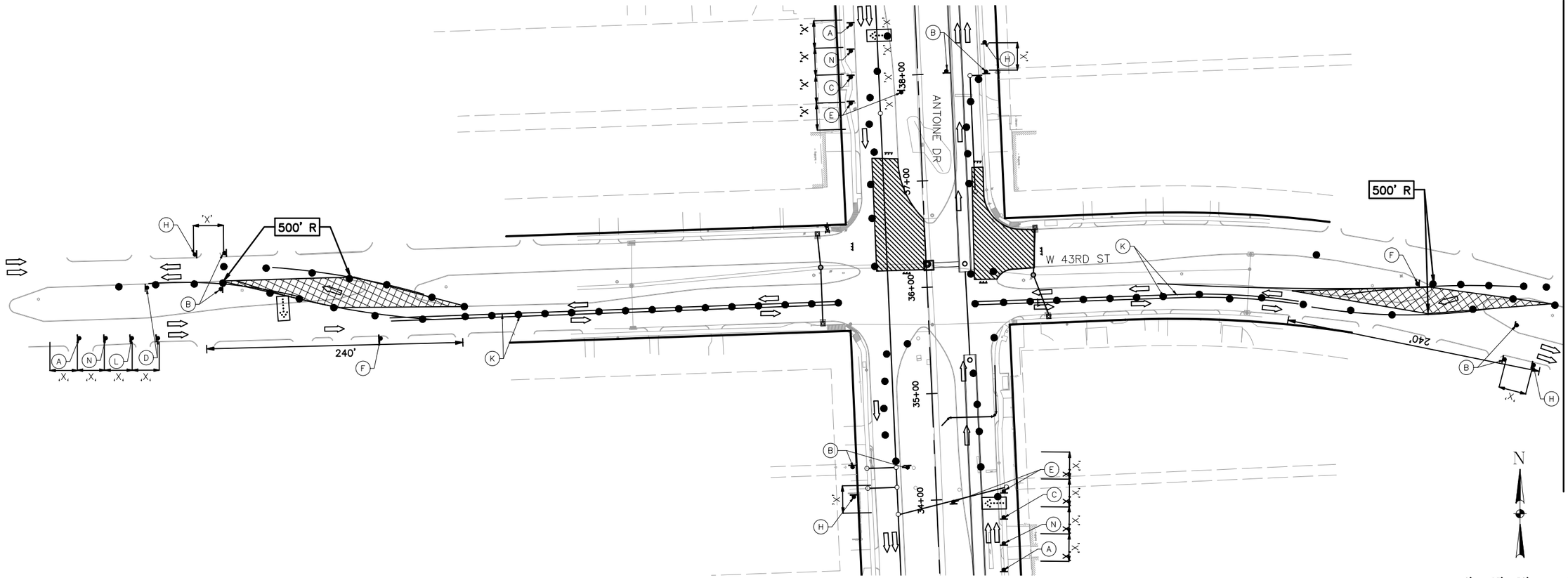
WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	HORIZ 1"=100'
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	58 1067

FOR CITY OF HOUSTON USE ONLY

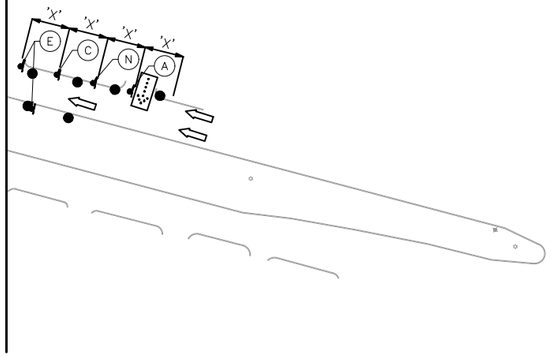
No.	DATE	REVISIONS	APP.

Design Filename:

Mar 13 2026 5:44PM akhan
S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\TCP - W43 & Antoine.dwg
Includes Xref(s): Topo-21080- Extended.dwg; COH BDR-TCP.dwg; PR_DRN.dwg; PR-W.dwg; PR-WW.dwg; PR_RDWY.dwg; PR_SHADING.dwg; PR-WW_Default-3D.dwg



MATCHLINE A/THIS SHEET



MATCHLINE A/THIS SHEET

NOTES:

1. SEE SHEET REF. NO. TCP-1 FOR TRAFFIC CONTROL NOTES.
2. CONTRACTOR MUST MAINTAIN ACCESS FOR ALL DRIVEWAYS WITHIN WORK AREA.
3. ANTOINE DR POSTED SPEED = 35 MPH
4. CONTRACTOR SHALL MAINTAIN ACCESS TO PEDESTRIAN AND RESIDENTS THROUGH AND AROUND WORK ZONE DURING CONSTRUCTION AT ALL TIMES.
5. CONTRACTOR TO NOTIFY RESIDENTS 10 DAYS PRIOR TO CLOSURE OF STREET.
6. PROVIDE METAL PLATE OVER EXCAVATION AND MAINTAIN OPENING THRU CONCRETE TRAFFIC BARRIER AT EACH DRIVEWAY FOR SAFE VEHICLE MANEUVERING.

LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- K — WRK ZN MRK REMOVABLE 4" (Y) (SLD) & TEMP CONSTRUCTION (REMOV) BUTTONS (Y)
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE

N

0' 25' 50' 100'

SCALE: 1"=100'

A	B	C	D	E	F	G	H	I	L	M	N	O	P	R				
ROAD WORK AHEAD CW21-7D 48" X 48"	END UTILITY WORK G20-2C 36" X 18"	RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	CW1-4R (36"X36")	CW1-4L (36"X36")	CW6-3 (36"X36")	CW1-7 (36"X18")	END WORK ZONE SPEED LIMIT R2-12 36"X54"	R3-1 (24"X24")	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	ROAD CLOSED R11-2 48" X 30"	ROAD CLOSED AHEAD CW20-3 (36"X36")	R3-1 (24"X24")	LEFT CW1-8 18 x 24	RIGHT CW1-8 18 x 24	8"-12" 8"-12" VP-1L VP-1R	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON 36" DRUM	TYPE III BARRICADE

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLAN
TCP-9
TRAFFIC CONTROL PLAN FOR ANTOINE DRIVE AND W 43RD ST. INTERSECTION
(SHEET 4 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 6A 1067	

No.	DATE	REVISIONS	APP.

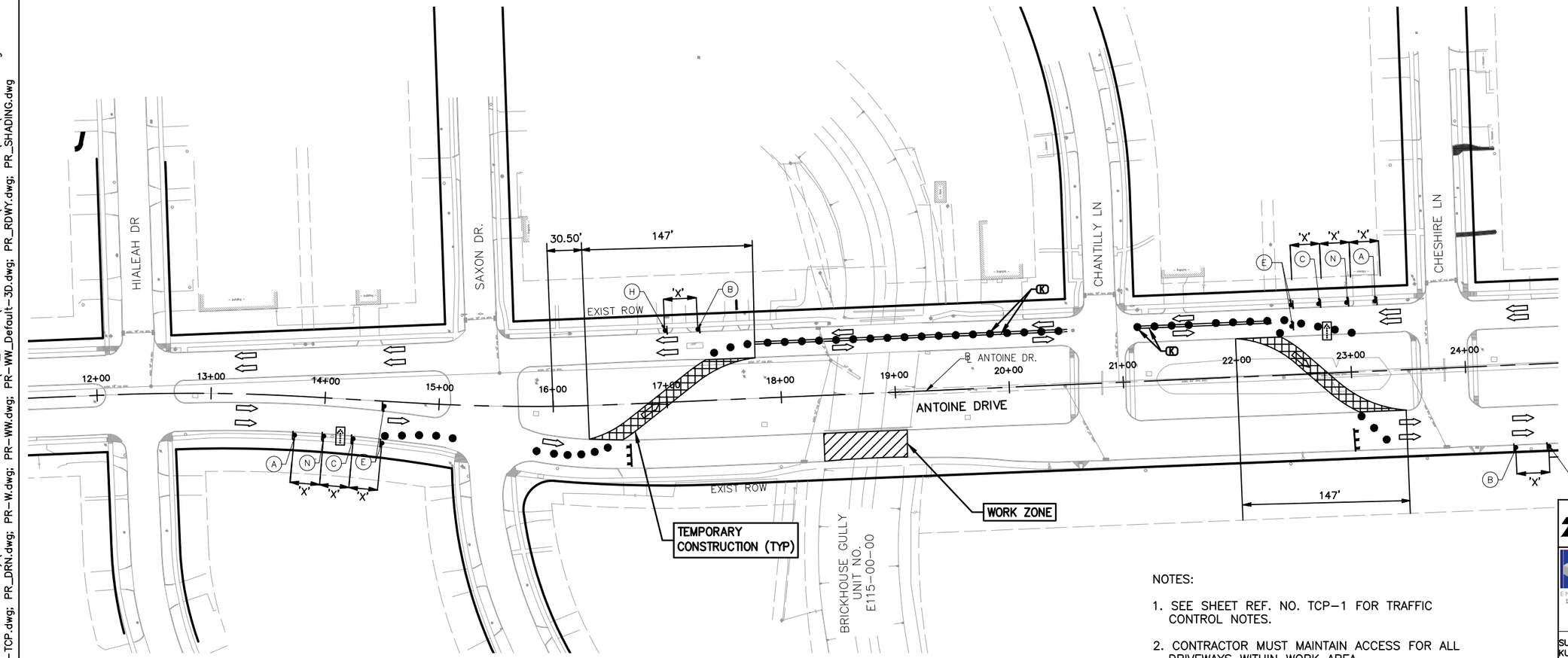
MATCHLINE A/THIS SHEET

Design Filename:

Mar 13 2026 5:45PM akhan
S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\TCP - W43 & Antoine.dwg
Includes Xref(s): Topo-21080- Extended.dwg; COH BDR-TCP.dwg; PR_DRN.dwg; PR-W.dwg; PR-WW.dwg; PR-WW.dwg; PR_RDWY.dwg; PR_SHADING.dwg; PR-WW_Default-3D.dwg

A	B	C	D	E	F	G	H	I	L	M	N	L	M	N	O	P	R
ROAD WORK AHEAD CW21-7D 48" X 48"	END UTILITY WORK G20-2C 36" X 18"	RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	CW1-4R (36"X36")	CW1-4L (36"X36")	CW6-3 (36"X36")	CW1-7 (36"X18")	END WORK ZONE SPEED LIMIT R2-12 36"X54"	R3-1 (24"X24")	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	ROAD CLOSED R11-2 48" X 30"	ROAD CLOSED AHEAD CW20-3 (36"X36")	R3-1 (24"X24")

LEFT	RIGHT	8"-12" 8"-12"	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON	
CW1-8 18 x 24	CW1-8 18 x 24	VP-1L VP-1R	36" DRUM	TYPE III BARRICADE



N

0' 25' 50' 100'

SCALE: 1"=100'

No.	DATE	REVISIONS	APP.

LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- WRK ZN MRK REMOVABLE 4" (Y) (SLD) & TEMP CONSTRUCTION (REMOV) BUTTONS (Y)
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE

NOTES:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN
TCP-10
TRAFFIC CONTROL PLAN FOR BRICKHOUSE GULLY BRIDGE
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 68 1067	

Design Filename:

Mar 13 2026 5:51PM akhan
S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\TCP - Bridge Phase 1.dwg
Includes Xref(s): Topo-21080- Extended.dwg; COH BDR-TCP.dwg; PR_DRN.dwg; PR-W.dwg; PR-WW.dwg; PR-WW_Default-3D.dwg; PR_RDWY.dwg; PR_SHADING.dwg

A	B	C	D	E	F	G	H	I	L	M	N	L	M	N	O	P	R
ROAD WORK AHEAD CW21-7D 48" X 48"	END UTILITY WORK G20-2C 36" X 18"	RIGHT LANE CLOSED AHEAD CW16-3 (24"X12")	CW1-4R (36"X36")	CW1-4L (36"X36")	CW6-3 (36"X36")	CW1-7 (36"X18")	END WORK ZONE SPEED LIMIT R2-12 36"X54"	R3-1 (24"X24")	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	LEFT LANE CLOSED AHEAD CW16-3 (24"X12")	30 MPH SPEED ZONE AHEAD CW3-5a 48" X 48"	G20-5aP 30"X24" WORK ZONE SPEED LIMIT 25 R2-1 36"X48"	ROAD CLOSED R11-2 48" X 30"	ROAD CLOSED AHEAD CW20-3 (36"X36")	R3-1 (24"X24")

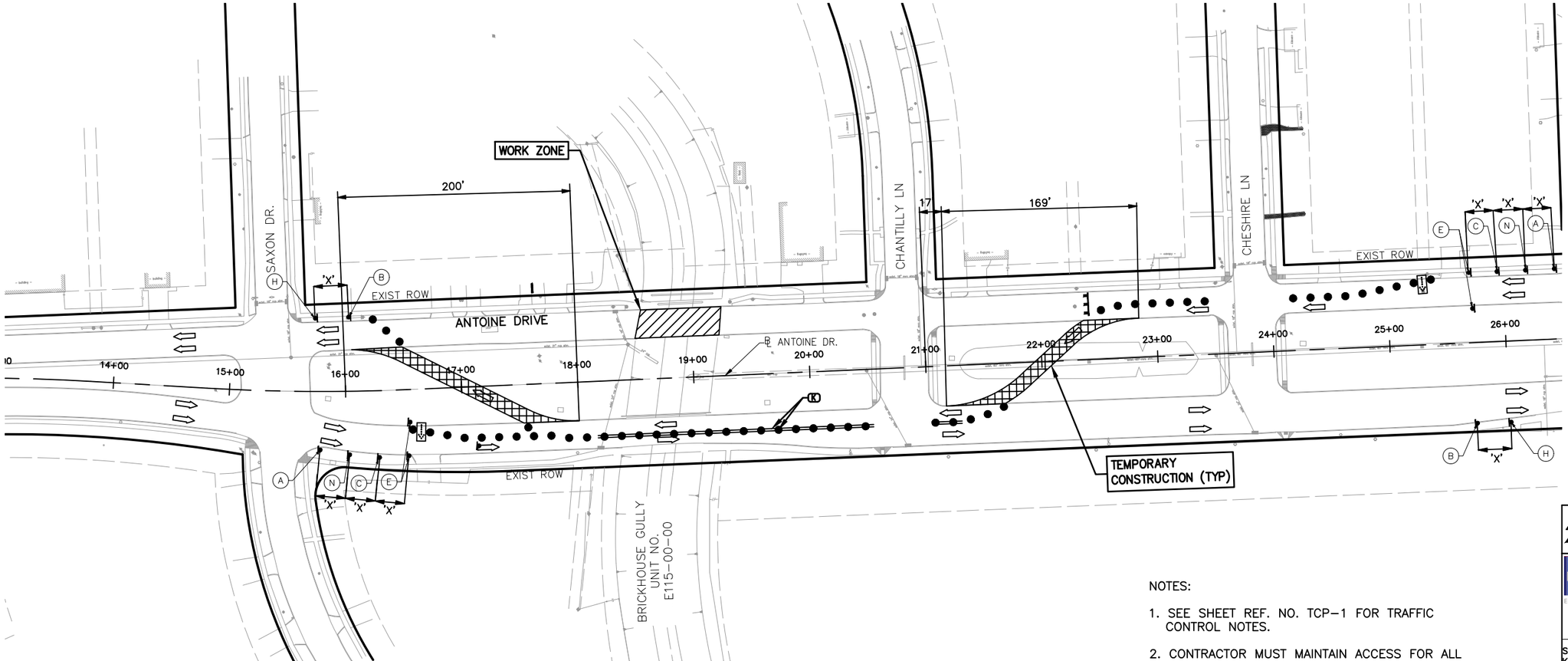
LEFT	RIGHT	8"-12" 8"-12"	MOUNTING HOLES FOR VERTICAL PANEL OR CHEVRON	
CW1-8 18 x 24	CW1-8 18 x 24	VP-1L VP-1R	36" DRUM	TYPE III BARRICADE

N

0' 25' 50' 100'

SCALE: 1"=100'

No.	DATE	REVISIONS	APP.



LEGEND

- PLASTIC DRUM (see spacing for channelizing devices)
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION
- K — WRK ZN MRK REMOVABLE 4" (Y) (SLD) & TEMP CONSTRUCTION (REMOV) BUTTONS (Y)
- FLASHING ARROW PANEL
- TEMPORARY PAVEMENT
- WORK ZONE

NOTES:

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ANTOINE DRIVE

TRAFFIC CONTROL PLAN
TCP-10
TRAFFIC CONTROL PLAN FOR BRICKHOUSE GULLY BRIDGE
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 68 1067	

Design Filename:

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S:_00PROJECTS\02010 (Antoine Paving and Drainage-US 290 to Acorn)\4-0 SURVEY-DESIGN Production\02_DESIGN\4-02-05 General\Permit Set\TCP\TCP - Bridge Phase 2.dwg
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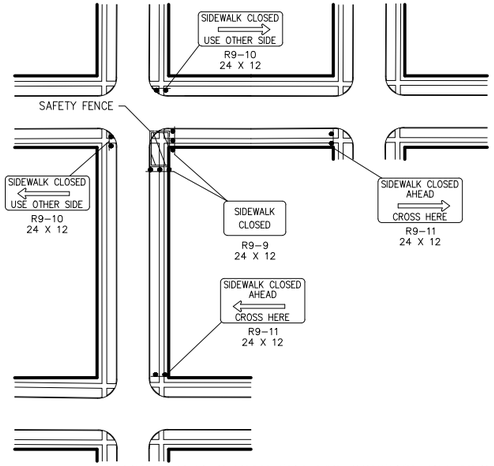
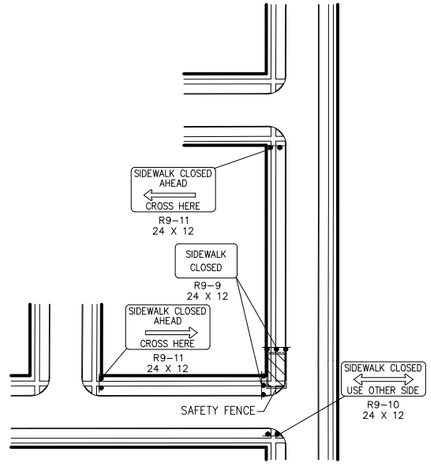
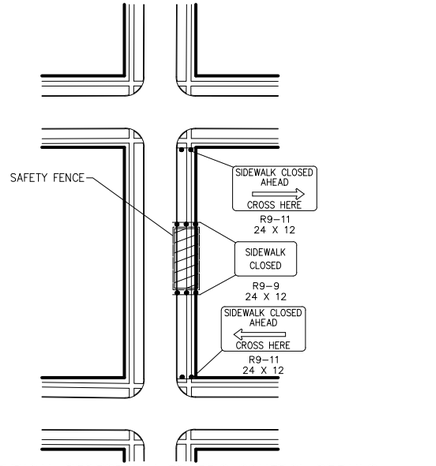


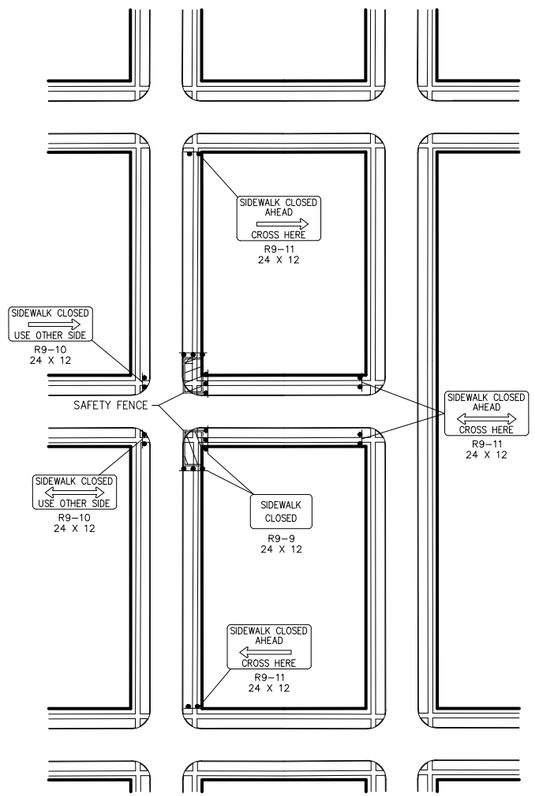
TYPICAL PEDESTRIAN TRAFFIC CONTROL DETAILS
FOR CROSSWALK CLOSURE



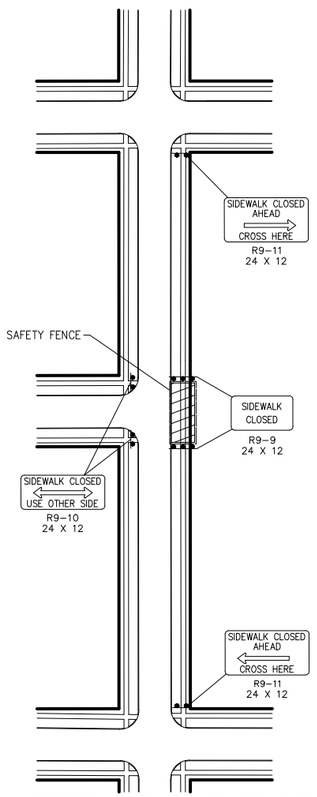
TYPICAL PEDESTRIAN TRAFFIC CONTROL DETAILS
FOR CROSSWALK CLOSURE



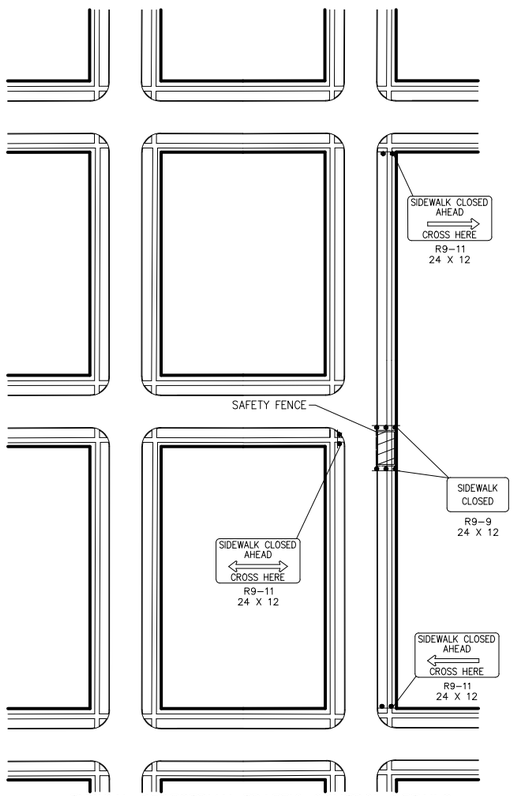
TYPICAL PEDESTRIAN TRAFFIC CONTROL DETAILS
FOR SIDEWALK CLOSURE



TYPICAL PEDESTRIAN TRAFFIC CONTROL DETAILS
FOR CROSSWALK CLOSURE



TYPICAL PEDESTRIAN TRAFFIC CONTROL DETAILS
FOR SIDEWALK & CROSSWALK CLOSURE



TYPICAL PEDESTRIAN TRAFFIC CONTROL DETAILS
FOR SIDEWALK CLOSURE

LEGEND
(TYPICAL)

- WORK ZONE
- TYPE III BARRICADE
- SIGN ON POST
- TRAFFIC FLOW DIRECTION

No.	DATE	REVISIONS	APP.

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www.kuoassociates.com
Texas Firm Registration No. F-4578
TBPLS Firm Registration No. 10075600

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ON 03/16/2026
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLAN
TCP–11
TRAFFIC CONTROL PLAN
FOR SIDEWALK AND
PEDESTRIAN DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 57 OF 1067	

Design Filename:

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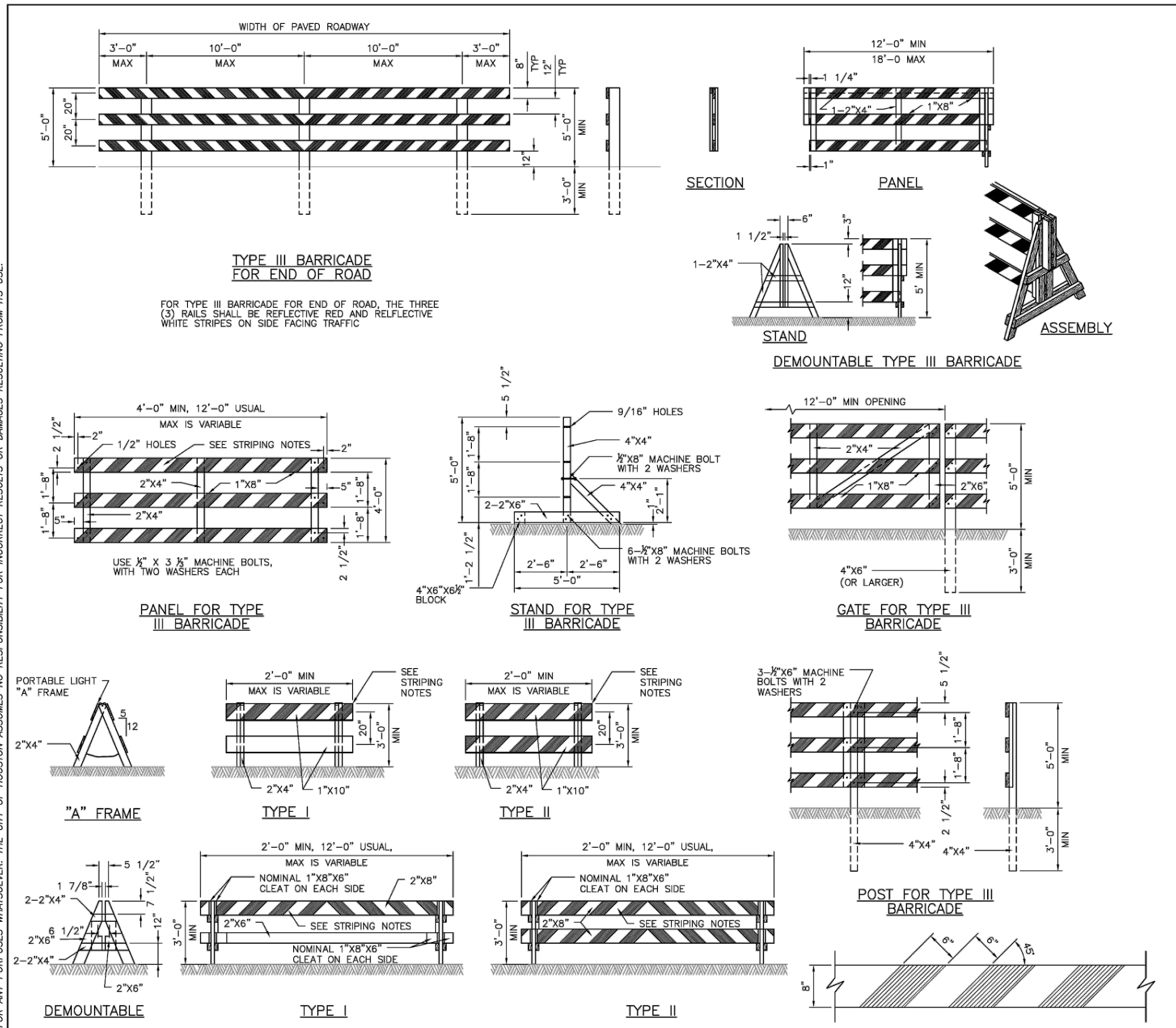


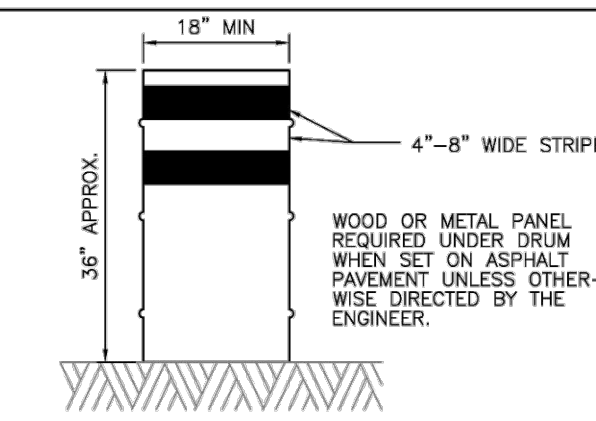
BARRICADE NOTES:

1. THE MOST RECENT EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND IT'S REVISIONS, SHALL GOVERN THE CONSTRUCTION AND USE OF ALL ITEMS HEREIN DESCRIBED.
2. CHANNELIZATION DEVICES OTHER THAN BARRICADES SHOULD NORMALLY BE USED FOR CHANNELIZATION PURPOSES.
3. BARRICADES SHOULD NORMALLY BE PLACED PERPENDICULAR TO THE TRAFFIC FLOW. OTHER CHANNELIZING DEVICES, SUCH AS DRUMS, VERTICAL PANELS OR PORTABLE BARRIERS, SHOULD BE USED WHERE NEEDED TO SEPARATE TRAFFIC FROM THE WORK AREA. IN ALL CASES, THE BARRICADES SHOULD BE SO LOCATED AS TO MOST ADVANTAGEOUSLY WARN AND DIRECT TRAFFIC.
4. BARRICADES MAY BE DESIGNED AND CONSTRUCTED FROM WOOD OR ANY OTHER SUITABLE MATERIAL APPROVED BY THE TMUTCD. THE CONSTRUCTION DETAILS SHOWN HEREON ARE TYPICAL AND ARE SUGGESTED DETAILS FOR WOOD SUPPORT SYSTEMS FOR BARRICADES. THE DETAILS OF RAIL WIDTH AND STRIPING, NUMBER AND SPACING OF RAILS, MINIMUM LENGTH AND HEIGHT (ABOVE PAVEMENT) OF RAILS MUST BE ADHERED TO WHEN ALTERNATE DESIGNS ARE USED.
5. BARRICADES ARE TO BE CONSTRUCTED OF CLEAN SOUND MATERIAL. ALL SURFACES ABOVE GROUND, WHICH ARE NOT STRIPED, SHALL BE WHITE EXCEPT THE UNPAINTED GALVANIZED METAL OR ALUMINUM COMPONENTS MAY BE USED. COMPONENTS MADE OF LUMBER SHALL BE PAINTED WITH A MINIMUM OF TWO COATS OF AN APPROVED BRAND OF WHITE PAINT TO SECURE THOROUGH COVERAGE AND A UNIFORM WHITE COLOR.
6. THE REFLECTORIZED WHITE AND REFLECTORIZED ORANGE (REFLECTORIZED RED) STRIPES FOR BARRICADES, DRUMS AND VERTICAL PANELS SHALL BE CONSTRUCTED OF HIGH INTESITY SHEETING AND SHALL BE MAINTAINED TO MEET THE APPEARANCE, COLOR AND REFLECTIVITY REQUIREMENTS SET BY DOTT.
7. THE CONTRACTOR SHALL MAINTAIN EACH BARRICADE IN A CLEAN AND GOOD CONDITION.
8. BARRICADES SHALL BE REMOVED UPON COMPLETION OF THE WORK AND/OR THE ELIMINATION OF THE HAZARD ON ANY SECTION.

STRIPING FOR BARRICADE

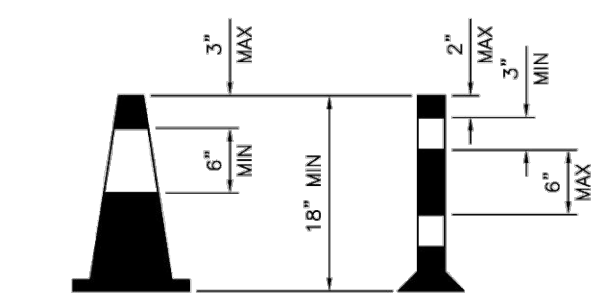
1. FOR ALL TYPES OF BARRICADES WITH RAILS LESS THAN 3'-0" LONG, STRIPES 4" WIDE SHALL BE USED. IDENTIFICATION MARKINGS MAY BE SHOWN ONLY ON BACK SIDE OF BARRICADE RAILS.
2. STRIPING SHOULD COVER THE FULL WIDTH OF THE RAIL. STRIPING OF RAILS, PANELS, ETC. SHOULD SLOPE DOWNWARD AT AN ANGLE OF 45° DEGREES IN DIRECTIONS TRAFFIC IS TO PASS.
3. WHERE A BARRICADE EXTENDS ENTIRELY ACROSS A ROADWAY, IT IS DESIRABLE THAT THE STRIPES SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING. WHEN BOTH RIGHT AND LEFT TURNS ARE PROVIDED FOR, THE CHEVRON STRIPING MAY SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE.

DISCLAIMER: THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



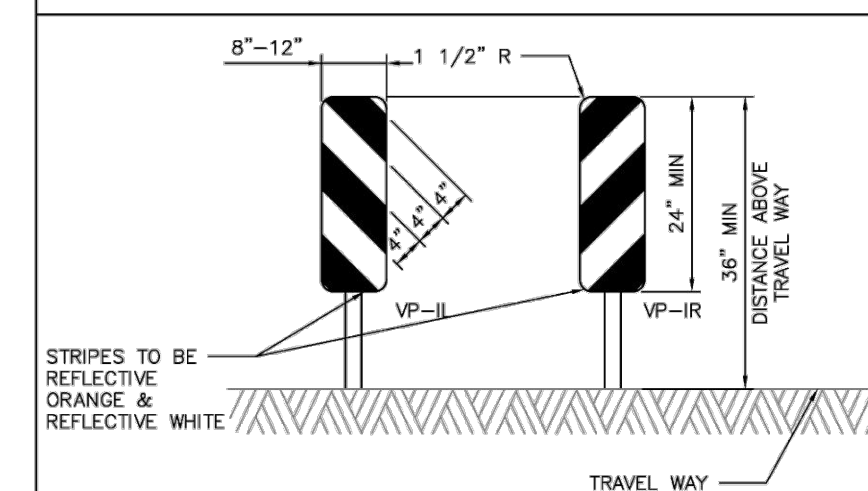
DRUMS

1. DRUMS, SET ON END, AND USED FOR TRAFFIC WARNING OR CHANNELIZATION SHALL BE APPROX 36" IN HEIGHT AND A MIN OF 18" IN DIAMETER. THE CONTRACTOR, AT HIS OPTION, MAY USE DRUMS MADE FROM STEEL BARRELS OR BLACK POLYETHYLENE PLASTIC DRUM LINERS WEIGHING APPROX EIGHT POUNDS EACH. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, REFLECTORIZED ORANGE AND REFLECTORIZED WHITE STRIPES, 4 TO 8 INCHES WIDE. THE FIRST REFLECTORIZED STRIPE SHOULD START WITHIN TWO (2) INCHES OF THE TOP OF THE DRUM. THERE SHALL BE AT LEAST TWO ORANGE AND TWO WHITE STRIPES ON EACH DRUM. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES, THEY SHALL BE NO MORE THAN 2 INCHES WIDE. METAL DRUMS SHALL BE PAINTED BLACK OR ORANGE BEFORE REFLECTORIZED STRIPES ARE ADDED. ALL DRUMS ON PROJECT WILL BE THE SAME COLOR. WHEN DRUMS ARE PLACED IN THE ROADWAY, APPROPIATE WARNING SIGNS SHOULD BE USED. DURING HOURS OF DARKNESS, A FLASHING WARNING LIGHT SHOULD BE PLACED ON DRUMS USED SINGLY AS A WARNING DEVICE. STEADY BURN ELECTRIC LIGHTS OR DELINEATORS SHOULD BE PLACED ON DRUMS USED IN SERIES FOR TRAFFIC CHANNELIZATION. DRUMS SHALL BE WEIGHTED WITH SAND TO THE EXTENT INDICATED IN THE PLANS.
2. CWI-8 CHEVRON SIGNS, CWI-6A ARROW SIGNS OR VP-I VERTICAL PANELS MOUNTED ABOVE DRUMS MAY BE USED AS SUPPLEMENTS TO DRUM DELINEATION.



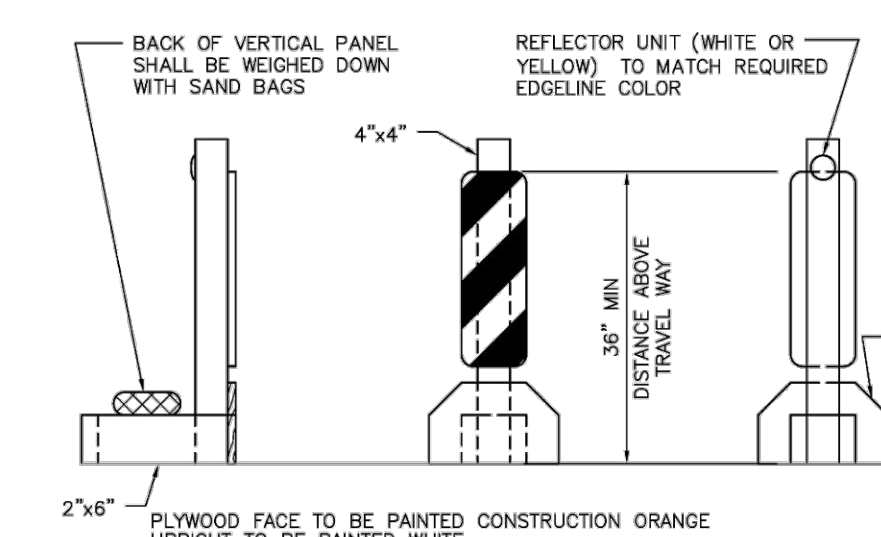
CONES

1. TRAFFIC CONES AND TUBULAR MARKERS SHALL BE A MIN OF 18" INCHES IN HEIGHT WITH A BROADENED BASE AND MAY BE MADE OF VARIOUS MATERIALS TO WITHSTAND IMPACT WITHOUT DAMAGE TO THEMSELVES OR TO VEHICLES. LARGER SIZES SHOULD BE USED ON FREEWAYS AND OTHER ROADWAYS WHERE SPEED ARE RELATIVELY HIGH OR WHERE EVER MORE CONSPICUOUS GUIDANCE IS NEEDED. ORANGE SHALL BE THE PREDOMINANT COLOR ON CONES AND TUBULAR MARKERS. THEY SHOULD BE KEPT CLEAN AND BRIGHT FOR MAX TARGET VALUE. FOR NIGHT TIME USE THEY SHALL BE REFLECTORIZED OR EQUIPPED WITH LIGHTING DEVICES FOR MAX VISIBILITY. REFLECTORIZED MATERIAL SHALL HAVE A SMOOTH, SEALED OUTER SURFACE WHICH WILL DISPLAY THE SAME APPROX COLOR DAY AND NIGHT.
2. REFLECTORIZATION OF TUBULAR MARKERS SHALL BE A MIN OF TWO THREE-INCH BANDS PLACED A MAX OF 2" FROM THE TOP WITH A MAX OF 6" BETWEEN THE BANDS. REFLECTORIZATION OF CONES SHALL BE PROVIDED BY A MIN 6" BAND PLACED A MAX OF 3" FROM THE TOP.
3. CONES OR TUBULAR MARKERS ARE GENERALLY ONLY SUITABLE FOR TEMPORARY USAGE (UP TO 8 HOURS) WITH OTHER CHANNELIZATION DEVICES SUCH AS VERTICAL PANELS OR BARRICADES PREFERRED FOR LONGER TERM USAGE. CARE SHOULD BE TAKEN TO INSURE THAT THEY REMAIN IN THEIR PROPER LOCATION AND IN AN UPRIGHT POSITION.



VERTICAL PANELS (VP)

VERTICAL PANELS ARE NORMALLY USED AS CHANNELIZING DEVICES TO INDICATE TANGENT OR NEARLY TANGENT ROADWAY ALIGNMENT WHERE GOOD TARGET VALUE OF A DEVICE IS NEEDED IN DAYTIME AS WELL AS THE NIGHTTIME. IN ADDITION, VERTICAL PANELS SHOULD BE USED AT THE EDGE OF SHOULDER DROP-OFFS AND OTHER SUCH AREAS AS LANE TRANSITIONS WHERE POSITIVE DAY AND NIGHT DELINEATION MAY BE REQUIRED. VERTICAL PANELS SHOULD BE MOUNTED BACK TO BACK IF USED AT THE EDGE OF CUTS ADJACENT TO TWO-WAY TWO LANE ROADWAYS. STRIPES SHOULD ALWAYS SLOPE DOWNWARD TOWARD THE TRAVELED WAY.



TYPICAL PORTABLE VERTICAL PANEL OR DELINEATOR

OTHER SIMILAR SUPPORTS MAY BE USED WHEN APPROVED BY TMUTCD AND DIRECTED BY THE CITY OF HOUSTON.

APPROVED BY: Sukail Kanwar (DocuSigned)	APPROVED BY: KHANG NGUYEN (DocuSigned)
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock (DocuSigned)	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-14

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BARRICADE AND CHANNELIZING DEVICES

FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE
NOT TO SCALE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP-12
BARRICADES AND CHANNELZING DEVICES DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 58 OF 1067	

Design Filename:

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Includes Xref(s): COH BDR-TCP.dwg

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GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) LATEST EDITION WITIH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.
2. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM THE LATEST VERSION OF THE TMUTCD.
3. NO LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY WITHOUT APPROVAL OF THE CITY TRAFFIC ENGINEER.
4. NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00 PM TO 7:00 AM.
5. CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF THROUGH LANES OF TRAFFIC IN EACH DIRECTION DURING CONSTRUCTION WORKING HOURS. TRAFFIC CONTROL PLANS SHALL INCLUDE ONE-WAY AND/OR DETOUR PLANS. CONTRACTOR SHALL MAINTAIN ADA COMPLIANT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO ALL THE BUS STOPS.
6. CONTRACTOR SHALL MAINTAIN TRAFFIC LANES AND DETOURS ACCORDING TO TRAFFIC CONTROL PLANS DURING WORKING HOURS.
7. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.
8. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF TRAFFIC CONTROL PLANS TO THE CITY OF HOUSTON PROJECT MANAGER FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SHALL BE SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. OFFICE OF CITY ENGINEER, MOBILITY PERMITS SECTION REPRESENTATIVE APPROVAL IS REQUIRED TO ACCEPT THE PROPOSED CHANGES.
9. CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM OFFICE OF CITY ENGINEER (MOBILITY PERMIT SECTION AT https://geohub.houstontx.gov) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.
10. CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES.
11. DURING PAVEMENT SURFACE RESTORATION PROJECTS; THE CONTRACTOR SHALL NOT OPEN CLOSED LANES UNTIL THE PAVEMENT SURFACE HAS CURED ENOUGH TO ALLOW VEHICULAR TRAFFIC ACCORDING TO CITY OF HOUSTON STANDARD SPECIFICATIONS.
12. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL CONSTRUCTION ACTIVITIES WITH STAKE HOLDERS IN THE VICINITY INCLUDING EMERGENCY RESPONSE AGENCIES SUCH AS HOUSTON POLICE DEPARTMENT, HOUSTON FIRE DEPARTMENT, AND METROPOLITAN TRANSIT AUTHORITY.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ISSUING ALL WORK DIRECTIVES TO ALL SUB-CONTRACTORS, UTILITY COMPANIES, AND ALL OTHER ENTITIES PERFORMING CONSTRUCTION WORK ASSOCIATED WITH THE PROJECT.
14. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT; INCLUDING SAFETY OF ALL MODES OF TRANSPORTATION, PERSONS, AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
15. THE OFFICE OF CITY ENGINEER (MOBILITY PERMITS GROUP) PER THE DIRECTION OF THE CITY TRAFFIC ENGINEER HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS OF THESE PLANS AND NOTES, AS DEEMED NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC, INCLUDING PEDESTRIANS AND BICYCLES, THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE.
16. ALL EXISTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER) ANY PAVEMENT MARKING OR SIGNING DAMAGE DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS (RPMS).
17. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC WITH THE ASSISTANCE OF CONTRACTOR PROVIDED CERTIFIED FLAGGER/PEACE OFFICER.
18. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER.
19. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
20. THE CONTRACTOR SHALL SUBMIT AN APPLICATION FOR TEMPORARY PARKING RESTRICTIONS IF THERE ARE PARKING METERS LOCATED AT THE PROPOSED LANE CLOSURES FROM PARKING MANAGEMENT DIVISION (832-393-8690) AT LEAST TEN BUSINESS DAYS BEFORE IMPLEMENTATION OF LANE CLOSURES. IN ADDITION, TEMPORARY NO PARKING SIGNS SHALL BE POSTED 24 HOURS PRIOR TO COMMENCEMENT OF WORK.
21. ADDITIONAL OFF DUTY OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DISCRETION OF THE CITY PROJECT MANAGER EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.
22. THE CONTRACTOR SHALL REPLACE WITHIN 72 HOURS, ALL TRAFFIC SIGNAL LOOP DETECTORS DAMAGED DURING CONSTRUCTION.
23. IN GENERAL, A SOLAR POWERED FLASHING ARROW BOARD SHALL BE REQUIRED ON ALL MAJOR THOROUGHFARE LANES CLOSURES. EXCEPTIONS TO FLASHING ARROW BOARDS AND/OR IMPLEMENTATION ON RESIDENTIAL LANE CLOSURES SHALL BE APPROVED BY CITY TRAFFIC ENGINEER.
24. APPROVED TRAFFIC CONTROL PLAN SHALL BE IN PLACE BEFORE STARTING ANY EXCAVATION.
25. WATER FILLED BARRIERS CAN BE USED AS INSTRUCTED BY THE ENGINEER AND APPROVED BY THE CITY FOR PROJECTS WHERE SPACE IS LIMITED AND HEAVY EQUIPMENT TO PLACE CONCRETE BARRIERS IS NOT FEASIBLE. WATER FILLED BARRIERS SHALL NOT BE USED ON ROADWAYS WITH A POSTED SPEED LIMIT MORE THAN 45 MPH.
26. WATER FILLED BARRIERS MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S REQUIREMENTS AND ROUTINELY INSPECTED FOR DEFECTS.
27. IF WATER FILLED BARRIER IS PROVIDED, USE ENVIRONMENTALLY SAFE ANTI-FREEZING AGENT IN THE WATER WHEN IT IS APPLICABLE PER MANUFACTURER SPECIFICATIONS AND RECOVER AGENT WHEN THE BARRIER IS DRAINED.
28. DISPOSE OF WATER AND AGENT PROPERLY. DO NOT DRAIN WATER FILLED BARRIER INTO OR ACROSS AN EXISTING TRAVEL LANE.
29. PROVIDE BARRIER UNITS THAT ARE CAPABLE OF BEING LIFTED AND MOVED WHEN FILLED IF DRAINING IS NOT POSSIBLE.
30. PROVIDE WATER FILLED BARRIER THAT ACTS AS ITS OWN FREE STANDING, NON-REDIRECTIVE END TREATMENT.
31. WHEN WATER FILLED BARRIERS ARE USED TO CHANNELIZE PEDESTRIANS, THEY MUST HAVE A CONTINUOUS DETECTABLE BOTTOM FOR USERS OF LONG CANES AND THE TOP OF THE UNIT SHALL NOT BE LESS THAN 32 INCHES IN HEIGHT.
32. ANY CLOSURE OF A PEDESTRIAN OR BICYCLE FACILITY SHALL REQUIRE THE SHORTEST DETOUR THAT MAINTAINS THE SAFETY OF PEDESTRIAN AND/OR BICYCLISTS.

*DISCLAIMER:
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SPACING FOR CHANNELIZING DEVICES

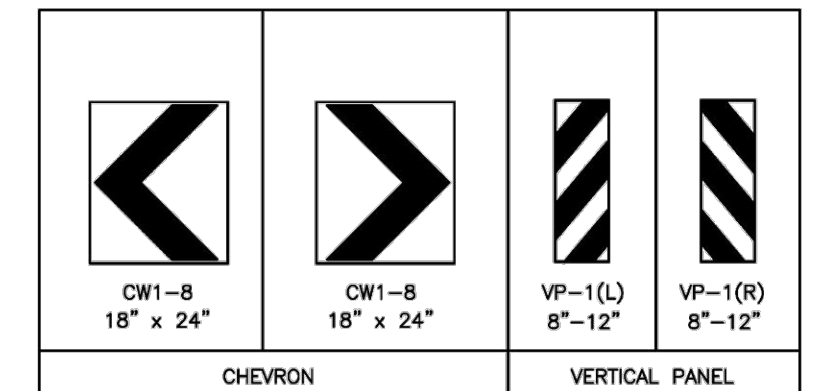
A. PLASTIC DRUMS ON MERGING TAPER @ 30' C – C WITH CHEVRON SIGN @ 60' C – C AND WARNING LIGHTS FOR OVERNIGHT CLOSURE.
B. PLASTIC DRUMS ON DOWNSTREAM TAPER @ 30' C – C (RETURN TAPER AND BARRICADE ARE OPTIONAL AND DIVIDED ROADWAY SECTION)
C. PLASTIC DRUMS ON RADII @ 35' C –C.
D. PLASTIC DRUMS ON TANGENT @ 35' C – C WITH VERTICAL PANEL AT 70' C – C AND APPROVED WARNING LIGHT @ 70' C – C (FOR OVERNIGHT CLOSURE).
E. PLASTIC DRUMS IN FRONT OF CONSTRUCTION ZONE @ 20' C – C WITH VERTICAL PANEL AT 40' C – C AND APPROVED WARNING LIGHT @ 40' C – C (FOR OVERNIGHT CLOSURE).
F. CONCRETE TRAFFIC BARRIER (CTB) OR LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCTB) WITH APPROVED REFLECTORS @ 10' C – C IF PAVEMENT DROP IS GREATER THAN 1 FOOT.
G. PLASTIC DRUMS W/GUARD RAIL MOUNTED.
H. SELF- RIGHTING VERTICAL PANEL SPACING.
   - 4 LANES TO 2 LANES UNDIVIDED ROADWAY SECTION @ 20' C – C.
   - 4 LANES DIVIDED ROADWAY TO ONE SIDE TWO WAY ROADWAY @ 20' C – C.
   - LEFT LANE AND RIGHT LANE STORAGE BAYS @ 15' C – C.
I. SPACING SHOWN ON TRAFFIC CONTROL SHALL SUPERSEDE THE ABOVE SPACING.
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

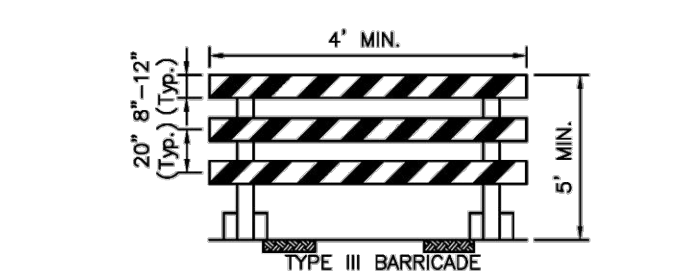
TABLE C3 – TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES

POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'	45'	90'–110'
50	400'	500'	550'	600'	50'	100'–125'
55	500'	550'	605'	660'	55'	110'–140'

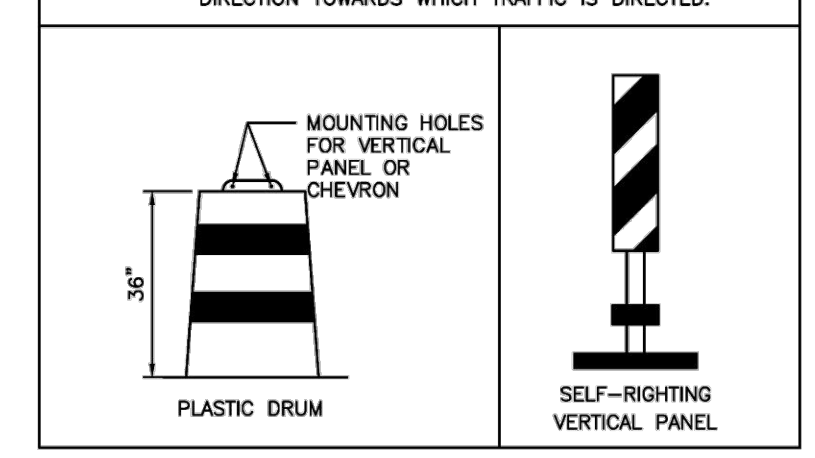
TABLE C4 – STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

POSTED SPEED (MPH)	DISTANCE "D" (FEET)
30	200
35	250
40	305
45	360
50	425
55	495





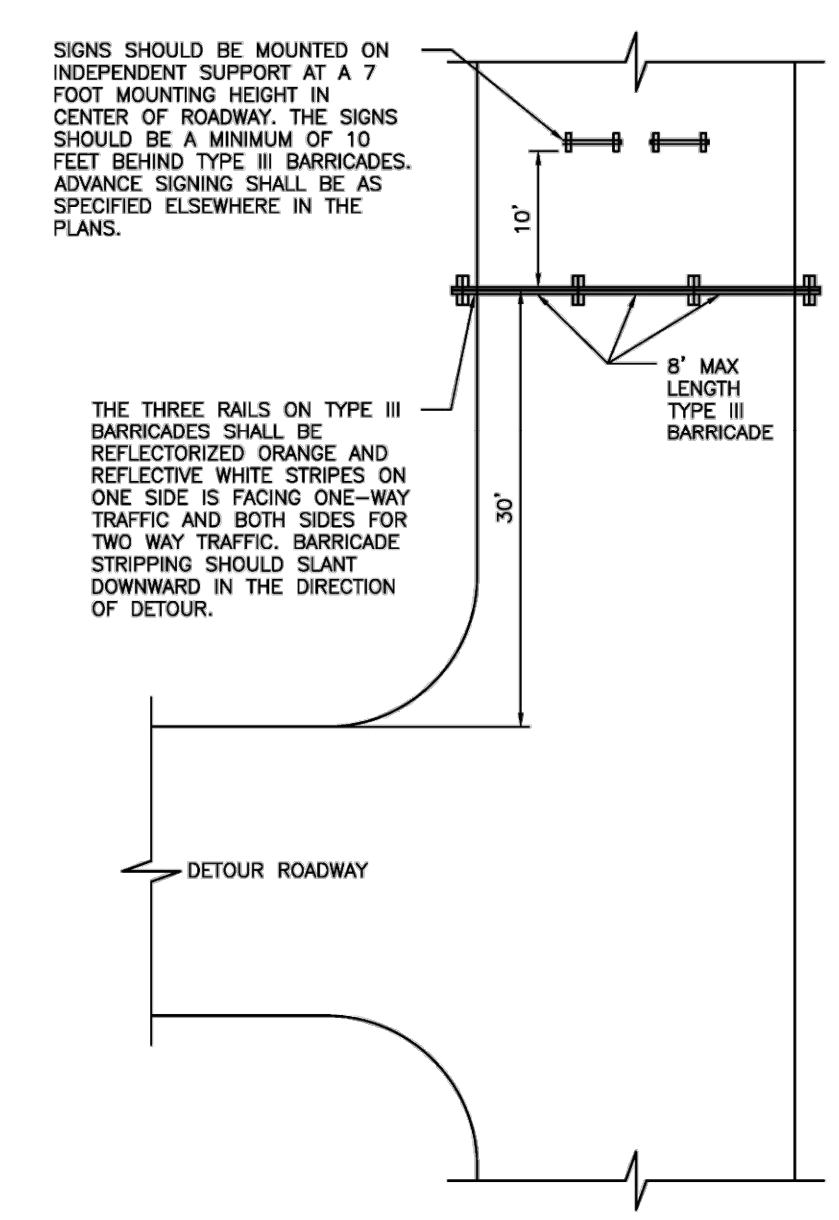
NOTE: STRIPES SHOULD SLOPE DOWNWARDS IN THE DIRECTION TOWARDS WHICH TRAFFIC IS DIRECTED.



CHANNELIZATION AND BARRICADES

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY



PLAN VIEW
TYPE III BARRICADE (POST AND SKID)
TYPICAL APPLICATION

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CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 01555-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLAN

TCP-13
TCP NOTES AND CHANNELIZING DEVICES AND BARRICADES

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ROWAIDAH AYOUB	
SHEET NO. 59 OF 1067	

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TEMPORARY TRAFFIC CONTROL - GENERAL NOTES

1. ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), CITY OF HOUSTON STANDARDS, AND THE APPROVED PLANS.

2. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF ONE (1) TRAVEL LANE IN EACH DIRECTION AT ALL TIMES UNLESS OTHERWISE SHOWN OR APPROVED.

3. MINIMUM TRAVEL LANE WIDTH SHALL BE 11 FEET DURING ALL PHASES OF CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

4. PROPOSED MEDIANS SHALL NOT BE CONSTRUCTED PRIOR TO PHASE 2, STEP 2. MEDIAN CONSTRUCTION SHALL COMMENCE ONLY AFTER BOTH TRAVEL LANES ARE OPEN TO TRAFFIC. THE EXISTING MEDIAN WIDTH SHALL BE MAINTAINED PRIOR TO THAT TIME TO PRESERVE THE REQUIRED MINIMUM LANE WIDTHS DURING LANE SHIFTS.

5. ALL TRAFFIC SHIFTS SHALL BE CONSTRUCTED USING TEMPORARY STRIPING, MARKERS, AND CHANNELIZING DEVICES AS REQUIRED TO CLEARLY DELINEATE TRAVEL PATHS.

6. ALL EXISTING SIGNS, PAVEMENT MARKINGS, AND SIGNAL INDICATIONS THAT CONFLICT WITH TEMPORARY TRAFFIC PATTERNS SHALL BE REMOVED, COVERED, OR MODIFIED PRIOR TO IMPLEMENTING EACH PHASE.

7. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED OR OBLITERATED PRIOR TO INSTALLATION OF FINAL PAVEMENT MARKINGS.

8. PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. WHEN EXISTING SIDEWALKS ARE CLOSED, A TEMPORARY ADA-COMPLIANT PEDESTRIAN ROUTE SHALL BE PROVIDED AND CLEARLY SIGNED.

9. ACCESS TO ALL BUSINESSES, RESIDENCES, AND EMERGENCY SERVICES SHALL BE MAINTAINED AT ALL TIMES. ANY TEMPORARY DRIVEWAY CLOSURES SHALL BE COORDINATED WITH THE PROPERTY OWNER IN ADVANCE.

10. SCHOOL ZONES SHALL BE MAINTAINED AND OPERATED IN ACCORDANCE WITH TMUTCD REQUIREMENTS AT ALL TIMES WHEN SCHOOL IS IN SESSION.

11. TEMPORARY TRAFFIC SIGNAL MODIFICATIONS, INCLUDING SIGNAL HEAD ADJUSTMENTS AND TEMPORARY DETECTION (VIDDS), SHALL BE COORDINATED WITH THE CITY OF HOUSTON PRIOR TO IMPLEMENTATION.

12. LOW-PROFILE CONCRETE BARRIERS (LPCB), WHEN USED, SHALL BE MASH-COMPLIANT AND INSTALLED IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND TMUTCD PART 6.

13. ALL ADVANCE WARNING SIGNS SHALL BE INSTALLED PRIOR TO THE START OF EACH PHASE AND REMAIN IN PLACE UNTIL THE PHASE IS COMPLETE.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTION AND MAINTENANCE OF ALL TEMPORARY TRAFFIC CONTROL DEVICES AND SHALL IMMEDIATELY REPAIR OR REPLACE DAMAGED OR DISPLACED DEVICES.

15. PHASE TRANSITIONS SHALL NOT OCCUR UNTIL ALL REQUIRED SIGNS, STRIPING, AND DEVICES FOR THE NEXT PHASE ARE IN PLACE AND APPROVED.

16. ALL DRIVEWAYS AND ADJACENT TRAFFIC LANE IN FRONT OF THE DRIVEWAY TO BE FAST TRACK CONSTRUCTION USING HIGH EARLY STRENGTH CONCRETE.

17. ALL DRIVEWAYS MUST HAVE A TY III BARRICADE AT BOTH UPSTREAM AND DOWNSTREAM SIDE

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ANTOINE DRIVE

GENERAL NOTES

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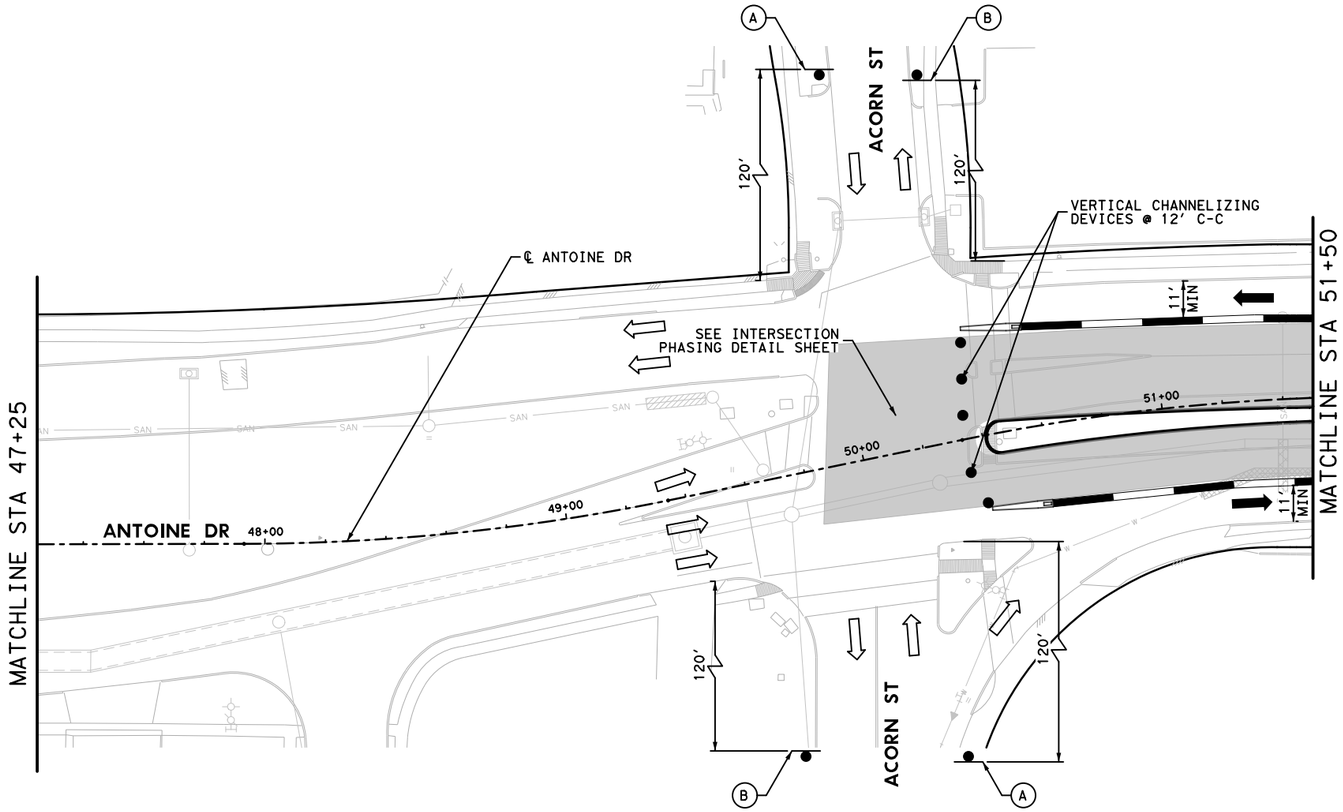

A	B
ROAD WORK AHEAD	END ROAD WORK
CW20-1D	G20-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY A-A
6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
7. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

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CITY OF HOUSTON
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ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 2

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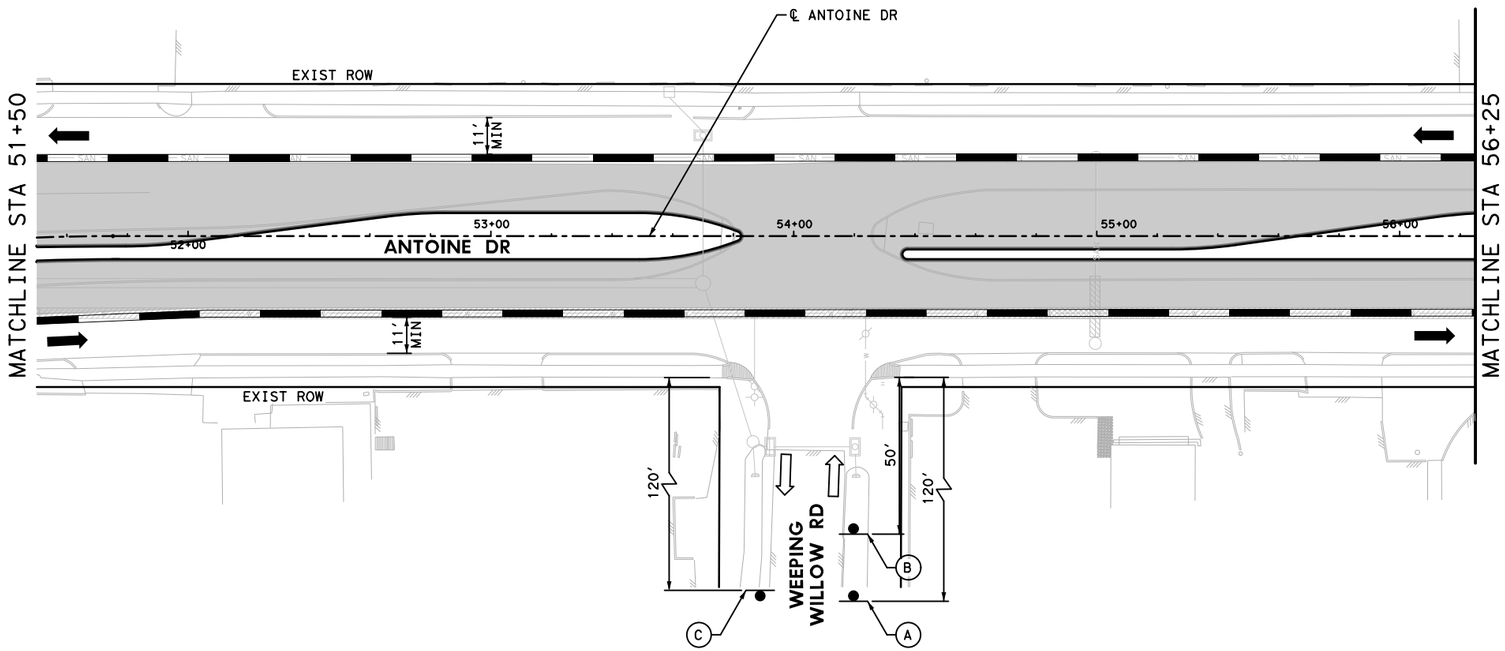

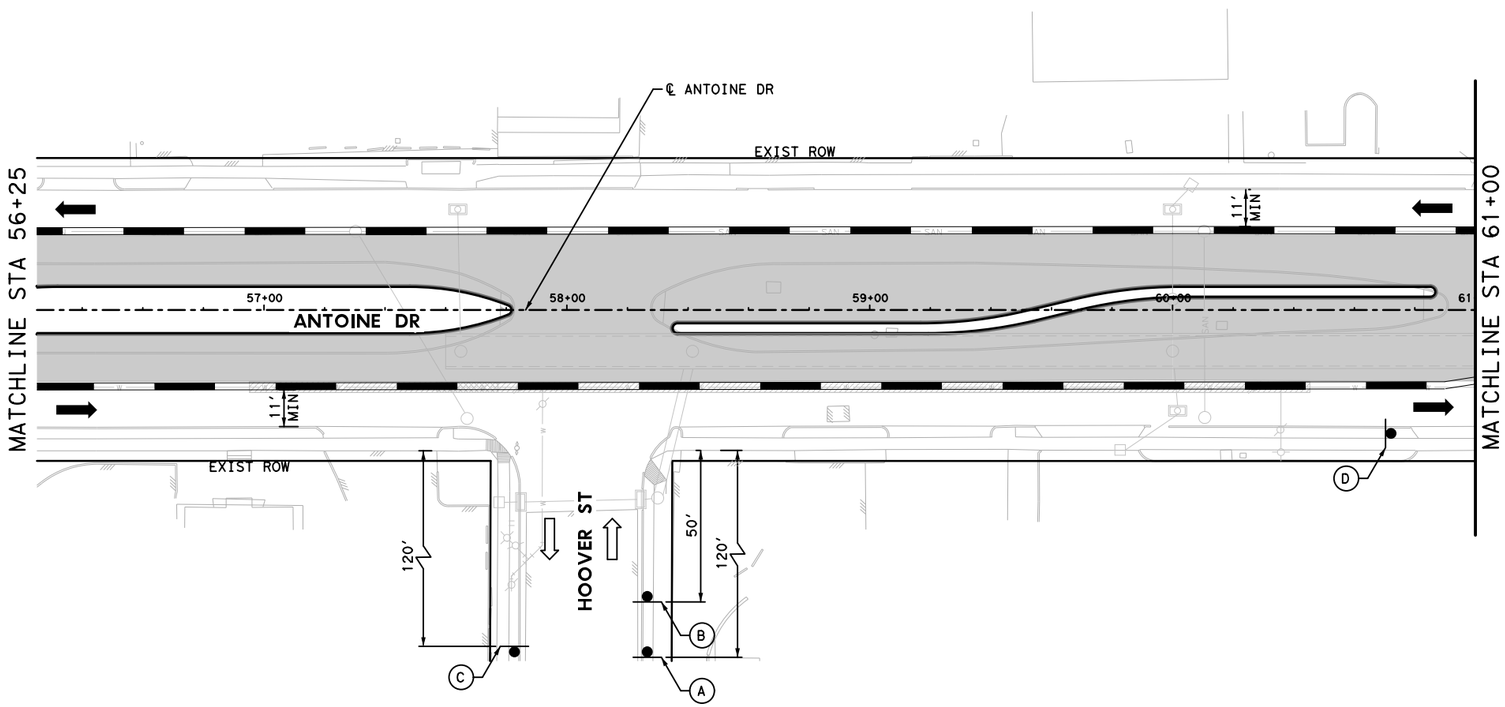

A	B
ROAD WORK AHEAD CW20-1D	ONLY R3-5R
C	D
END ROAD WORK G20-2	CW9-3

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
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8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

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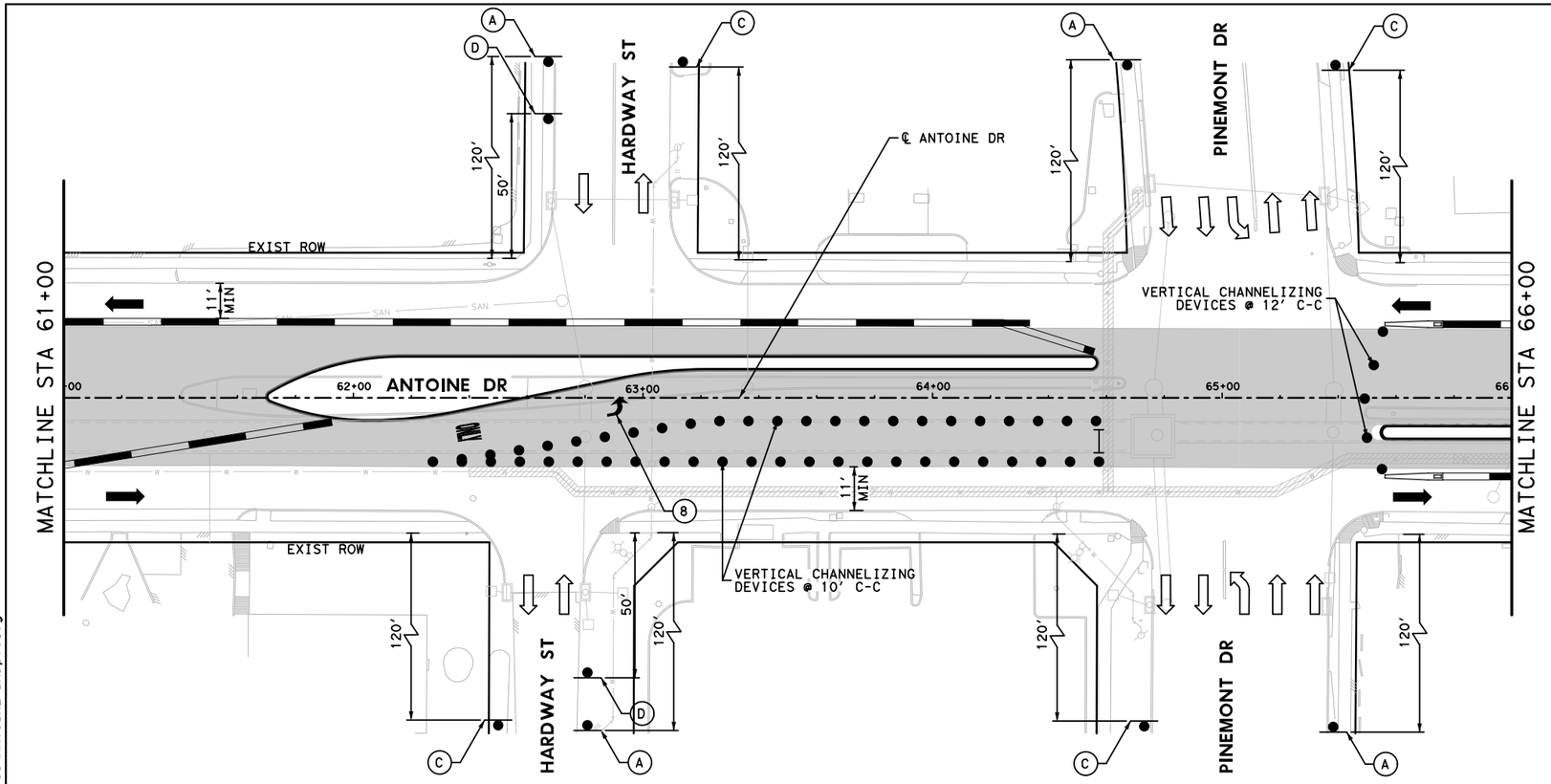

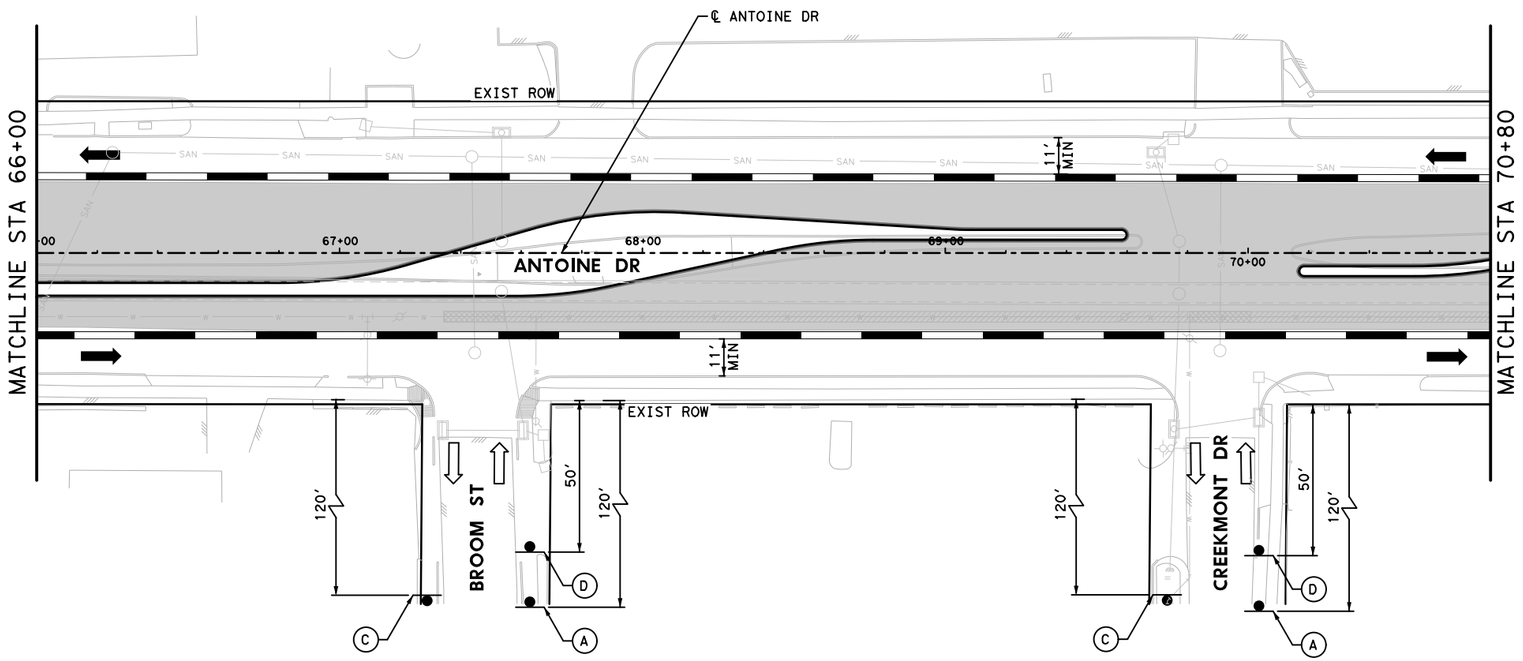

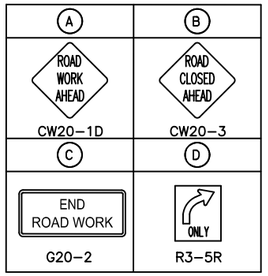

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY A-A
6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
7. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

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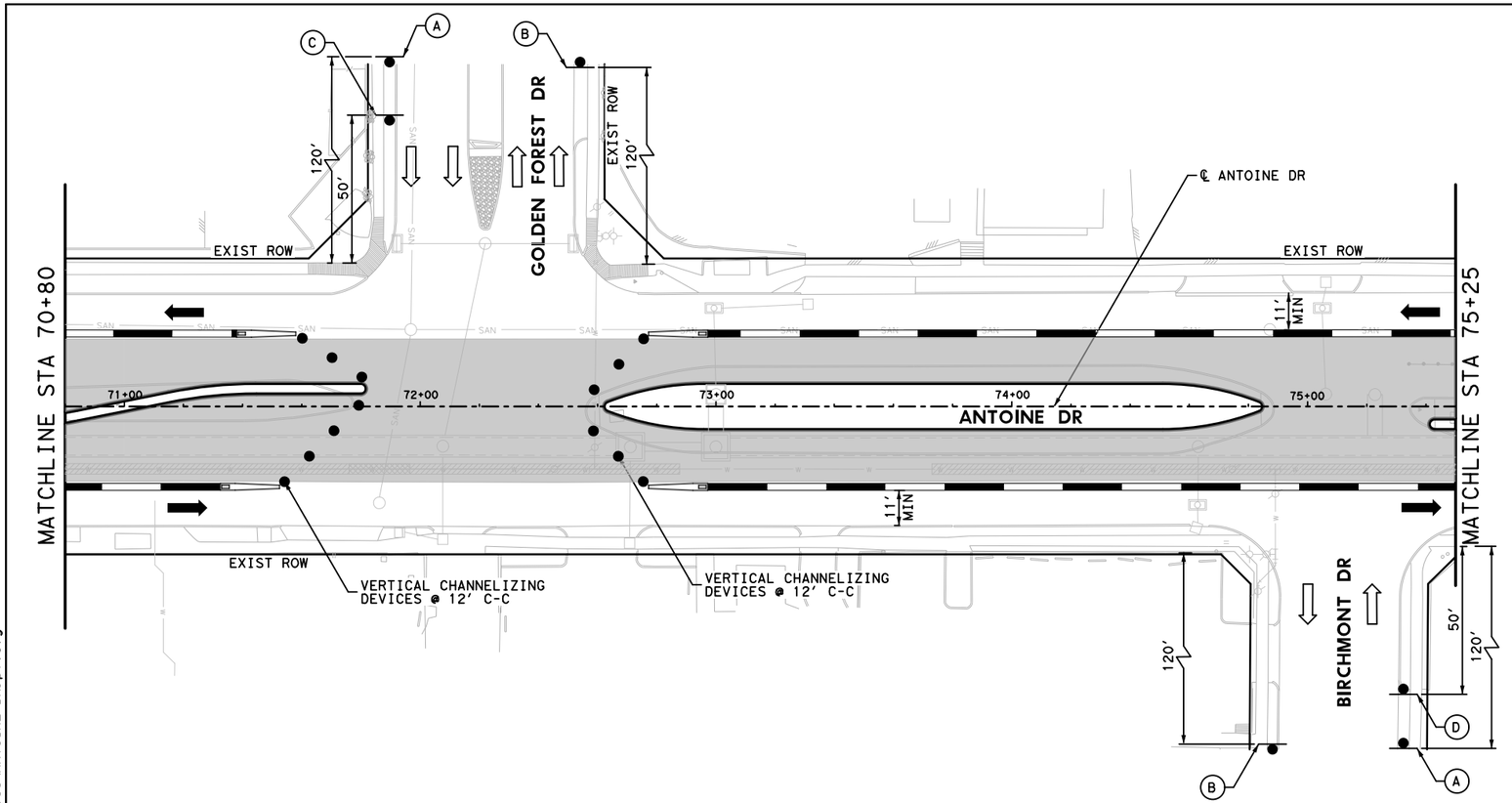

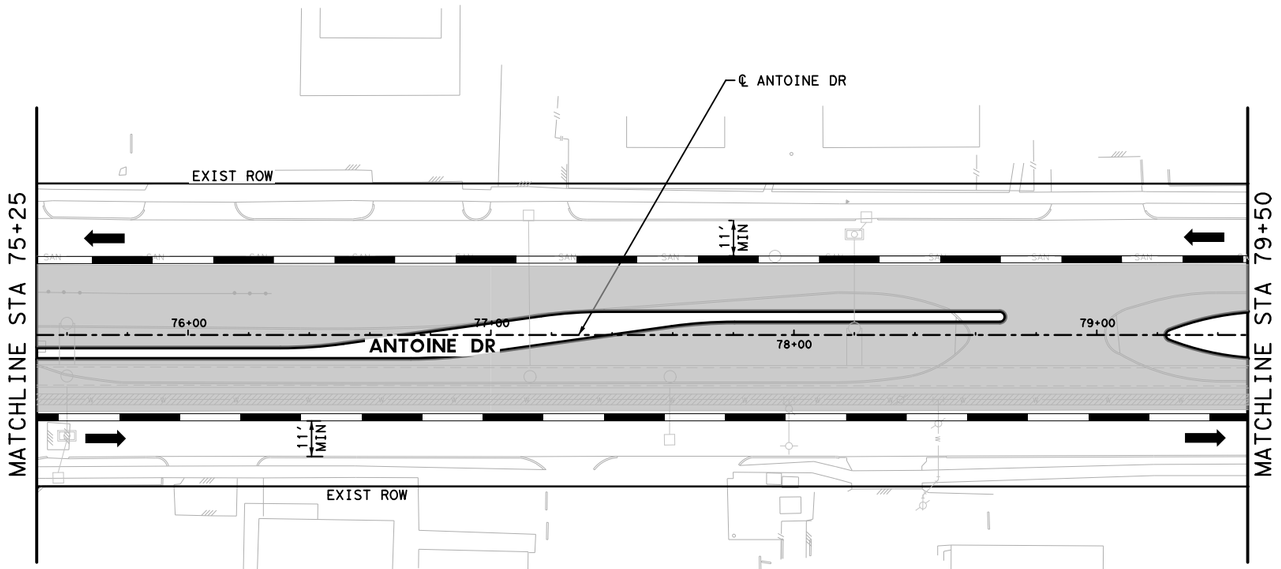

A	B
ROAD WORK AHEAD CW20-1D	END ROAD WORK G20-2
C	D
LEFT LANE CLOSED AHEAD W9-3L	ONLY R3-5R

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
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1. REMOVABLE PAV MRK BUTTONS TY W
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10. REMOVABLE PAV MRK BUTTONS TPL ARROW

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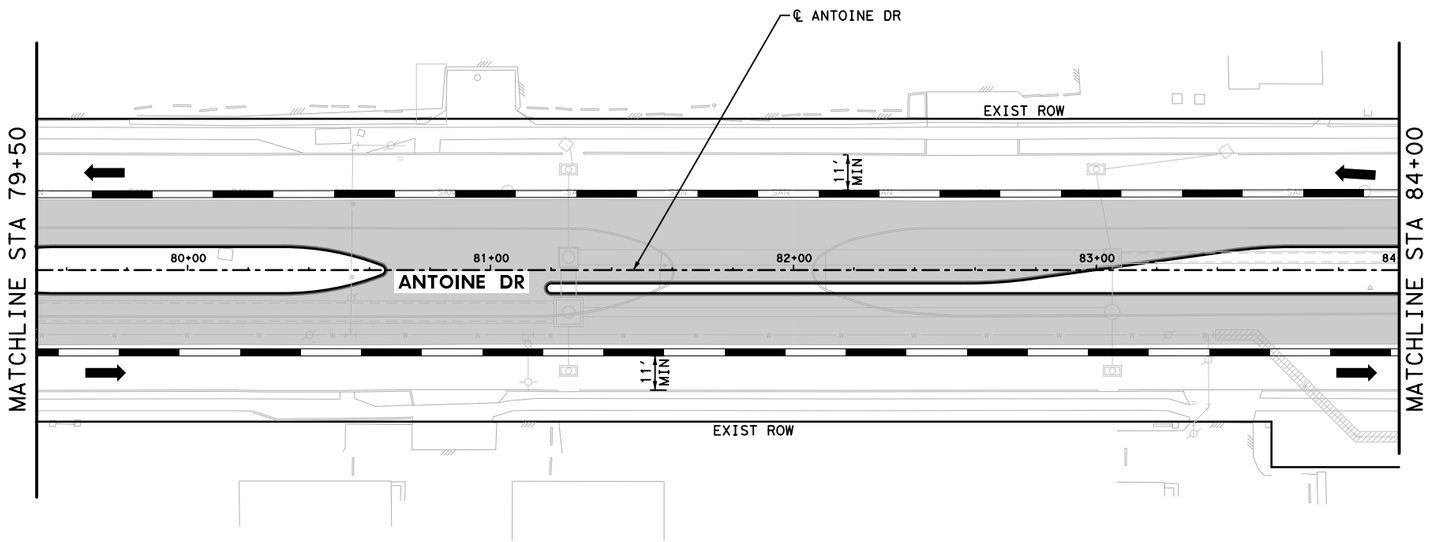

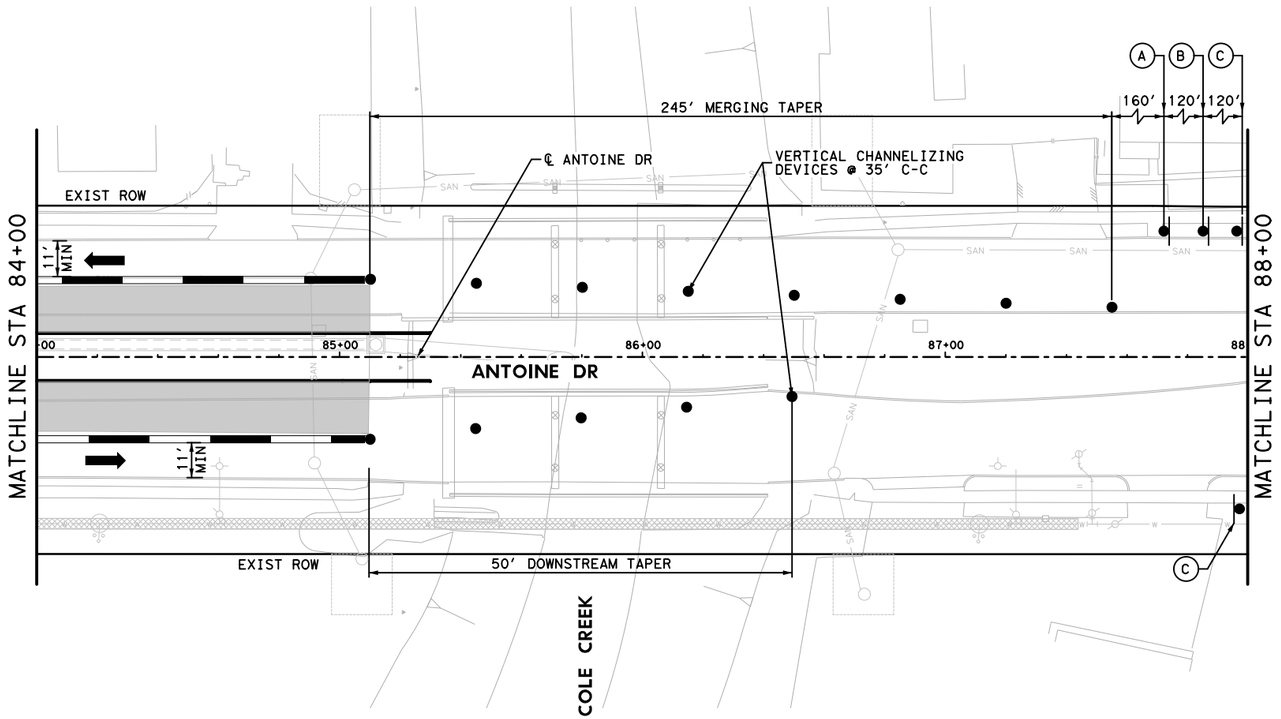

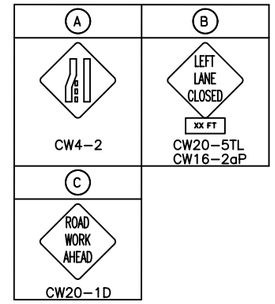

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
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- TY III BARRICADE W/ ROAD CLOSED SIGN
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1. REMOVABLE PAV MRK BUTTONS TY W
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9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

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CITY OF HOUSTON
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ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 2

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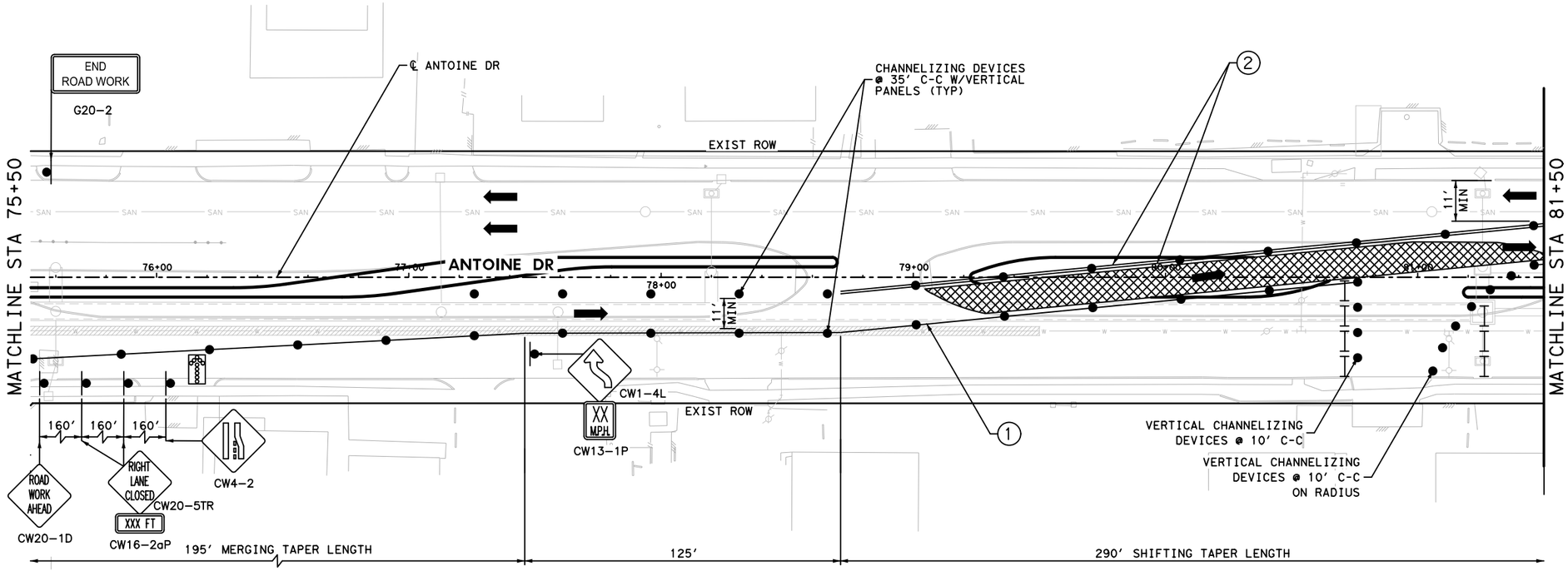

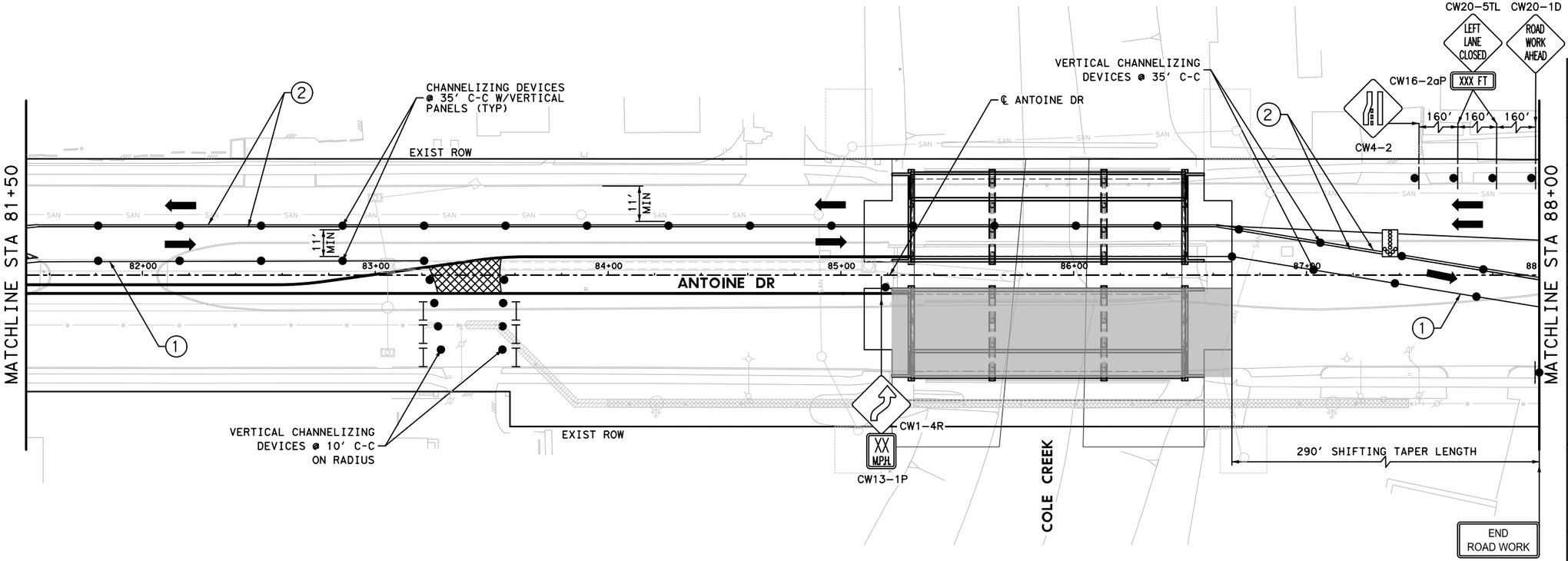

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY A-A
6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
7. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTES

PER TMUTCD TABLE 6B-4A MIN. SHIFTING TAPER LENGTH (0.5L=125')
S=35MPH, W=45
$L=WS^2/60=460'$

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS TYPICAL BRIDGES PHASE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 66 OF 1067	

Plotted on: 3/10/2026 10:58:26 AM garcia
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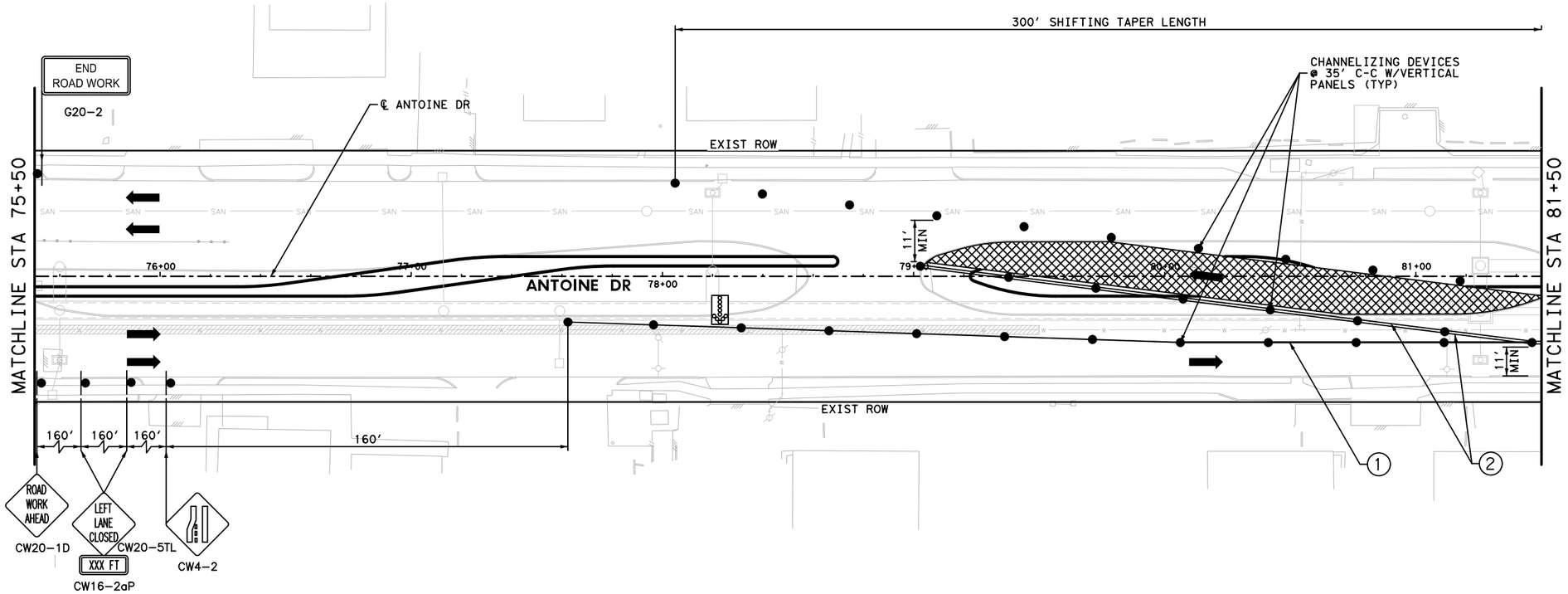

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
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1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY A-A
6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
7. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

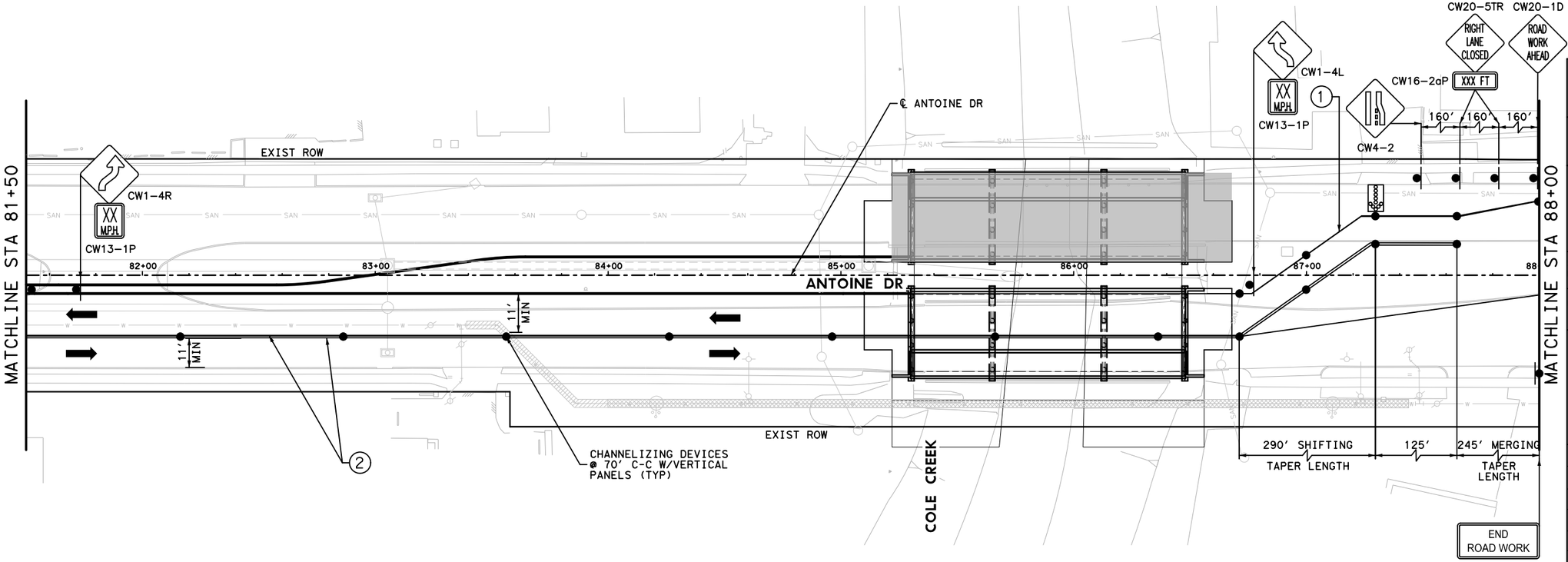
NOTES

PER TMUTCD TABLE 6B-4A MIN. SHIFTING TAPER LENGTH (0.5L=125')
S=35MPH, W=45
$L=WS^2/60=460'$

N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP.



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CITY OF HOUSTON
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ANTOINE DRIVE

TRAFFIC CONTROL PLANS TYPICAL BRIDGES PHASE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 67 OF 1067	

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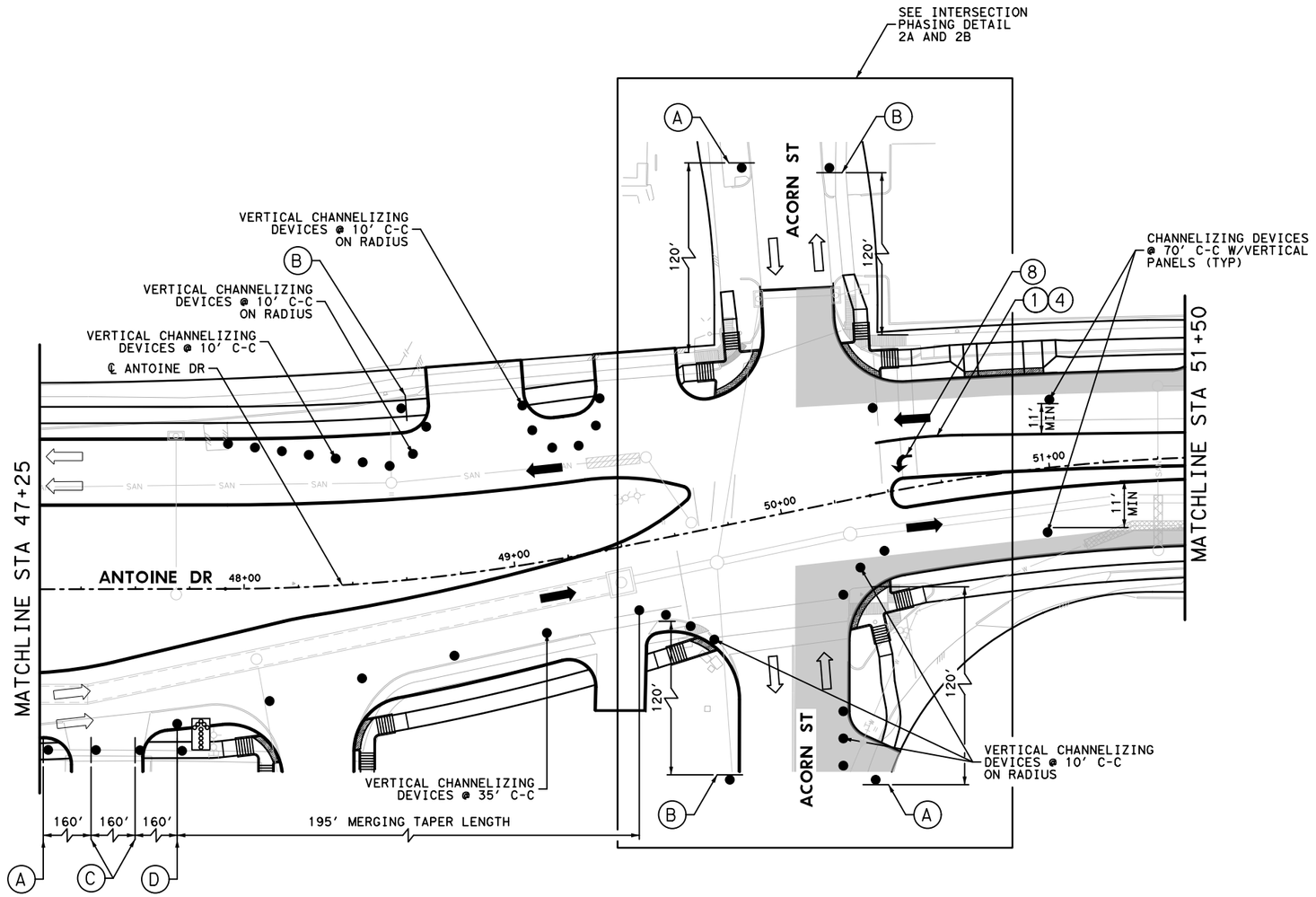

A	B
ROAD WORK AHEAD CW20-1D	END ROAD WORK G20-2
C	D
RIGHT LANE CLOSED XXX FT CW20-5TR CW16-2aP	 CW4-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

1. REMOVABLE PAV MRK BUTTONS TY W
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6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
7. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

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CITY OF HOUSTON
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ANTOINE DRIVE

TRAFFIC CONTROL PLANS
PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 68 OF 1067	

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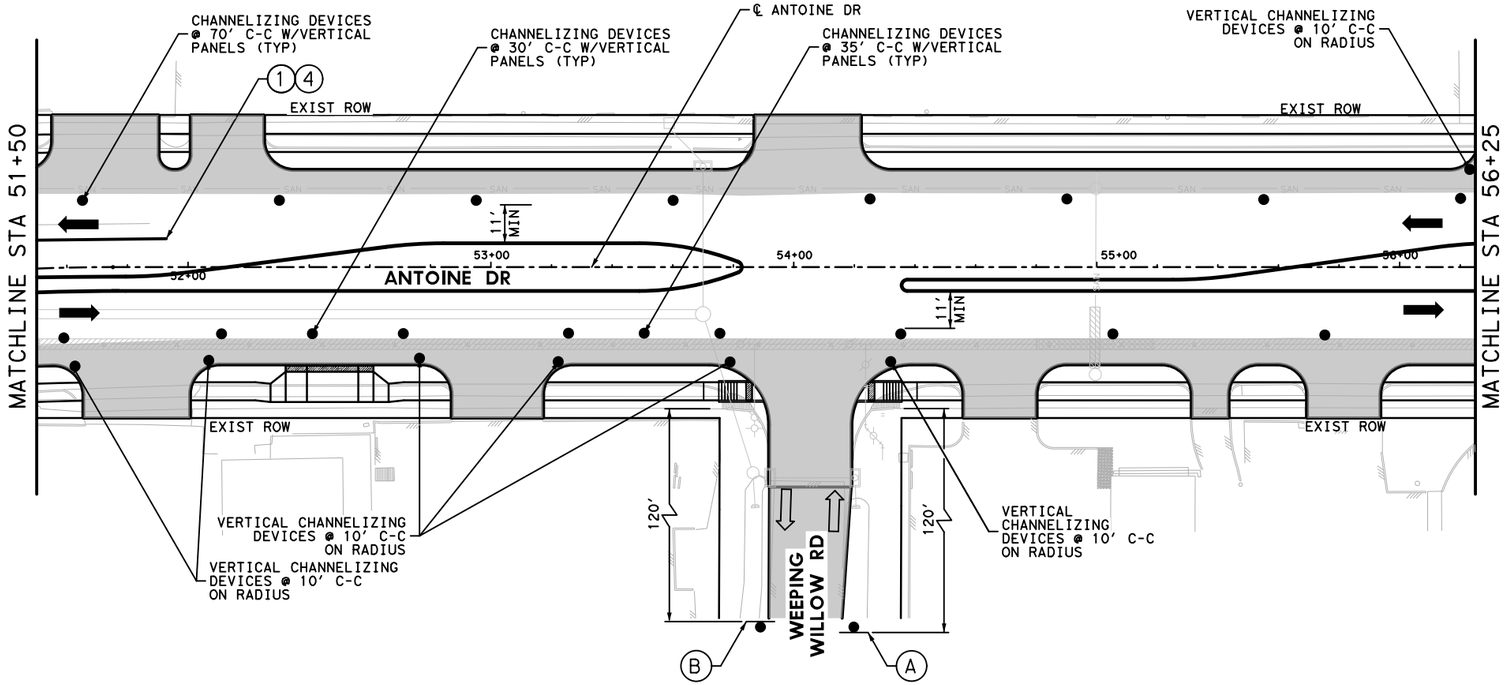

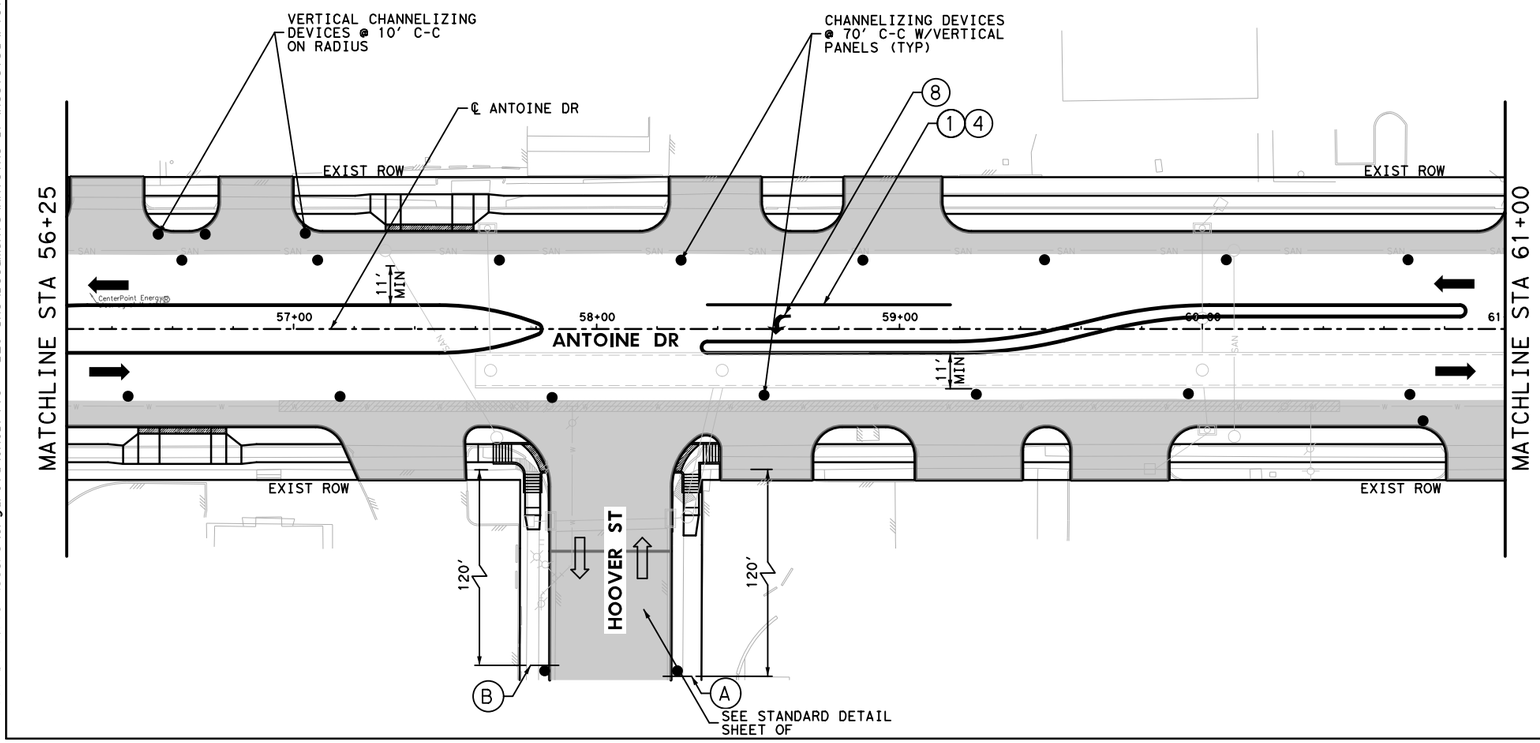

A	B
ROAD WORK AHEAD	END ROAD WORK
CW20-1D	G20-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
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8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

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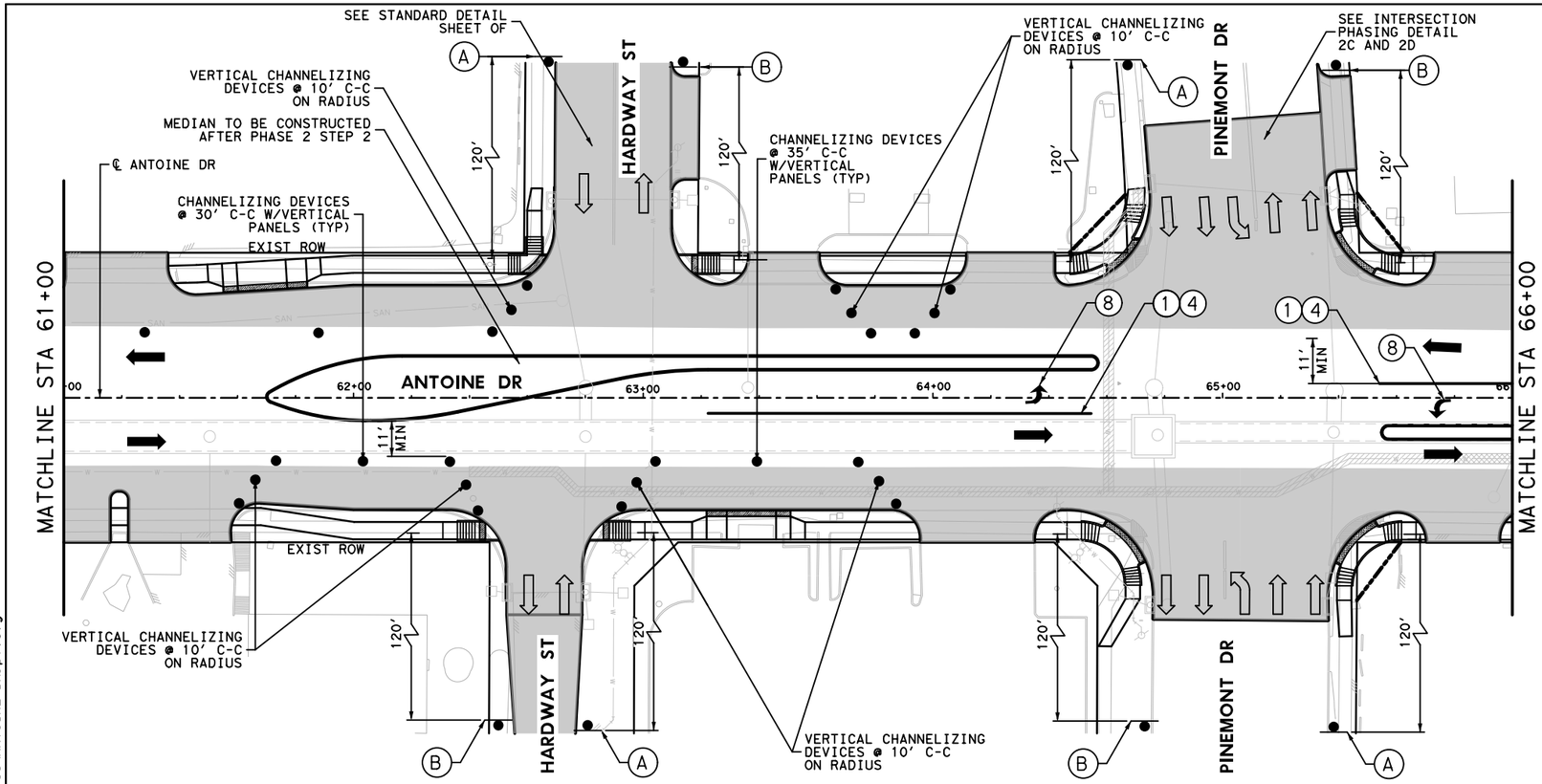
ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 69 OF 1067	



A	B
ROAD WORK AHEAD	END ROAD WORK
CW20-1D	G20-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
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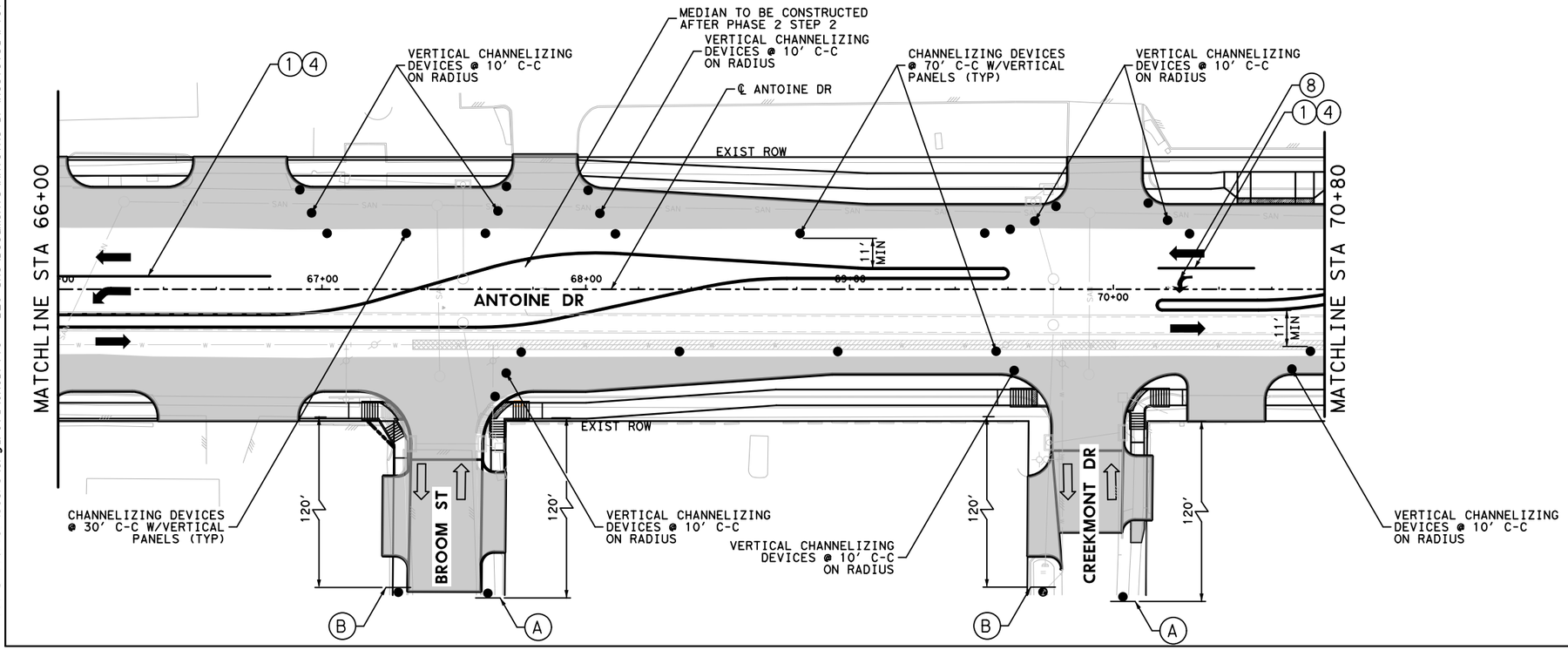
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET



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CITY OF HOUSTON
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ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 70 OF 1067	

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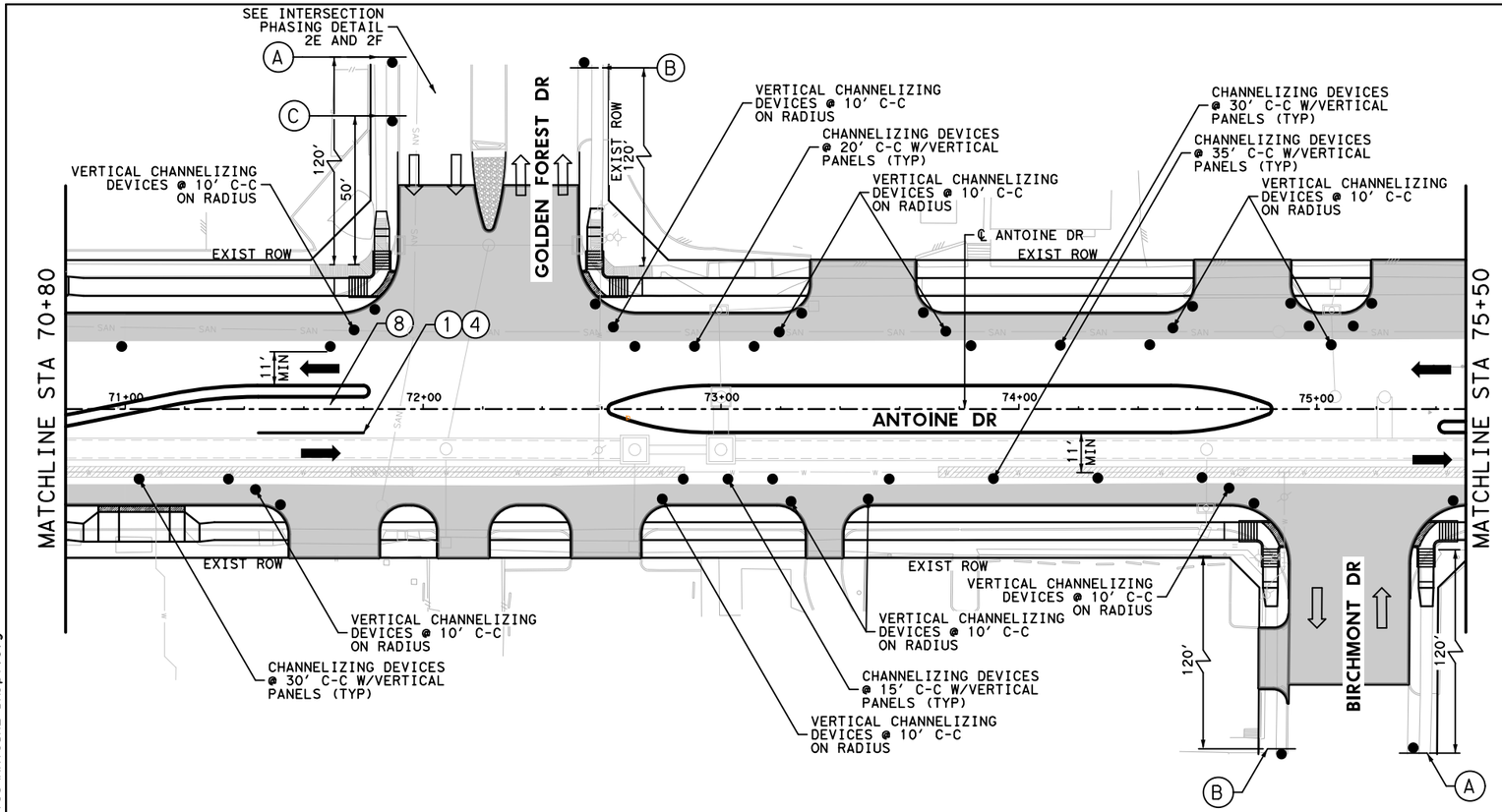

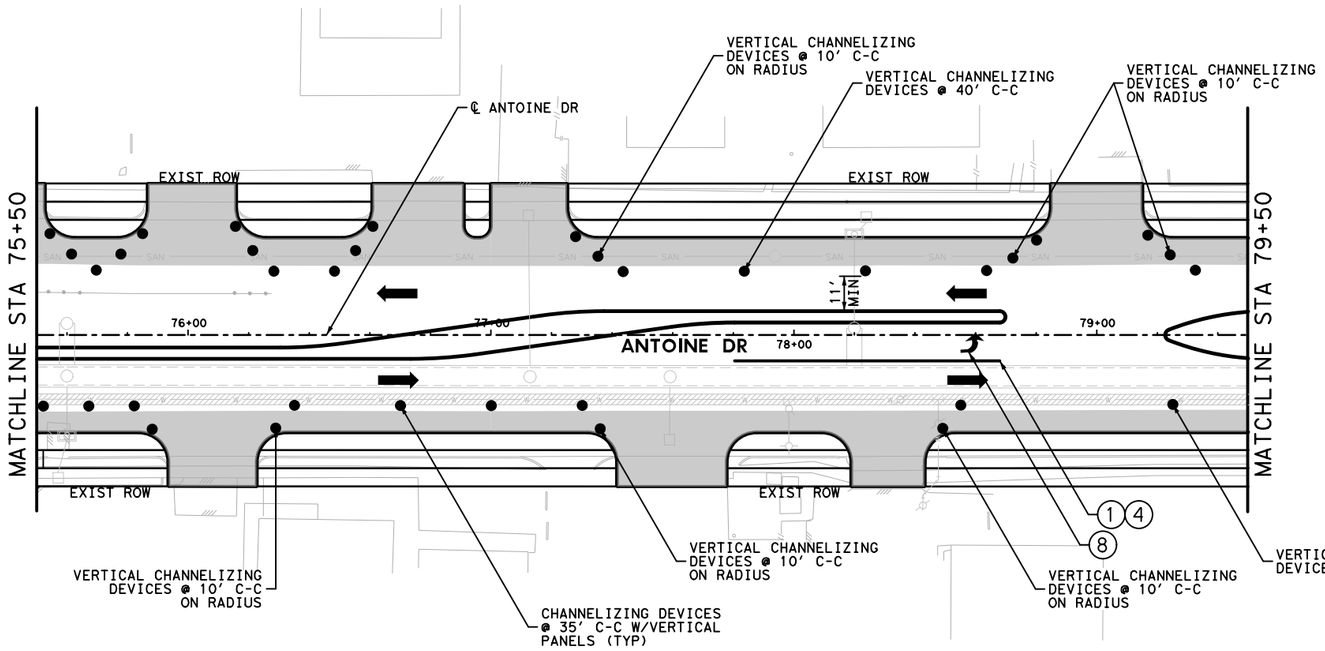

A	B
ROAD WORK AHEAD CW20-1D	END ROAD WORK G20-2
C	
ONLY R3-8LR	

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

1. REMOVABLE PAV MRK BUTTONS TY W
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4. REMOVABLE PAV MRK (REFLECTOR) TY II C-R
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6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
7. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 71 OF 1067	

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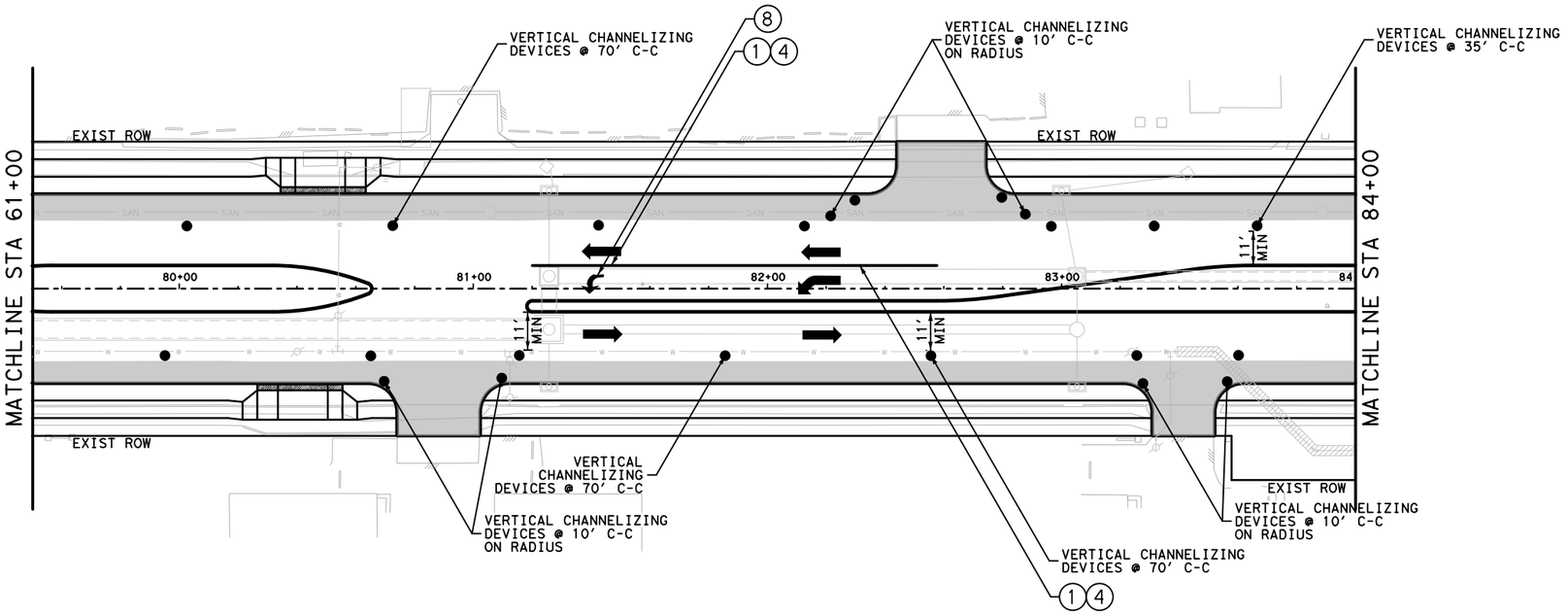

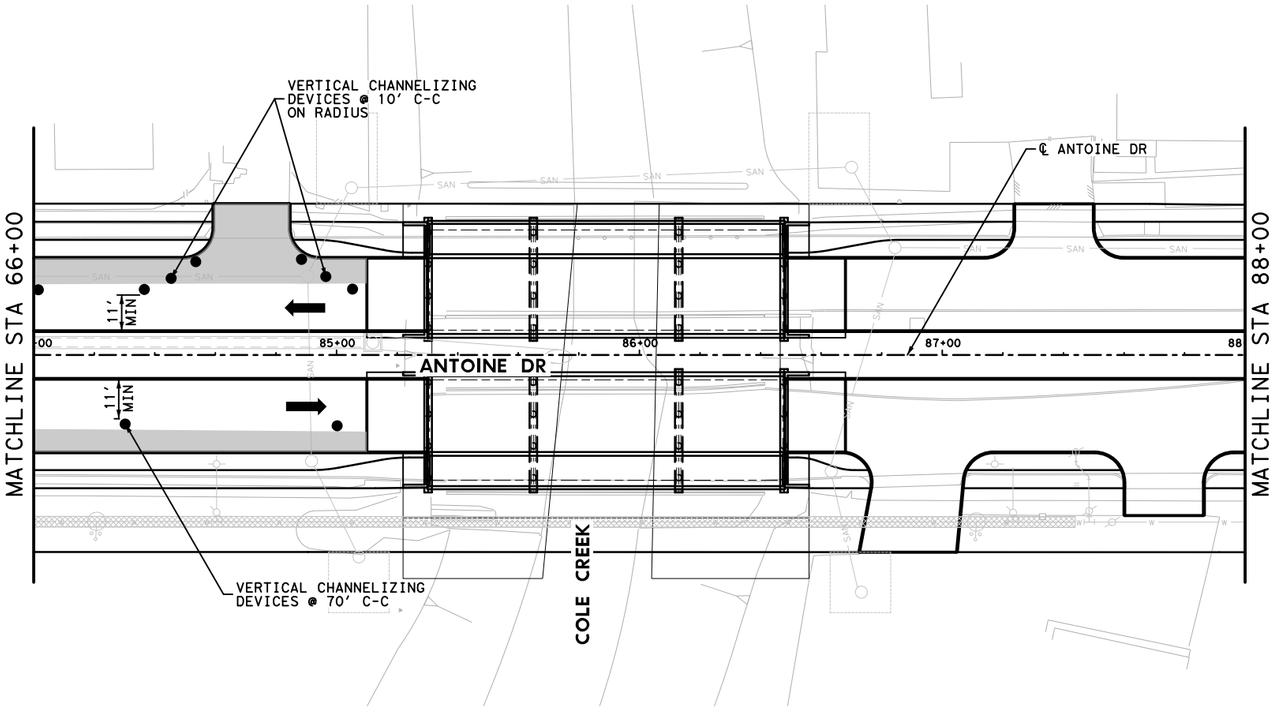

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
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2. REMOVABLE PAV MRK BUTTONS TY Y
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4. REMOVABLE PAV MRK (REFLECTOR) TY II C-R
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6. REMOVABLE PAV MRK BUTTONS TY W (DOT)
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8. REMOVABLE PAV MRK BUTTONS ARROW
9. REMOVABLE PAV MRK BUTTONS DBL ARROW
10. REMOVABLE PAV MRK BUTTONS TPL ARROW

N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Date
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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 72 OF 1067	

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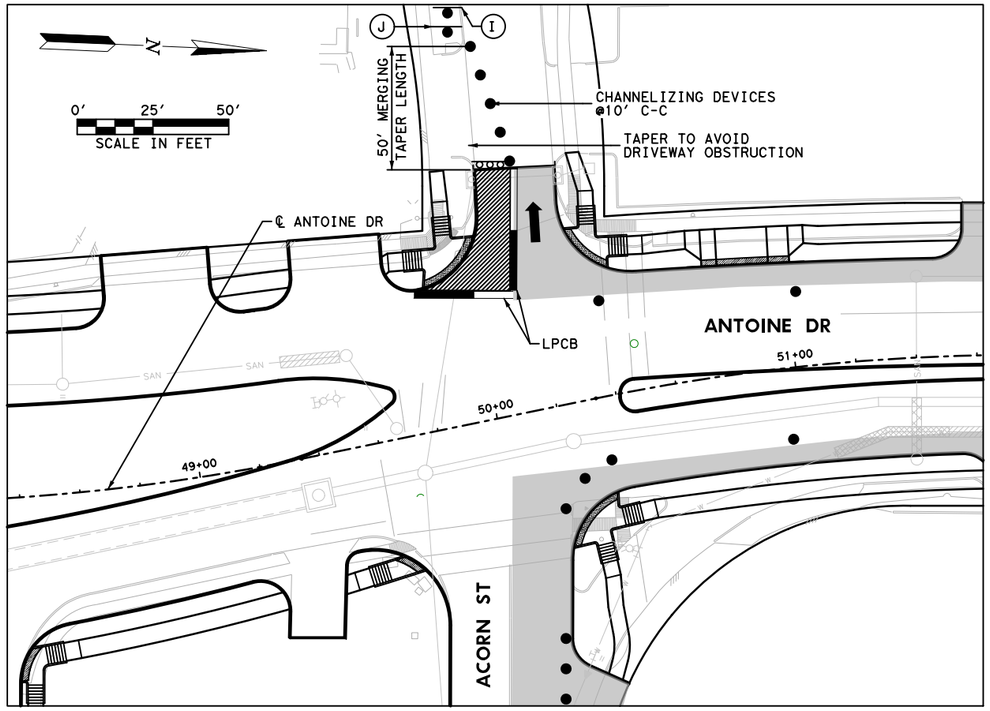
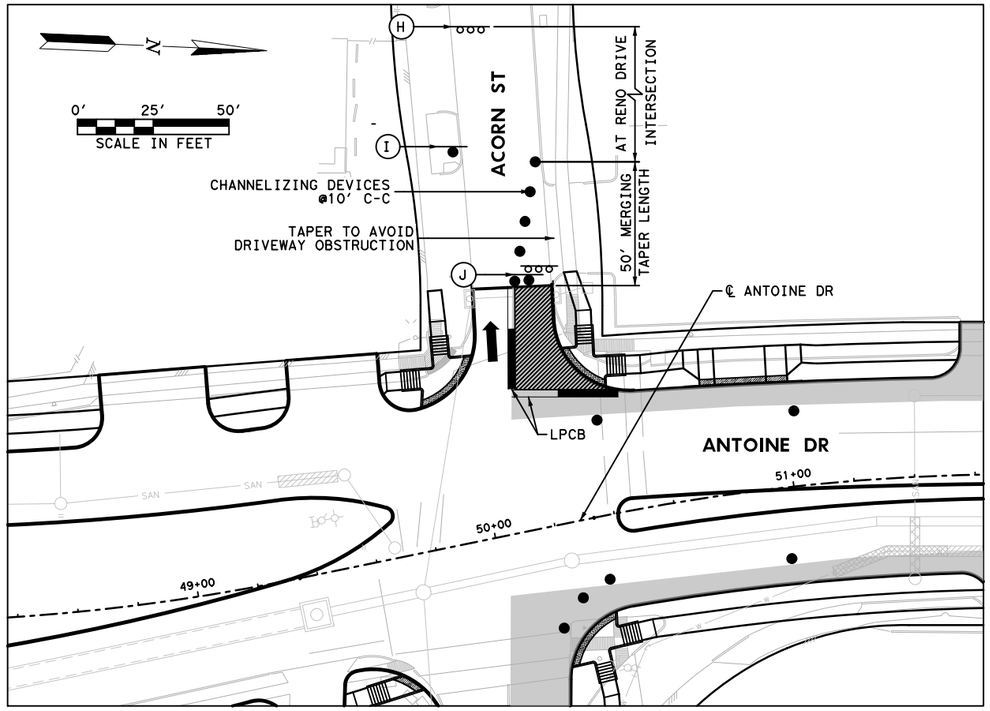


PHASE 2 STEP 2A



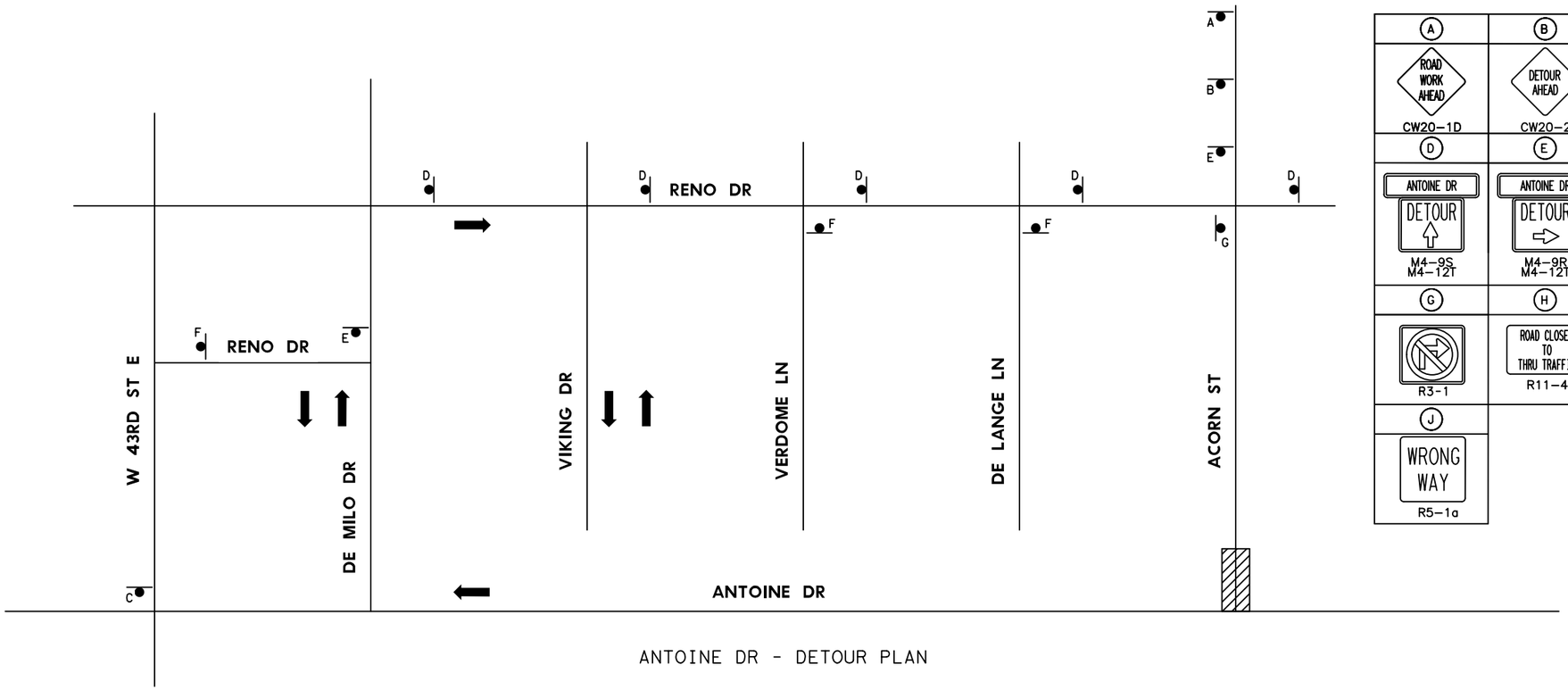
PHASE 2 STEP 2B

LEGEND

TY III BARRICADE

NOTES

EMERGENCY VEHICLE ACCESS TO ENTER ACORN ST MUST BE MAINTAINED AT ALL TIMES



ANTOINE DR - DETOUR PLAN

A	B	C
ROAD WORK AHEAD CW20-1D	DETOUR AHEAD CW20-2D	END DETOUR M4-8a
D	**E**	**F**
ANTOINE DR DETOUR M4-9S M4-12T	ANTOINE DR DETOUR M4-9R M4-12T	ANTOINE DR DETOUR M4-9L M4-12T
G	**H**	**I**
R3-1	ROAD CLOSED TO THRU TRAFFIC R11-4	DO NOT ENTER R5-1
J		
WRONG WAY R5-1a		

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ACORN DRIVE
DETOUR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 73 OF 1067	

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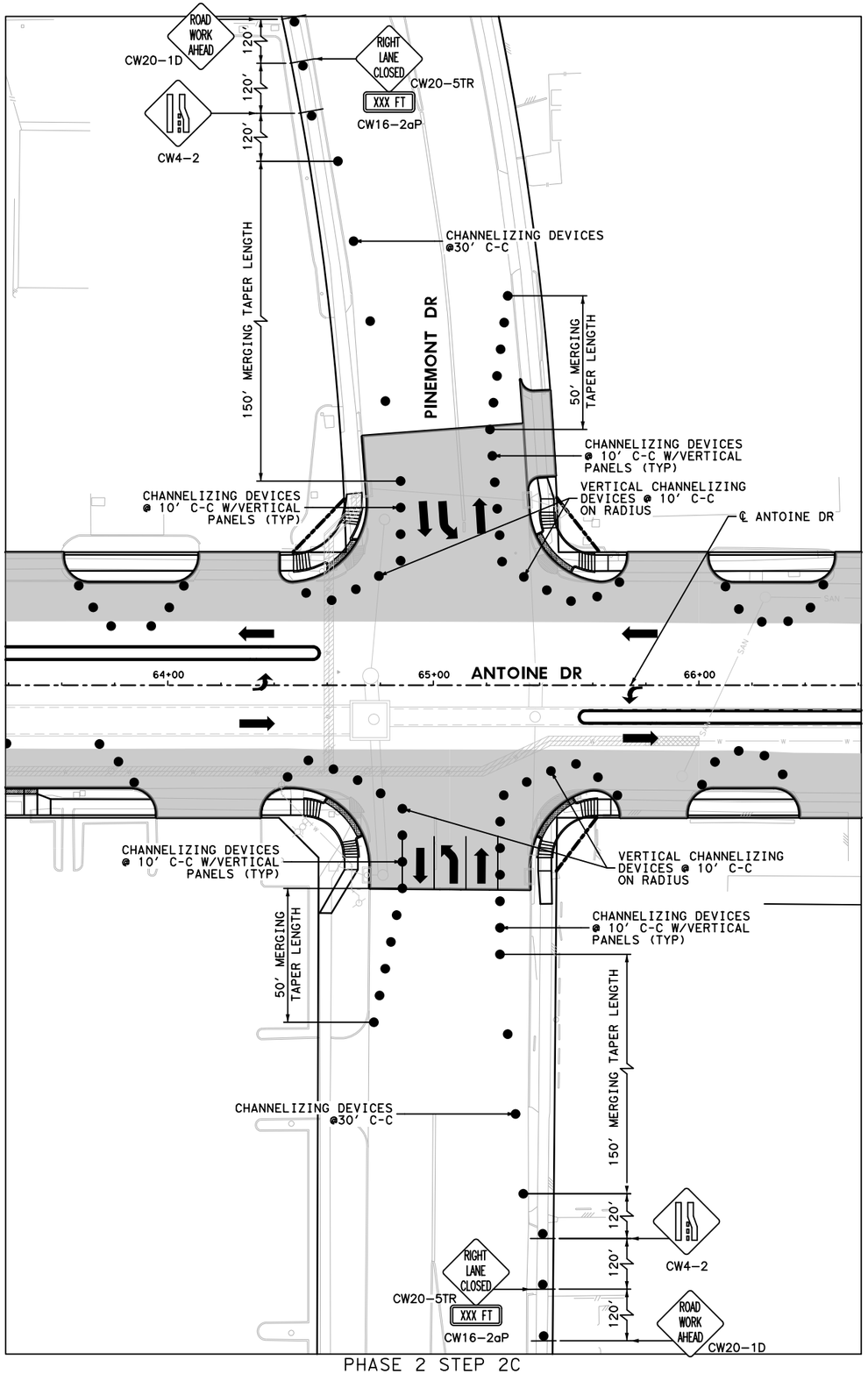
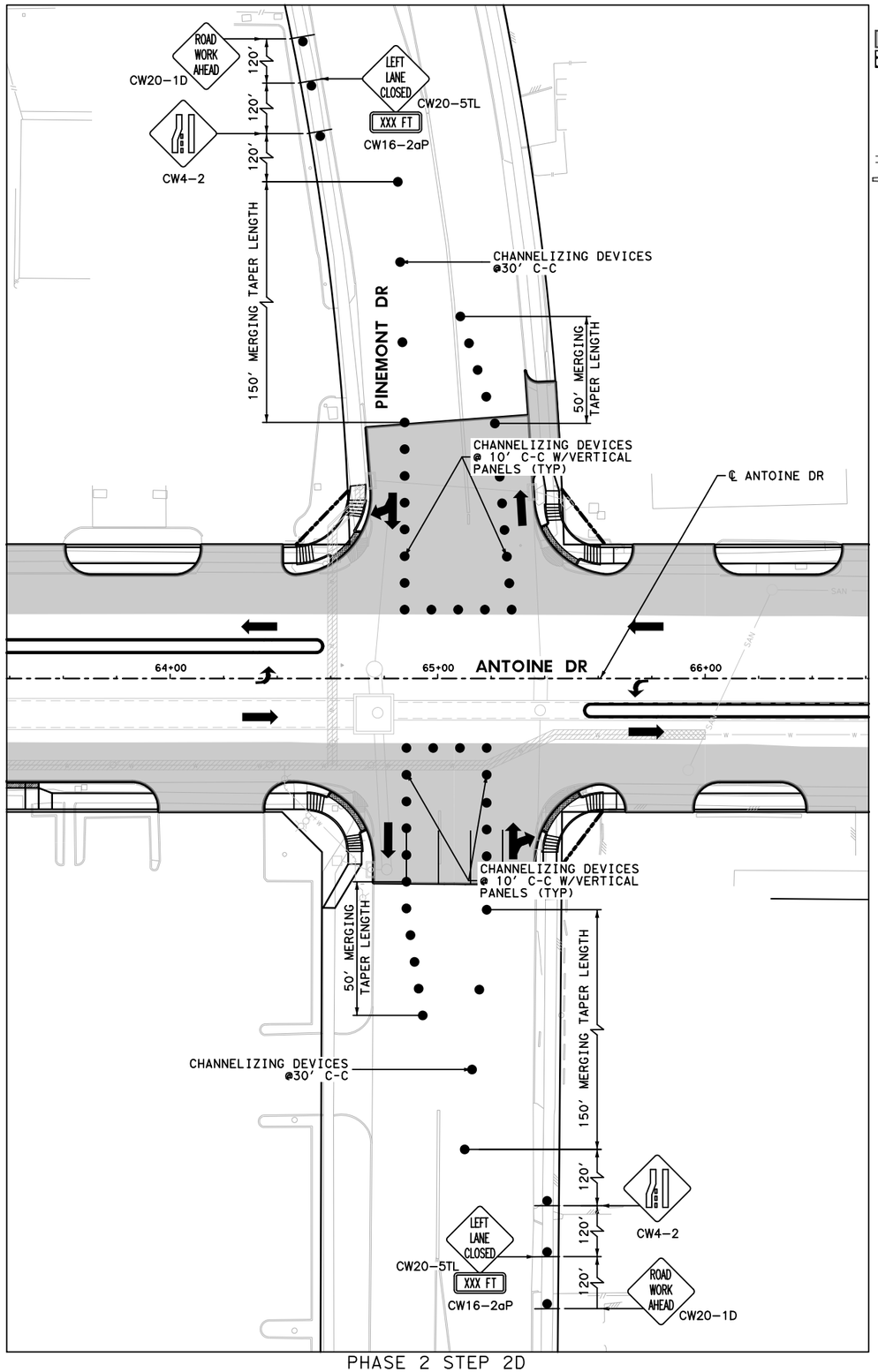


PHASE 2 STEP 2C



PHASE 2 STEP 2D

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING ARROW BOARD

No.	DATE	REVISIONS	APP.

N

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SCALE IN FEET

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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129739
date
3/10/2026
for
60% SUBMITTAL

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PINEMONT DRIVE INTERSECTION PHASING DETOUR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 74 OF 1067	

Plotted on: 3/10/2026 11:10:03 AM by garcia
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Plot Driver: C:\Users\vergarcia\OneDrive - BEC-INC\Documents\Antoine Dr\RecievedPlot files\ANTOINE DR.pltcfg

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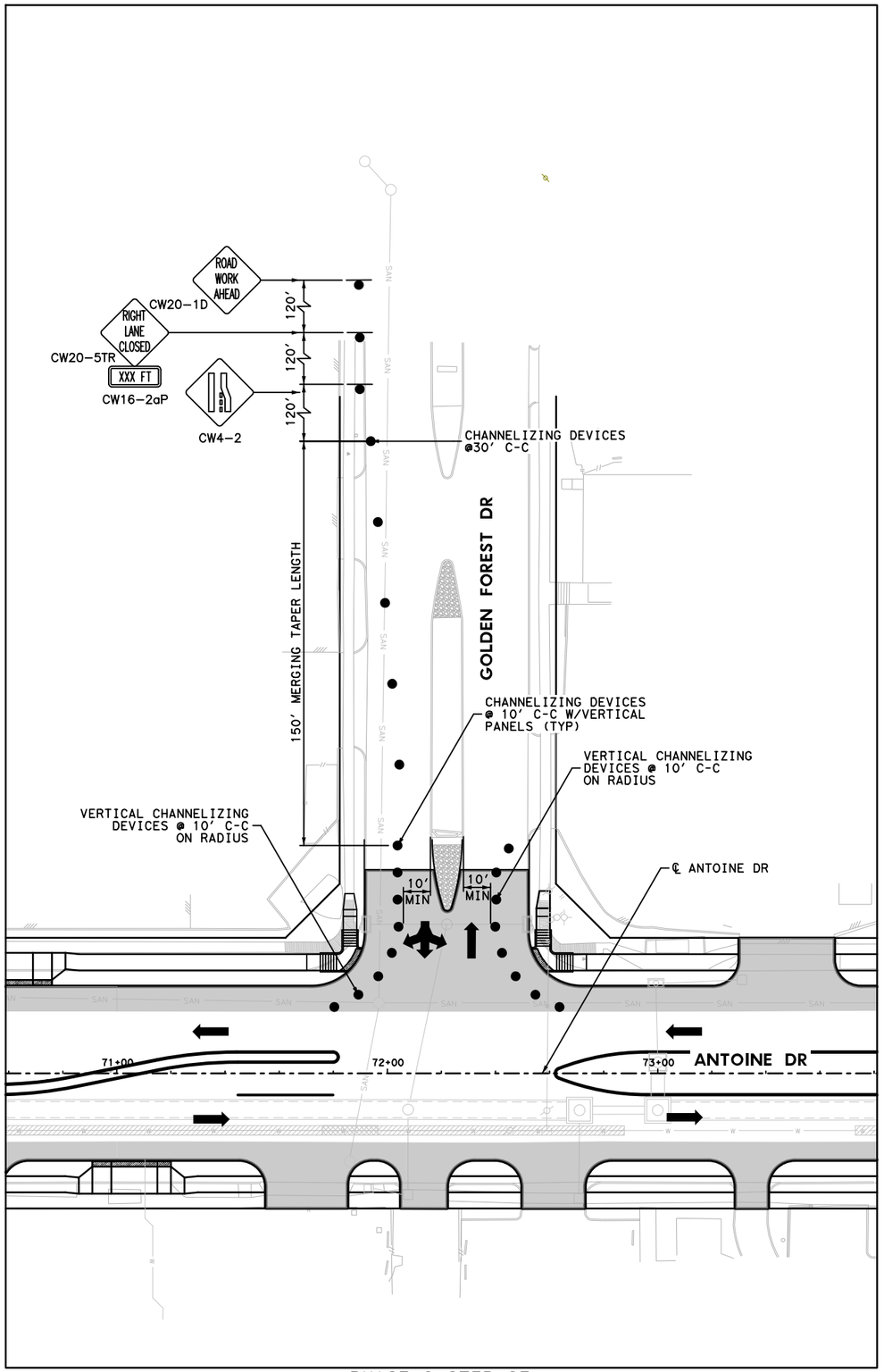
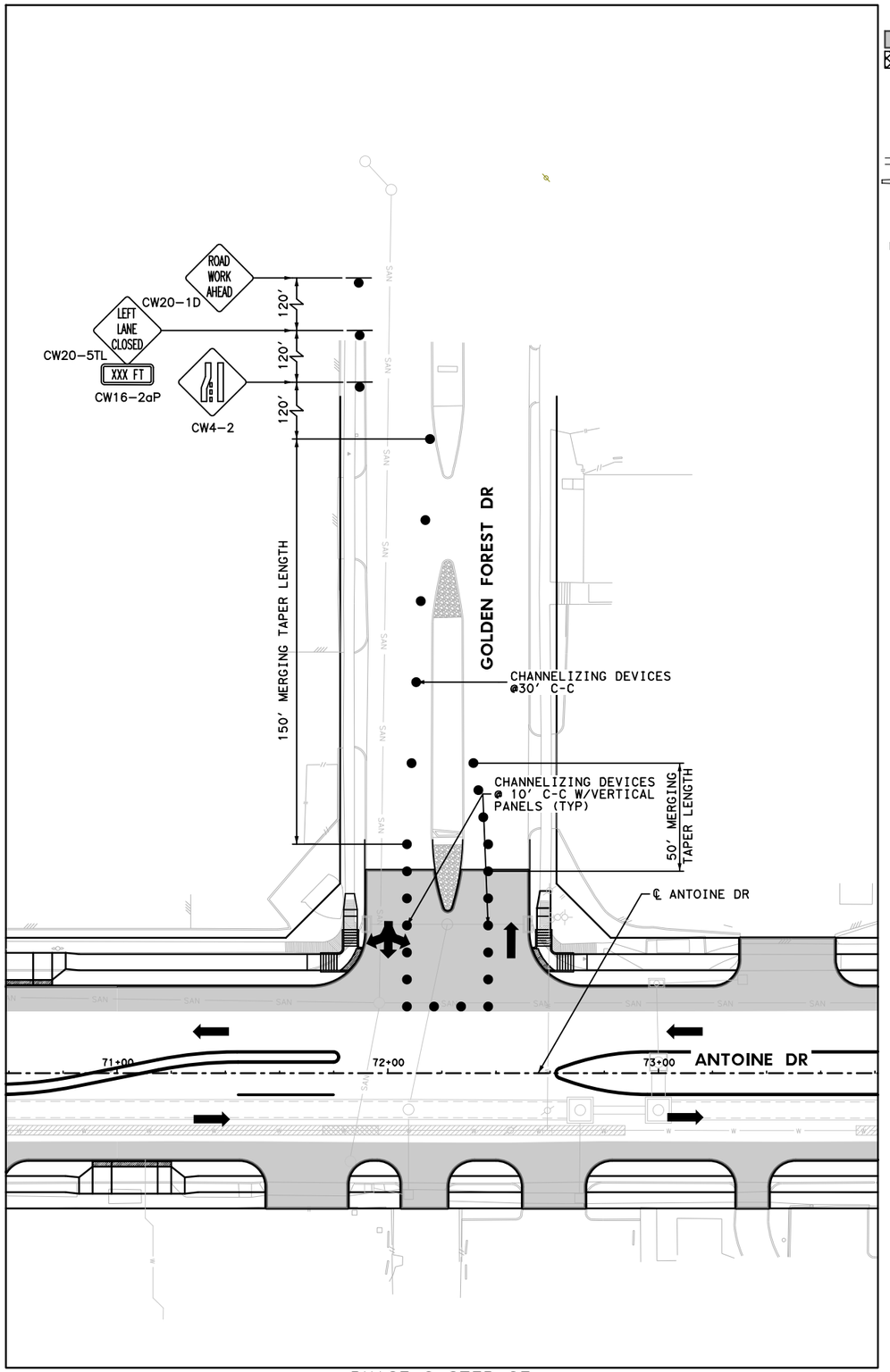


PHASE 2 STEP 2E



PHASE 2 STEP 2F

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- TEMP GROUND MOUNTED SIGN
- DRUM
- LPCB
- LPCD (TY 2)
- TY III BARRICADE W/ ROAD CLOSED SIGN
- ADVANCED WARNING

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

BOWMAN ENGINEERING/CONSULTING INC

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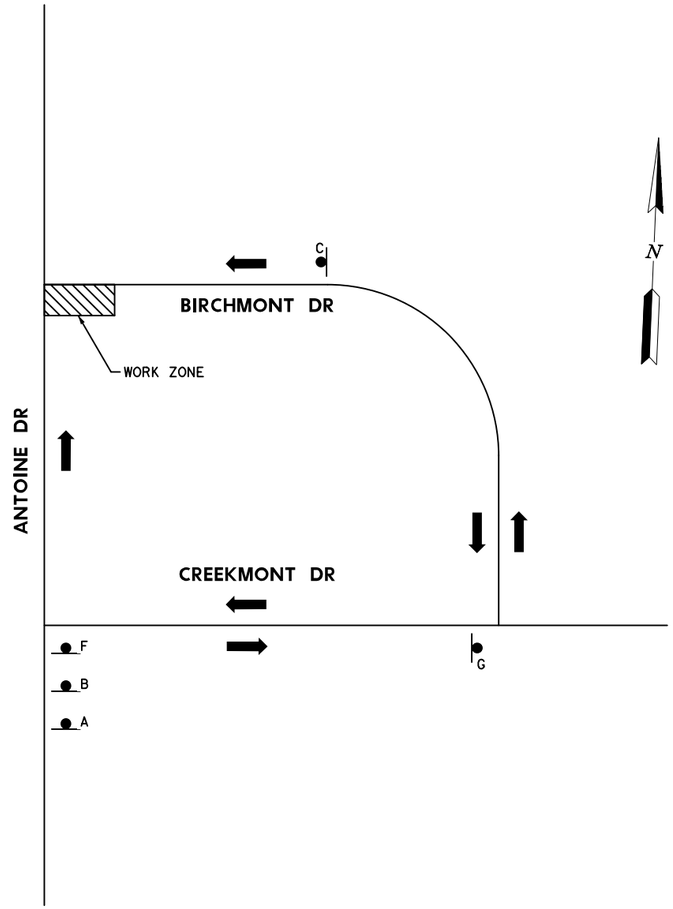
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

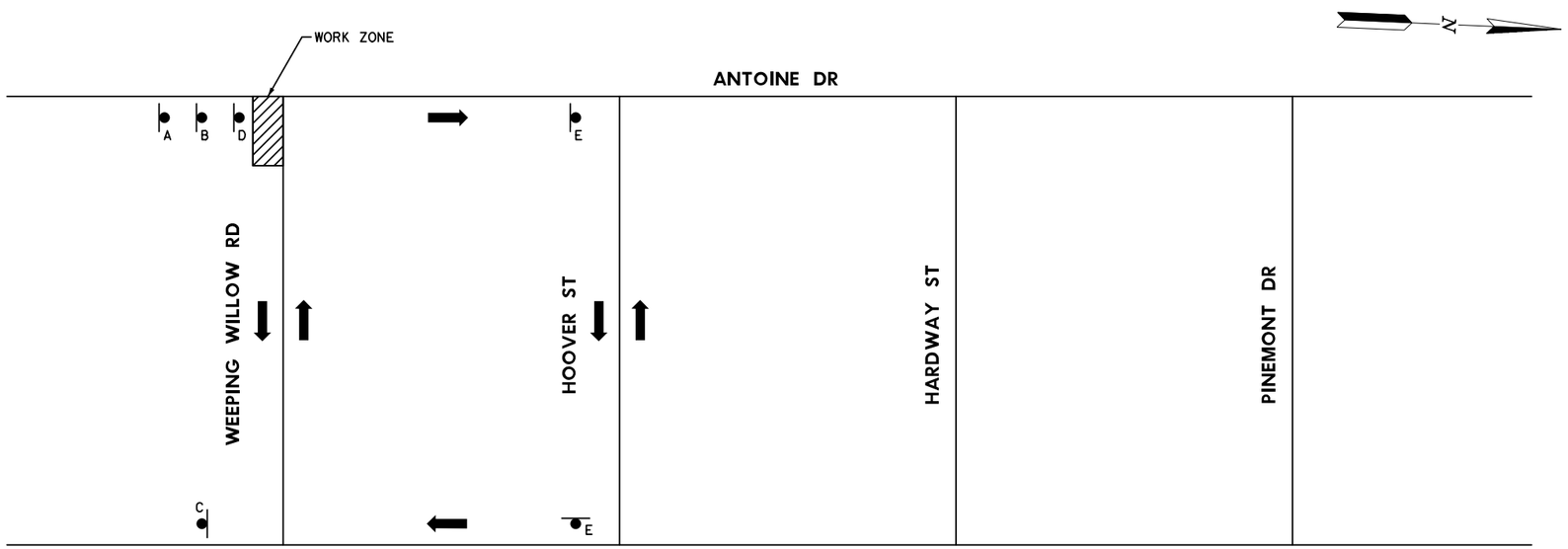
ANTOINE DRIVE

GOLDEN FOREST DRIVE INTERSECTION PHASING DETOUR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 75 OF 1067	



A	B	C
ROAD WORK AHEAD CW20-1D	DETOUR AHEAD CW20-2D	END DETOUR M4-8a
D	**E**	**F**
WEEPING WILLOW ST DETOUR M4-9S M4-12T	WEEPING WILLOW ST DETOUR M4-9R M4-12T	BIRCHMONT DETOUR M4-9R M4-12T
G		
BIRCHMONT DETOUR M4-9L M4-12T		



No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WEEPING WILLOW ROAD & BIRCHMONT DRIVE TRAFFIC DETOUR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 76 OF 1067	

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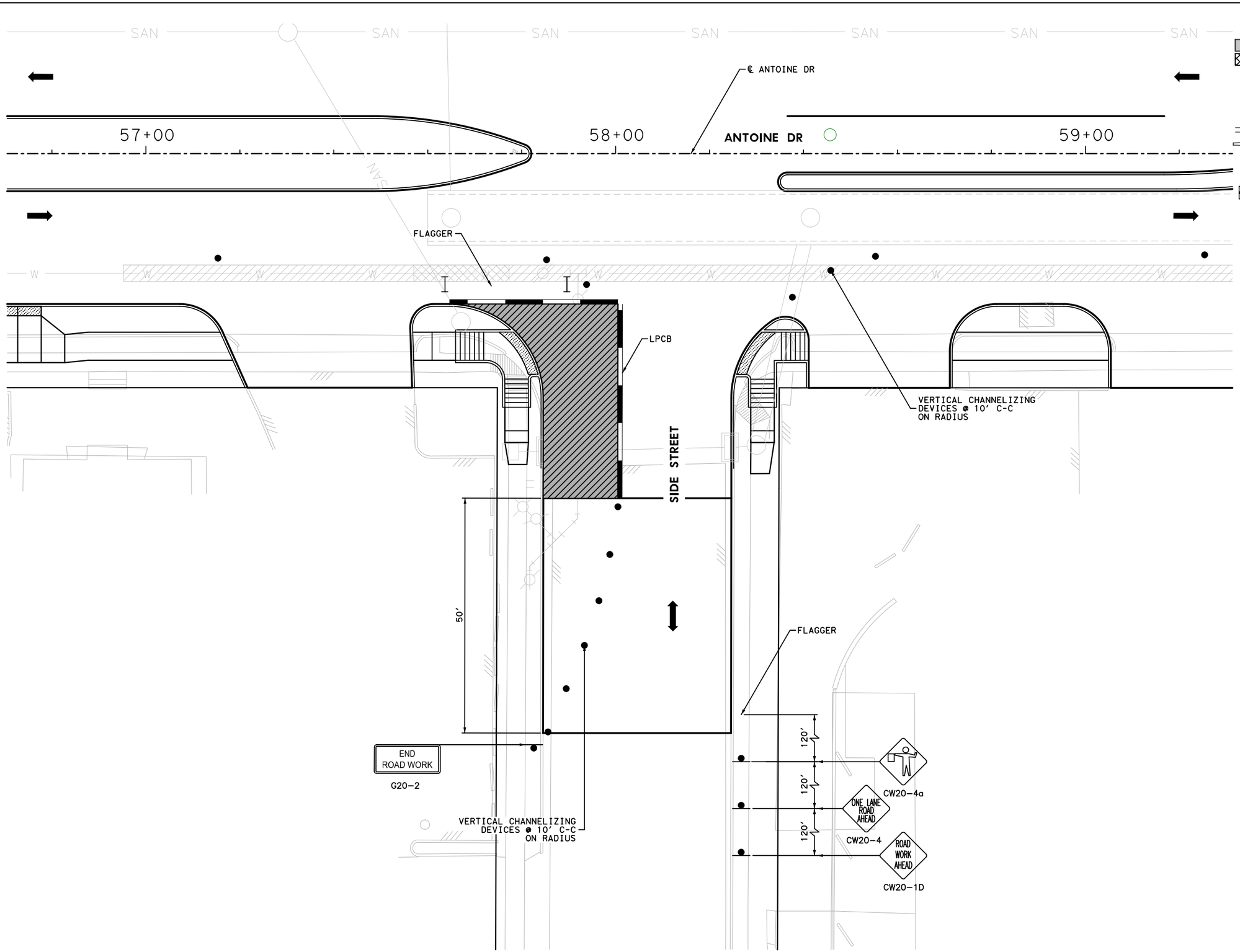

No.	DATE	REVISIONS	APP.

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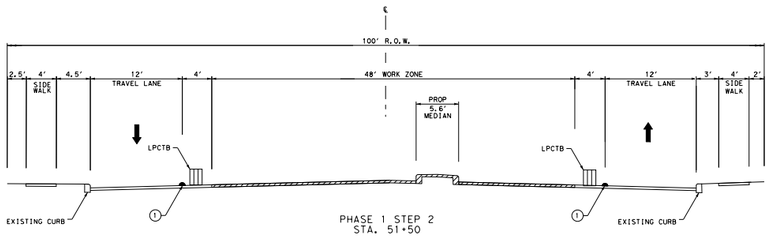
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

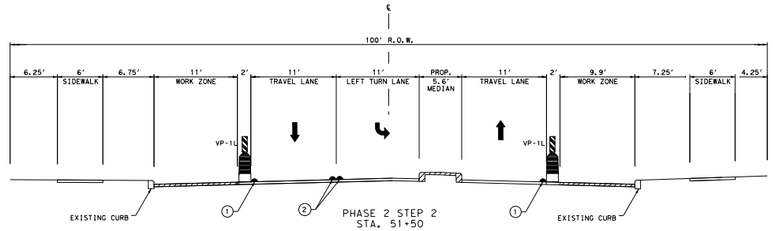
ANTOINE DRIVE

TYPICAL SIDE STREET PHASING DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 77 OF 1067	



PHASE 1 STEP 2
STA. 51+50



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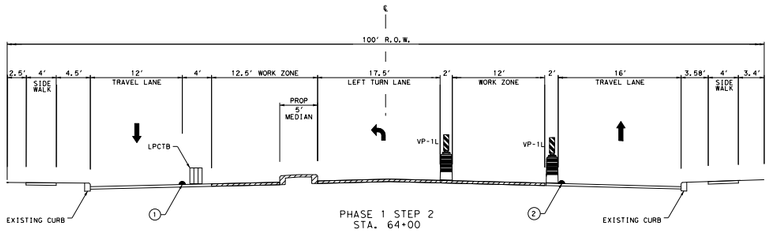
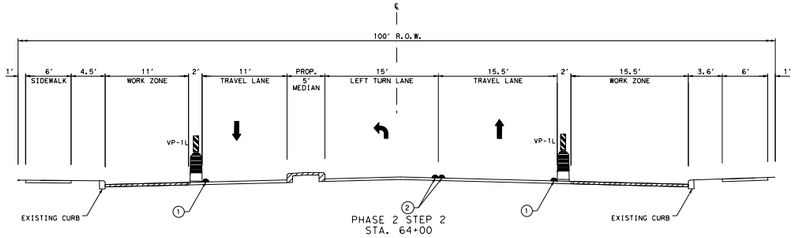
STA. 51+50



PHASE 1 STEP 2
STA. 64+00



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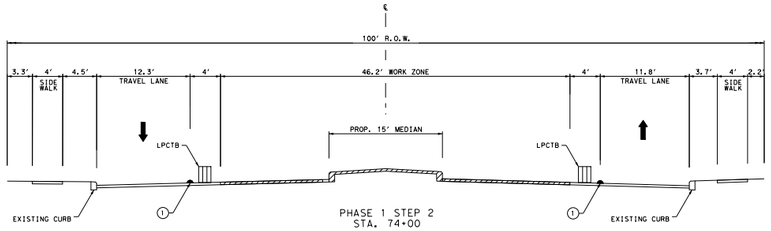

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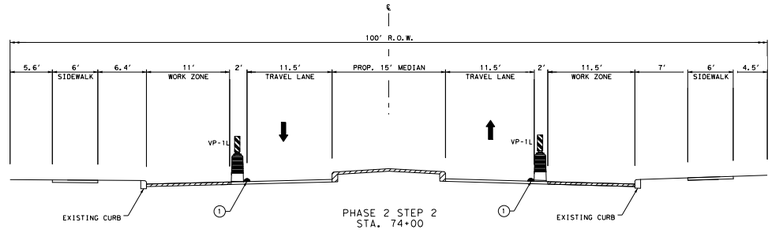

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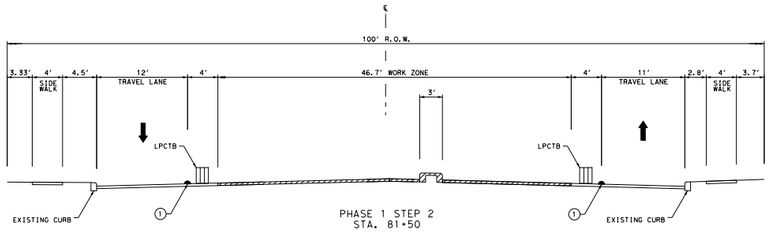
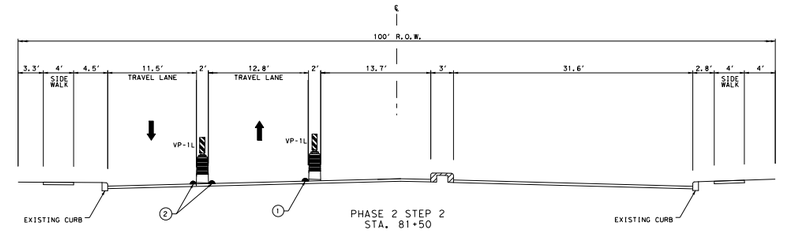


PHASE 1 STEP 2
STA. 81+50



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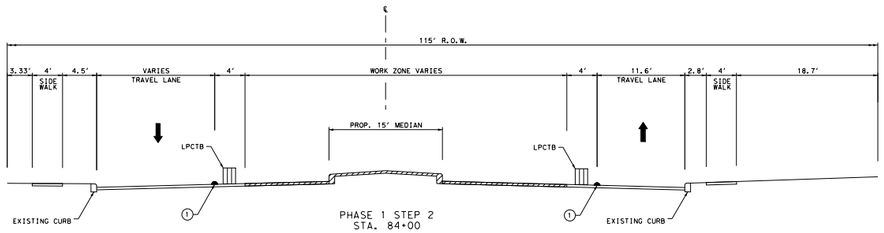
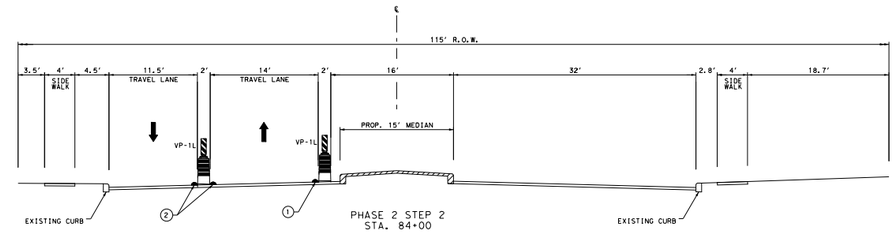
STA. 81+50



PHASE 1 STEP 2
STA. 84+00



PHASE 2 STEP 2
STA. 84+00

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TYPICAL SECTIONS PHASE 1 AND PHASE 2 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 78 OF 1067	

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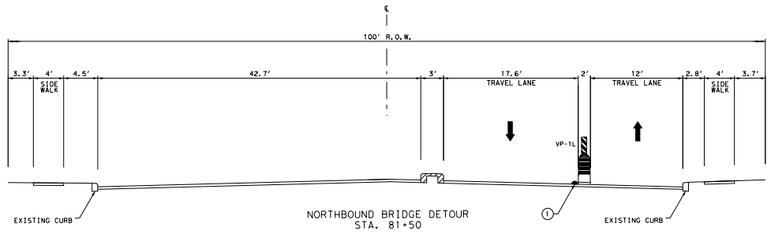

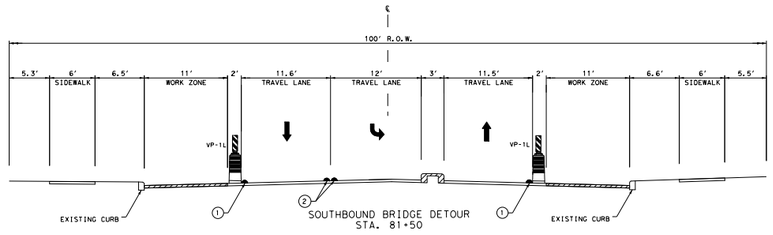

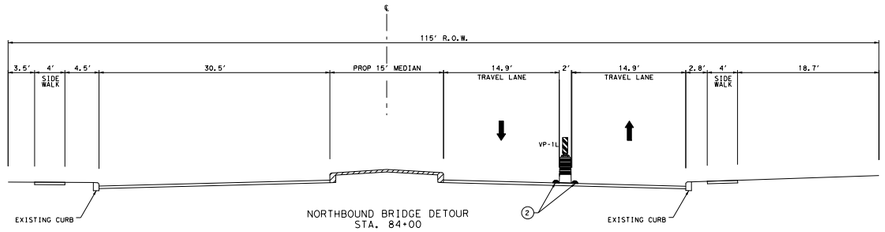

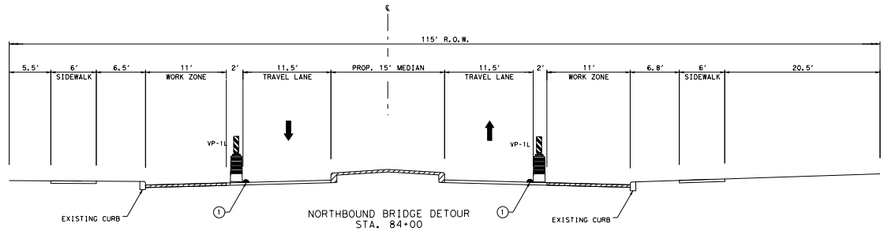

No.	DATE	REVISIONS	APP.

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ENGINEERING / CONSULTING INC

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TYPICAL SECTIONS NORTHBOUND AND SOUTHBOUND BRIDGE DETOUR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 79 OF 1067	

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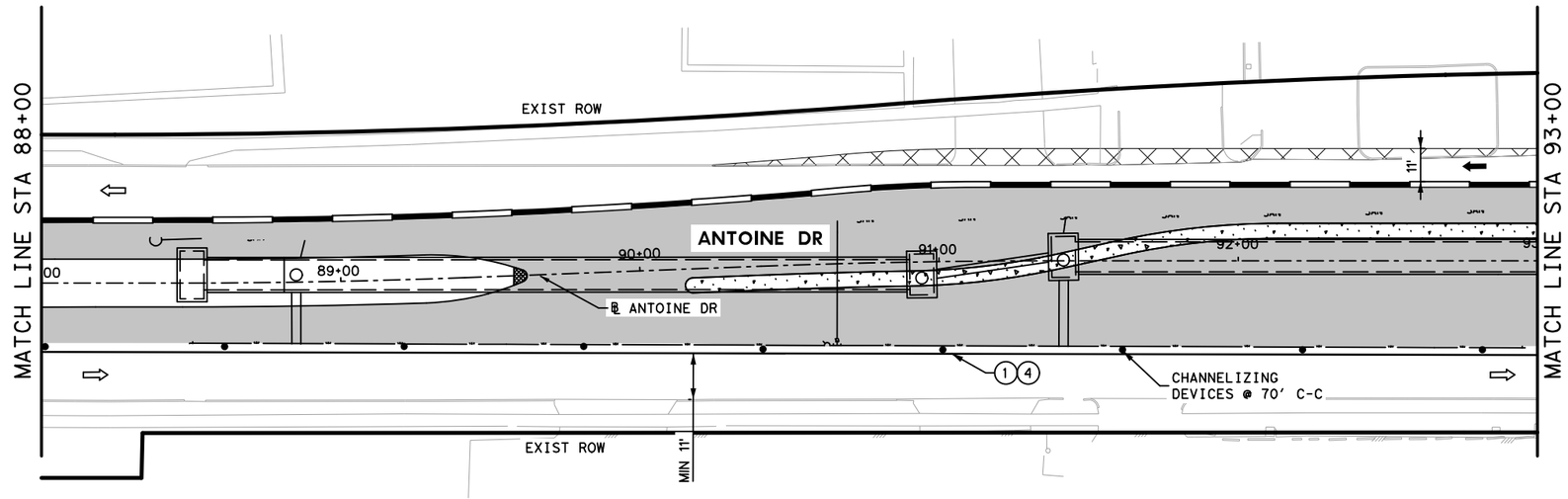

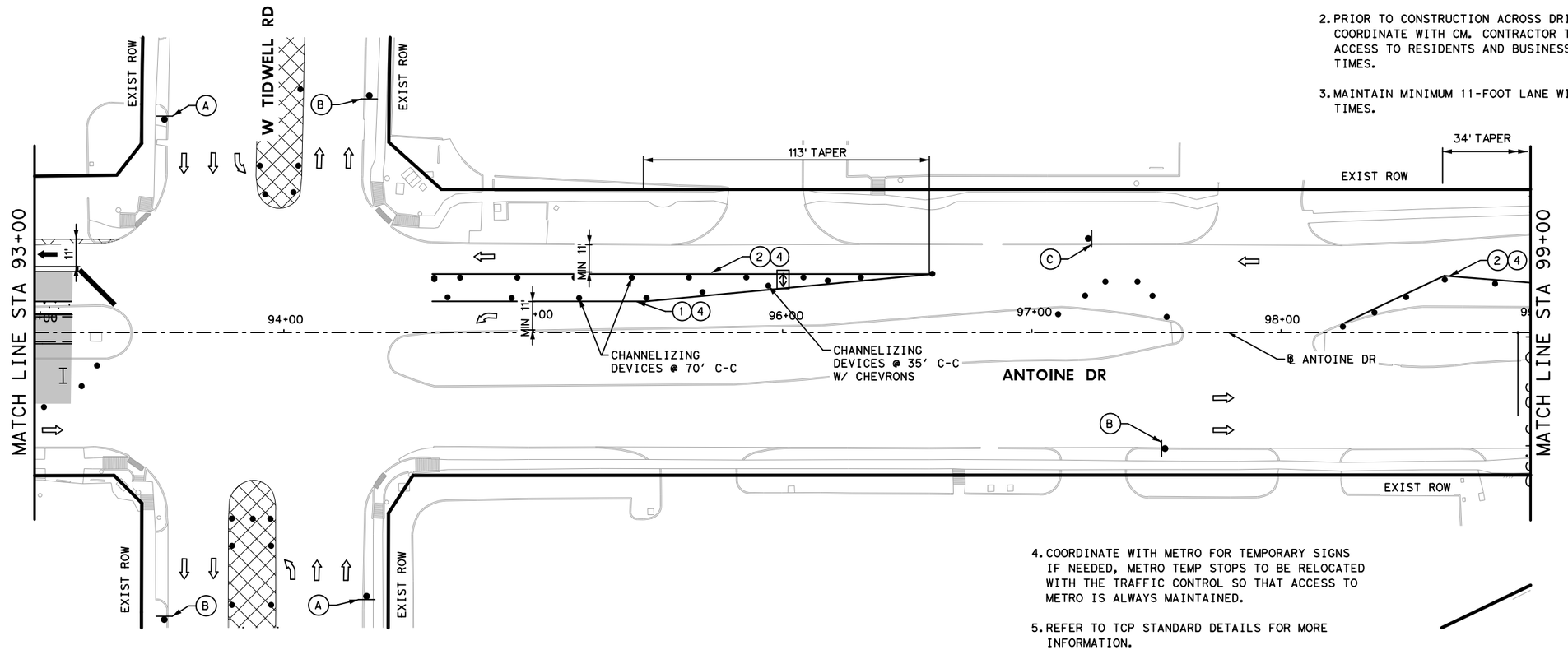

A	B
ROAD WORK AHEAD CW20-1D	END ROAD WORK G20-2
C	
LEFT LANE MUST TURN LEFT R3-7L	

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas 155052
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 3

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 80 OF 1067	

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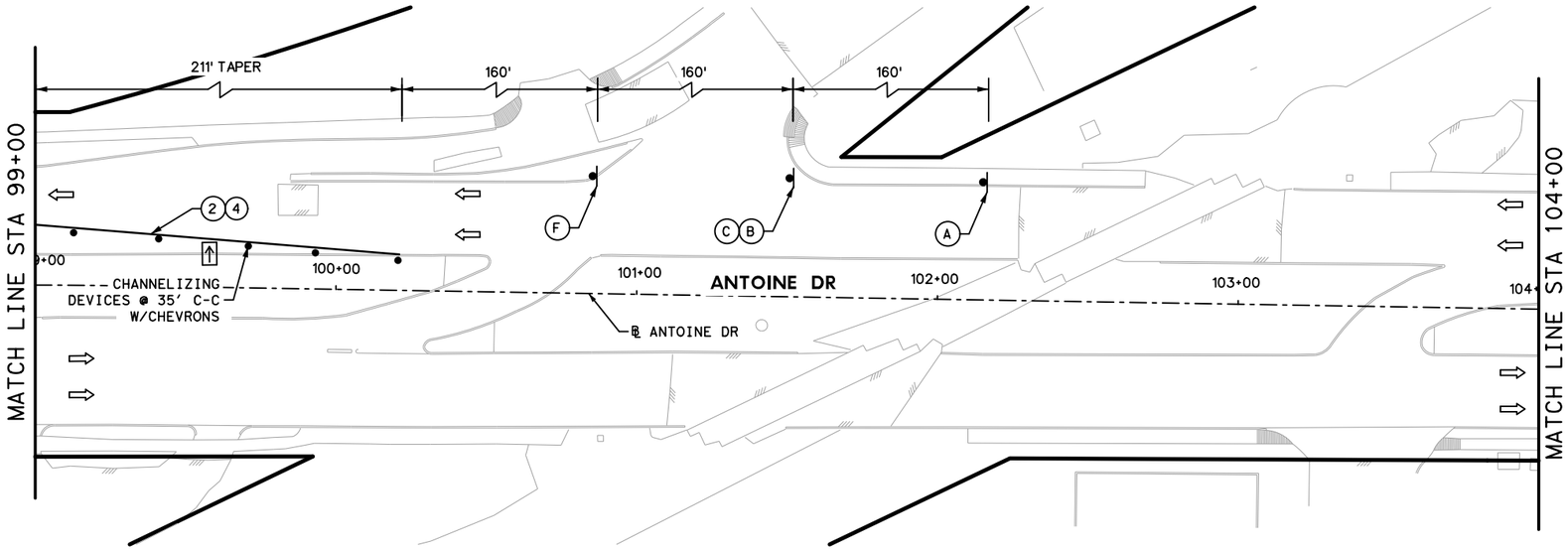

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0′ 25′ 50′

SCALE IN FEET

(A)	(B)
ROAD WORK AHEAD CW20-1	LEFT LANE CLOSED CW16-5T
(C)	(D)
XXX FT CW16-2aP	END ROAD WORK G20-2
(E)	(F)
LEFT LANE MUST TURN LEFT R3-7L	CW4-2

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas 155052
3/12/2026
for
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-2017

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 3

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 81 OF 1067	

Pen Table: TX_Pen.tbl
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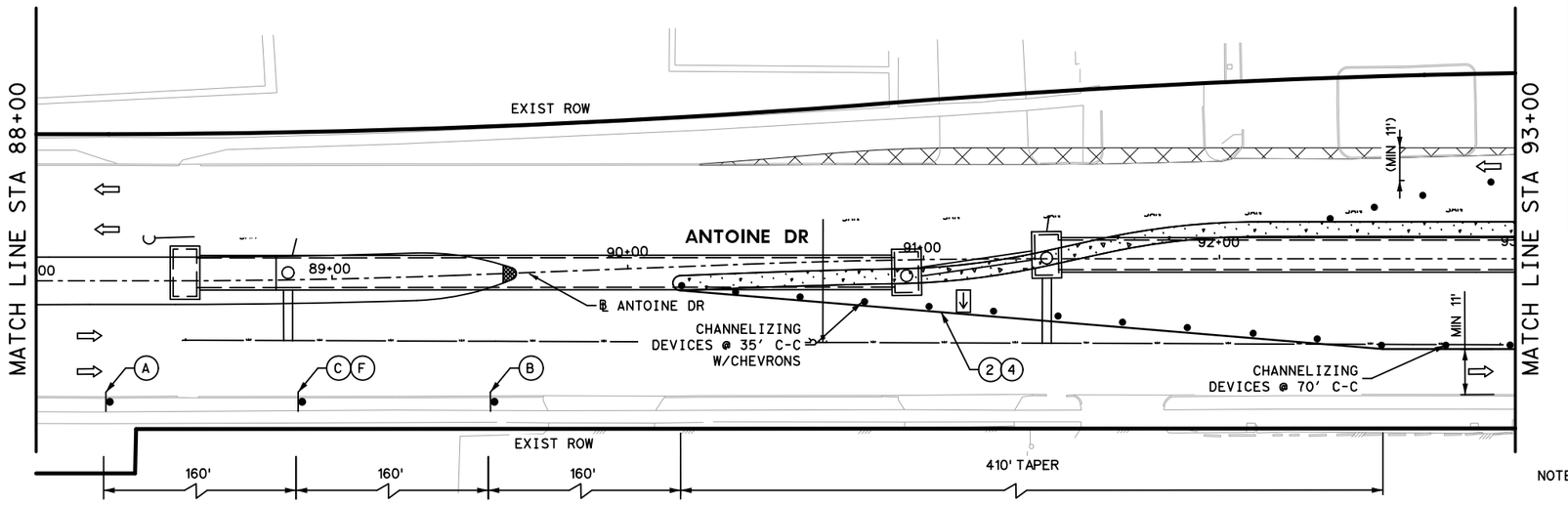
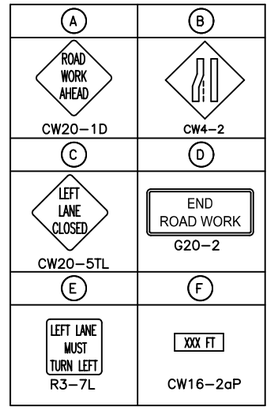




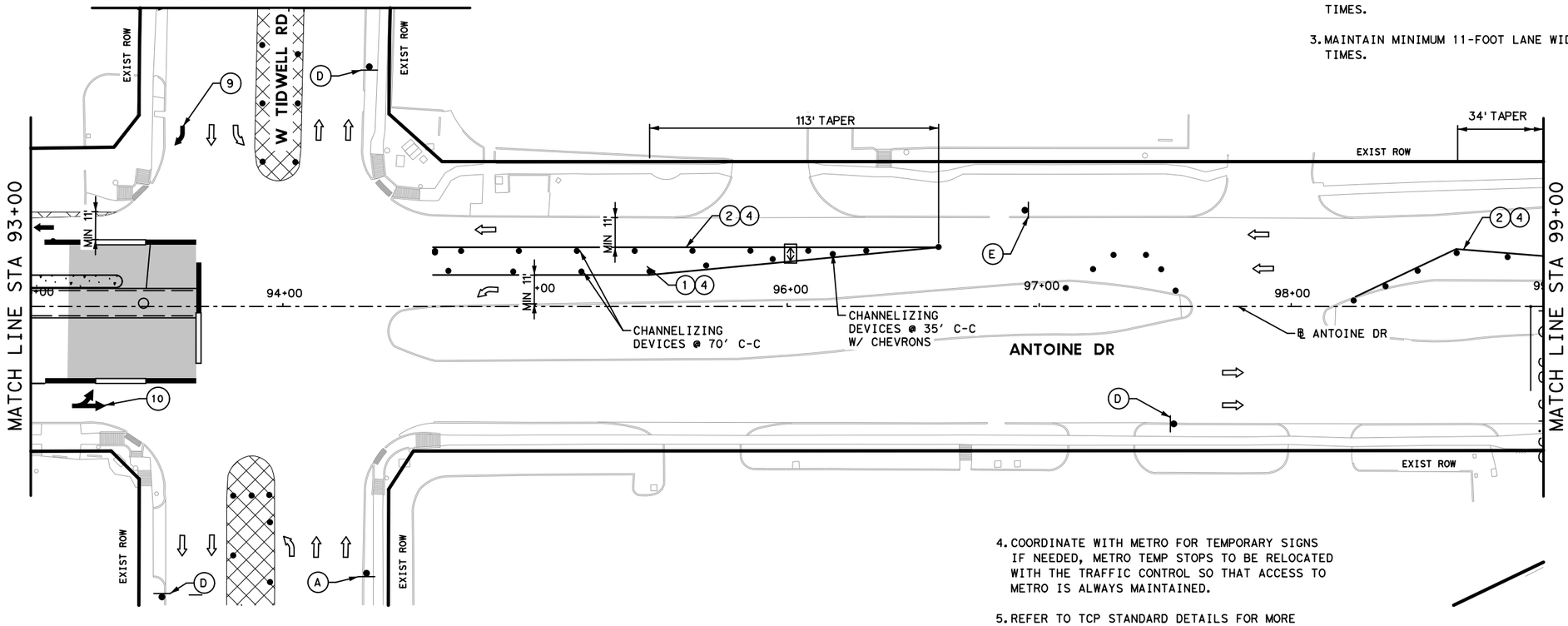
LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.

SEE SHEET 3 OF 3 FOR MORE INFORMATION



4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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155052
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 1

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 82 OF 1067	

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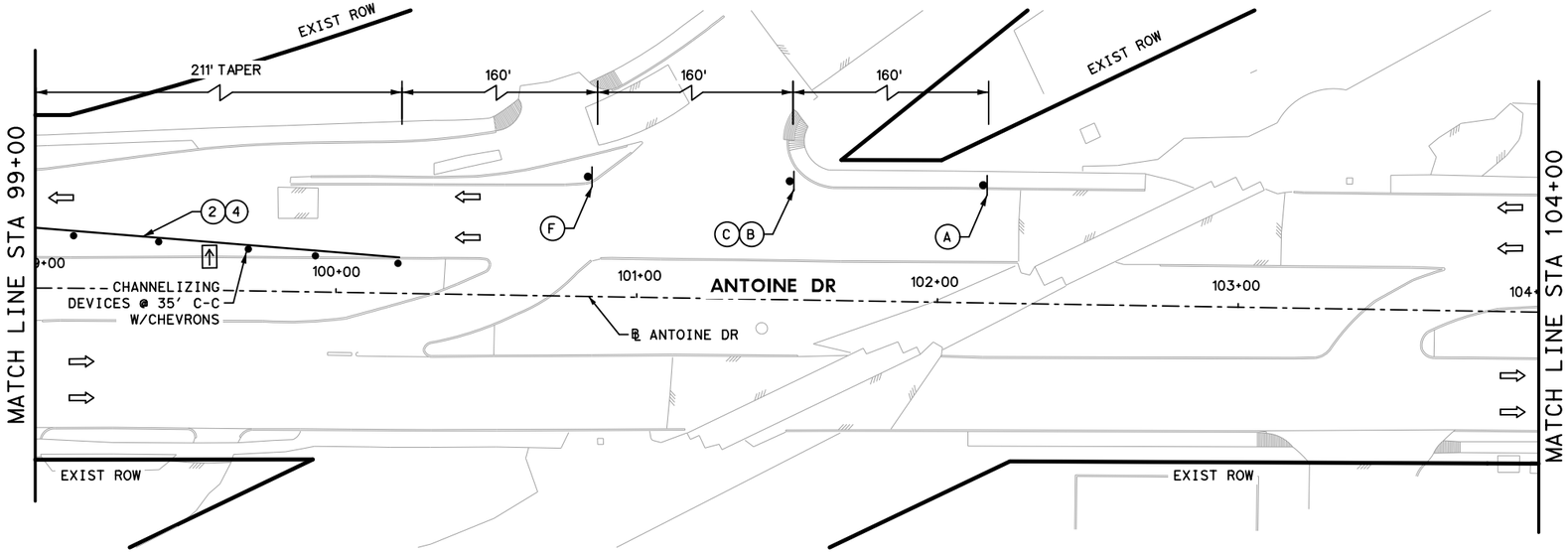

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0′ 25′ 50′

SCALE IN FEET

(A)	(B)
ROAD WORK AHEAD CW20-1	LEFT LANE CLOSED CW16-5T
(C)	(D)
XXX FT CW16-2aP	END ROAD WORK G20-2
(E)	(F)
LEFT LANE MUST TURN LEFT R3-7L	CW4-2

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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Texas 155052
on 3/12/2026
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Texas Registered Engineering Firm F-2017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 1

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 83 OF 1067	

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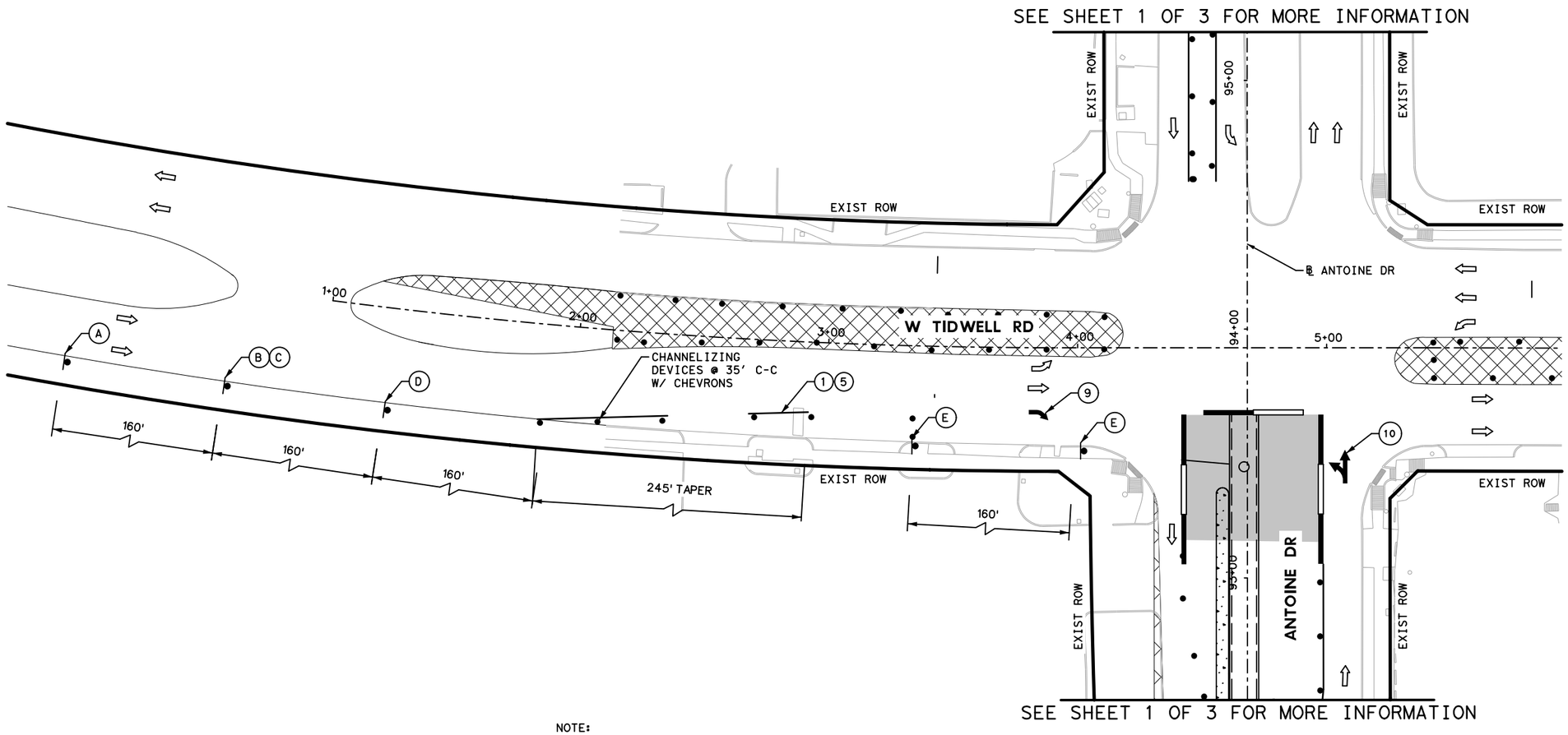
A	B	C	D	E
ROAD WORK AHEAD CW20-1D	RIGHT LANE CLOSED CW20-5T	XXX FT CW16-2aP	 CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R



LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

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Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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155052
3/12/2026
Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
ANTOINE - W TIDWEL
INTERSECTION
STEP 1

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 84 OF 1067	

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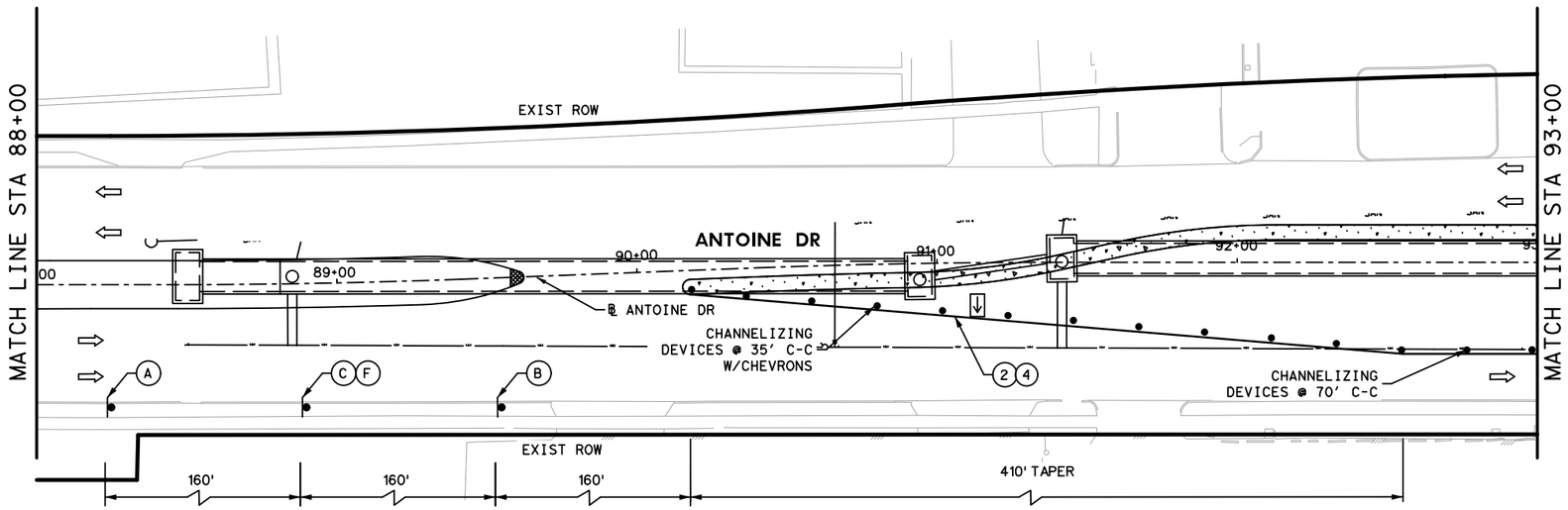
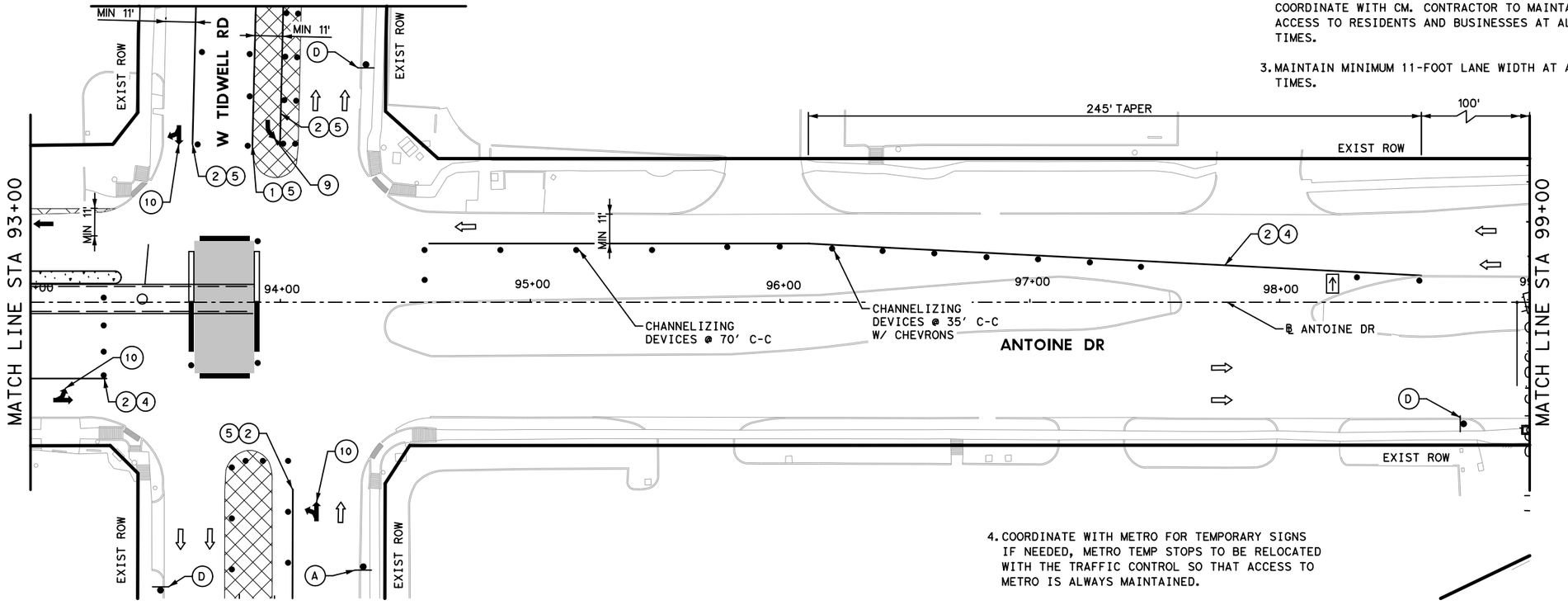


SEE SHEET 3 OF 3 FOR MORE INFORMATION



A	B
ROAD WORK AHEAD CW20-1D	CW4-2
C	D
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2
E	F
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
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NOTE:

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N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 2

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 85 OF 1067	

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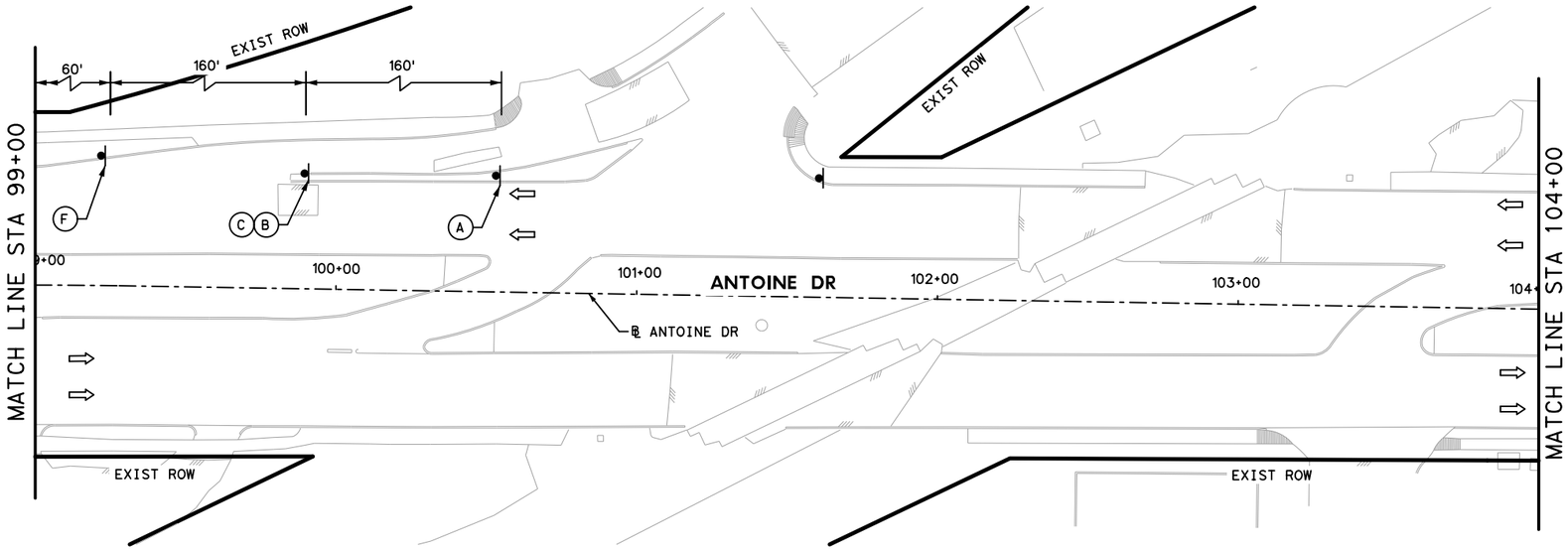

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
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APP:		
REVISIONS		
No.	DATE	

N

0' 25' 50'

SCALE IN FEET

A	B
ROAD WORK AHEAD CW20-1	LEFT LANE CLOSED CW16-5T
C	D
XXX FT CW16-2aP	END ROAD WORK G20-2
E	F
LEFT LANE MUST TURN LEFT R3-7L	CW4-2

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Texas Registered Engineering Firm F-2017

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 2

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 86 OF 1067	

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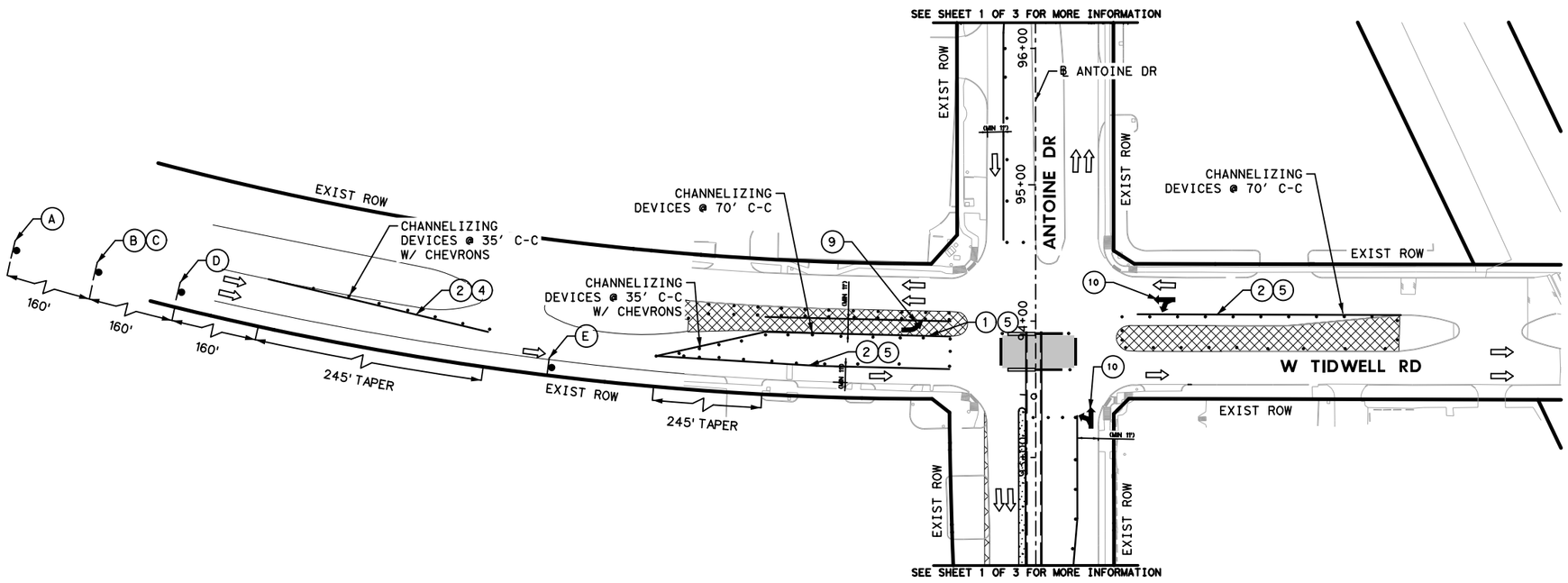

LEGEND

- WORK ZONE
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REVISIONS			
No.	DATE		APP.

N

0' 50' 100'

SCALE IN FEET

A	B	C	D	E
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		LEFT LANE MUST TURN LEFT
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7L

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 2

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 87 OF 1067	

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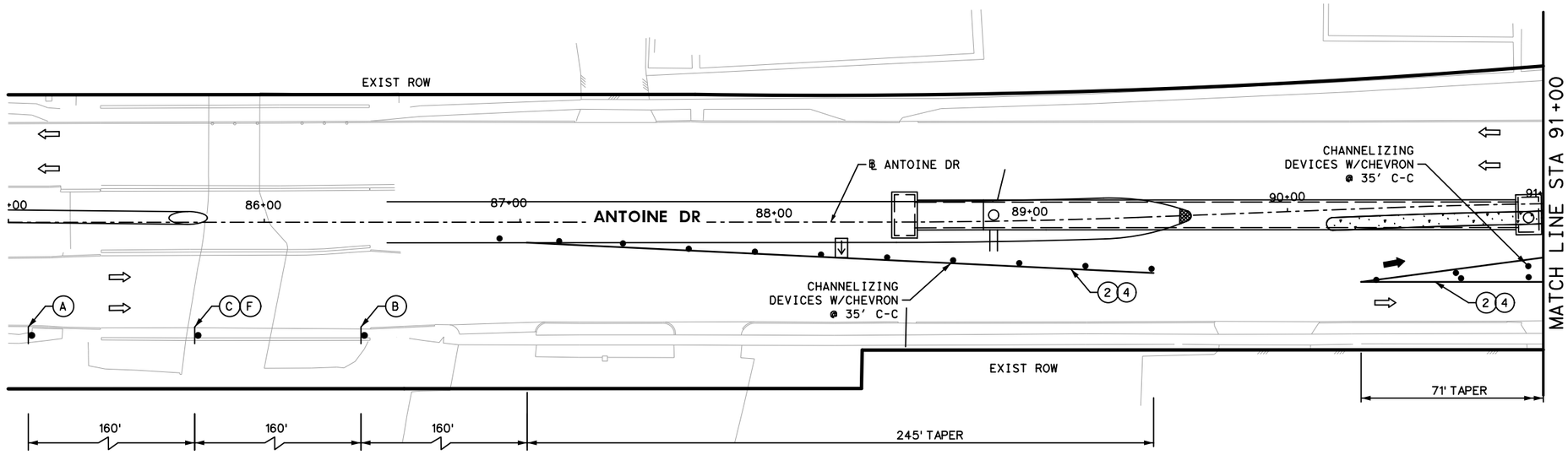

LEGEND

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No.	DATE	REVISIONS	APP.

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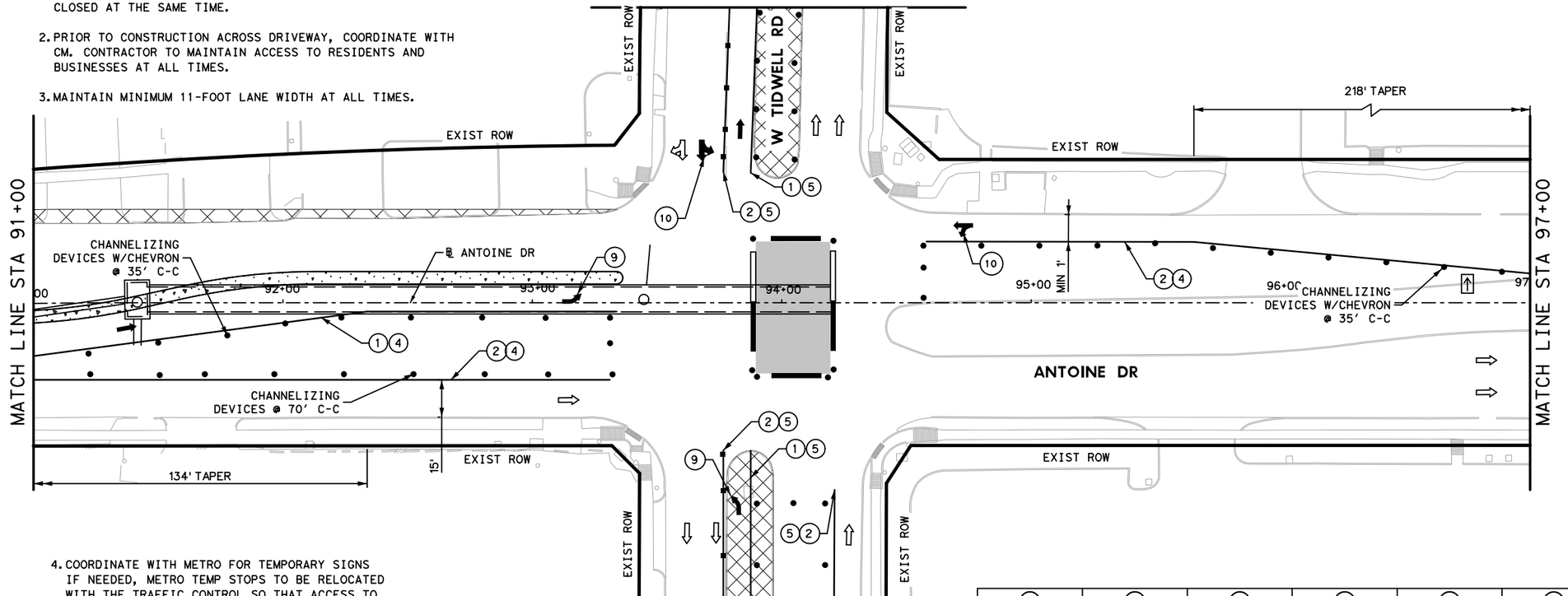
SEE SHEET 3 OF 3 FOR MORE INFORMATION



SEE SHEET 3 OF 3 FOR MORE INFORMATION

A	B	C	D	E	F
ROAD WORK AHEAD		LEFT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP

N

0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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AHMED ALOBAIDI
Texas
155052
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 3

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 88 OF 1067	

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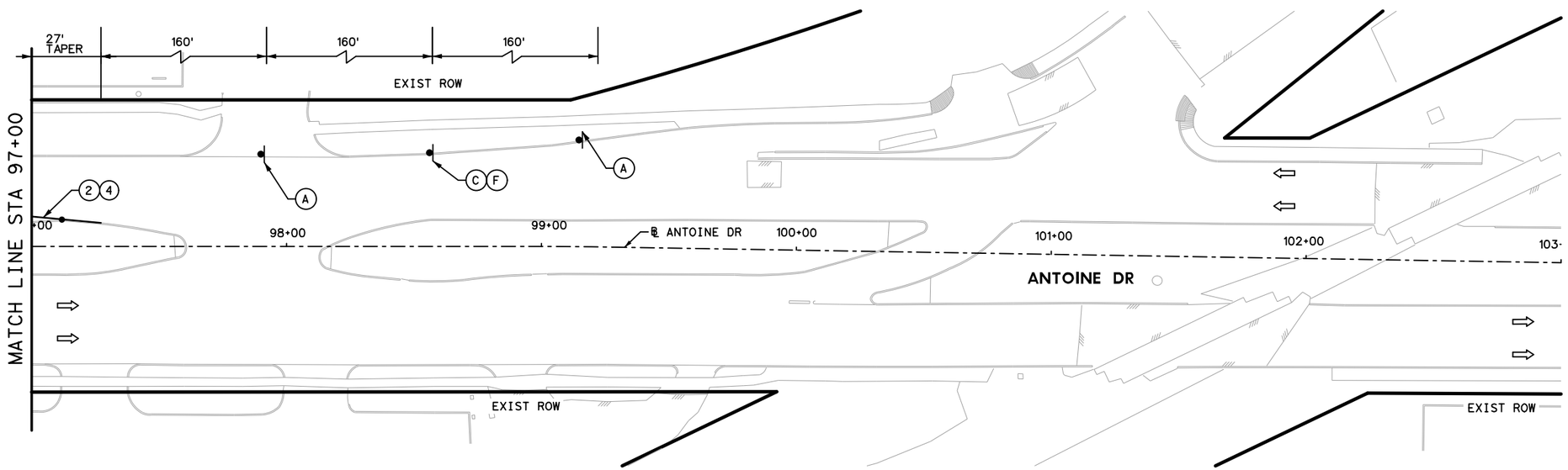
NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.



A	B	C	D	E	F
ROAD WORK AHEAD CW20-1D	CW4-2	LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP

N

0′ 25′ 50′

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
ANTOINE - W TIDWEL INTERSECTION
STEP 3

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 89 OF 1067	

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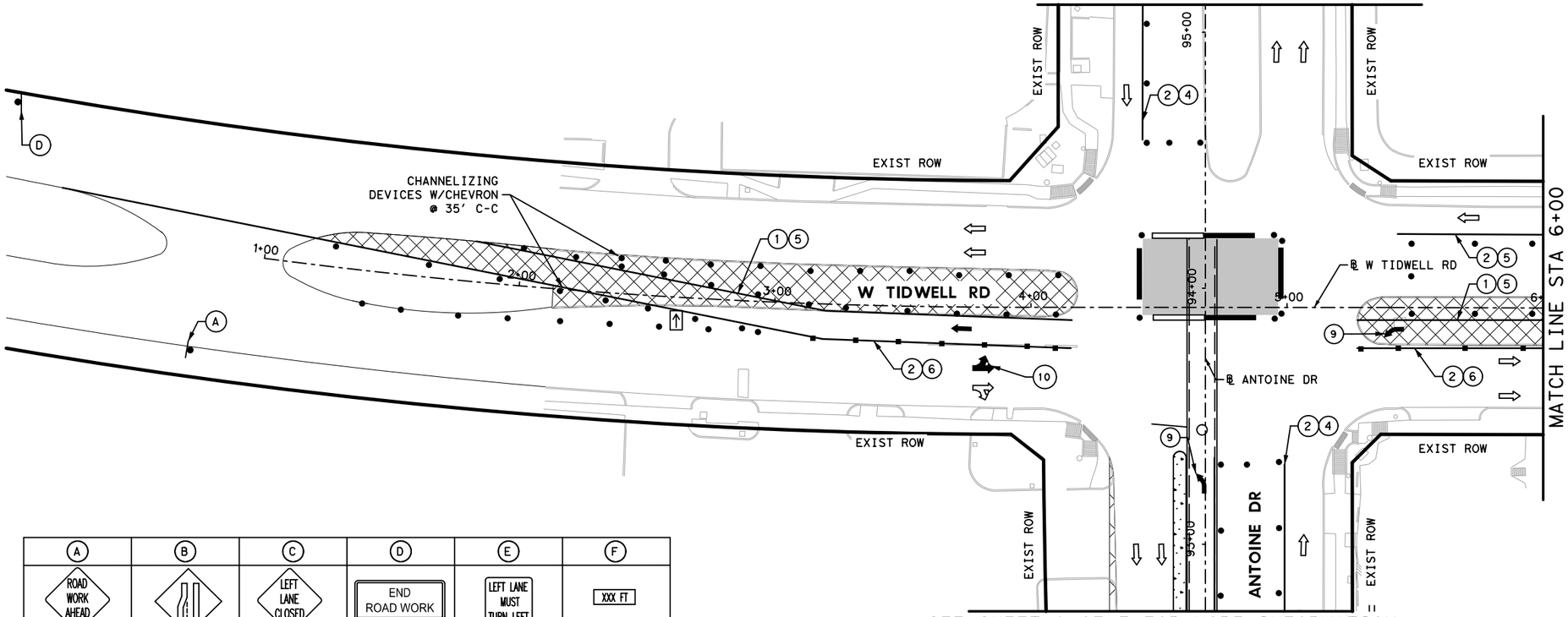
SEE SHEET 1 OF 3 FOR MORE INFORMATION



SEE SHEET 1 OF 3 FOR MORE INFORMATION

A	B	C	D	E	F
ROAD WORK AHEAD		LEFT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP

LEGEND

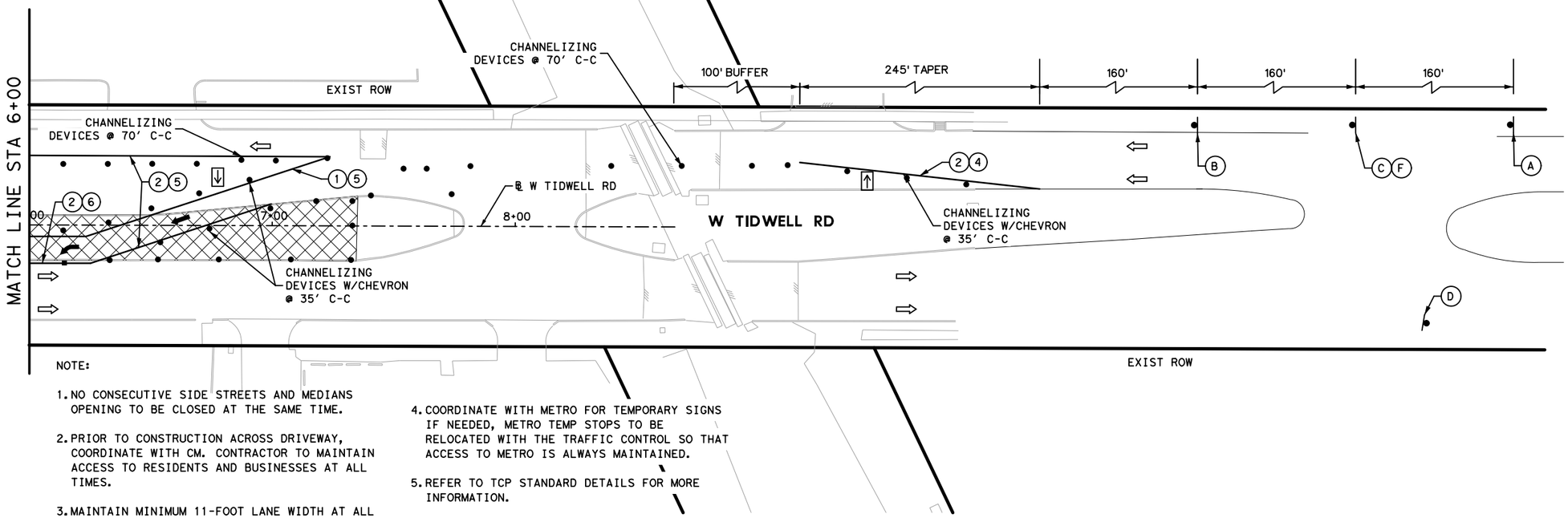
- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY II-C
6. REMOVABLE PAV MRK (REFLECTOR) TY A-A
7. REMOVABLE PAV MRK BUTTONS TY W (DOT)
8. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
9. REMOVABLE PAV MRK BUTTONS ARROW
10. REMOVABLE PAV MRK BUTTONS DBL ARROW
11. REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET



NOTE:

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 3

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 90 OF 1067	

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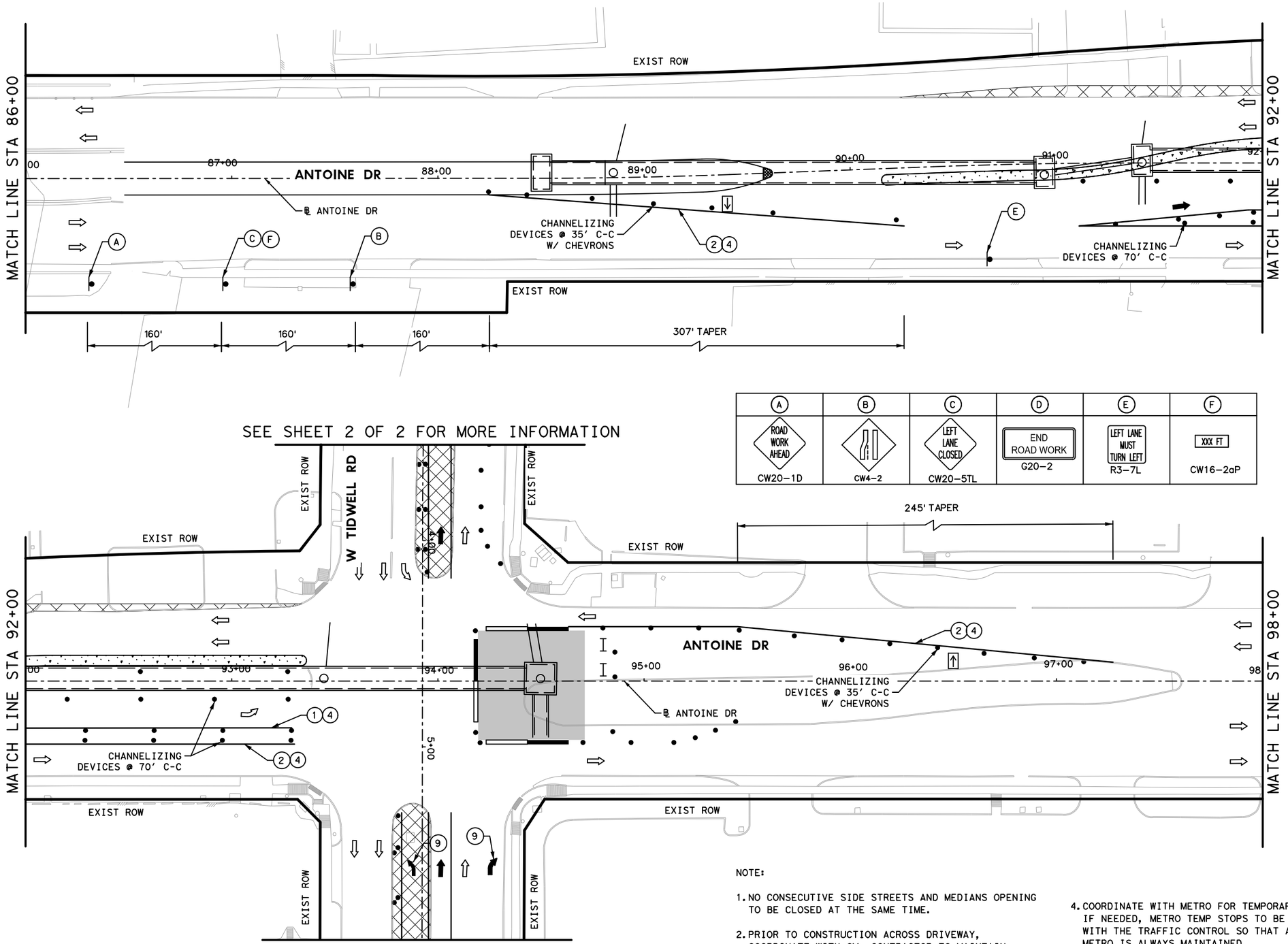

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

A	B	C	D	E	F
ROAD WORK AHEAD		LEFT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP

NOTE:

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N

0' 25' 50'

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 4

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 91 OF 1067	

No.	DATE	REVISIONS	APP:

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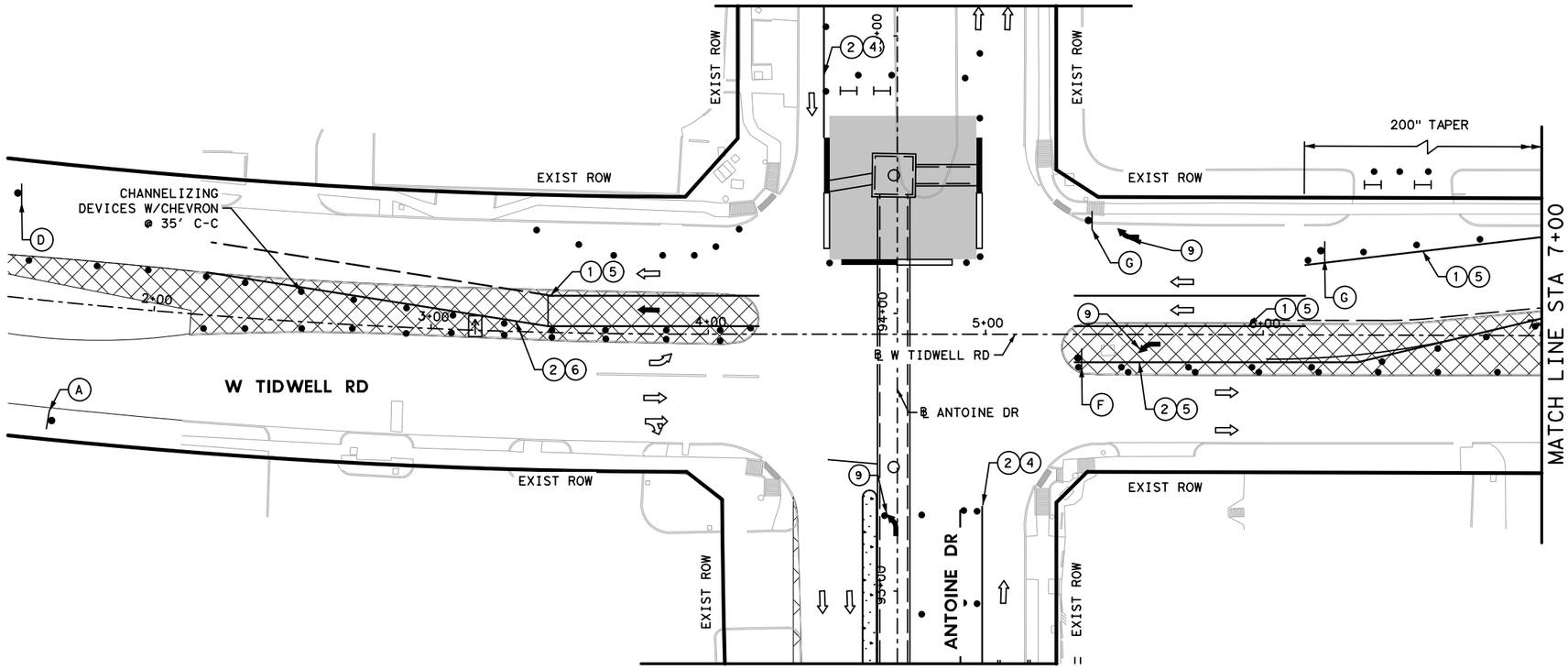
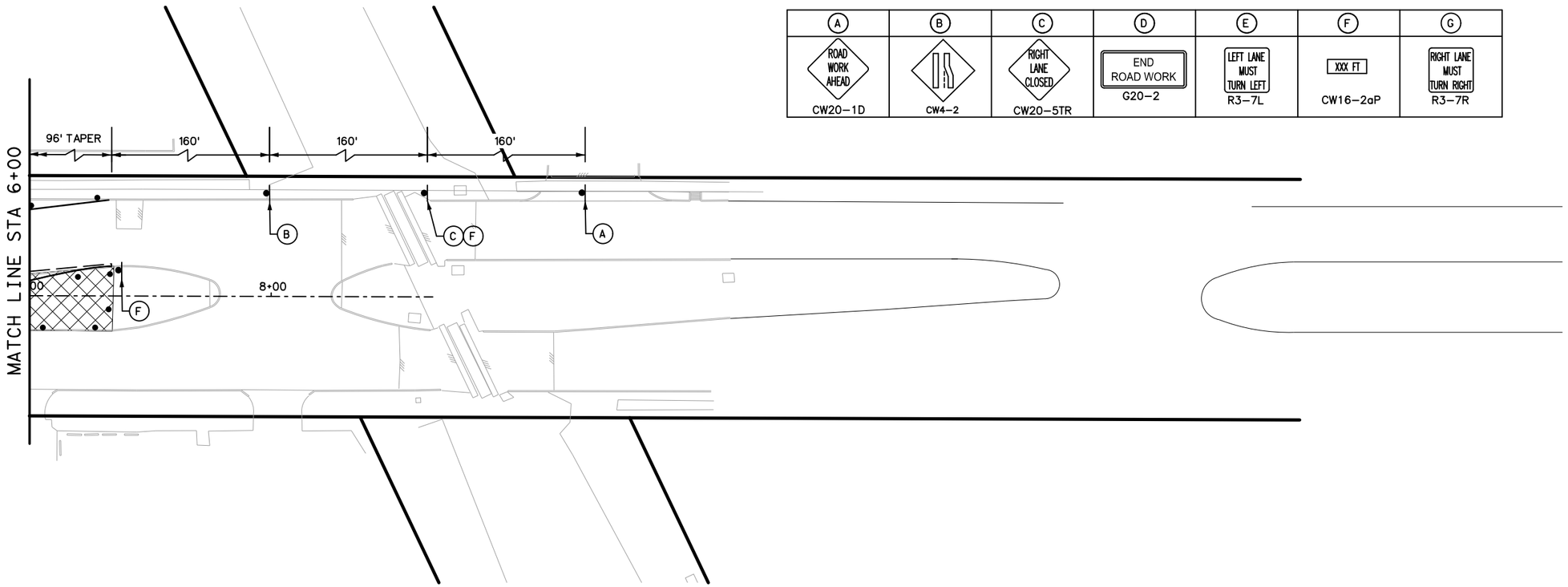
SEE SHEET 1 OF 2 FOR MORE INFORMATION



SEE SHEET 1 OF 2 FOR MORE INFORMATION



A	B	C	D	E	F	G
ROAD WORK AHEAD		RIGHT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT	RIGHT LANE MUST TURN RIGHT
CW20-1D	CW4-2	CW20-5TR	G20-2	R3-7L	CW16-2aP	R3-7R

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY II-C
6. REMOVABLE PAV MRK (REFLECTOR) TY A-A
7. REMOVABLE PAV MRK BUTTONS TY W (DOT)
8. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
9. REMOVABLE PAV MRK BUTTONS ARROW
10. REMOVABLE PAV MRK BUTTONS DBL ARROW
11. REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 4

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 92 OF 1067	

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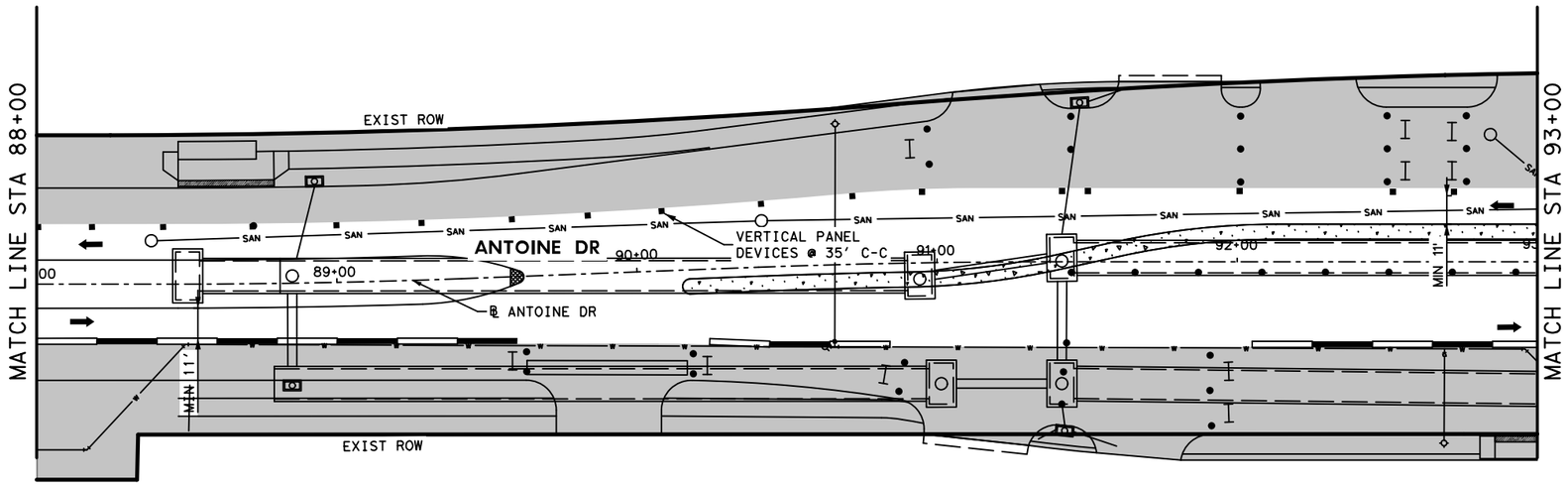
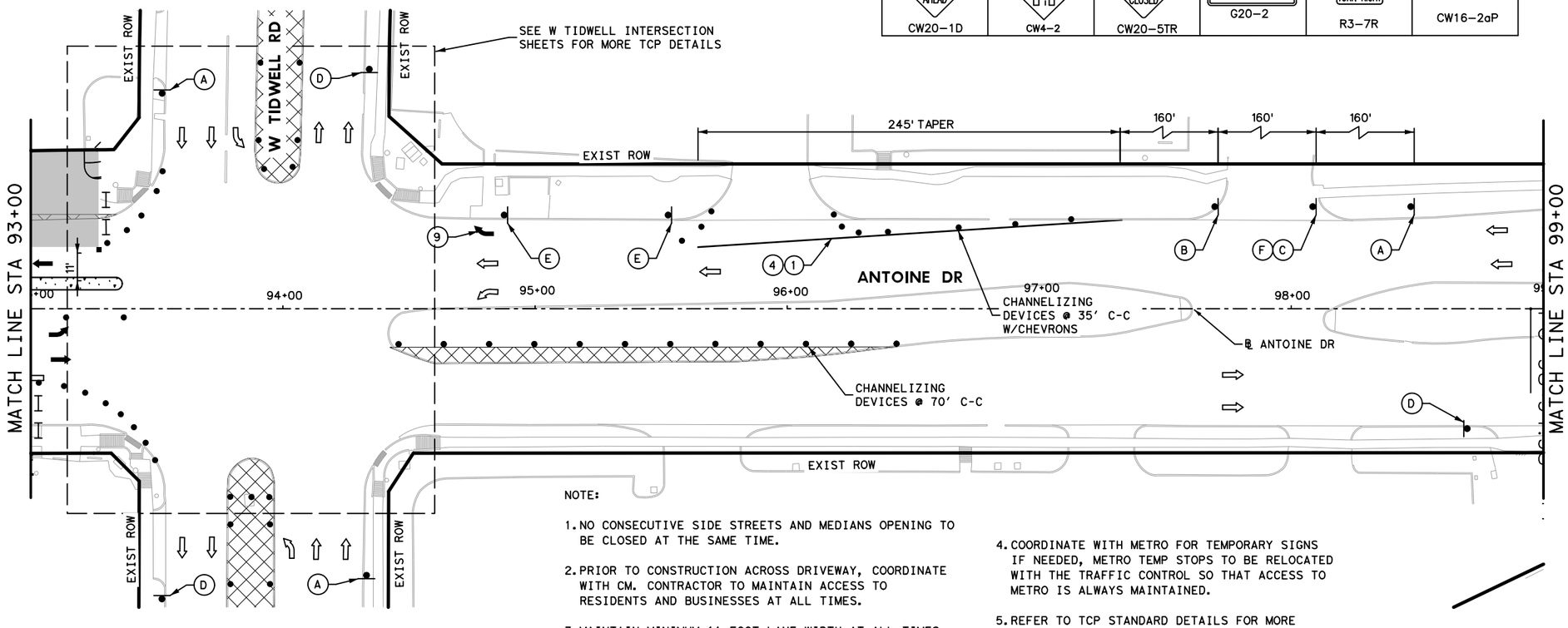


LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

(A)	(B)	(C)	(D)	(E)	(F)
ROAD WORK AHEAD		RIGHT LANE CLOSED	END ROAD WORK	RIGHT LANE MUST TURN RIGHT	XXX FT
CW20-1D	CW4-2	CW20-5TR	G20-2	R3-7R	CW16-2aP



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N

0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 4

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 93 OF 1067	

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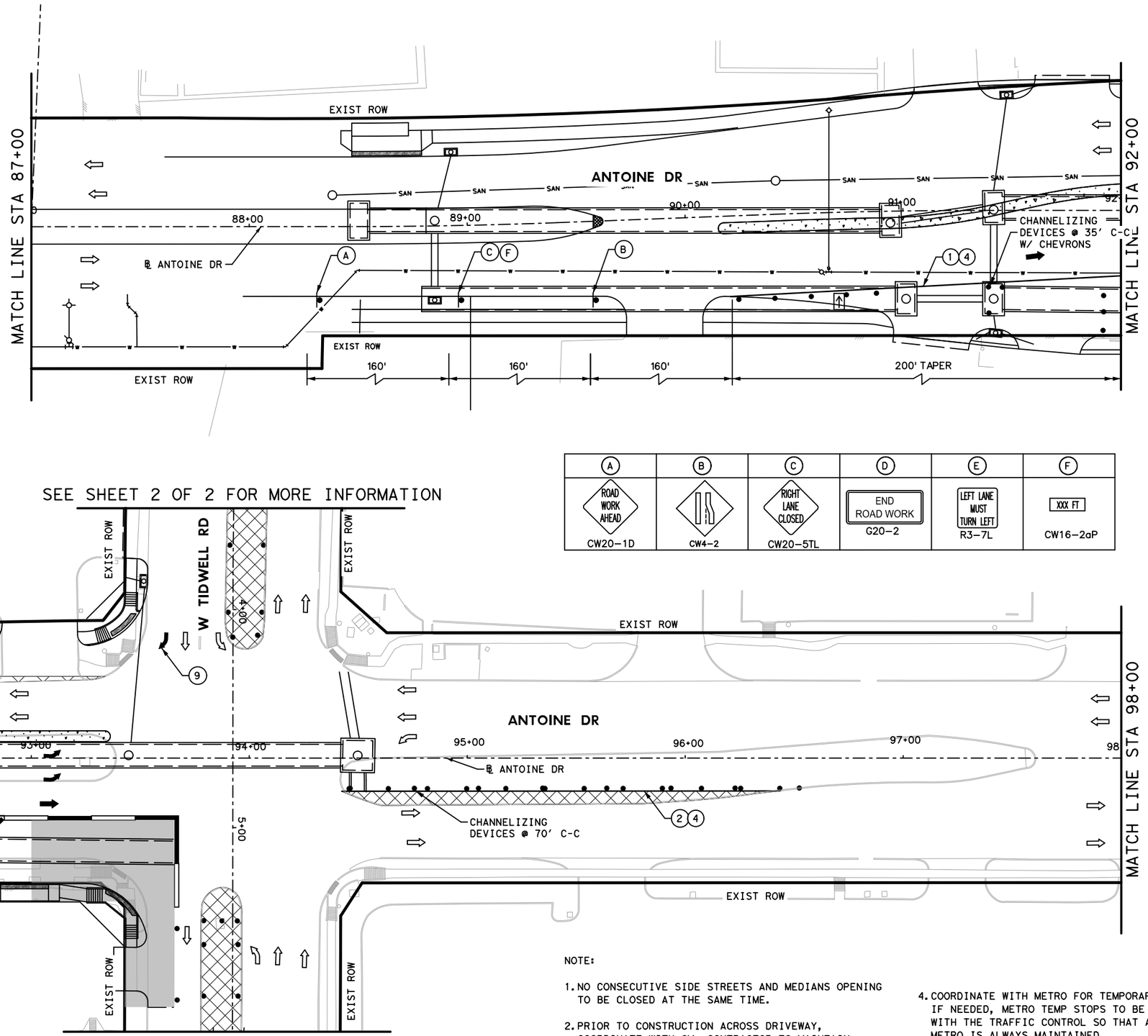

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

A	B	C	D	E	F
ROAD WORK AHEAD		RIGHT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP

NOTE:

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N

0' 25' 50'

SCALE IN FEET

Texas Department of Transportation

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 5

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 94 OF 1067	

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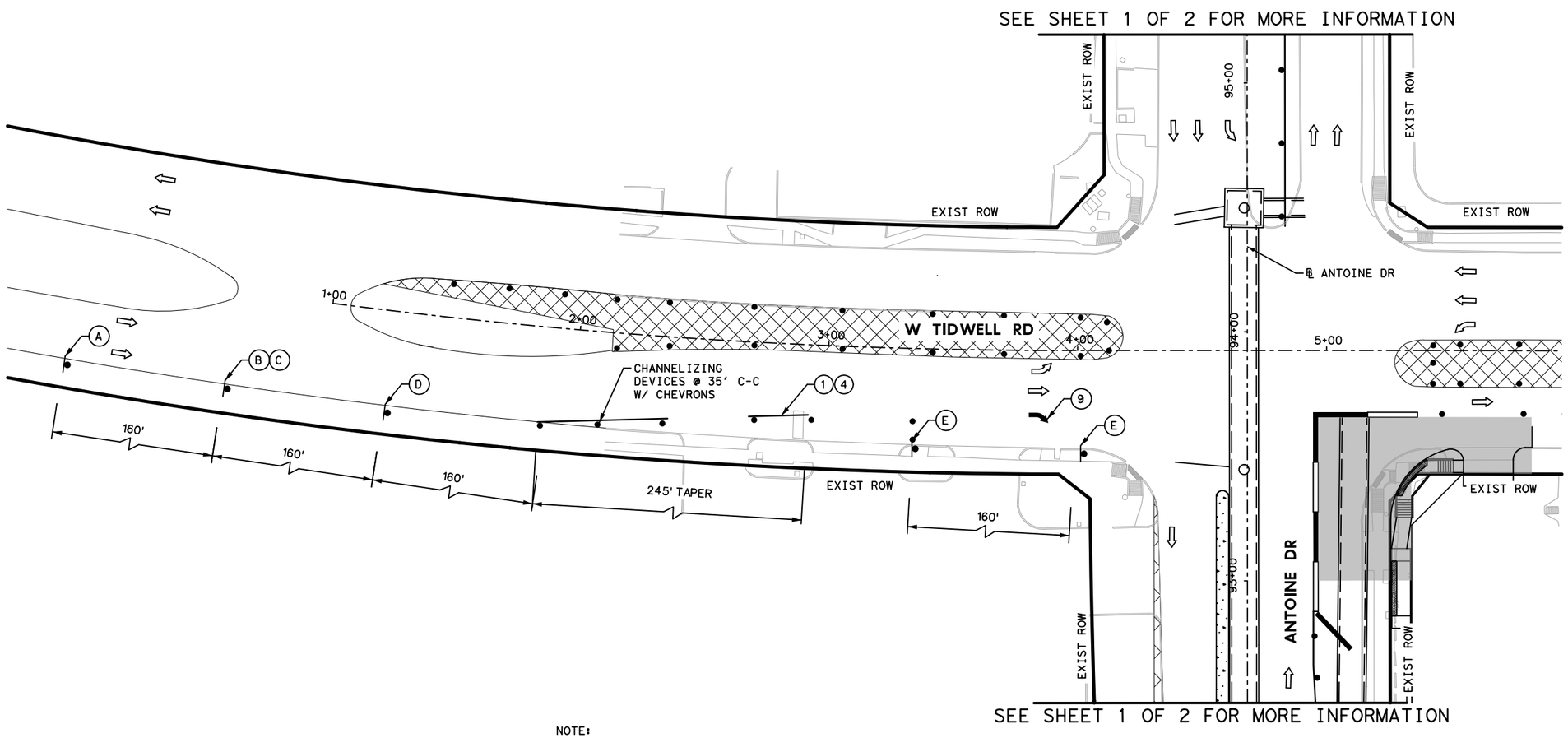
A	B	C	D	E
ROAD WORK AHEAD CW20-1D	RIGHT LANE CLOSED CW20-5TL	XXX FT CW16-2aP	 CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R



LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KUO & ASSOCIATES, INC.

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Texas No. 155052
Date 3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWELL INTERSECTION STEP 5

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 95 OF 1067	

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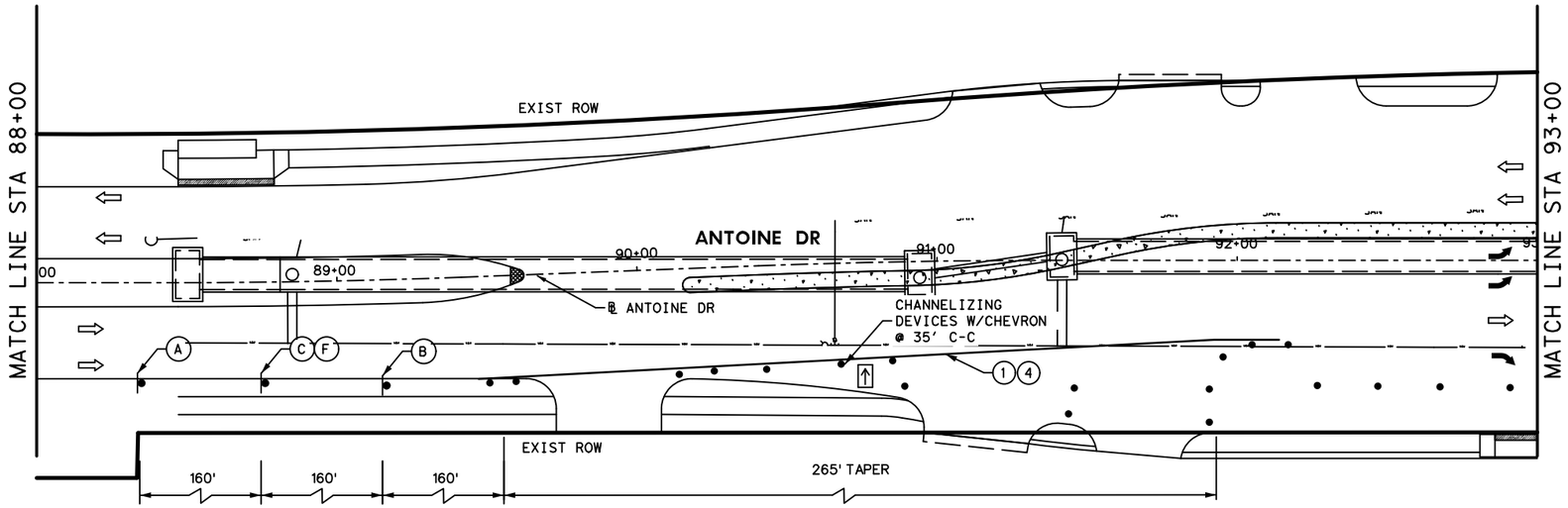
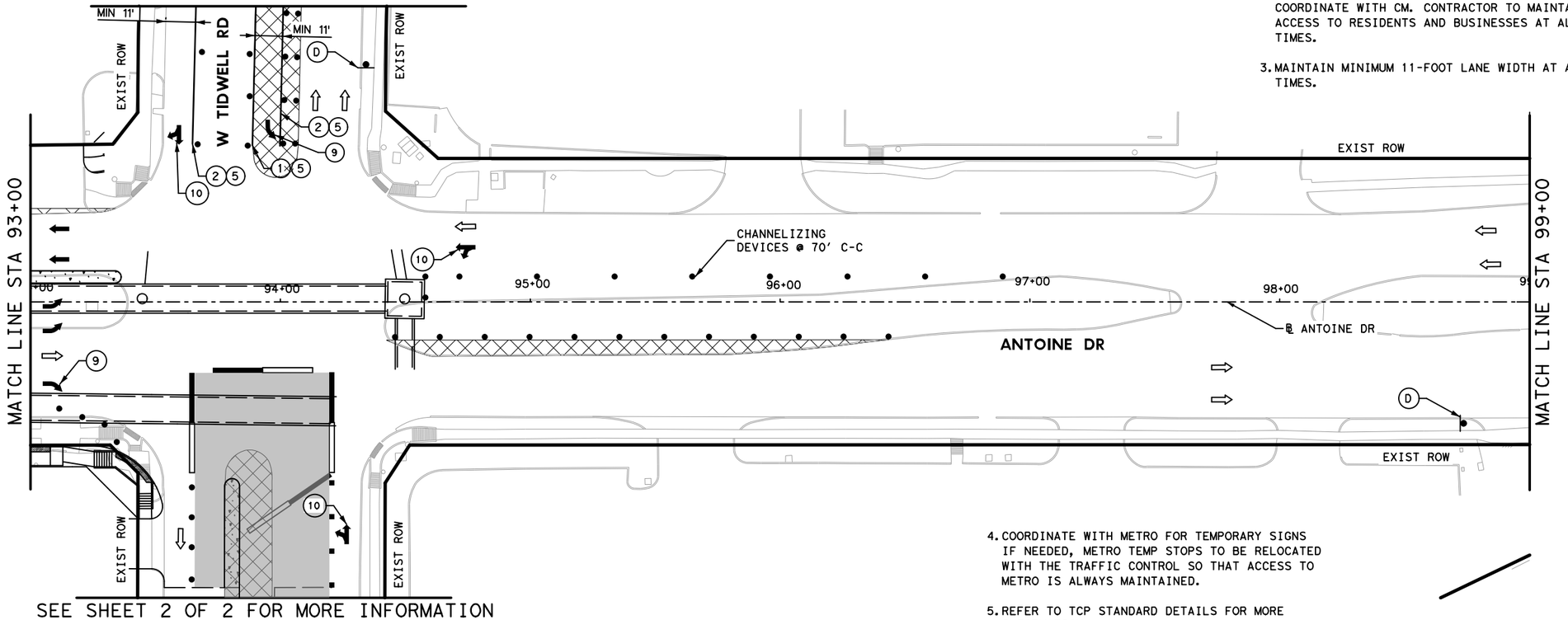


SEE SHEET 2 OF 2 FOR MORE INFORMATION



SEE SHEET 2 OF 2 FOR MORE INFORMATION

A	B
ROAD WORK AHEAD CW20-1D	CW4-2
C	D
RIGHT LANE CLOSED CW20-5TL	END ROAD WORK G20-2
E	F
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

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N

0' 25' 50'

SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 6

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 96 OF 1067	

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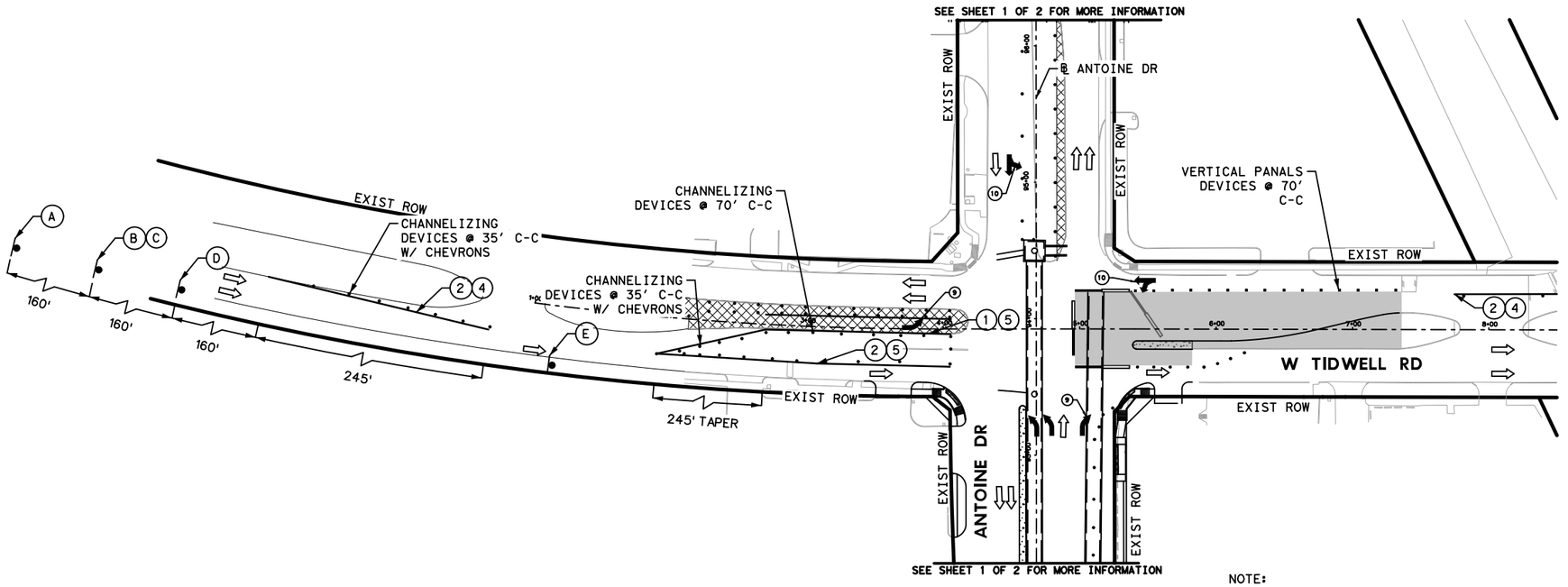

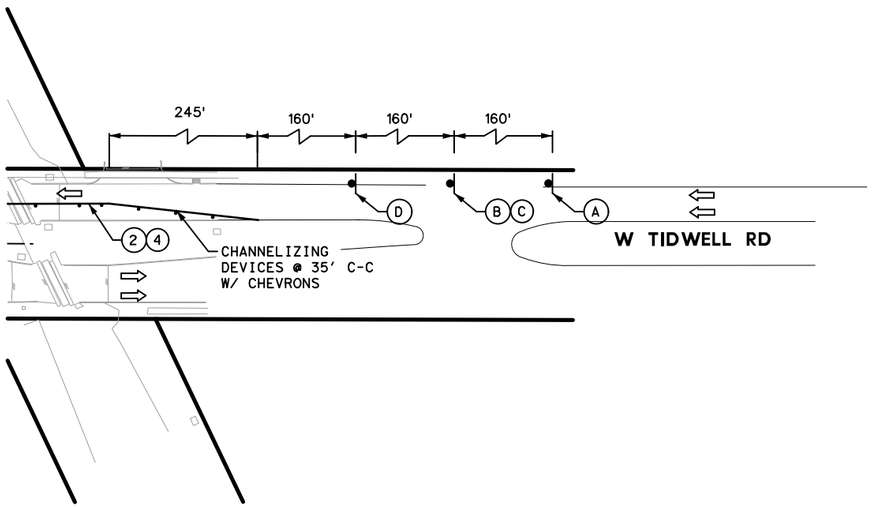

A	B	C	D	E
ROAD WORK AHEAD CW20-1D	LEFT LANE CLSOED CW20-5T	XXX FT CW16-2aP	CW4-2	LEFT LANE MUST TURN LEFT R3-7L

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

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N

0' 50' 100'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 6

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 97 OF 1067	

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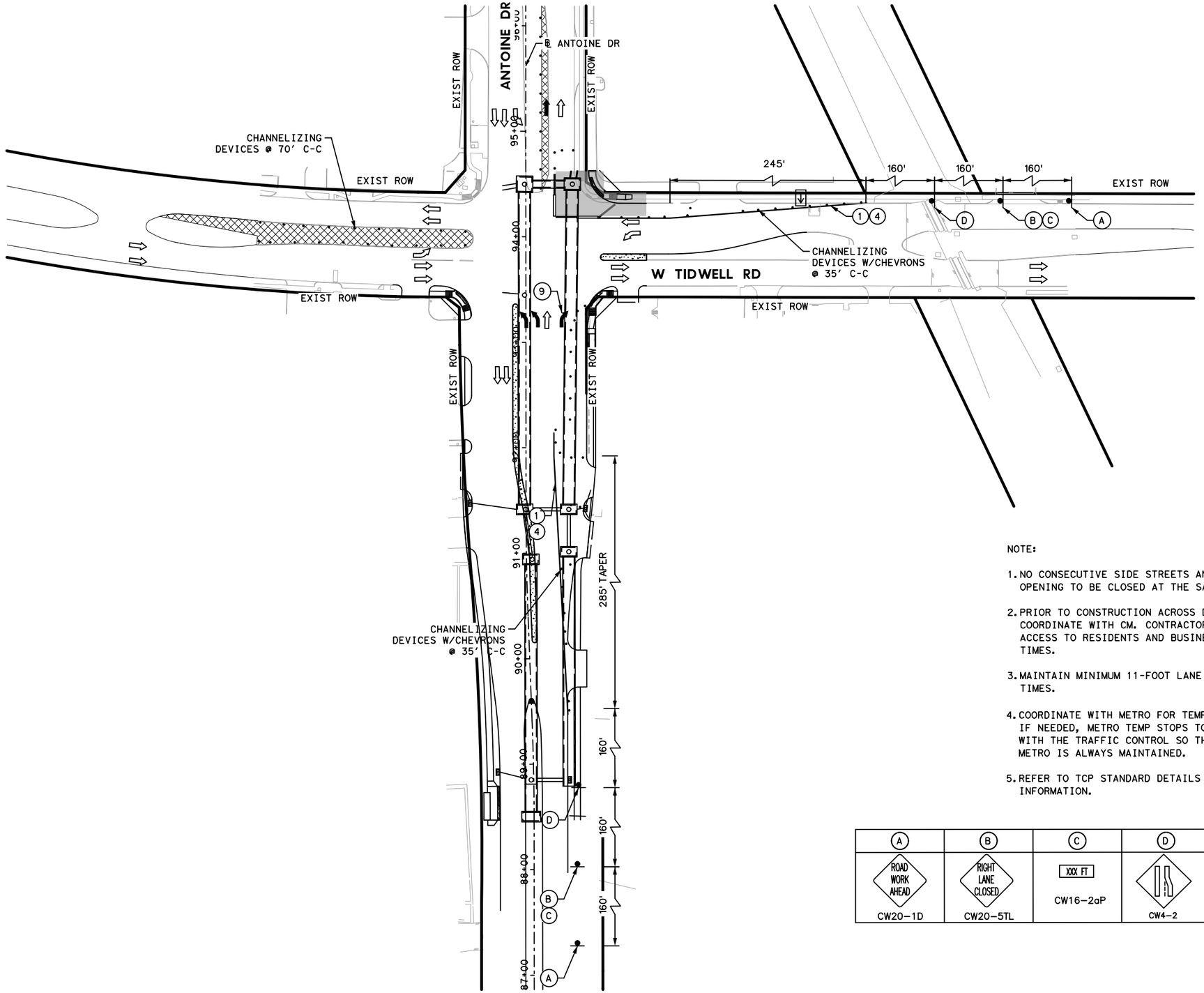

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 50' 100'

SCALE IN FEET

NOTE:

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A	B	C	D	E
ROAD WORK AHEAD	RIGHT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN LEFT
CW20-1D	CW20-5TL	CW16-2aP	CW4-2	R3-7R

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 7

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 98 OF 1067	

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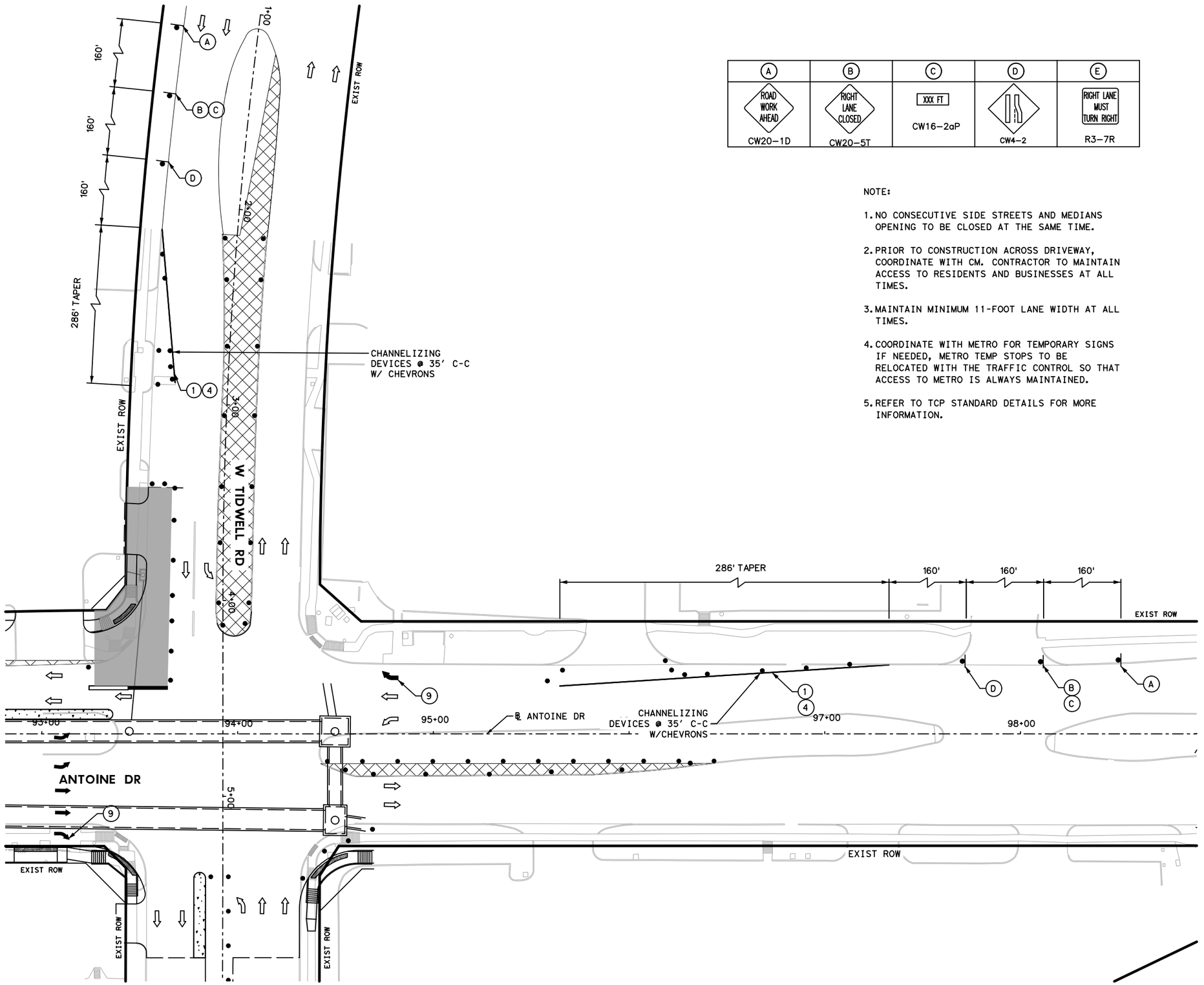

A	B	C	D	E
ROAD WORK AHEAD	RIGHT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R

NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
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- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP:

N

0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 8

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 99 OF 1067	

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A	B	C	D	E
				
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R

NOTE:

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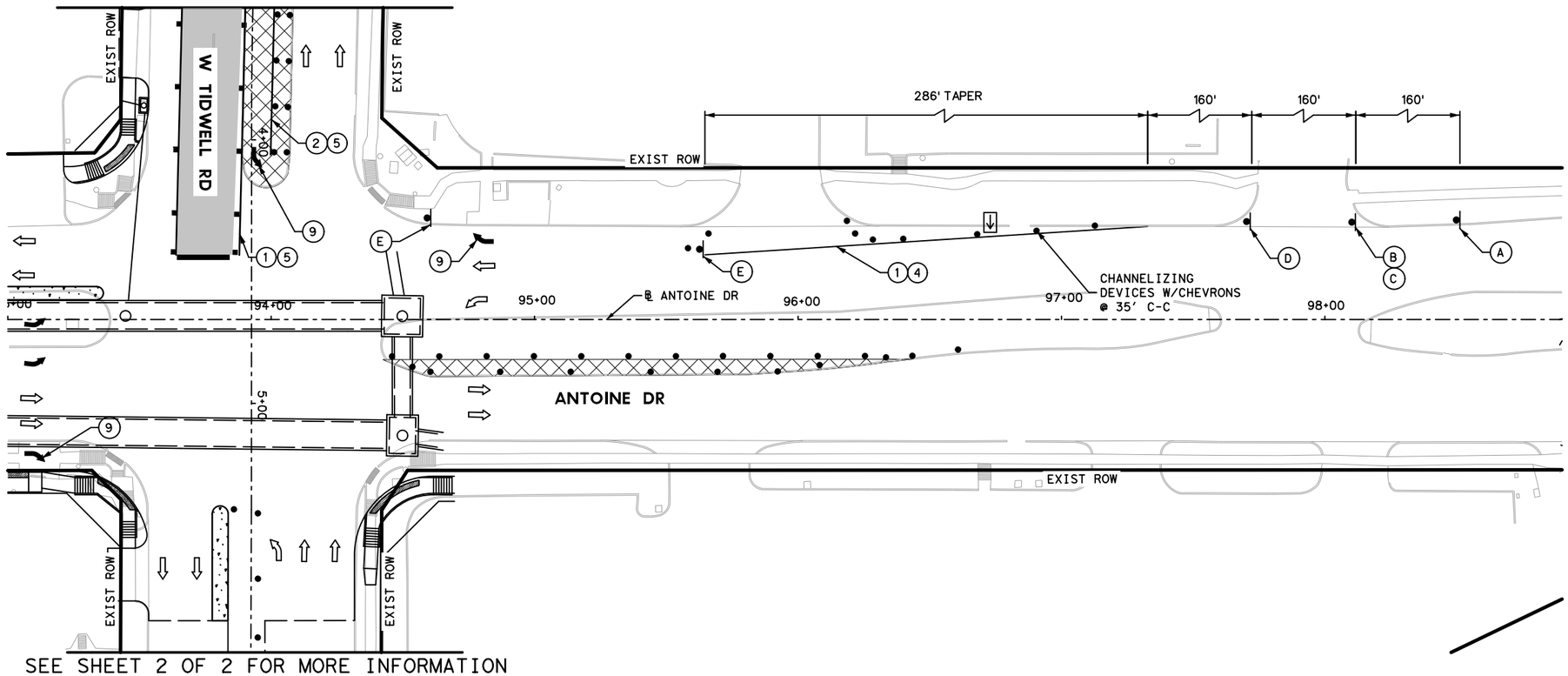
LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

SEE SHEET 2 OF 2 FOR MORE INFORMATION



SEE SHEET 2 OF 2 FOR MORE INFORMATION

N

0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 9

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 100 OF 1067	

No.	DATE	REVISIONS	APP:

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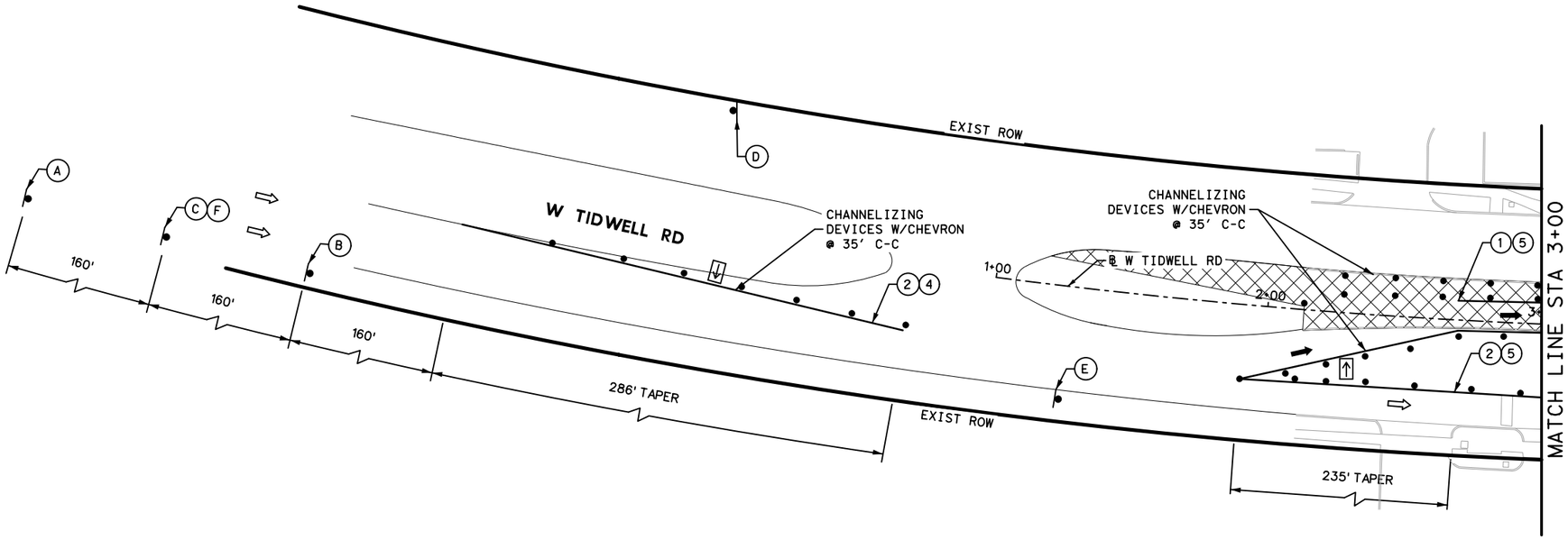

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
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- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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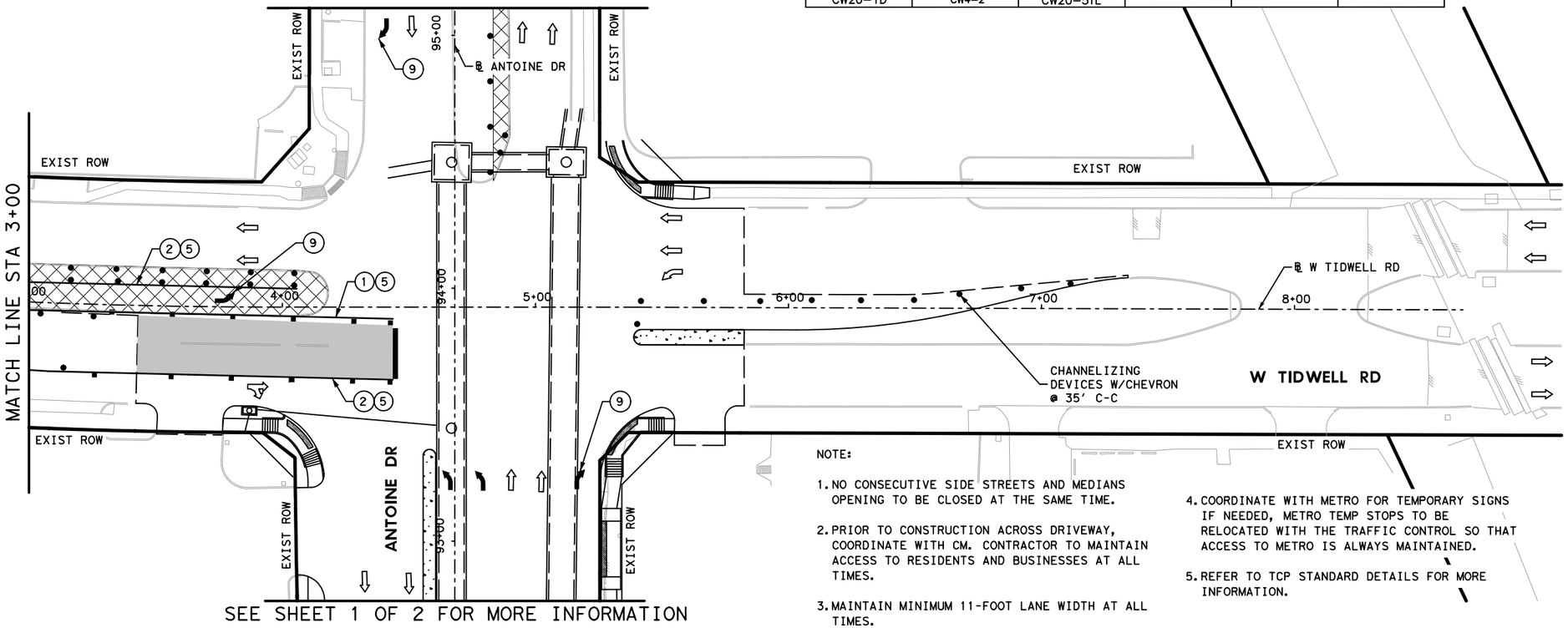
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

REVISIONS			
No.	DATE		APP.

A	B	C	D	E	F
ROAD WORK AHEAD		LEFT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP

SEE SHEET 1 OF 2 FOR MORE INFORMATION



SEE SHEET 1 OF 2 FOR MORE INFORMATION

NOTE:

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3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
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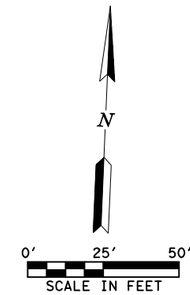

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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for
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 9

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 101 OF 1067	

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		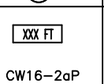		
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R

_SEE SHEET XX FOR MORE INFORMATION

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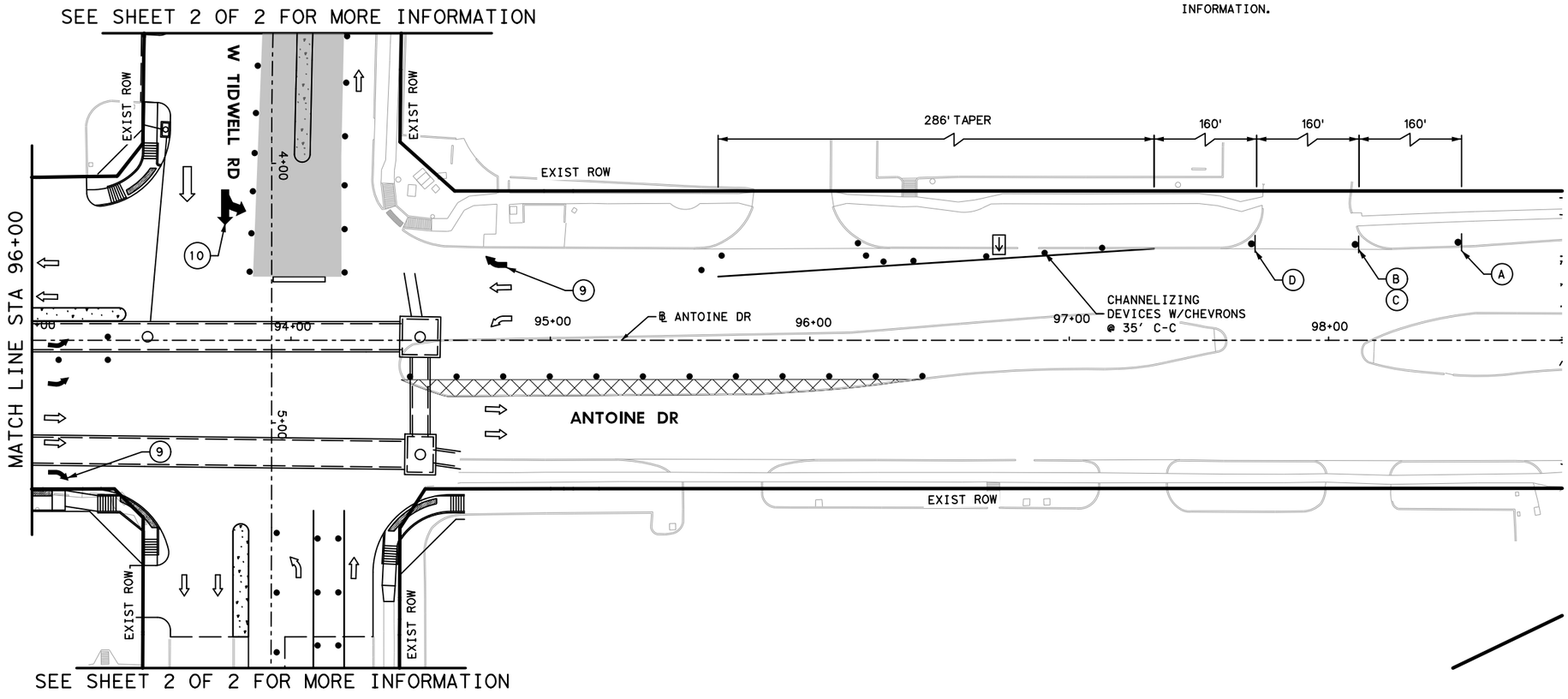
LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW



N

0' 25' 50'

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
ANTOINE - W TIDWEL
INTERSECTION
STEP 10

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 102 OF 1067	

No.	DATE	REVISIONS	APP:

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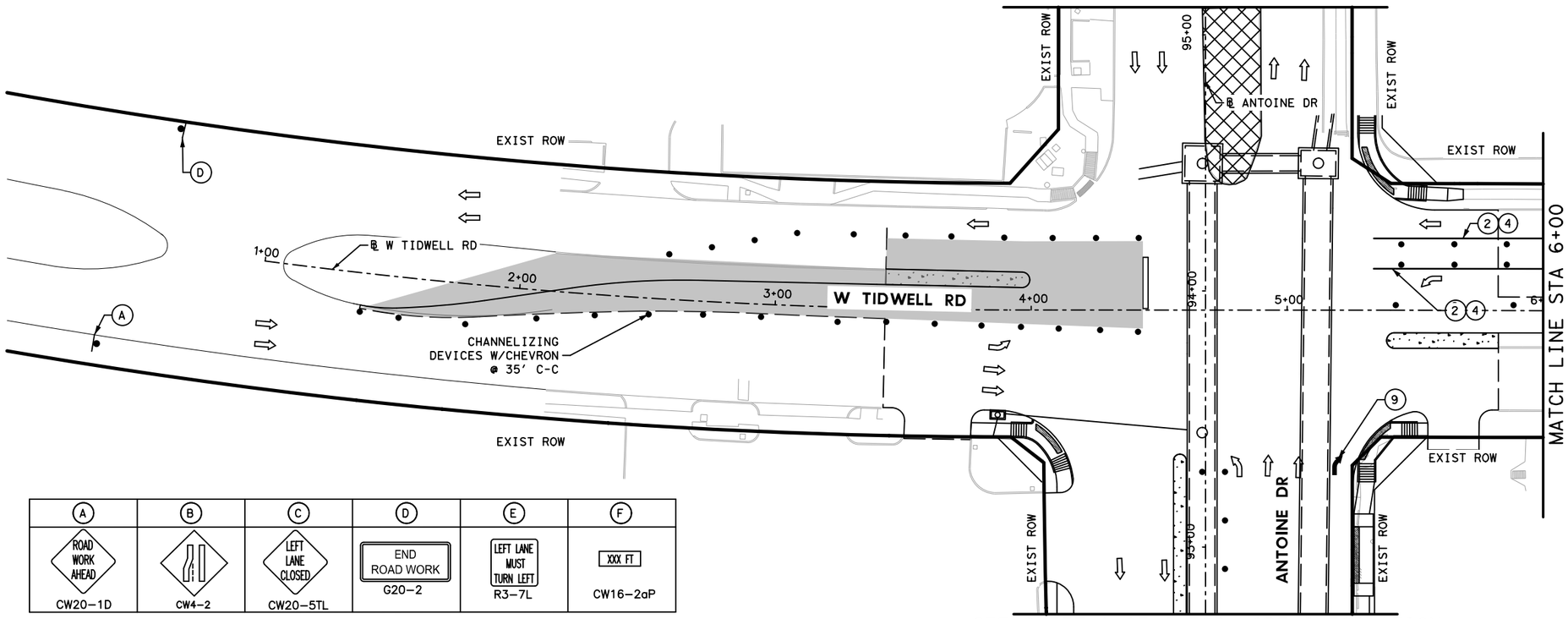
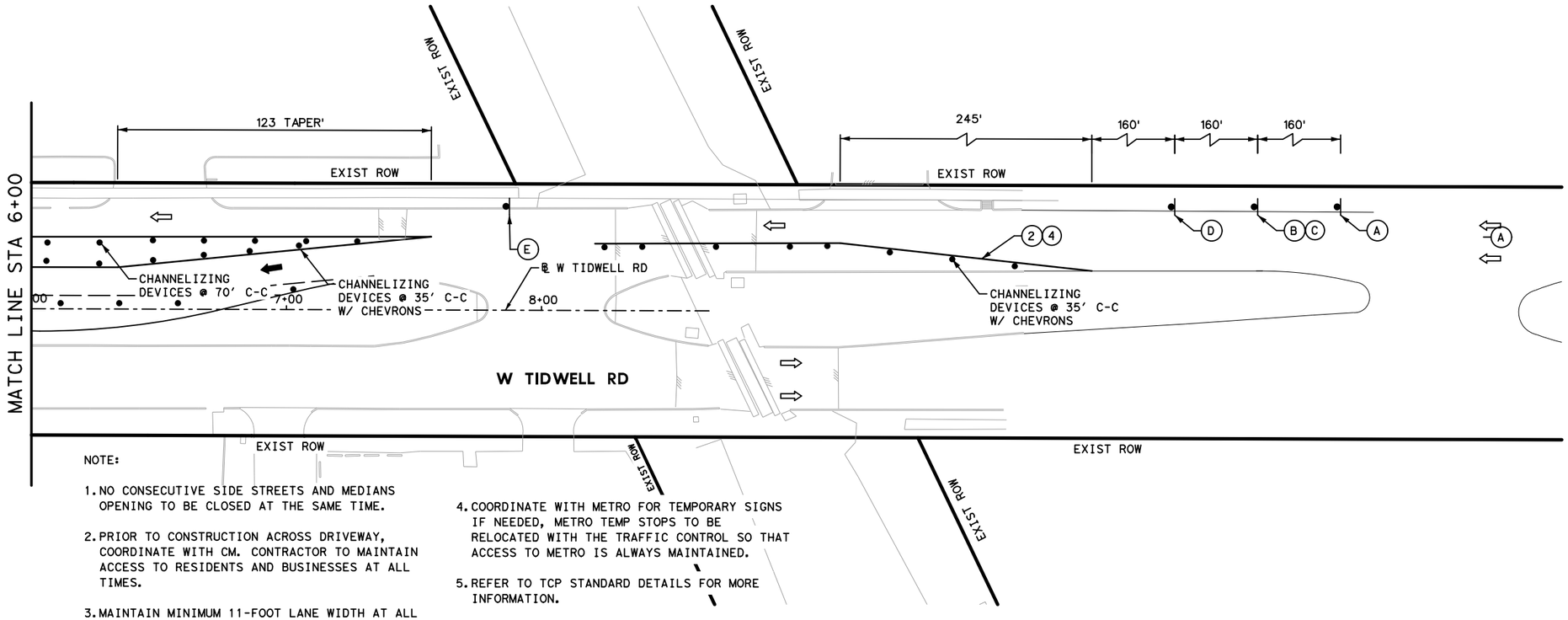
SEE SHEET 1 OF 2 FOR MORE INFORMATION



SEE SHEET 1 OF 2 FOR MORE INFORMATION

A	B	C	D	E	F
ROAD WORK AHEAD		LEFT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP



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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 10

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 103 OF 1067	

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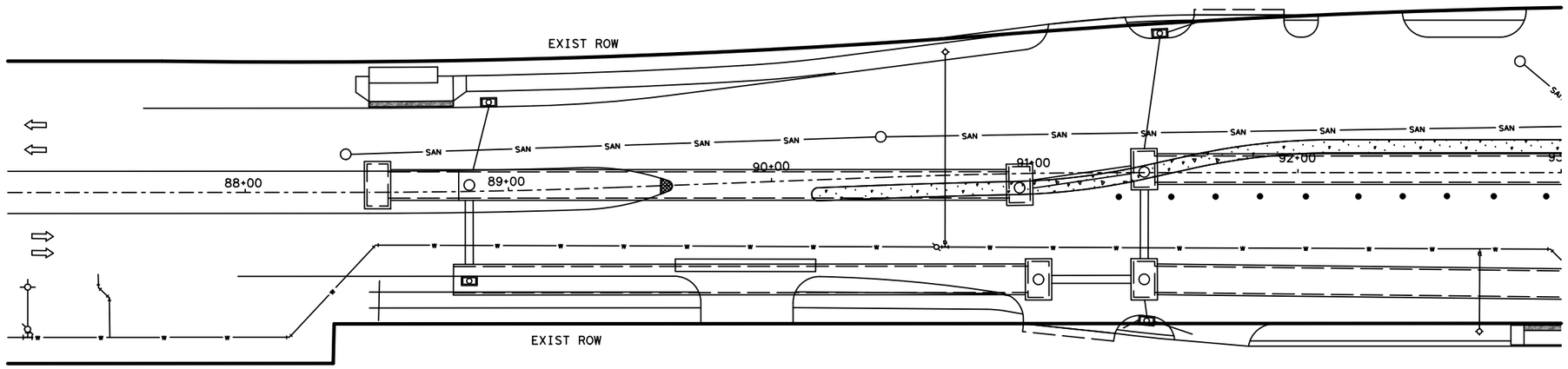

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
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- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

APP:	DATE	REVISIONS
No.		

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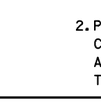	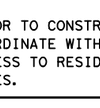	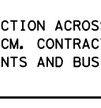	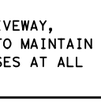	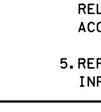
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R

SEE SHEET 2 OF 2 FOR MORE INFORMATION

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NOTE:

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N

0′ 25′ 50′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 11

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 104 OF 1067	

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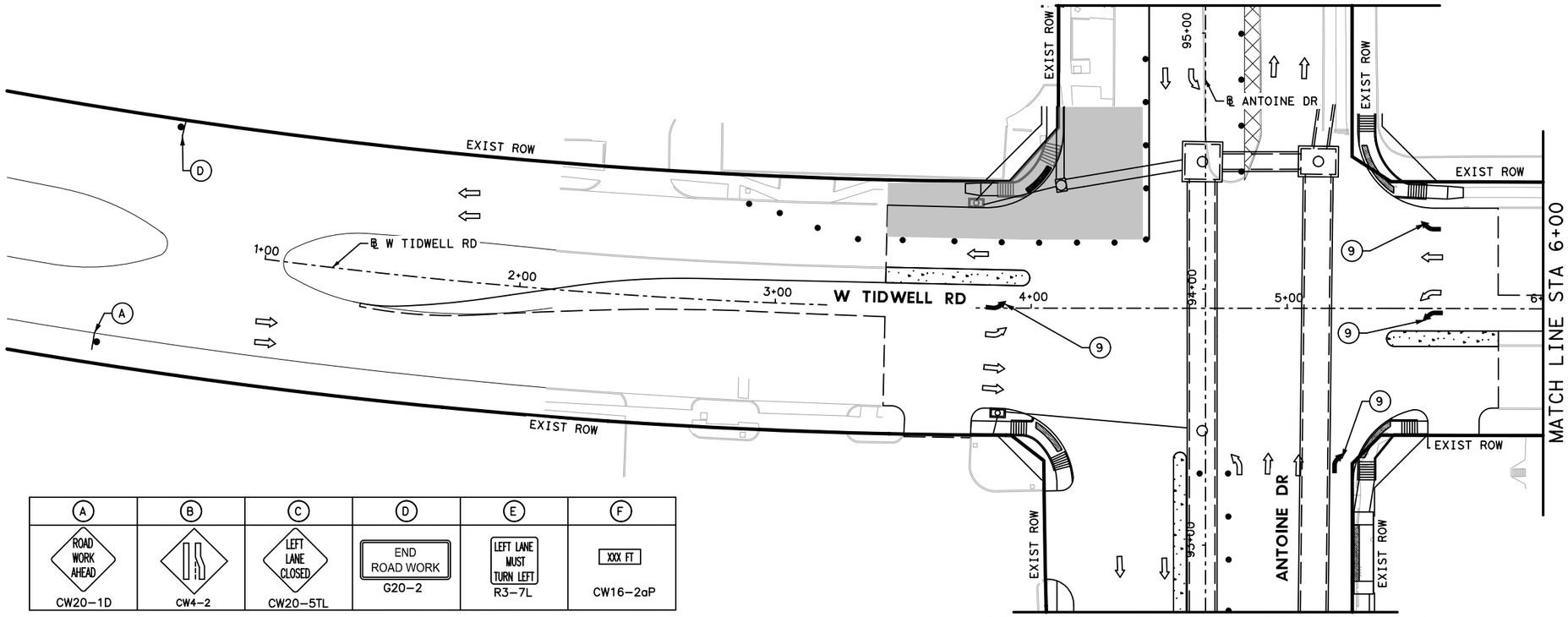
SEE SHEET 1 OF 2 FOR MORE INFORMATION



SEE SHEET 1 OF 2 FOR MORE INFORMATION

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ROAD WORK AHEAD		LEFT LANE CLOSED	END ROAD WORK	LEFT LANE MUST TURN LEFT	XXX FT
CW20-1D	CW4-2	CW20-5TL	G20-2	R3-7L	CW16-2aP

LEGEND

- WORK ZONE
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1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
5. REMOVABLE PAV MRK (REFLECTOR) TY II-C
6. REMOVABLE PAV MRK (REFLECTOR) TY A-A
7. REMOVABLE PAV MRK BUTTONS TY W (DOT)
8. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
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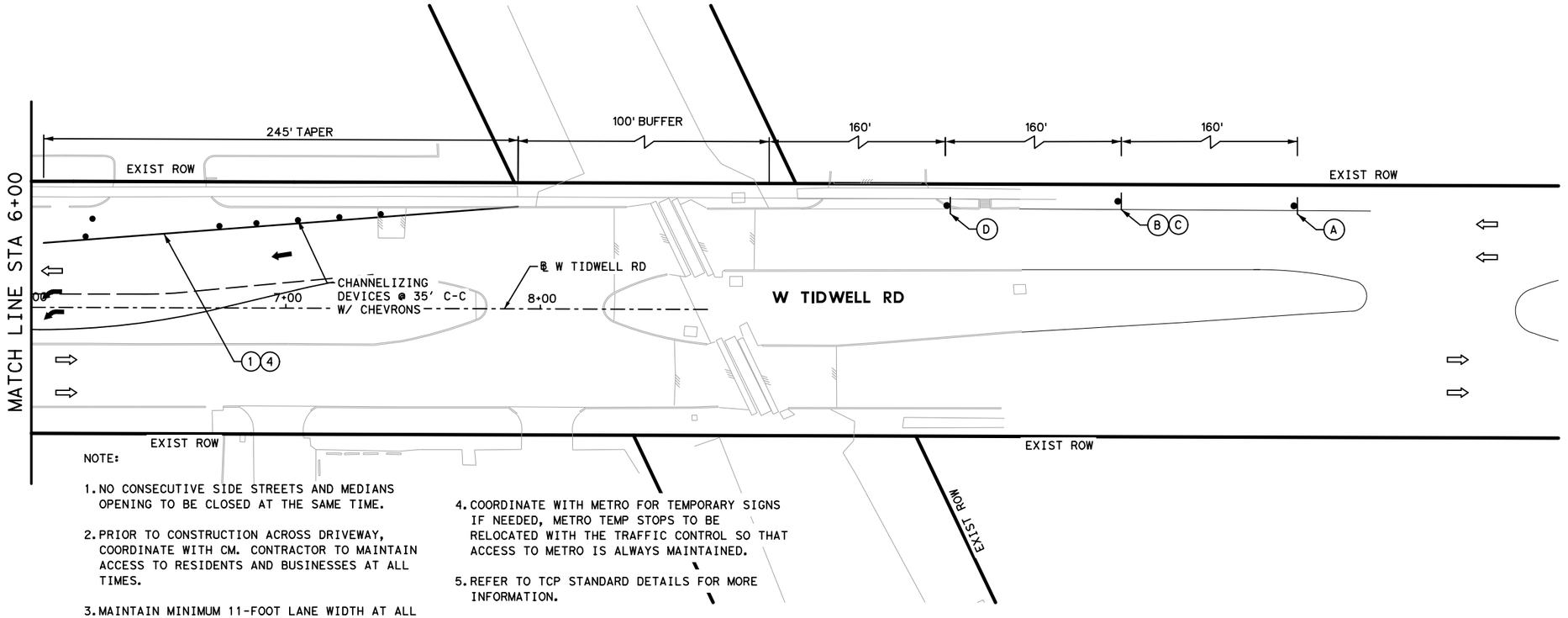

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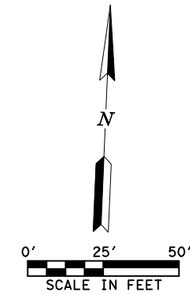

No.	DATE	REVISIONS	APP:

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TEXAS PE FIRM REG. # 20017
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W TIDWEL INTERSECTION STEP 11

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 105 OF 1067	

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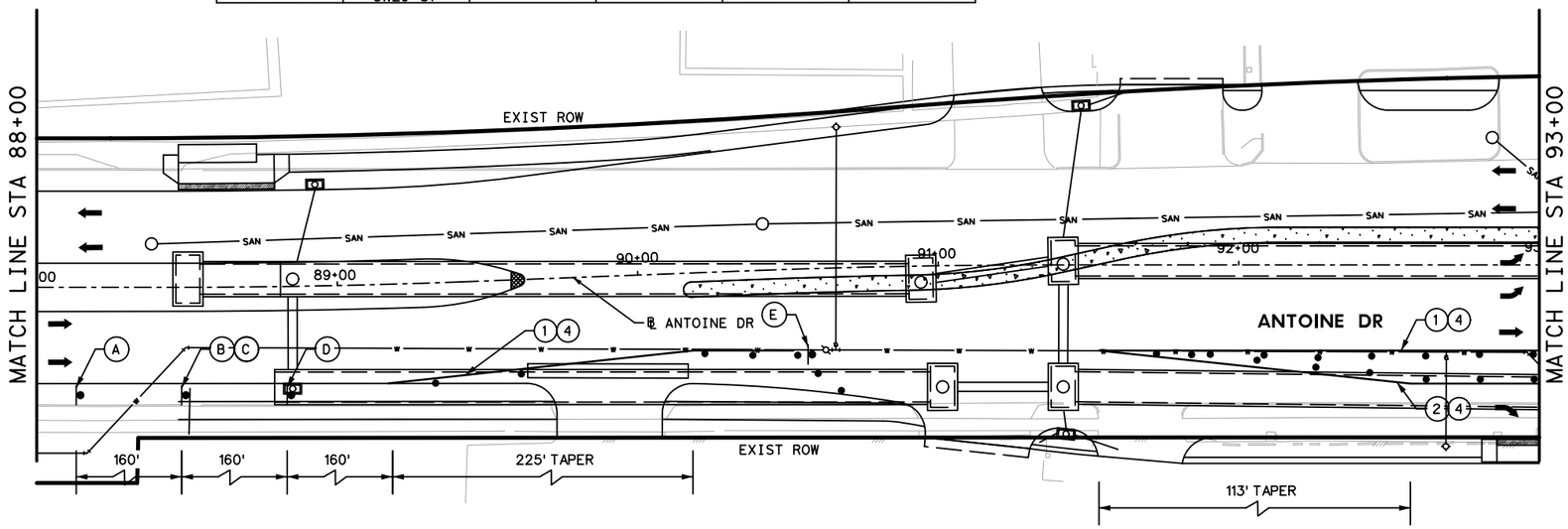

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LEGEND

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- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
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- DRUM
- VERTICAL PANEL
- FLASHING ARROW
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- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (9) REMOVABLE PAV MRK BUTTONS ARROW
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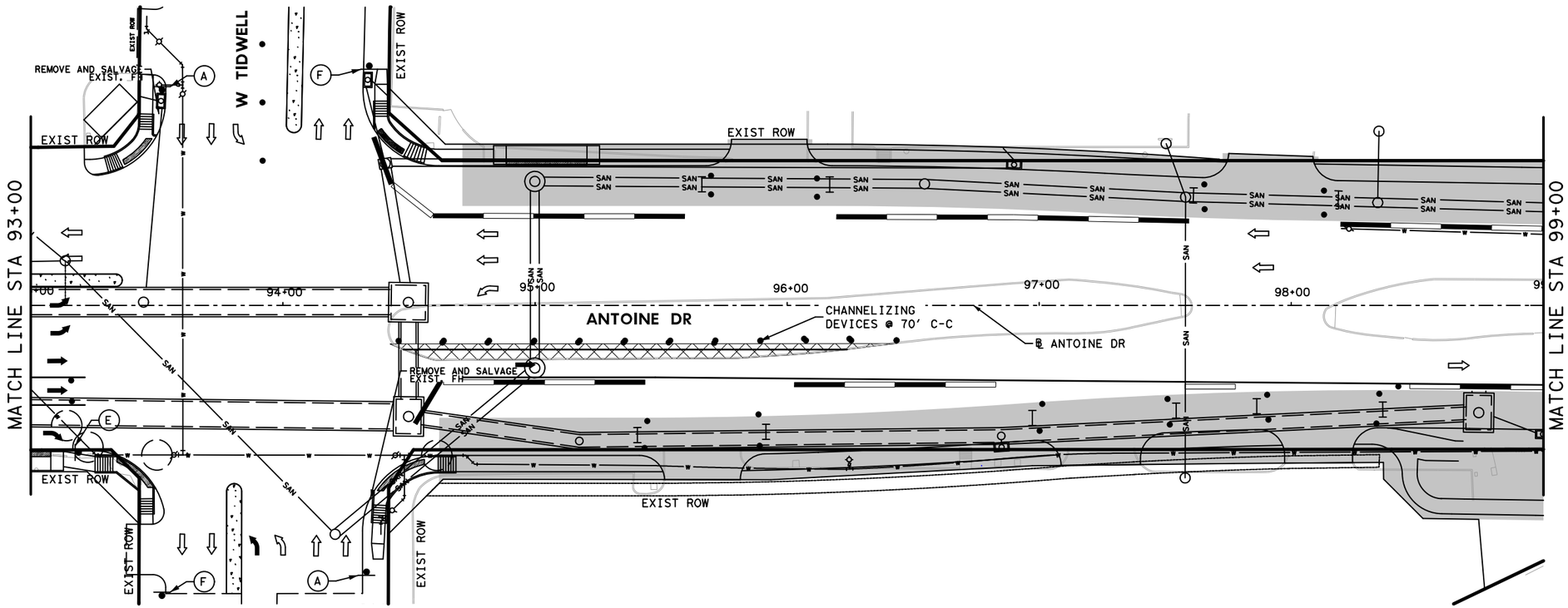

N

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
PHASE 1 STEP 5

SHEET 71 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 106 OF 1067	

No.	DATE	REVISIONS	APP.

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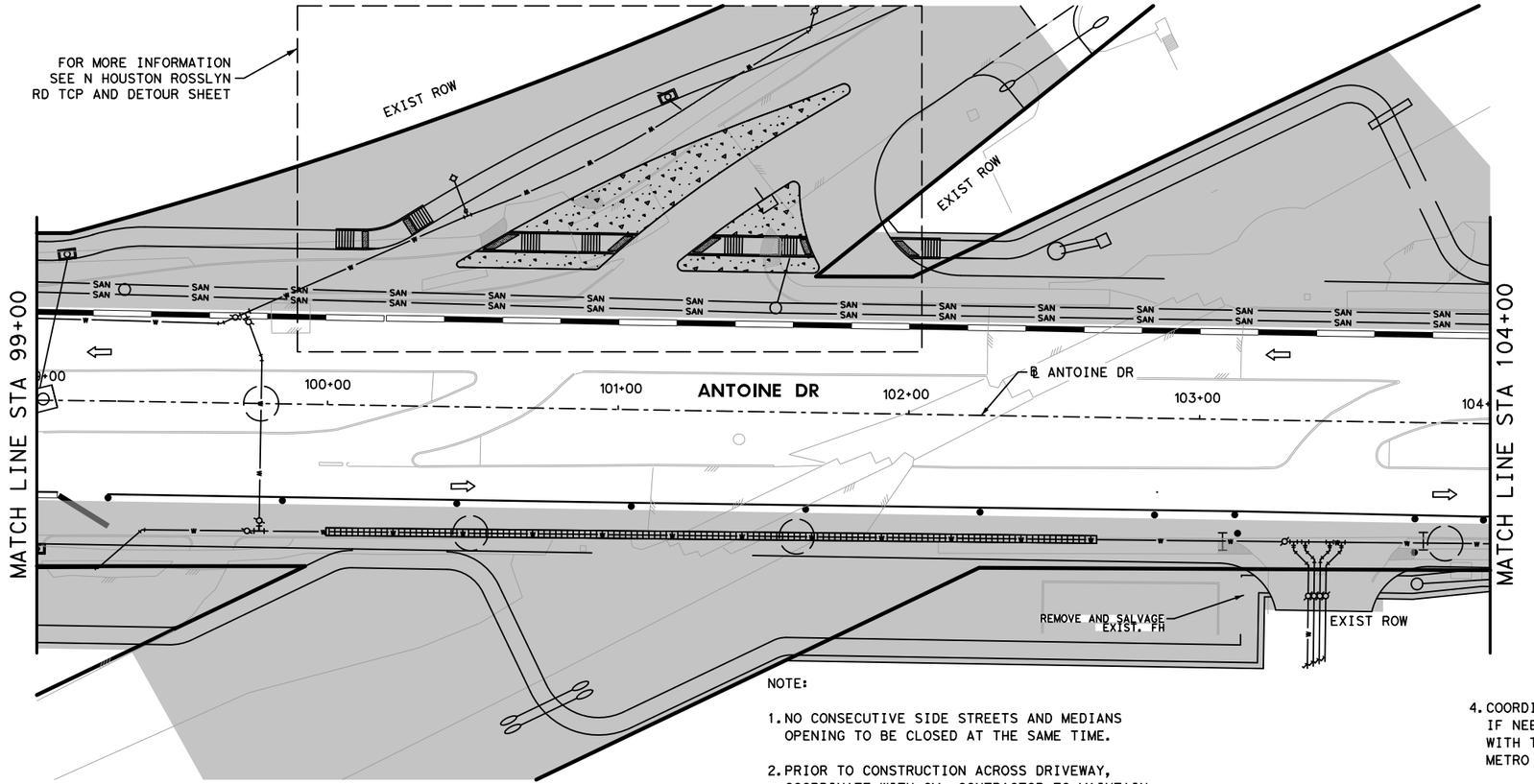


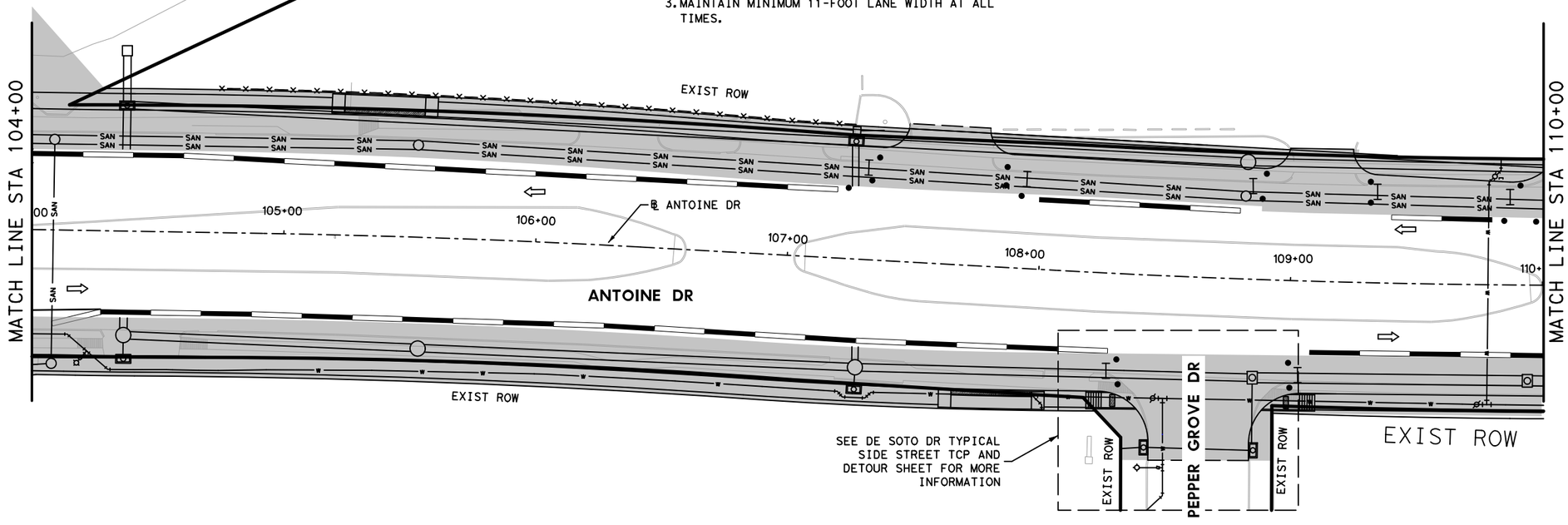
A	B
ROAD WORK AHEAD CW20-1D	RIGHT LANE MUST TURN RIGHT R3-7R
C	D
LEFT LANE MUST TURN LEFT R3-7L	END ROAD WORK G20-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.



N

0′ 25′ 50′

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Texas
155052
3/12/2026
on
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
PHASE 1 STEP 5

SHEET 72 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 107 OF 1067	

No.	DATE	REVISIONS	APP:

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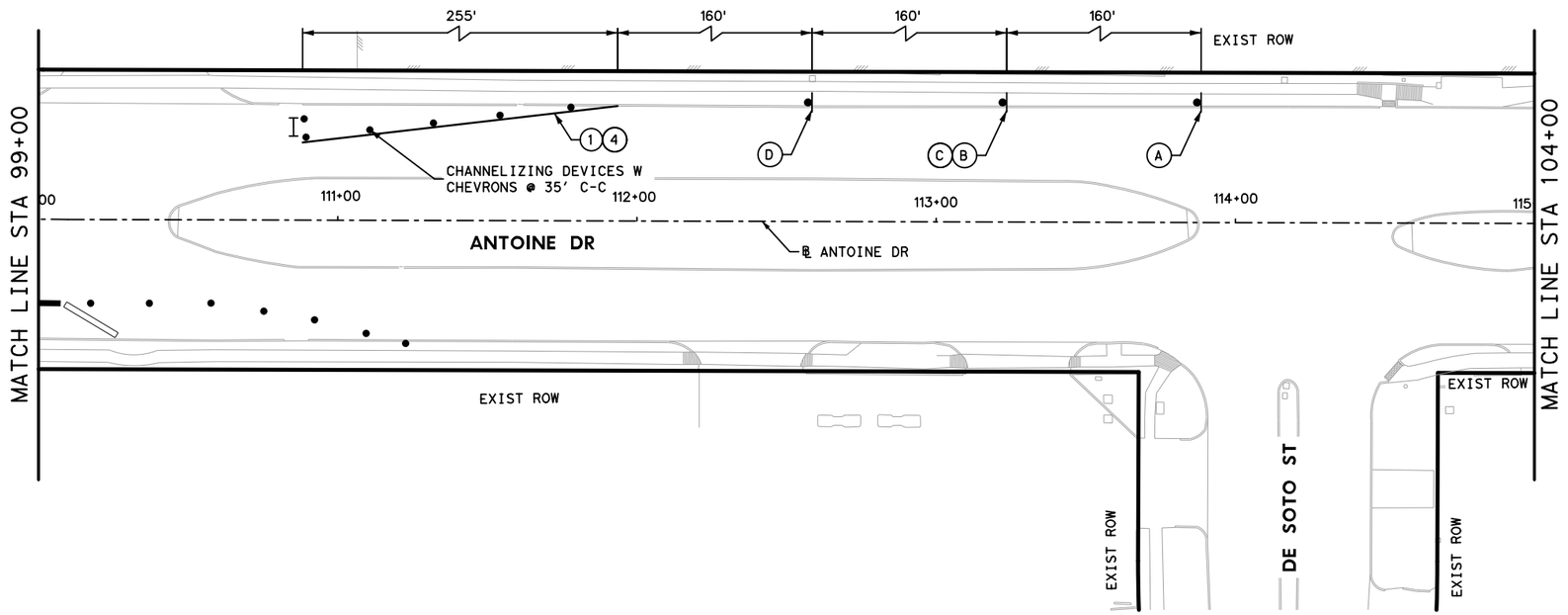

A	B	C	D	E	F
ROAD WORK AHEAD CW20-1D	RIGHT LANE CLOSED CW20-5T	XXX FT CW16-2aP	 CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	END ROAD WORK G20-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

N

0' 25' 50'

SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 5

SHEET 73 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 108 OF 1067	

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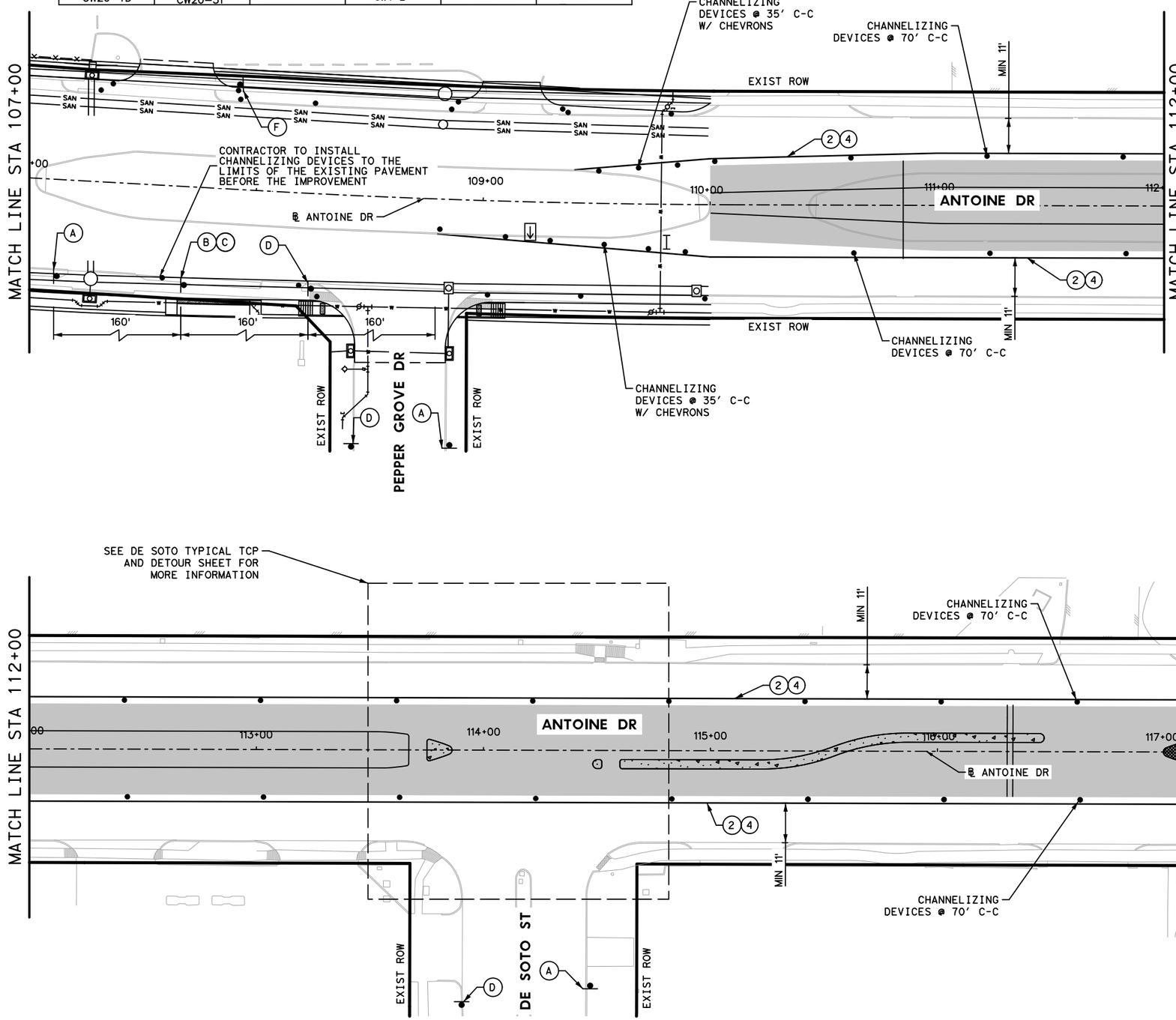
A	B	C	D	E	F
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R	G20-2



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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
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- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
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HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 6

SHEET 71 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 109 OF 1067	

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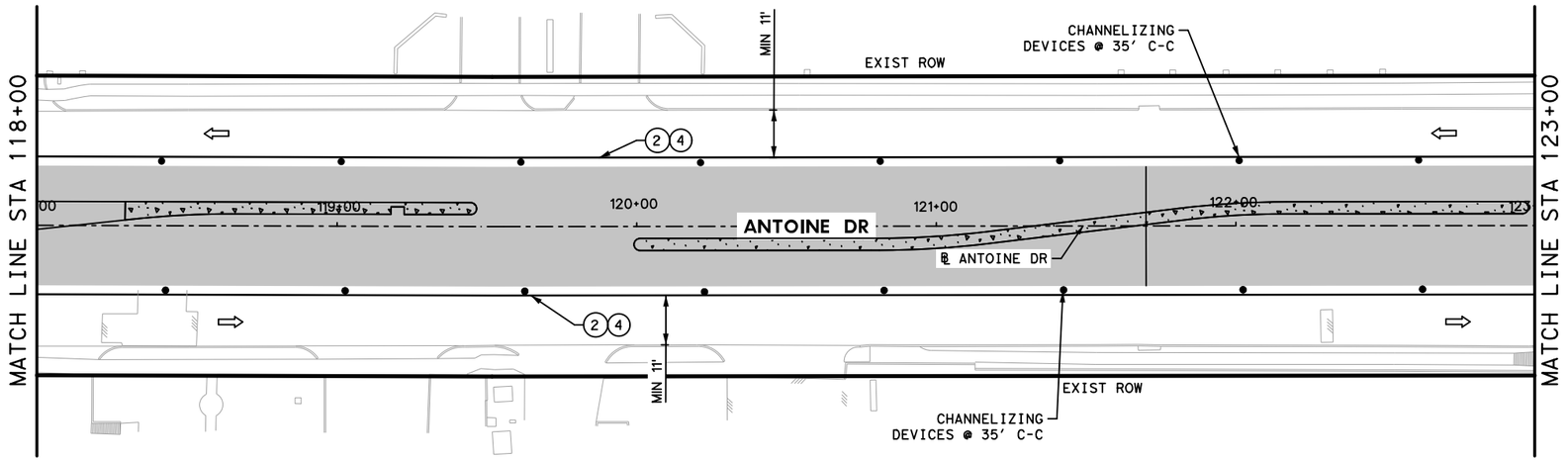

A	D
ROAD WORK AHEAD	END ROAD WORK
CW20-1D	G20-2

NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
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- VERTICAL PANEL
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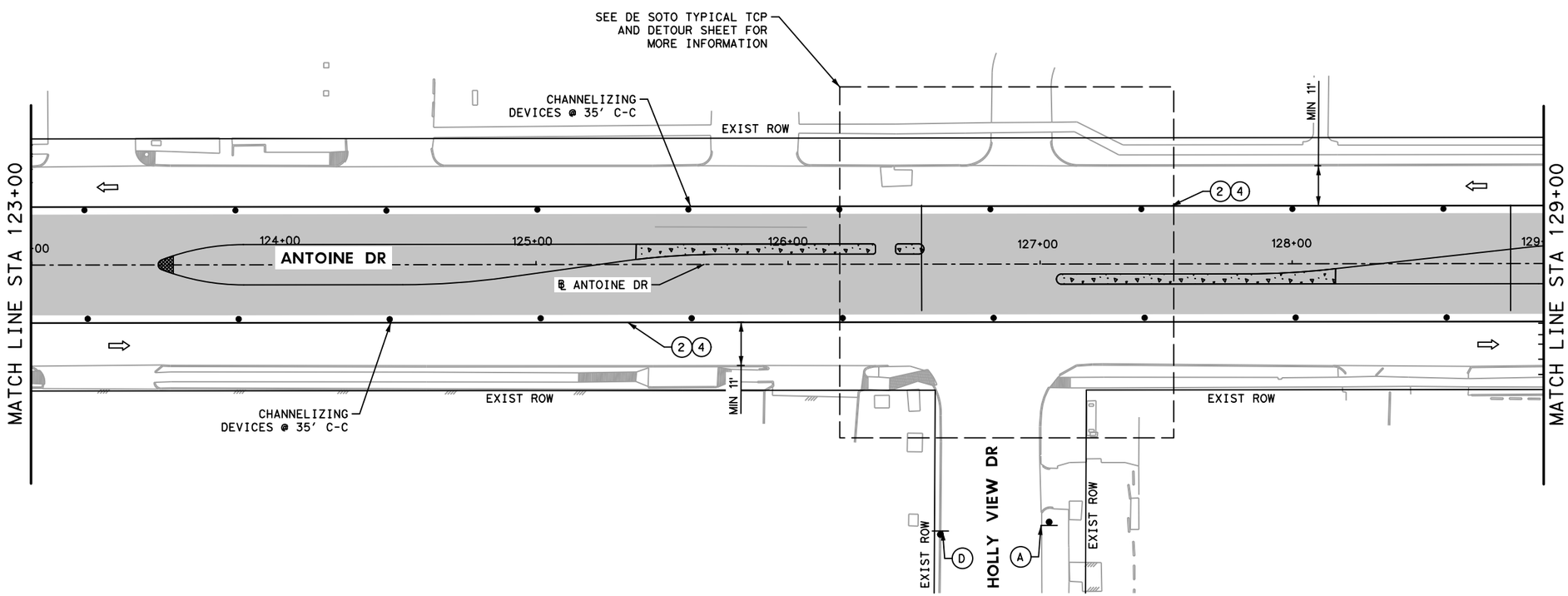

N

0' 25' 50'

SCALE IN FEET

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
PHASE 1 STEP 6

SHEET 72 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 110 OF 1067	

No.	DATE	REVISIONS	APP.

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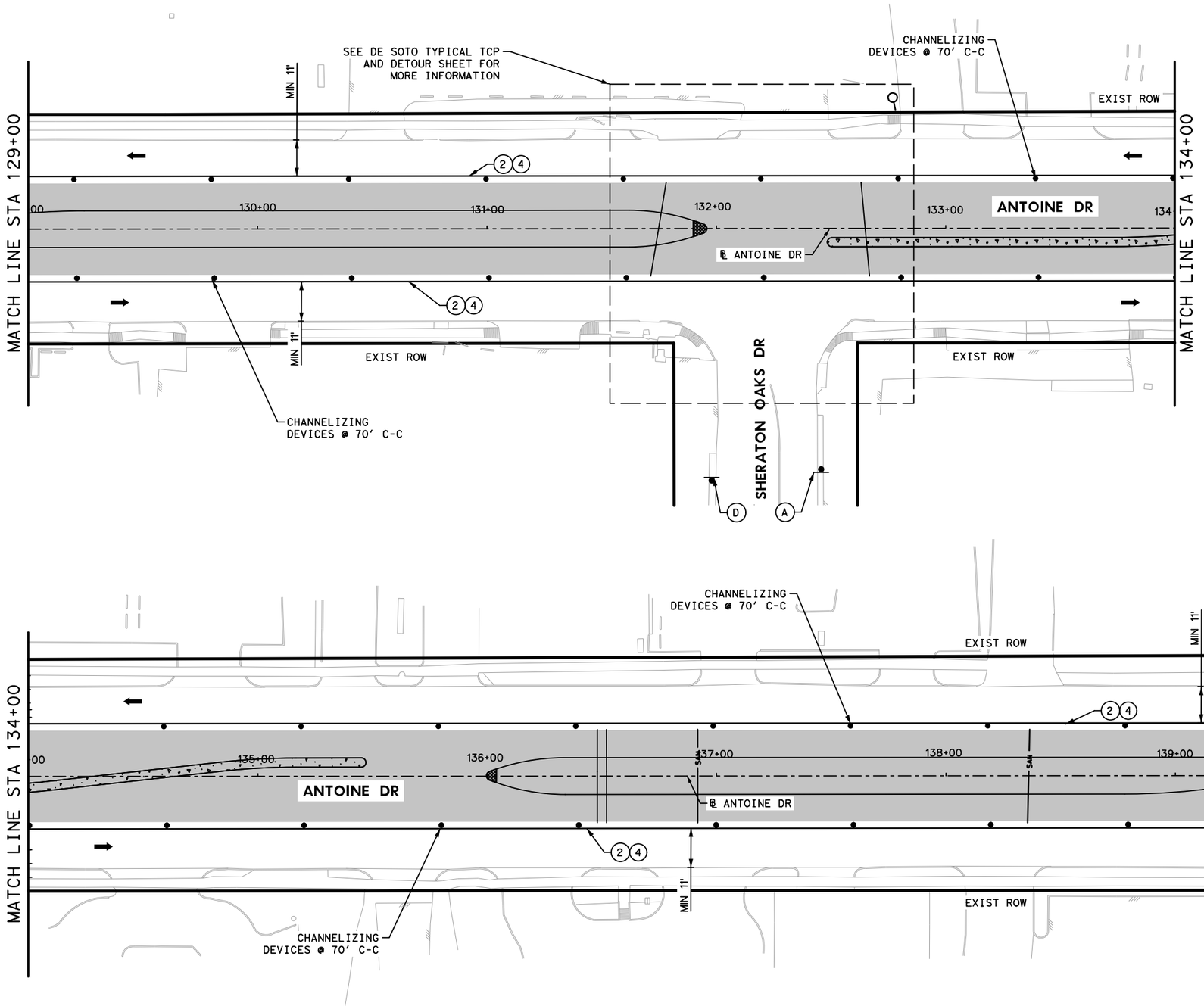

A	D
ROAD WORK AHEAD CW20-1D	END ROAD WORK G20-2

NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
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No.	DATE	REVISIONS	APP:

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0' 25' 50'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 6

SHEET 73 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
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AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
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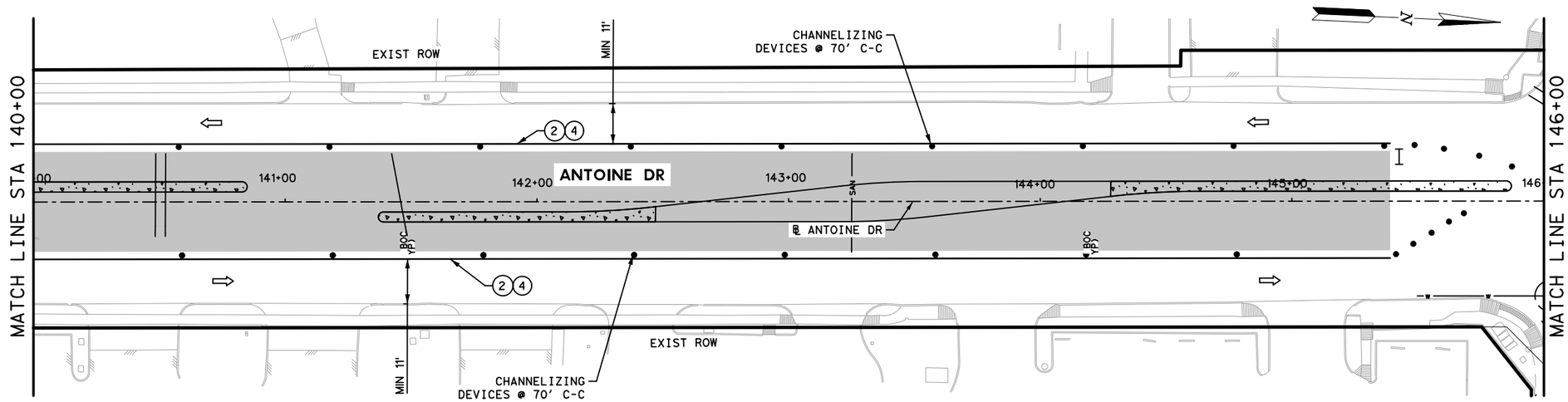

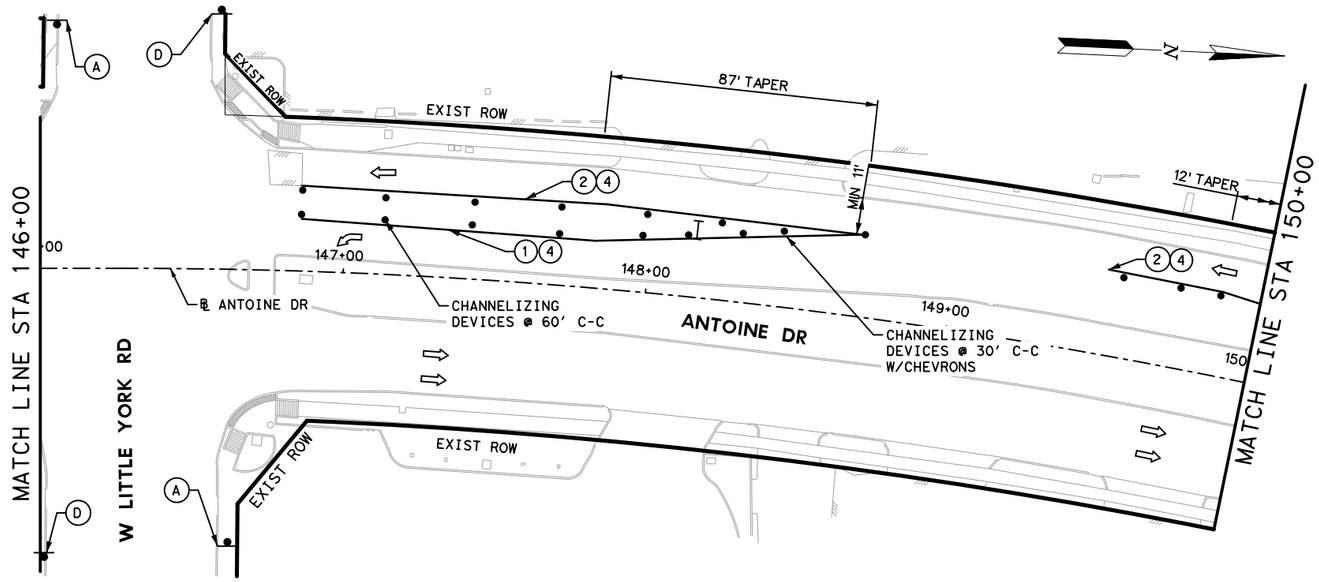

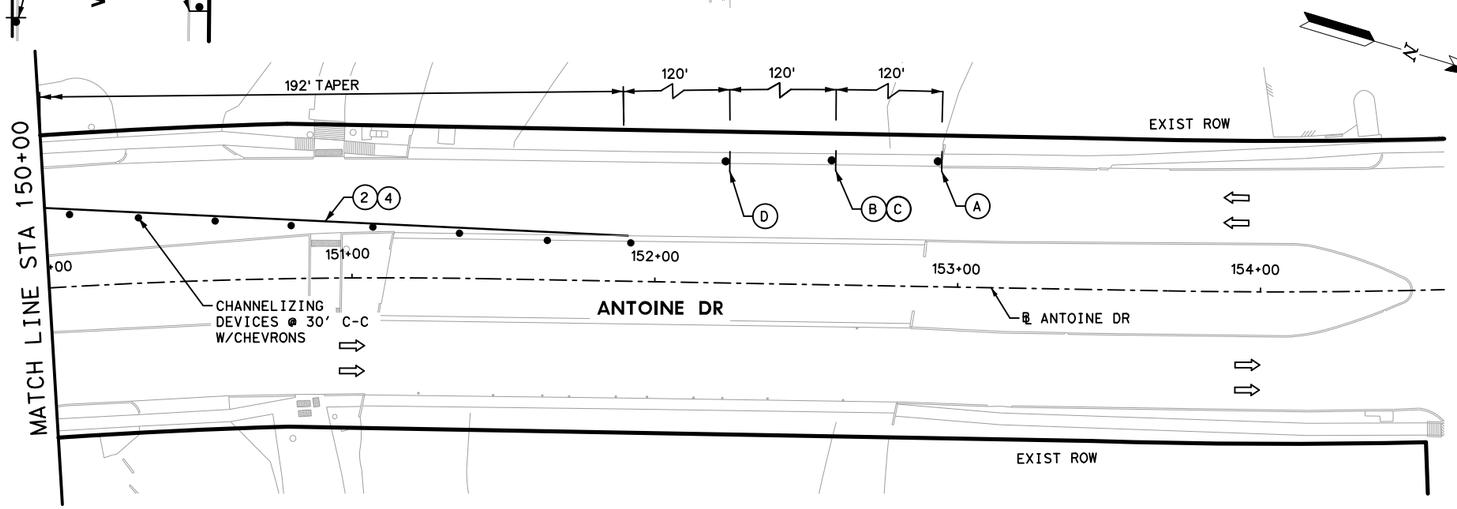

LEGEND

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- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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APP:	DATE	No.	REVISIONS

A	B	C	D	E	F
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R	G20-2

0' 25' 50'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 6

SHEET 74 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 112 OF 1067	

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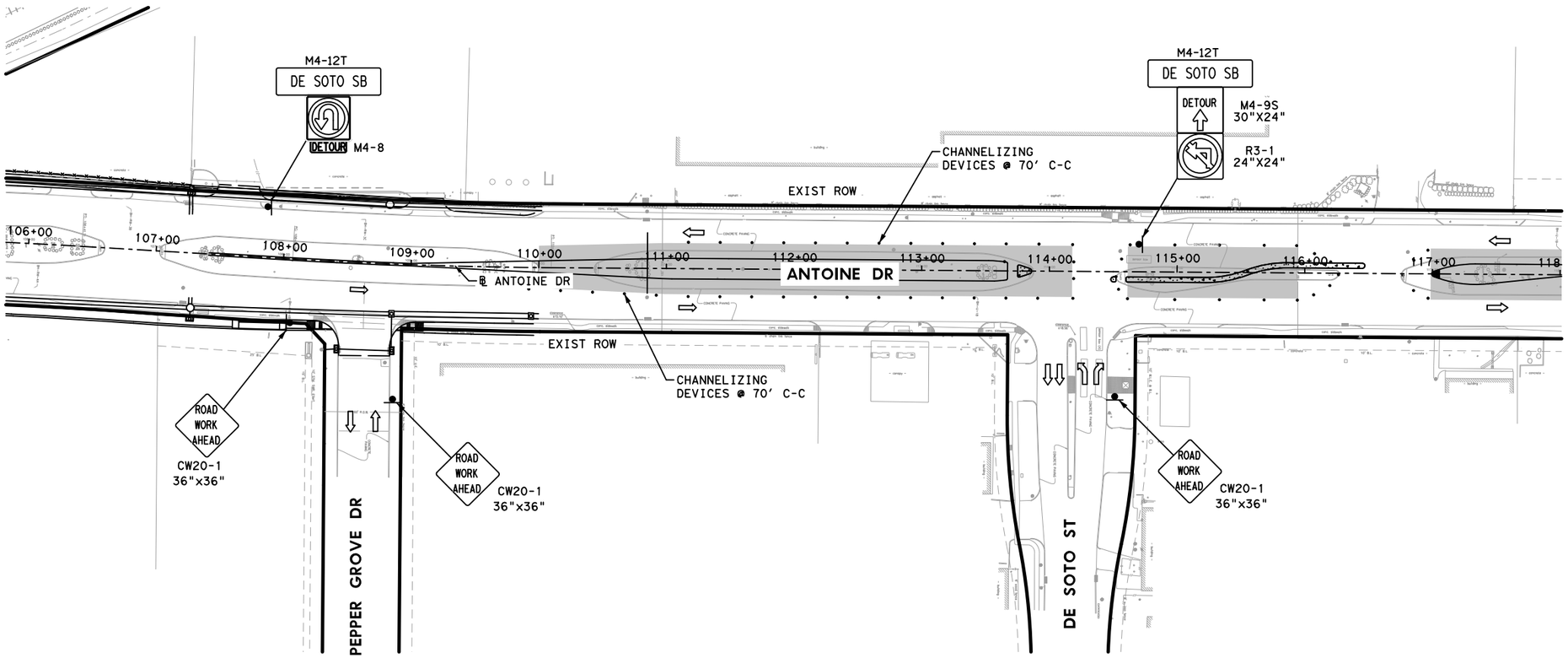

LEGEND

- WORK ZONE
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- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

N

0' 50' 100'

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DETOUR PLANS
ANTOINE DRIVE - DE SOTO INTERSECTION
PHASE 1 STEP 1

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 113 OF 1067	

Plotted on: 3/12/2026 2:12:28 PM $USER$
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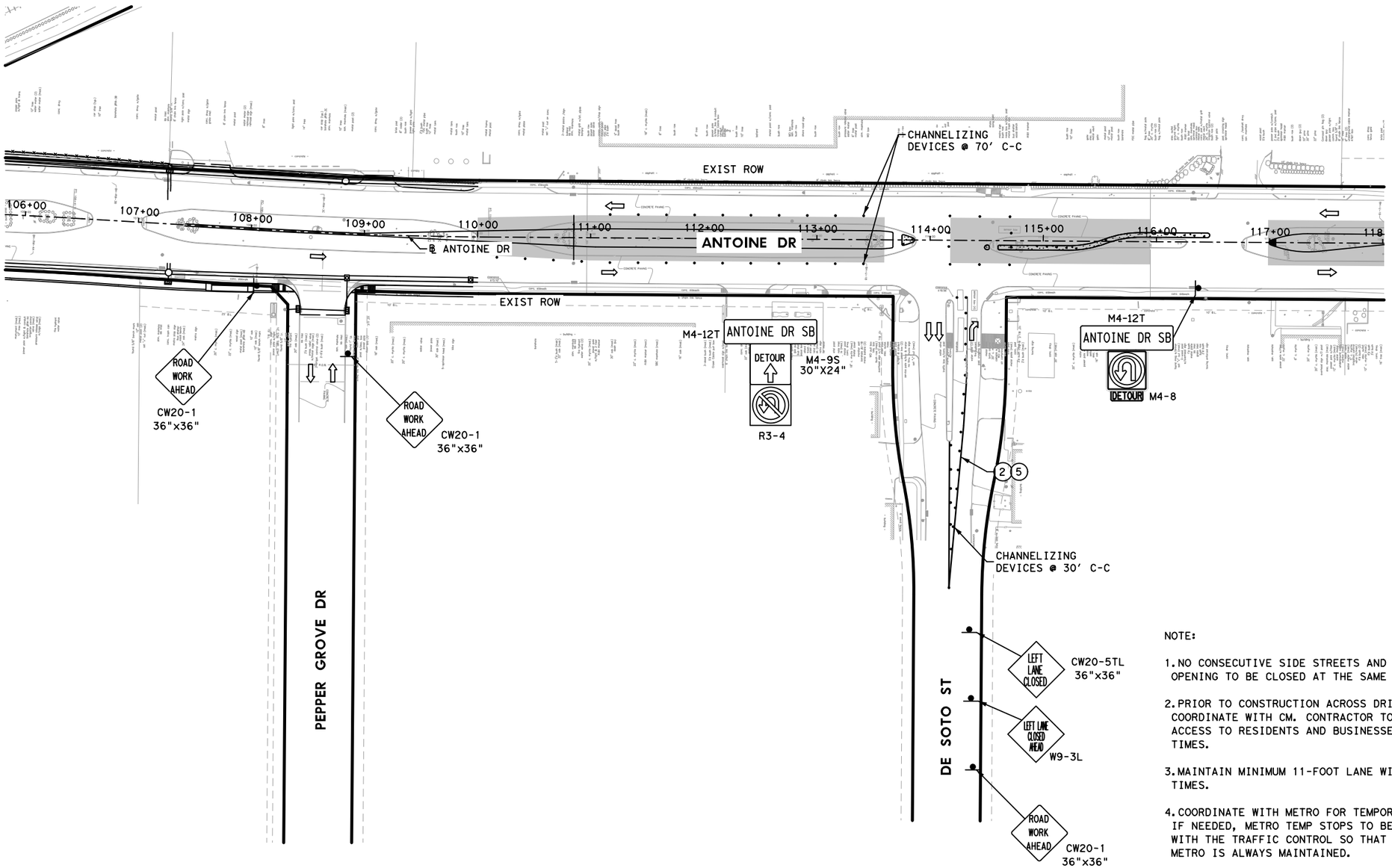

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP:

N

0' 50' 100'

SCALE IN FEET

NOTE:

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DETOUR PLANS
ANTOINE DRIVE - DE SOTO INTERSECTION
PHASE 1 STEP 2

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 114 OF 1067	

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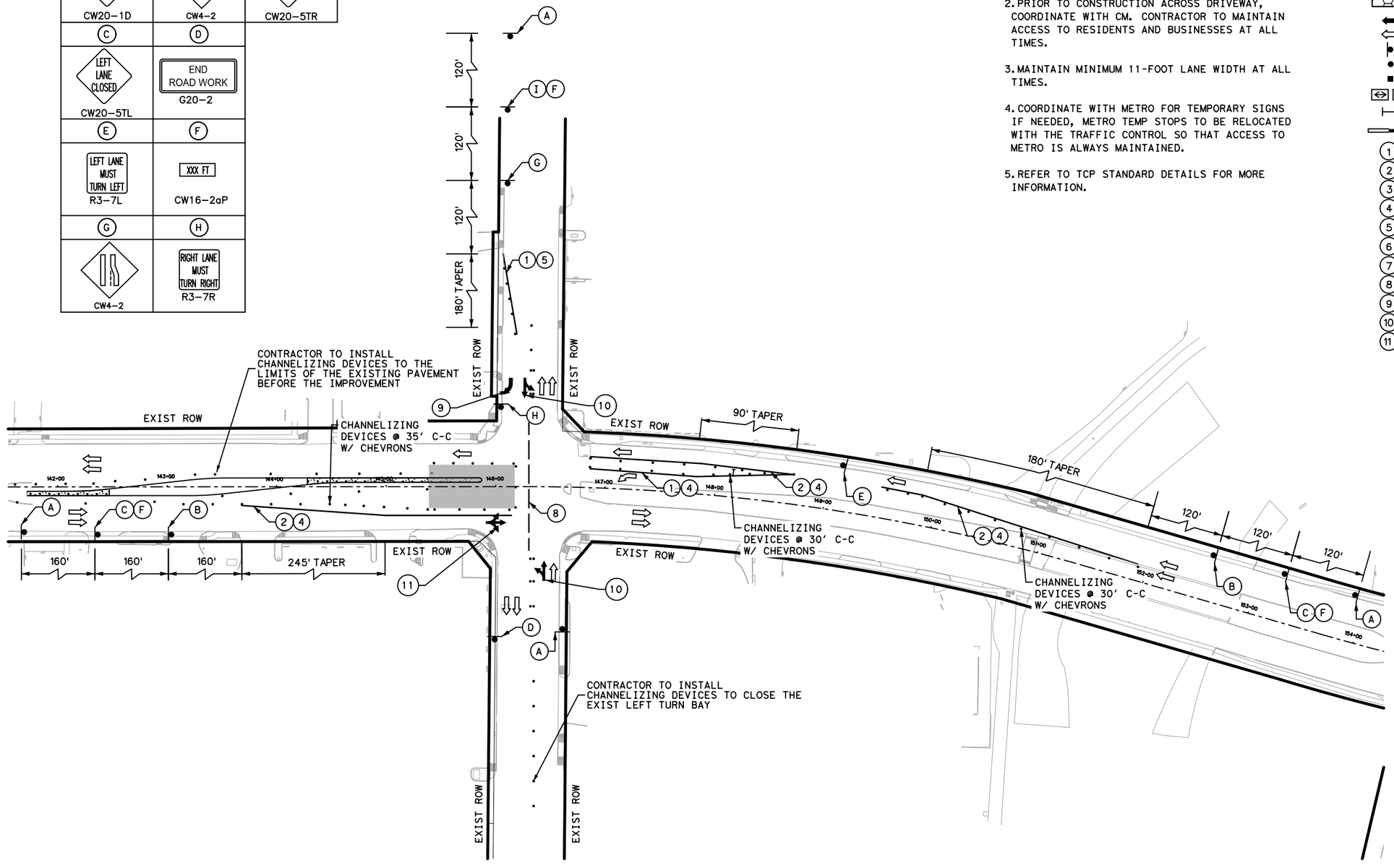
A	B	I
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
C	D	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
E	F	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
G	H	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	



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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
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- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP'D

N

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 1

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 115 OF 1067	

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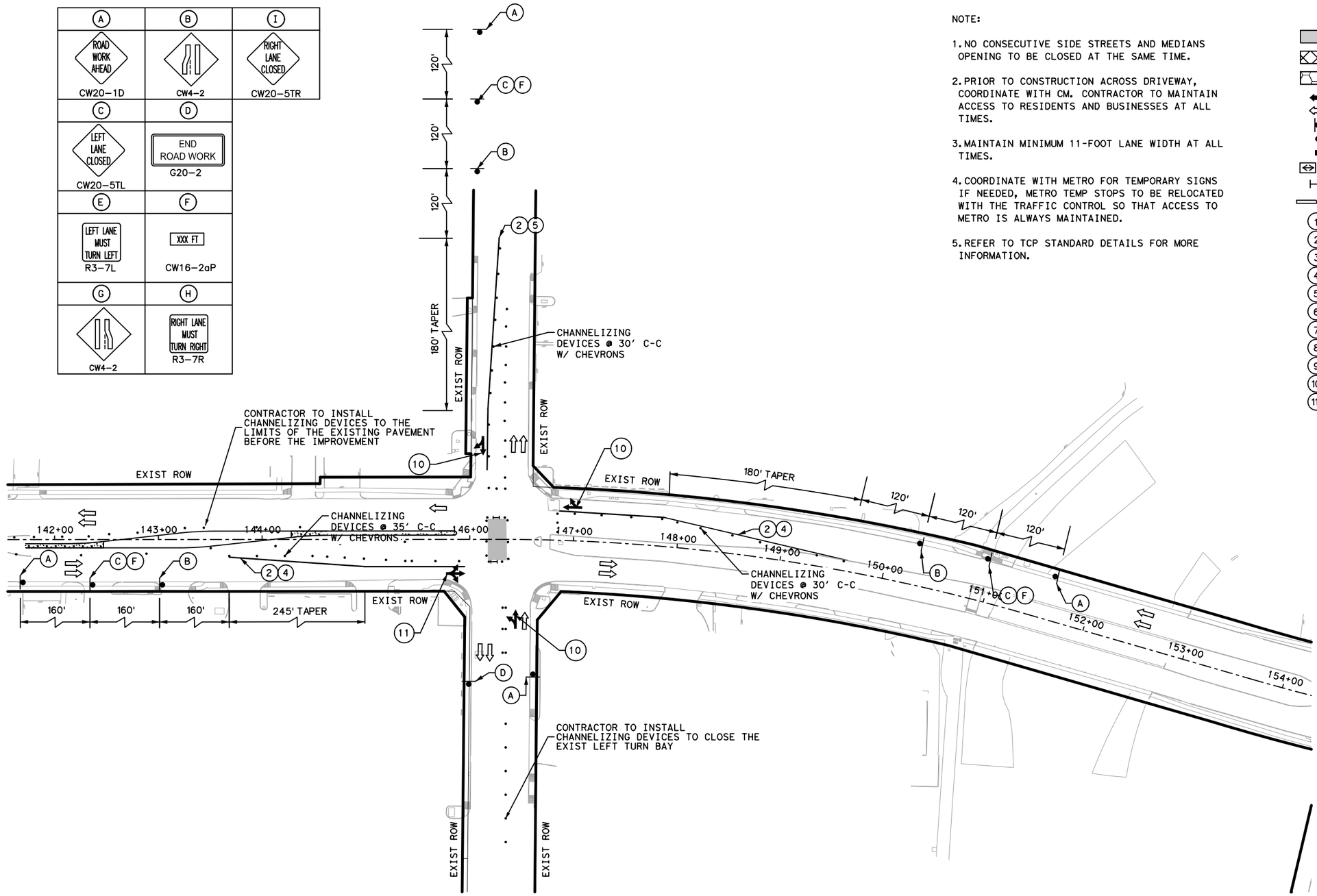
(A)	(B)	(I)
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
(C)	(D)	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
(E)	(F)	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
(G)	(H)	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	



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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
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- (1) REMOVABLE PAV MRK BUTTONS TY W
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP:

N

0' 50' 100'

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 2

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 116 OF 1067	

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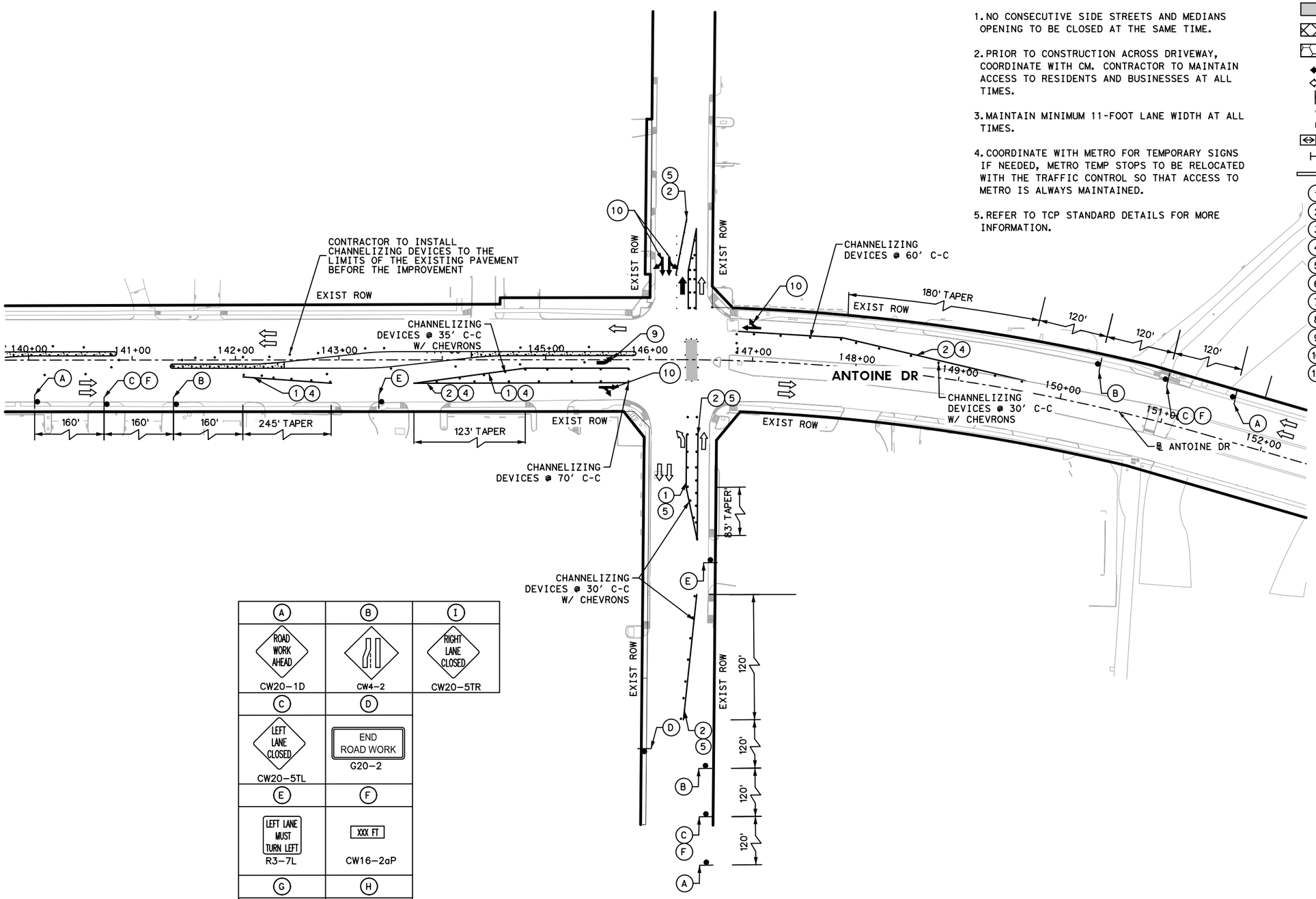

A	B	I
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
C	D	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
E	F	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
G	H	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
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- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 3

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 117 OF 1067	

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NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
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- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
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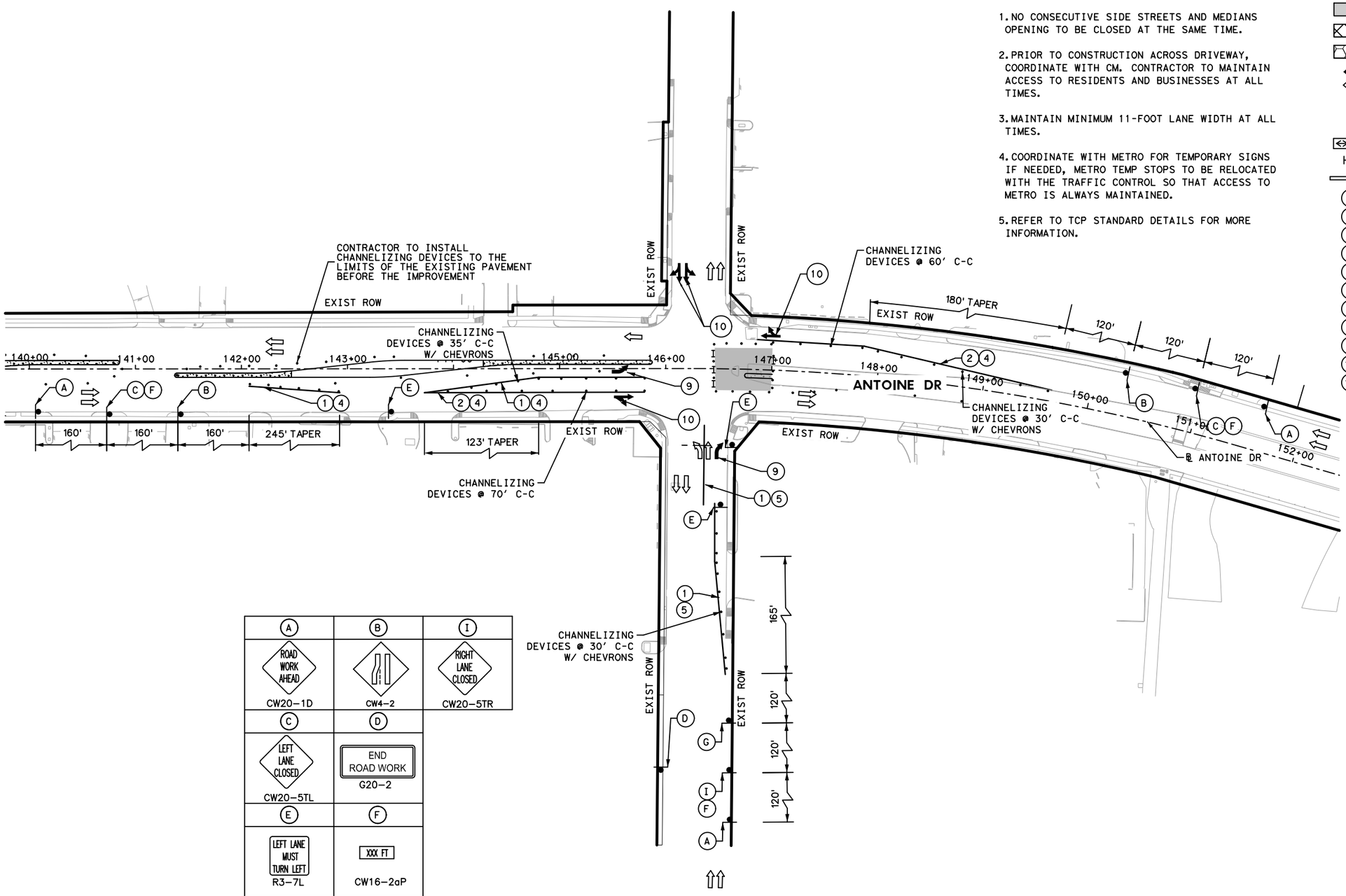

(A)	(B)	(I)
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
(C)	(D)	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
(E)	(F)	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
(G)	(H)	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 4

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 118 OF 1067	

No.	DATE	REVISIONS	APP:

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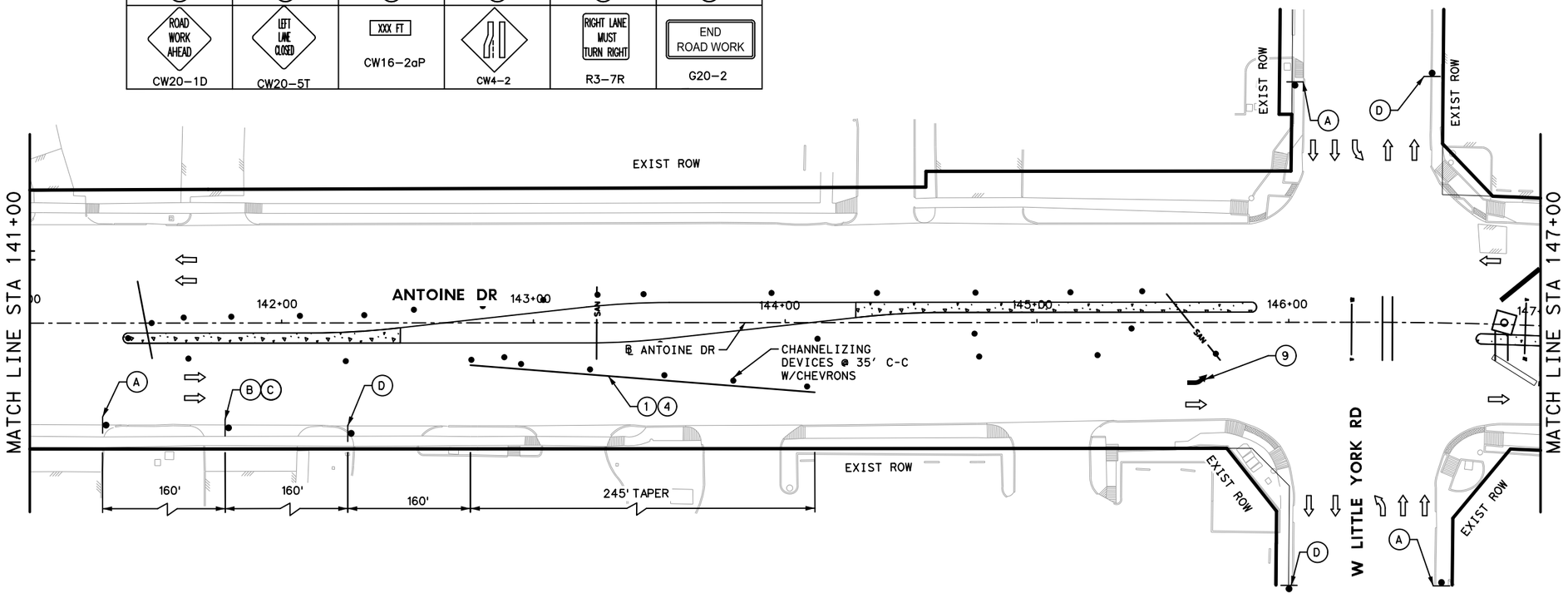
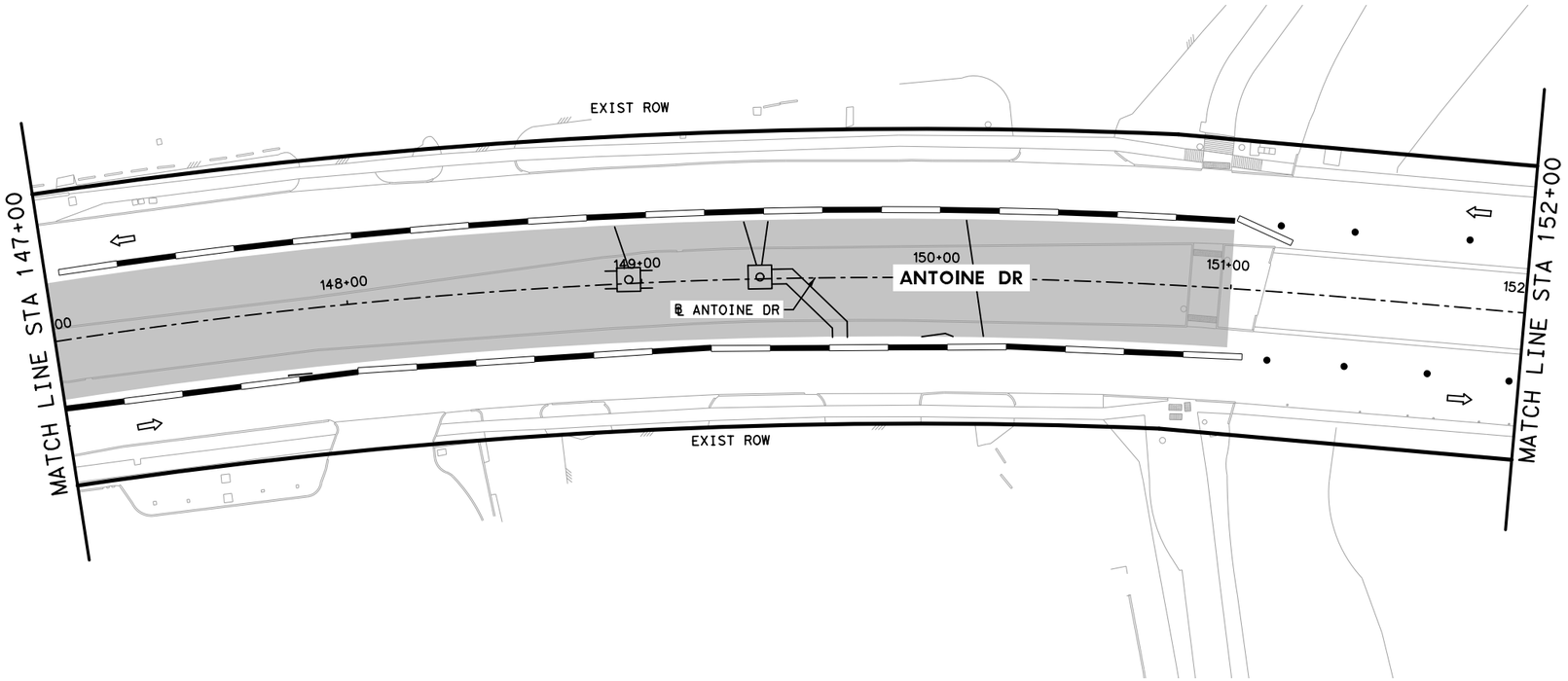
A	B	C	D	E	F
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R	G20-2





LEGEND

- WORK ZONE
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No.	DATE	REVISIONS	APP.

0' 25' 50'
SCALE IN FEET

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AHMED ALOBAIDI
Texas
155052
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 1 STEP 7

SHEET 71 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 119 OF 1067	

Pen Table: TX_Pen.tbl
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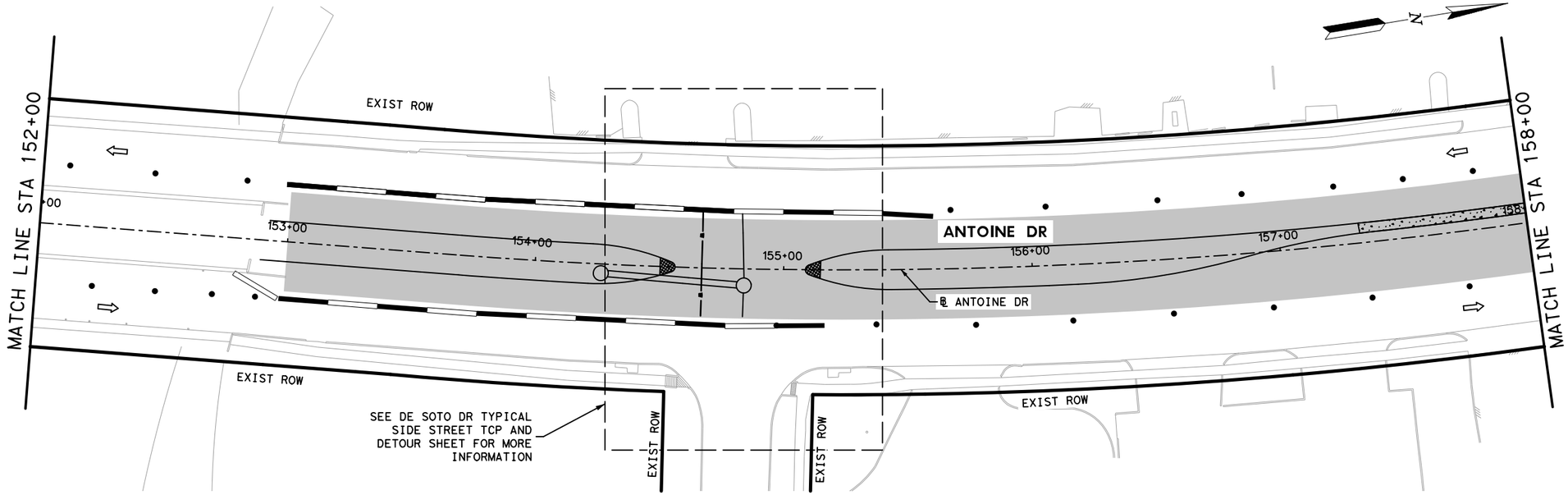

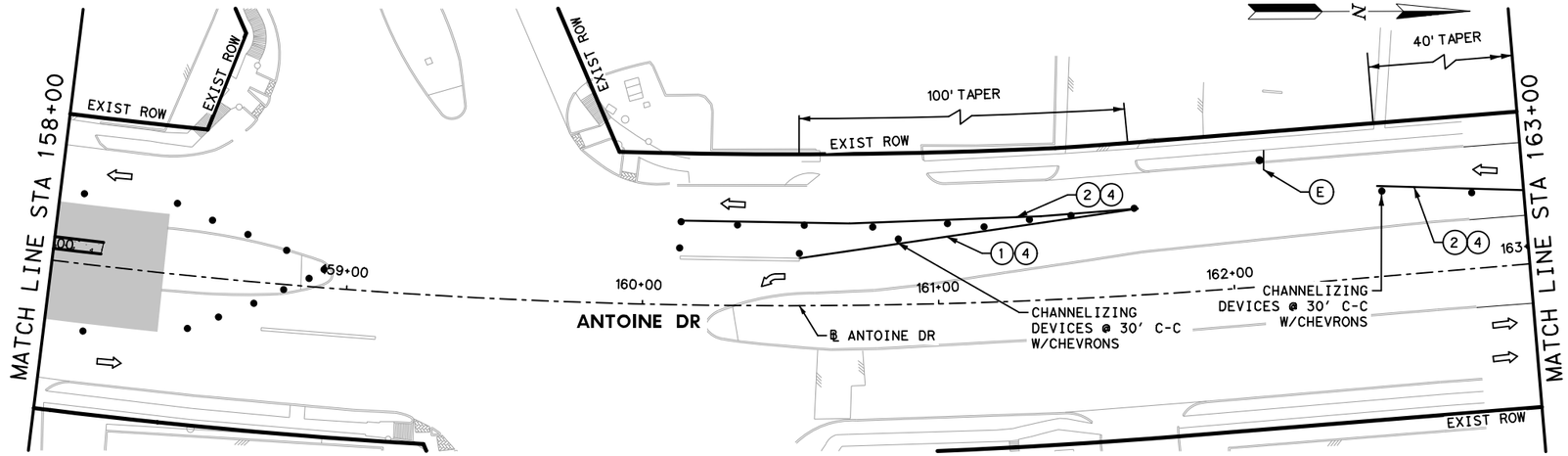

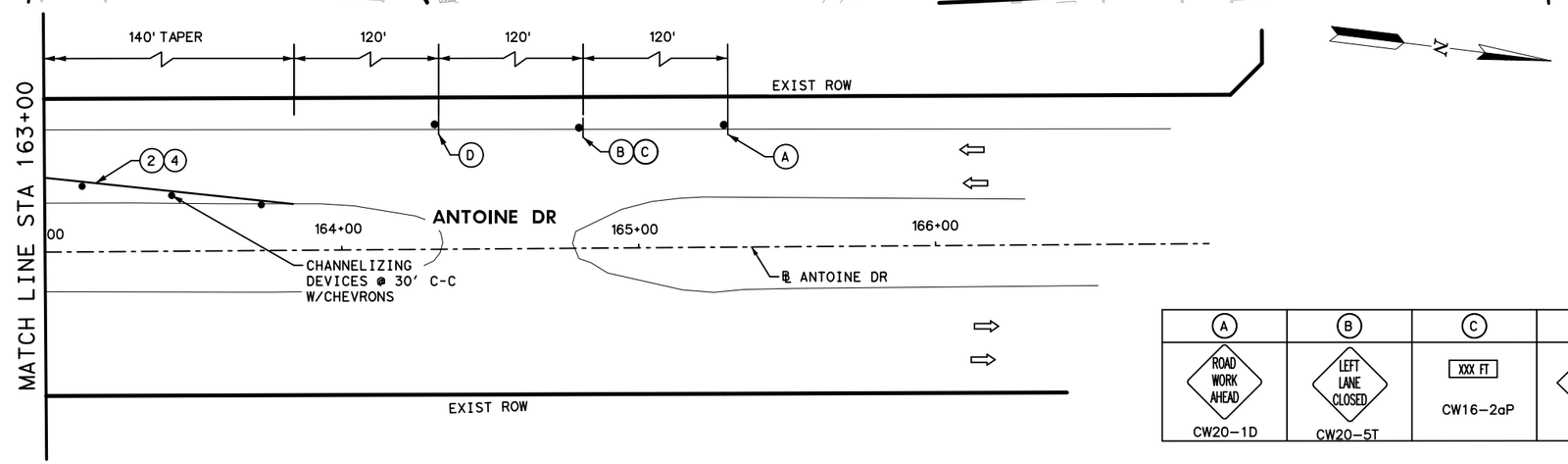

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

A	B	C	D	E	F
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		LEFT LANE MUST TURN LEFT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7L	G20-2

0′ 25′ 50′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
PHASE 1 STEP 7

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 120 OF 1067	

No.	DATE	REVISIONS	APP.

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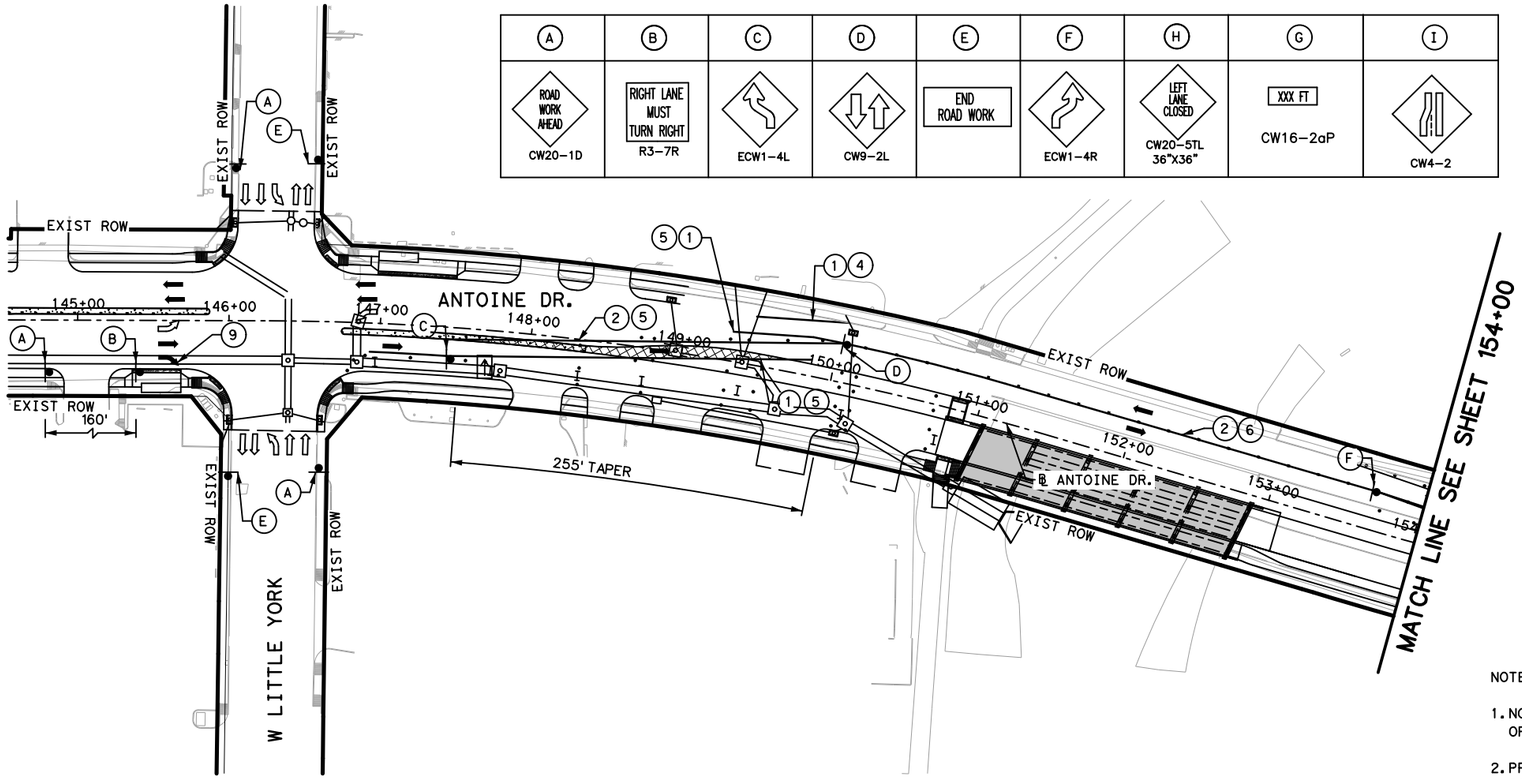

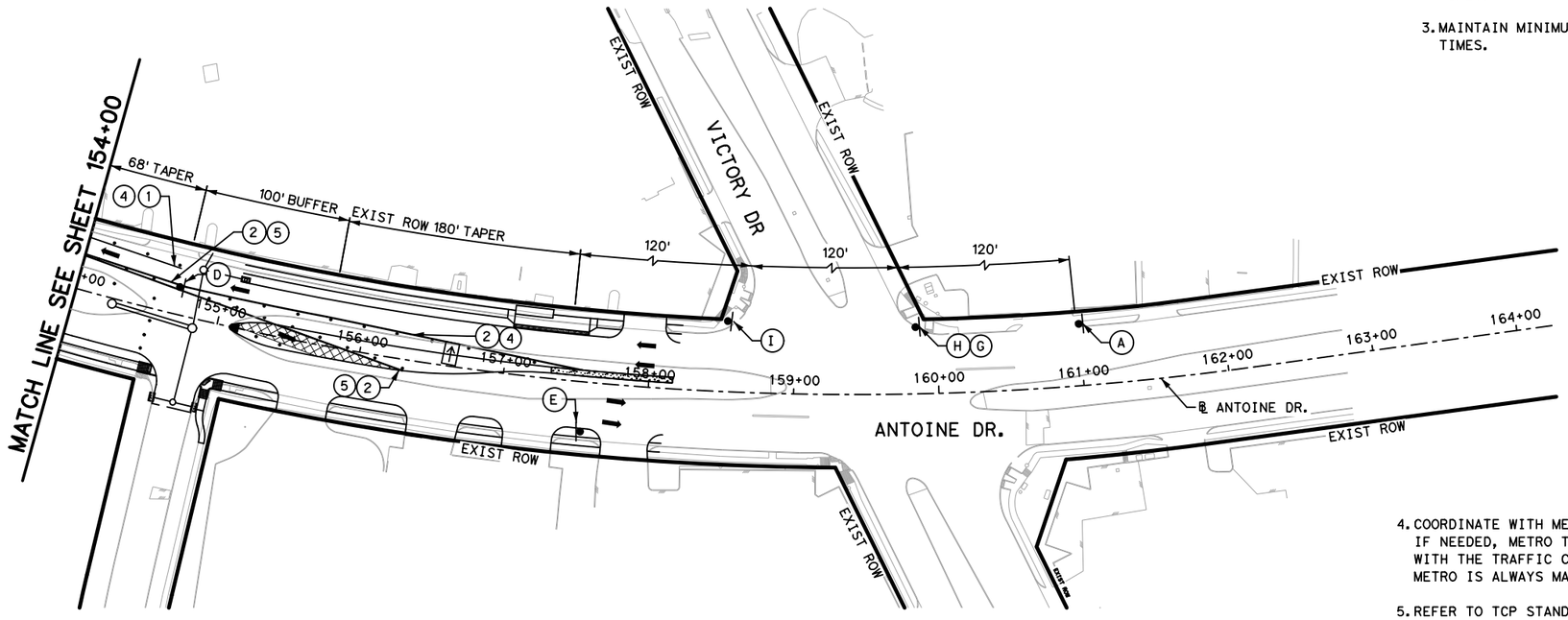

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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NOTE:

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3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
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5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

N

0′ 50′ 100′

SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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125611
3/12/2026
60% SUBMITTAL
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS WHITE OAK BRIDGE STEP 1

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 121 OF 1067	

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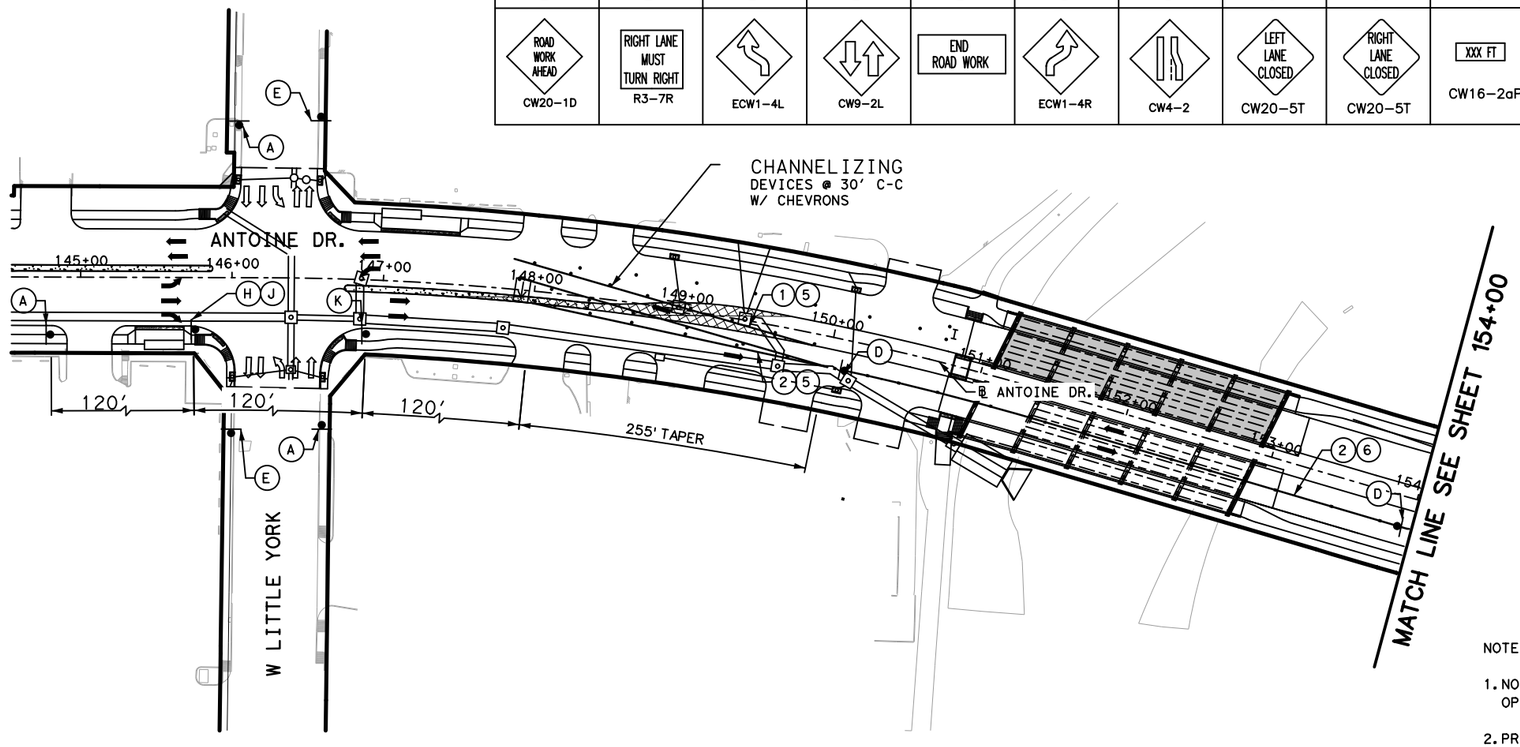
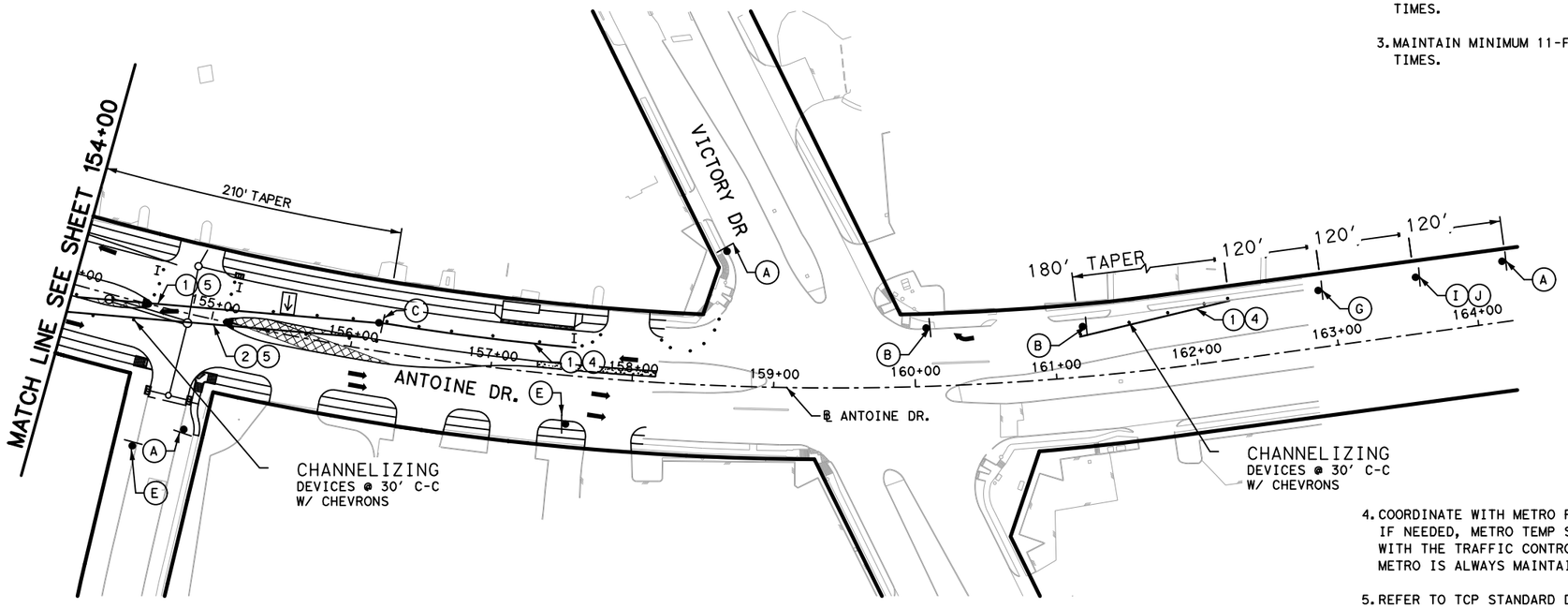
A	B	C	D	E	F	G	H	I	J	K
ROAD WORK AHEAD CW20-1D	RIGHT LANE MUST TURN RIGHT R3-7R	ECW1-4L	CW9-2L	END ROAD WORK	ECW1-4R	CW4-2	LEFT LANE CLOSED CW20-5T	RIGHT LANE CLOSED CW20-5T	XXX FT CW16-2aP	CW4-2





LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
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NOTE:

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N

0' 50' 100'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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12561
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS WHITE OAK BRIDGE STEP 2

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 122 OF 1067	

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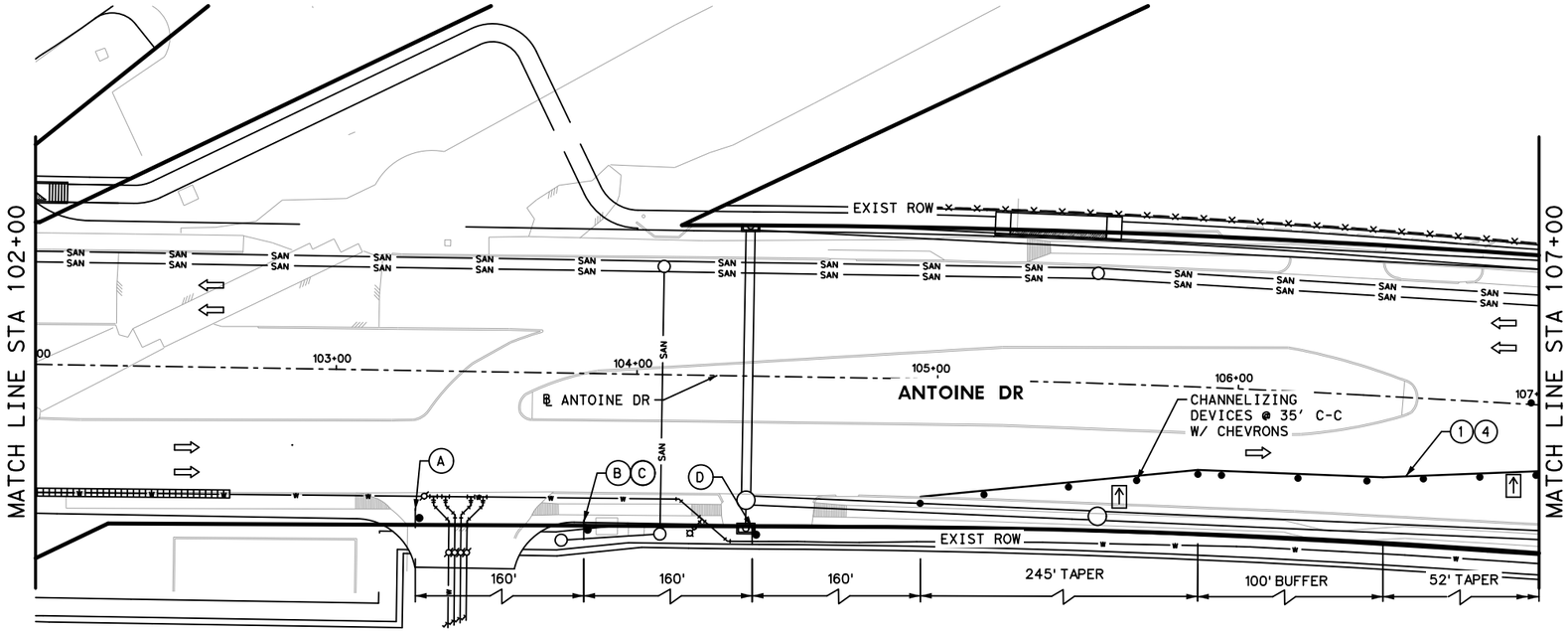

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LEGEND

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- HIGH EARLY STRENGTH CONCRETE
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- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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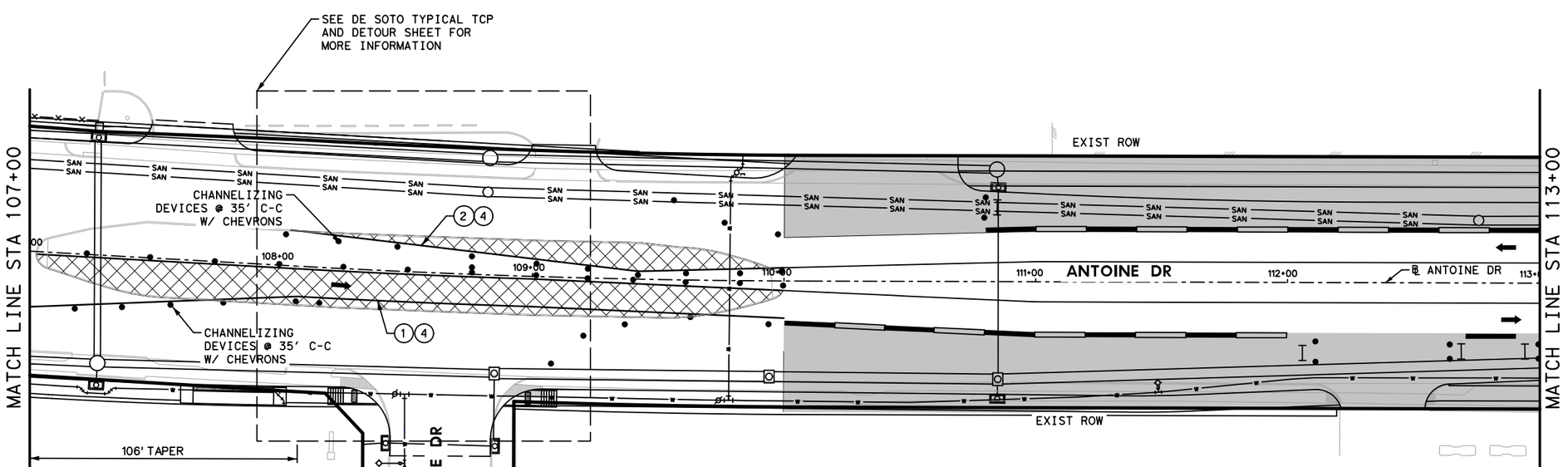

A	B	C	D	E	F
ROAD WORK AHEAD	RIGHT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R	G20-2

N

0' 25' 50'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 3

SHEET 71 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 123 OF 1067	

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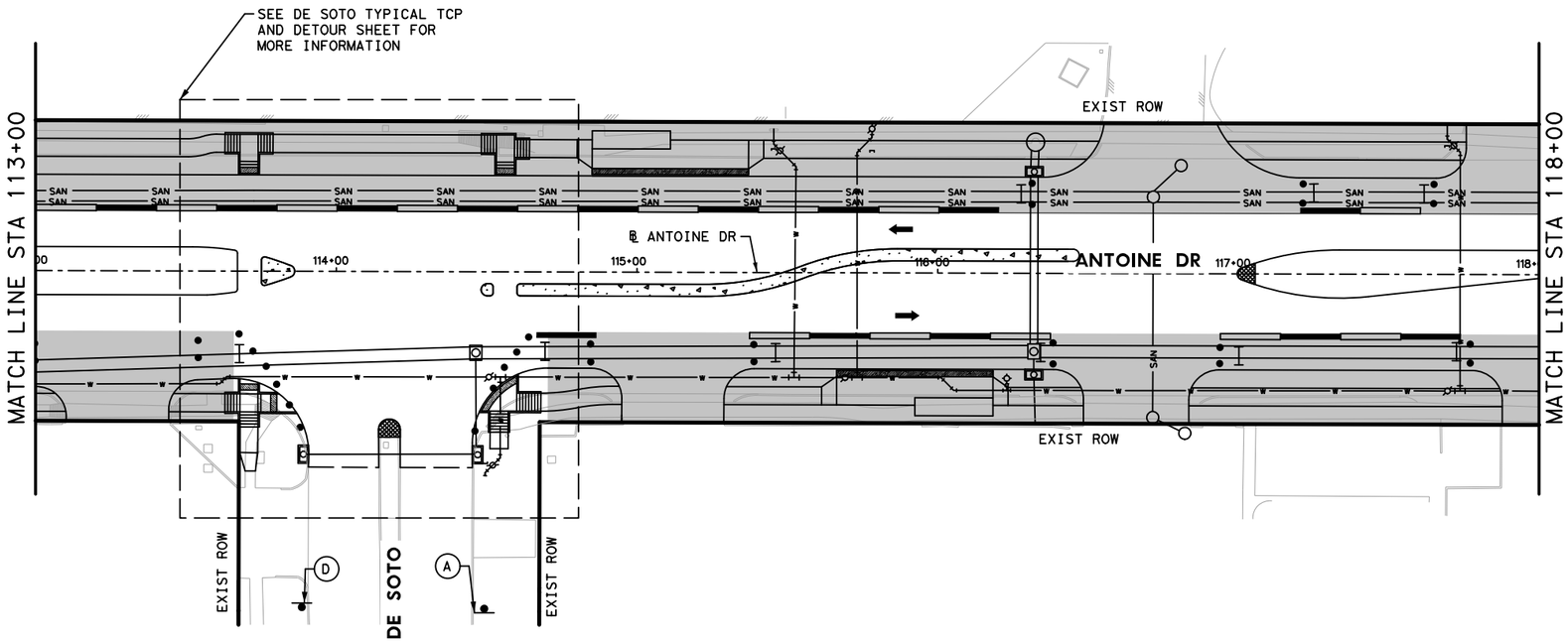

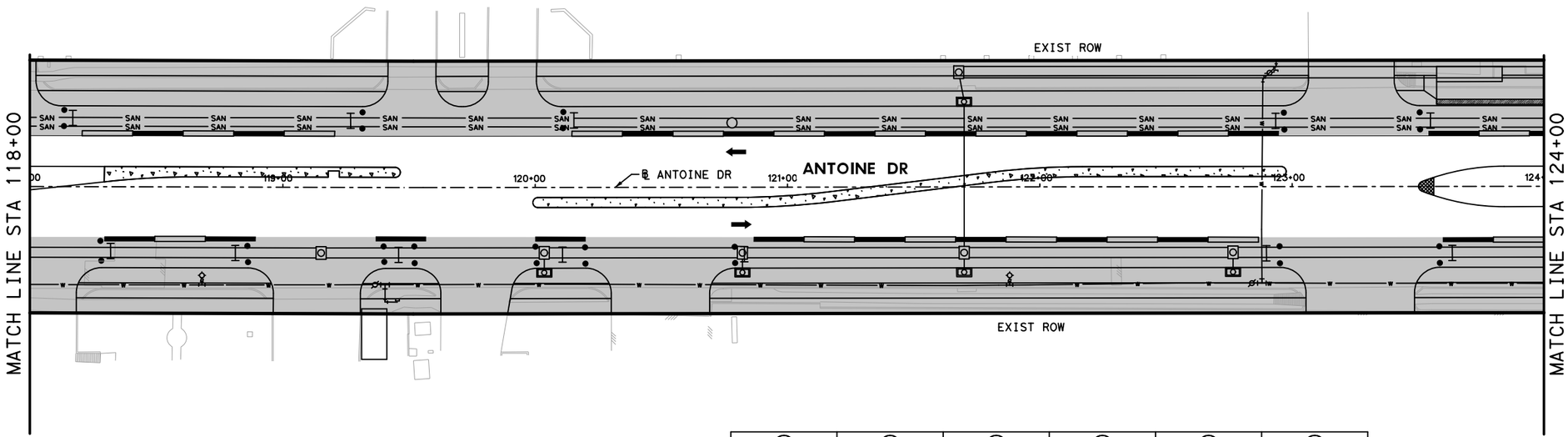

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REVISIONS			
No.	DATE		APP.

N

0′ 25′ 50′

SCALE IN FEET

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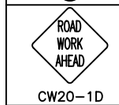		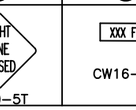			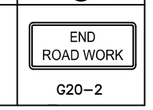
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 3

SHEET 72 OF 4

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DRAWING SCALE	
AS NOTED	
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ROWAIDAH AYOUB	
SHEET NO. 124 OF 1067	

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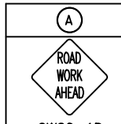	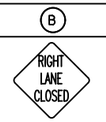	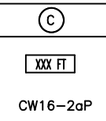	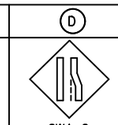	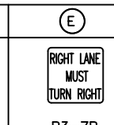	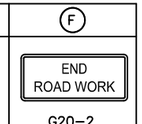
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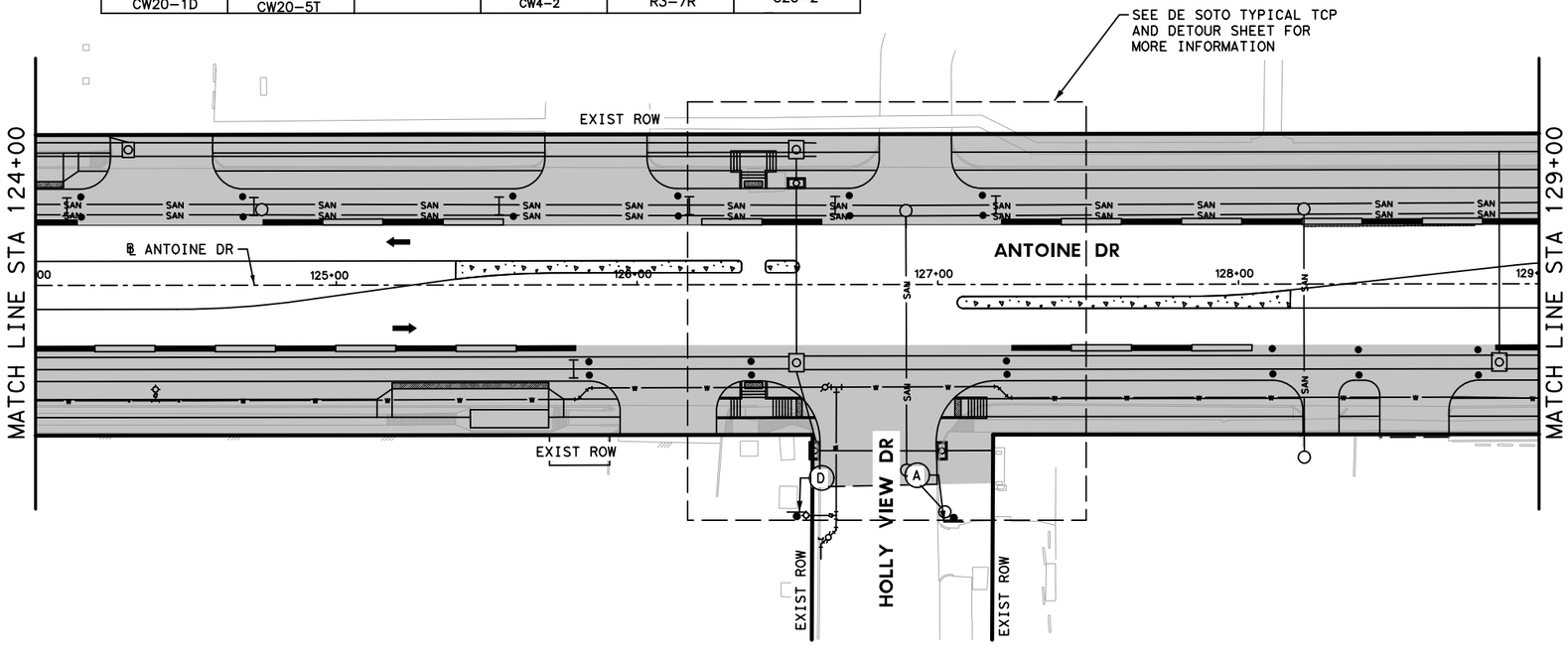

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0′ 25′ 50′

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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P.E. No. 155052
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 3

SHEET 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 125 OF 1067	

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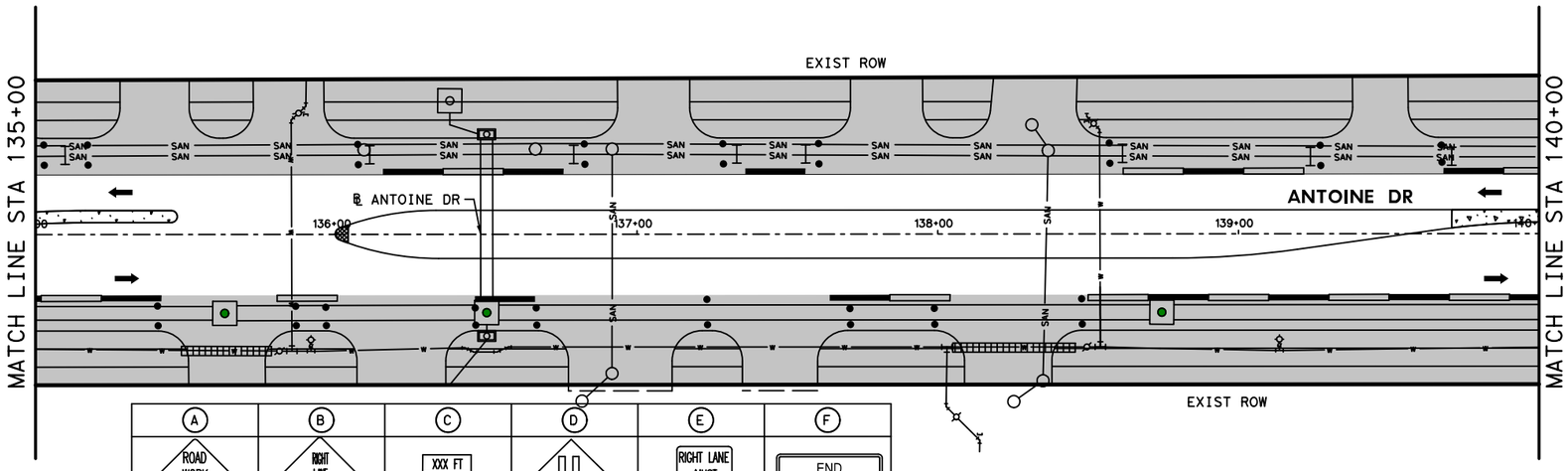

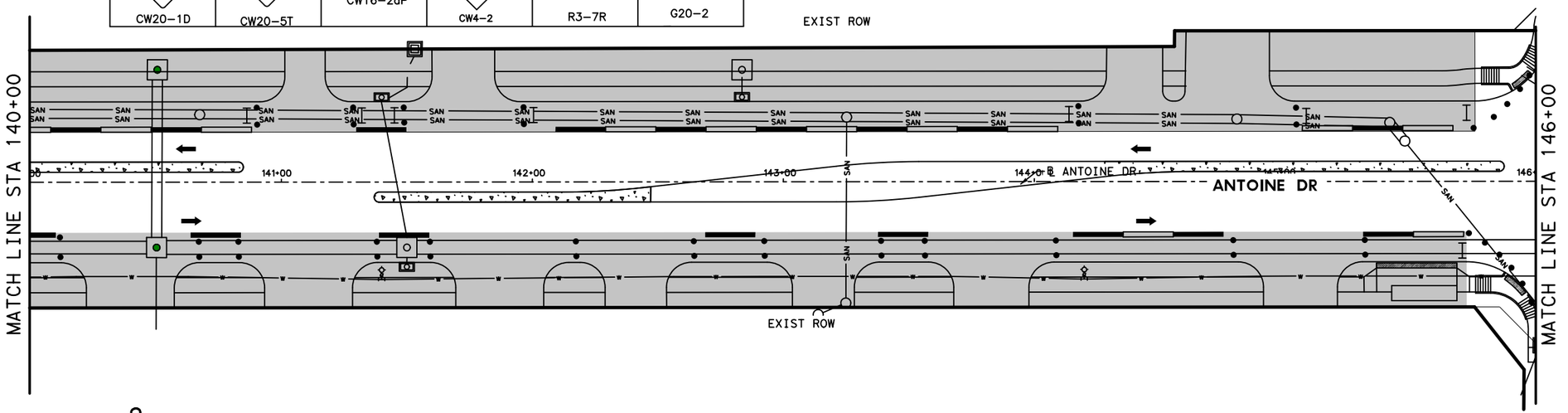

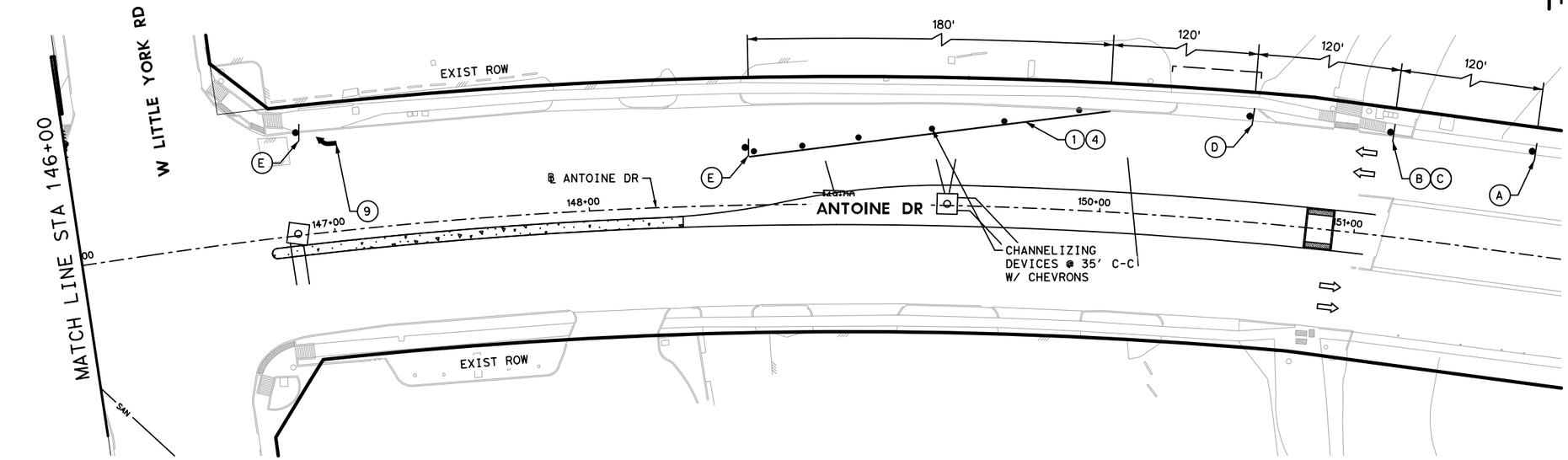

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

APP:	DATE	No.	REVISIONS

N

0' 25' 50'

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas 155052
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 3

SHEET 4 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 126 OF 1067	

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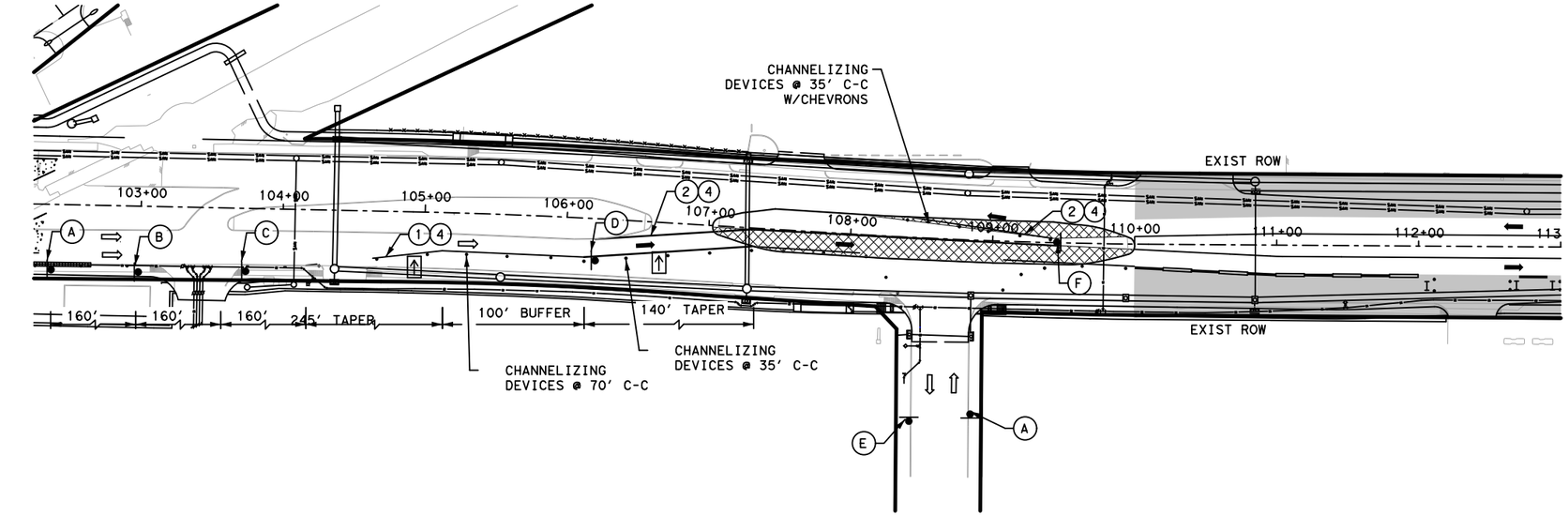

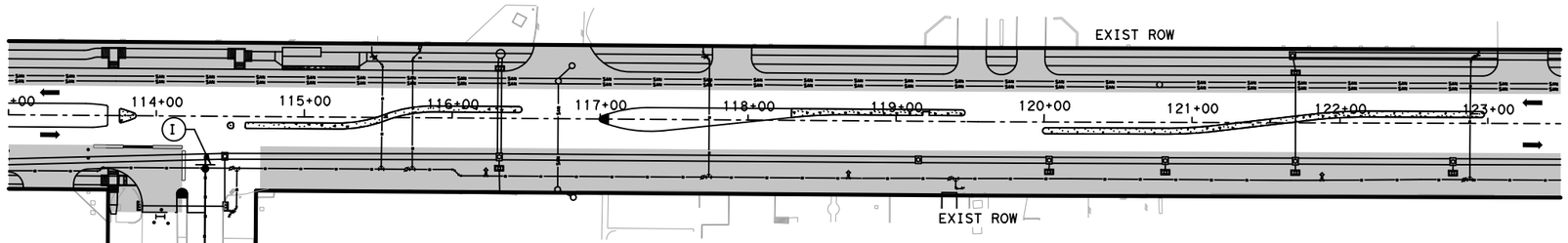

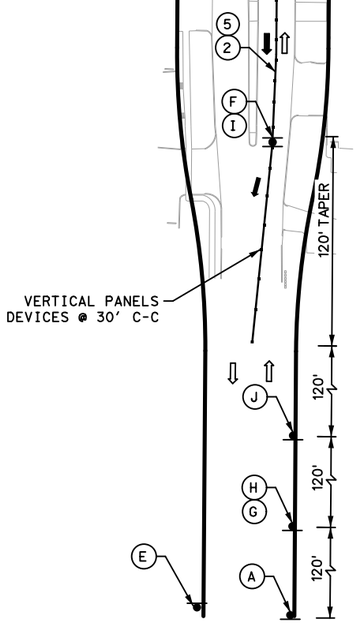

A	B	C	D	E	F	G	H	I	J
ROAD WORK AHEAD CW20-1D	RIGHT LANE CLOSED AHEAD W9-3R	RIGHT LANE CLOSED CW20-5TR 36"X36"	ECW1-4L	END ROAD WORK	ECW1-4R	XXX FT CW16-2aP	LEFT LANE CLOSED CW20-5TL 36"X36"	CW9-2L	CW4-2

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

NOTE:

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N

0' 50' 100'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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P.E.
125611
3/12/2026
DATE
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE DRIVE - DE SOTO INTERSECTION PHASE 2 STEP 1

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 127 OF 1067	

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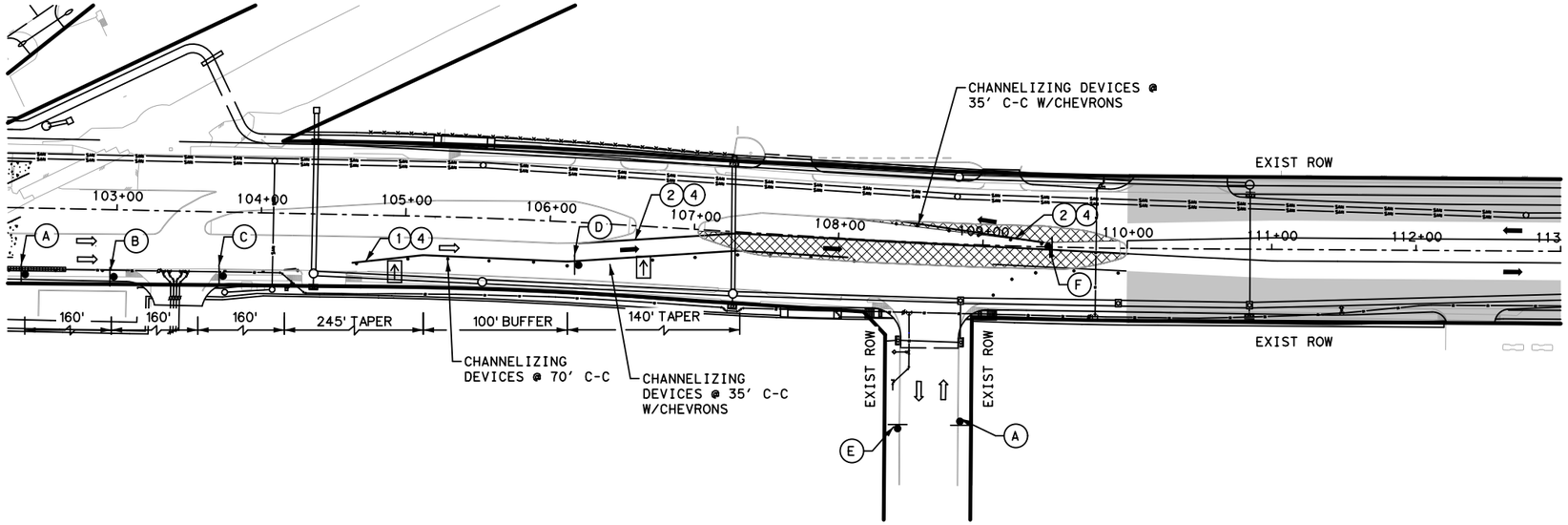

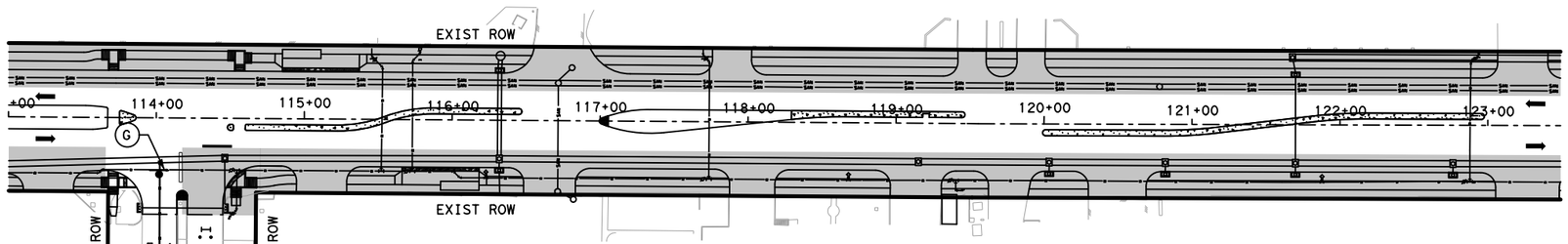

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
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- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

REVISIONS			
No.	DATE		APP.

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
ROAD WORK AHEAD	XXX FT	RIGHT LANE CLOSED		END ROAD WORK			
CW20-1D	CW16-2aP	CW20-5TR 36"X36"	ECW1-4L		ECW1-4R	CW9-2L	CW4-2

NOTE:

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3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
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N

0' 50' 100'

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE DRIVE - DE SOTO INTERSECTION PHASE 2 STEP 2

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 128 OF 1067	

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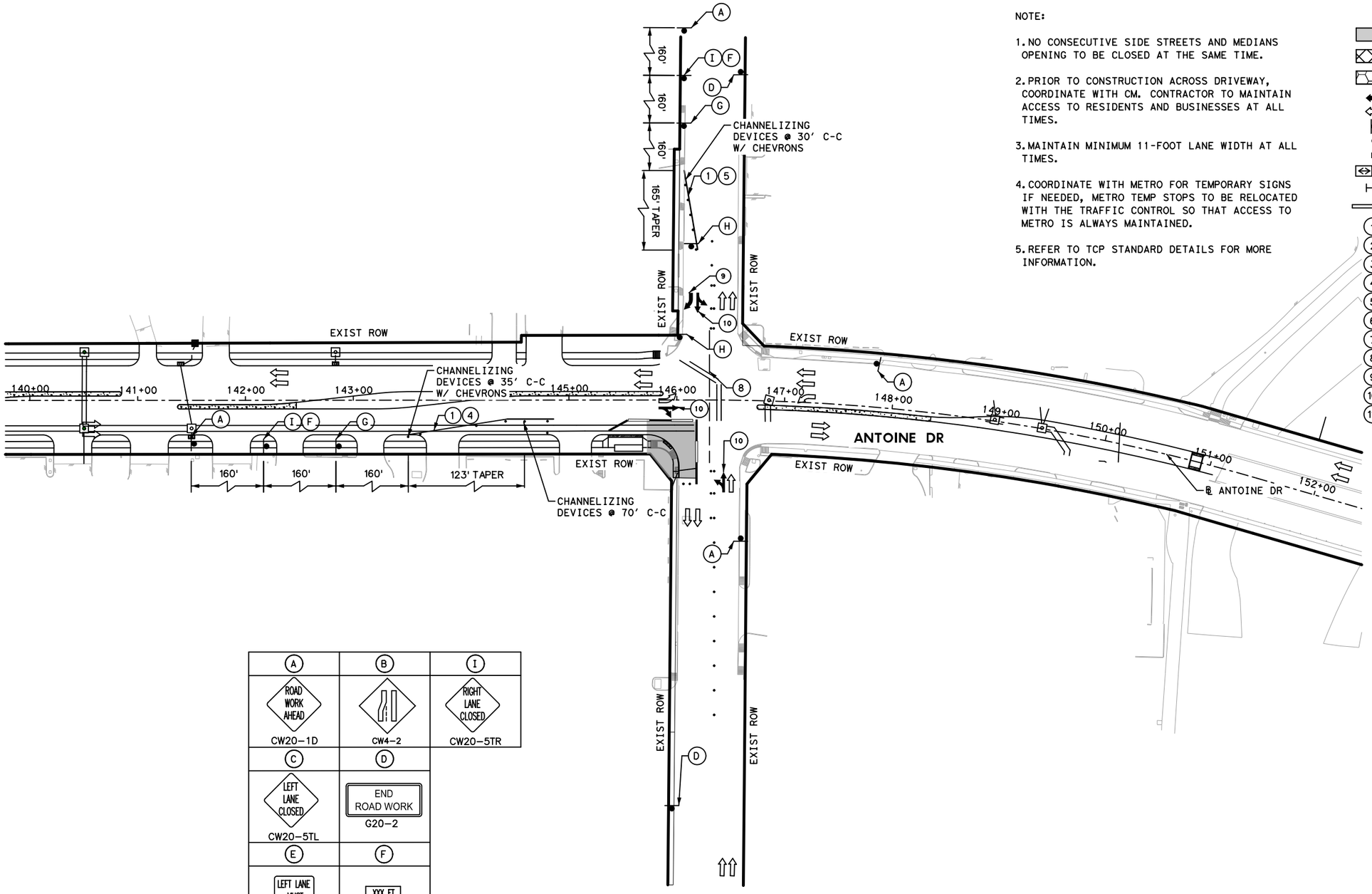

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
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- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
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- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 50' 100'

SCALE IN FEET

A	B	I
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
C	D	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
E	F	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
G	H	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
ANTOINE - W LITTLE YORK
INTERSECTION
STEP 5

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 129 OF 1067	

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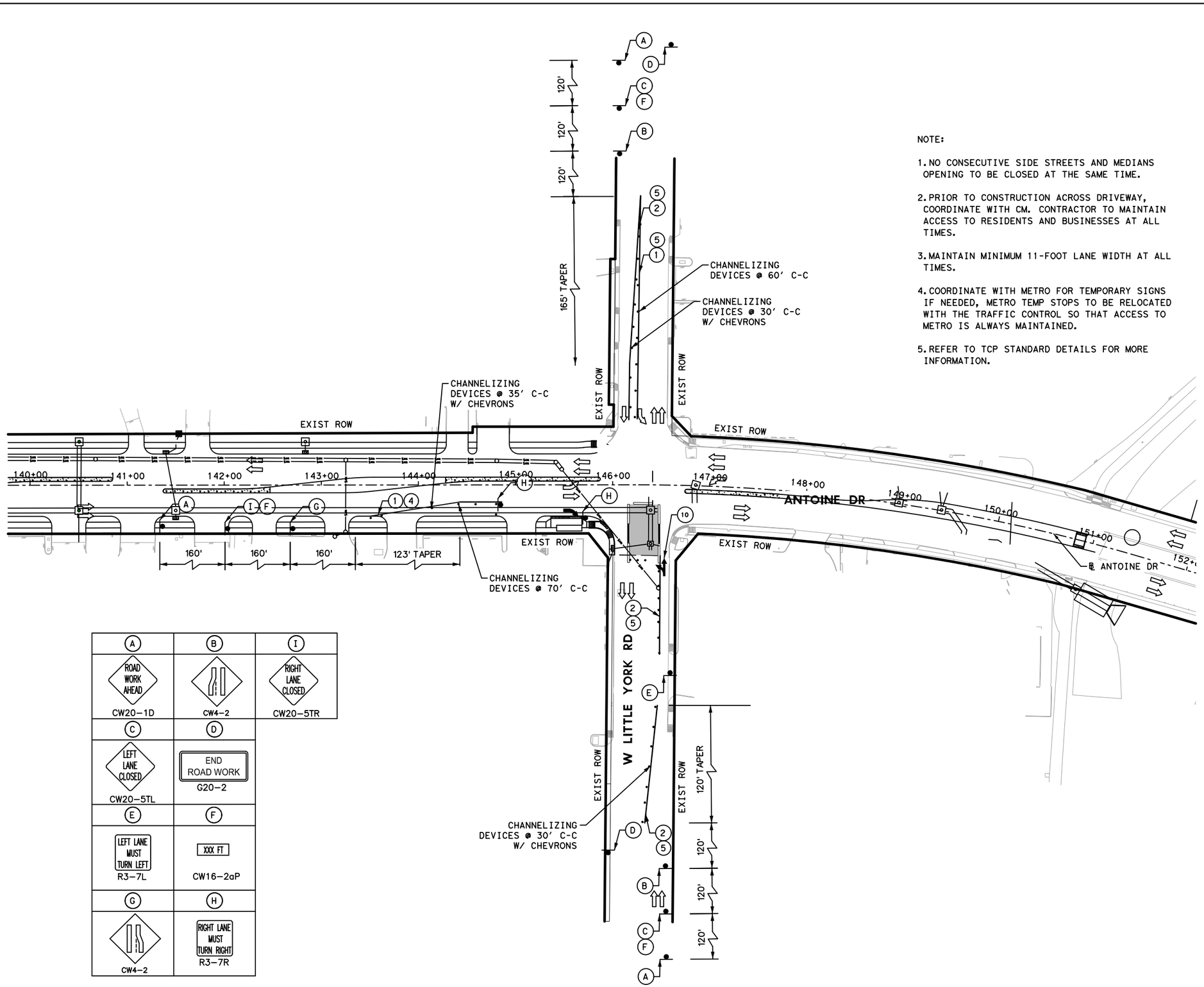

A	B	I
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
C	D	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
E	F	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
G	H	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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AHMED ALOBAIDI
Date 155052
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 6

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 130 OF 1067	

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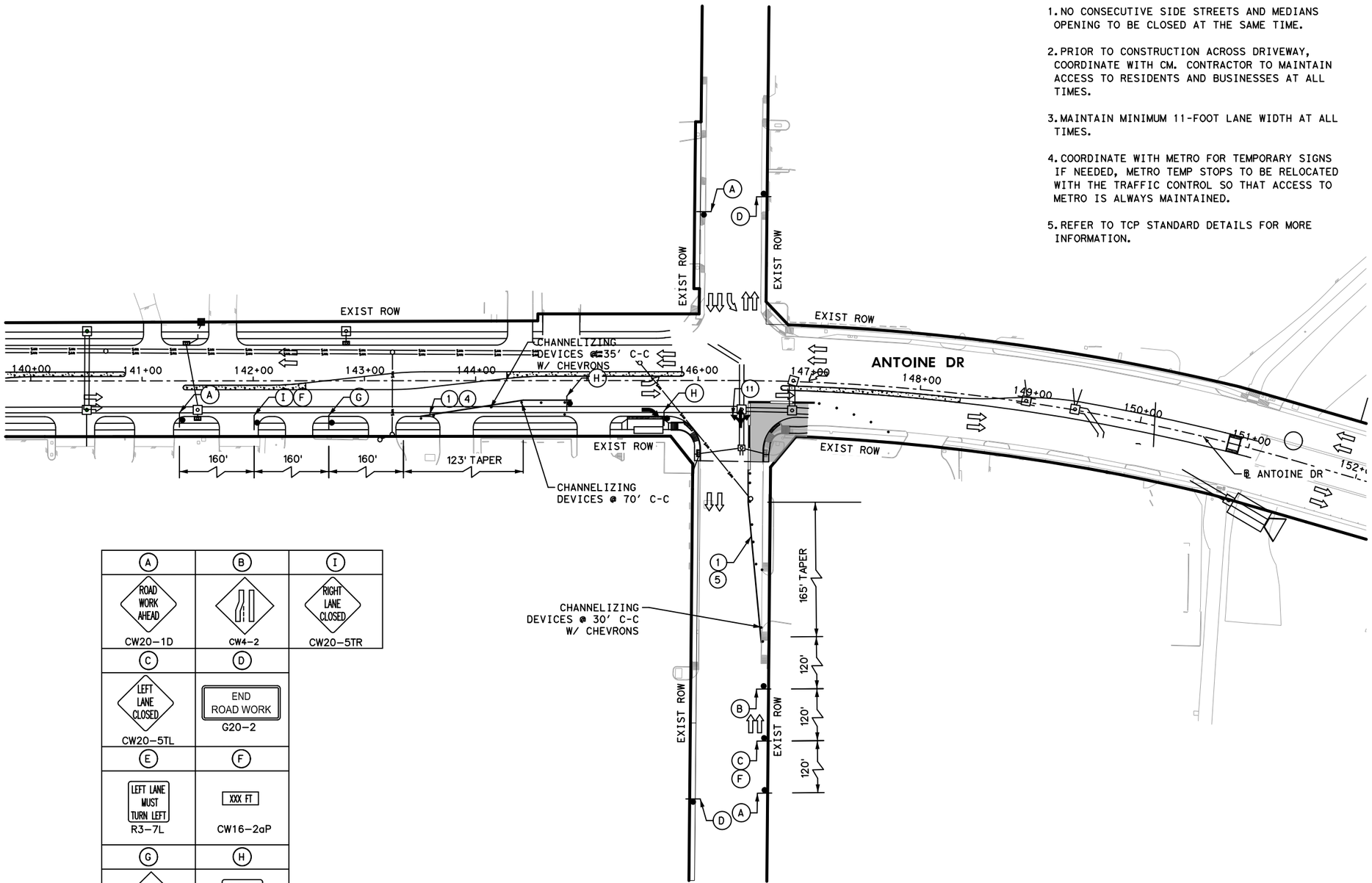

NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

(A)	(B)	(I)
ROAD WORK AHEAD CW20-1D	 CW4-2	RIGHT LANE CLOSED CW20-5TR
(C)	(D)	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
(E)	(F)	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
(G)	(H)	
 CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 7

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 131 OF 1067	

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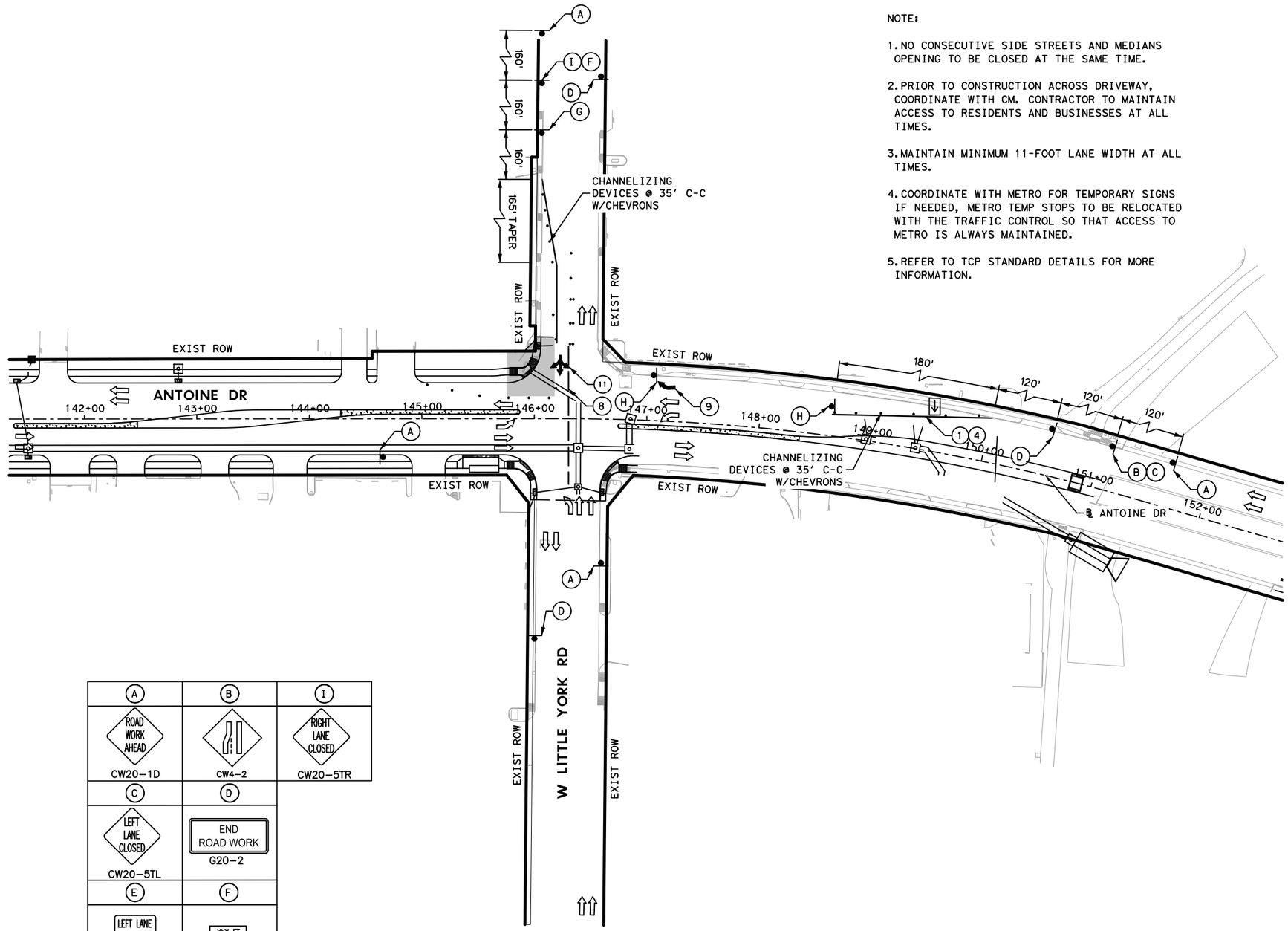

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
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- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP:

A	B	I
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
C	**D**	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
E	**F**	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
G	**H**	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

N

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
ANTOINE - W LITTLE YORK
INTERSECTION
STEP 8

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 132 OF 1067	

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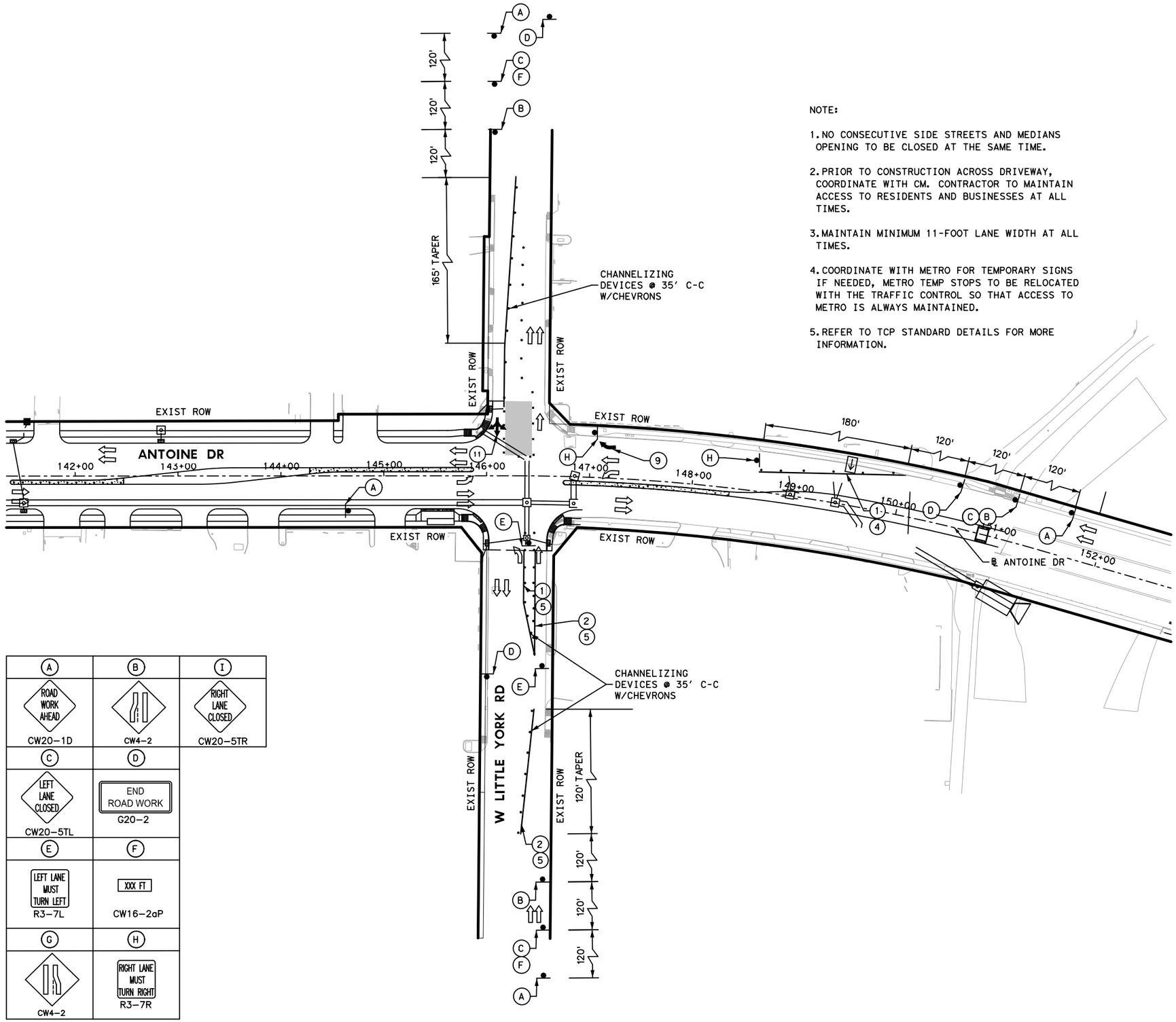

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5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

(A)	(B)	(I)
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
(C)	(D)	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
(E)	(F)	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
(G)	(H)	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

N

0' 50' 100'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
ANTOINE - W LITTLE YORK INTERSECTION
STEP 9

SHEET 71 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 133 OF 1067	

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NOTE:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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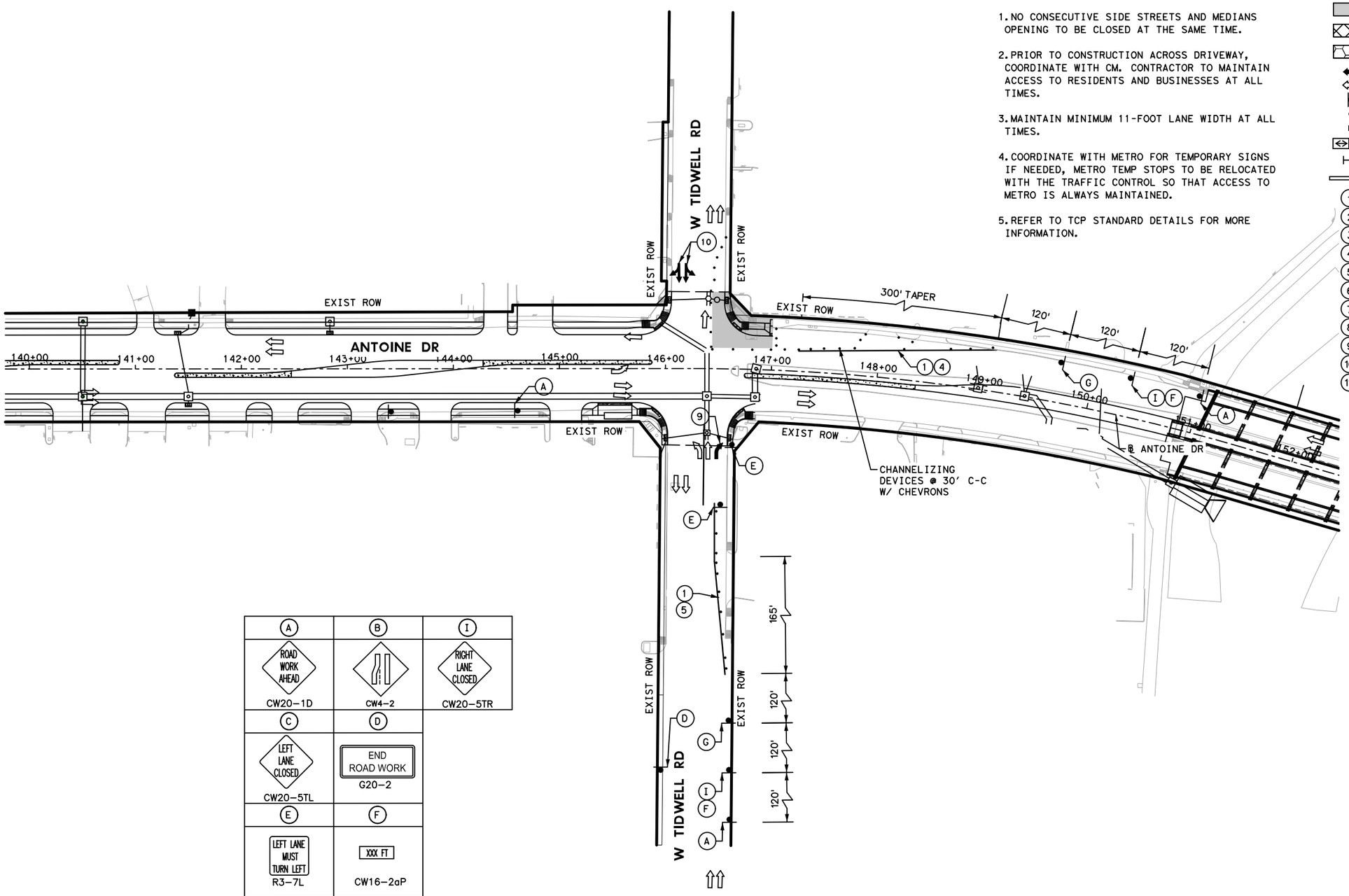
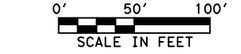
- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW





A	B	I
ROAD WORK AHEAD CW20-1D	CW4-2	RIGHT LANE CLOSED CW20-5TR
C	D	
LEFT LANE CLOSED CW20-5TL	END ROAD WORK G20-2	
E	F	
LEFT LANE MUST TURN LEFT R3-7L	XXX FT CW16-2aP	
G	H	
CW4-2	RIGHT LANE MUST TURN RIGHT R3-7R	

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS ANTOINE - W LITTLE YORK INTERSECTION STEP 10

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 134 OF 1067	

No.	DATE	REVISIONS	APP.

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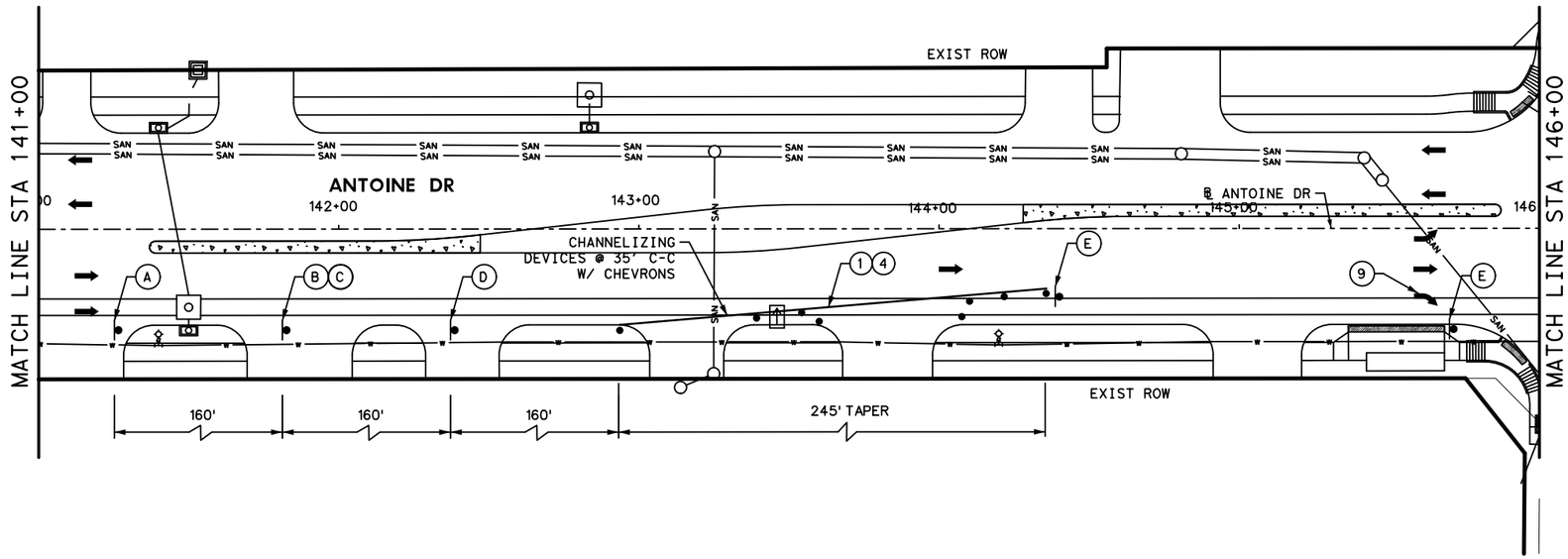

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
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- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
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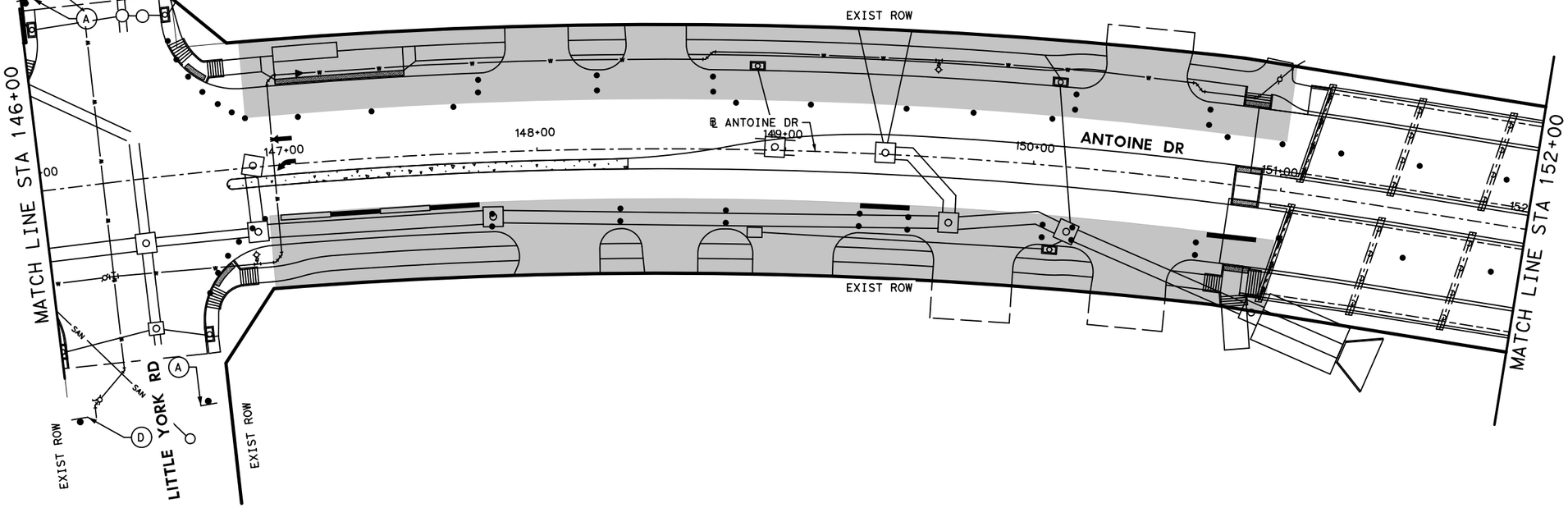
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

A	B	C	D	E	F
ROAD WORK AHEAD	RIGHT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R	G20-2



0' 25' 50'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 4

SHEET 71 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 135 OF 1067	

No.	DATE	REVISIONS	APP.

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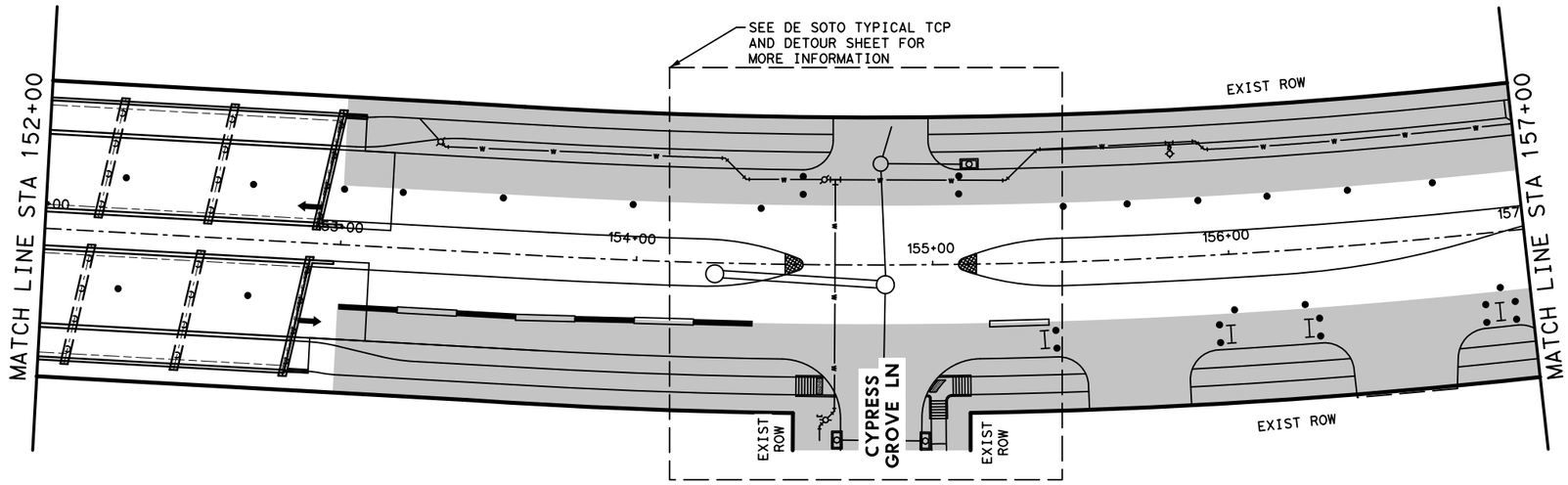

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LEGEND

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- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
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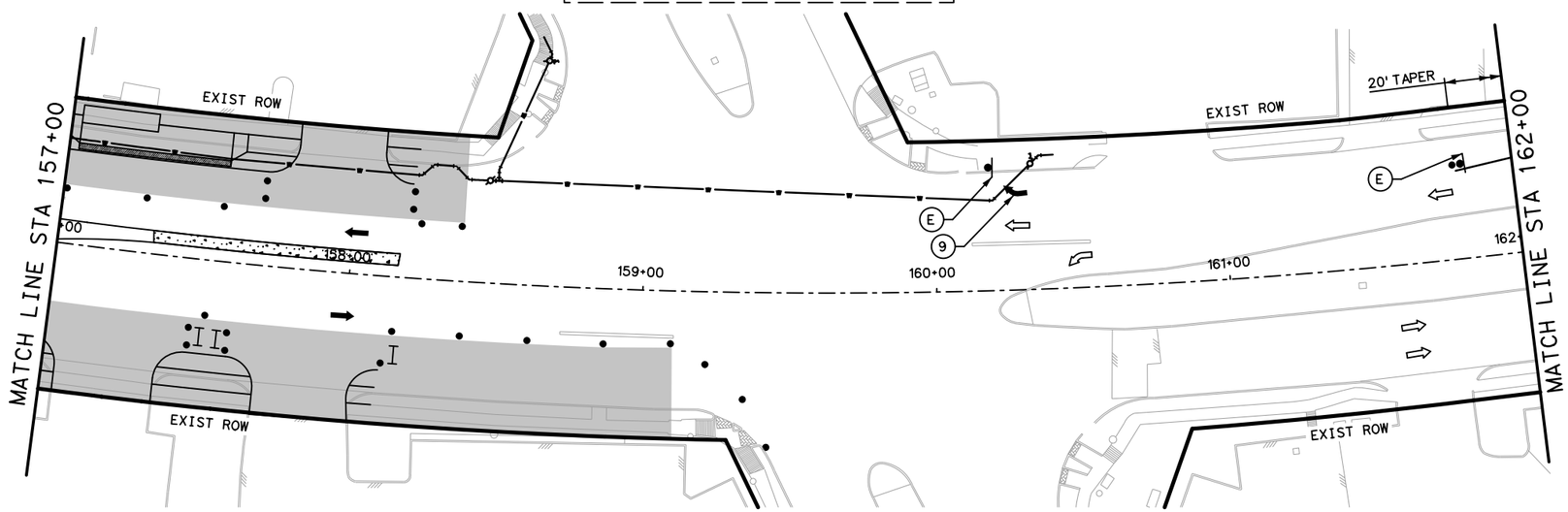
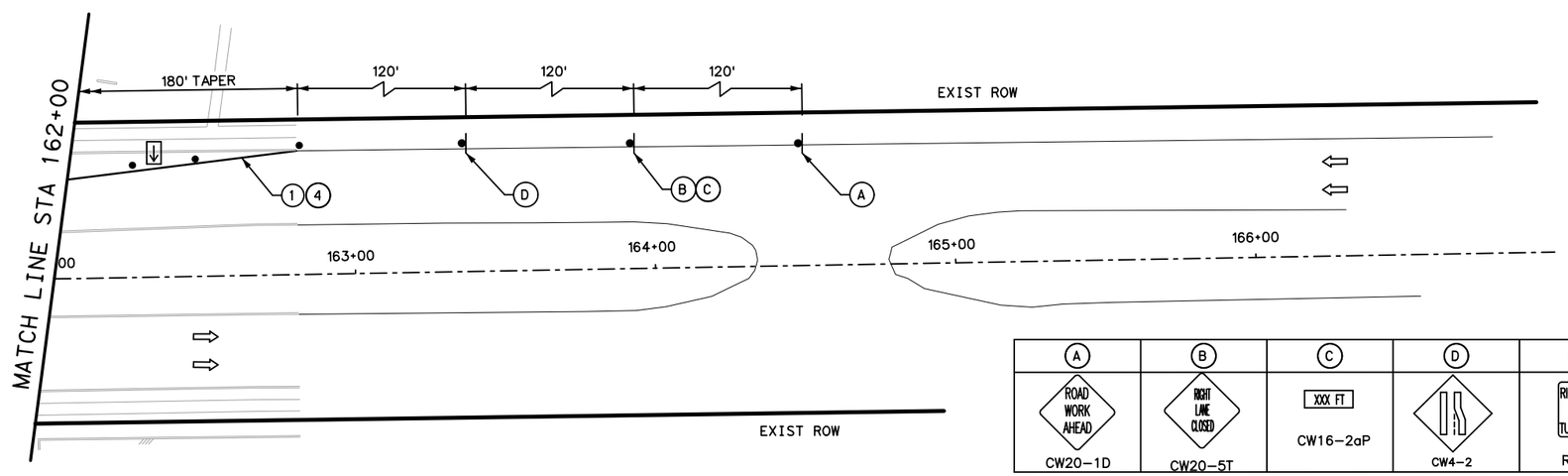
No.	DATE	REVISIONS	APP.





A	B	C	D	E	F
ROAD WORK AHEAD	RIGHT LANE CLOSED	XXX FT		RIGHT LANE MUST TURN RIGHT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7R	G20-2

0′ 25′ 50′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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3/12/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS PHASE 2 STEP 4

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 136 OF 1067	

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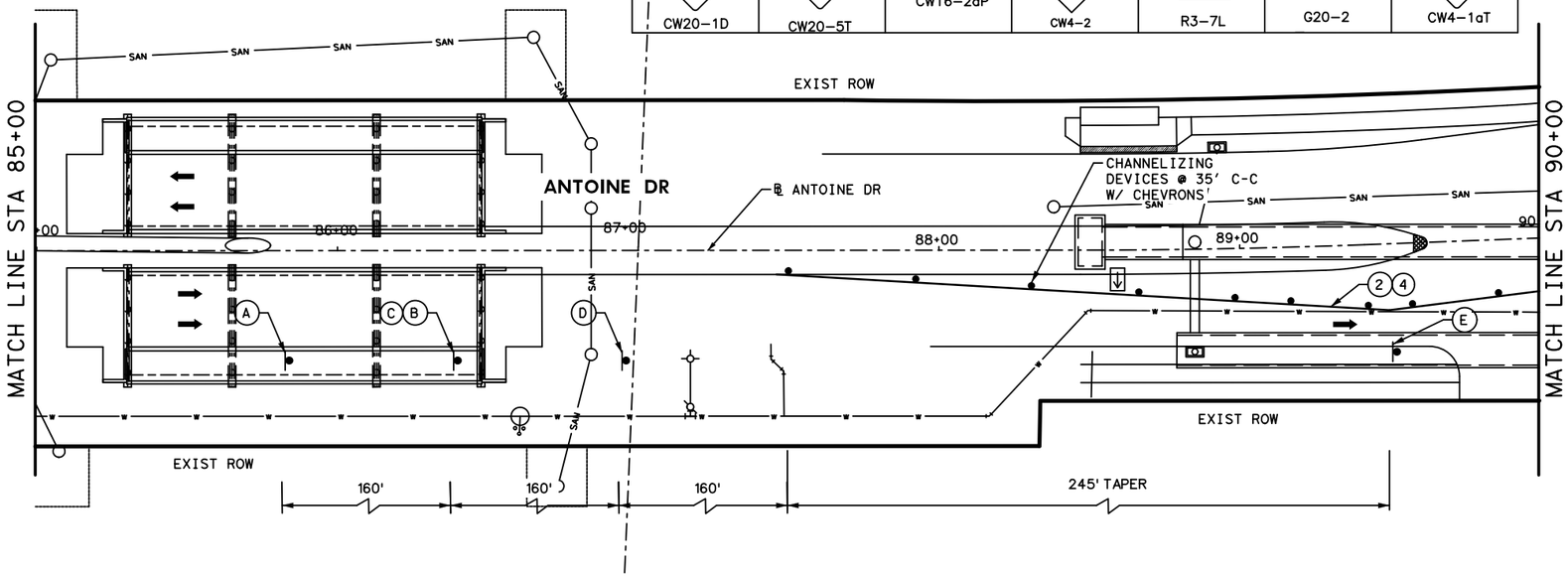
A	B	C	D	E	F	G
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		LEFT LANE MUST TURN LEFT	END ROAD WORK	THRU TRAFFIC MERGE RIGHT
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7L	G20-2	CW4-1aT



NOTE:

1. NO CONSECUTIVE SIDE STREETS AND MEDIANS OPENING TO BE CLOSED AT THE SAME TIME.
2. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
3. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
4. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
5. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
- (6) REMOVABLE PAV MRK (REFLECTOR) TY A-A
- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
- (8) REMOVABLE PAV MRK BUTTONS TY Y (DOT)
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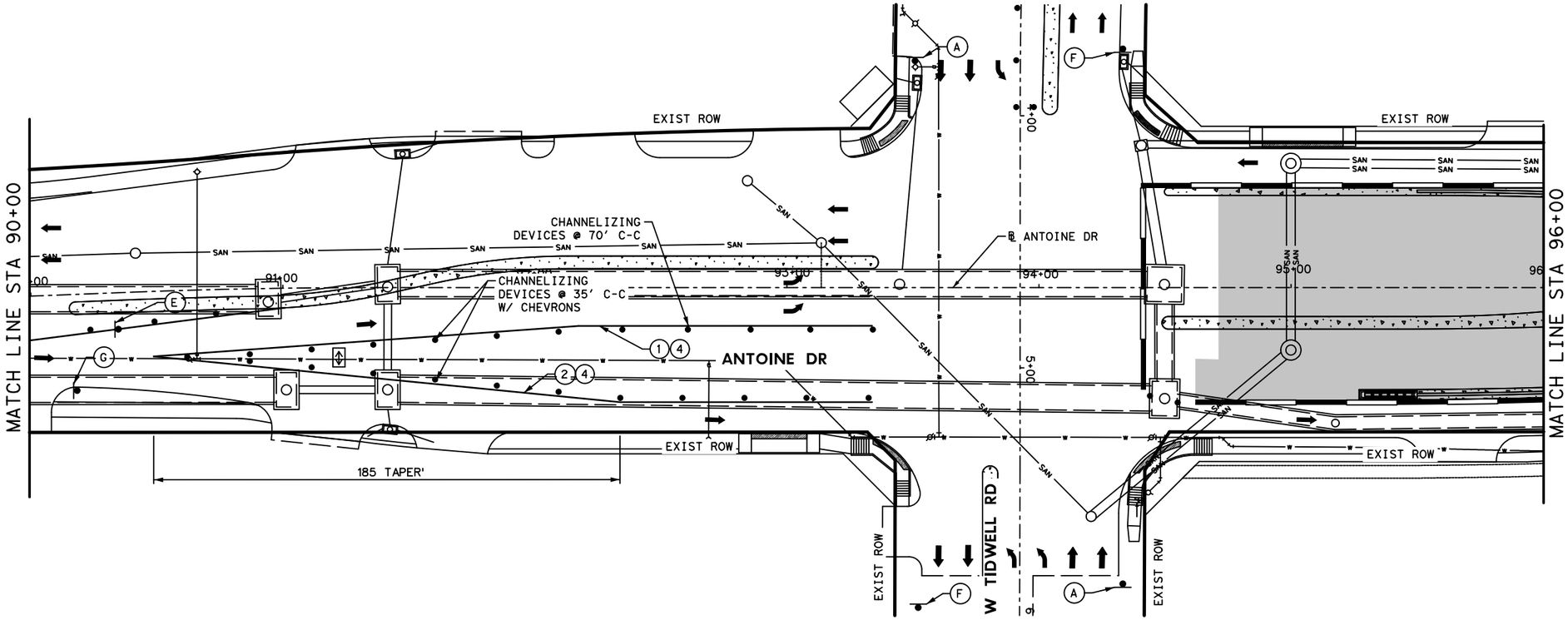

N

0' 25' 50'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
BNSF BRIDGE

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 137 OF 1067	

No.	DATE	REVISIONS	APP.

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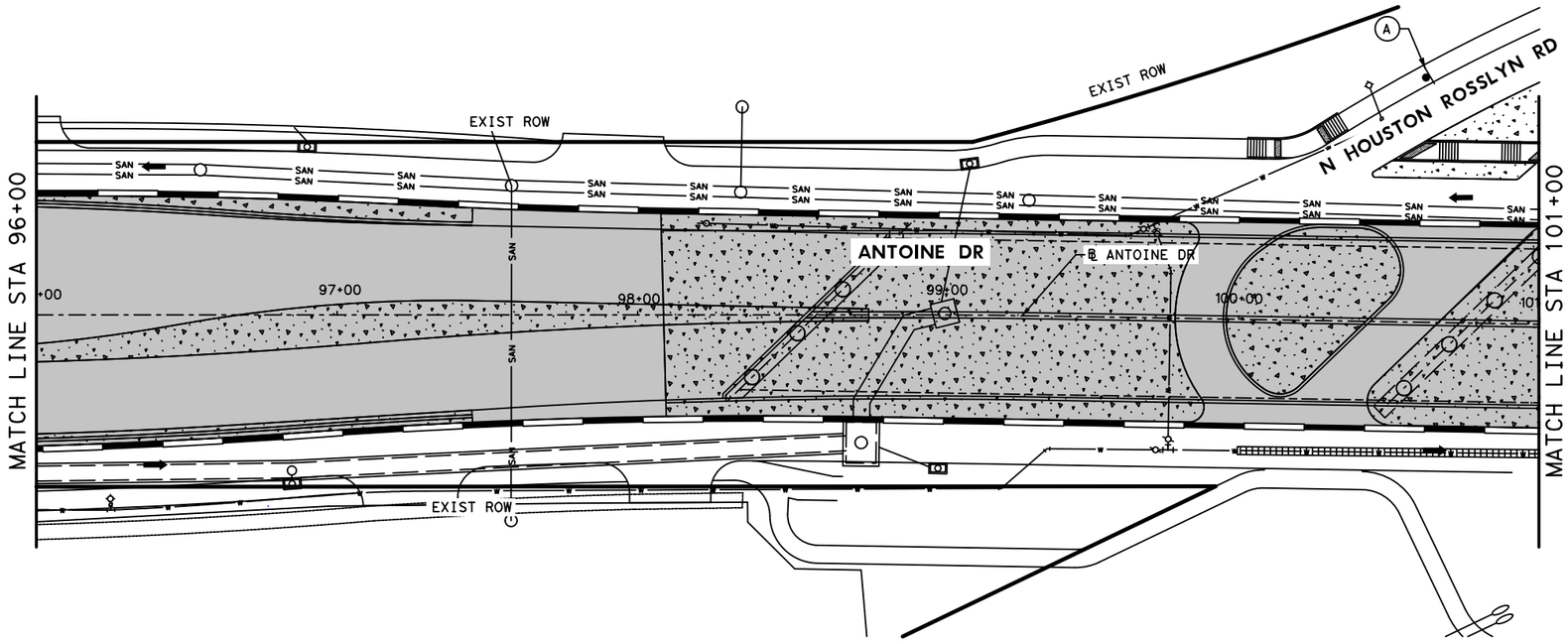

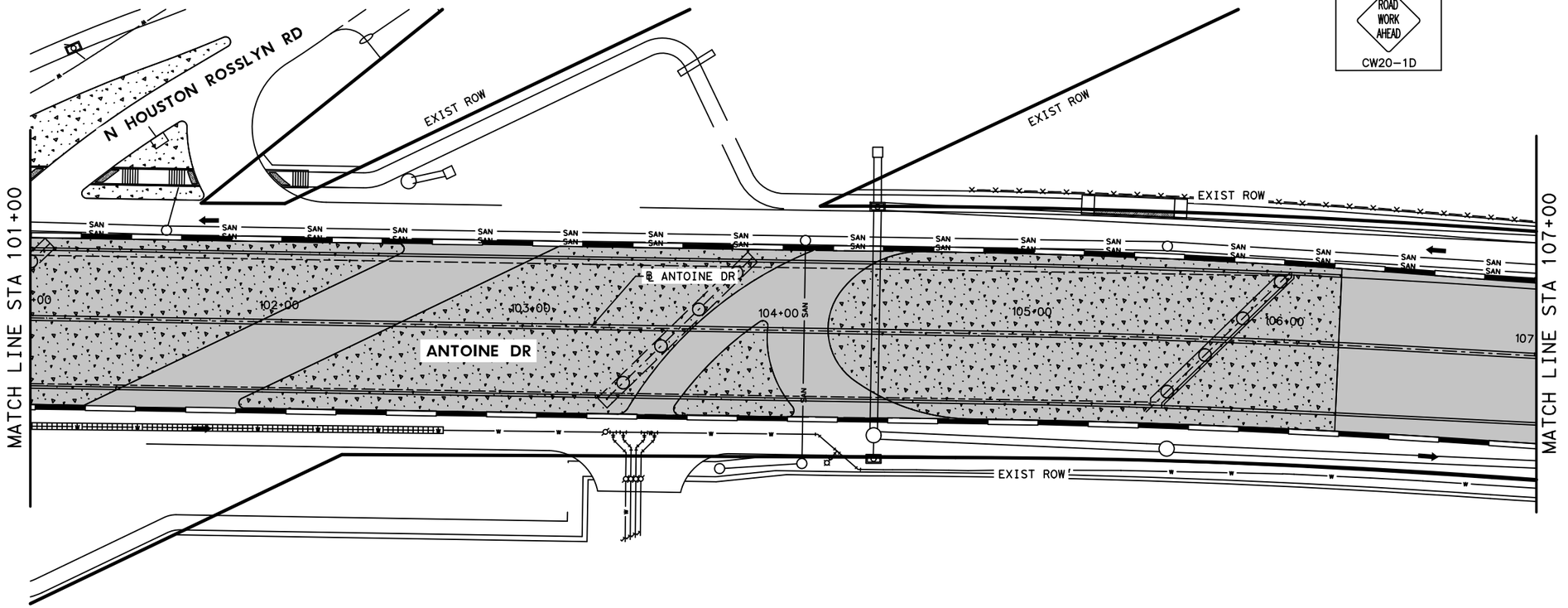

NOTE:

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LEGEND

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- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
- FLASHING ARROW
- TYPE III BARRICADE W/ ROAD CLOSED SIGN
- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS
- (1) REMOVABLE PAV MRK BUTTONS TY W
- (2) REMOVABLE PAV MRK BUTTONS TY Y
- (3) REMOVABLE PAV MRK BUTTONS W STOP BAR
- (4) REMOVABLE PAV MRK (REFLECTOR) TY II-C-R
- (5) REMOVABLE PAV MRK (REFLECTOR) TY II-C
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- (7) REMOVABLE PAV MRK BUTTONS TY W (DOT)
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- (9) REMOVABLE PAV MRK BUTTONS ARROW
- (10) REMOVABLE PAV MRK BUTTONS DBL ARROW
- (11) REMOVABLE PAV MRK BUTTONS TPL ARROW

No.	DATE	REVISIONS	APP.

N

0′ 25′ 50′

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS BNSF BRIDGE

SHEET 72 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 138 OF 1067	

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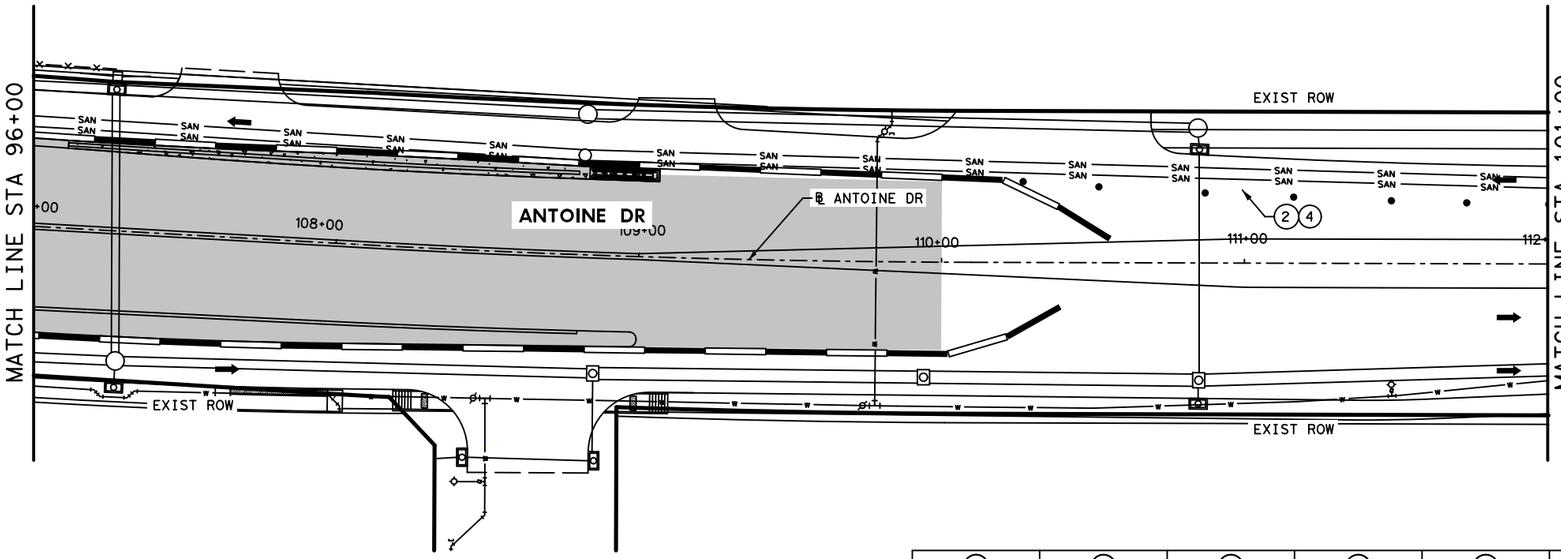

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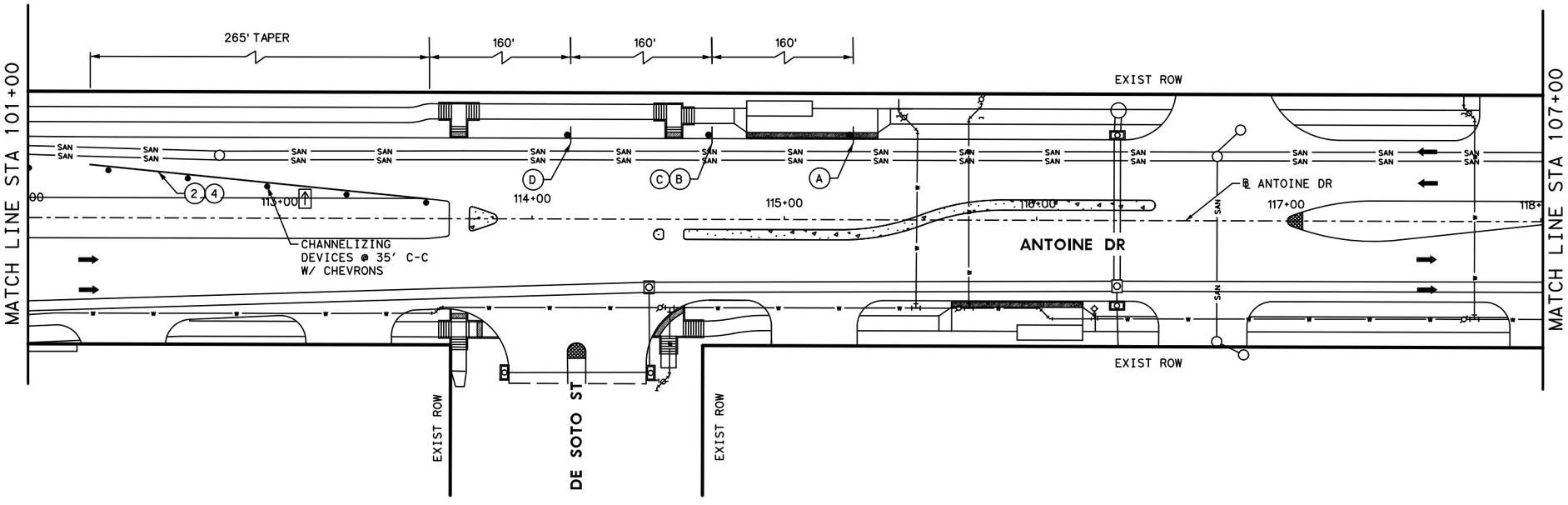
A	B	C	D	E	F
ROAD WORK AHEAD	LEFT LANE CLOSED	XXX FT		LEFT LANE MUST TURN LEFT	END ROAD WORK
CW20-1D	CW20-5T	CW16-2aP	CW4-2	R3-7L	G20-2



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLANS
BNSF BRIDGE

SHEET 73 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
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GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) LATEST EDITION WITIH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.
2. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM THE LATEST VERSION OF THE TMUTCD.
3. NO LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY WITHOUT APPROVAL OF THE CITY TRAFFIC ENGINEER.
4. NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00 PM TO 7:00 AM.
5. CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF THROUGH LANES OF TRAFFIC IN EACH DIRECTION DURING CONSTRUCTION WORKING HOURS. TRAFFIC CONTROL PLANS SHALL INCLUDE ONE-WAY AND/OR DETOUR PLANS. CONTRACTOR SHALL MAINTAIN ADA COMPLIANT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO ALL THE BUS STOPS.
6. CONTRACTOR SHALL MAINTAIN TRAFFIC LANES AND DETOURS ACCORDING TO TRAFFIC CONTROL PLANS DURING WORKING HOURS.
7. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.
8. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF TRAFFIC CONTROL PLANS TO THE CITY OF HOUSTON PROJECT MANAGER FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SHALL BE SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. OFFICE OF CITY ENGINEER, MOBILITY PERMITS SECTION REPRESENTATIVE APPROVAL IS REQUIRED TO ACCEPT THE PROPOSED CHANGES.
9. CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM OFFICE OF CITY ENGINEER (MOBILITY PERMIT SECTION AT https://geohub.houstontx.gov) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.
10. CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES.
11. DURING PAVEMENT SURFACE RESTORATION PROJECTS; THE CONTRACTOR SHALL NOT OPEN CLOSED LANES UNTIL THE PAVEMENT SURFACE HAS CURED ENOUGH TO ALLOW VEHICULAR TRAFFIC ACCORDING TO CITY OF HOUSTON STANDARD SPECIFICATIONS.
12. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL CONSTRUCTION ACTIVITIES WITH STAKE HOLDERS IN THE VICINITY INCLUDING EMERGENCY RESPONSE AGENCIES SUCH AS HOUSTON POLICE DEPARTMENT, HOUSTON FIRE DEPARTMENT, AND METROPOLITAN TRANSIT AUTHORITY.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ISSUING ALL WORK DIRECTIVES TO ALL SUB-CONTRACTORS, UTILITY COMPANIES, AND ALL OTHER ENTITIES PERFORMING CONSTRUCTION WORK ASSOCIATED WITH THE PROJECT.
14. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT; INCLUDING SAFETY OF ALL MODES OF TRANSPORTATION, PERSONS, AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
15. THE OFFICE OF CITY ENGINEER (MOBILITY PERMITS GROUP) PER THE DIRECTION OF THE CITY TRAFFIC ENGINEER HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS OF THESE PLANS AND NOTES, AS DEEMED NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC, INCLUDING PEDESTRIANS AND BICYCLES, THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE.
16. ALL EXISTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER) ANY PAVEMENT MARKING OR SIGNING DAMAGE DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS (RPMS).
17. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC WITH THE ASSISTANCE OF CONTRACTOR PROVIDED CERTIFIED FLAGGER/PEACE OFFICER.
18. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER.
19. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
20. THE CONTRACTOR SHALL SUBMIT AN APPLICATION FOR TEMPORARY PARKING RESTRICTIONS IF THERE ARE PARKING METERS LOCATED AT THE PROPOSED LANE CLOSURES FROM PARKING MANAGEMENT DIVISION (832-393-8690) AT LEAST TEN BUSINESS DAYS BEFORE IMPLEMENTATION OF LANE CLOSURES. IN ADDITION, TEMPORARY NO PARKING SIGNS SHALL BE POSTED 24 HOURS PRIOR TO COMMENCEMENT OF WORK.
21. ADDITIONAL OFF DUTY OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DISCRETION OF THE CITY PROJECT MANAGER EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.
22. THE CONTRACTOR SHALL REPLACE WITHIN 72 HOURS, ALL TRAFFIC SIGNAL LOOP DETECTORS DAMAGED DURING CONSTRUCTION.
23. IN GENERAL, A SOLAR POWERED FLASHING ARROW BOARD SHALL BE REQUIRED ON ALL MAJOR THOROUGHFARE LANES CLOSURES. EXCEPTIONS TO FLASHING ARROW BOARDS AND/OR IMPLEMENTATION ON RESIDENTIAL LANE CLOSURES SHALL BE APPROVED BY CITY TRAFFIC ENGINEER.
24. APPROVED TRAFFIC CONTROL PLAN SHALL BE IN PLACE BEFORE STARTING ANY EXCAVATION.
25. WATER FILLED BARRIERS CAN BE USED AS INSTRUCTED BY THE ENGINEER AND APPROVED BY THE CITY FOR PROJECTS WHERE SPACE IS LIMITED AND HEAVY EQUIPMENT TO PLACE CONCRETE BARRIERS IS NOT FEASIBLE. WATER FILLED BARRIERS SHALL NOT BE USED ON ROADWAYS WITH A POSTED SPEED LIMIT MORE THAN 45 MPH.
26. WATER FILLED BARRIERS MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S REQUIREMENTS AND ROUTINELY INSPECTED FOR DEFECTS.
27. IF WATER FILLED BARRIER IS PROVIDED, USE ENVIRONMENTALLY SAFE ANTI-FREEZING AGENT IN THE WATER WHEN IT IS APPLICABLE PER MANUFACTURER SPECIFICATIONS AND RECOVER AGENT WHEN THE BARRIER IS DRAINED.
28. DISPOSE OF WATER AND AGENT PROPERLY. DO NOT DRAIN WATER FILLED BARRIER INTO OR ACROSS AN EXISTING TRAVEL LANE.
29. PROVIDE BARRIER UNITS THAT ARE CAPABLE OF BEING LIFTED AND MOVED WHEN FILLED IF DRAINING IS NOT POSSIBLE.
30. PROVIDE WATER FILLED BARRIER THAT ACTS AS ITS OWN FREE STANDING, NON-REDIRECTIVE END TREATMENT.
31. WHEN WATER FILLED BARRIERS ARE USED TO CHANNELIZE PEDESTRIANS, THEY MUST HAVE A CONTINUOUS DETECTABLE BOTTOM FOR USERS OF LONG CANES AND THE TOP OF THE UNIT SHALL NOT BE LESS THAN 32 INCHES IN HEIGHT.
32. ANY CLOSURE OF A PEDESTRIAN OR BICYCLE FACILITY SHALL REQUIRE THE SHORTEST DETOUR THAT MAINTAINS THE SAFETY OF PEDESTRIAN AND/OR BICYCLISTS.

DISCLAIMER: THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

SPACING FOR CHANNELIZING DEVICES

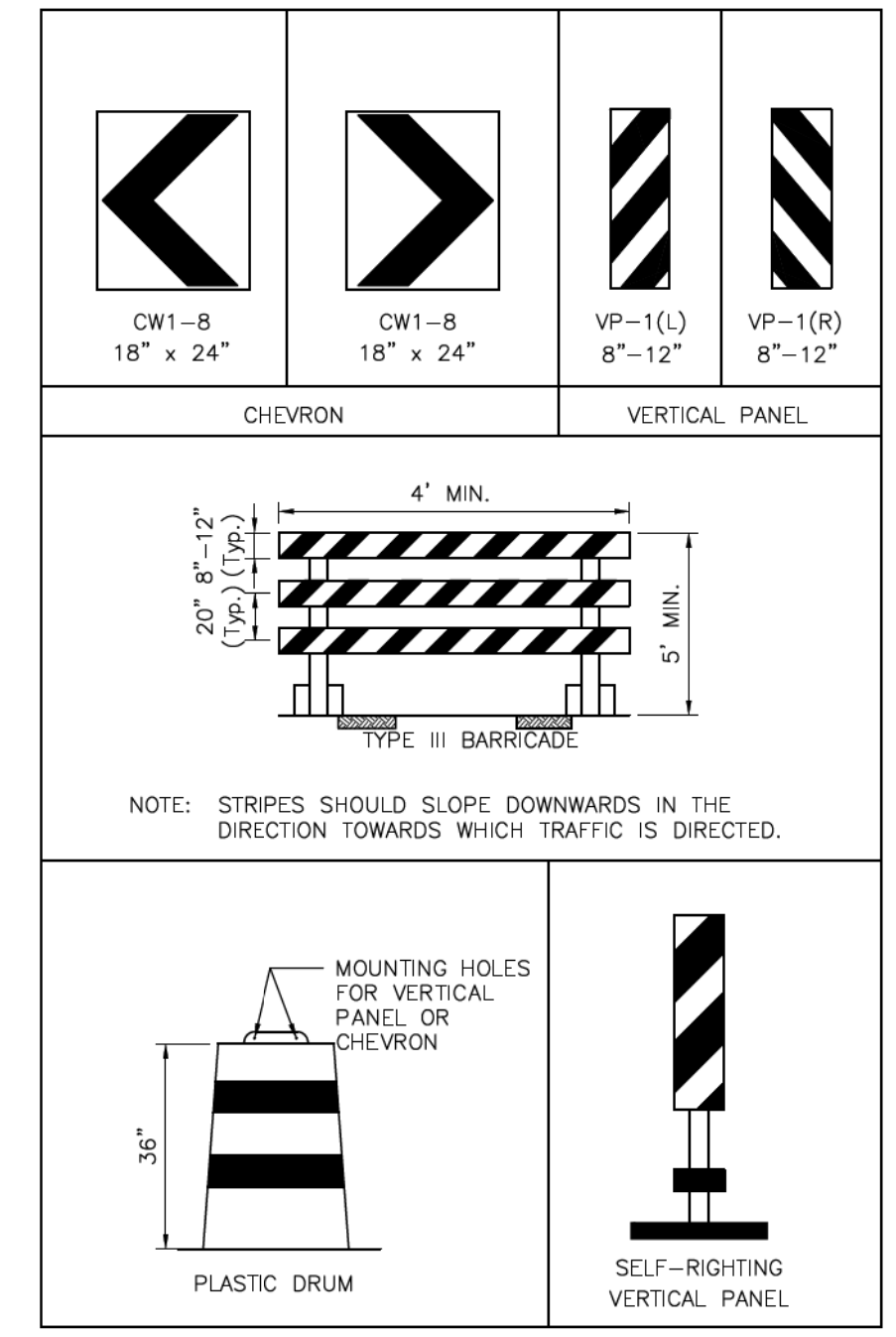
A. PLASTIC DRUMS ON MERGING TAPER @ 30' C – C WITH CHEVRON SIGN @ 60' C – C AND WARNING LIGHTS FOR OVERNIGHT CLOSURE.
B. PLASTIC DRUMS ON DOWNSTREAM TAPER @ 30' C – C (RETURN TAPER AND BARRICADE ARE OPTIONAL AND DIVIDED ROADWAY SECTION)
C. PLASTIC DRUMS ON RADII @ 35' C –C.
D. PLASTIC DRUMS ON TANGENT @ 35' C – C WITH VERTICAL PANEL AT 70' C – C AND APPROVED WARNING LIGHT @ 70' C – C (FOR OVERNIGHT CLOSURE).
E. PLASTIC DRUMS IN FRONT OF CONSTRUCTION ZONE @ 20' C – C WITH VERTICAL PANEL AT 40' C – C AND APPROVED WARNING LIGHT @ 40' C – C (FOR OVERNIGHT CLOSURE).
F. CONCRETE TRAFFIC BARRIER (CTB) OR LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCTB) WITH APPROVED REFLECTORS @ 10' C – C IF PAVEMENT DROP IS GREATER THAN 1 FOOT.
G. PLASTIC DRUMS W/GUARD RAIL MOUNTED.
H. SELF- RIGHTING VERTICAL PANEL SPACING.
   – 4 LANES TO 2 LANES UNDIVIDED ROADWAY SECTION @ 20' C – C.
   – 4 LANES DIVIDED ROADWAY TO ONE SIDE TWO WAY ROADWAY @ 20' C – C.
   – LEFT LANE AND RIGHT LANE STORAGE BAYS @ 15' C – C.
I. SPACING SHOWN ON TRAFFIC CONTROL SHALL SUPERSEDE THE ABOVE SPACING.
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

TABLE C3 – TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES

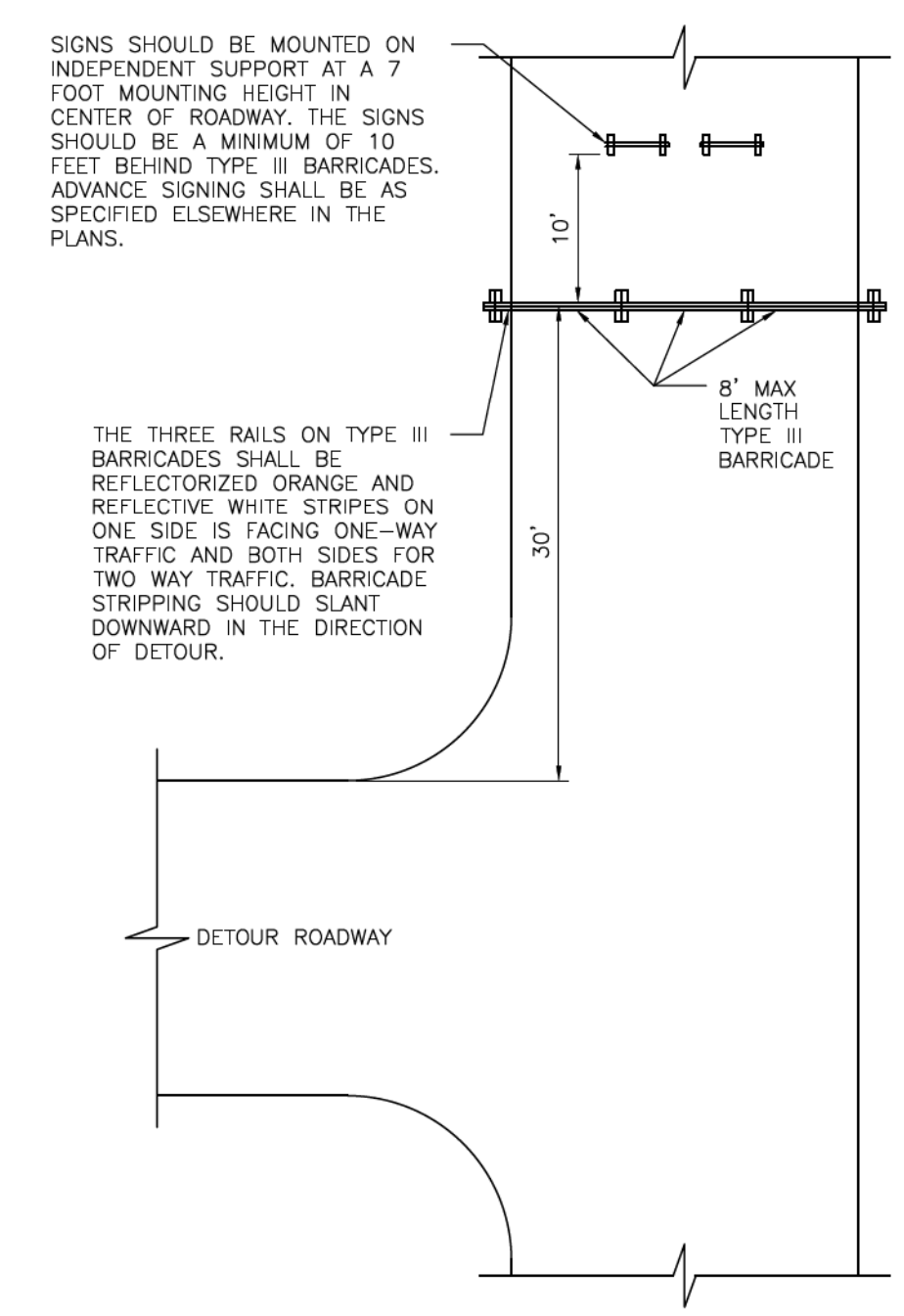
POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'	45'	90'–110'
50	400'	500'	550'	600'	50'	100'–125'
55	500'	550'	605'	660'	55'	110'–140'

TABLE C4 – STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

POSTED SPEED (MPH)	DISTANCE "D" (FEET)
30	200
35	250
40	305
45	360
50	425
55	495



CHANNELIZATION AND BARRICADES



PLAN VIEW
TYPE III BARRICADE (POST AND SKID)
TYPICAL APPLICATION

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

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DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A93C410B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 01555–01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

DRAWING SCALE
NOT TO SCALE
FOR CITY OF HOUSTON USE ONLY

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

SHEET 1 OF 1

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ROWAIDAH AYOUB	
SHEET NO. 140 OF 1067	

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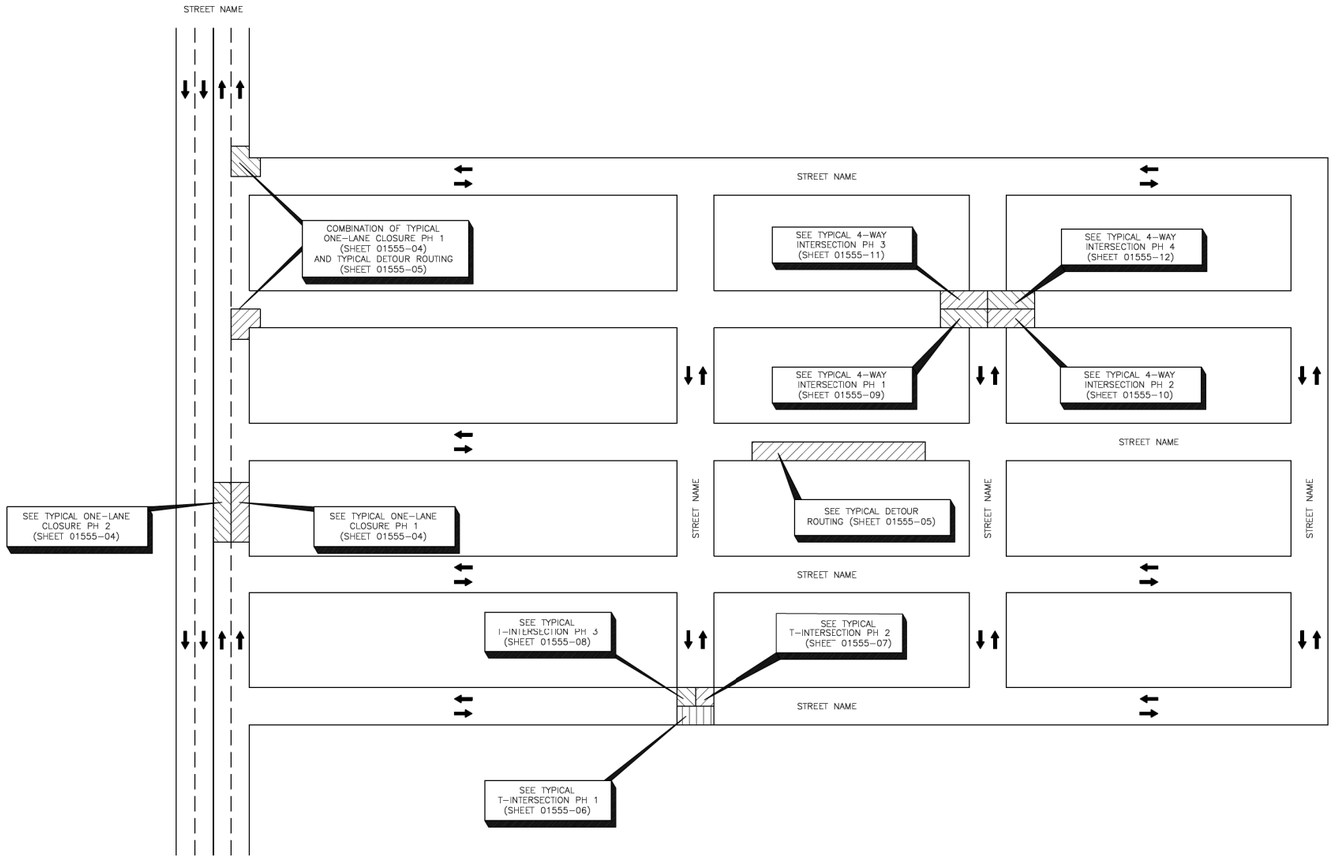

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock 4DCC4F1D2F2A4A2...	
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP OVERALL TRAFFIC CONTROL LAYOUT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TCP OVERALL TRAFFIC CONTROL LAYOUT

SHEET 1 OF 1

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AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
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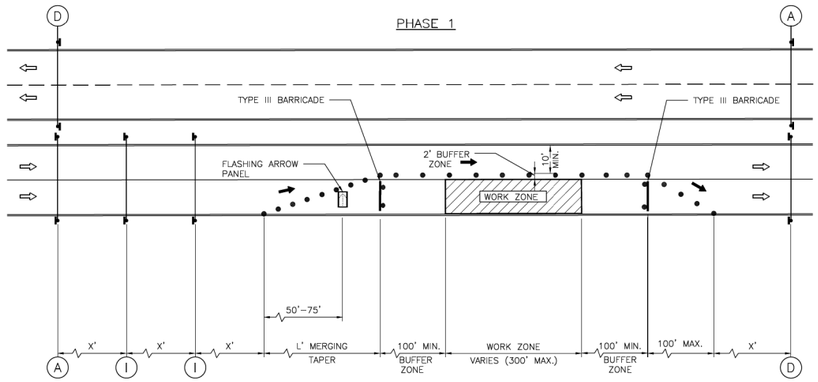
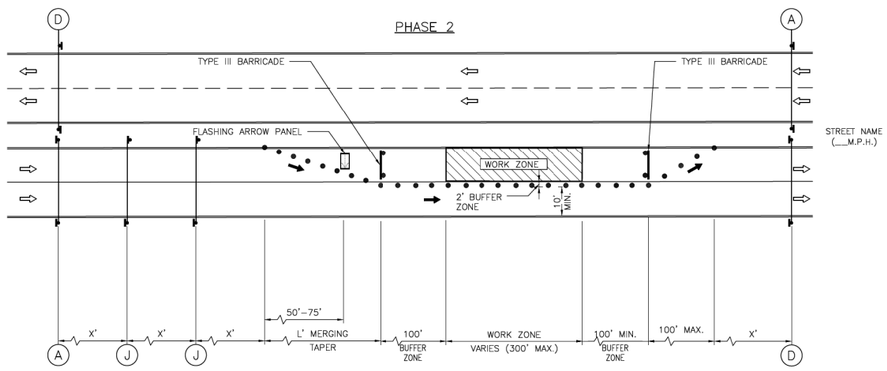
A	D	I	J
ROAD WORK AHEAD	END ROAD WORK	RIGHT LANE CLOSED AHEAD	LEFT LANE CLOSED AHEAD
CW20-1	G20-2	CW20-5(2) CW16-3	CW20-5(1) CW16-3

PHASE 1



PHASE 2



LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. RETURN TAPERS AND DOWNSTREAM BARRICADES ARE OPTIONAL ON A DIVIDED ROADWAY SECTION.
2. DOUBLE SIGNS SHALL BE USED ONLY ON ROADWAYS WITH MEDIANS.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

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DocuSigned by: Suhail Kanwar	DocuSigned by: KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-04

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP ONE LANE CLOSURE
PHASE 1 & 2

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TPC ONE LANE CLOSURE
PHASE 1 & 2

SHEET 1 OF 1

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SHEET NO. 142 OF 1067	

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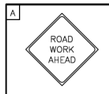
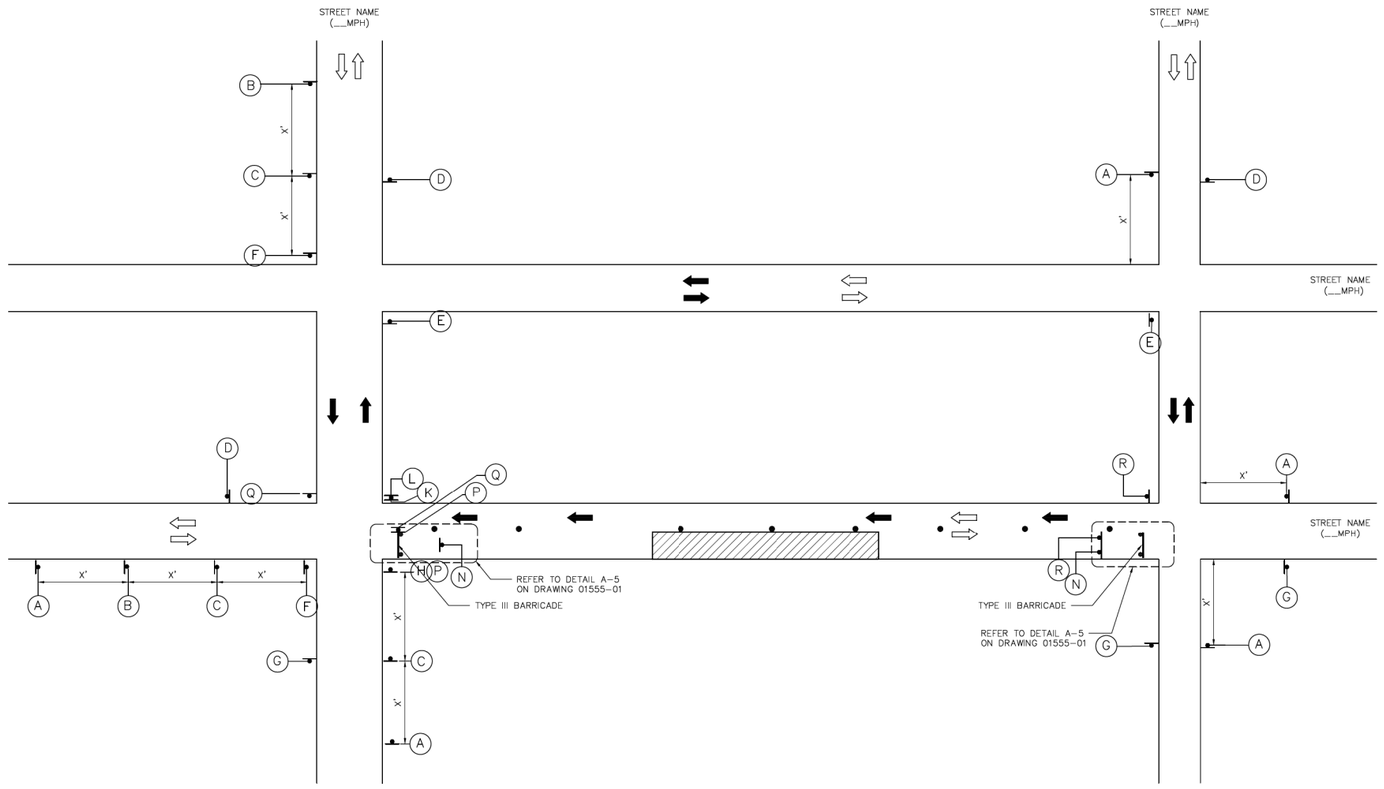
									
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	STREET NAME DETOUR	STREET NAME DETOUR	END DETOUR	STREET NAME DETOUR	RIGHT LANE CLOSED AHEAD	LEFT LANE CLOSED AHEAD
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9T	CW20-5(2) CW16-3	CW20-5(1) CW16-3

K	L	M	N	O	P	Q	R
							
ONE WAY	ONE WAY	DO NOT ENTER	ROAD CLOSED	DETOUR			BEGIN ONE WAY
R6-2(L)	R6 2(R)	R5-1	R11-2	M4-10(L)	R3-1	R3-2	R6-6



LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. A 10' MINIMUM LANE WIDTH FOR EMERGENCY SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
2. FOR DIMENSIONS REFER TO SHEET 01555-01.
3. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

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DocuSigned by: Suhail Kanwar	DocuSigned by: kihling Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-05

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL DETOUR ROUTING WITH ONE LANE CLOSURE (ONE BLOCK)

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No.	DATE	REVISIONS	APP'D

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CITY OF HOUSTON
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ANTOINE DRIVE

TCP TYPICAL DETOUR ROUTING WITH ONE LANE CLOSURE (ONE BLOCK)

SHEET 1 OF 1

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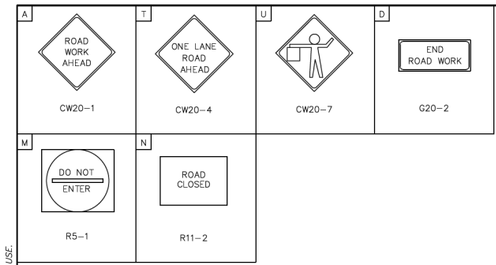

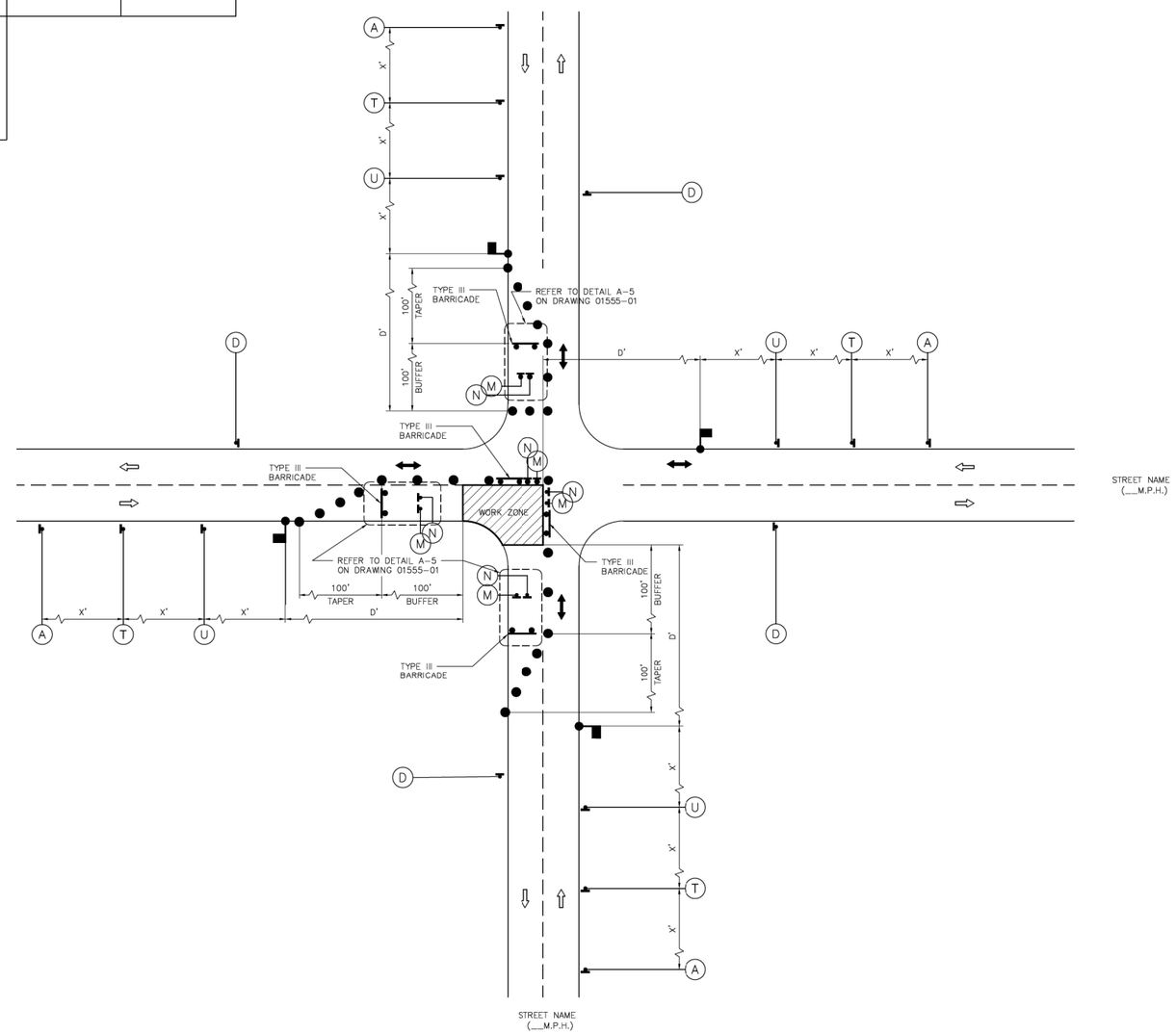

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NOTES:

1. MINOR WORK AND DAYTIME OPERATIONS ONLY.
2. REFER TO PROJECT SPECIFIC TRAFFIC CONTROL PLANS FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.
5. MAX. 100' WORK ZONE AT A TIME.

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 1 OF 4

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TCP TYPICAL CONSTURCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 1 OF 4

SHEET 1 OF 1

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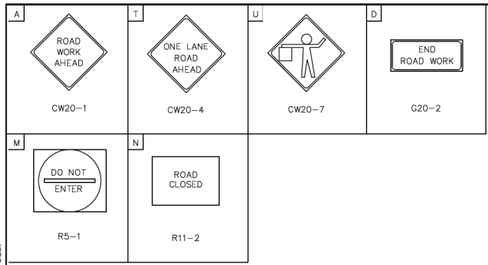

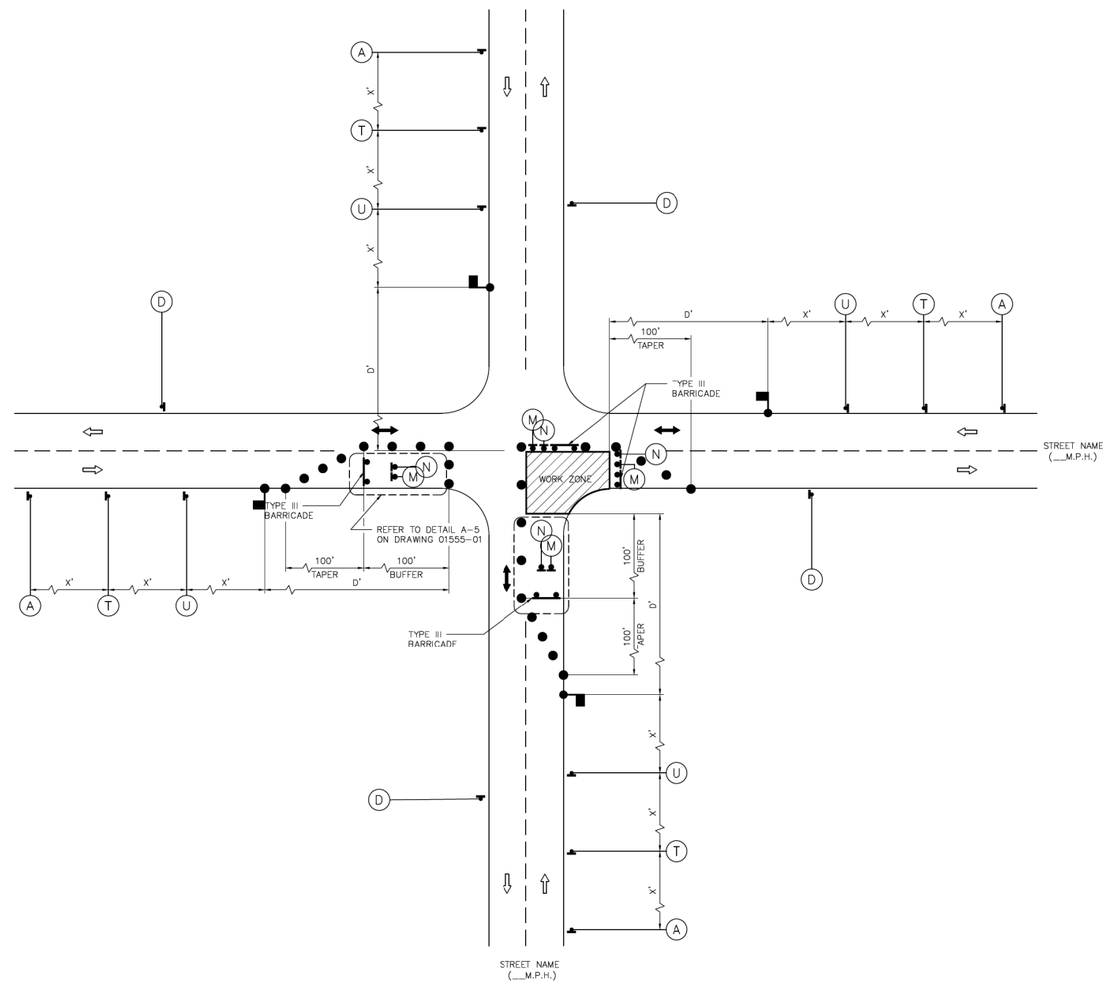

LEGEND:

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CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carol Haddock 4B5C4C1D8F2B1A63...
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023	DWG NO: 01555-10

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 2 OF 4

FOR CITY OF HOUSTON USE ONLY

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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125611
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Texas Registered Engineering Firm F-20017

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ANTOINE DRIVE
TCP TYPICAL CONSTURCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 2 OF 4

SHEET 1 OF 1

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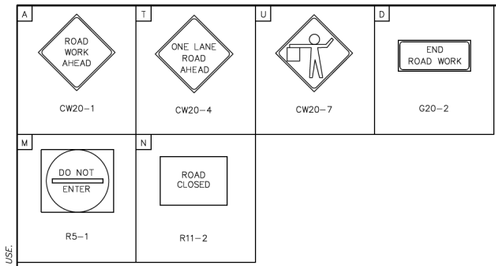

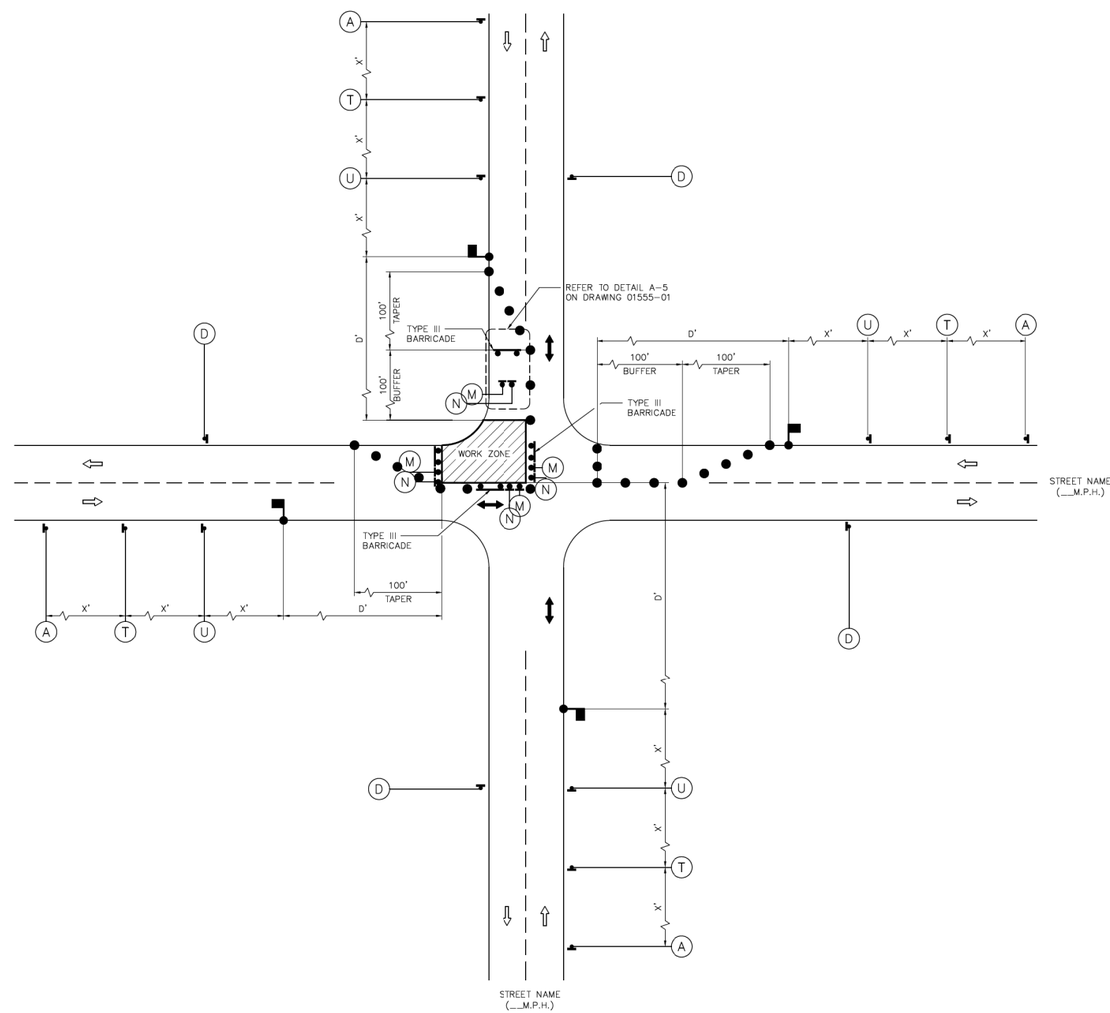

LEGEND:

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APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 3 OF 4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

INTERIM REVIEW ONLY
Not to be used for construction, bidding, permit or regulatory approval purposes. This document is released for the purpose of interim review under the authority of:
KARAM QADDO
Date: 125611
3/12/2026
Date: 60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TCP TYPICAL CONSTURCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 3 OF 4

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 146 OF 1067	

No.	DATE	REVISIONS	APP.

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

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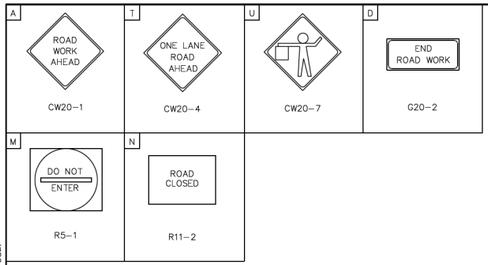

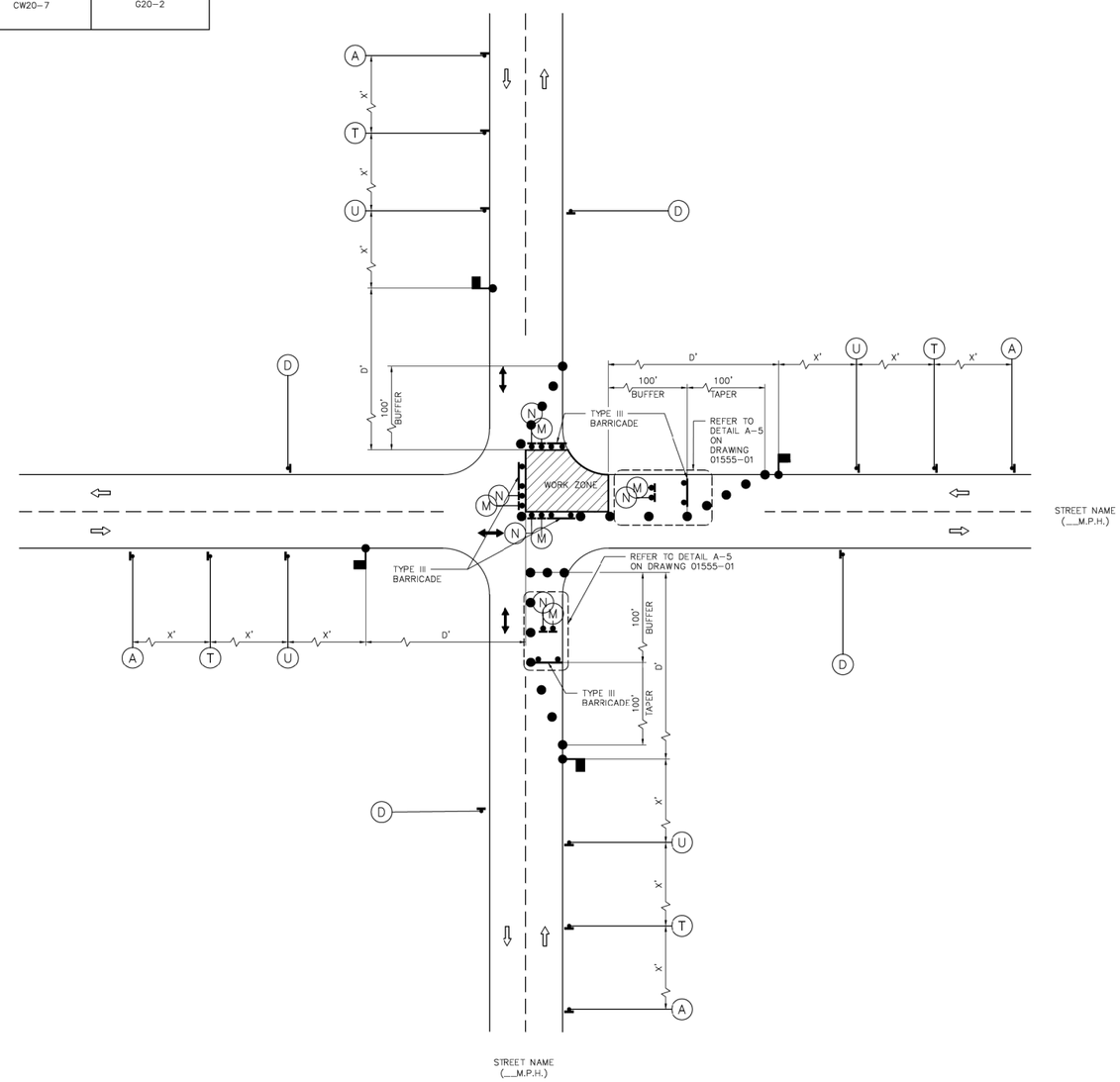

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. MINOR WORK AND DAYTIME OPERATIONS ONLY.
2. REFER TO PROJECT SPECIFIC TRAFFIC CONTROL PLANS FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
3. FOR DIMENSIONS REFER TO SHEET 01555-01.
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.
5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhad Kanwar	DocuSigned by: KHUNG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 4 OF 4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
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HOUSTON, TX 77079

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KARAM QADDO
Engineer
125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TCP TYPICAL CONSTURCTION ZONE AT A 4-WAY INTERSECTION (LOW VOLUME TRAFFIC) PHASE 4 OF 4

SHEET 1 OF 1

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ROWAIDAH AYOUB	
SHEET NO. 147 OF 1067	

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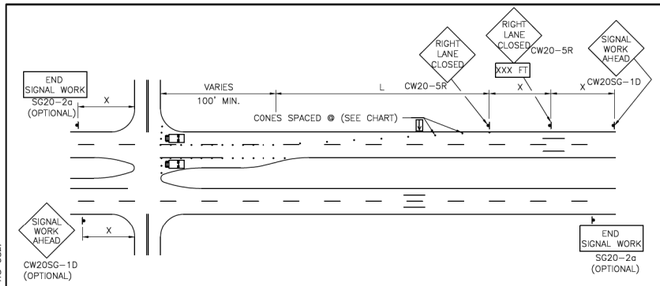
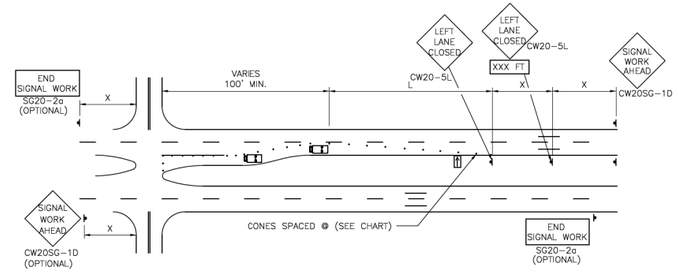
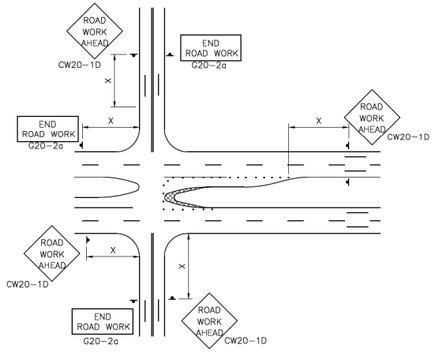


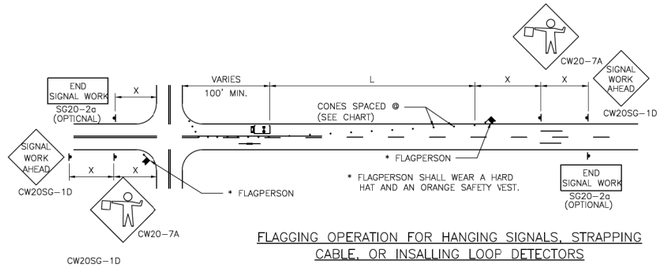
ONE LANE CLOSURE W/ RIGHT LANE AND/OR LEFT TURN LANE CLOSED



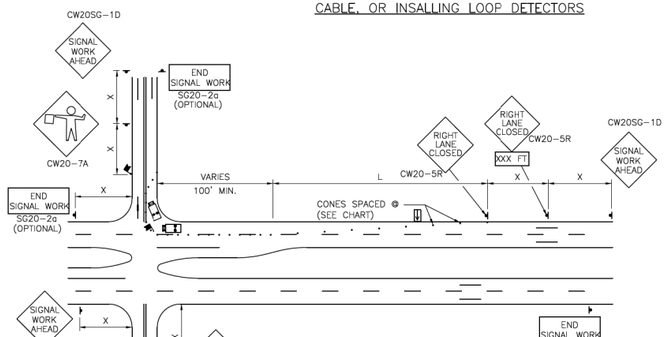
ONE LANE CLOSURE W/ LEFT LANE AND/OR LEFT TURN LANE CLOSED



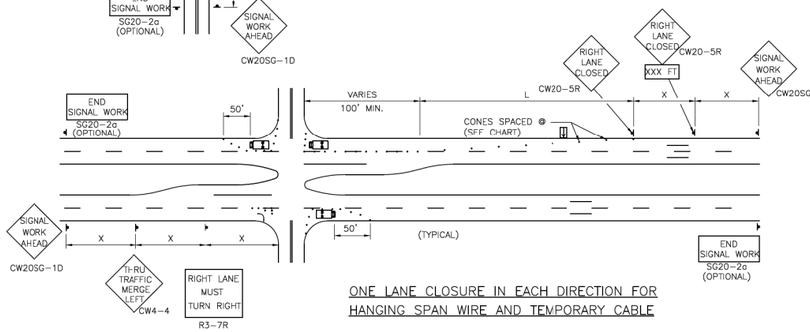
MEDIAN NOSE MODIFICATION



FLAGGING OPERATION FOR HANGING SIGNALS, STRAPPING CABLE, OR INSALLING LOOP DETECTORS



ONE LANE CLOSURE W/ FLAGGING OPERATION ON SIDE STREET FOR INSTALLATION OF SIGNAL POLES



ONE LANE CLOSURE IN EACH DIRECTION FOR HANGING SPAN WIRE AND TEMPORARY CABLE

TYPICAL TRANSITION LENGTHS

SUGGESTED MAXIMUM SPACING OF DEVICES

POSTED SPEED	FORMULA	MINIMUM DESIRABLE TAPER LENGTHS **			SUGGESTED MAXIMUM SPACING OF DEVICE		MINIMUM SIGN SPACNG X DISTANCE
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT	
30	L=WS²/60	150'	165'	180'	30'	60'–75'	120'
35		205'	225'	245'	35'	70'–90'	160'
40		265'	295'	320'	40'	80'100'	240'
45	L=WS	450'	495'	540'	45'	90'–110'	320'
50		500'	550'	600'	50'	100'–125'	400'
55		550'	605'	660'	55'	100'–140'	500'
60		600'	660'	720'	60'	120'–150'	600'

** TAPER LENGTHS HAVE BEEN ROUNDED OFF
L=LENGTH OF TAPER (FT.)
W=WIDTH OF OFFSET (FT.)
S=POSTED SPEED(MPH)

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.
2. THE MINIMUM LANE WIDTH ALLOWED IS 10 FEET. THE MINIMUM BUFFER ZONE BETWEEN THE WORK ZONE AND ADJACENT TRAFFIC IS 2 FEET.
3. FLORESCENT ORANGE SHALL BE THE BACKGROUND COLOR ON ALL WORK ZONE SIGNS.
4. THE CONTRACTOR SHALL REMOVE ADVANCE SIGNS WHEN NO CONSTRUCTION OPERATIONS ARE UNDERWAY.
5. OBSTRUCTIONS OR HAZARDS AT THE WORK AREA SHALL BE CLEARLY MARKED AND DELINEATED AT ALL TIMES.
6. ALL HOLES, TRENCHES OR OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY LIGHTS OR OTHER PROTECTIVE DEVICES.
7. TRENCHES SHALL BE COVERED OR SURROUNDED WITH ORANGE PLASTIC CONSTRUCTION FENCE AS DIRECTED BY THE ENGINEER.
8. FLAGGER AND FCW20–7a SIGN MAY BE REQUIRED ACCORDING TO FIELD CONDITIONS.
9. VEHICLES PARKED IN ROADWAY SHALL BE EQUIPPED WITH TWO STROBES.

LEGEND:

HEAVY WORK VEHICLE

FLASHING ARROW PANEL

APPROVED BY:	APPROVED BY:
Sukul Kanvar	HUNG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 01555–13

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
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No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

SHEET 1 OF 1

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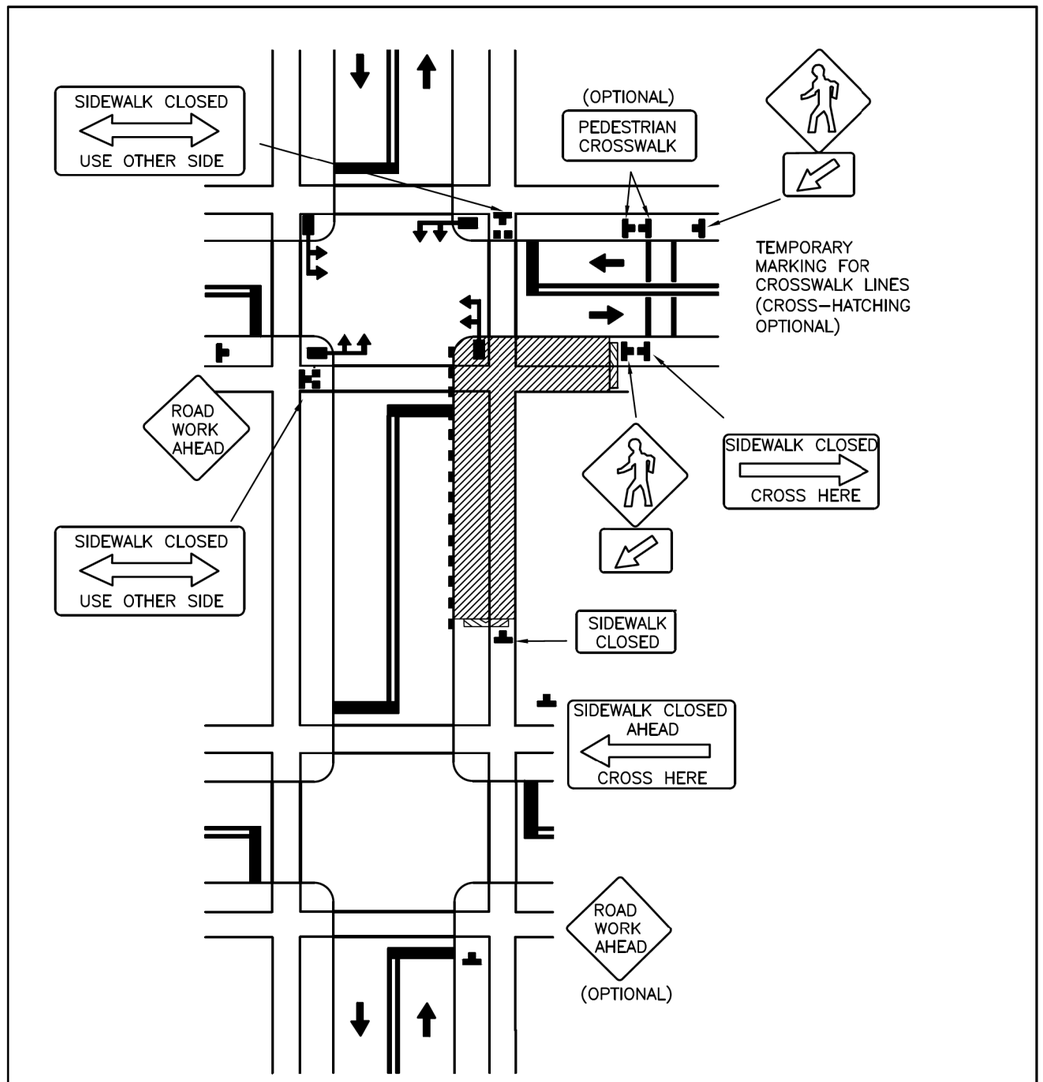

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APPROVED BY:

CITY ENGINEER	CITY TRAFFIC ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...	DocuSigned by: Carol Haddock A93C410372B3453...

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CROSSWALK CLOSURES AND PEDESTRIAN DETOURS

(SCALE: NOT TO SCALE)

EFF DATE: NOV–27–2023 | DWG NO: 01555–16

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC CONTROL PLAN FOR CROSSWALK CLOSURES AND PEDESTRIAN DETOURS

SHEET 1 OF 1

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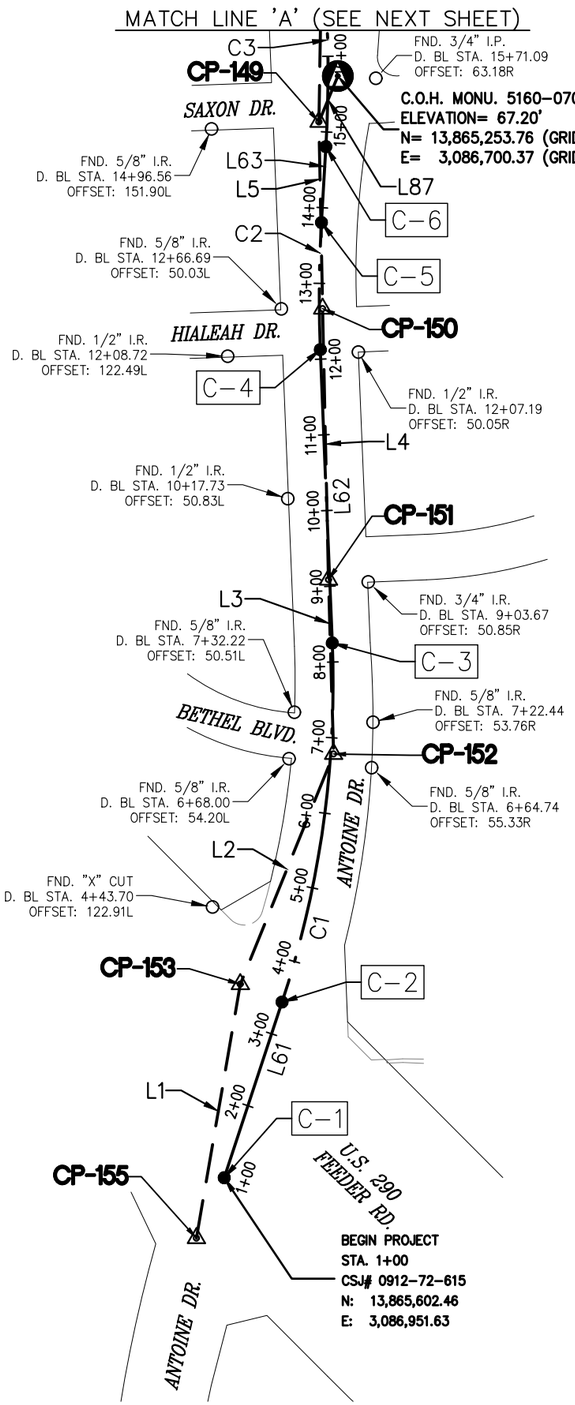
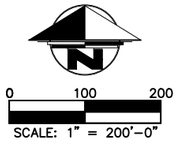




BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162-0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)

POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-149	13,866,995.79	3,087,076.64	13,865,193.31	3,086,675.38	66.72'	15+13.01	10.71L	SET "X" CUT
CP-150	13,866,749.30	3,087,081.55	13,864,946.86	3,086,680.28	67.41'	12+66.58	4.11R	SET "X" CUT
CP-151	13,866,391.71	3,087,089.27	13,864,589.31	3,086,688.00	69.28'	9+08.83	1.59L	SET "X" CUT
CP-152	13,866,161.60	3,087,096.00	13,864,359.23	3,086,694.73	70.06'	6+78.76	3.80R	SET 1/2" I.R. W/ CAP
CP-153	13,865,857.83	3,086,972.94	13,864,055.50	3,086,571.69	69.44'	3+49.44	59.68L	SET "X" CUT
CP-155	13,865,522.70	3,086,914.98	13,863,720.42	3,086,513.73	69.87'	–	–	SET "X" CUT

DESIGN BASELINE POINTS DATA

POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-1	1+00.00	13,865,602.46	3,086,951.63	13,863,800.17	3,086,550.38
C-2	3+44.12	13,865,834.32	3,087,028.04	13,864,031.99	3,086,626.78
C-3	8+25.06	13,866,308.08	3,087,094.26	13,864,505.69	3,086,692.99
C-4	12+00.44	13,866,695.27	3,087,078.54	13,864,892.84	3,086,677.27
C-5	14+30.37	13,866,863.01	3,087,080.01	13,865,060.55	3,086,678.74
C-6	16+65.24	13,866,963.13	3,087,085.84	13,865,160.66	3,086,684.57

DESIGN BASELINE: CURVE TABLE

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C1	1340.00	480.95	20°33'51"	N7° 57' 25.65"E	478.37
C2	1700.00	167.81	5°39'21"	N0° 30' 10.38"E	167.74
C3	1700.00	172.01	5°47'50"	N0° 25' 55.57"E	171.94

SURVEY BASELINE: LINE TABLE

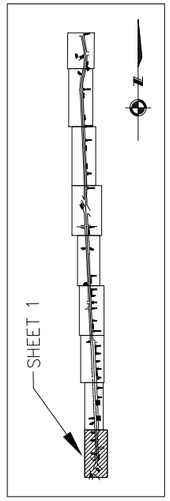
LINE #	BEARING	LENGTH
L1	N9° 48' 44.31"E	340.10
L2	N22° 03' 08.44"E	327.75
L3	N1° 40' 26.43"W	230.21
L4	N1° 14' 13.89"W	357.68
L5	N1° 08' 23.31"W	246.54

DESIGN BASELINE: LINE TABLE

LINE #	BEARING	LENGTH
L61	N18° 14' 21.34"E	244.12
L62	N2° 19' 30.04"W	387.51
L63	N3° 19' 50.79"E	100.30

LEGEND:

- CP-X — SURVEY CONTROL POINT NUMBER
- C-X — DESIGN BASELINE POINT NUMBER
- CX — DESIGN BASELINE CURVE
- SURVEY CONTROL POINT
- DESIGN BASELINE POINT
- CITY OF HOUSTON MONUMENT



SHEET LAYOUT
(N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE.
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION.

KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

KUO & ASSOCIATES
ENGINEERING + SURVEYING
10300 Westoffice Drive, Suite 800
Houston, TX 77042
Tel: (713) 975-8769
Fax: (713) 975-0920
www.kuoassociates.com
TBPELS Firm Registration No. F-4578
TBPELS Firm Registration No. 10075600

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Texas Department of Transportation

ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

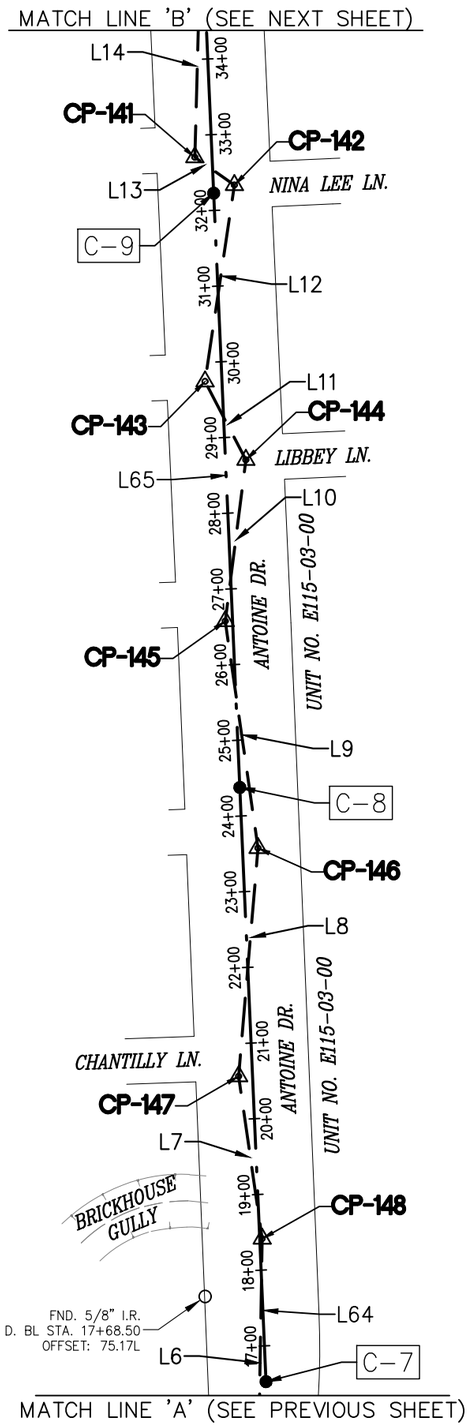
SURVEY CONTROL INDEX SHEET

(SHEET 1 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	

150

7



0 100 200

SCALE: 1" = 200'-0"

BENCHMARK:

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NOTE:

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ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162-0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)

POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-141	13,868,750.95	3,086,993.17	13,866,948.25	3,086,591.91	70.96'	32+71.15	24.30L	SET 1/2" I.R. W/ CAP
CP-142	13,868,714.21	3,087,045.37	13,866,911.52	3,086,644.11	70.12'	32+32.15	26.24R	SET 1/2" I.R. W/ CAP
CP-143	13,868,455.07	3,087,006.65	13,866,652.41	3,086,605.39	70.52'	29+74.92	23.60L	SET 1/2" I.R. W/ CAP
CP-144	13,868,351.65	3,087,060.55	13,866,549.00	3,086,659.29	69.39'	28+69.28	25.80R	SET 1/2" I.R. W/ CAP
CP-145	13,868,138.77	3,087,033.34	13,866,336.15	3,086,632.08	69.40'	26+57.76	10.54L	SET "X" CUT
CP-146	13,867,839.23	3,087,076.61	13,866,036.65	3,086,675.34	68.28'	23+56.64	19.79R	SET "X" CUT
CP-147	13,867,538.09	3,087,050.97	13,865,735.55	3,086,649.71	66.09'	20+56.88	18.79L	SET "X" CUT
CP-148	13,867,323.70	3,087,082.03	13,865,521.18	3,086,680.76	64.55'	18+41.35	3.02R	SET 1/2" I.R. W/ CAP

DESIGN BASELINE POINTS DATA

POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-7	24+65.24	13,867,135.06	3,087,087.13	13,865,332.57	3,086,685.87
C-8	32+51.90	13,867,919.31	3,087,052.60	13,866,116.71	3,086,651.34
C-9	40+01.90	13,868,703.55	3,087,018.07	13,866,900.85	3,086,616.81

SURVEY BASELINE: LINE TABLE

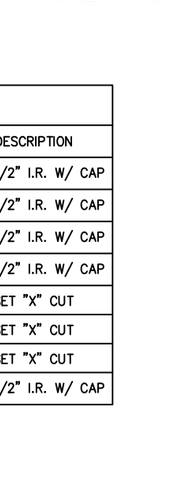
LINE #	BEARING	LENGTH
L6	N0° 56' 25.52"E	327.96
L7	N8° 14' 32.56"W	216.63
L8	N4° 51' 58.47"E	302.23
L9	N8° 13' 07.07"W	302.65
L10	N7° 16' 59.52"E	214.61
L11	N27° 31' 39.43"W	116.62
L12	N8° 29' 52.75"E	262.02
L13	N54° 51' 57.09"W	63.83
L14	N1° 33' 37.30"E	288.69

DESIGN BASELINE: LINE TABLE

LINE #	BEARING	LENGTH
L64	N2° 31' 16.39"W	785.00
L65	N2° 31' 16.39"W	785.00

LEGEND:

- CP-X — SURVEY CONTROL POINT NUMBER
- C-X — DESIGN BASELINE POINT NUMBER
- CX — DESIGN BASELINE CURVE
- SURVEY CONTROL POINT
- DESIGN BASELINE POINT
- CITY OF HOUSTON MONUMENT



SHEET LAYOUT (N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE.
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KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

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TBPELS Firm Registration No. 10075600

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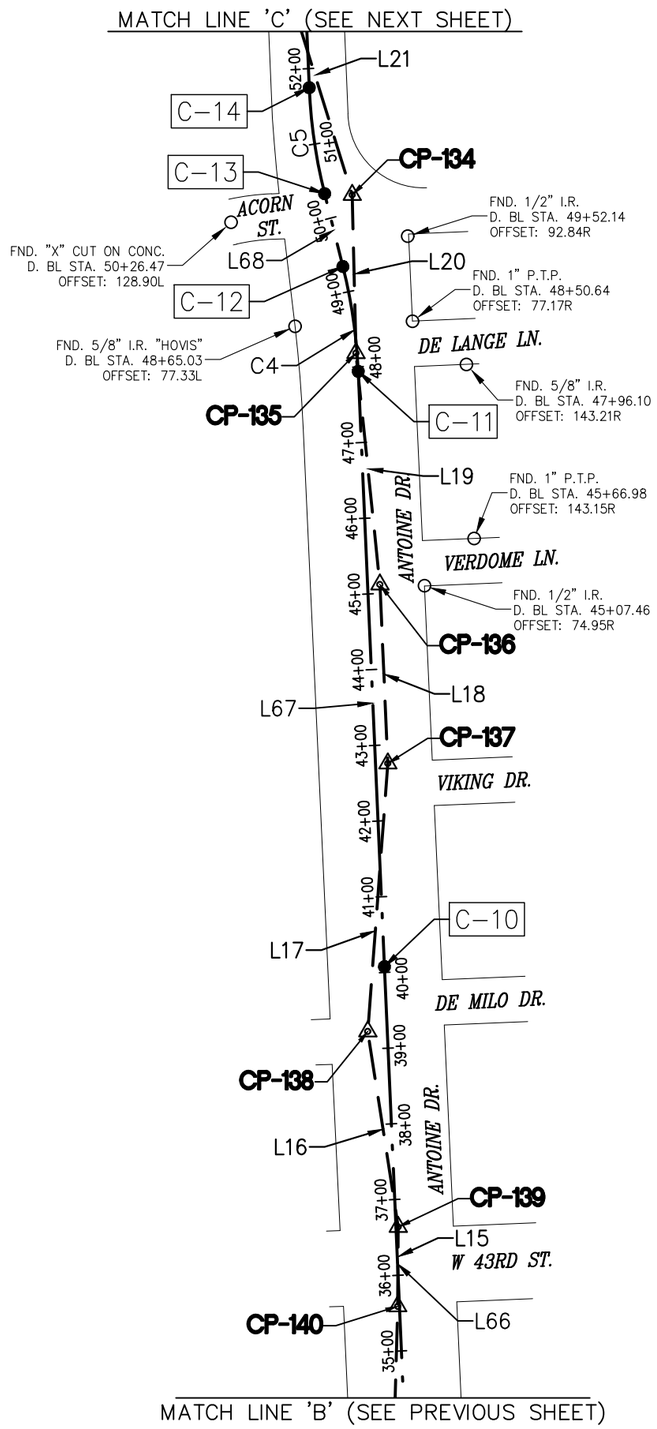
Texas Department of Transportation

ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET

(SHEET 2 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	



0 100 200

SCALE: 1" = 200'-0"

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

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NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)

POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-134	13,870,506.23	3,086,941.04	13,868,703.30	3,086,539.79	75.12'	50+23.06	36.43R	SET "X" CUT
CP-135	13,870,297.40	3,086,945.96	13,868,494.49	3,086,544.71	74.45'	48+18.22	1.18L	SET 1/2" I.R. W/ CAP
CP-136	13,869,992.09	3,086,977.58	13,868,189.23	3,086,576.33	73.88'	45+11.73	15.95R	SET 1/2" I.R. W/ CAP
CP-137	13,869,755.91	3,086,988.00	13,867,953.08	3,086,586.74	73.29'	42+75.32	15.73R	SET 1/2" I.R. W/ CAP
CP-138	13,869,402.26	3,086,961.58	13,867,599.48	3,086,560.33	72.61'	39+23.23	26.56L	SET 1/2" I.R. W/ CAP
CP-139	13,869,144.21	3,087,001.72	13,867,341.45	3,086,600.46	71.48'	36+63.62	1.93R	SET "X" CUT
CP-140	13,869,039.53	3,087,001.03	13,867,236.79	3,086,599.77	71.43'	35+59.08	3.47L	SET "X" CUT

DESIGN BASELINE POINTS DATA

POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-10	47+84.23	13,869,487.79	3,086,983.54	13,867,684.99	3,086,582.28
C-11	49+79.93	13,870,273.34	3,086,948.95	13,868,470.45	3,086,547.70
C-12	51+77.34	13,870,411.70	3,086,928.70	13,868,608.78	3,086,527.45
C-13	57+27.34	13,870,507.89	3,086,904.61	13,868,704.96	3,086,503.36
C-14	62+60.55	13,870,647.74	3,086,884.29	13,868,844.79	3,086,483.05

SURVEY BASELINE: LINE TABLE

LINE #	BEARING	LENGTH
L15	N0° 22' 38.81"E	104.68
L16	N8° 50' 29.17"W	261.16
L17	N4° 16' 18.75"E	354.63
L18	N2° 31' 27.22"W	236.41
L19	N5° 54' 51.68"W	306.94
L20	N1° 20' 59.43"W	208.89
L21	N17° 16' 08.01"W	363.22

DESIGN BASELINE: LINE TABLE

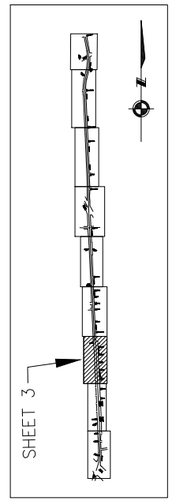
LINE #	BEARING	LENGTH
L66	N2° 31' 16.39"W	785.00
L67	N2° 31' 16.39"W	786.32
L68	N14° 03' 36.53"W	99.16

DESIGN BASELINE: CURVE TABLE

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C4	700.00	140.06	11°27'52"	N8° 19' 40.75"W	139.83
C5	700.00	141.55	11°35'11"	N8° 16' 01.14"W	141.31

LEGEND:

- CP-X — SURVEY CONTROL POINT NUMBER
- C-X — DESIGN BASELINE POINT NUMBER
- CX — DESIGN BASELINE CURVE
- SURVEY CONTROL POINT
- DESIGN BASELINE POINT
- CITY OF HOUSTON MONUMENT



SHEET LAYOUT (N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

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TEXAS REG. NO.: 6404
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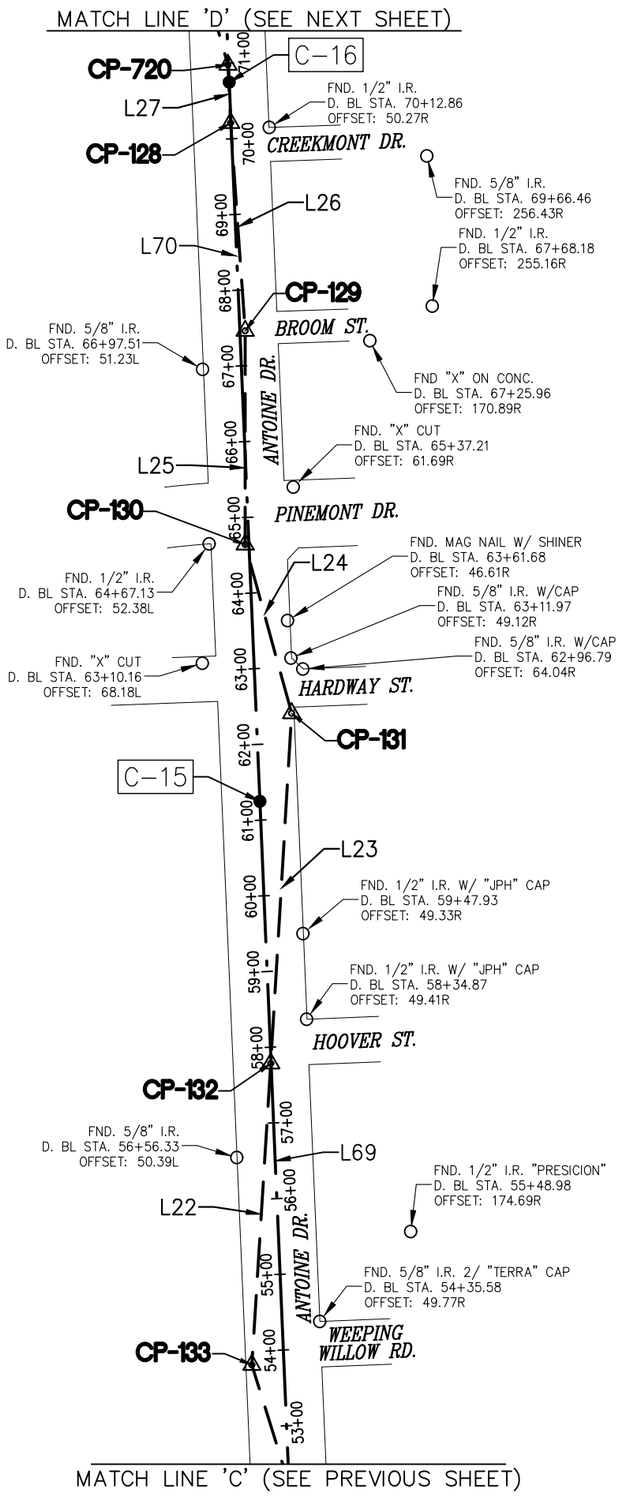
Texas Department of Transportation

ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET

(SHEET 3 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	





SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-128	13,872,492.19	3,086,805.14	13,870,689.01	3,086,403.91	76.19'	70+20.98	0.08L	SET 1/2" I.R. W/ CAP
CP-129	13,872,217.87	3,086,824.32	13,870,414.71	3,086,423.09	76.60'	67+46.08	7.46R	SET "X" CUT
CP-130	13,871,935.76	3,086,824.40	13,870,132.64	3,086,423.16	76.99'	64+64.22	4.41L	SET 1/2" I.R. W/ CAP
CP-131	13,871,713.13	3,086,885.72	13,869,910.04	3,086,484.47	75.44'	62+39.16	47.41R	SET 1/2" I.R. W/ CAP
CP-132	13,871,250.88	3,086,858.15	13,869,447.86	3,086,456.91	75.96'	57+78.53	0.08L	SET 1/2" I.R. W/ CAP
CP-133	13,870,853.07	3,086,833.21	13,869,050.10	3,086,431.98	74.59'	53+82.17	42.17L	SET "X" CUT
CP-720	13,872,568.91	3,086,801.60	13,870,765.72	3,086,400.37	76.43'	70+97.78	0.38L	SET "X" CUT

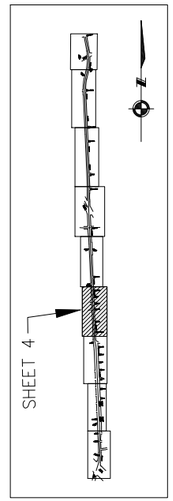
DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-15	69+60.55	13,871,596.87	3,086,843.82	13,869,793.80	3,086,442.59
C-16	76+60.55	13,872,546.01	3,086,803.36	13,870,742.82	3,086,402.13

SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L22	N3° 35' 14.63"E	398.59
L23	N3° 24' 44.56"E	463.07
L24	N15° 23' 58.88"W	230.92
L25	N0° 00' 54.10"W	282.11
L26	N3° 59' 56.55"W	275.00
L27	N2° 38' 46.93"W	76.80

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L69	N2° 26' 28.33"W	950.00
L70	N2° 26' 28.33"W	950.00

LEGEND:

CP-X	SURVEY CONTROL POINT NUMBER
C-X	DESIGN BASELINE POINT NUMBER
CX	DESIGN BASELINE CURVE
	SURVEY CONTROL POINT
	DESIGN BASELINE POINT
	CITY OF HOUSTON MONUMENT



SHEET LAYOUT
(N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

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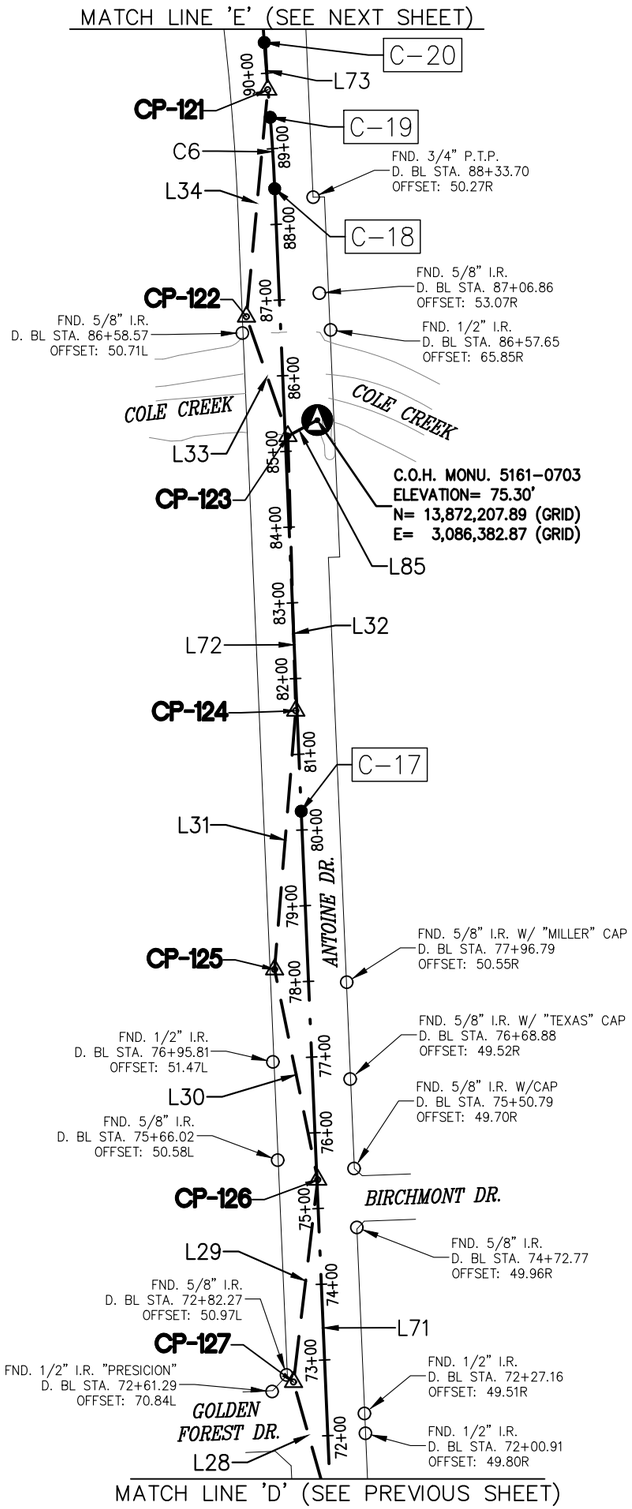
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET

(SHEET 4 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	153 615	



0 100 200

SCALE: 1" = 200'-0"

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-121	13,874,447.21	3,086,718.69	13,872,643.76	3,086,317.47	73.65'	89+77.98	0.52L	SET "X" CUT
CP-122	13,874,147.82	3,086,690.57	13,872,344.42	3,086,289.36	74.96'	86+79.97	44.44L	SET "X" CUT
CP-123	13,873,990.17	3,086,745.29	13,872,186.79	3,086,344.07	75.23'	85+20.15	3.55R	SET 1/2" I.R. W/ CAP
CP-124	13,873,627.75	3,086,755.66	13,871,824.42	3,086,354.43	74.57'	81+57.61	1.44L	SET "X" CUT
CP-125	13,873,286.31	3,086,727.73	13,871,483.01	3,086,326.51	74.63'	78+17.65	43.79L	SET "X" CUT
CP-126	13,873,008.74	3,086,784.71	13,871,205.49	3,086,383.48	75.90'	75+37.93	1.37R	SET "X" CUT
CP-127	13,872,741.87	3,086,752.73	13,870,938.65	3,086,351.50	75.48'	72+72.65	41.88L	SET 1/2" I.R. W/ CAP

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-17	83+57.90	13,873,495.15	3,086,762.89	13,871,691.83	3,086,361.67
C-18	87+63.54	13,874,316.69	3,086,727.87	13,872,513.26	3,086,326.65
C-19	89+84.93	13,874,410.90	3,086,722.07	13,872,607.46	3,086,320.85
C-20	91+51.56	13,874,509.70	3,086,714.11	13,872,706.25	3,086,312.89

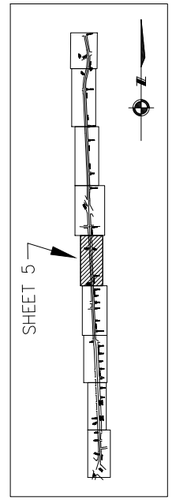
SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L28	N15° 46' 38.26"W	179.73
L29	N6° 49' 57.55"E	268.78
L30	N11° 35' 57.34"W	283.35
L31	N4° 40' 31.02"E	342.59
L32	N1° 38' 19.45"W	362.57
L33	N19° 08' 27.57"W	166.87
L34	N5° 21' 52.24"E	300.70

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L71	N2° 26' 28.33"W	950.00
L72	N2° 26' 28.33"W	822.29
L73	N4° 36' 16.20"W	99.12

DESIGN BASELINE: CURVE TABLE					
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C6	2500.00	94.39	2°09'48"	N3° 31' 22.27"W	94.39

LEGEND:

- CP-X SURVEY CONTROL POINT NUMBER
- C-X DESIGN BASELINE POINT NUMBER
- CX DESIGN BASELINE CURVE
- SURVEY CONTROL POINT
- DESIGN BASELINE POINT
- CITY OF HOUSTON MONUMENT



SHEET LAYOUT
(N.T.S.)

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UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

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VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162-0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

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INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE.
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION.

KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

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KUO & ASSOCIATES
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TBPELS Firm Registration No. F-4578
TBPELS Firm Registration No. 10075600

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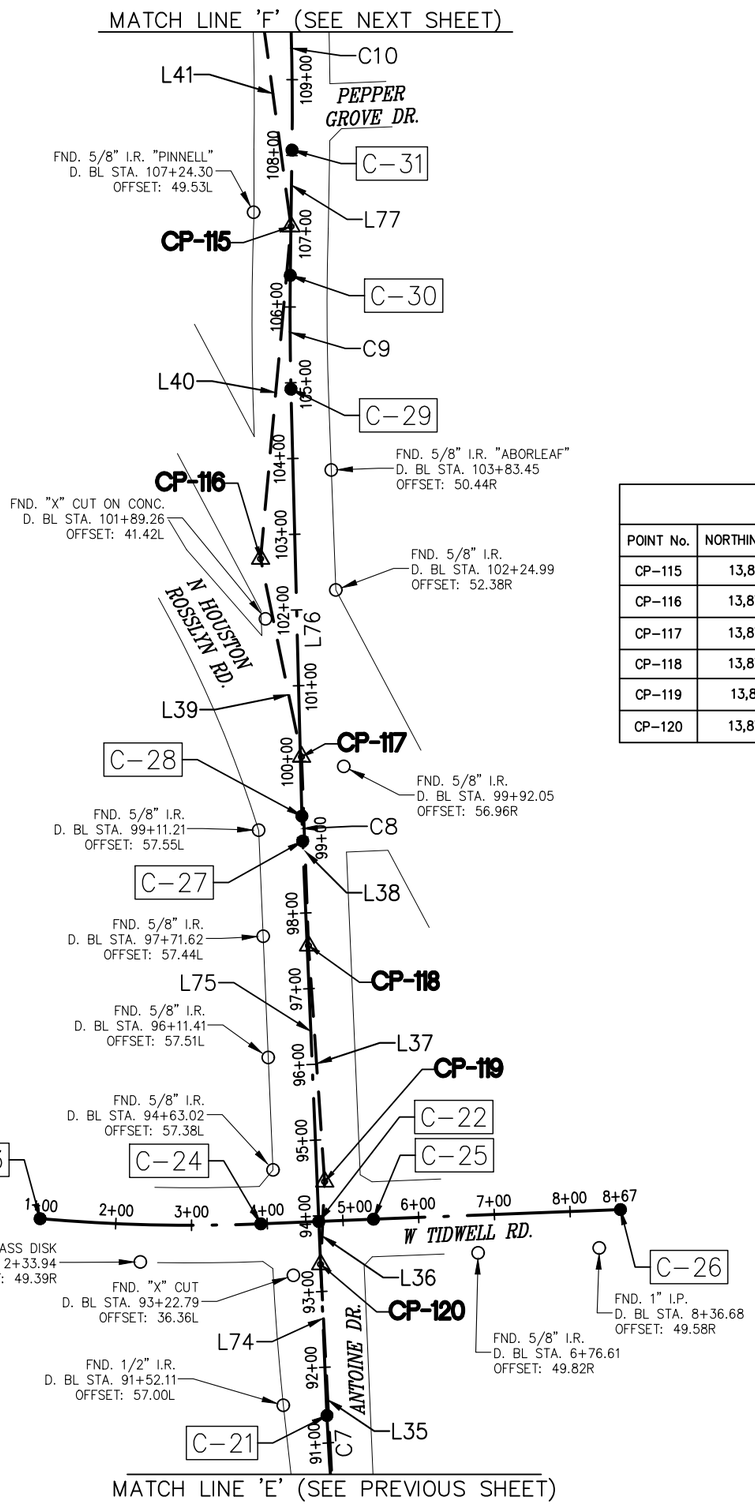
Texas Department of Transportation

ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET

(SHEET 5 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	



DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-21	99+11.50	13,874,605.16	3,086,708.26	13,872,801.70	3,086,307.04
C-22	104+30.76	13,874,861.20	3,086,697.47	13,873,057.70	3,086,296.26
C-23	1+00.00	13,874,864.91	3,086,329.71	13,873,061.41	3,085,928.53
C-24	3+91.62	13,874,858.02	3,086,621.05	13,873,054.53	3,086,219.84
C-25	5+40.38	13,874,864.19	3,086,769.67	13,873,060.70	3,086,368.45
C-26	8+66.58	13,874,876.92	3,087,095.63	13,873,073.42	3,086,694.36
C-27	126+01.88	13,875,363.23	3,086,676.32	13,873,559.67	3,086,275.11
C-28	132+61.48	13,875,396.18	3,086,675.21	13,873,592.61	3,086,273.99
C-29	139+61.48	13,875,959.60	3,086,660.77	13,874,155.97	3,086,259.56
C-30	146+26.78	13,876,109.75	3,086,659.87	13,874,306.09	3,086,258.66
C-31	151+43.69	13,876,275.10	3,086,662.14	13,874,471.42	3,086,260.92

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-115	13,876,174.20	3,086,660.78	13,874,370.53	3,086,259.57	77.05'	107+06.22	0.54L	SET "X" CUT
CP-116	13,875,735.78	3,086,620.64	13,873,932.17	3,086,219.43	80.34'	102+68.88	45.85L	SET 1/2" I.R. W/ CAP
CP-117	13,875,474.42	3,086,674.69	13,873,670.84	3,086,273.48	77.76'	100+06.21	1.49R	SET 1/2" I.R. W/ CAP
CP-118	13,875,225.25	3,086,683.88	13,873,421.71	3,086,282.67	76.14'	97+56.84	1.74R	SET "X" CUT
CP-119	13,874,913.71	3,086,705.22	13,873,110.21	3,086,304.00	74.92'	94+44.69	9.95R	SET 1/2" I.R. W/ CAP
CP-120	13,874,804.53	3,086,699.92	13,873,001.04	3,086,298.70	74.99'	93+35.82	0.06R	SET 1/2" I.R. W/ CAP

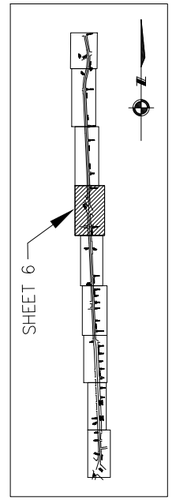
SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L35	N3° 00' 24.34"W	357.82
L36	N2° 46' 41.12"E	109.31
L37	N3° 55' 02.07"W	312.27
L38	N2° 06' 45.59"W	249.33
L39	N11° 41' 05.50"W	266.90
L40	N5° 13' 55.04"E	440.25
L41	N7° 44' 46.81"W	354.30

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L74	N2° 24' 44.48"W	256.26
L75	N2° 24' 44.48"W	502.48
L76	N1° 28' 04.91"W	563.61
L77	N0° 47' 02.76"E	165.37

DESIGN BASELINE: CURVE TABLE					
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C7	2500.00	95.65	2°11'32"	N3° 30' 30.34"W	95.64
C8	2000.00	32.96	0°56'40"	N1° 56' 24.70"W	32.96
C9	3820.00	150.15	2°15'08"	N0° 20' 31.07"W	150.14
C10	3820.00	202.64	3°02'21"	N0° 44' 07.98"W	202.61

LEGEND:

- CP-X — SURVEY CONTROL POINT NUMBER
- C-X — DESIGN BASELINE POINT NUMBER
- CX — DESIGN BASELINE CURVE
- SURVEY CONTROL POINT
- DESIGN BASELINE POINT
- CITY OF HOUSTON MONUMENT



SHEET LAYOUT
(N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

0 100 200
SCALE: 1" = 200'-0"

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162-0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

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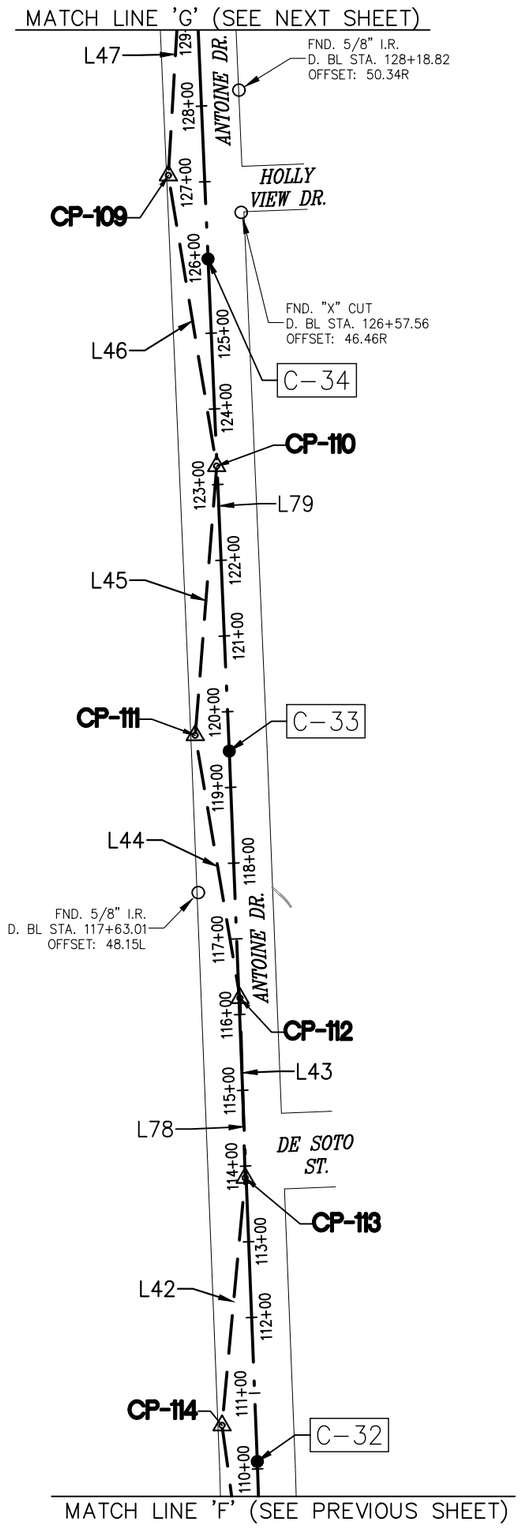
Texas Department of Transportation

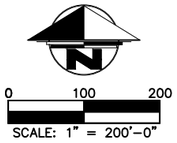
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET 7

(SHEET 6 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72 155	615	





SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-109	13,878,174.99	3,086,542.18	13,876,371.06	3,086,140.98	76.09'	127+10.55	47.60L	SET 1/2" I.R. W/ CAP
CP-110	13,877,791.29	3,086,605.92	13,875,987.41	3,086,204.71	77.21'	123+24.46	0.47L	SET 1/2" I.R. W/ CAP
CP-111	13,877,436.22	3,086,577.65	13,875,632.39	3,086,176.45	76.98'	119+70.94	44.03L	SET "X" CUT
CP-112	13,877,089.32	3,086,636.77	13,875,285.53	3,086,235.56	76.94'	116+21.81	1.32R	SET "X" CUT
CP-113	13,876,851.95	3,086,643.54	13,875,048.20	3,086,242.33	77.58'	113+84.36	1.26L	SET "X" CUT
CP-114	13,876,525.27	3,086,613.03	13,874,721.55	3,086,211.82	76.09'	110+59.13	44.60L	SET "X" CUT

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-32	153+69.72	13,876,477.69	3,086,659.53	13,874,673.99	3,086,258.32
C-33	162+18.28	13,877,415.29	3,086,622.61	13,875,611.47	3,086,221.40
C-34	166+99.62	13,878,064.69	3,086,594.58	13,876,260.78	3,086,193.37

SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L42	N5° 20' 08.72"E	328.11
L43	N1° 37' 56.38"W	237.46
L44	N9° 40' 19.09"W	351.90
L45	N4° 33' 04.51"E	356.20
L46	N9° 25' 51.89"W	388.95
L47	N3° 20' 38.72"E	486.38

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L78	N2° 15' 18.73"W	938.33
L79	N2° 28' 18.59"W	650.00

LEGEND:

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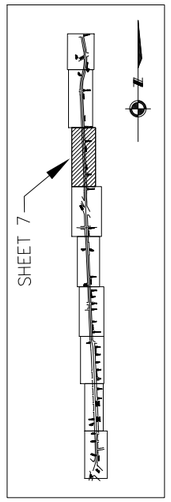

SHEET LAYOUT
(N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

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ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

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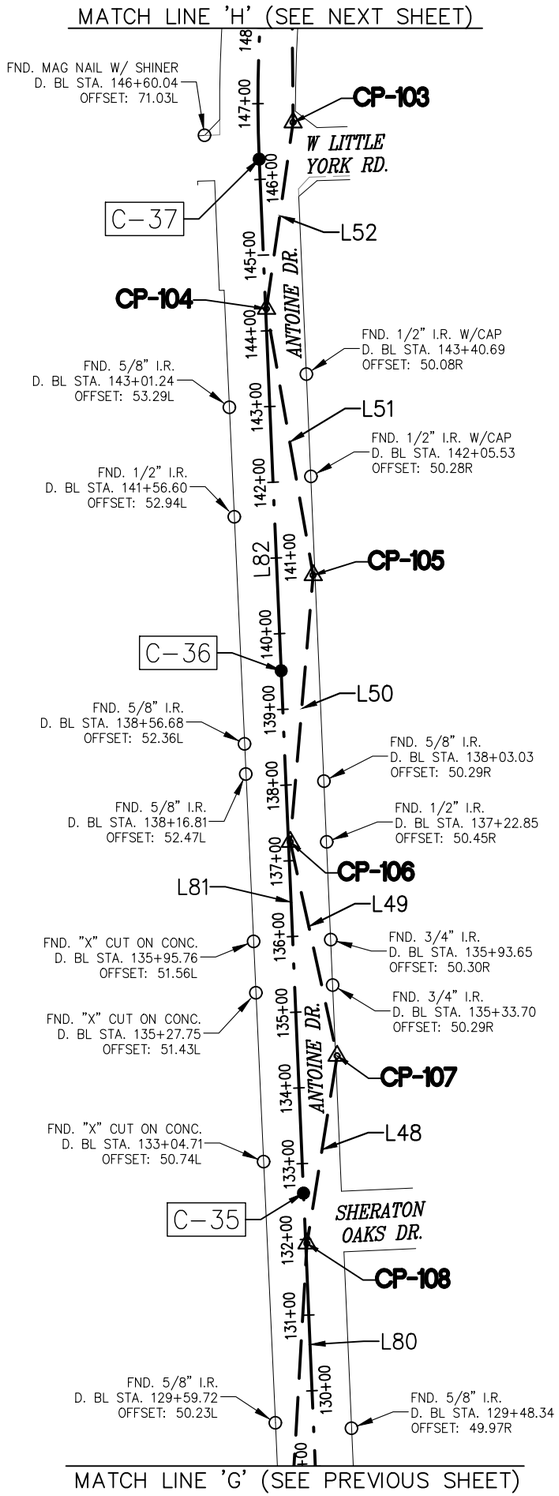
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET 7

(SHEET 7 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	



0 100 200

SCALE: 1" = 200'-0"

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-103	13,880,139.97	3,086,552.18	13,878,335.79	3,086,150.98	73.90'	146+74.49	46.07R	SET "X" CUT
CP-104	13,879,893.97	3,086,517.10	13,878,089.82	3,086,115.90	75.81'	144+29.02	1.09R	SET "X" CUT
CP-105	13,879,542.55	3,086,578.72	13,877,738.44	3,086,177.52	75.47'	140+75.28	47.63R	SET "X" CUT
CP-106	13,879,190.52	3,086,548.52	13,877,386.46	3,086,147.32	77.14'	137+24.87	2.39R	SET "X" CUT
CP-107	13,878,908.32	3,086,610.28	13,877,104.29	3,086,209.07	77.49'	134+40.28	52.01R	SET "X" CUT
CP-108	13,878,660.54	3,086,570.55	13,876,856.55	3,086,169.35	77.16'	131+94.43	1.70R	SET "X" CUT

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-32	153+69.72	13,876,477.69	3,086,659.53	13,874,673.99	3,086,258.32
C-33	162+18.28	13,877,415.29	3,086,622.61	13,875,611.47	3,086,221.40
C-34	166+99.62	13,878,064.69	3,086,594.58	13,876,260.78	3,086,193.37
C-35	132+61.08	13,878,727.11	3,086,565.98	13,876,923.11	3,086,164.78
C-36	139+51.08	13,879,416.48	3,086,536.45	13,877,612.39	3,086,135.26
C-37	146+26.73	13,880,091.51	3,086,507.54	13,878,287.34	3,086,106.35

SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L48	N9° 06' 30.58"E	250.94
L49	N12° 20' 37.59"W	288.89
L50	N4° 54' 13.66"E	353.32
L51	N9° 56' 47.52"W	356.79
L52	N8° 07' 00.25"E	248.49

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L80	N2° 28' 18.59"W	663.04
L81	N2° 27' 09.55"W	690.00
L82	N2° 27' 09.55"W	675.65

LEGEND:

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- SURVEY CONTROL POINT
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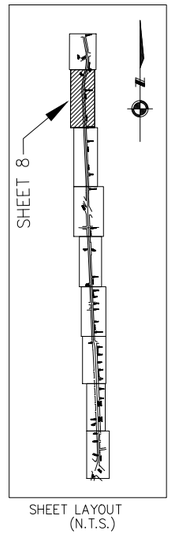
- CITY OF HOUSTON MONUMENT



SHEET LAYOUT
(N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

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NOTE:

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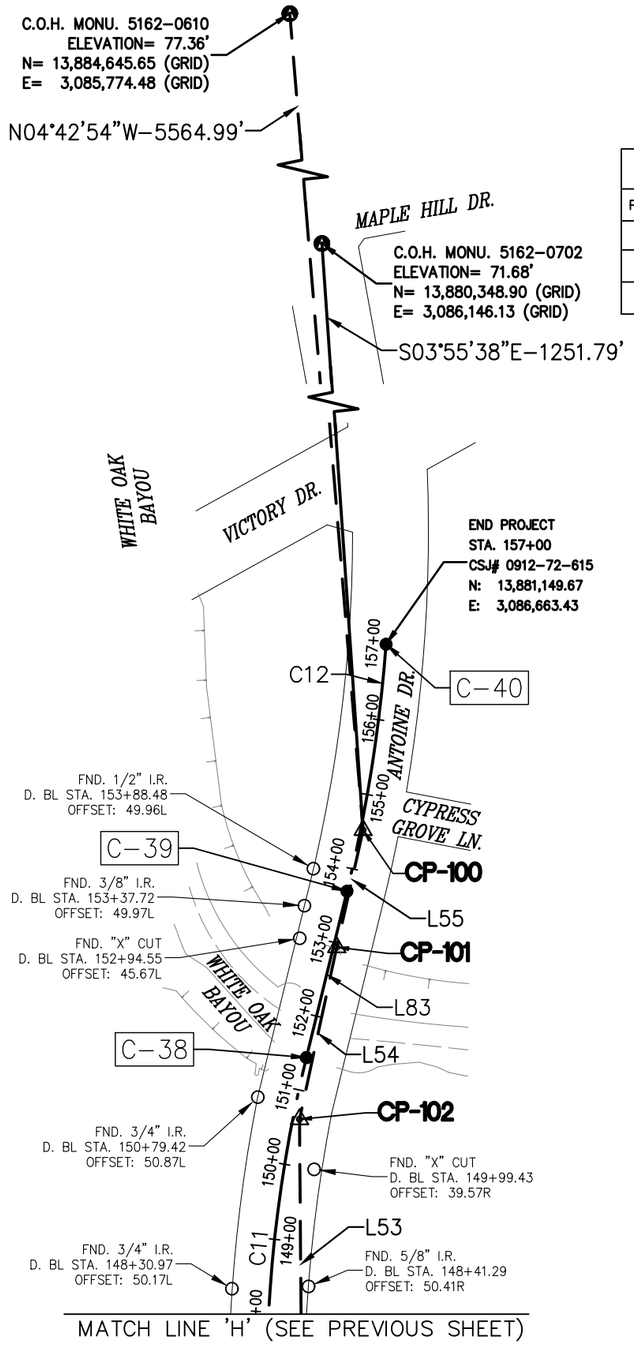
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

SURVEY CONTROL INDEX SHEET

(SHEET 8 OF 9)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	



0 100 200
SCALE: 1" = 200'-0"

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
CP-100	13,880,904.50	3,086,633.06	13,879,100.21	3,086,231.85	72.73'	154+53.06	3.22R	SET "X" CUT
CP-101	13,880,749.80	3,086,598.29	13,878,945.54	3,086,197.08	74.69'	152+94.65	4.42R	SET 1/2" I.R. W/ CAP
CP-102	13,880,522.79	3,086,549.19	13,878,718.56	3,086,147.99	73.79'	150+62.05	8.80R	SET 1/2" I.R. W/ CAP

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-38	151+43.64	13,880,604.20	3,086,558.17	13,878,799.96	3,086,156.97
C-39	153+69.67	13,880,823.78	3,086,611.82	13,879,019.51	3,086,210.61
C-40	162+18.23	13,881,149.67	3,086,663.43	13,879,345.36	3,086,262.22

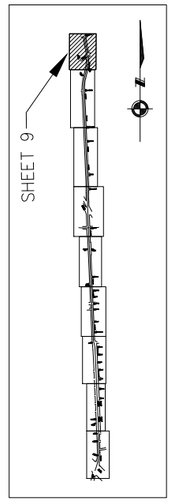
SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L53	N0° 26' 50.22"W	382.84
L54	N12° 12' 12.97"E	232.26
L55	N12° 40' 11.85"E	158.55

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L83	N13° 43' 52.21"E	226.04

DESIGN BASELINE: CURVE TABLE					
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C11	1830.00	516.90	16°11'02"	N5° 38' 21.34"E	515.19
C12	2000.00	330.33	9°27'47"	N8° 59' 58.60"E	329.95

LEGEND:

CP-X	SURVEY CONTROL POINT NUMBER
C-X	DESIGN BASELINE POINT NUMBER
CX	DESIGN BASELINE CURVE
	SURVEY CONTROL POINT
	DESIGN BASELINE POINT
	CITY OF HOUSTON MONUMENT



SHEET LAYOUT
(N.T.S.)

SCALE: 1" = 200'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162-0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162-0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

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KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

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Texas Department of Transportation

ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

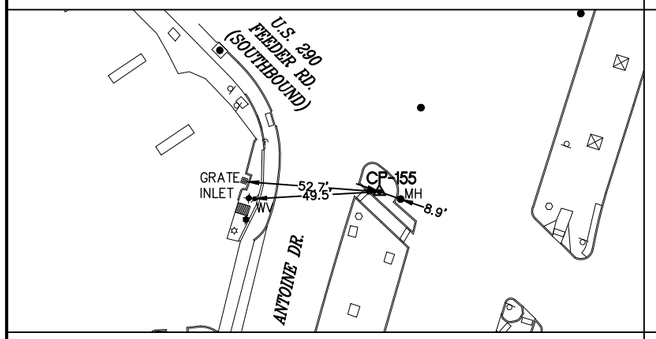
SURVEY CONTROL INDEX SHEET

(SHEET 9 OF 9)

	PROJECT NO.		HIGHWAY NO
			VA
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	158 615	

SURVEY CONTROL PT.
CP–155

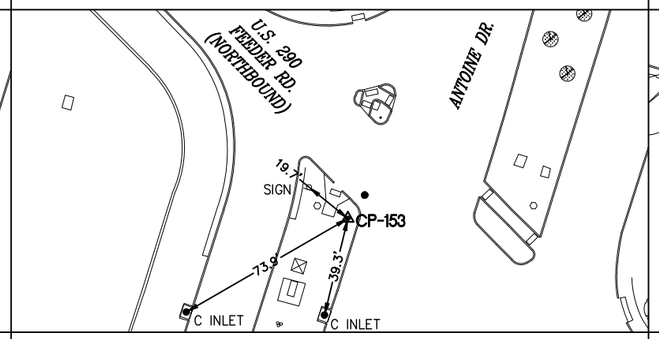
N= 13,865,522.70
E= 3,086,914.98
ELEVATION= 69.87'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND US 290 FEEDER RD (SOUTHBOUND)

SURVEY CONTROL PT.
CP–153

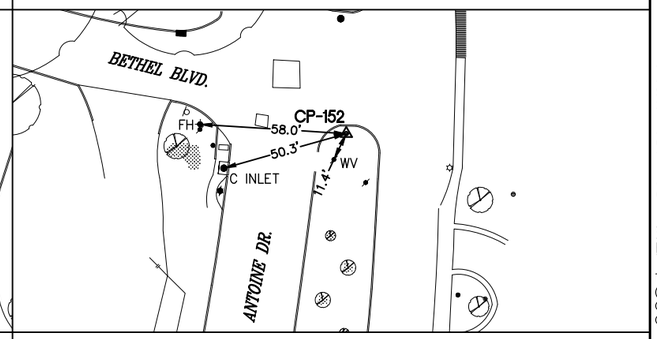
N= 13,865,857.83
E= 3,086,972.94
ELEVATION= 69.44'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND US 290 FEEDER RD (NORTHBOUND)

SURVEY CONTROL PT.
CP–152

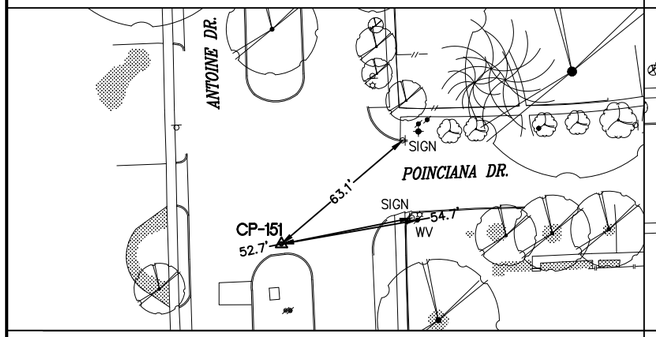
N= 13,866,161.60
E= 3,087,096.00
ELEVATION= 70.06'



CONTROL DESCRIPTION SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF BETHEL BLVD AND ANTOINE DR

SURVEY CONTROL PT.
CP–151

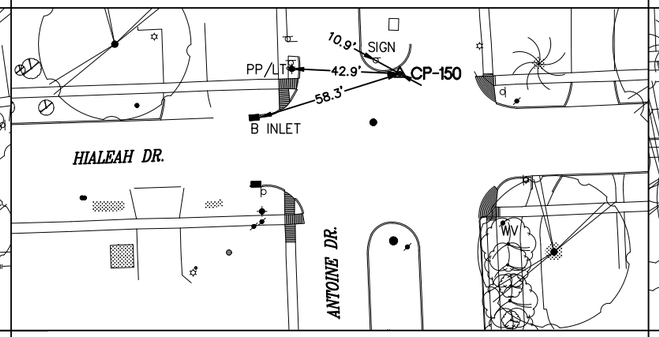
N= 13,866,391.71
E= 3,087,089.27
ELEVATION= 69.28'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND POINCIANA DR

SURVEY CONTROL PT.
CP–150

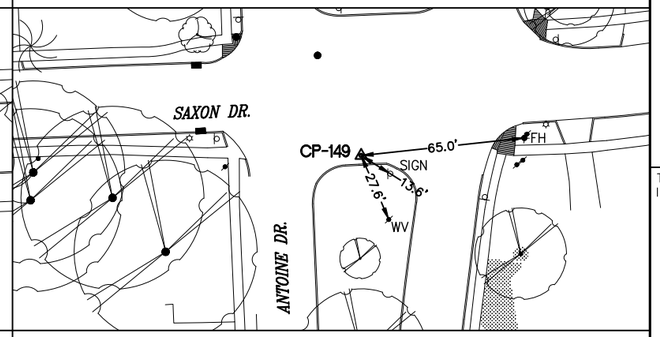
N= 13,866,749.30
E= 3,087,081.55
ELEVATION= 67.41'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HIALEAH DR

SURVEY CONTROL PT.
CP–149

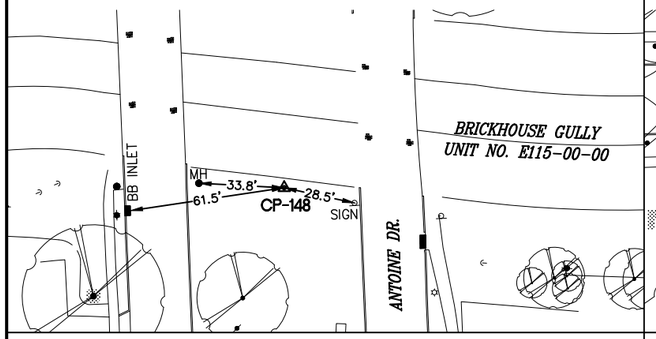
N= 13,866,995.79
E= 3,087,076.64
ELEVATION= 66.72'



CONTROL DESCRIPTION SET "X" CUT ON CONC.
LOCATED NEAR THE MEDIAN AT ANTOINE DR AND SAXON DR

SURVEY CONTROL PT.
CP–148

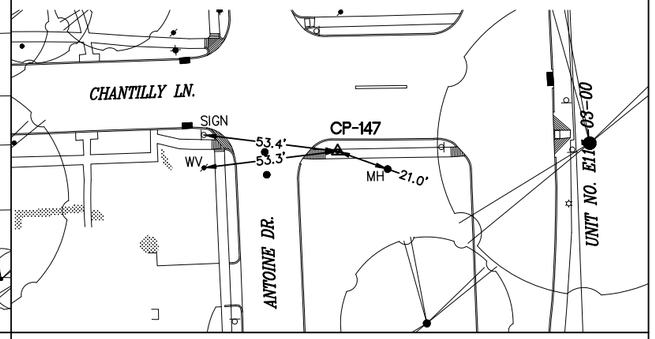
N= 13,867,323.70
E= 3,087,082.03
ELEVATION= 64.55'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED APPROX. 240' SOUTH OF THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

SURVEY CONTROL PT.
CP–147

N= 13,867,538.09
E= 3,087,050.97
ELEVATION= 66.09'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

- ASPHALT SYMBOL
- B OR BB INLET
- BUSH
- C INLET
- CLEANOUT
- brick column
- DOWN GUY
- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

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NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

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ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

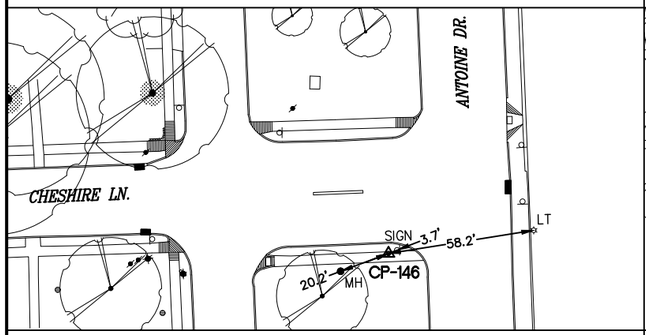
HORIZONTAL AND VERTICAL CONTROL SHEET

(SHEET 1 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	

SURVEY CONTROL PT.
CP–146

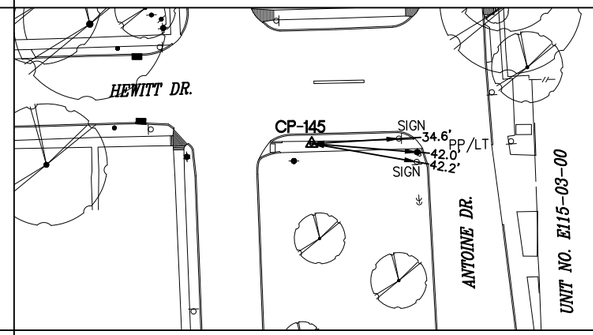
N= 13,867,839.23
E= 3,087,076.61
ELEVATION= 68.28'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHESHIRE LN.

SURVEY CONTROL PT.
CP–145

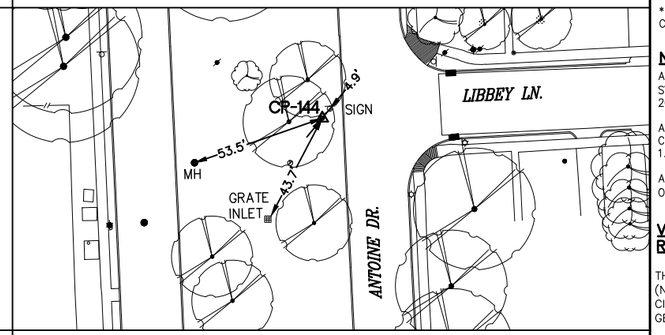
N= 13,868,138.77
E= 3,087,033.34
ELEVATION= 69.40'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HEWITT DR

SURVEY CONTROL PT.
CP–144

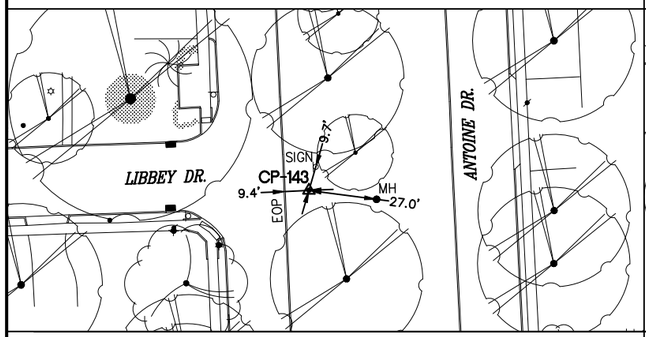
N= 13,868,351.65
E= 3,087,060.55
ELEVATION= 69.39'



CONTROL DESCRIPTION SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY LN

SURVEY CONTROL PT.
CP–143

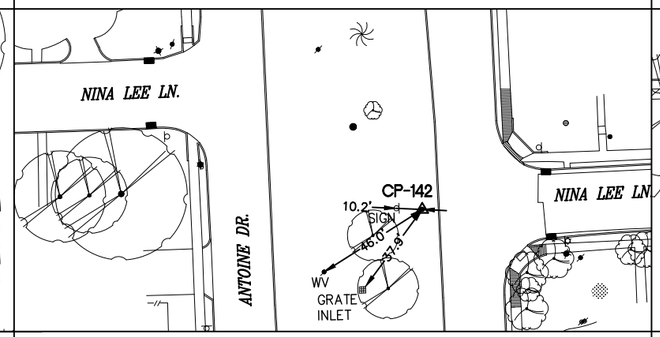
N= 13,868,455.07
E= 3,087,006.65
ELEVATION= 70.52'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY DR

SURVEY CONTROL PT.
CP–142

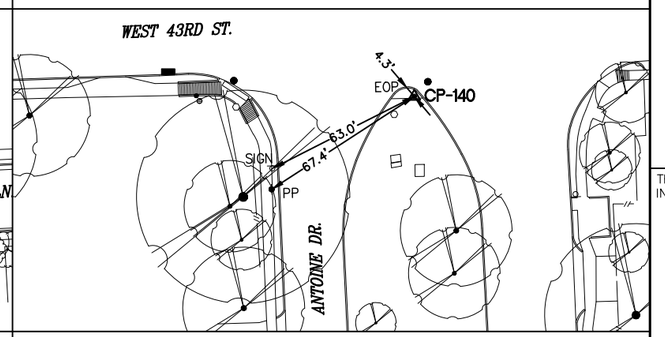
N= 13,868,714.21
E= 3,087,045.37
ELEVATION= 70.12'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

SURVEY CONTROL PT.
CP–140

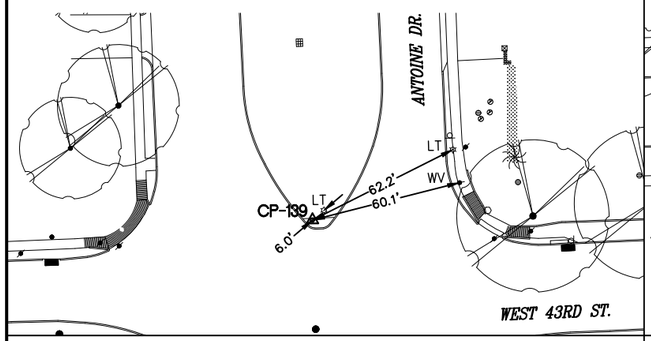
N= 13,869,039.53
E= 3,087,001.03
ELEVATION= 71.43



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

SURVEY CONTROL PT.
CP–139

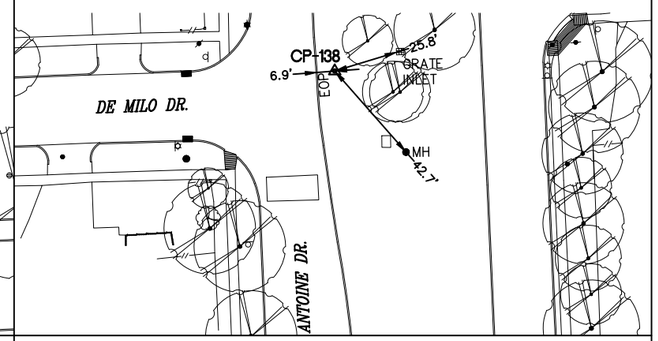
N= 13,869,144.21
E= 3,087,001.72
ELEVATION= 71.48'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

SURVEY CONTROL PT.
CP–138

N= 13,869,402.26
E= 3,086,961.58
ELEVATION= 72.61'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE MILO DR

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
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MH – MANHOLE
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PP/LT – POWER POLE W/LIGHT
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EXIST. TOPOGRAPHIC LEGEND

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- BUSH
- C INLET
- CLEANOUT
- brick column
- DOWN GUY
- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

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NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION
= NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

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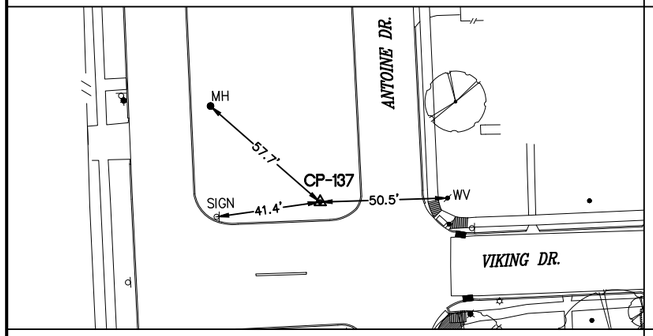
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET
(SHEET 2 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	160 615	

SURVEY CONTROL PT.
CP–137

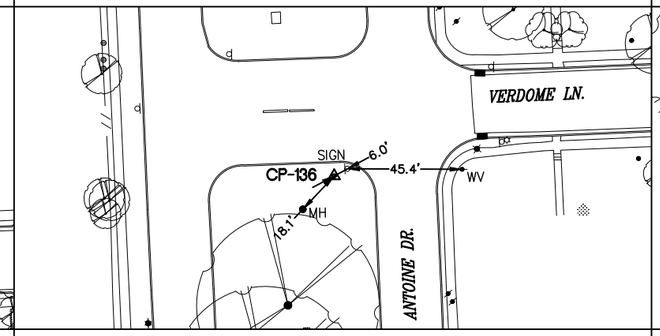
N= 13,869,755.91
E= 3,086,988.00
ELEVATION= 73.29'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VIKING DR

SURVEY CONTROL PT.
CP–136

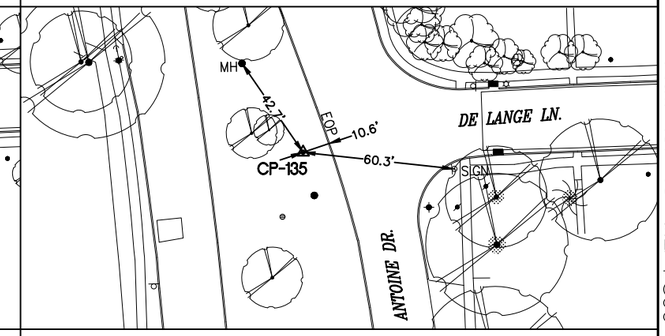
N= 13,869,992.09
E= 3,086,977.58
ELEVATION= 73.88'



CONTROL DESCRIPTION SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VERDOME LN

SURVEY CONTROL PT.
CP–135

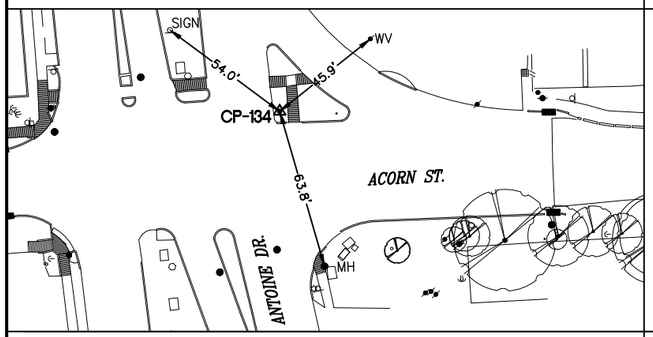
N= 13,870,297.40
E= 3,086,945.96
ELEVATION= 74.45'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE LANGE LN

SURVEY CONTROL PT.
CP–134

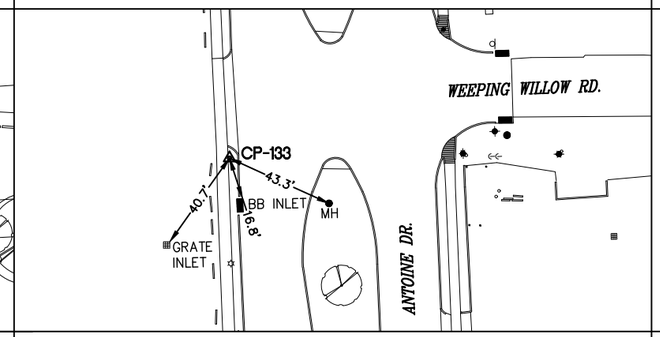
N= 13,870,506.23
E= 3,086,941.04
ELEVATION= 75.12'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND ACORN ST

SURVEY CONTROL PT.
CP–133

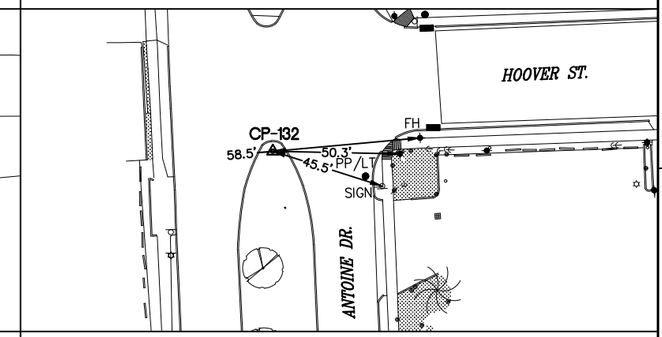
N= 13,870,853.07
E= 3,086,833.21
ELEVATION= 74.59'



CONTROL DESCRIPTION SET "X" CUT ON CONC.
LOCATED ON THE WEST SIDE OF THE INTERSECTION OF ANTOINE DR AND
WEEPING WILLOW RD

SURVEY CONTROL PT.
CP–132

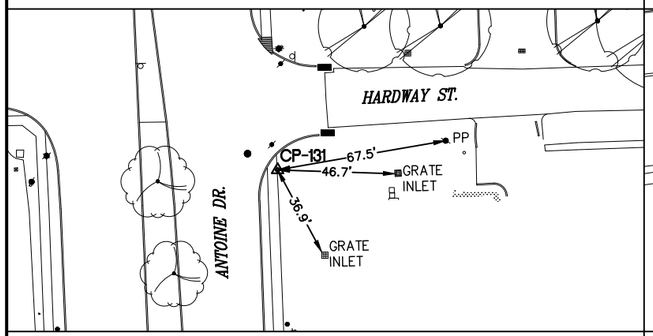
N= 13,871,250.88
E= 3,086,858.15
ELEVATION= 75.96'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HOOVER ST

SURVEY CONTROL PT.
CP–131

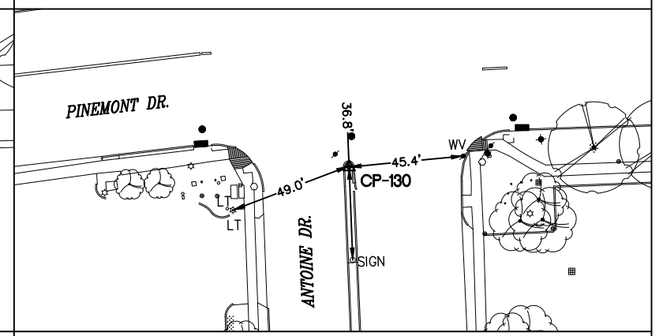
N= 13,871,713.13
E= 3,086,885.72
ELEVATION= 75.44'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE EASTERLY CORNER OF ANTOINE AND HARDWAY ST

SURVEY CONTROL PT.
CP–130

N= 13,871,935.76
E= 3,086,824.40
ELEVATION= 76.99'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND PINEMONT DR

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

- ASPHALT SYMBOL
- B OR BB INLET
- BUSH
- C INLET
- CLEANOUT
- brick column
- DOWN GUY
- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162–0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION
= NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE.
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION.

KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

KUO & ASSOCIATES
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TBPELS Firm Registration No. F–4578
TBPELS Firm Registration No. 10075600

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Texas Department of Transportation

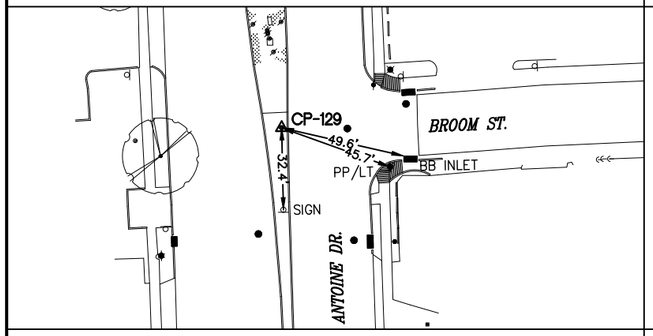
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET
(SHEET 3 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	161 615	

SURVEY CONTROL PT.
CP–129

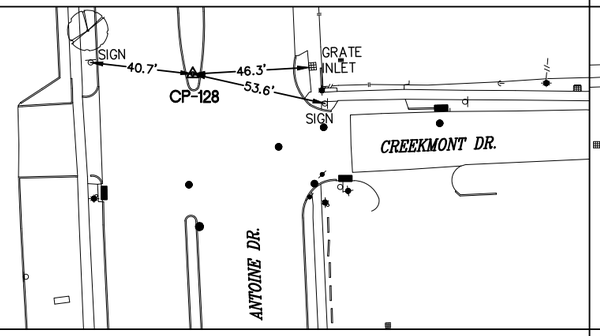
N= 13,872,217.87
E= 3,086,824.32
ELEVATION= 76.60'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND BROOM ST.

SURVEY CONTROL PT.
CP–128

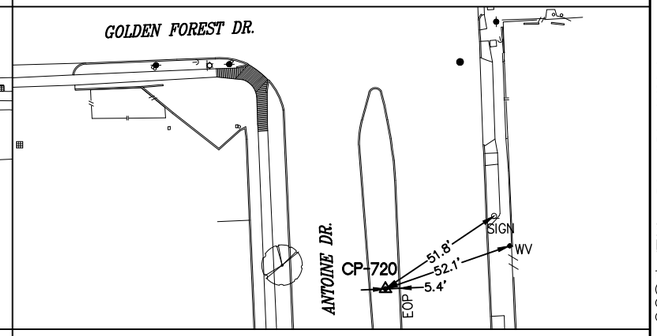
N= 13,872,492.19
E= 3,086,805.14
ELEVATION= 76.19'



CONTROL DESCRIPTION SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE AND CREEKMONT DR

SURVEY CONTROL PT.
CP–720

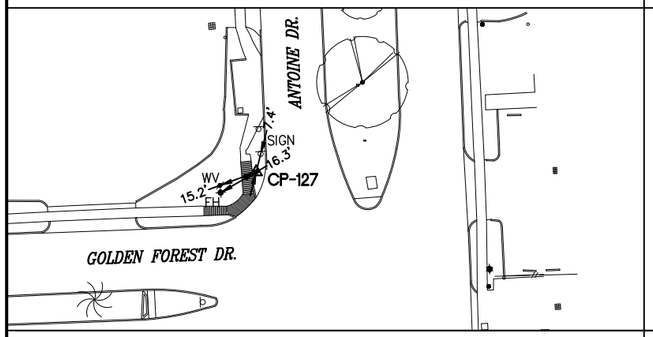
N= 13,872,568.91
E= 3,086,801.60
ELEVATION= 76.43'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN APPROX. 100' SOUTH OF THE INTERSECTION OF ANTOINE DR AND GOLDEN FOREST DR

SURVEY CONTROL PT.
CP–127

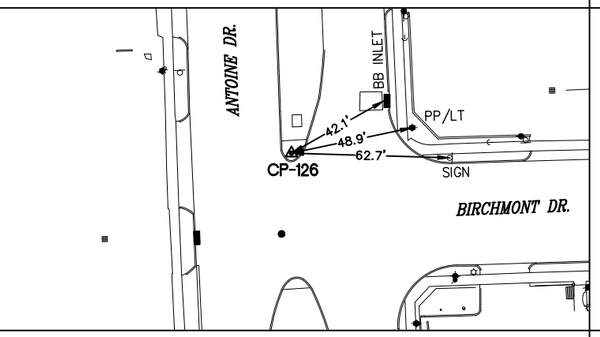
N= 13,872,741.87
E= 3,086,752.73
ELEVATION= 75.48'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE NORTHWEST SIDE OF THE INTERSECTION OF ANTOINE DR AND GOLDEN FOREST DR

SURVEY CONTROL PT.
CP–126

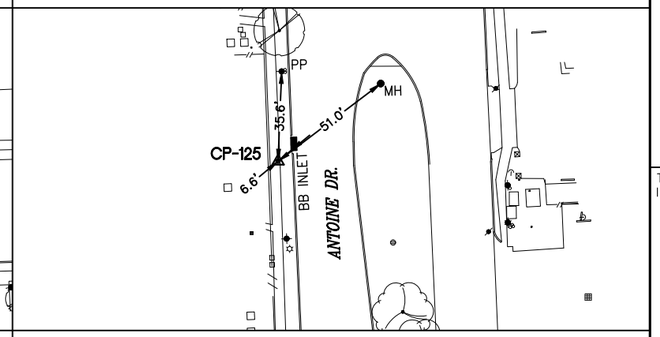
N= 13,873,008.74
E= 3,086,784.71
ELEVATION= 75.90'



CONTROL DESCRIPTION SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE AND BIRCHMONT DR

SURVEY CONTROL PT.
CP–125

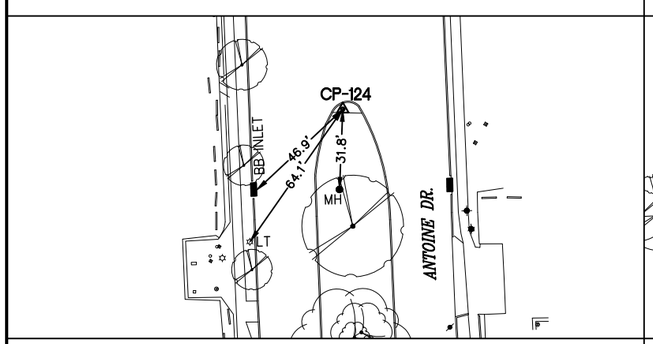
N= 13,873,286.31
E= 3,086,727.73
ELEVATION= 74.63'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE WEST SIDE OF ANTOINE DR APPROX. 280' NORTH OF THE INTERSECTION ON ANTOINE DR AND BIRCHMONT DR

SURVEY CONTROL PT.
CP–124

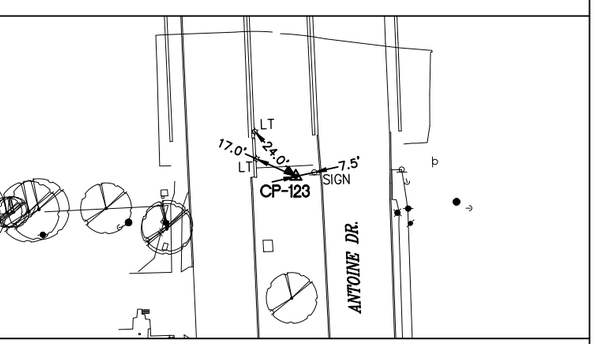
N= 13,873,627.75
E= 3,086,755.66
ELEVATION= 74.57'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN ALONG ANTOINE DR APPROX. 650' NORTH OF THE INTERSECTION OF ANTOINE DR AND BIRCHMONT DR

SURVEY CONTROL PT.
CP–123

N= 13,873,990.17
E= 3,086,745.29
ELEVATION= 75.23'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON MEDIAN ALONG ANTOINE DR APPROX 850 SOUTH OF THE INTERSECTION OF ANTOINE DR AND W TIDWELL RD

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

- ASPHALT SYMBOL
- B OR BB INLET
- BUSH
- C INLET
- CLEANOUT
- brick column
- DOWN GUY
- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

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ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162–0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

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KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

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Texas Department of Transportation

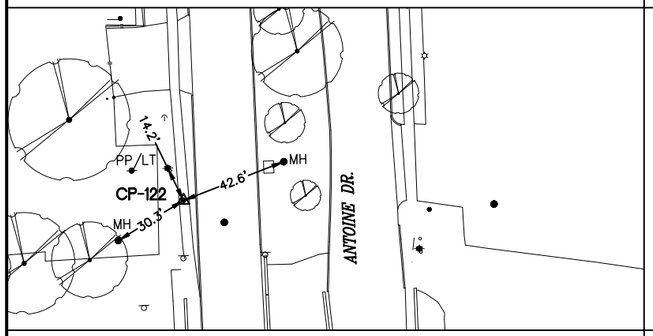
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET
(SHEET 4 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	615	

SURVEY CONTROL PT.
CP–122

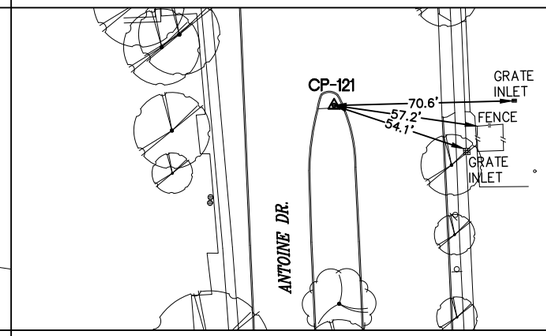
N= 13,874,147.82
E= 3,086,690.57
ELEVATION= 74.96'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE WEST SIDE OF ANTOINE RD APPROX. 675 SOUTH OF THE INTERSECTION OF ANTOINE DR AND W TIDWELL RD.

SURVEY CONTROL PT.
CP–121

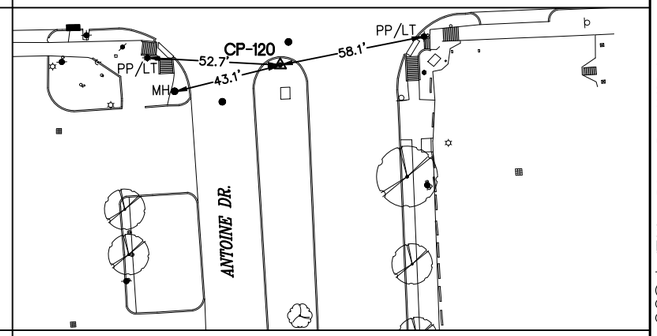
N= 13,874,447.21
E= 3,086,718.69
ELEVATION= 73.65'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN ALONG ANTOINE DR APPROX. 390' SOUTH OF THE INTERSECTION OF ANTOINE DR AND W TIDWELL RD.

SURVEY CONTROL PT.
CP–120

N= 13,874,804.53
E= 3,086,699.92
ELEVATION= 74.99'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE SOUTH MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W TIDWELL DR

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

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ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

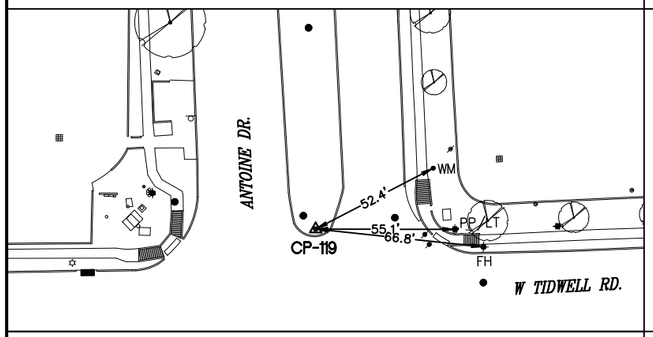
VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162–0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

SURVEY CONTROL PT.
CP–119

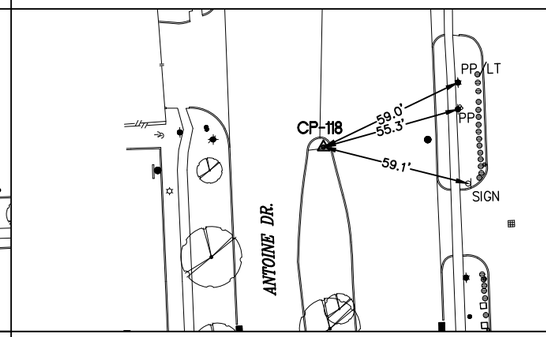
N= 13,874,913.71
E= 3,086,705.22
ELEVATION= 74.92'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE NORTH MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W TIDWELL DR.

SURVEY CONTROL PT.
CP–118

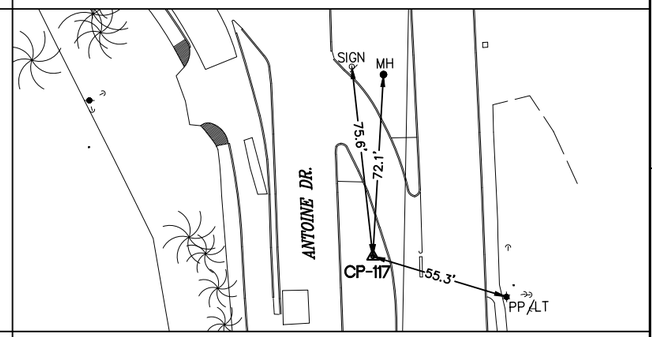
N= 13,875,225.25
E= 3,086,683.88
ELEVATION= 76.14'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN ALONG ANTOINE DR APPROX. 330' NORTH OF THE INTERSECTION OF ANTOINE DR AND W TIDWELL RD.

SURVEY CONTROL PT.
CP–117

N= 13,875,474.42
E= 3,086,674.69
ELEVATION= 77.76'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON MEDIAN ALONG ANTOINE DR APPROX. 580' NORTH OF THE INTERSECTION OF ANTOINE DR AND W TIDWELL DR

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

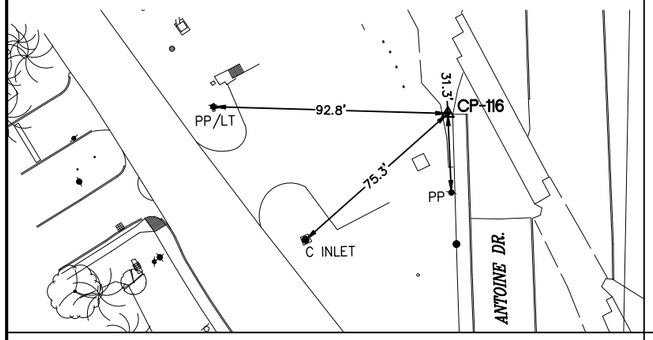
DOCUMENT INCOMPLETE.
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION.

KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

SURVEY CONTROL PT.
CP–116

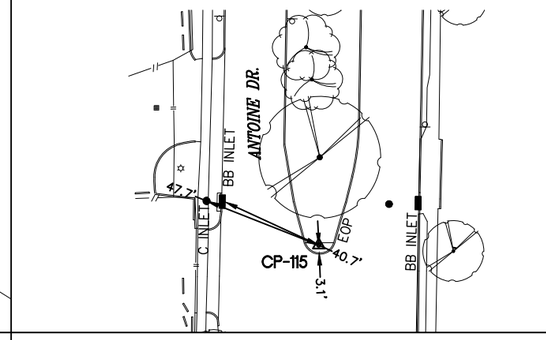
N= 13,875,735.78
E= 3,086,620.64
ELEVATION= 80.34'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE WEST SIDE OF ANTOINE DR APPROX. 840' NORTH OF THE INTERSECTION OF ANTOINE DR AND W TIDWELL DR

SURVEY CONTROL PT.
CP–115

N= 13,876,174.20
E= 3,086,660.78
ELEVATION= 77.05'



CONTROL DESCRIPTION: SET "X" CUT
LOCATED ON MEDIAN ALONG ANTOINE DR APPROX. 700' SOUTH OF THE INTERSECTION OF ANTOINE DR AND PEPPER GROVE DR

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

ASPHALT SYMBOL
B OR BB INLET
BUSH
C INLET
CLEANOUT
brick column
DOWN GUY
E INLET
ELEC MANHOLE
FIRE HYDRANT
GAS METER
GAS VALVE
GATE
GRATE INLET
GRATE INLET
MAIL BOX
STORM MANHOLE
SANITARY MANHOLE
PLANTER
POWER POLE
POWER POLE W/LT.
SIGN
SIGNAL POLE
SPRINKER VALVE
SPRINKLER HEAD
STREET LIGHT/FLOOD LIGHT
STREET LIGHT/PARKING LIGHT
TREE
TREE STUMP
TREE–CREPE MYRTLE
TREE–PINE
WATER METER
WATER VALVE
IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

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Texas Department of Transportation

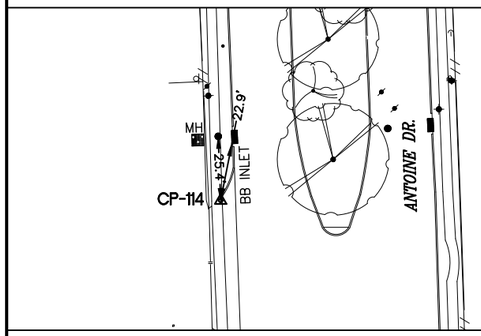
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET
(SHEET 5 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	163 615	

SURVEY CONTROL PT.
CP–114

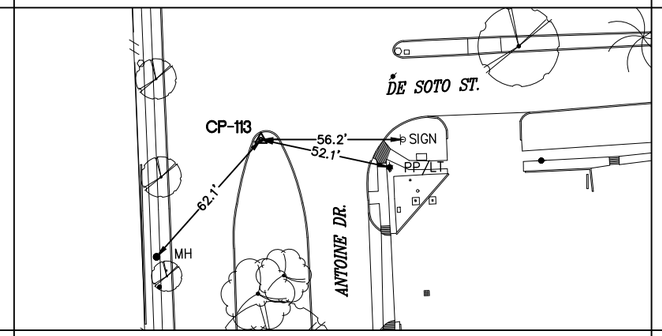
N= 13,876,525.27
E= 3,086,613.03
ELEVATION= 76.09'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE WEST SIDE OF ANTOINE DR APPROX. 190' NORTH OF THE INTERSECTION ANTOINE DR

SURVEY CONTROL PT.
CP–113

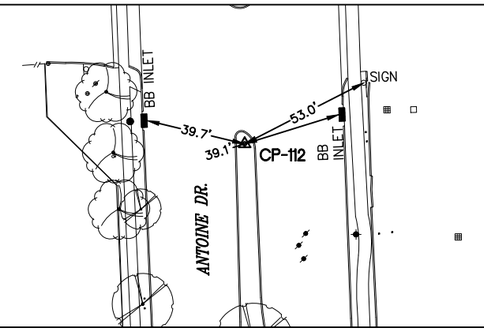
N= 13,876,851.95
E= 3,086,643.54
ELEVATION= 77.58'



CONTROL DESCRIPTION SET 5/8" IRON ROD WITH TXDOT CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE SOTO ST

SURVEY CONTROL PT.
CP–112

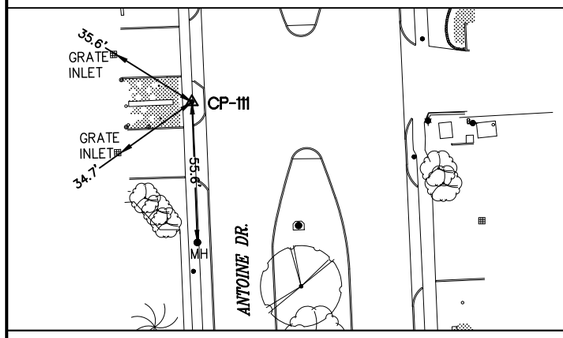
N= 13,877,089.32
E= 3,086,636.77
ELEVATION= 76.94'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN APPROX. 200' NORTH OF THE INTERSECTION OF ANTOINE DR AND DE SOTO ST

SURVEY CONTROL PT.
CP–111

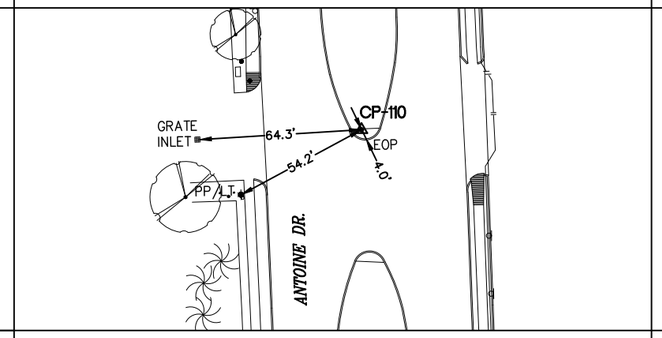
N= 13,877,436.22
E= 3,086,577.65
ELEVATION= 76.98'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE WEST SIDE OF ANTOINE DR APPROX. 525' NORTH OF THE INTERSECTION OF ANTOINE DR AND DE SOTO ST

SURVEY CONTROL PT.
CP–110

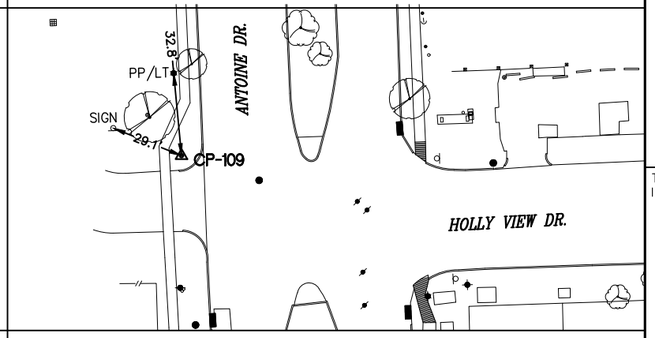
N= 13,877,791.29
E= 3,086,605.92
ELEVATION= 77.21'



CONTROL DESCRIPTION SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN ALONG ANTOINE DR APPROX. 350' SOUTH OF THE INTERSECTION ANTOINE DR AND HOLLY VIEW DR

SURVEY CONTROL PT.
CP–109

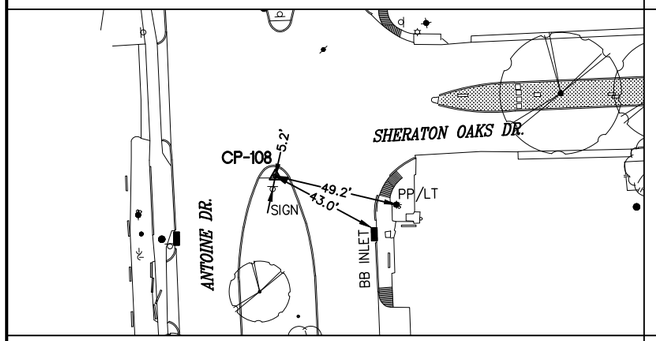
N= 13,878,174.99
E= 3,086,542.18
ELEVATION= 76.09'



CONTROL DESCRIPTION: SET 1/2" IRON ROD WITH CAP
LOCATED ON THE WEST SIDE ALONG ANTOINE DR AT THE INTERSECTION AT HOLLY VIEW DR

SURVEY CONTROL PT.
CP–108

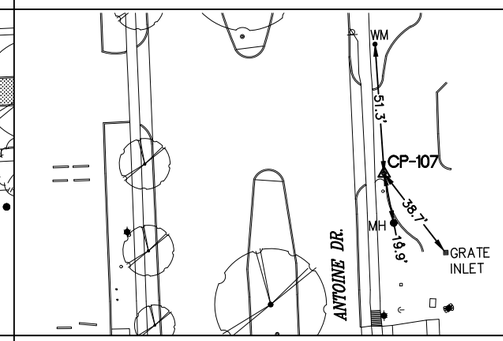
N= 13,878,660.54
E= 3,086,570.55
ELEVATION= 77.16'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND SHERATON OAKS DR

SURVEY CONTROL PT.
CP–107

N= 13,878,908.32
E= 3,086,610.28
ELEVATION= 77.49'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE EAST SIDE ALONG ANTOINE DR APPROX. 200' NORTH OF THE INTERSECTION OF ANTOINE DR AND SHERATON OAKS DR

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

- ASPHALT SYMBOL
- B OR BB INLET
- BUSH
- C INLET
- CLEANOUT
- brick column
- DOWN GUY
- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162–0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION
= NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE.
NOT INTENDED FOR PERMIT,
BIDDING OR CONSTRUCTION.

KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

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TBPELS Firm Registration No. F–4578
TBPELS Firm Registration No. 10075600

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Texas Department of Transportation

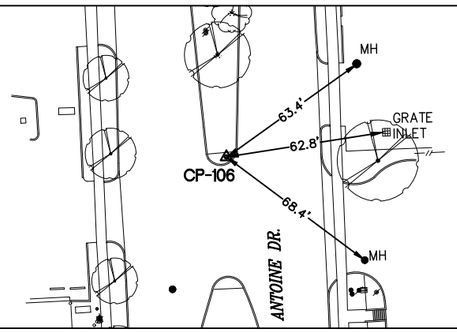
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET
(SHEET 6 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	164 615	

SURVEY CONTROL PT.
CP–106

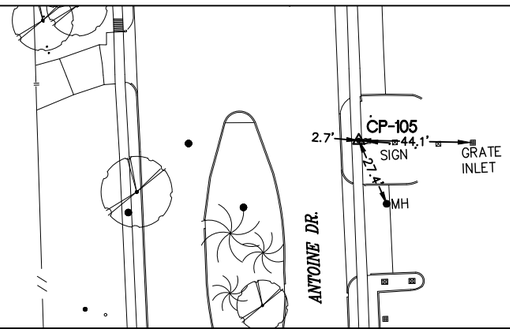
N= 13,879,190.52
E= 3,086,548.52
ELEVATION= 77.14'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN ALONG ANTOINE RD APPROX. 500' NORTH OF THE INTERSECTION ANTOINE RD AND SHERATON OAKS DR

SURVEY CONTROL PT.
CP–105

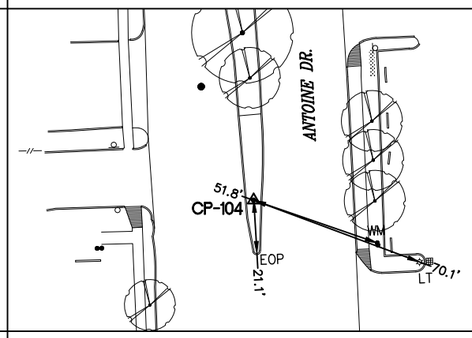
N= 13,879,542.55
E= 3,086,578.72
ELEVATION= 75.47'



CONTROL DESCRIPTION SET "X" CUT ON CONC.
LOCATED ON THE EAST SIDE OF ANTOINE DR APPROX 550' SOUTH OF THE INTERSECTION OF ANTOINE DR AND W LITTLE WORK RD

SURVEY CONTROL PT.
CP–104

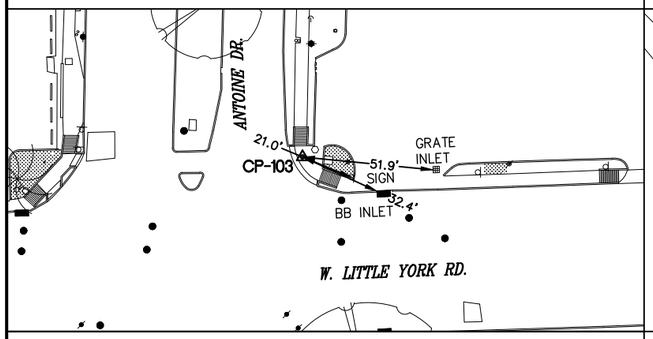
N= 13,879,893.97
E= 3,086,517.10
ELEVATION= 75.81



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN ALONG ANTOINE DR APPROX' 200' SOUTH OF THE INTERSECTION OF ANTOINE DR AND W LITTLE YORK DR

SURVEY CONTROL PT.
CP–103

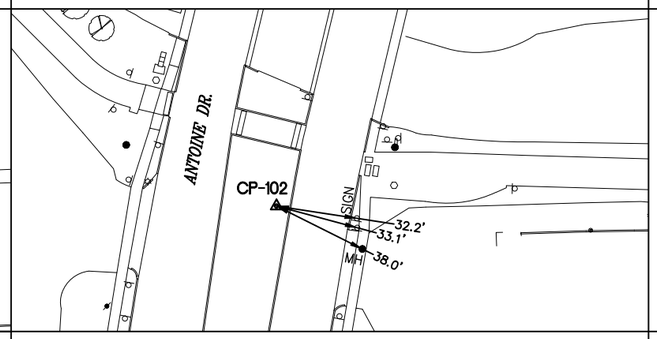
N= 13,880,139.97
E= 3,086,552.18
ELEVATION= 73.90'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE EAST SIDE OF N HARVEY MITCHELL PKWY (NORTHBOUND)
APPROX 480' NORTH OF THE INTERSECTION AT LEONARD RD.

SURVEY CONTROL PT.
CP–102

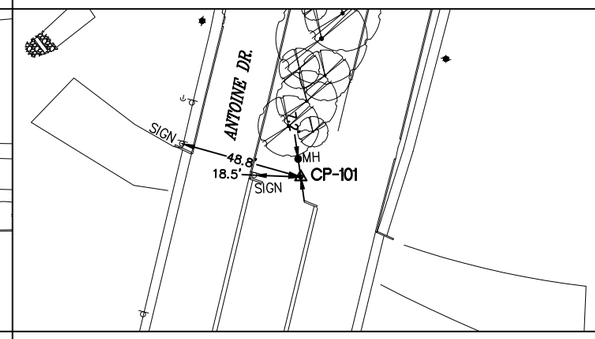
N= 13,880,522.79
E= 3,086,549.19
ELEVATION= 73.79'



CONTROL DESCRIPTION SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN ALONG ANTOINE DR APPROX. 425' SOUTH OF THE INTERSECTION ANTOINE DR AND CYPRESS GROVE LN

SURVEY CONTROL PT.
CP–101

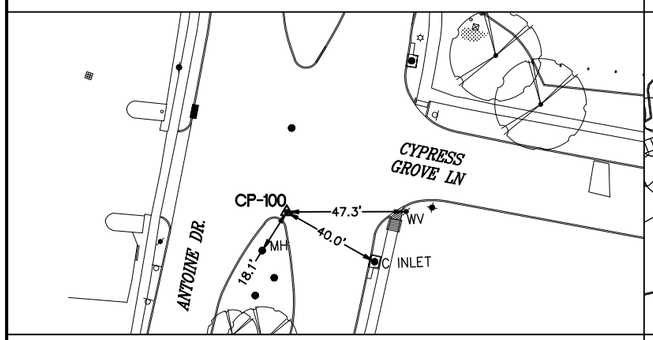
N= 13,880,749.80
E= 3,086,598.29
ELEVATION= 74.69'



CONTROL DESCRIPTION: SET 1/2 IRON ROD WITH CAP
LOCATED ON THE EAST SIDE OF N HARVEY MITCHELL PKWY (NORTHBOUND)
APPROX 975' NORTH OF THE INTERSECTION AT LEONARD RD.

SURVEY CONTROL PT.
CP–100

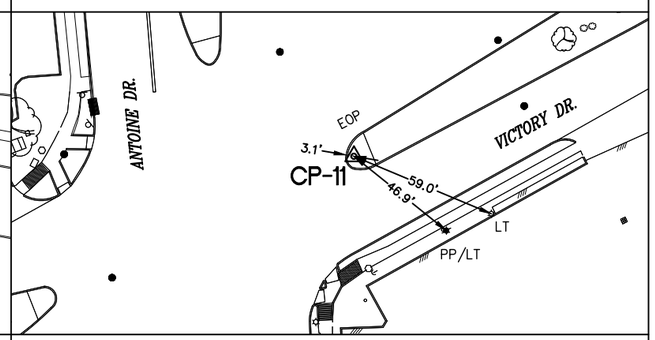
N= 13,880,904.50
E= 3,086,633.06
ELEVATION= 72.73'



CONTROL DESCRIPTION: SET 5/8" IRON ROD WITH CAP
LOCATED ON THE INTERSECTION OF ANTOINE DR AND CYPRESS GROVE LN

SURVEY CONTROL PT.
CP–11

N= 13,881,435.03
E= 3,086,725.42
ELEVATION= 73.43'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN ALONG VICTORY DR AT THE INTERSECTION OF ANTOINE DR AND VICTORY DR

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

- ASPHALT SYMBOL
- B OR BB INLET
- BUSH
- C INLET
- CLEANOUT
- brick column
- DOWN GUY
- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162–0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

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KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

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TBPELS Firm Registration No. 10075600

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Texas Department of Transportation

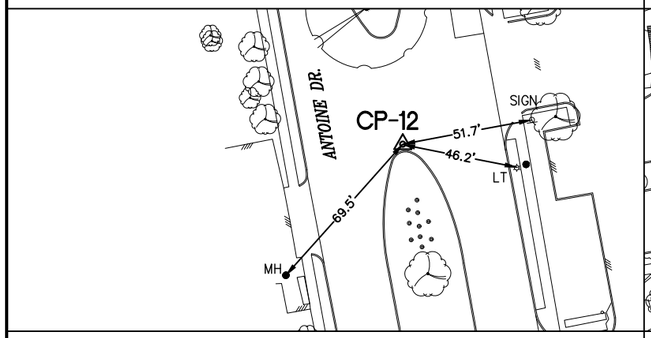
ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET
(SHEET 7 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	165 615	

SURVEY CONTROL PT.
CP–12

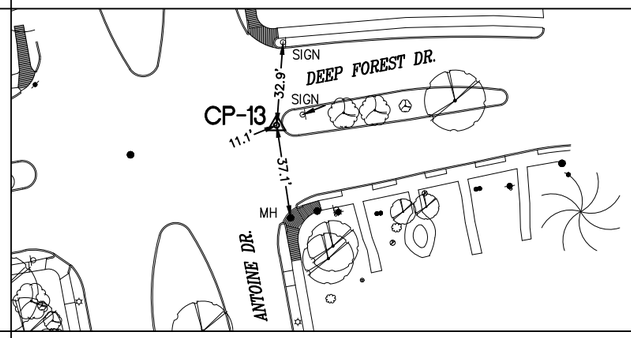
N= 13,881,879.36
E= 3,086,593.45
ELEVATION= 72.30'



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED ALONG ANTOINE DR APPROX. 300' SOUTH OF THE INTERSECTION OF ANTOINE DR AND DEEP FOREST DR

SURVEY CONTROL PT.
CP–13

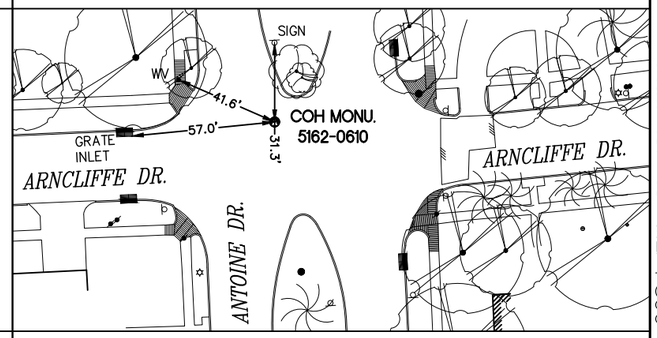
N= 13,882,197.86
E= 3,086,583.85
ELEVATION= 71.22



CONTROL DESCRIPTION: SET "X" CUT ON CONC.
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DEEP FOREST DR

C.O.H. MONUMENT
5162–0610

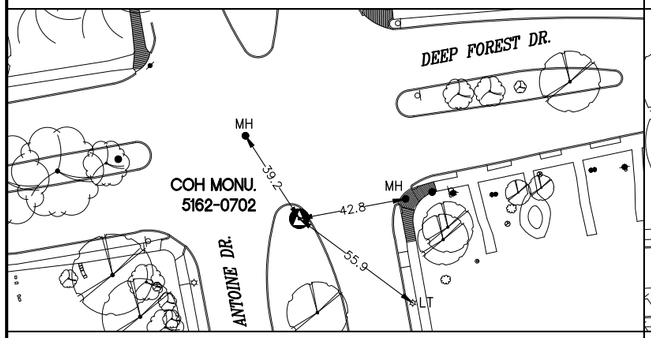
N= 13,886,450.65
E= 3,086,175.63
ELEVATION= 77.36'



CONTROL DESCRIPTION: SET 5/8" IRON ROD WITH BRASS CAP
AT THE NORTH SIDE OF THE INTERSECTION OF ANTOINE DR. AND ARNCLIFFE DR.

C.O.H. MONUMENT
5162–0702

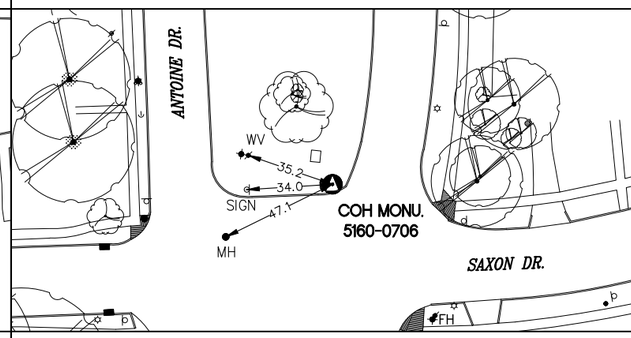
N= 13,880,348.90
E= 3,086,146.13
ELEVATION= 71.68'



CONTROL DESCRIPTION: SET 5/8" IRON ROD WITH ALUMINUM CAP
AT THE SOUTH MEDIAN OF THE INTERSECTION OF ANTOINE DR. AND DEEP FOREST DR.

C.O.H. MONUMENT
5160–0706

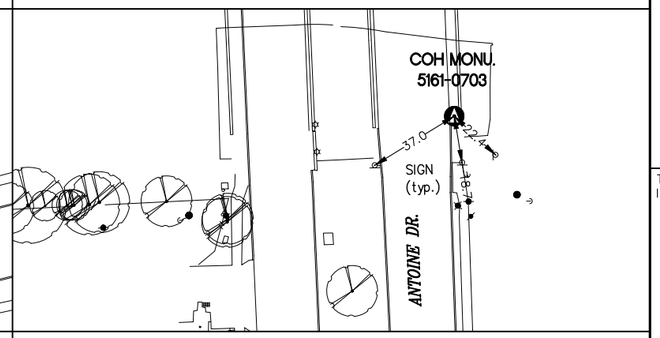
N= 13,885,253.76
E= 3,086,700.37
ELEVATION= 67.20'



CONTROL DESCRIPTION: SET 5/8" IRON ROD WITH ALUMINUM CAP
ON THE NORTH MEDIAN OF THE INTERSECTION OF ANTOINE DR. AND SAXON DR.

C.O.H. MONUMENT
5161–0703

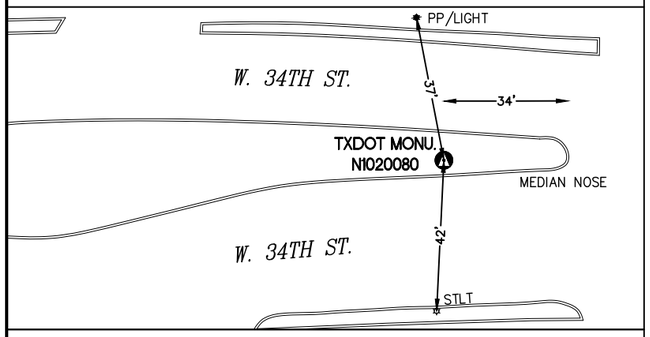
N= 13,872,207.89
E= 3,086,382.87
ELEVATION= 75.30'



CONTROL DESCRIPTION: SET 5/8" IRON ROD WITH BRASS CAP
ON BRIDGE CROSSING COLE CREEK ON ANTOINE DR.

TXDOT MONUMENT
N1020080

N= 13,864,248.22
E= 3,089,175.26
ELEVATION= 71.19'



CONTROL DESCRIPTION: SET 5/8" IRON ROD WITH ALUM DISK
IN THE MEDIAN OF W. 34TH ST ABOUT 460' EAST OF US 290 NORTHBOUND FRONTAGE RD

ABBREVIATIONS

FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
LT – LIGHT POLE
PP/LT – POWER POLE W/LIGHT
WM – WATER METER
EOP – EDGE OF PAVEMENT
PVMT – PAVEMENT

EXIST. TOPOGRAPHIC LEGEND

- ASPHALT SYMBOL
- B OR BB INLET
- BUSH
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- brick column
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- E INLET
- ELEC MANHOLE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GATE
- GRATE INLET
- GRATE INLET
- MAIL BOX
- STORM MANHOLE
- SANITARY MANHOLE
- PLANTER
- POWER POLE
- POWER POLE W/LT.
- SIGN
- SIGNAL POLE
- SPRINKLER VALVE
- SPRINKLER HEAD
- STREET LIGHT/FLOOD LIGHT
- STREET LIGHT/PARKING LIGHT
- TREE
- TREE STUMP
- TREE–CREPE MYRTLE
- TREE–PINE
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE

SCALE: 1" = 60'
UNITS OF MEASUREMENT: US SURVEY FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5162–0610, A BRASS DISK IN CONCRETE, LOCATED NEAR THE NORTH MEDIAN NOSE OF THE INTERSECTION OF ANTOINE DRIVE AND ARNCLIFFE DRIVE.

NORTHING = 13,886,450.65
EASTING = 3,086,175.63
ELEV. 77.36 FEET NAVD 1988 (GEOID '12A)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED OCTOBER 30, 2017.

NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983, (NAD 83), 2011 ADJUSTMENT, EPOCH 2010.00.

ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED ADJUSTMENT FACTOR OF 1.00013.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), (GEOID '12A).

VERTICAL DATUM ADJUSTMENT TO TXDOT REFERENCE DATUM:

THE ELEVATION DIFFERENCE IN BETWEEN TXDOT MONUMENT'S (N1020080) PUBLISHED DATUM NAVD 1988, 1991 ADJUSTMENT AND CITY OF HOUSTON MONUMENT'S (5162–0610) DATUM NAVD 1988, GEOID '12A IS 0.19'.

NAVD 1988, 1991 ADJUSTMENT (TXDOT MONUMENT) ELEVATION = NAVD 1988, GEOID '12A (CITY OF HOUSTON MONUMENT) ELEVATION + 0.19 FT

THE CONTROL POINTS SHOWN HEREIN WERE DETERMINED BY A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE.
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BIDDING OR CONSTRUCTION.

KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
DATE: MARCH 11, 2026

THIS SURVEY CONTROL INFORMATION HAS BEEN ACCEPTED AND INCORPORATED INTO THIS PS&E.

KUO & ASSOCIATES
ENGINEERING + SURVEYING
10300 Westoffice Drive, Suite 800
Houston, TX 77042
Tel: (713) 975–8769
Fax: (713) 975–0920
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TBPELS Firm Registration No. F–4578
TBPELS Firm Registration No. 10075600

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Texas Department of Transportation

ANTOINE DRIVE IMPROVEMENT FROM VICTORY DRIVE TO US 290

HORIZONTAL AND VERTICAL CONTROL SHEET (SHEET 8 OF 8)

	PROJECT NO.		HIGHWAY NO
			US 290
STATE	DISTRICT	COUNTY	SHEET NO
TEXAS	HOU	HARRIS	OF 1067
CONTROL	SECTION	JOB	
0912	72	166 615	

ANTOINE DR

Beginning chain ANTOINE_BL description

Point 1000 N 13,865,602.4625 E 3,086,951.6322 Sta 1+00.00

Course from 1000 to PC ANTOINE_BL1 N 18° 14′ 21.34" E Dist 244.1187

Curve Data

Curve ANTOINE_BL1						
P.I. Station		5+87.21	N	13,866,065.1906	E	3,087,104.1209
Delta	=	20° 33′ 51.38"	(LT)			
Degree	=	4° 16′ 32.90"				
Tangent	=	243.0877				
Length	=	480.9451				
Radius	=	1,340.0000				
External	=	21.8706				
Long Chord	=	478.3678				
Mid. Ord.	=	21.5194				
P.C. Station		3+44.12	N	13,865,834.3161	E	3,087,028.0379
P.T. Station		8+25.06	N	13,866,308.0782	E	3,087,094.2593
C.C.			N	13,866,253.7171	E	3,085,755.3625
Back	= N	18° 14′ 21.34" E				
Ahead	= N	2° 19′ 30.04" W				
Chord Bear	= N	7° 57′ 25.65" E				

Course from PT ANTOINE_BL1 to PC ANTOINE_BL2 N 2° 19′ 30.04" W Dist 387.5108

Curve Data

Curve ANTOINE_BL2						
P.I. Station		12+96.55	N	13,866,779.1743	E	3,087,075.1322
Delta	=	5° 39′ 20.83"	(RT)			
Degree	=	3° 22′ 13.22"				
Tangent	=	83.9735				
Length	=	167.8106				
Radius	=	1,700.0000				
External	=	2.0727				
Long Chord	=	167.7424				
Mid. Ord.	=	2.0702				
P.C. Station		12+12.57	N	13,866,695.2700	E	3,087,078.5388
P.T. Station		13+80.39	N	13,866,863.0060	E	3,087,080.0111
C.C.			N	13,866,764.2355	E	3,088,777.1393
Back	= N	2° 19′ 30.04" W				
Ahead	= N	3° 19′ 50.79" E				
Chord Bear	= N	0° 30′ 10.38" E				

Course from PT ANTOINE_BL2 to PC ANTOINE_BL3 N 3° 19′ 50.79" E Dist 100.2884

Curve Data

Curve ANTOINE_BL3						
P.I. Station		15+67.57	N	13,867,049.8698	E	3,087,090.8863
Delta	=	5° 51′ 07.18"	(LT)			
Degree	=	3° 22′ 13.22"				
Tangent	=	86.8916				
Length	=	173.6322				
Radius	=	1,700.0000				
External	=	2.2192				
Long Chord	=	173.5567				
Mid. Ord.	=	2.2163				
P.C. Station		14+80.67	N	13,866,963.1249	E	3,087,085.8378
P.T. Station		16+54.31	N	13,867,136.6773	E	3,087,087.0640
C.C.			N	13,867,061.8954	E	3,085,388.7096
Back	= N	3° 19′ 50.79" E				
Ahead	= N	2° 31′ 16.39" W				
Chord Bear	= N	0° 24′ 17.20" E				

Course from PT ANTOINE_BL3 to PC ANTOINE_BL4 N 2° 31′ 16.39" W Dist 3,138.7981

Curve Data

Curve ANTOINE_BL4						
P.I. Station		48+63.83	N	13,870,343.0951	E	3,086,945.8790
Delta	=	11° 32′ 20.14"	(LT)			
Degree	=	8° 11′ 06.40"				
Tangent	=	70.7265				
Length	=	140.9746				
Radius	=	700.0000				
External	=	3.5640				
Long Chord	=	140.7365				
Mid. Ord.	=	3.5459				
P.C. Station		47+93.10	N	13,870,272.4370	E	3,086,948.9902
P.T. Station		49+34.08	N	13,870,411.7027	E	3,086,928.6967
C.C.			N	13,870,241.6445	E	3,086,249.6678
Back	= N	2° 31′ 16.39" W				
Ahead	= N	14° 03′ 36.53" W				
Chord Bear	= N	8° 17′ 26.46" W				

Course from PT ANTOINE_BL4 to PC ANTOINE_BL5 N 14° 03′ 36.53" W Dist 99.1583

Curve Data

Curve ANTOINE_BL5						
P.I. Station		51+04.46	N	13,870,576.9770	E	3,086,887.3049
Delta	=	11° 37′ 08.20"	(RT)			
Degree	=	8° 11′ 06.40"				
Tangent	=	71.2203				
Length	=	141.9522				
Radius	=	700.0000				
External	=	3.6138				
Long Chord	=	141.7091				
Mid. Ord.	=	3.5952				
P.C. Station		50+33.24	N	13,870,507.8903	E	3,086,904.6072
P.T. Station		51+75.19	N	13,870,648.1327	E	3,086,884.2713
C.C.			N	13,870,677.9486	E	3,087,583.6360
Back	= N	14° 03′ 36.53" W				
Ahead	= N	2° 26′ 28.33" W				
Chord Bear	= N	8° 15′ 02.43" W				

Course from PT ANTOINE_BL5 to PC ANTOINE_BL6 N 2° 26′ 28.33" W Dist 3,671.8890

Curve Data

Curve ANTOINE_BL6						
P.I. Station		88+94.28	N	13,874,363.8479	E	3,086,725.8598
Delta	=	2° 09′ 47.87"	(LT)			
Degree	=	2° 17′ 30.59"				
Tangent	=	47.2014				
Length	=	94.3917				
Radius	=	2,500.0000				
External	=	0.4456				
Long Chord	=	94.3861				
Mid. Ord.	=	0.4455				
P.C. Station		88+47.08	N	13,874,316.6893	E	3,086,727.8703
P.T. Station		89+41.47	N	13,874,410.8970	E	3,086,722.0706
C.C.			N	13,874,210.2040	E	3,084,230.1392
Back	= N	2° 26′ 28.33" W				
Ahead	= N	4° 36′ 16.20" W				
Chord Bear	= N	3° 31′ 22.27" W				

Course from PT ANTOINE_BL6 to PC ANTOINE_BL7 N 4° 36′ 16.20" W Dist 99.1204

Curve Data

Curve ANTOINE_BL7						
P.I. Station		90+88.42	N	13,874,557.3741	E	3,086,710.2738
Delta	=	2° 11′ 31.72"	(RT)			
Degree	=	2° 17′ 30.59"				
Tangent	=	47.8310				
Length	=	95.6503				
Radius	=	2,500.0000				
External	=	0.4575				
Long Chord	=	95.6445				
Mid. Ord.	=	0.4574				
P.C. Station		90+40.59	N	13,874,509.6975	E	3,086,714.1135
P.T. Station		91+36.24	N	13,874,605.1627	E	3,086,708.2605
C.C.			N	13,874,710.3905	E	3,089,206.0450
Back	= N	4° 36′ 16.20" W				
Ahead	= N	2° 24′ 44.48" W				
Chord Bear	= N	3° 30′ 30.34" W				

Course from PT ANTOINE_BL7 to PC ANTOINE_BL8 N 2° 24′ 44.48" W Dist 758.7424

Curve Data

Curve ANTOINE_BL8						
P.I. Station		99+11.46	N	13,875,379.7000	E	3,086,675.6305
Delta	=	0° 56′ 39.57"	(RT)			
Degree	=	2° 51′ 53.24"				
Tangent	=	16.4820				
Length	=	32.9632				
Radius	=	2,000.0000				
External	=	0.0679				
Long Chord	=	32.9628				
Mid. Ord.	=	0.0679				
P.C. Station		98+94.98	N	13,875,363.2327	E	3,086,676.3242
P.T. Station		99+27.95	N	13,875,396.1766	E	3,086,675.2082
C.C.			N	13,875,447.4149	E	3,088,674.5518
Back	= N	2° 24′ 44.48" W				
Ahead	= N	1° 28′ 04.91" W				
Chord Bear	= N	1° 56′ 24.70" W				

Course from PT ANTOINE_BL8 to PC ANTOINE_BL9 N 1° 28′ 04.91" W Dist 563.6129

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KARAM QADDO
Texas
125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL CURVE DATA

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 167 OF 1067	

Pen Table: TX_Pen.tbl
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Plotted on: 3/12/2026 2:13:29 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR HORIZ CURVE DATA 01.dgn

Curve Data

Curve ANTOINE_BL5

P.I. Station	51+04.46	N	13,870,576.9770	E	3,086,887.3049
Delta =	11° 37′ 08.20" (RT)				
Degree =	8° 11′ 06.40"				
Tangent =	71.2203				
Length =	141.9522				
Radius =	700.0000				
External =	3.6138				
Long Chord =	141.7091				
Mid. Ord. =	3.5952				
P.C. Station	50+33.24	N	13,870,507.8903	E	3,086,904.6072
P.T. Station	51+75.19	N	13,870,648.1327	E	3,086,884.2713
C.C.		N	13,870,677.9486	E	3,087,583.6360
Back = N	14° 03′ 36.53" W				
Ahead = N	2° 26′ 28.33" W				
Chord Bear = N	8° 15′ 02.43" W				

Course from PT ANTOINE_BL5 to PC ANTOINE_BL6 N 2° 26′ 28.33" W Dist 3,671.8890

Curve Data

Curve ANTOINE_BL6

P.I. Station	88+94.28	N	13,874,363.8479	E	3,086,725.8598
Delta =	2° 09′ 47.87" (LT)				
Degree =	2° 17′ 30.59"				
Tangent =	47.2014				
Length =	94.3917				
Radius =	2,500.0000				
External =	0.4456				
Long Chord =	94.3861				
Mid. Ord. =	0.4455				
P.C. Station	88+47.08	N	13,874,316.6893	E	3,086,727.8703
P.T. Station	89+41.47	N	13,874,410.8970	E	3,086,722.0706
C.C.		N	13,874,210.2040	E	3,084,230.1392
Back = N	2° 26′ 28.33" W				
Ahead = N	4° 36′ 16.20" W				
Chord Bear = N	3° 31′ 22.27" W				

Course from PT ANTOINE_BL6 to PC ANTOINE_BL7 N 4° 36′ 16.20" W Dist 99.1204

Curve Data

Curve ANTOINE_BL7

P.I. Station	90+88.42	N	13,874,557.3741	E	3,086,710.2738
Delta =	2° 11′ 31.72" (RT)				
Degree =	2° 17′ 30.59"				
Tangent =	47.8310				
Length =	95.6503				
Radius =	2,500.0000				
External =	0.4575				
Long Chord =	95.6445				
Mid. Ord. =	0.4574				
P.C. Station	90+40.59	N	13,874,509.6975	E	3,086,714.1135
P.T. Station	91+36.24	N	13,874,605.1627	E	3,086,708.2605
C.C.		N	13,874,710.3905	E	3,089,206.0450
Back = N	4° 36′ 16.20" W				
Ahead = N	2° 24′ 44.48" W				
Chord Bear = N	3° 30′ 30.34" W				

Course from PT ANTOINE_BL7 to PC ANTOINE_BL8 N 2° 24′ 44.48" W Dist 758.7424

Curve Data

Curve ANTOINE_BL8

P.I. Station	99+11.46	N	13,875,379.7000	E	3,086,675.6305
Delta =	0° 56′ 39.57" (RT)				
Degree =	2° 51′ 53.24"				
Tangent =	16.4820				
Length =	32.9632				
Radius =	2,000.0000				
External =	0.0679				
Long Chord =	32.9628				
Mid. Ord. =	0.0679				
P.C. Station	98+94.98	N	13,875,363.2327	E	3,086,676.3242
P.T. Station	99+27.95	N	13,875,396.1766	E	3,086,675.2082
C.C.		N	13,875,447.4149	E	3,088,674.5518
Back = N	2° 24′ 44.48" W				
Ahead = N	1° 28′ 04.91" W				
Chord Bear = N	1° 56′ 24.70" W				

Course from PT ANTOINE_BL8 to PC ANTOINE_BL9 N 1° 28′ 04.91" W Dist 563.6129

Curve Data

Curve ANTOINE_BL9

P.I. Station	105+66.65	N	13,876,034.6661	E	3,086,658.8453
Delta =	2° 15′ 07.67" (RT)				
Degree =	1° 29′ 59.60"				
Tangent =	75.0862				
Length =	150.1531				
Radius =	3,820.0000				
External =	0.7379				
Long Chord =	150.1434				
Mid. Ord. =	0.7377				
P.C. Station	104+91.56	N	13,875,959.6045	E	3,086,660.7689
P.T. Station	106+41.71	N	13,876,109.7453	E	3,086,659.8728
C.C.		N	13,876,057.4697	E	3,090,479.5151
Back = N	1° 28′ 04.91" W				
Ahead = N	0° 47′ 02.76" E				
Chord Bear = N	0° 20′ 31.07" W				

Course from PT ANTOINE_BL9 to PC ANTOINE_BL10 N 0° 47′ 02.76" E Dist 165.3677

Curve Data

Curve ANTOINE_BL10

P.I. Station	109+08.42	N	13,876,376.4293	E	3,086,663.5226
Delta =	3° 02′ 21.49" (LT)				
Degree =	1° 29′ 59.60"				
Tangent =	101.3413				
Length =	202.6351				
Radius =	3,820.0000				
External =	1.3440				
Long Chord =	202.6114				
Mid. Ord. =	1.3435				
P.C. Station	108+07.08	N	13,876,275.0975	E	3,086,662.1358
P.T. Station	110+09.71	N	13,876,477.6921	E	3,086,659.5348
C.C.		N	13,876,327.3730	E	3,082,842.4935
Back = N	0° 47′ 02.76" E				
Ahead = N	2° 15′ 18.73" W				
Chord Bear = N	0° 44′ 07.98" W				

Course from PT ANTOINE_BL10 to PC ANTOINE_BL11 N 2° 15′ 18.73" W Dist 938.3283

Curve Data

Curve ANTOINE_BL11

P.I. Station	119+51.83	N	13,877,419.0826	E	3,086,622.4618
Delta =	0° 13′ 02.12" (LT)				
Degree =	2° 51′ 53.24"				
Tangent =	3.7918				
Length =	7.5836				
Radius =	2,000.0000				
External =	0.0036				
Long Chord =	7.5836				
Mid. Ord. =	0.0036				
P.C. Station	119+48.04	N	13,877,415.2937	E	3,086,622.6111
P.T. Station	119+55.63	N	13,877,422.8709	E	3,086,622.2983
C.C.		N	13,877,336.5926	E	3,084,624.1601
Back = N	2° 15′ 18.73" W				
Ahead = N	2° 28′ 20.85" W				
Chord Bear = N	2° 21′ 49.79" W				

Course from PT ANTOINE_BL11 to PC ANTOINE_BL12 N 2° 28′ 20.85" W Dist 1,305.4553

Curve Data

Curve ANTOINE_BL12

P.I. Station	132+61.43	N	13,878,727.4563	E	3,086,565.9671
Delta =	0° 01′ 11.31" (RT)				
Degree =	2° 51′ 53.24"				
Tangent =	0.3457				
Length =	0.6915				
Radius =	2,000.0000				
External =	0.0000				
Long Chord =	0.6915				
Mid. Ord. =	0.0000				
P.C. Station	132+61.08	N	13,878,727.1109	E	3,086,565.9821
P.T. Station	132+61.77	N	13,878,727.8017	E	3,086,565.9524
C.C.		N	13,878,813.3891	E	3,088,564.1202
Back = N	2° 28′ 20.85" W				
Ahead = N	2° 27′ 09.54" W				
Chord Bear = N	2° 27′ 45.19" W				

Course from PT ANTOINE_BL12 to PC ANTOINE_BL13 N 2° 27′ 09.54" W Dist 1,364.9597

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL CURVE DATA

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 168 OF 1067	

Pen Table: TX_Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR HORIZ CURVE DATA 02.dgn

		Curve Data

Curve ANTOINE_BL13		
P.I. Station	148+86.92	N 13,880,351.4565 E 3,086,496.4064
Delta =	16° 11′ 01.75"	(RT)
Degree =	3° 07′ 51.30"	
Tangent =	260.1839	
Length =	516.9035	
Radius =	1,830.0000	
External =	18.4036	
Long Chord =	515.1869	
Mid. Ord. =	18.2203	
P.C. Station	146+26.73	N 13,880,091.5109 E 3,086,507.5406
P.T. Station	151+43.64	N 13,880,604.2045 E 3,086,558.1654
C.C.		N 13,880,169.8235 E 3,088,335.8642
Back = N	2° 27′ 09.54" W	
Ahead = N	13° 43′ 52.21" E	
Chord Bear = N	5° 38′ 21.34" E	

Course from PT ANTOINE_BL13 to PC ANTOINE_BL14 N 13° 43′ 52.21" E Dist 226.0382

		Curve Data

Curve ANTOINE_BL14		
P.I. Station	158+00.43	N 13,881,242.2302 E 3,086,714.0671
Delta =	24° 18′ 33.51"	(LT)
Degree =	2° 51′ 53.24"	
Tangent =	430.7587	
Length =	848.5549	
Radius =	2,000.0000	
External =	45.8624	
Long Chord =	842.2047	
Mid. Ord. =	44.8343	
P.C. Station	153+69.67	N 13,880,823.7825 E 3,086,611.8193
P.T. Station	162+18.23	N 13,881,665.6684 E 3,086,634.9900
C.C.		N 13,881,298.5158 E 3,084,668.9791
Back = N	13° 43′ 52.21" E	
Ahead = N	10° 34′ 41.29" W	
Chord Bear = N	1° 34′ 35.46" E	

Course from PT ANTOINE_BL14 to 1001 N 10° 34′ 41.29" W Dist 481.3372

Point 1001 N 13,882,138.8255 E 3,086,546.6279 Sta 166+99.57

==========

Ending chain ANTOINE_BL description

TIDWELL RD

Beginning chain TIDWELL description

==========

			Curve Data

			Curve TIDWELL1
P.I. Station	2+47.72	N 13,874,852.0377 E	3,086,476.8423
		Delta =	7° 22′ 38.45" (LT)
		Degree =	2° 30′ 01.97"
		Tangent =	147.7188
		Length =	295.0293
		Radius =	2,291.3300
		External =	4.7567
		Long Chord =	294.8255
		Mid. Ord. =	4.7468
P.C. Station	1+00.00	N 13,874,864.9122 E	3,086,329.6856
P.T. Station	3+95.03	N 13,874,858.1651 E	3,086,624.4339
C.C.		N 13,877,147.5230 E	3,086,529.3885
		Back = S	84° 59′ 59.97" E
		Ahead = N	87° 37′ 21.59" E
		Chord Bear = S	88° 41′ 19.19" E

Course from PT TIDWELL1 to 37 N 87° 37′ 21.59" E Dist 145.3654

Point 37 N 13,874,864.1949 E 3,086,769.6742 Sta 5+40.39

Course from 37 to 38 N 87° 45′ 51.46" E Dist 326.2043

Point 38 N 13,874,876.9203 E 3,087,095.6302 Sta 8+66.60

==========

Ending chain TIDWELL description

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL CURVE DATA

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO: 169 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:13:31 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR HORIZ CURVE DATA 03.dgn

ANTOINE DR

Beginning profile PF_TOC_E_SEG2 description:
Feature: Mainlane

		STATION	ELEV	GRADE	TOTAL L	BACK L	AHEAD L	
VPI	1	88+00.00	72.9628					
VPC		88+07.50	72.8541	-1.4500	K = 53.2			
VPI	2	88+60.00	72.0928		105.0000	52.5000	52.5000	
Low Point		88+84.63	72.2949					
VPT		89+12.50	72.3678	0.5238				
VPI	3	91+00.00	73.3500	0.5238				
VPI	4	92+20.95	74.0115	0.5469				
VPI	5	93+28.81	74.3351	0.3000				
VPI	6	93+92.50	74.5450	0.3296				
VPI	7	94+50.00	74.2863	-0.4500				
VPC		94+81.25	74.4425	0.5000	K = 37.1			
VPI	8	95+15.00	74.6113		67.5000	33.7500	33.7500	
VPT		95+48.75	75.3949	2.3219				
VPI	9	95+55.00	75.5400	2.3219				
VPC		95+55.00	75.5400	1.4000	K = 43.9	SSD = 369.3		
VPI	10	96+00.00	76.1700		89.9995	44.9997	44.9997	
High Point		96+16.49	75.9705					
VPT		96+45.00	75.8779	-0.6490				
VPI	11	96+85.00	75.6183	-0.6490				
VPC		98+57.50	76.1358	0.3000	K = 28.1			
VPI	12	99+02.50	76.2708		89.9994	44.9997	44.9997	
VPT		99+47.50	77.8476	3.5040				
VPC		99+73.00	78.7411	3.5040	K = 33.9	SSD = 295.6		
VPI	13	100+18.00	80.3179		89.9994	44.9997	44.9997	
VPT		100+63.00	80.7013	0.8520				
VPI	14	100+63.00	80.7013	0.8520				
VPI	15	101+15.28	80.7013	-0.0000				
VPC		102+27.50	80.7013	0.0000	K = 29.3	SSD = 261.6		
VPI	16	102+72.50	80.7013		90.0000	45.0000	45.0000	
VPT		103+17.50	79.3208	-3.0678				
VPC		103+25.00	79.0907	-3.0678	K = 32.5			
VPI	17	103+70.00	77.7102		90.0000	45.0000	45.0000	
VPT		104+15.00	77.5752	-0.3000				
VPC		107+15.00	76.6752	-0.3000	K = 47.6			
Low Point		107+29.29	76.6538					
VPI	18	107+60.00	76.5402		90.0000	45.0000	45.0000	
VPT		108+05.00	77.2554	1.5893				
VPC		108+10.00	77.3348	1.5893	K = 34.6	SSD = 300.6		
VPI	19	108+55.00	78.0500		90.0000	45.0000	45.0000	
High Point		108+65.02	77.7721					
VPT		109+00.00	77.5954	-1.0103				
VPI	20	109+00.50	77.5903	-1.0103				
VPC		109+22.25	77.2636	-1.5020	K = 32.9			
VPI	21	109+42.00	76.9670		39.5000	19.7500	19.7500	
VPT		109+61.75	76.9077	-0.3000				
VPI	22	110+85.00	76.5380	-0.3000				
VPI	23	113+35.00	77.2880	0.3000				
VPI	24	116+32.00	75.9000	-0.4673				
VPI	25	118+85.00	76.6590	0.3000				
VPI	26	121+70.00	75.7960	-0.3028				
VPI	27	124+25.00	76.5610	0.3000				
VPI	28	126+41.00	75.9130	-0.3000				
VPI	29	127+36.00	76.4000	0.5126				
VPI	30	129+22.00	77.1940	0.4269				
VPI	31	131+70.00	76.4500	-0.3000				
VPI	32	131+85.00	76.5000	0.3333				
VPI	33	132+22.00	76.8500	0.9459				
VPI	34	132+60.00	76.5212	-0.8652				
VPI	35	132+72.00	76.4600	-0.5103				
VPI	36	134+25.00	76.9190	0.3000				
VPC		136+05.00	75.7838	-0.6307	K = 75.9			
VPI	37	136+50.00	75.5000		90.0000	45.0000	45.0000	
Low Point		136+52.84	75.6329					
VPT		136+95.00	75.7501	0.5557				
VPC		138+30.00	76.5002	0.5557	K = 67.5	SSD = 543.0		
High Point		138+67.48	76.6043					
VPI	38	138+75.00	76.7502		90.0000	45.0000	45.0000	
VPT		139+20.00	76.3999	-0.7786				
VPI	39	140+25.00	75.5824	-0.7786				
VPI	40	141+50.00	74.7500	-0.6659				
VPI	41	143+50.00	75.3500	0.3000				
VPI	42	145+72.00	74.6840	-0.3000				
VPC		146+01.50	74.8967	0.7210	K = 26.6	SSD = 304.8		
High Point		146+20.70	74.9659					
VPI	43	146+34.00	75.1310		65.0000	32.5000	32.5000	
VPT		146+66.50	74.5722	-1.7194				
VPI	44	146+67.50	74.5550	-1.7194				
VPC		146+67.50	74.5549	-2.4000	K = 61.1			
VPI	45	147+20.00	73.2950		104.9950	52.4975	52.4975	
VPT		147+72.50	72.9378	-0.6804				
VPI	46	148+20.00	72.6146	-0.6804				
VPC		148+62.00	72.3477	-0.6355	K = 37.3			
Low Point		148+85.72	72.2723					
VPI	47	149+20.00	71.9791		116.0000	58.0000	58.0000	
VPT		149+78.00	73.4134	2.4730				
VPC		149+90.00	73.7102	2.4730	K = 48.3	SSD = 358.3		
VPI	48	150+42.50	75.0085		105.0018	52.5009	52.5009	
VPT		150+95.00	75.1660	0.3000				
VPI	49	151+93.00	75.4600	0.3000				
VPC		153+00.00	75.1390	-0.3000	K = 41.2	SSD = 313.1		
VPI	50	153+52.50	74.9815		105.0000	52.5000	52.5000	
VPT		154+05.00	73.4852	-2.8502				
VPI	51	154+05.00	73.4852					
VPC		154+32.50	72.9489	-1.9500	K = 46.4			
VPI	52	154+90.00	71.8277		115.0000	57.5000	57.5000	
Low Point		155+22.90	72.0676					
VPT		155+47.50	72.1329	0.5308				
VPC		156+67.50	72.7698	0.5308	K = 138.4	SSD = 857.4		
VPI	53	157+25.00	73.0750		115.0000	57.5000	57.5000	
High Point		157+40.97	72.9648					
VPT		157+82.50	72.9025	-0.3000				
VPI	54	159+00.00	72.5500	-0.3000				
VPI	55	159+43.41	72.8000	0.5759				

Ending profile PF_TOC_E_SEG2 description

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
on
125611
on
3/12/2026
for
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

VERTICAL CURVE DATA

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 170 OF 1067	

Pen Table: TX_Pen.tbl
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Plotted on: 3/12/2026 2:13:32 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR VERT CURVE DATA 01.dgn

ANTOINE DR

Beginning profile PF_TOC_W_SEG2 description:
Feature: Mainlane

		STATION	ELEV	GRADE	TOTAL L	BACK L	AHEAD L	
VPI	1	88+00.00	72.9628					
VPC		88+22.50	72.6853	-1.2333	K = 57.3			
VPI	2	88+75.00	72.0378		105.0000	52.5000	52.5000	
Low Point		88+93.14	72.2497					
VPT		89+27.50	72.3528	0.6000				
VPI	3	90+45.00	73.0578	0.6000				
VPC		90+72.50	73.4593	1.4598	K = 103.3	SSD = 705.9		
VPI	4	91+25.00	74.2257		105.0000	52.5000	52.5000	
VPT		91+77.50	74.4582	0.4429				
VPI	5	92+15.59	74.6269	0.4429				
VPI	6	93+26.00	74.2957	-0.3000				
VPI	7	93+92.50	74.5825	0.4313				
VPI	8	94+50.00	74.4100	-0.3000				
VPC		94+89.50	74.6779	0.6782	K = 41.6			
VPI	9	95+22.00	74.8983		65.0000	32.5000	32.5000	
VPT		95+54.50	75.6265	2.2407				
VPI	10	95+55.00	75.6377	2.2407				
VPC		95+55.00	75.6377	1.3000	K = 50.2	SSD = 415.8		
VPI	11	96+00.00	76.2227		90.0000	45.0000	45.0000	
High Point		96+20.29	76.0621					
VPT		96+45.00	76.0014	-0.4919				
VPI	12	96+90.00	75.7800	-0.4919				
VPI	13	98+50.00	76.4846	0.4404				
VPC		98+95.00	76.3496	-0.3000	K = 56.6			
Low Point		99+11.98	76.3241					
VPI	14	99+40.00	76.2146		90.0000	45.0000	45.0000	
VPT		99+85.00	76.7951	1.2900				
VPI	15	100+50.00	77.6336	1.2900				
VPC		101+69.00	79.9314	1.9310	K = 63.9	SSD = 516.5		
VPI	16	102+14.00	80.8004		90.0000	45.0000	45.0000	
VPT		102+59.00	81.0352	0.5217				
VPI	17	102+83.00	81.1604	0.5217				
VPC		103+82.50	81.1604	0.0000	K = 25.7	SSD = 234.9		
VPI	18	104+27.50	81.1604		90.0000	45.0000	45.0000	
VPT		104+72.50	79.5854	-3.5000				
VPC		104+95.00	78.7979	-3.5000	K = 28.2			
VPI	19	105+40.00	77.2229		90.0000	45.0000	45.0000	
VPT		105+85.00	77.0834	-0.3099				
VPC		107+10.00	76.6961	-0.3099	K = 48.2			
Low Point		107+24.92	76.6730					
VPI	20	107+55.00	76.5567		89.9999	44.9999	44.9999	
VPT		108+00.00	77.2582	1.5590				
VPC		108+10.00	77.4141	1.5590	K = 35.2	SSD = 304.7		
VPI	21	108+55.00	78.1157		89.9999	44.9999	44.9999	
High Point		108+64.83	77.8415					
VPT		109+00.00	77.6657	-1.0000				
VPI	22	109+00.00	77.6657	-1.0000				
VPC		109+00.00	77.6657	-1.9526	K = 37.5			
VPI	23	109+31.00	77.0604		61.9999	30.9999	30.9999	
VPT		109+62.00	76.9674	-0.3000				
VPI	24	110+85.00	76.5984	-0.3000				
VPI	25	113+25.00	77.3184	0.3000				
VPI	26	116+32.00	75.9000	-0.4620				
VPI	27	118+85.00	76.6590	0.3000				
VPI	28	121+70.00	75.7960	-0.3028				
VPI	29	124+45.00	76.6210	0.3000				
VPI	30	126+53.00	75.9816	-0.3074				
VPI	31	127+36.00	76.4000	0.5041				
VPI	32	128+90.00	77.0574	0.4269				
VPI	33	131+80.00	76.4800	-0.1991				
VPI	34	132+22.00	76.6060	0.3000				
VPI	35	132+62.00	76.3660	-0.6000				
VPI	36	134+25.00	76.8550	0.3000				
VPC		136+06.76	75.7604	-0.6022	K = 74.7			
VPI	37	136+50.00	75.5000		86.4790	43.2395	43.2395	
Low Point		136+51.74	75.6250					
VPT		136+93.24	75.7402	0.5556				
VPC		138+27.98	76.4888	0.5556	K = 67.7	SSD = 525.5		
High Point		138+65.60	76.5933					
VPI	38	138+75.00	76.7500		94.0457	47.0229	47.0229	
VPT		139+22.02	76.3581	-0.8333				
VPI	39	140+25.00	75.5000	-0.8333				
VPI	40	141+40.00	74.7000	-0.6957				
VPI	41	143+50.00	75.3300	0.3000				
VPI	42	145+75.00	74.6550	-0.3000				
VPC		145+93.50	74.7660	0.6000	K = 34.7	SSD = 387.5		
High Point		146+14.34	74.8285					
VPI	43	146+26.00	74.9610		65.0000	32.5000	32.5000	
VPT		146+58.50	74.5477	-1.2717				
VPI	44	146+70.00	74.4014	-1.2717				
VPI	45	147+25.00	73.1914	-2.2000				
VPI	46	148+50.00	72.4000	-0.6331				
VPC		148+70.00	72.3207	-0.3964	K = 38.3			
Low Point		148+85.19	72.2906					
VPI	47	149+25.00	72.1027		110.0000	55.0000	55.0000	
VPT		149+80.00	73.4629	2.4730				
VPC		149+90.00	73.7102	2.4730	K = 48.3	SSD = 358.3		
VPI	48	150+42.50	75.0085		105.0000	52.5000	52.5000	
VPT		150+95.00	75.1660	0.3000				
VPI	49	151+93.00	75.4600	0.3000				
VPC		153+00.00	75.1390	-0.3000	K = 41.2	SSD = 313.1		
VPI	50	153+52.50	74.9815		105.0000	52.5000	52.5000	
VPT		154+05.00	73.4852	-2.8502				
VPI	51	154+05.00	73.4852					
VPC		154+32.50	72.9489	-1.9500	K = 46.1			
VPI	52	154+90.00	71.8277		115.0000	57.5000	57.5000	
Low Point		155+22.43	72.0721					
VPT		155+47.50	72.1402	0.5435				
VPC		156+42.50	72.6565	0.5435	K = 108.0	SSD = 681.8		
VPI	53	157+00.00	72.9690		115.0000	57.5000	57.5000	
High Point		157+01.22	72.8161					
VPT		157+57.50	72.6695	-0.5209				
VPC		157+57.50	72.6695	-0.5209	K = 140.1			
VPI	54	158+15.00	72.3700		115.0000	57.5000	57.5000	
Low Point		158+30.47	72.4795					
VPT		158+72.50	72.5425	0.3000				
VPI	55	158+96.00	72.6130	0.3000				

Ending profile PF_TOC_W_SEG2 description

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Engineer
125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-2017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

VERTICAL CURVE DATA

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 171 OF 1067	

Pen Table: TX_Pen.tbl
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Plotted on: 3/9/2026 6:27:47 PM\F-ANTOINE.ucf

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) REMOVE EXIST SAN SWR MH
- (K) REMOVE EXIST METRO SHELTER AND RETURN TO OWNER
- (L) REMOVE EXIST PAVERS
- (M) REMOVE EXIST SIGN
- (N) ABANDON EXIST UTILITY
- (O) PROTECT EXIST STRUCTURE
- (P) PROTECT EXIST UTILITY
- (Q) REMOVE EXIST WATER
- (R) REMOVE AND SALVAGE EXIST FH
- (S) POLE TO BE RELOCATED BY OTHERS
- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

Texas Department of Transportation ©2026

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713.777.5337

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KRISTEN J. HENNINGS, P.E.
90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

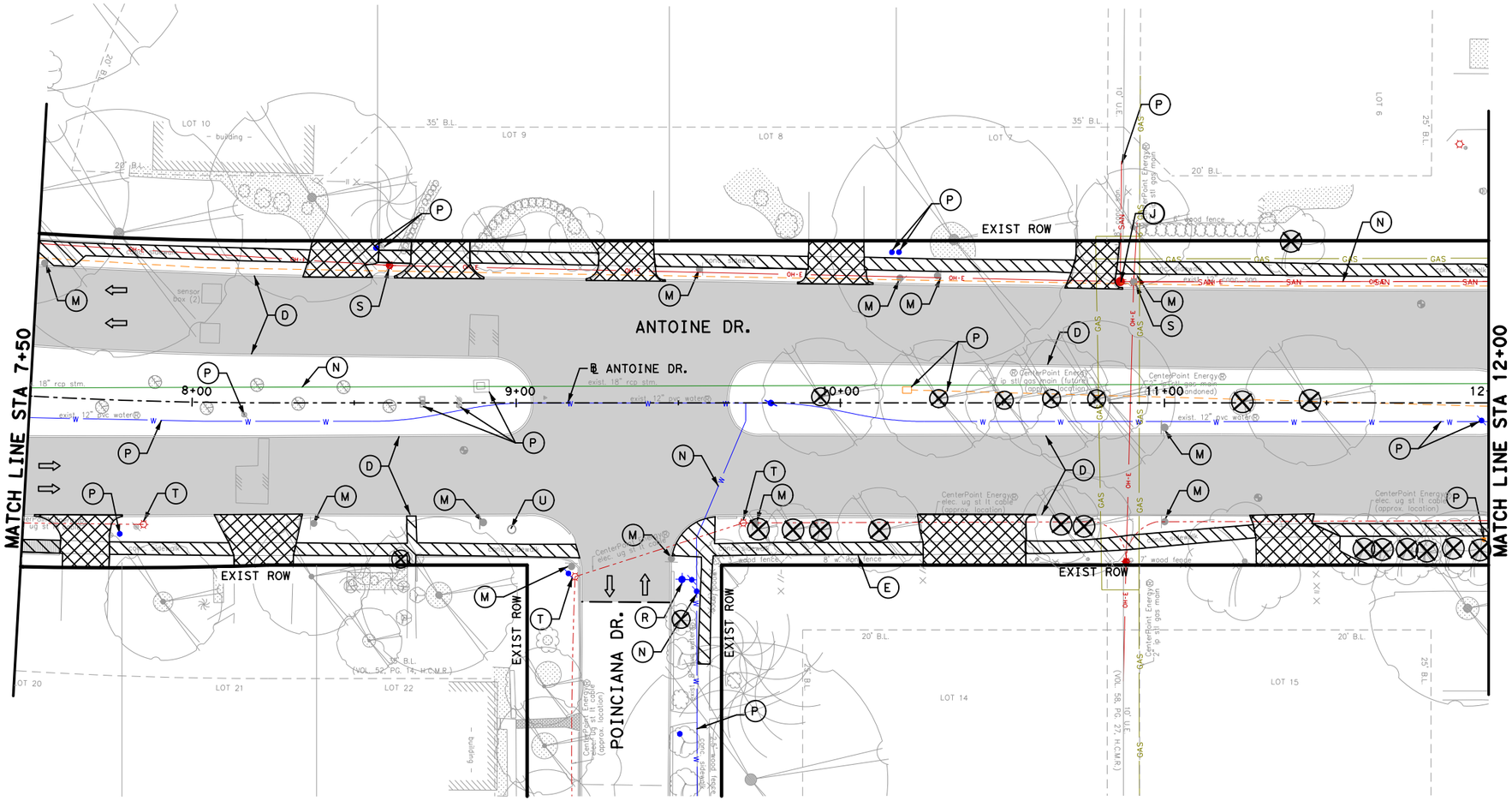
DEMOLITION PLAN
BEGIN PROJECT TO STA 7+50

SHEET 7 1 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 172 OF 1067	

Design Filename: K:\0050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DEMO SHT\PR_DEMO 01.dgn

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg



LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) REMOVE EXIST SAN SWR MH
- (K) REMOVE EXIST METRO SHELTER AND RETURN TO OWNER
- (L) REMOVE EXIST PAVERS
- (M) REMOVE EXIST SIGN
- (N) ABANDON EXIST UTILITY
- (O) PROTECT EXIST STRUCTURE
- (P) PROTECT EXIST UTILITY
- (Q) REMOVE EXIST WATER
- (R) REMOVE AND SALVAGE EXIST FH
- (S) POLE TO BE RELOCATED BY OTHERS
- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 7+50 TO STA 12+00

SHEET 7 2 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 173 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DEMO SHT\PR_DEMO 02.dgn

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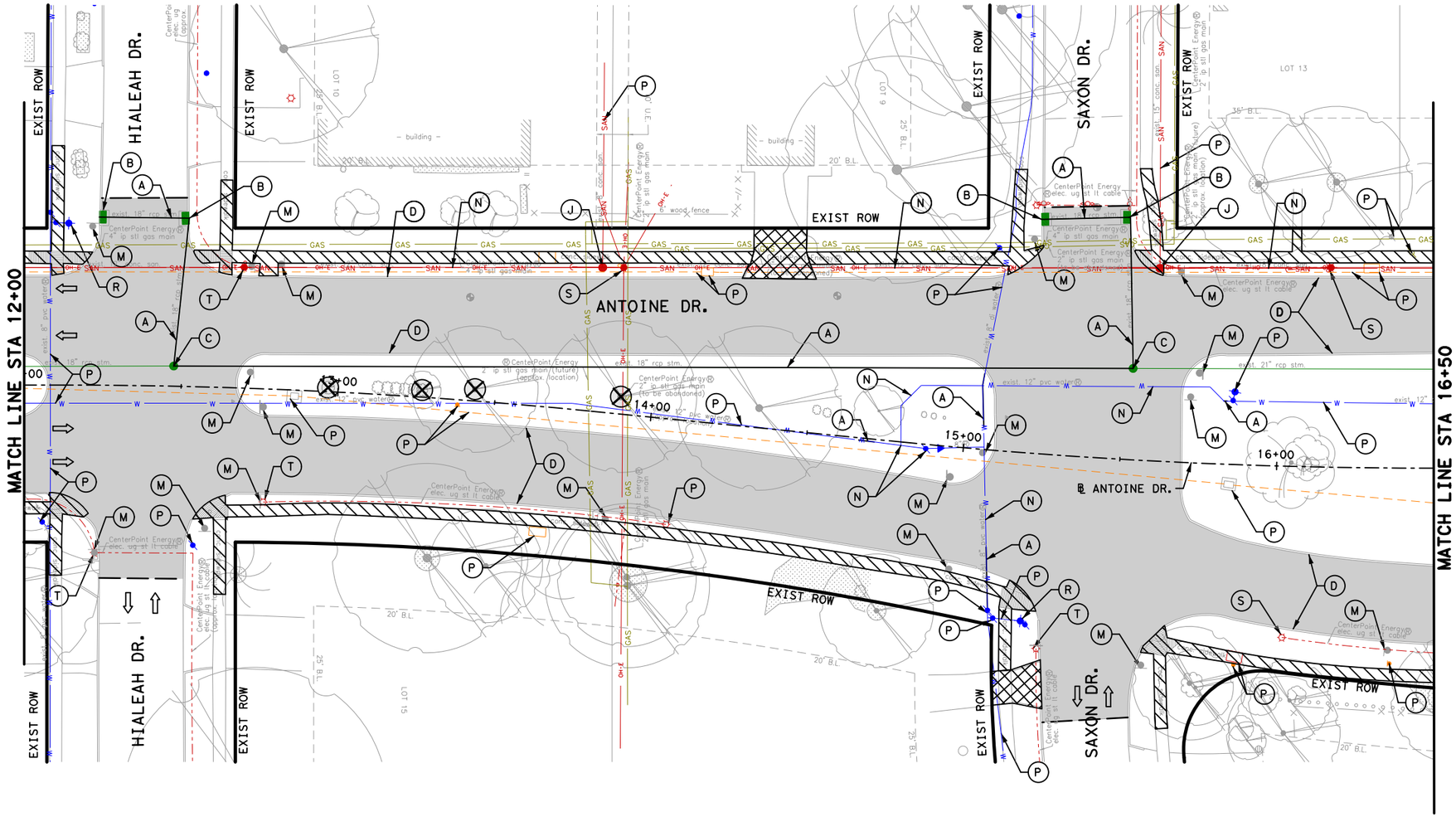

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) REMOVE EXIST SAN SWR MH
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- (O) PROTECT EXIST STRUCTURE
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- (Q) REMOVE EXIST WATER
- (R) REMOVE AND SALVAGE EXIST FH
- (S) POLE TO BE RELOCATED BY OTHERS
- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 12+00 TO STA 16+50

SHEET 3 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 174 OF 1067	

Plotted on: 3/9/2026 6:27:49 PMF-ANTOINE.ucf
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DEMO SHT\PR_DEMO 03.dgn

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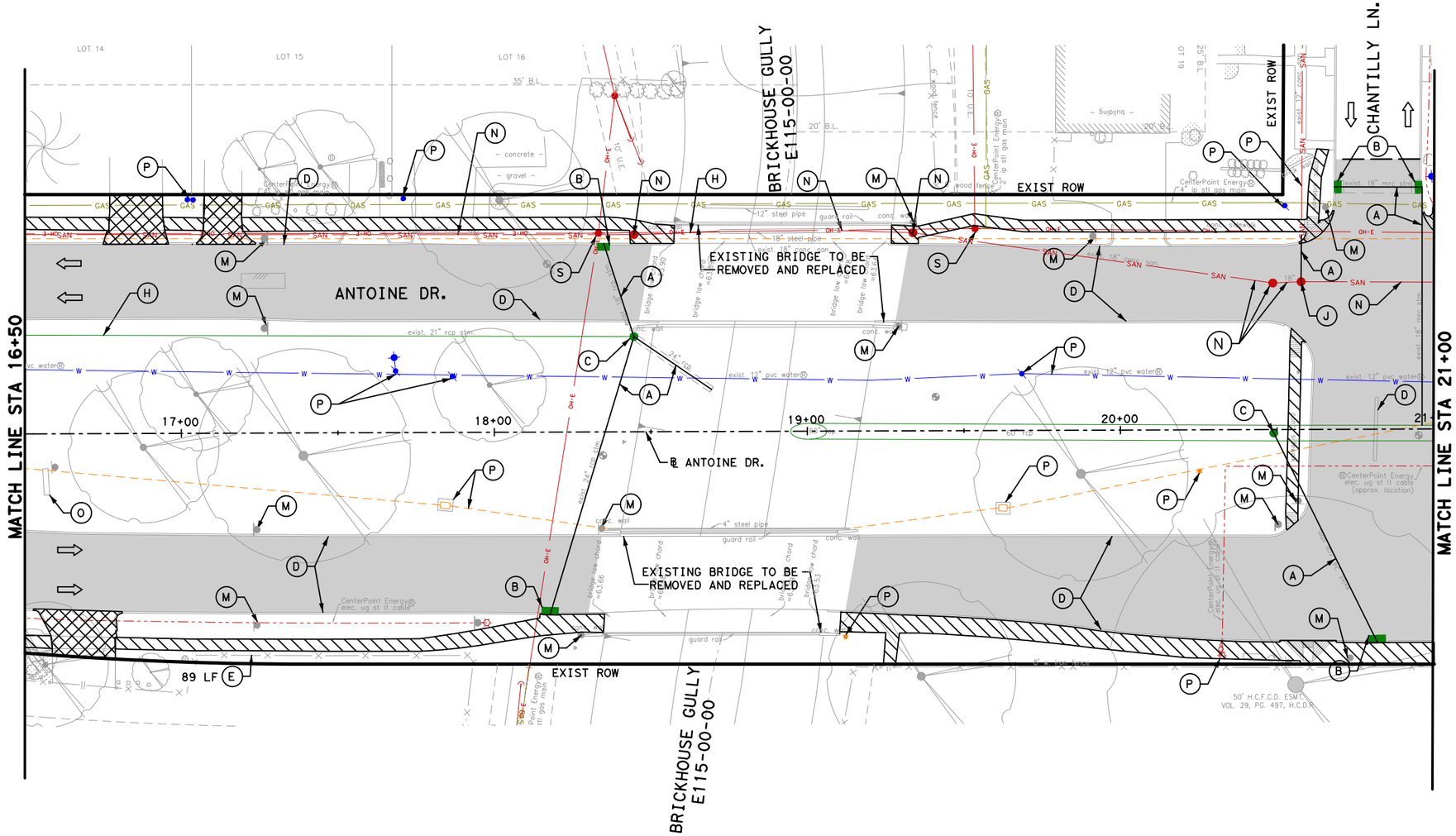

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
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- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 16+50 TO STA 21+00

SHEET 4 OF

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 175 OF 1067	

Design Filename: K:\0050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEETS\DEMO SHT\PR_DEMO 04.dgn
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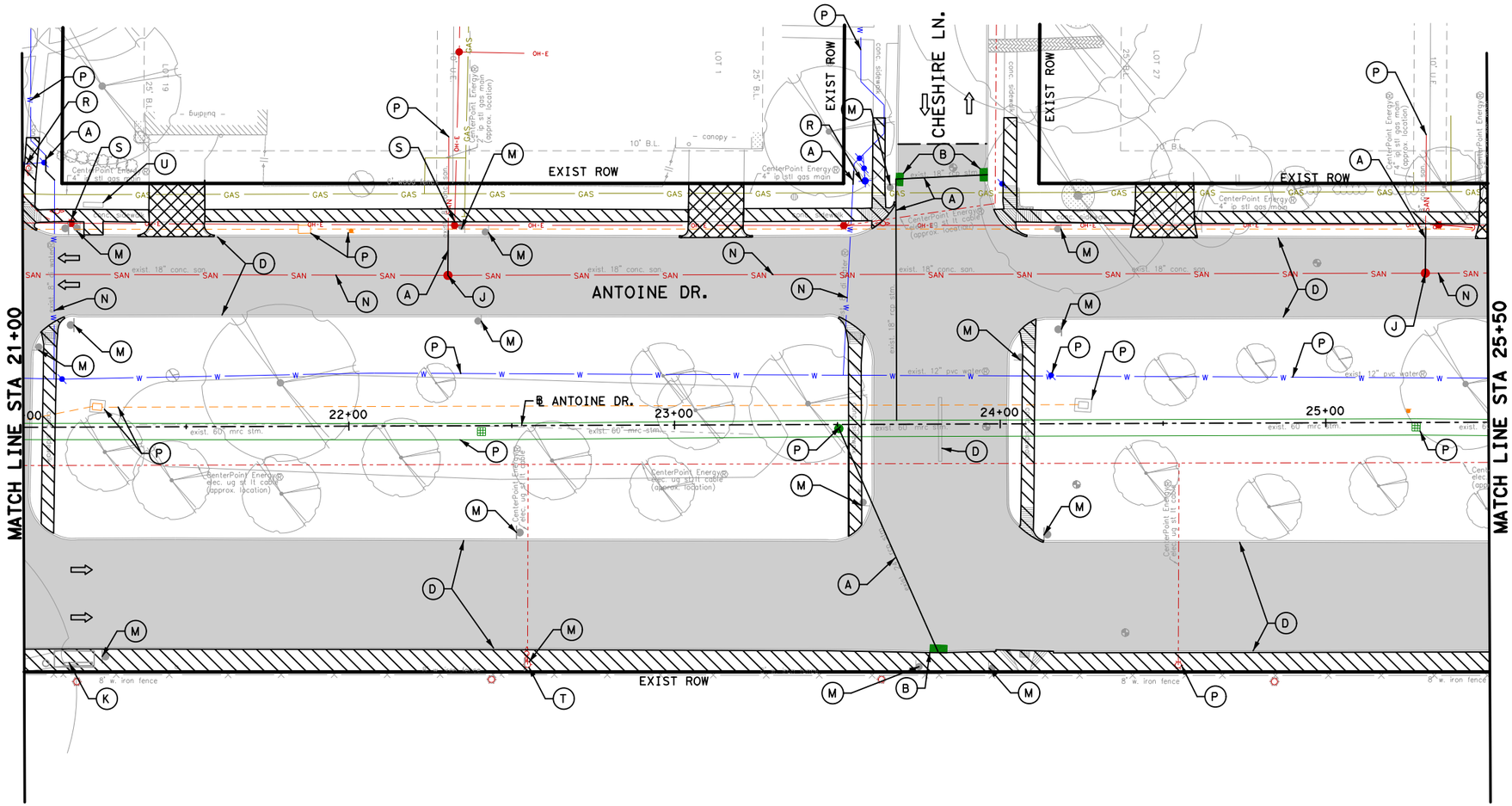

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
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- (P) PROTECT EXIST UTILITY
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- (R) REMOVE AND SALVAGE EXIST FH
- (S) POLE TO BE RELOCATED BY OTHERS
- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 21+00 TO STA 25+50

SHEET 5 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 176 OF 1067	

Pen Table:ANT.tbl.tbl
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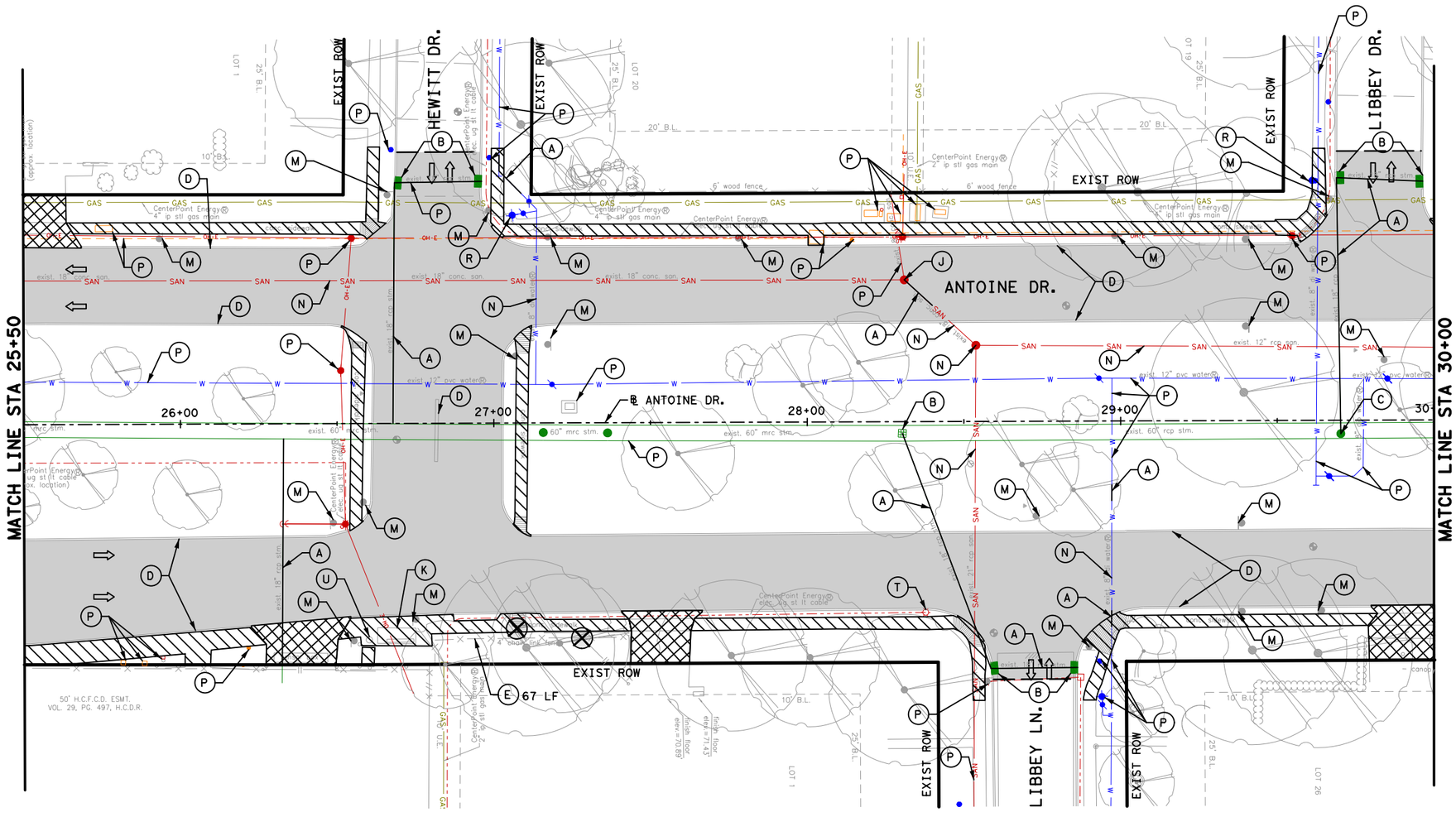
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DEMO SHT\PR_DEMO 05.dgn



LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
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- (Q) REMOVE EXIST WATER
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- (S) POLE TO BE RELOCATED BY OTHERS
- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 25+50 TO STA 30+00

SHEET 7 6 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 177 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DEMO SHT\PR_DEMO 06.dgn

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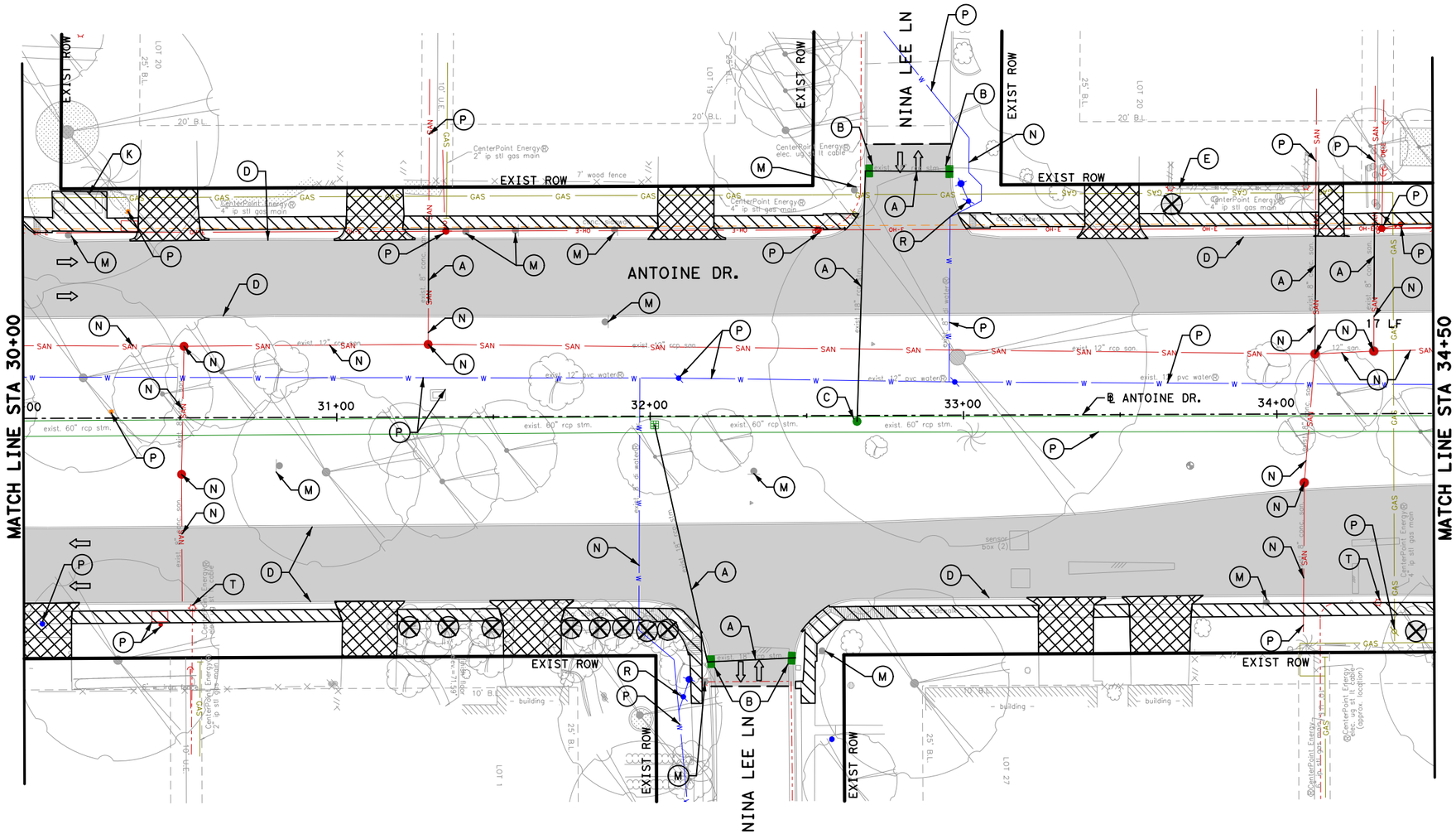

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
- REMOVE CONC PAV AND BASE
- REMOVE TREE
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- (O) PROTECT EXIST STRUCTURE
- (P) PROTECT EXIST UTILITY
- (Q) REMOVE EXIST WATER
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- (S) POLE TO BE RELOCATED BY OTHERS
- (T) REMOVE EXIST STREET LIGHT/ TRAFFIC SIGNAL POLE FOUNDATION
- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0′ 20′ 40′
SCALE IN FEET

No.	DATE	REVISIONS	APP:

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MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 30+00 TO STA 34+50

SHEET 7 7 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 178 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEETS\DEMO SHT\PR_DEMO 07.dgn

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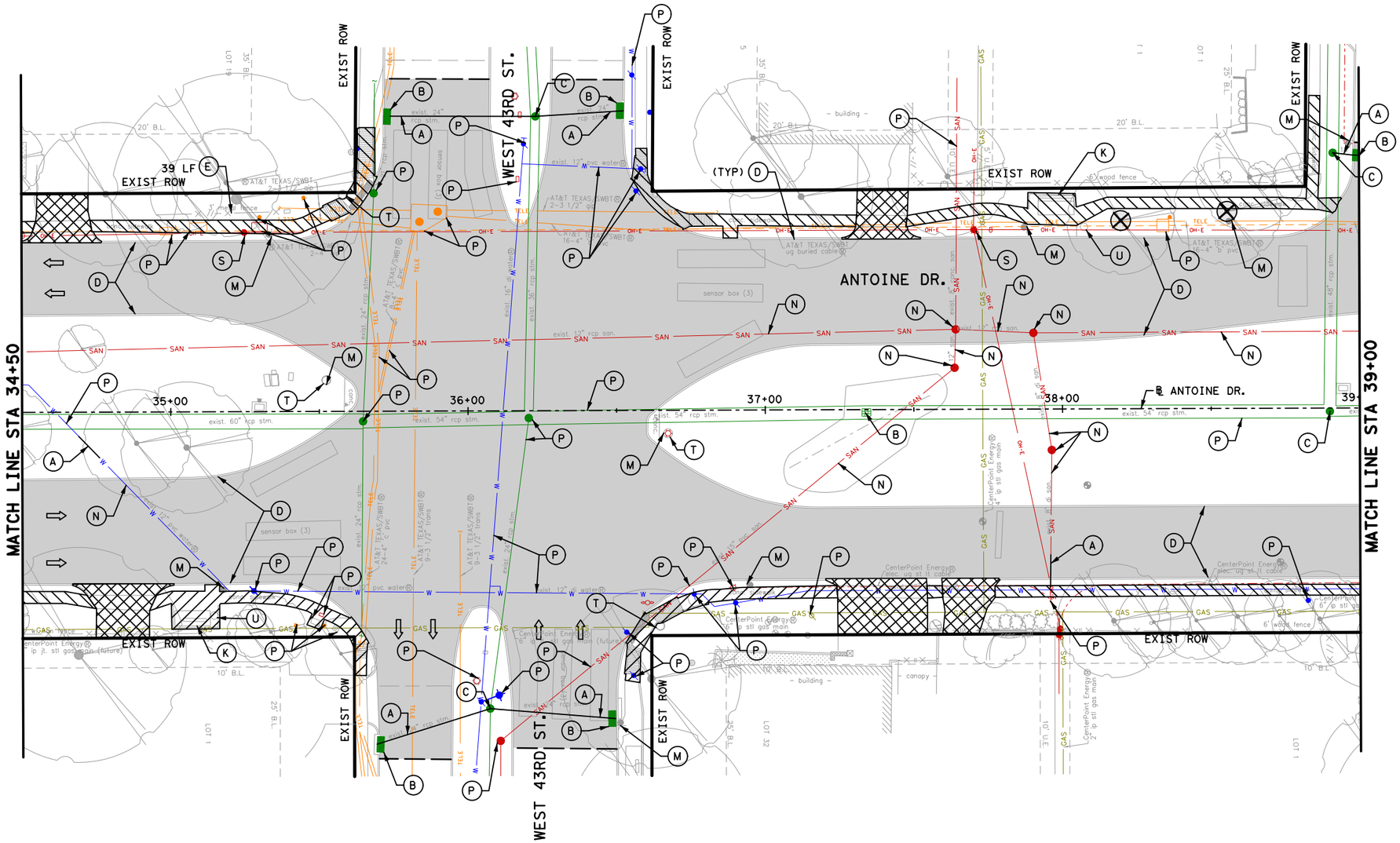

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE CONC SIDEWALK/RAMP W/ OR W/OUT TRUNCATED DOME PAVERS
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- (U) REMOVE BENCH / TRASH RECEPTACLE AND RETURN TO OWNER

0' 20' 40'
SCALE IN FEET

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Date: MARCH 2026
Date: 60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 34+50 TO STA 39+00

SHEET 7 8 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 179 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DEMO SHT\PR_DEMO 08.dgn

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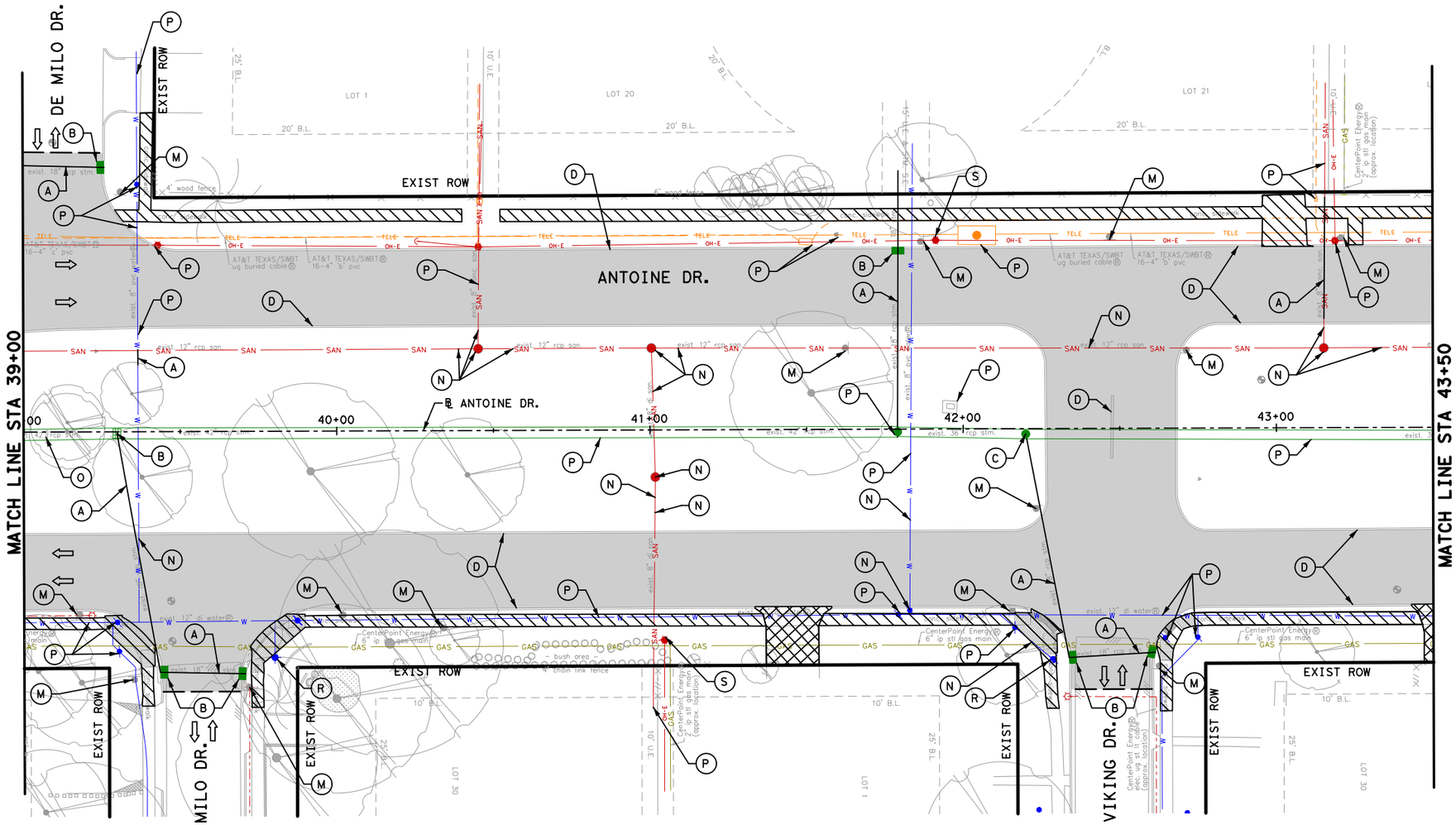

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
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No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 39+00 TO STA 43+50

SHEET 9 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 180 OF 1067	

Plotted on: 3/9/2026 6:27:54 PM
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Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
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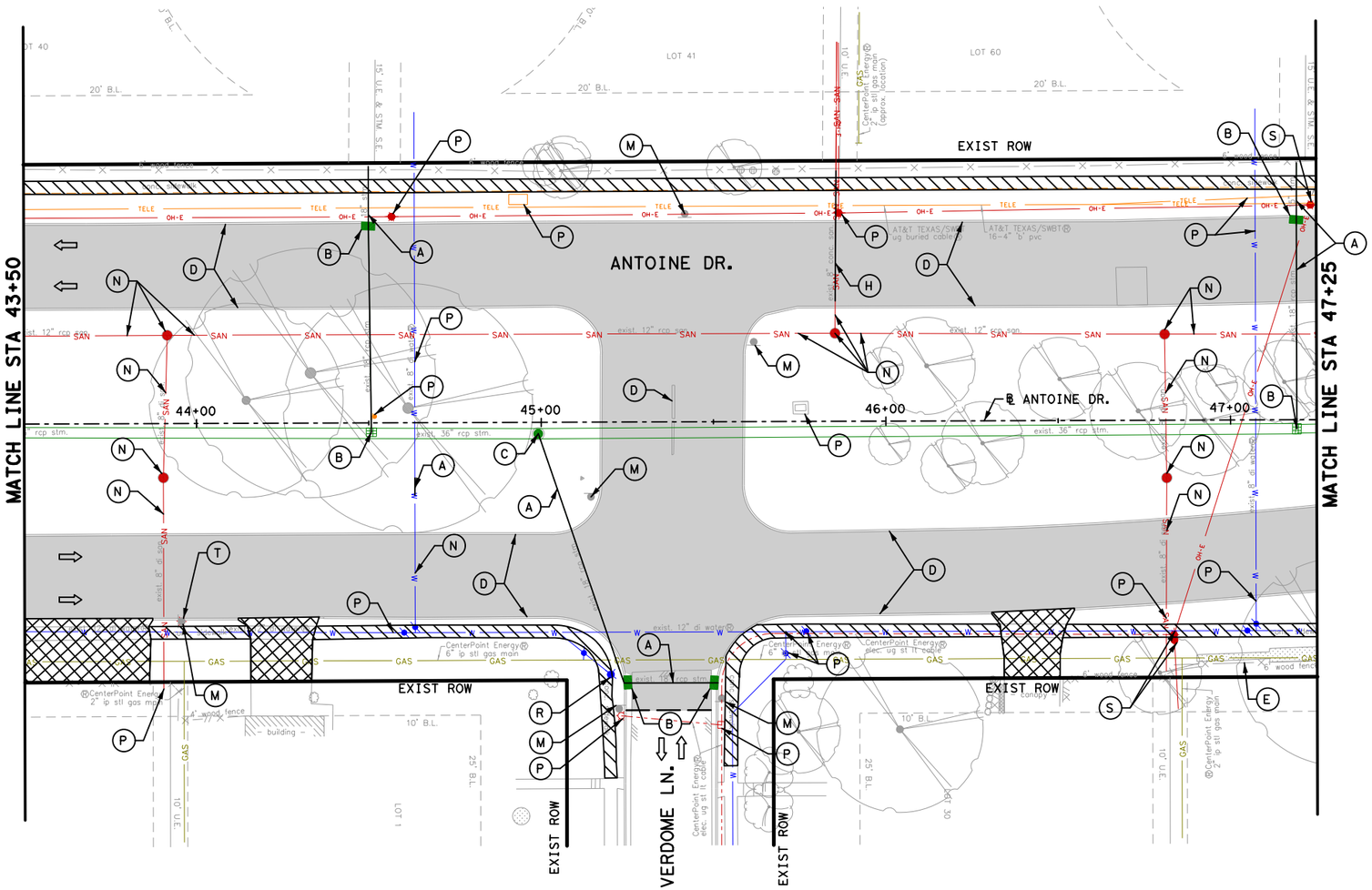

LEGEND

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No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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MARCH 2026
60% SUBMITTAL
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Texas Registered Engineering Firm F-23290

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 43+50 TO STA 47+25

SHEET 710 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 181 OF 1067	

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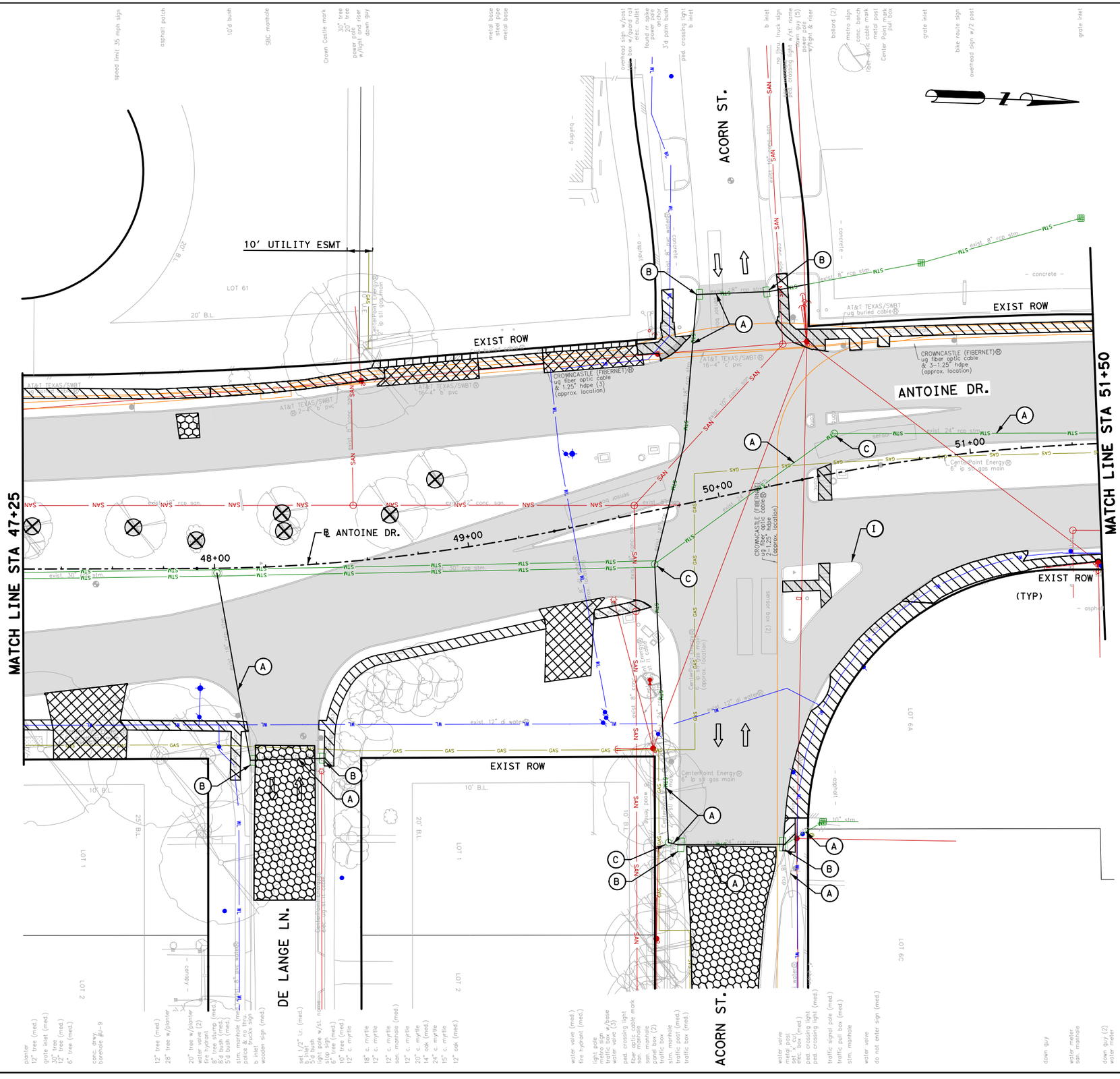

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE CONC BRIDGE
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) REMOVE EXIST SAN SWR MH

0' 20' 40'
SCALE IN FEET

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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JEFFREY ROBERT LEUGERS
Date 91874
3/10/2026
Date 60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 47+25 TO STA 51+50

SHEET 71 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 182 OF 1067	

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

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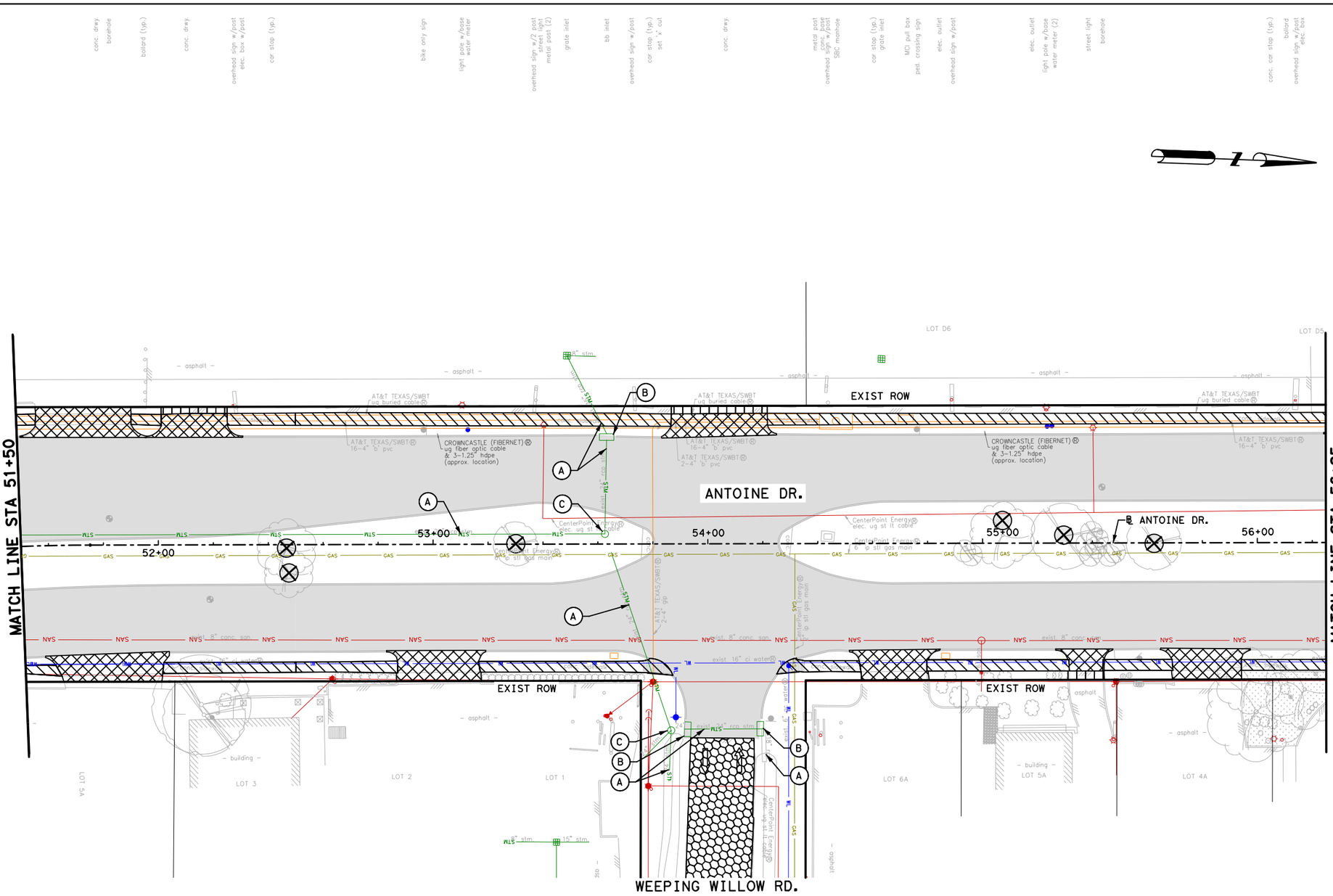

power pole w/3 riser & light
conc. drwy.
metal post
18" tree
15" tree
water meter assy
borehole #J-10
pressure release valve
stone deck (2)
12" c. myrtle
sign w/2 wood post
brick column
18" c. myrtle (med.)
15" c. myrtle (med.)
conc. pad
brick column (3)
conc. car stop
power pole w/light, riser and 2 trans.
bush row
conc. drwy.
8" oak (med.)
bush row
metal post (2)
stm. manhole (med.)
overhead sign w/post
wood rack w/post
MCI pull box
metal post (med.)
overhead sign
metal post (2)
base only (2)
sign w/2 post
overhead sign
down guy (2)
power pole w/light and riser
tele. pad
stm. manhole
fire hydrant
bb inlet
bb inlet
stop sign w/st name
water valve
found 5/8" i.r.
conc. pad
elec. box & pvc pipe
overhead sign
metal post
elec. outlet
bollard (2)
traffic pull box (med.)
conc. drwy.
MCI pull box
5'd bush (2)
8'd bush
4" tree (med./2)
gas manhole
5'd bush (2)
6'd bush (3)
20" c. myrtle (med.)
6'd bush
5'd bush
bush row
12" oak (med.)
4" tree (7/med.)
8" teump
conc. drwy
water meter assy
elec. outlet
elec. rack w/2 post
elec. outlet
power pole
w/light and trans.
4" tree (med./2)
10" stump (2)
no parking sign
5" stump (2)
10" stump
10" cypress (med.)
conc. drwy.
2'd bush
20" c. myrtle
30" c. myrtle
bush row
2'd dead bush (2)
light pole w/base
water meter (prorate)
2'd bush
4'd bush
irrigation control valve (2)
elec. outlet
24" c. myrtle
hvac unit

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE CONC BRIDGE
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- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) REMOVE EXIST SAN SWR MH

0' 20' 40'
SCALE IN FEET

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Date 91874
3/10/2026
for 60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

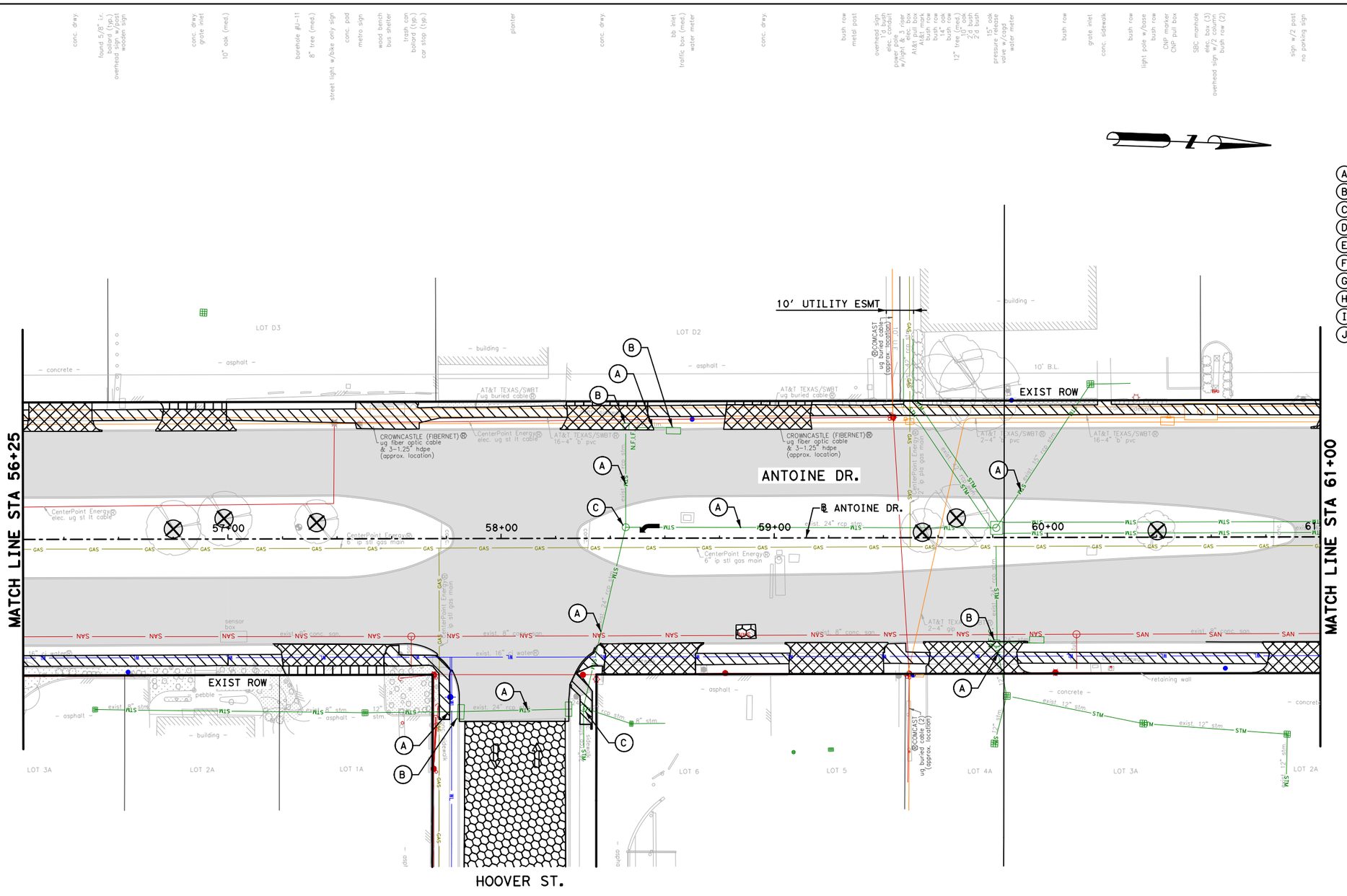
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 51+50.00 TO STA 56+25.00

SHEET 7|2 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 183 OF 1067	



LEGEND

- REMOVE ASPH PAV & BASE
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0' 20' 40'
SCALE IN FEET

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JEFFREY ROBERT LEUGERS
Engineer
91874
3/10/2026
Date
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 56+25 TO STA 61+00

SHEET 7 3 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 184 OF 1067	

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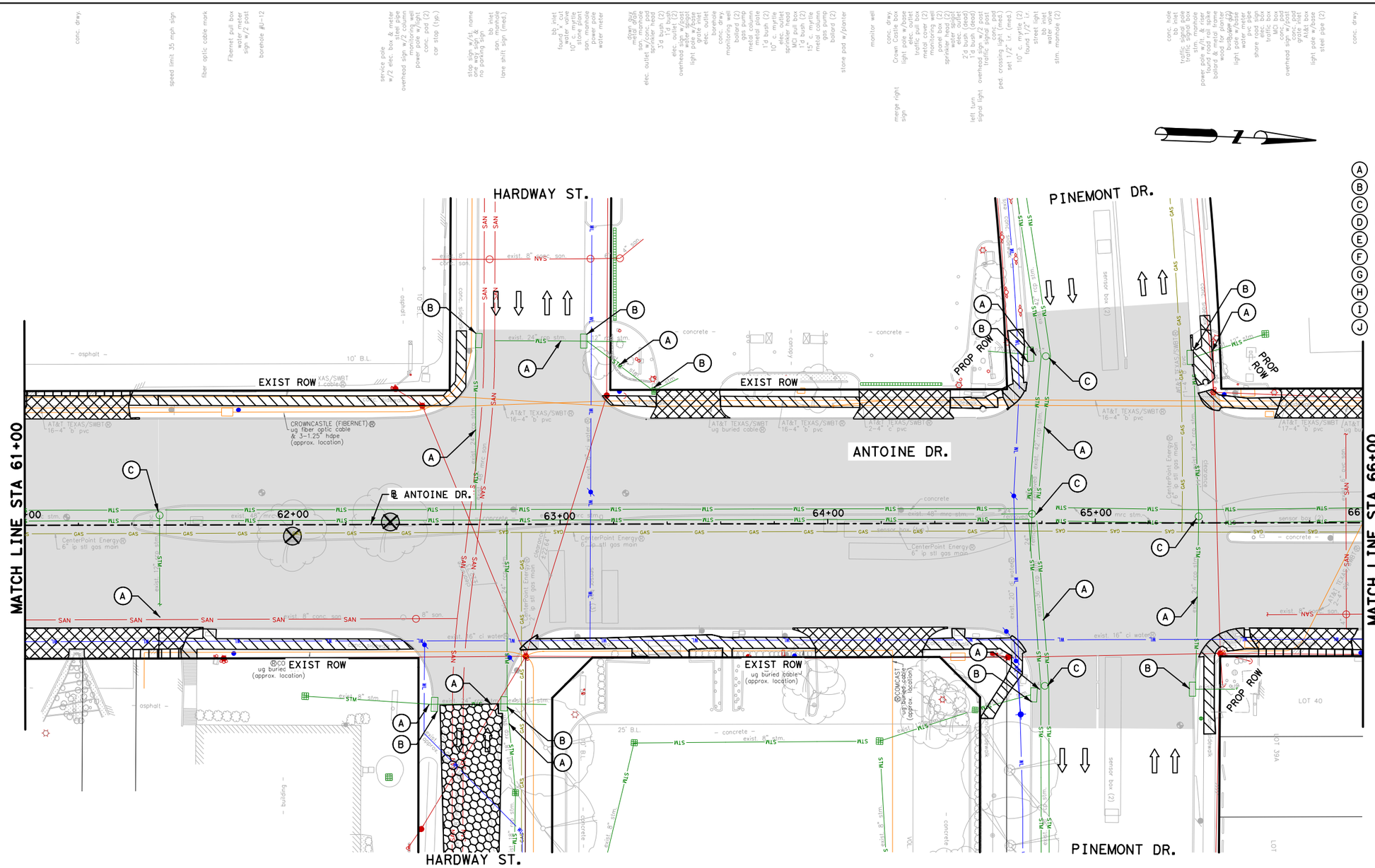

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
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- REMOVE CONC PAV
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- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) REMOVE EXIST SAN SWR MH

0′ 20′ 40′
SCALE IN FEET

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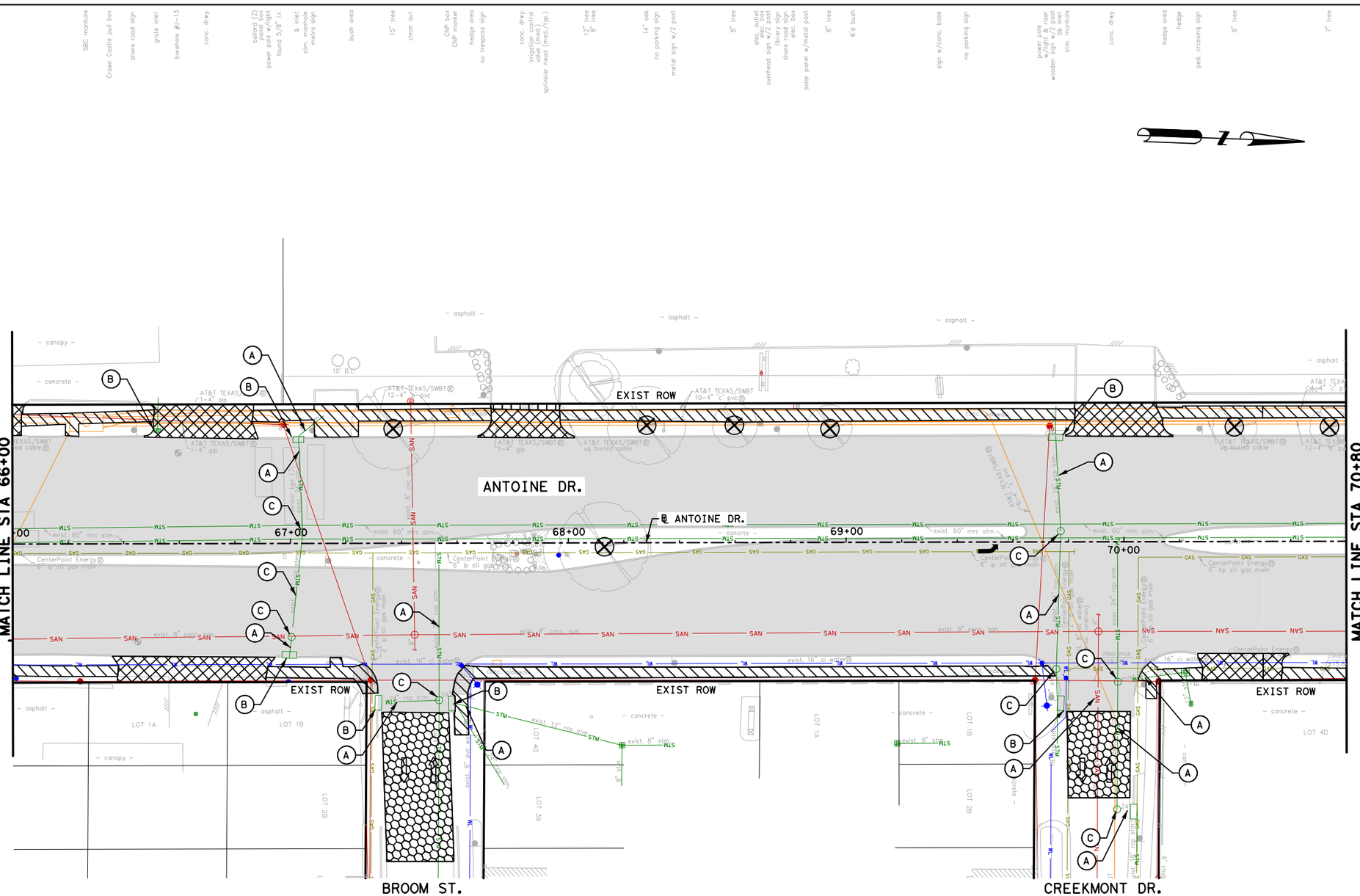
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 61+00.00 TO STA 66+00.00

SHEET 74 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 185 OF 1067	



LEGEND

- REMOVE ASPH PAV & BASE
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0' 20' 40'
SCALE IN FEET

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JEFFREY ROBERT LEUGERS
Registered Professional Engineer
91874
3/10/2026
Date
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 66+00.00 TO STA 70+80.00

SHEET 75 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 186 OF 1067	

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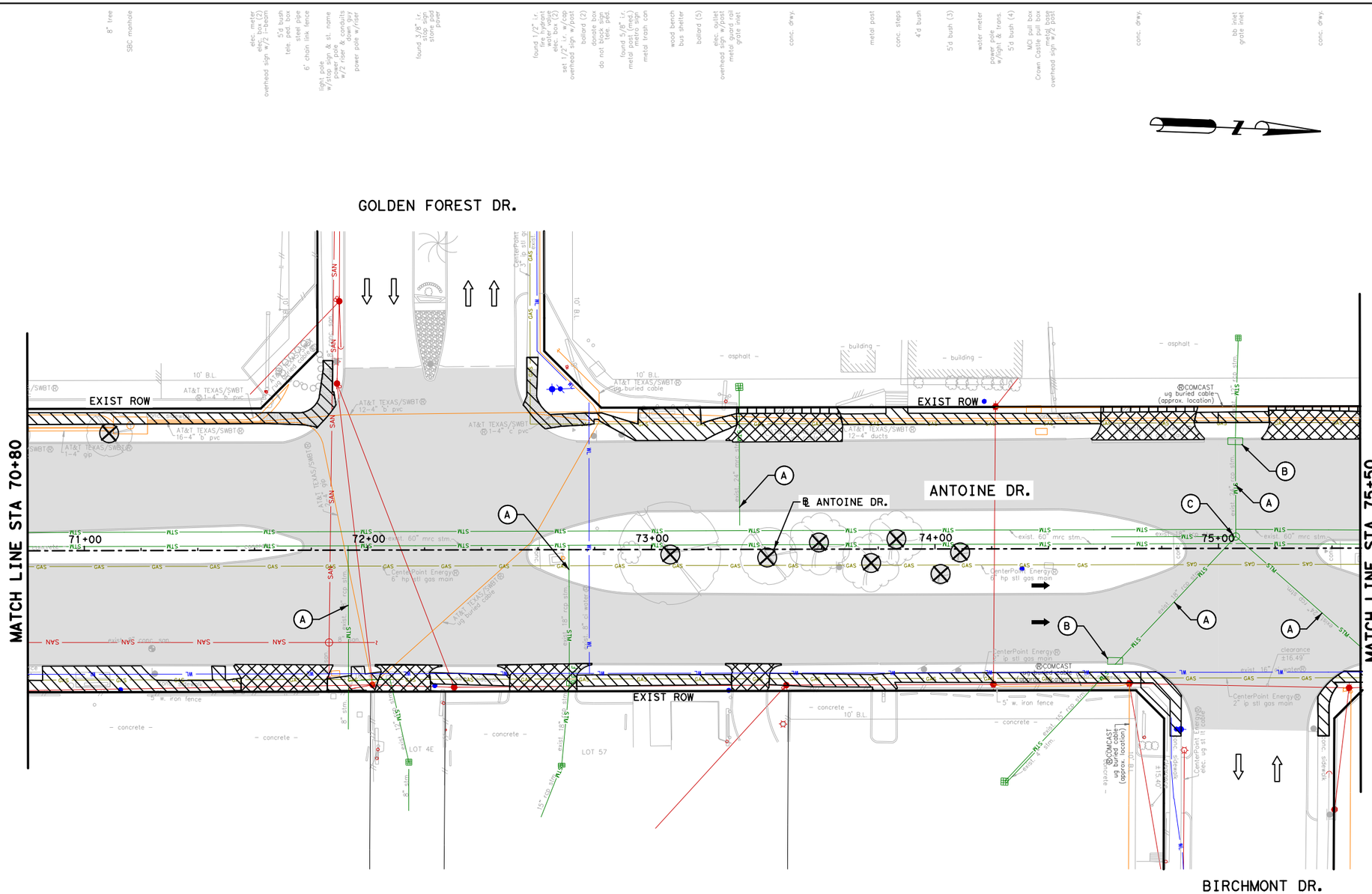

LEGEND

- REMOVE ASPH PAV & BASE
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0' 20' 40'
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 70+80.00 TO STA 75+50.00

SHEET 76 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 187 OF 1067	

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

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LEGEND

- REMOVE ASPH PAV & BASE
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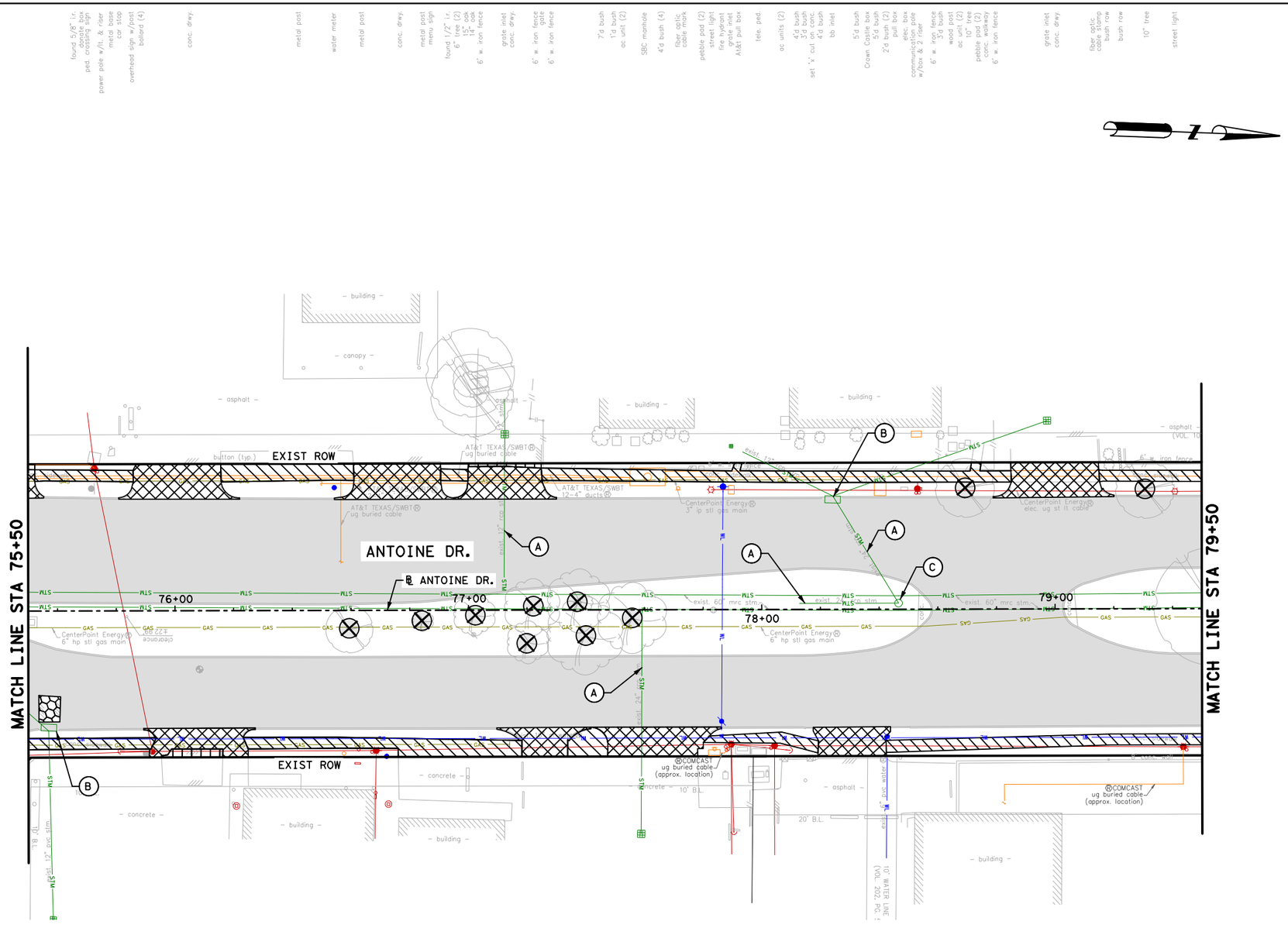

0′ 20′ 40′
SCALE IN FEET

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RS&H, Inc. Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 75+50.00 TO STA 79+50.00

SHEET 77 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 188 OF 1067	

Plotted on: 3/10/2026 11:13:33 AM by teb
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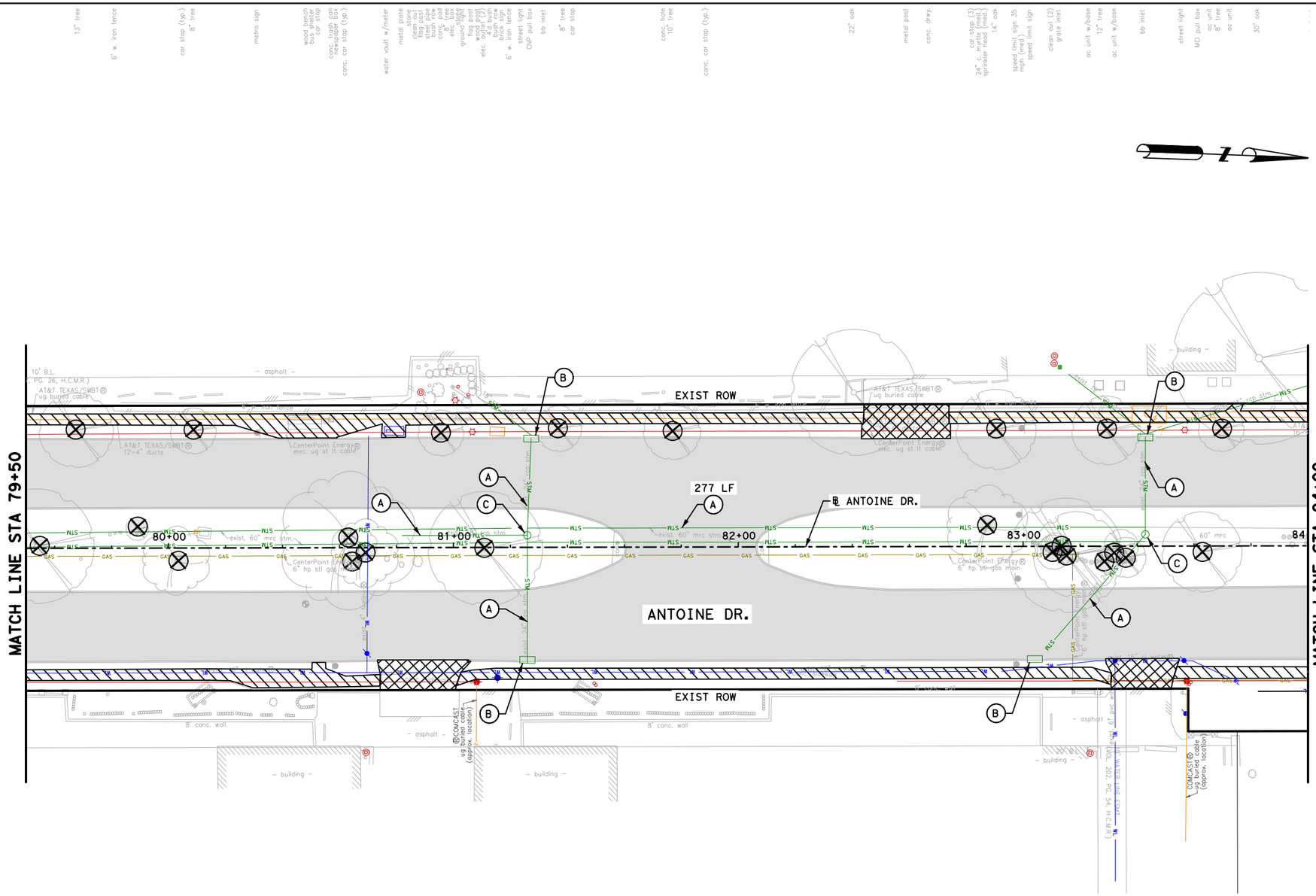

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
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- REMOVE CONC PAV
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0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 79+50.00 TO STA 84+00.00

SHEET 78 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 189 OF 1067	

Plotted on: 3/10/2026 11:13:36 AM
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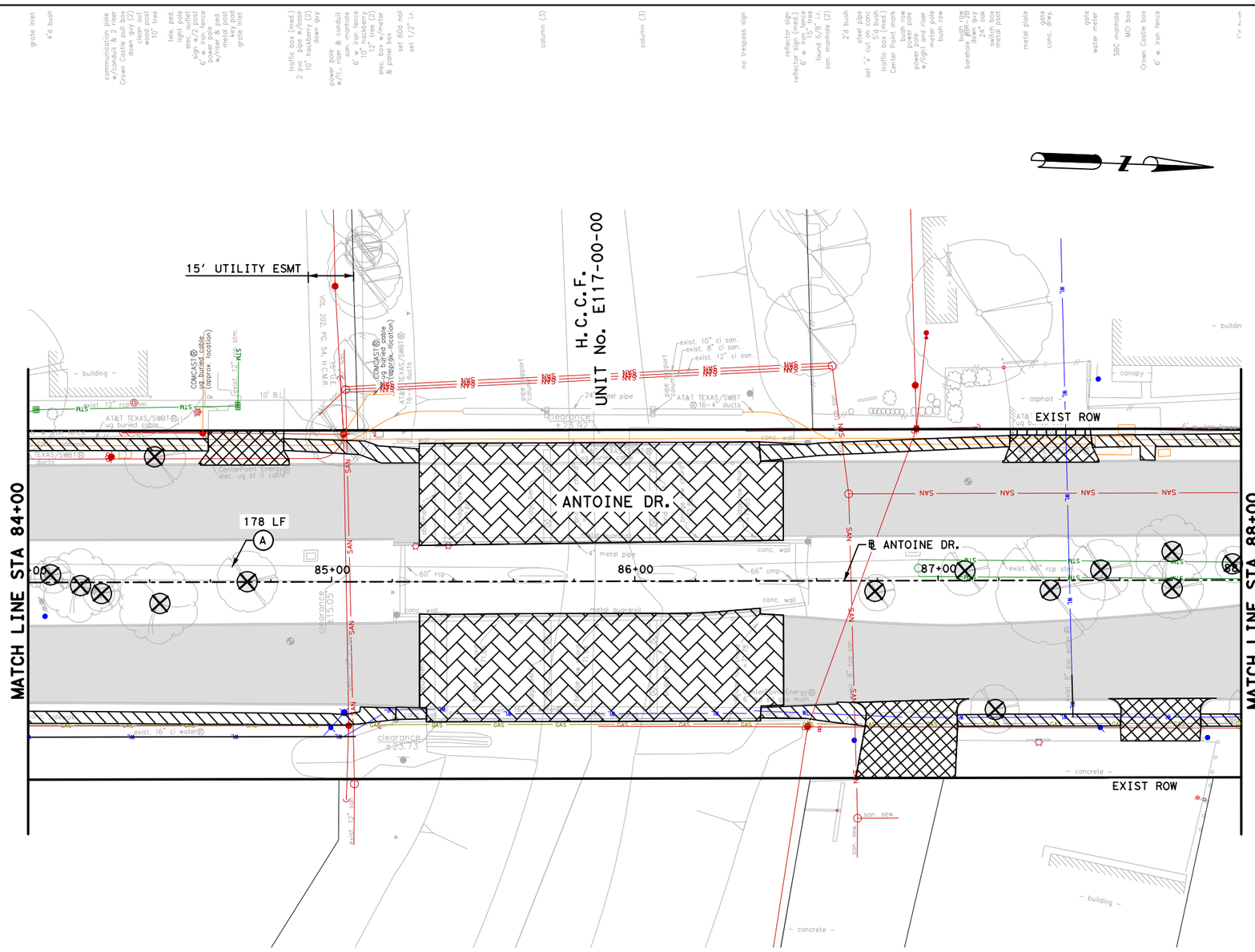

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
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Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 84+00.00 TO STA 88+00.00

SHEET 7|9 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 190 OF 1067	

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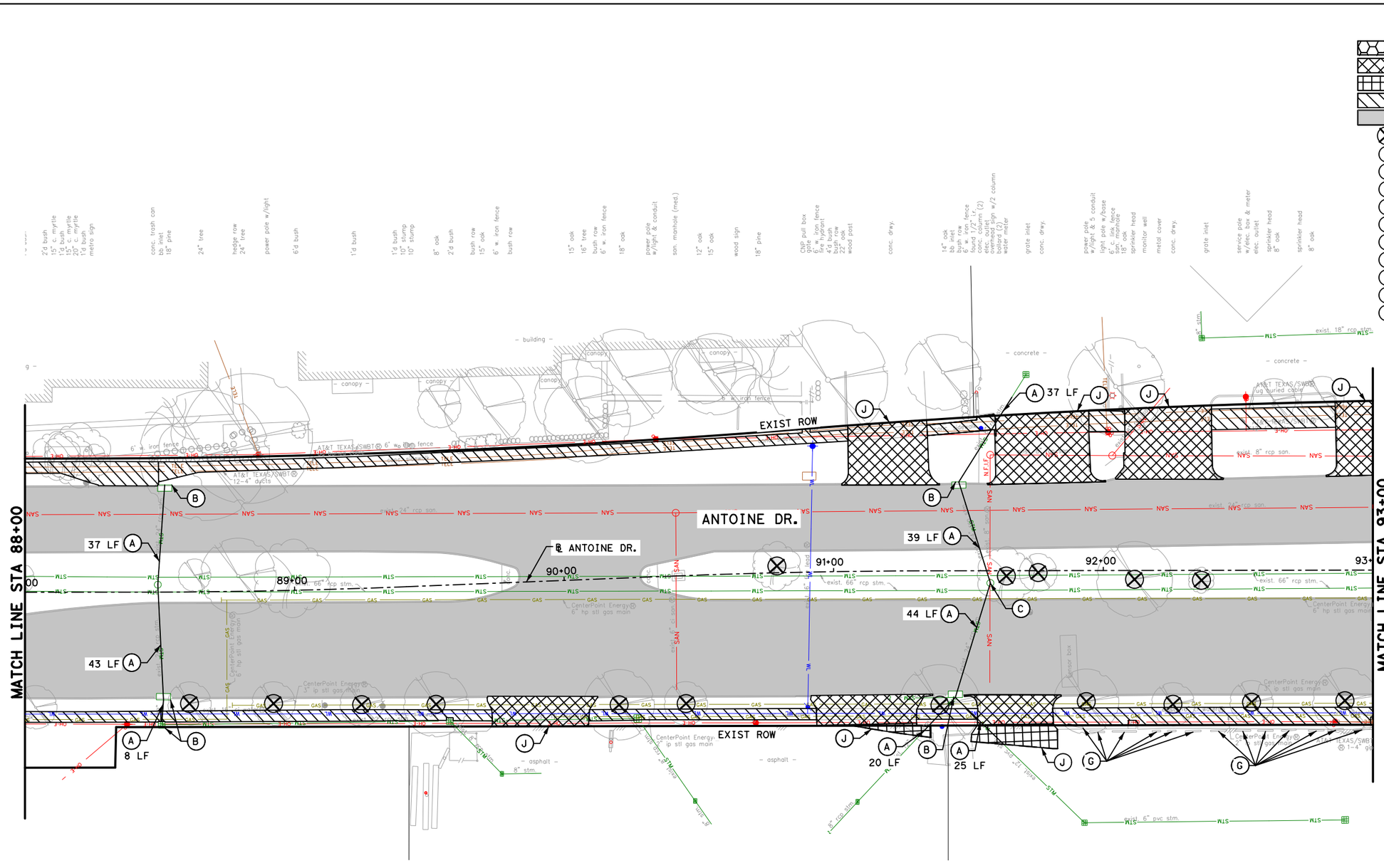

LEGEND

	REMOVE ASPH PAV & BASE
	REMOVE CONC DRWY
	REMOVE ASPH DRWY
	REMOVE CONC SIDEWALK/RAMP
	REMOVE CONC PAV
⊗	REMOVE TREE
A	REMOVE PIPE(RCP, PVC OR CMP)
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H	REMOVE UTILITY
I	REMOVE ISLAND
J	SAWCUT

No.	DATE	REVISIONS	APP.

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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KARAM QADDO
P.E.
125611
3/12/2026
DATE
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

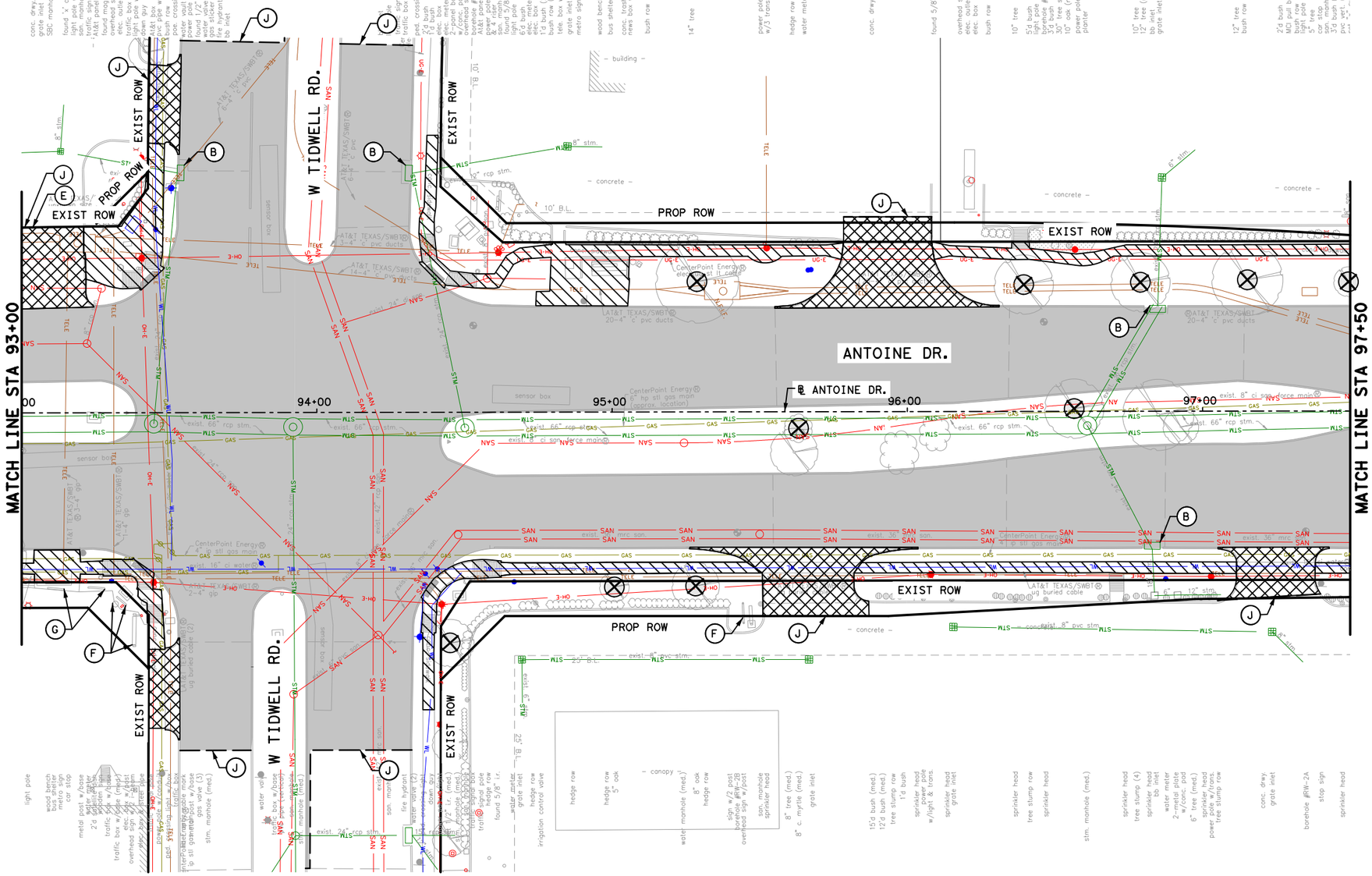
ANTOINE DRIVE

DEMOLITION PLAN
STA 88+00 TO STA 93+00

SHEET 70 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 191 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 20.dgn



LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP.

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 93+00 TO STA 97+50

SHEET 71 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 192 OF 1067	

Pen Table: TX_Pen.tbl
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LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP:

MATCH LINE STA 97+50

MATCH LINE STA 102+00

PROP ROW

EXIST ROW

PROP ROW

RAILROAD ROW

RAILROAD ROW

N. HOUSTON ROSSLYN RD.

ANTOINE DR.

℄ ANTOINE DR.

BNSF RAILROAD

98+00 99+00 100+00 101+00 102+00

0′ 20′ 40′

SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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P.E. 125611
3/12/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 97+50 TO STA 102+00

SHEET 72 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 193 OF 1067	

Pen Table: TX_Pen.tbl
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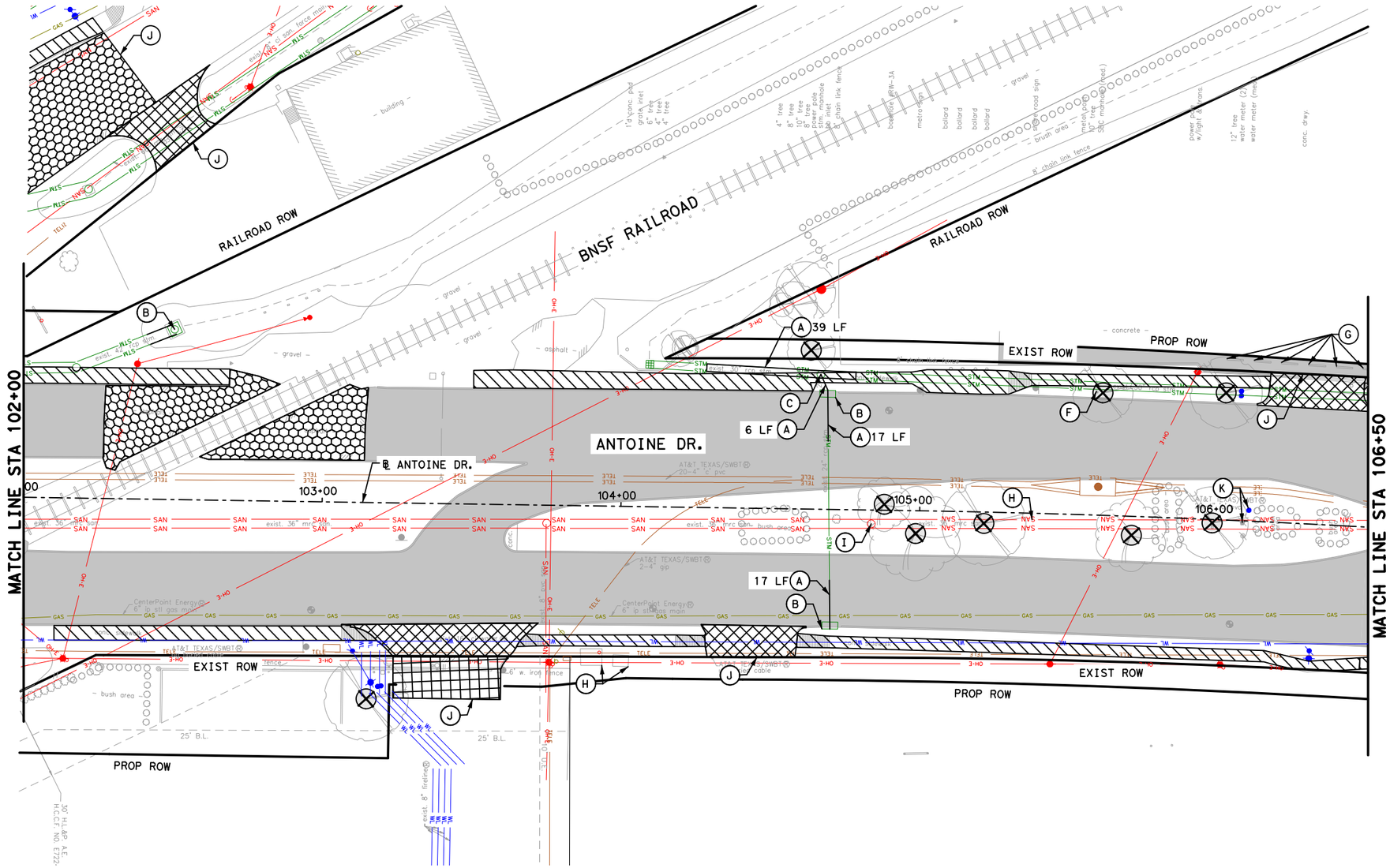
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 22.dgn

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP:



0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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P.E. 125611
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 102+00 TO STA 106+50

SHEET 73 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 194 OF 1067	

Pen Table: TX_Pen.tbl
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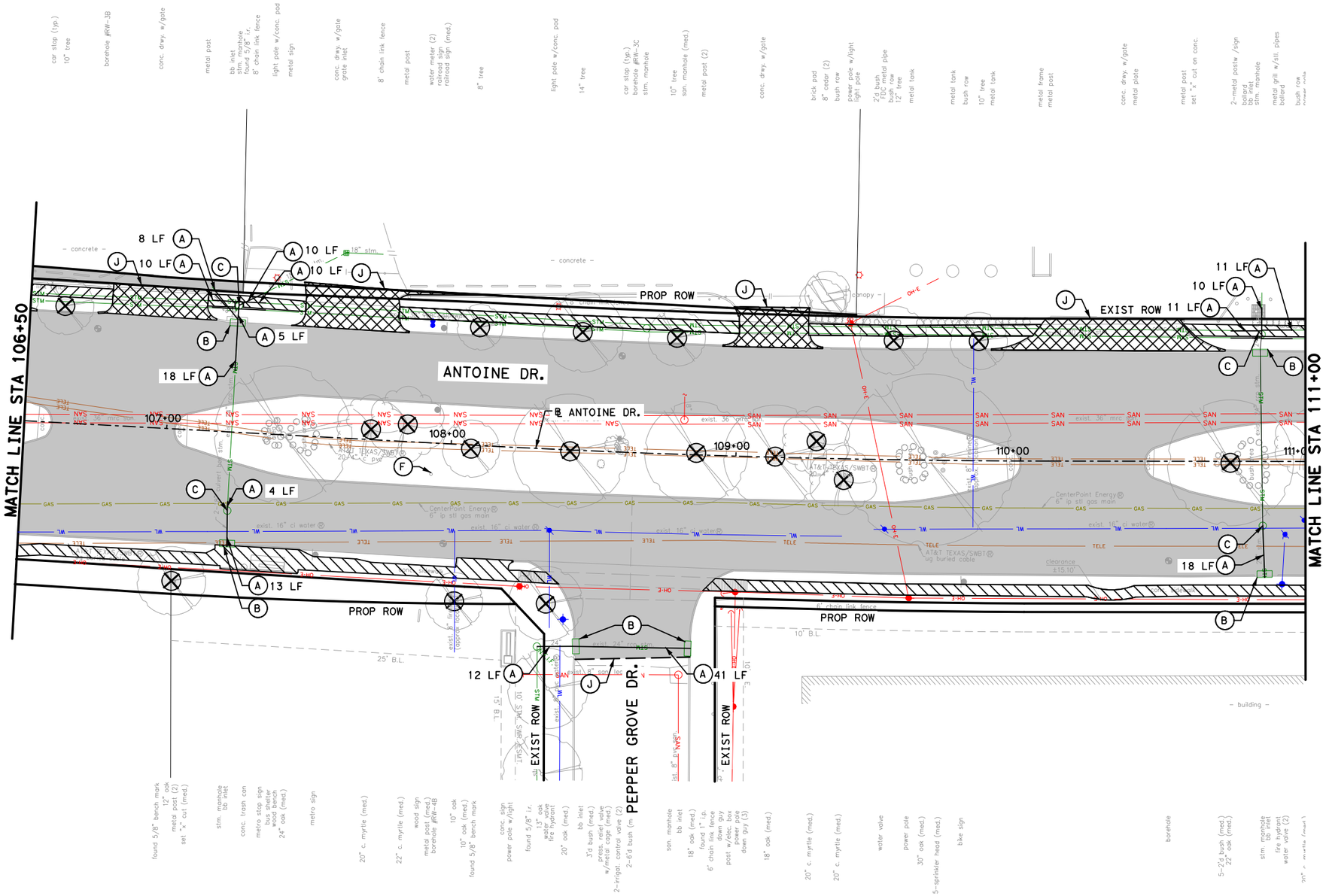

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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125611
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 106+50 TO STA 111+00

SHEET 7:4 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 195 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 24.dgn

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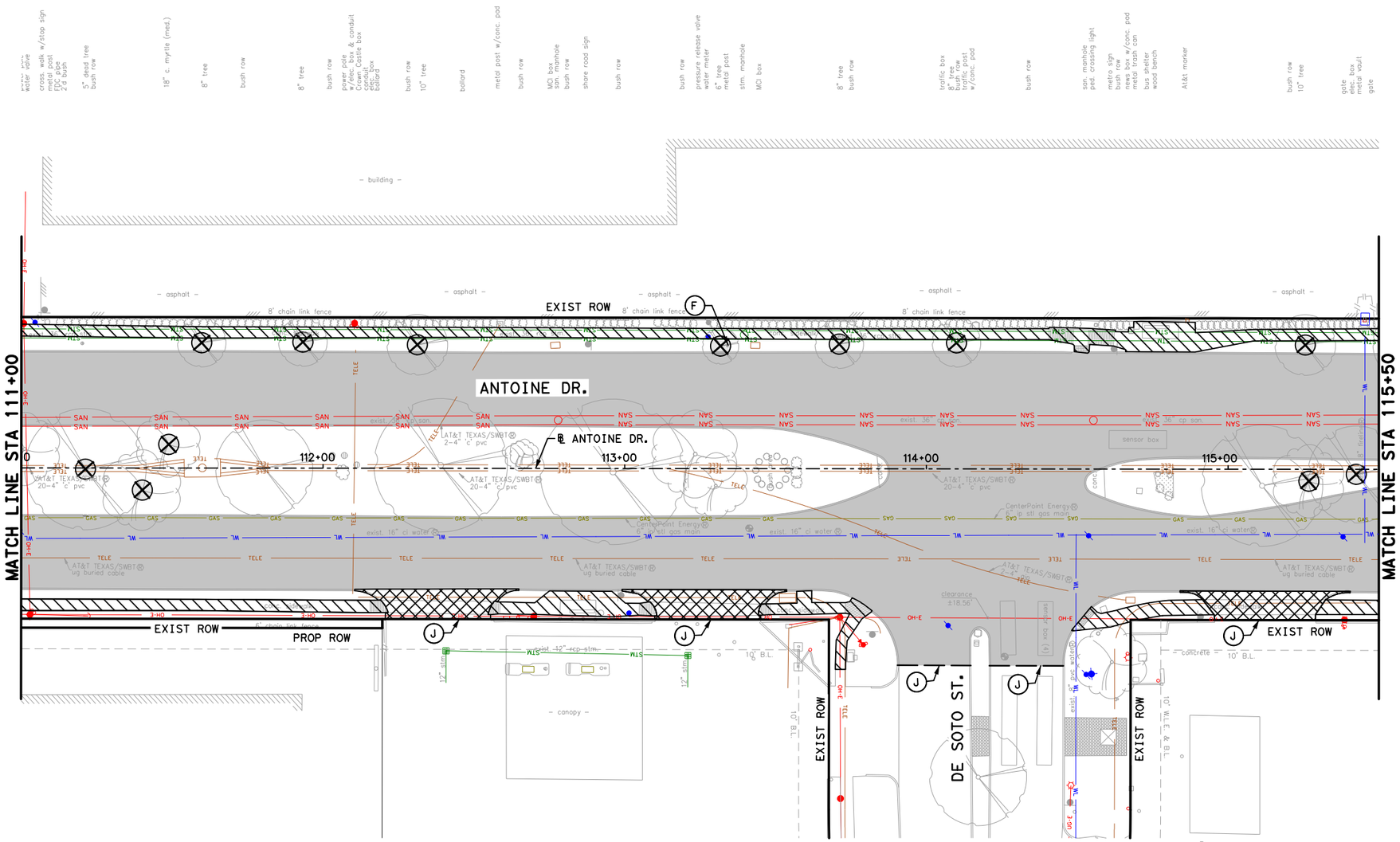

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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PLAN NO. 125611
DATE 3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 111+00 TO STA 115+50

SHEET 7?5 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 196 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 25.dgn

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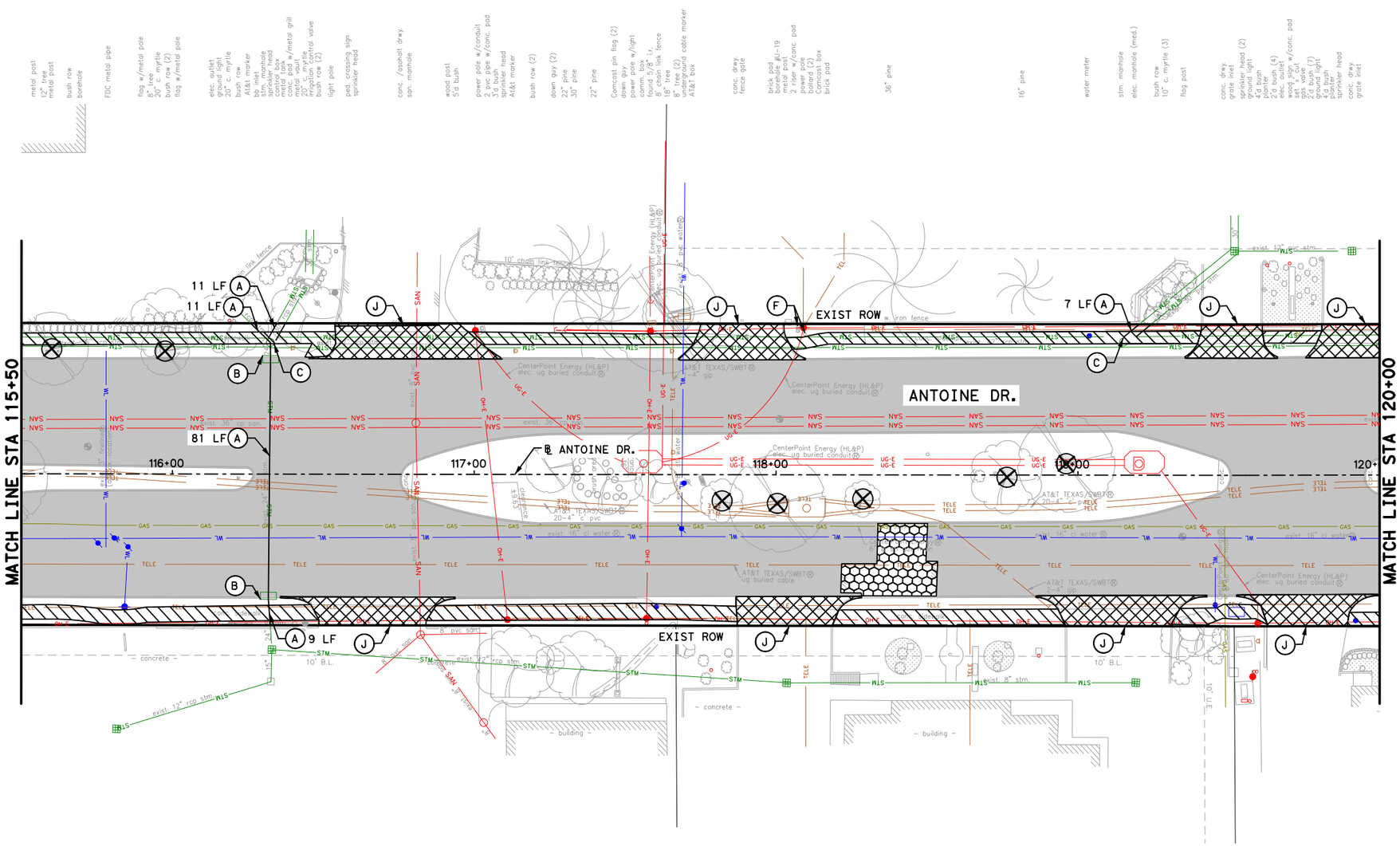

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Engineer
125611
3/12/2026
Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 115+50 TO STA 120+00

SHEET 76 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 197 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: TX_Pen.tbl
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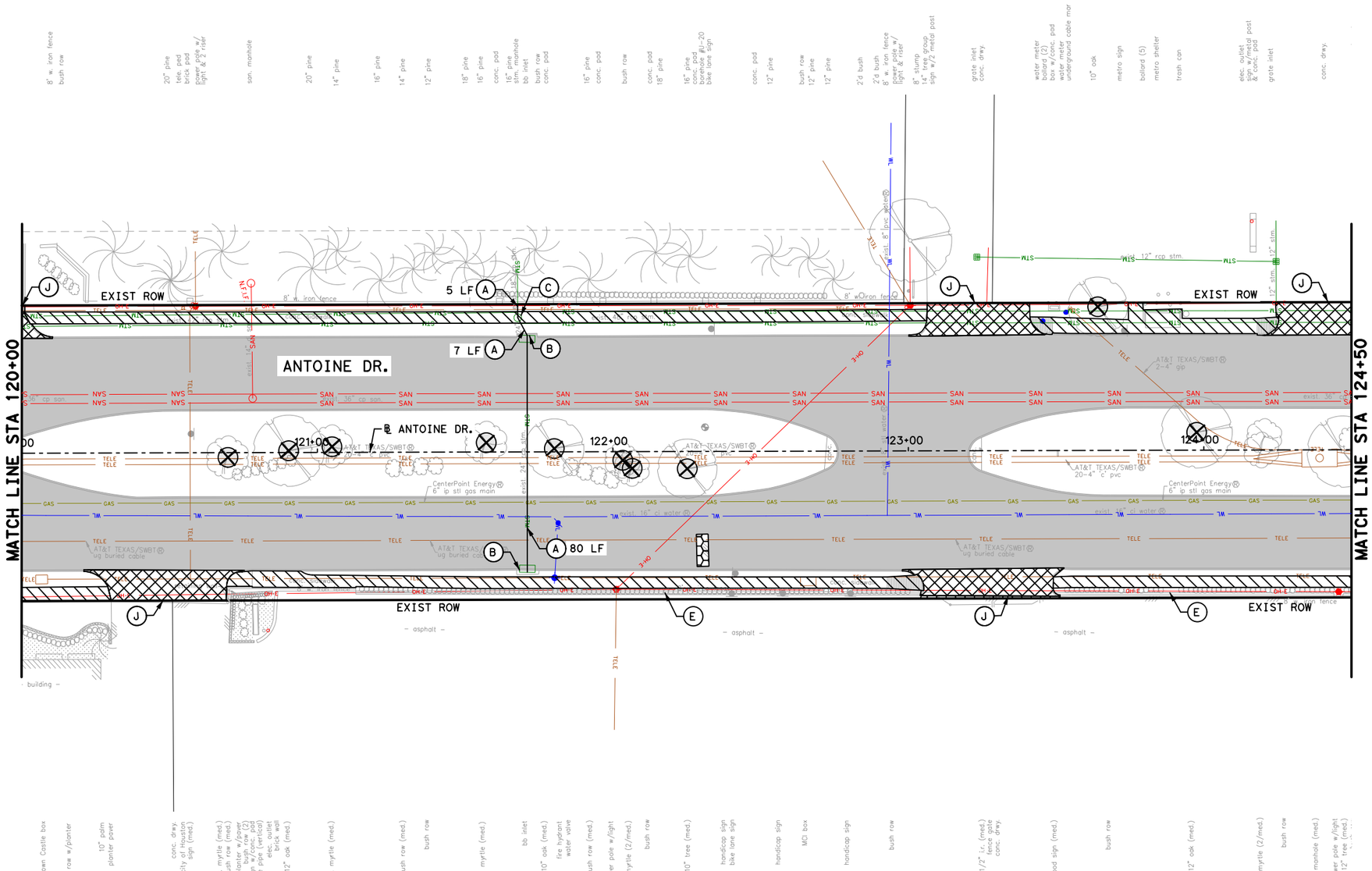

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE (RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 120+00 TO STA 124+50

SHEET 7 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 198 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 27.dgn

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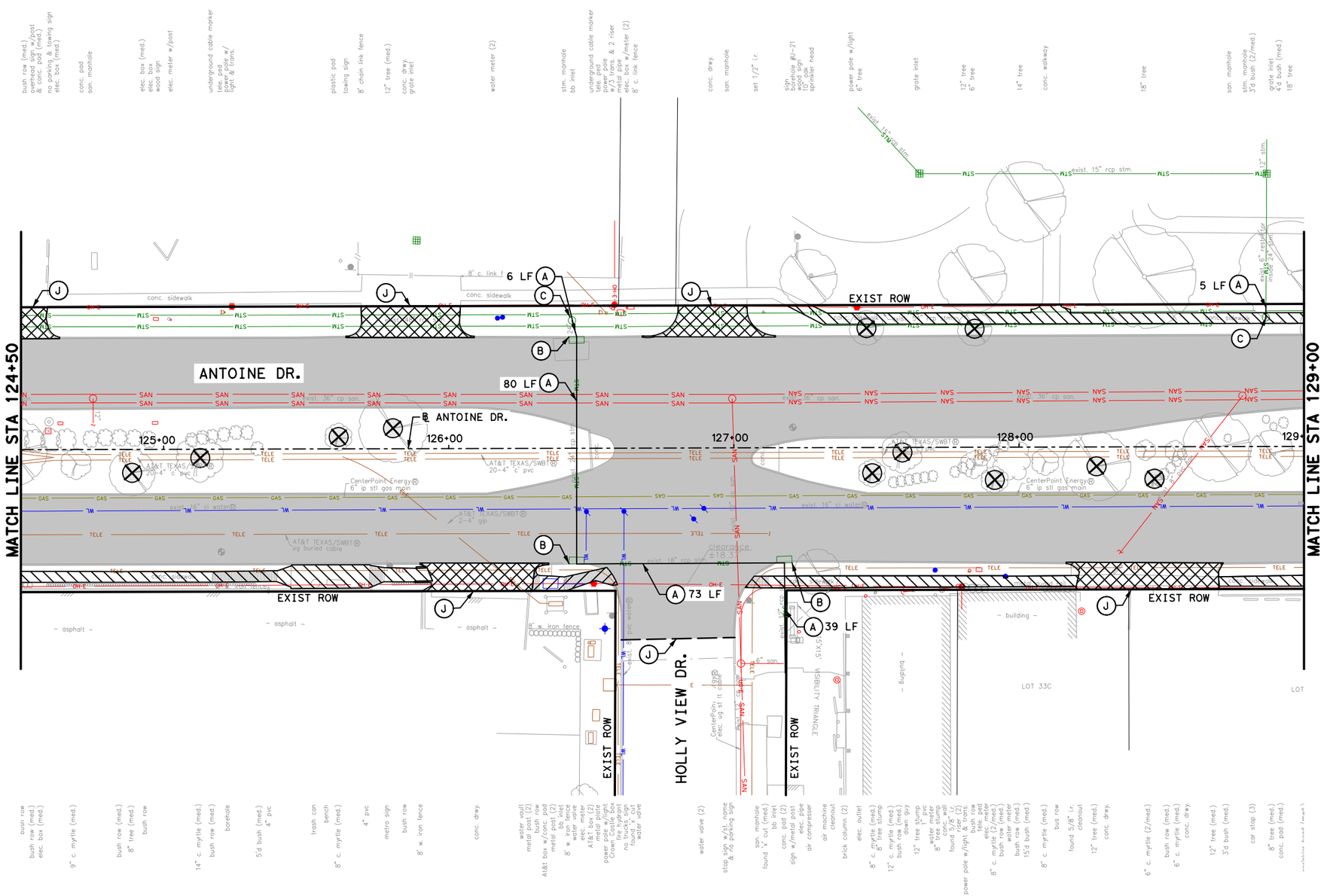

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE (RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
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Date: 125611
3/12/2026
Date: 60% SUBMITTAL
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 124+50 TO STA 129+00

SHEET 78 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 199 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 28.dgn

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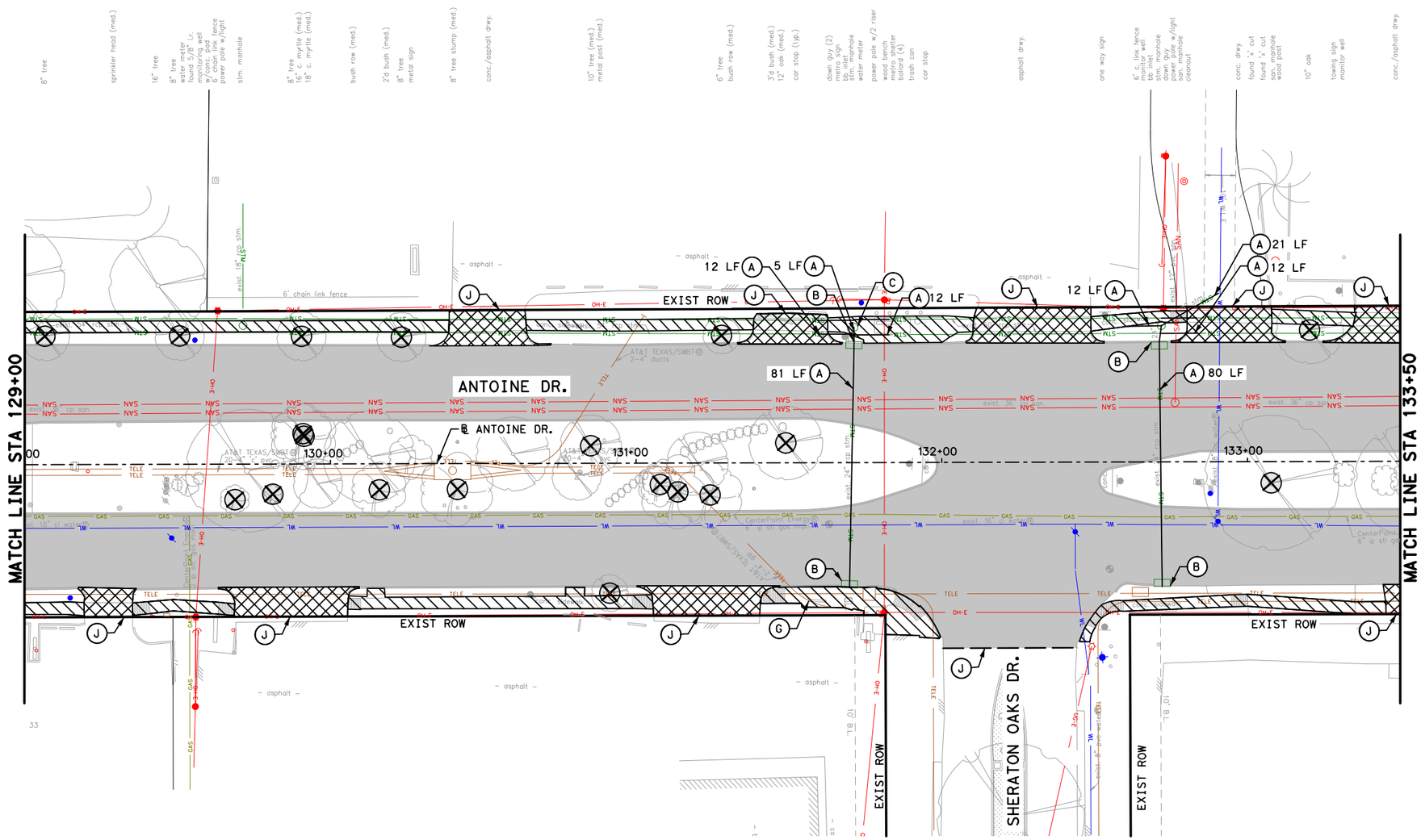
LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP:



0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 129+00 TO STA 133+50

SHEET 73 OF 35

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 200 OF 1067

FOR CITY OF HOUSTON USE ONLY

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 29.dgn

Plotted on: 3/12/2026 2:13:43 PM $USER$
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LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
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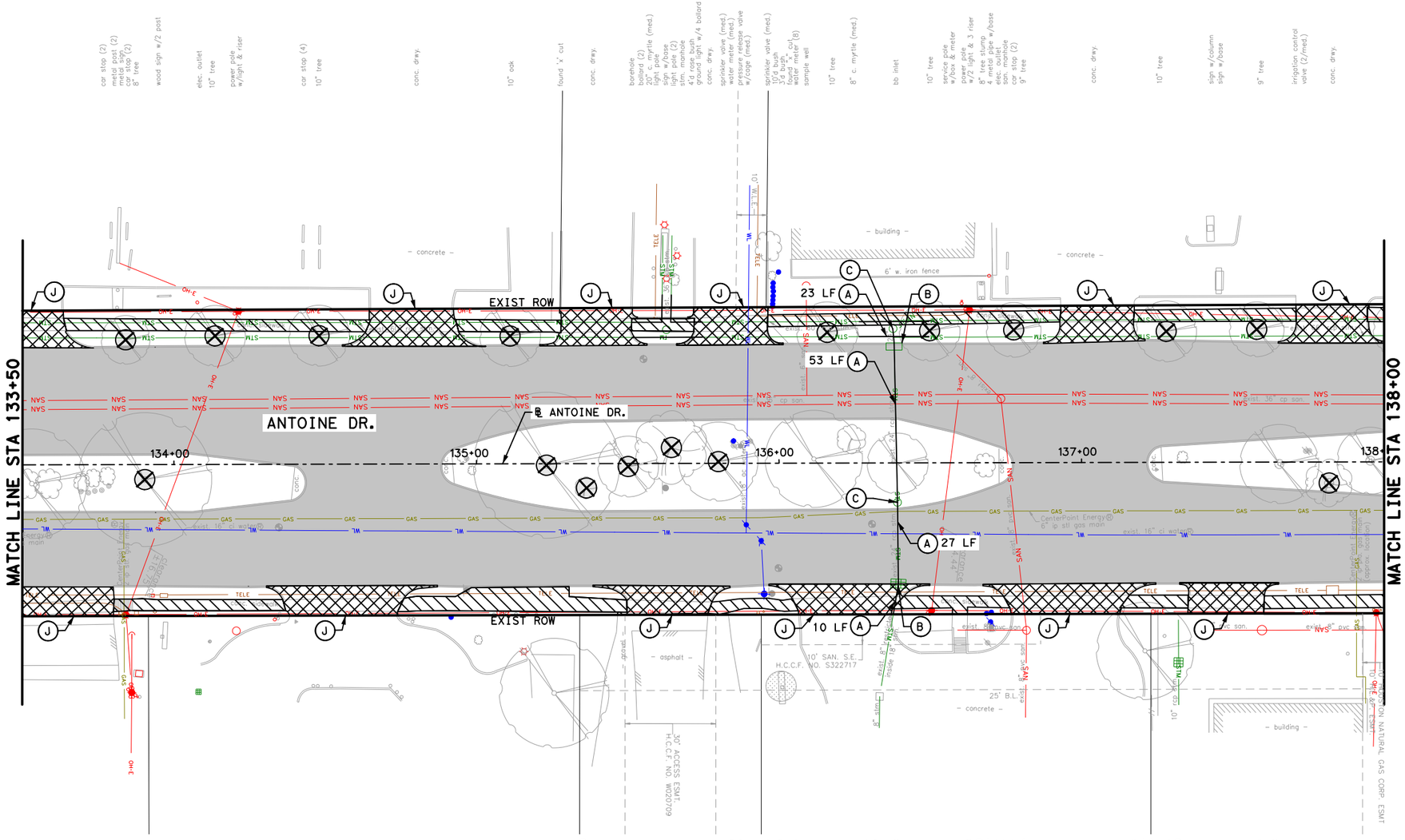
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP:


MATCH LINE STA 133+50
MATCH LINE STA 138+00
ANTOINE DR.
℄ ANTOINE DR.
EXIST ROW
EXIST ROW
134+00
135+00
136+00
137+00
138+00
23 LF
53 LF
27 LF
10 LF
6' w. iron fence
– building –
– concrete –
– asphalt –
– gravel –
25' B.L.
10' SAN. S.E.
H.C.C.F. NO. S322717
30' ACCESS ESMT.
H.C.C.F. NO. W820709
exist 36" cp san.
exist 8" pvc san.
exist 16" ci water
exist 6" ip sti gas main
CenterPoint Energy
6" ip sti gas main
exist 8" ip sti gas main
exist 4" ip sti gas main
exist 6" ip sti gas main
exist 12" ip sti gas main
exist 8" ip sti gas main
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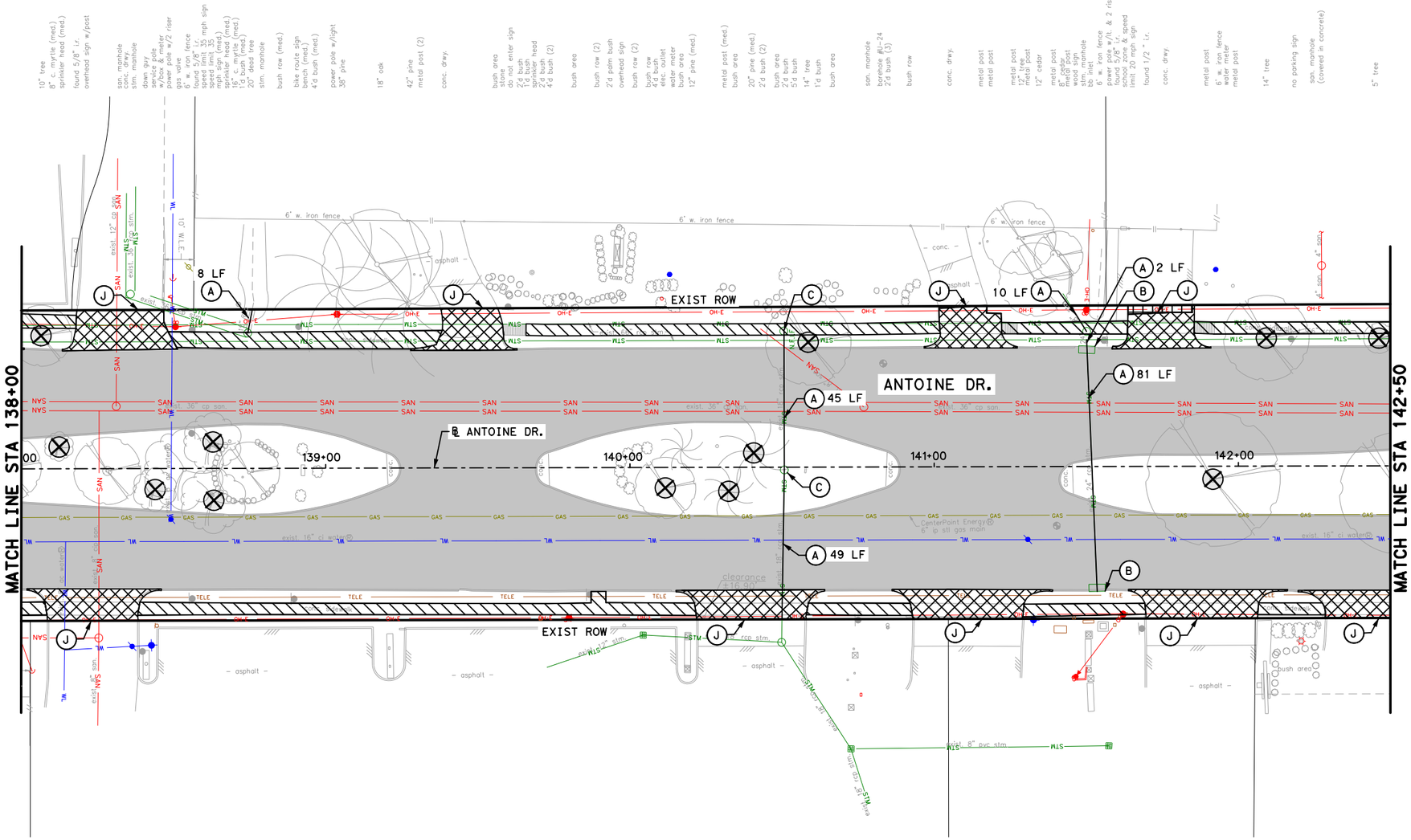
exist 4



LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE (RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
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- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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KARAM QADDO
Date: 3/12/2026
125611
3/12/2026
Date: 3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 138+00 TO STA 142+50

SHEET 71 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 202 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 31.dgn

Plotted on: 3/12/2026 2:13:44 PM $USER$

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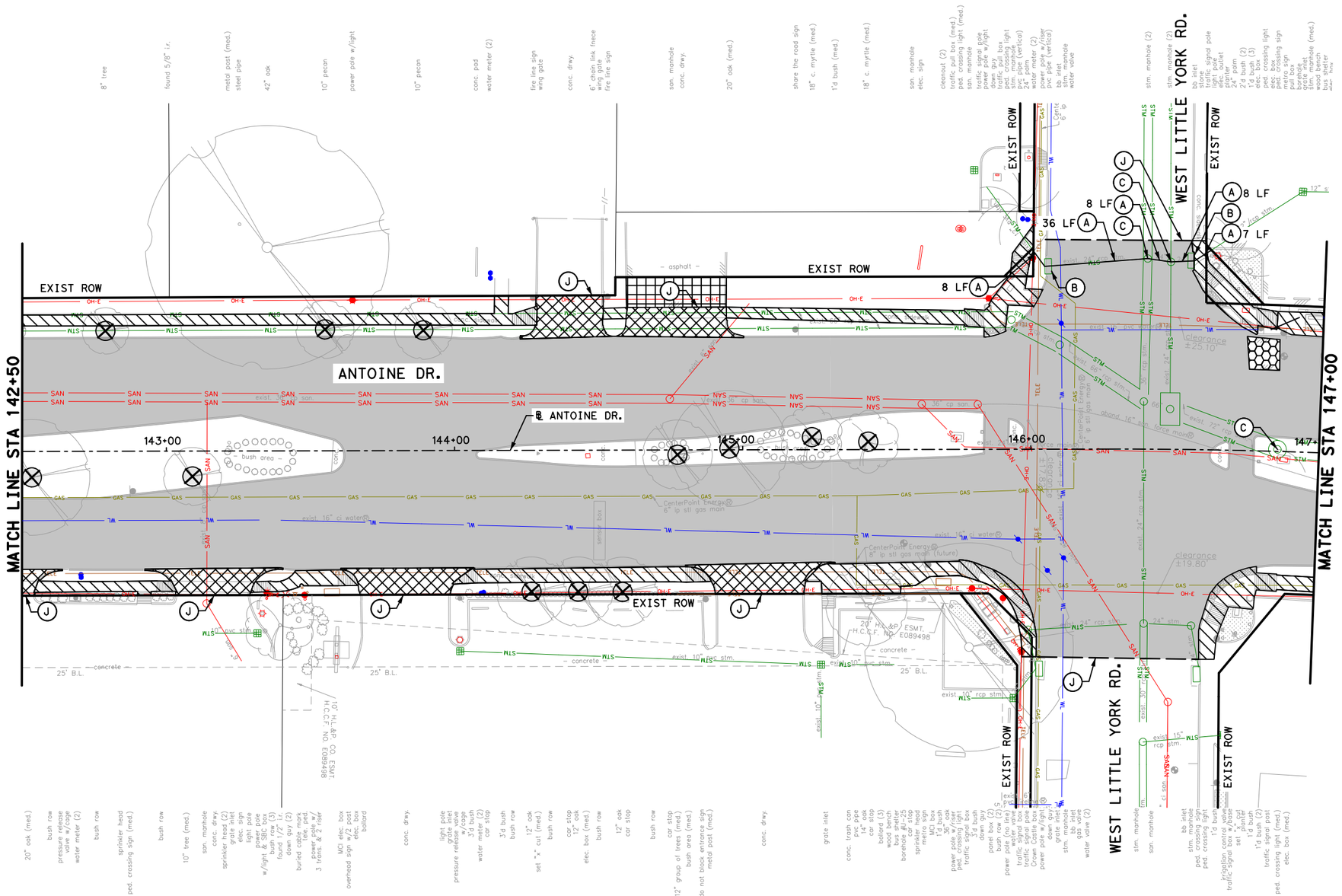

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE (RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 142+50 TO STA 147+00

SHEET 72 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 203 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: TX_Pen.tbl
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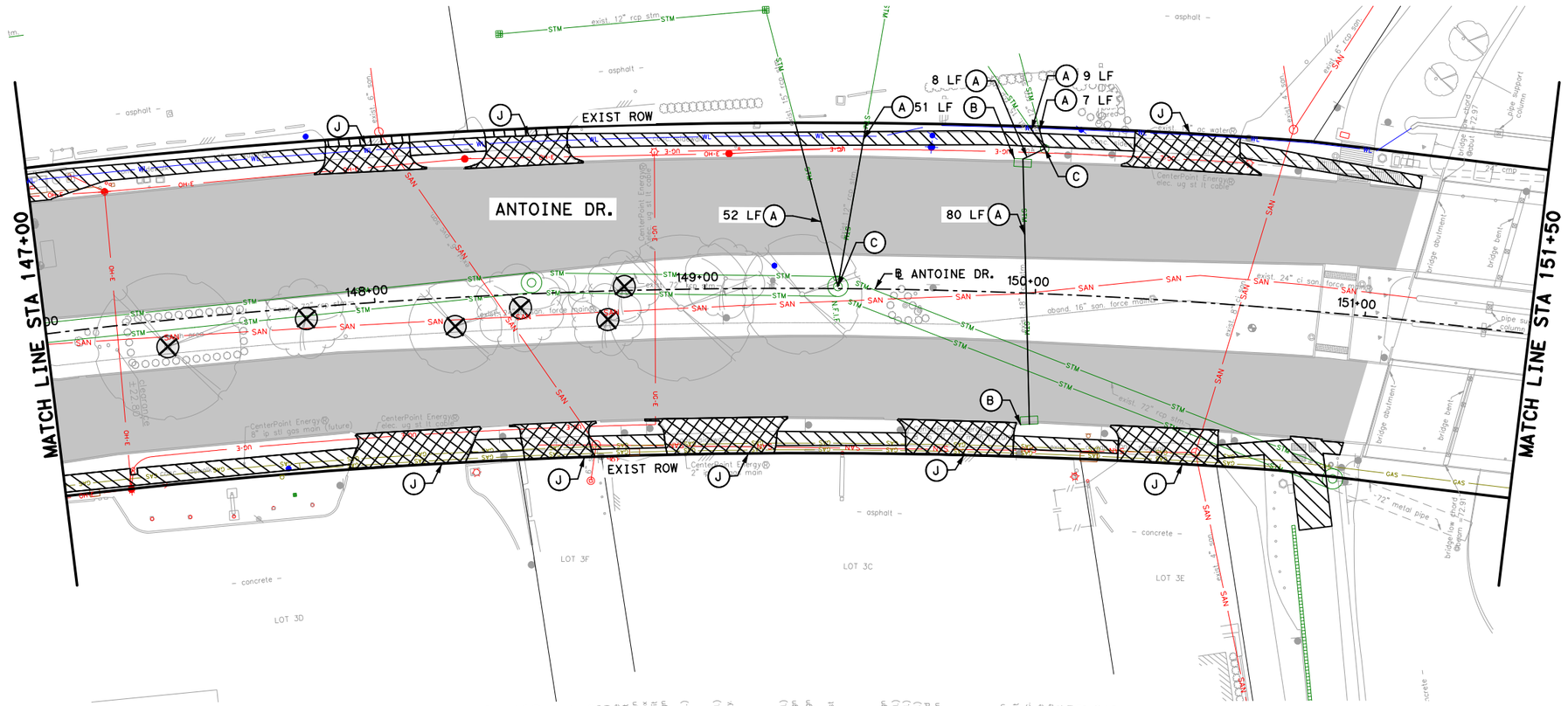
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 32.dgn



LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP.

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

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TEXAS PE FIRM REG, # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 147+00 TO STA 151+50

SHEET 733 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 204 OF 1067	

Pen Table: TX_Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 33.dgn

LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- ⊗ REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
- (C) REMOVE STORM MH
- (D) REMOVE CURB
- (E) REMOVE EXIST FENCE
- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

No.	DATE	REVISIONS	APP:

WHITE OAK BAYOU
E100-00-00

EXIST ROW

ANTOINE DR.

℄ ANTOINE DR.

MATCH LINE STA 151+50

MATCH LINE STA 156+00

CYPRESS GROVE LN.

152+00 153+00 154+00 155+00 156+

A 9 LF
A 40 LF
A 90 LF
A 120 LF
B
C
J

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DEMOLITION PLAN
STA 151+50 TO STA 156+00

SHEET 74 OF 35

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 205 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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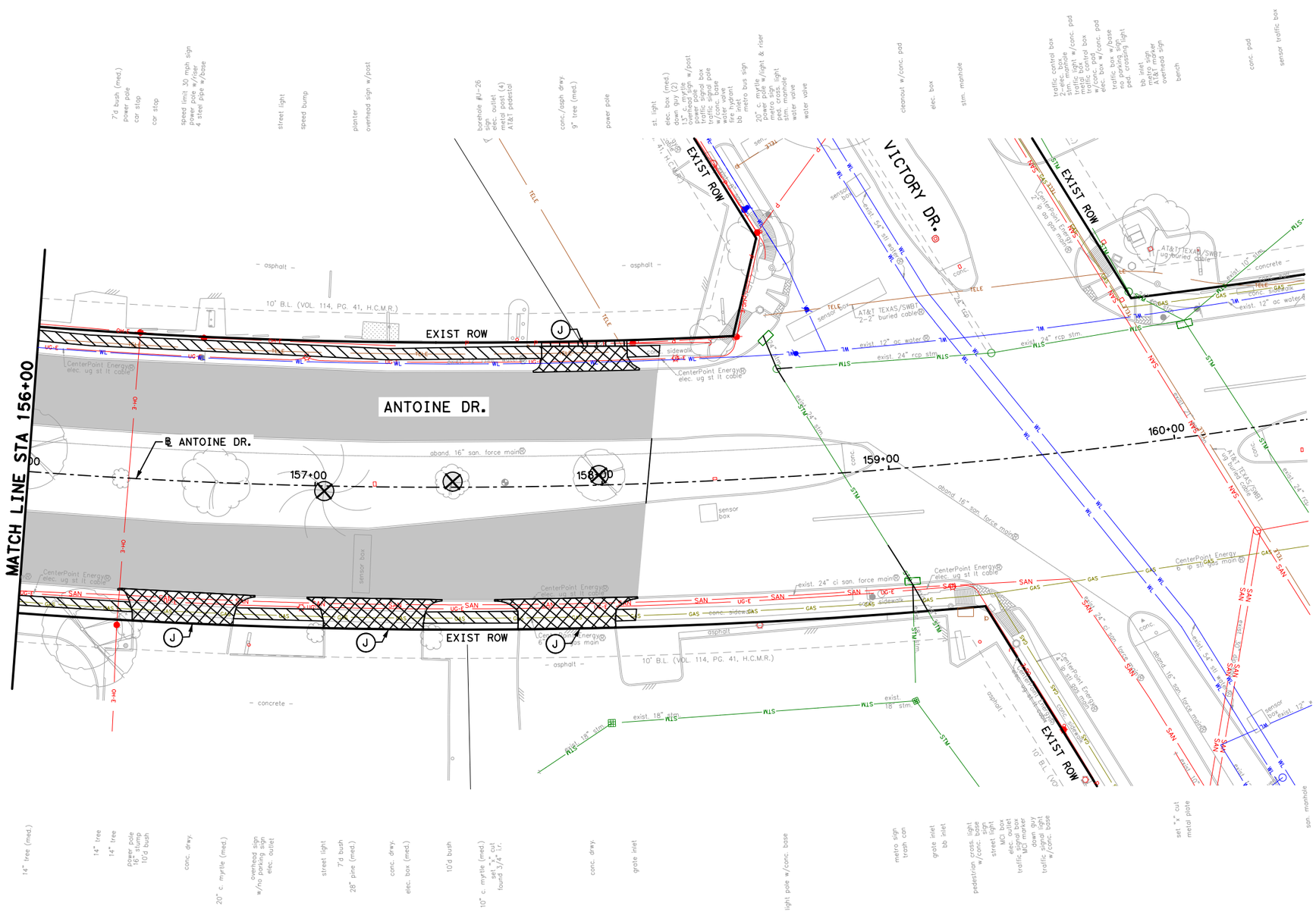
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 34.dgn



LEGEND

- REMOVE ASPH PAV & BASE
- REMOVE CONC DRWY
- REMOVE ASPH DRWY
- REMOVE CONC SIDEWALK/RAMP
- REMOVE CONC PAV
- REMOVE TREE
- (A) REMOVE PIPE(RCP, PVC OR CMP)
- (B) REMOVE INLET/JCT BOX
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- (D) REMOVE CURB
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- (F) REMOVE STRUCTURES
- (G) REMOVE CURB STOP
- (H) REMOVE UTILITY
- (I) REMOVE ISLAND
- (J) SAWCUT

0' 20' 40'
SCALE IN FEET

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ANTOINE DRIVE

DEMOLITION PLAN
STA 156+00 TO STA 158+15.83

SHEET 75 OF 35

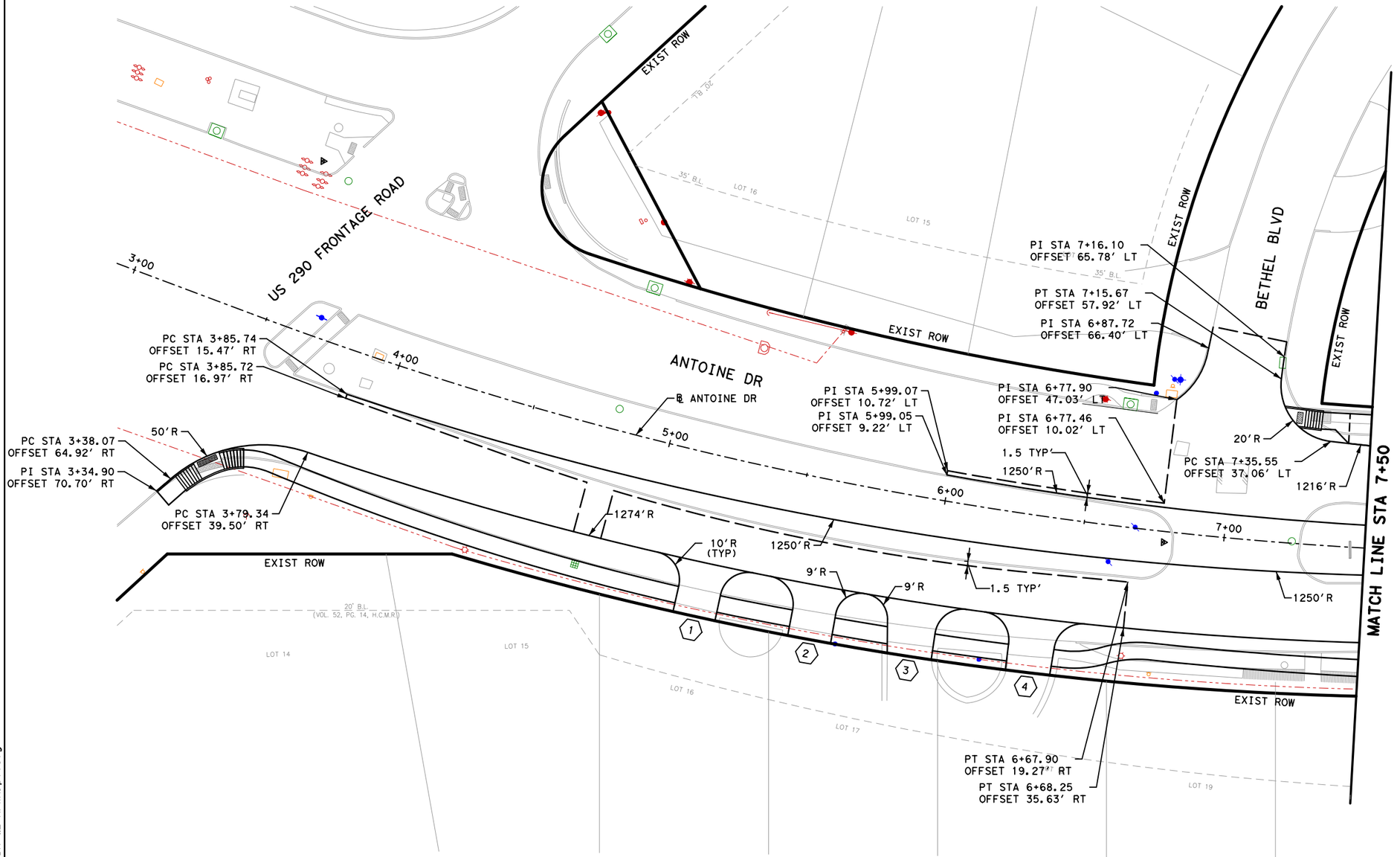
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 206 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:13:47 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_DEMO 35.dgn

Plotted on: 3/9/2026 6:31:17 PMIF-ANTOINE.ucf

No.	DATE	REVISIONS	APP.



0' 20' 40'
SCALE IN FEET

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MARCH 2026
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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

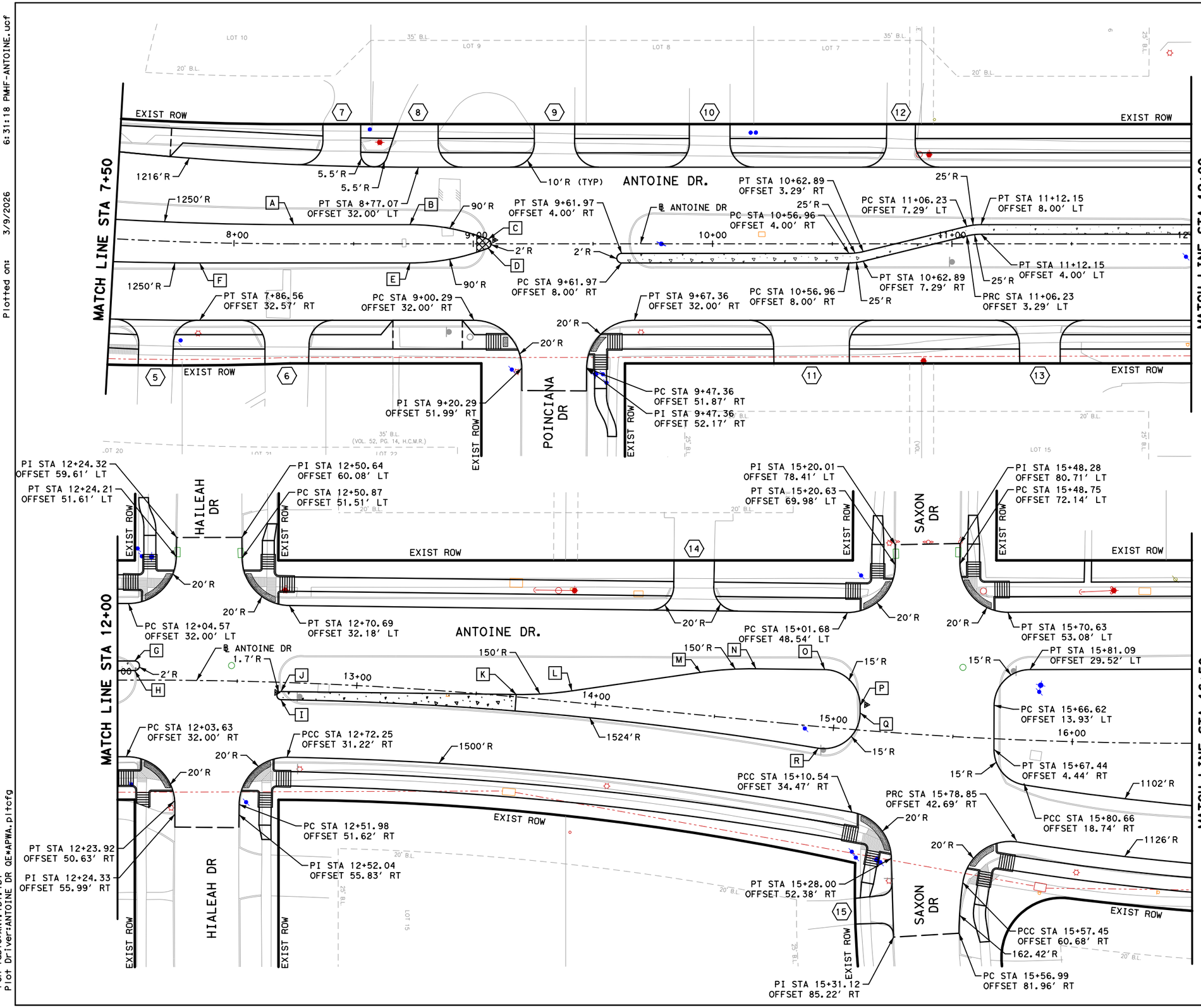
ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
BEGIN PROJECT TO STA 7+50

SHEET 1 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 207 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\HORIZ GEO SHT\PR_HORIZ GEO 01.dgn



HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PT	8+24.97	8.00' LT
B	PC	8+73.51	8.00' LT
C	PCC	9+06.18	1.86' LT
D	PCC	9+06.18	1.86' RT
E	PT	8+73.51	8.00' RT
F	PC	7+85.87	8.58' RT
G	PC	12+07.15	8.00' LT
H	PT	12+07.15	4.00' LT
I	PRC	12+68.52	7.28' RT
J	PT	12+68.45	3.88' RT
K	PC	13+66.74	0.97' LT
L	PT	13+89.69	4.71' LT
M	PC	14+42.36	17.69'LT
N	PT	14+65.31	21.48'LT
O	PC	14+94.13	23.91'LT
P	PT	15+10.34	10.12'LT
Q	PC	15+10.58	7.18' LT
R	PRC	14+94.46	9.01' RT

0' 20' 40'
SCALE IN FEET

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Engineer
90169
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CITY OF HOUSTON
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ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 7+50 TO STA 16+50

SHEET 7 2 OF 21

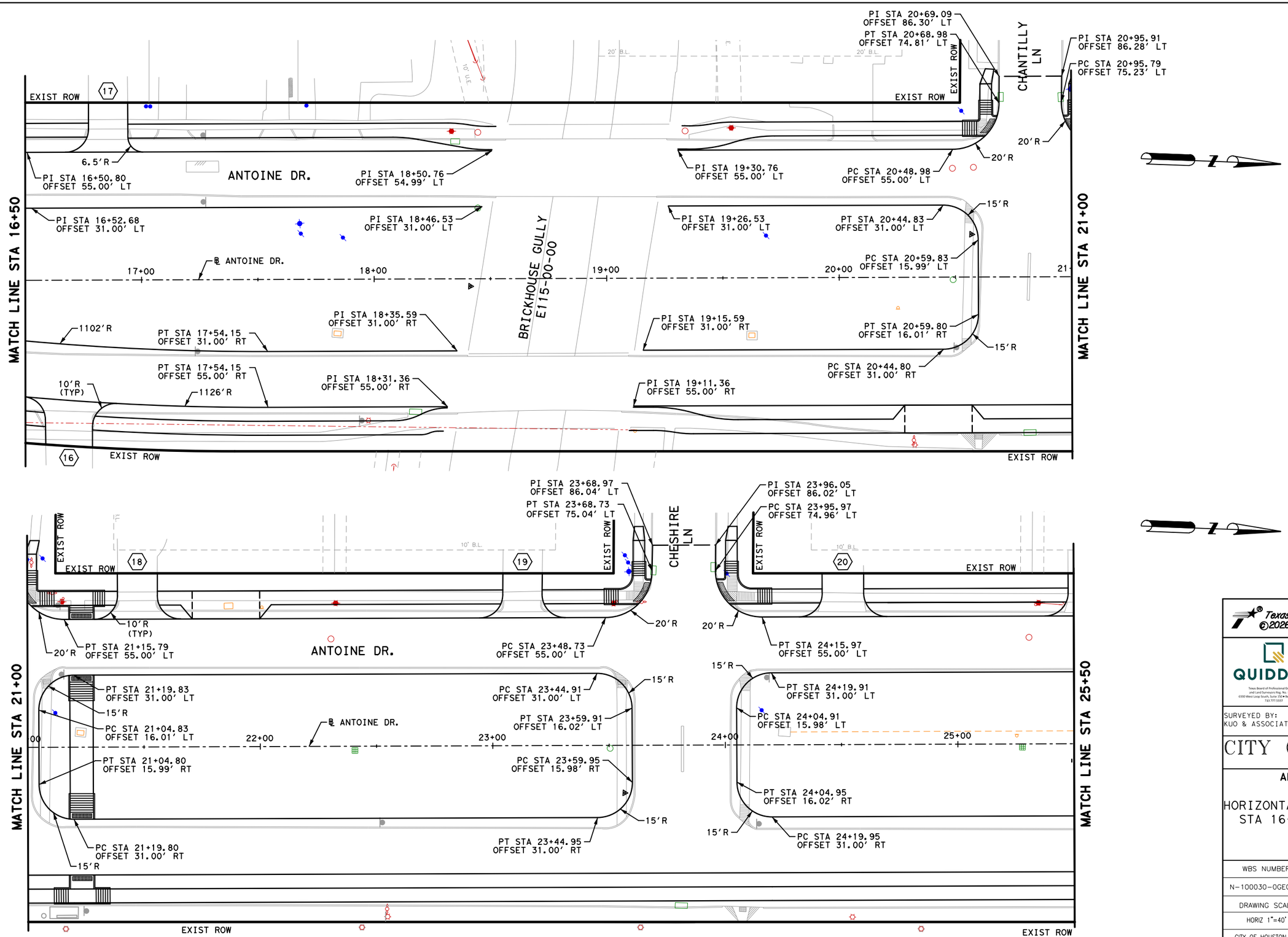
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 208 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\HORIZ GEO SHT\PR_HORIZ GEO 02.dgn

Plotted on: 3/9/2026 6:31:18 PMHF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg



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KRISTEN J. HENNINGS, P.E.
Registered
90169
MARCH 2026
Date
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Texas Registered Engineering Firm F-23290

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ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 16+50 TO STA 25+50

SHEET 7 3 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 209 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\HORIZ GEO SHT\PR_HORIZ GEO 03.dgn

Plotted on: 3/9/2026 6:31:18 PMHF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Plotted on: 3/9/2026 6:31:19 PM
F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

PI STA 26+69.32
OFFSET 86.53' LT
PT STA 26+69.16
OFFSET 74.73' LT
EXIST ROW
21
20'R
PC STA 26+49.17
OFFSET 55.00' LT
HEWITT DR
PI STA 26+95.91
OFFSET 86.51' LT
PC STA 26+95.72
OFFSET 75.40' LT
EXIST ROW
10' U.E.
20'R
PT STA 27+15.72
OFFSET 55.00' LT
ANTOINE DR.
PI STA 29+69.26
OFFSET 85.85' LT
PT STA 29+69.18
OFFSET 74.83' LT
LIBBEY DR
PI STA 29+96.22
OFFSET 85.83' LT
PC STA 29+96.14
OFFSET 75.17' LT
20'R
20'R
PC STA 29+49.18
OFFSET 55.00' LT
MATCH LINE STA 25+50
MATCH LINE STA 30+00
15'R
PC STA 26+45.12
OFFSET 31.00' LT
PT STA 26+60.12
OFFSET 16.02' LT
26+00
PC STA 26+60.16
OFFSET 15.49' RT
15'R
PT STA 26+45.12
OFFSET 31.00' RT
15'R
PT STA 27+20.12
OFFSET 31.00' LT
PC STA 27+05.12
OFFSET 15.98' LT
27+00
PT STA 27+05.16
OFFSET 16.02' RT
15'R
PC STA 27+20.16
OFFSET 31.00' RT
28+00
℄ ANTOINE DR.
29+00
30+
PC STA 28+39.07
OFFSET 55.00' RT
20'R
PT STA 28+59.07
OFFSET 74.78' RT
PI STA 28+59.15
OFFSET 82.33' RT
LIBBEY DR.
20'R
PT STA 29+05.34
OFFSET 55.00' RT
PC STA 28+85.34
OFFSET 75.03' RT
PI STA 28+85.35
OFFSET 82.29' RT
EXIST ROW
22
23
24
50' H.C.F.C.D. ESMT.
10' B.L.
10' B.L.
10' B.L.

EXIST ROW
EXIST ROW
25
27
29
PI STA 32+69.26
OFFSET 86.54' LT
PT STA 32+69.27
OFFSET 74.83' LT
PT STA 30+16.14
OFFSET 55.00' LT
20'R
10'R
(TYP)
PC STA 32+49.28
OFFSET 55.00' LT
20'R
ANTOINE DR.
NINA LEE LN
PI STA 32+96.18
OFFSET 86.52' LT
PC STA 32+96.13
OFFSET 75.17' LT
31
EXIST ROW
33
20'R
PT STA 33+16.13
OFFSET 55.00' LT
10' U.E.
MATCH LINE STA 30+00
MATCH LINE STA 34+50
00
31+00
32+00
33+00
34+00
℄ ANTOINE DR.
150'R
PC STA 32+99.73
OFFSET 31.00' RT
PT STA 33+22.93
OFFSET 29.20' RT
150'R
PC STA 33+76.53
OFFSET 20.80' RT
PT STA 33+99.73
OFFSET 19.00' RT
PC STA 31+98.60
OFFSET 55.00' RT
20'R
PT STA 32+65.49
OFFSET 55.00' RT
20'R
5.5'R
5.5'R
EXIST ROW
26
28
NINA LEE LN
30
32
EXIST ROW
10' B.L.
10' B.L.
10' U.E.
PT STA 32+18.58
OFFSET 74.16' RT
PI STA 32+19.19
OFFSET 86.20' RT
PC STA 32+45.49
OFFSET 75.16' RT
PI STA 32+45.58
OFFSET 86.22' RT

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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MARCH 2026
60% SUBMITTAL
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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 25+50 TO STA 34+50

SHEET 4 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 210 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\HORIZ GEO SHT\PR_HORIZ GEO 04.dgn

Plotted on: 3/9/2026 6:31:20 PMIF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\HORIZ GEO 05.dgn

No.	DATE	REVISIONS	APP.

MATCH LINE STA 34+50

MATCH LINE STA 39+00

W 43RD ST

ANTOINE DR.

℄ ANTOINE DR.

PI STA 36+07.44
OFFSET 111.60' LT

PC STA 36+07.44
OFFSET 110.60' LT

PI STA 35+72.31
OFFSET 111.87' LT

PT STA 35+72.00
OFFSET 84.66' LT

PC STA 35+42.00
OFFSET 55.00' LT

PC STA 34+91.32
OFFSET 31.00' LT

PT STA 34+94.79
OFFSET 19.00' RT

PCC STA 35+52.02
OFFSET 7.45' LT

PCC STA 35+51.86
OFFSET 1.41' LT

PC STA 35+39.73
OFFSET 55.00' RT

PT STA 35+69.73
OFFSET 84.42' RT

PI STA 35+69.72
OFFSET 109.67' RT

PI STA 35+69.81
OFFSET 116.91' RT

PT STA 35+93.99
OFFSET 111.08' RT

PI STA 35+93.92
OFFSET 117.21' RT

PCC STA 36+15.78
OFFSET 72.07' LT

PCC STA 36+19.38
OFFSET 72.02' LT

PI STA 36+28.74
OFFSET 111.44' LT

PI STA 36+52.52
OFFSET 111.26' LT

PC STA 36+52.29
OFFSET 85.26' LT

PT STA 36+82.29
OFFSET 55.00' LT

PCC STA 36+69.93
OFFSET 3.52' RT

PCC STA 36+69.99
OFFSET 9.57' RT

PT STA 36+79.65
OFFSET 55.00' RT

PCC STA 36+02.38
OFFSET 74.25' RT

PCC STA 36+05.99
OFFSET 74.23' RT

PC STA 36+49.65
OFFSET 85.05' RT

PI STA 36+49.69
OFFSET 113.90' RT

PC STA 36+14.85
OFFSET 113.47' RT

PT STA 37+29.49
OFFSET 19.00' LT

PC STA 37+28.29
OFFSET 31.00' RT

PI STA 38+98.49
OFFSET 89.35' LT

PT STA 38+98.23
OFFSET 74.64' LT

PC STA 38+78.23
OFFSET 55.00' LT

PT STA 38+45.48
OFFSET 20.81' LT

PT STA 38+99.09
OFFSET 29.20' LT

PC STA 38+22.29
OFFSET 19.01' LT

90'R
30'R
4'R
2'R
20'R
150'R
2.6'R
10'R (TYP)

EXIST ROW
20' B.L.
25' B.L.
35' B.L.
10' U.E.
5' U.E.
LOT 1
LOT 32

34 35 36 37 38 39

35+00 36+00 37+00 38+00 39+00

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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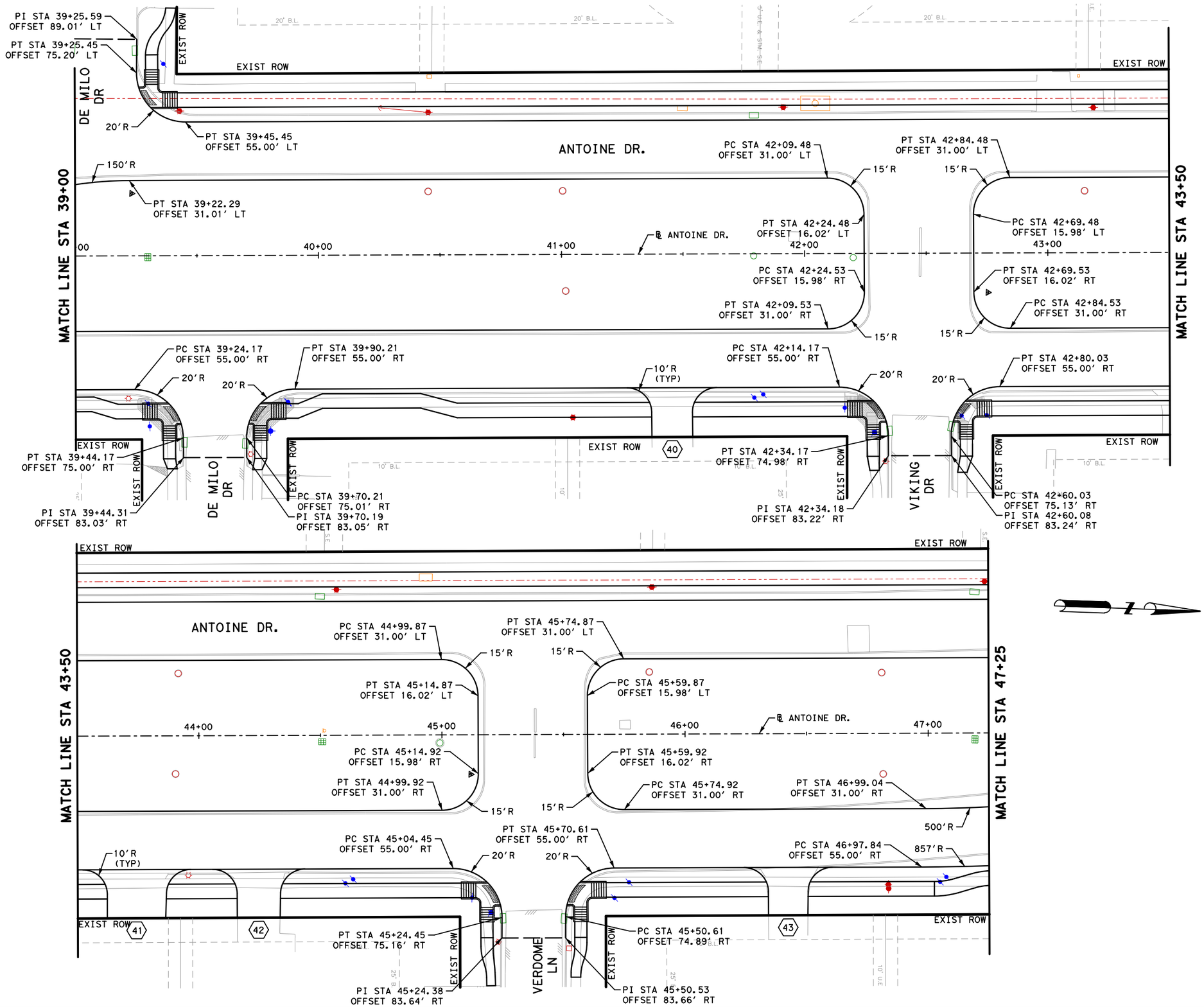
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 34+50 TO STA 39+00

SHEET 5 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 211 OF 1067	



No.	DATE	REVISIONS	APP.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713.777.5337

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90169
MARCH 2026
Date
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 39+00 TO STA 47+25

SHEET 6 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 212 OF 1067	

Plotted on: 3/9/2026 6:31:20 PM
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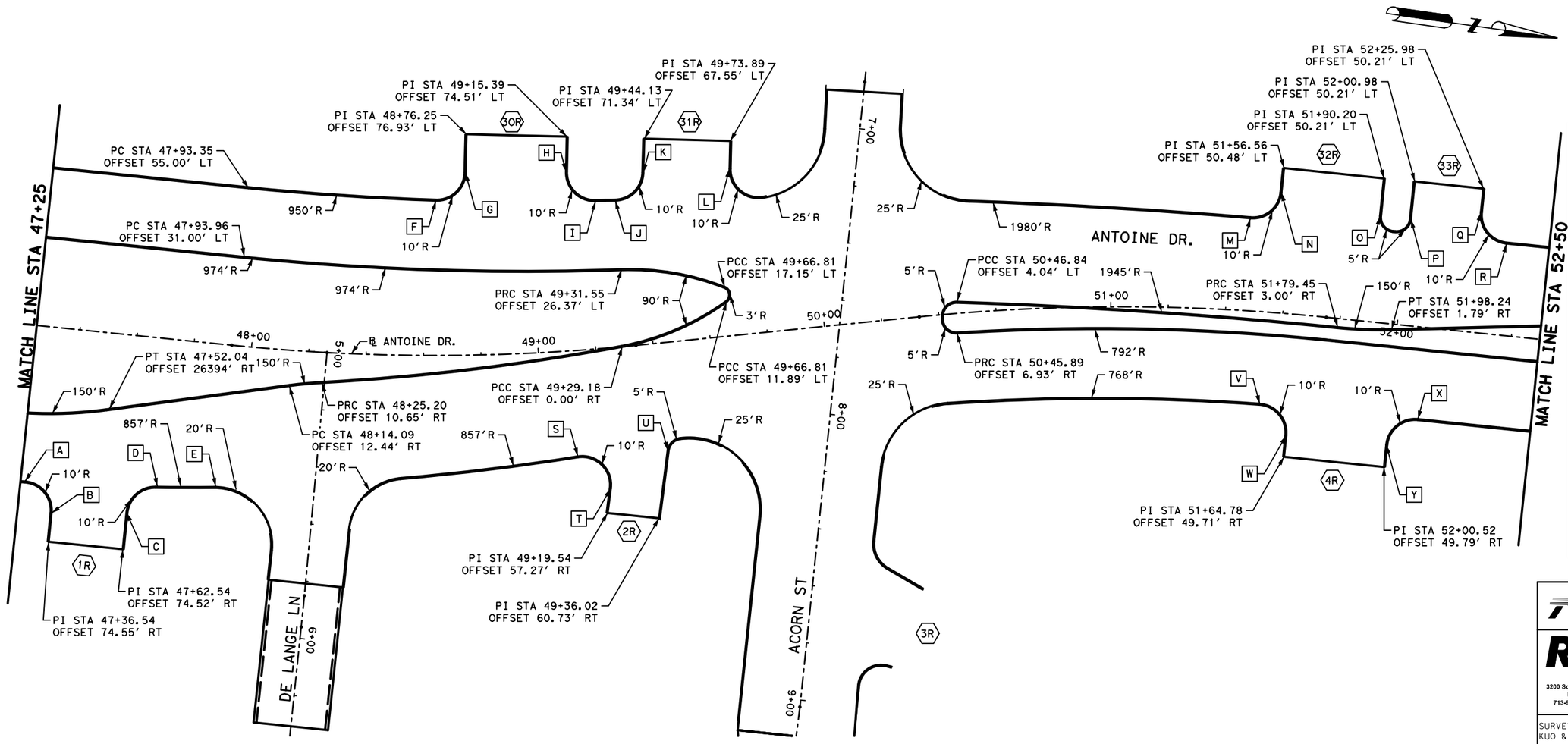

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PRC	47+26.20	54.51'RT
B	PT	47+36.54	64.50'RT
C	PC	47+62.54	61.72'RT
D	PT	47+71.67	51.76'RT
E	PC	47+91.95	49.75'RT
F	PC	48+64.31	53.91'LT
G	PT	48+75.67	63.58'LT
H	PC	49+14.12	62.34'LT
I	PT	49+24.38	51.33'LT
J	PC	49+31.83	50.89'LT
K	PT	49+42.63	59.60'LT
L	PC	49+72.67	57.99'LT
M	PC	51+46.69	32.25'LT
N	PT	51+56.33	41.91'LT
O	PC	51+90.20	37.00'LT
P	PT	52+00.98	37.00'LT
Q	PC	52+24.99	42.00'LT
R	PT	52+34.99	32.00'LT
S	PC	49+11.24	36.85'RT
T	PT	49+21.25	48.83'RT
U	PC	49+41.44	37.53'RT
V	PC	51+54.27	32.03'RT
W	PT	51+64.90	42.25'RT
X	PC	52+00.52	42.00'RT
Y	PT	52+10.52	32.00'RT

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Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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JEFFEREY ROBERT LEUGERS
Date: 91874
3/12/2026
or
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 47+25 TO STA 52+50

SHEET 7 27 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 213 OF 1067	

Plotted on: 3/12/2026 4:17:34 AM fanwanik
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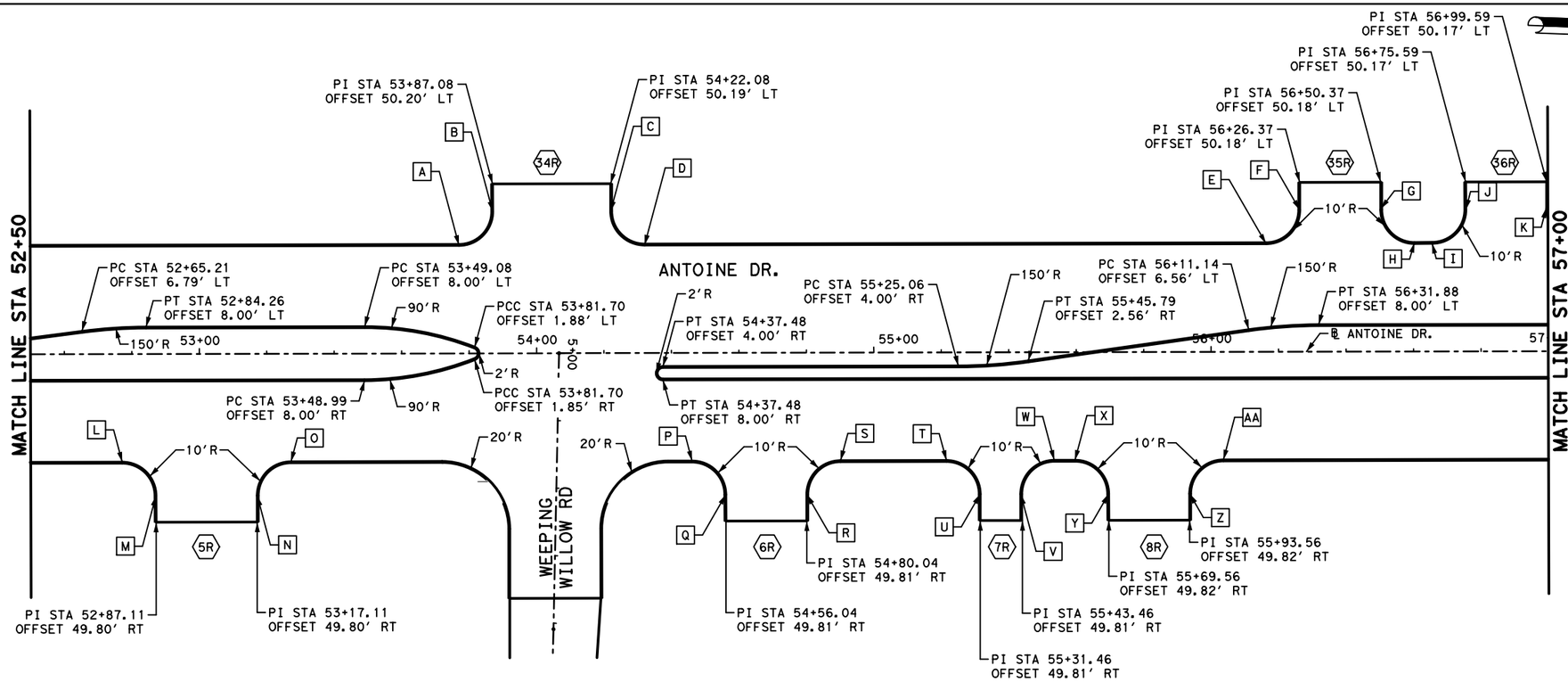

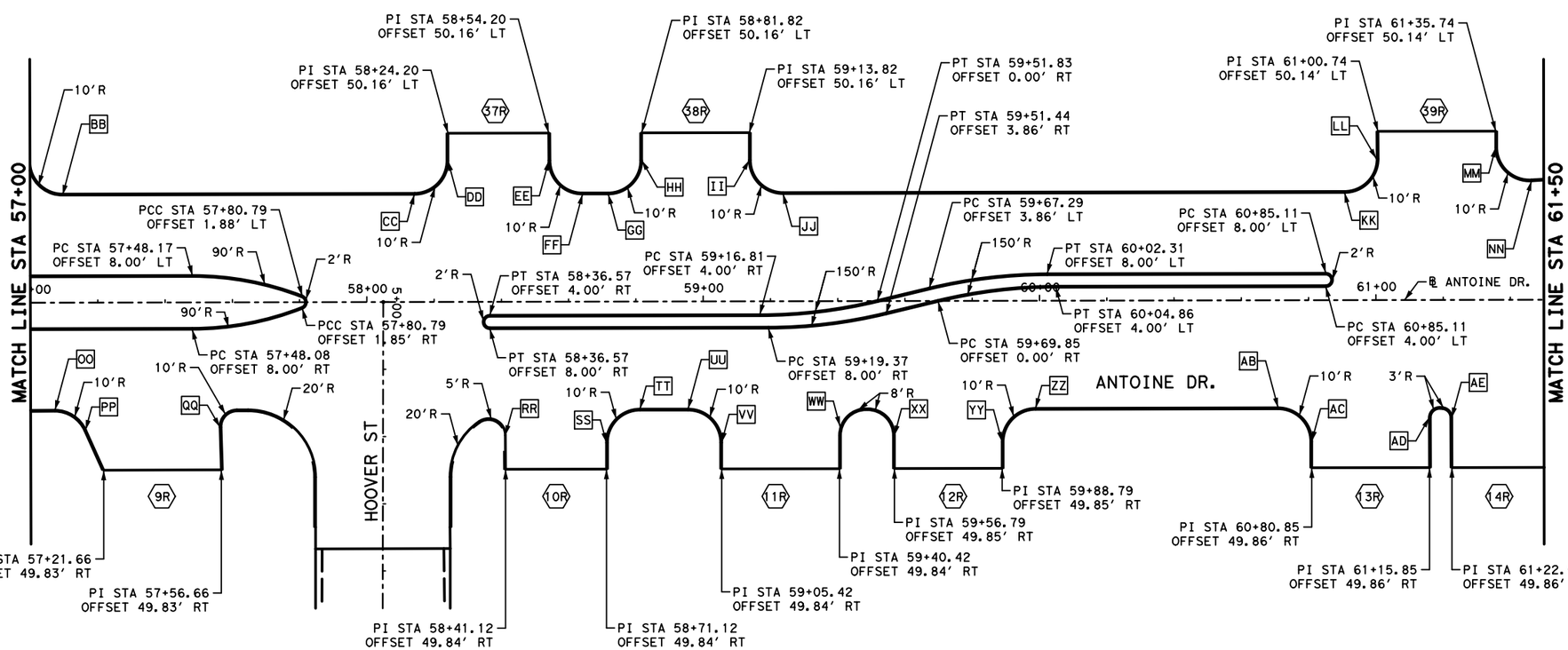

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	53+77.08	32.00'LT
B	PT	53+87.08	42.00'LT
C	PC	54+22.08	42.00'LT
D	PT	54+32.08	32.00'LT
E	PC	56+16.37	32.00'LT
F	PT	56+26.37	42.00'LT
G	PC	56+50.37	42.00'LT
H	PT	56+60.37	32.00'LT
I	PC	56+65.59	32.00'LT
J	PT	56+75.59	42.00'LT
K	PC	56+99.59	42.00'LT
L	PC	52+77.11	32.00'RT
M	PT	52+87.11	42.00'RT
N	PC	53+17.11	42.00'RT
O	PT	53+27.11	32.00'RT
P	PC	54+46.04	32.00'RT
Q	PT	54+56.04	42.00'RT
R	PC	54+80.04	42.00'RT
S	PT	54+90.04	32.00'RT
T	PC	55+21.46	32.00'RT
U	PT	55+31.46	42.00'RT
V	PC	55+43.46	42.00'RT
W	PT	55+53.46	32.00'RT
X	PC	55+59.56	32.00'RT
Y	PT	55+69.56	42.00'RT
Z	PC	55+93.56	42.00'RT
AA	PT	56.03.56	32.00'RT
BB	PT	57+09.59	32.00'LT

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
CC	PC	58+14.20	32.00'LT
DD	PT	58+24.20	42.00'LT
EE	PC	58+54.20	42.00'LT
FF	PT	58+64.20	32.00'LT
GG	PC	58+71.82	32.00'LT
HH	PT	58+81.82	42.00'LT
II	PC	59+13.82	42.00'LT
JJ	PT	59+23.82	32.00'LT
KK	PC	60+90.74	32.00'LT
LL	PT	61+00.74	42.00'LT
MM	PT	61+35.74	45.34'LT
NN	PC	61+46.35	35.36'RT
OO	PC	57+07.19	32.00'RT
PP	PT	57+16.31	37.91'RT
QQ	PC	57+56.28	37.15'RT
RR	PT	58+41.12	39.72'RT
SS	PC	58+71.15	42.00'RT
TT	PT	58+81.15	32.00'RT
UU	PC	58+95.42	32.00'RT
VV	PT	59+05.42	42.00'RT
WW	PC	59+40.42	40.00'RT
XX	PT	59+56.79	40.00'RT
YY	PC	59+88.79	42.00'RT
ZZ	PT	59+98.79	32.00'RT
AB	PC	60+70.85	32.00'RT
AC	PT	60+80.85	42.00'RT
AD	PC	61+15.85	35.00'RT
AE	PT	61+22.52	35.04'RT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 52+50 TO STA 61+50

SHEET 7/8 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 214 OF 1067	

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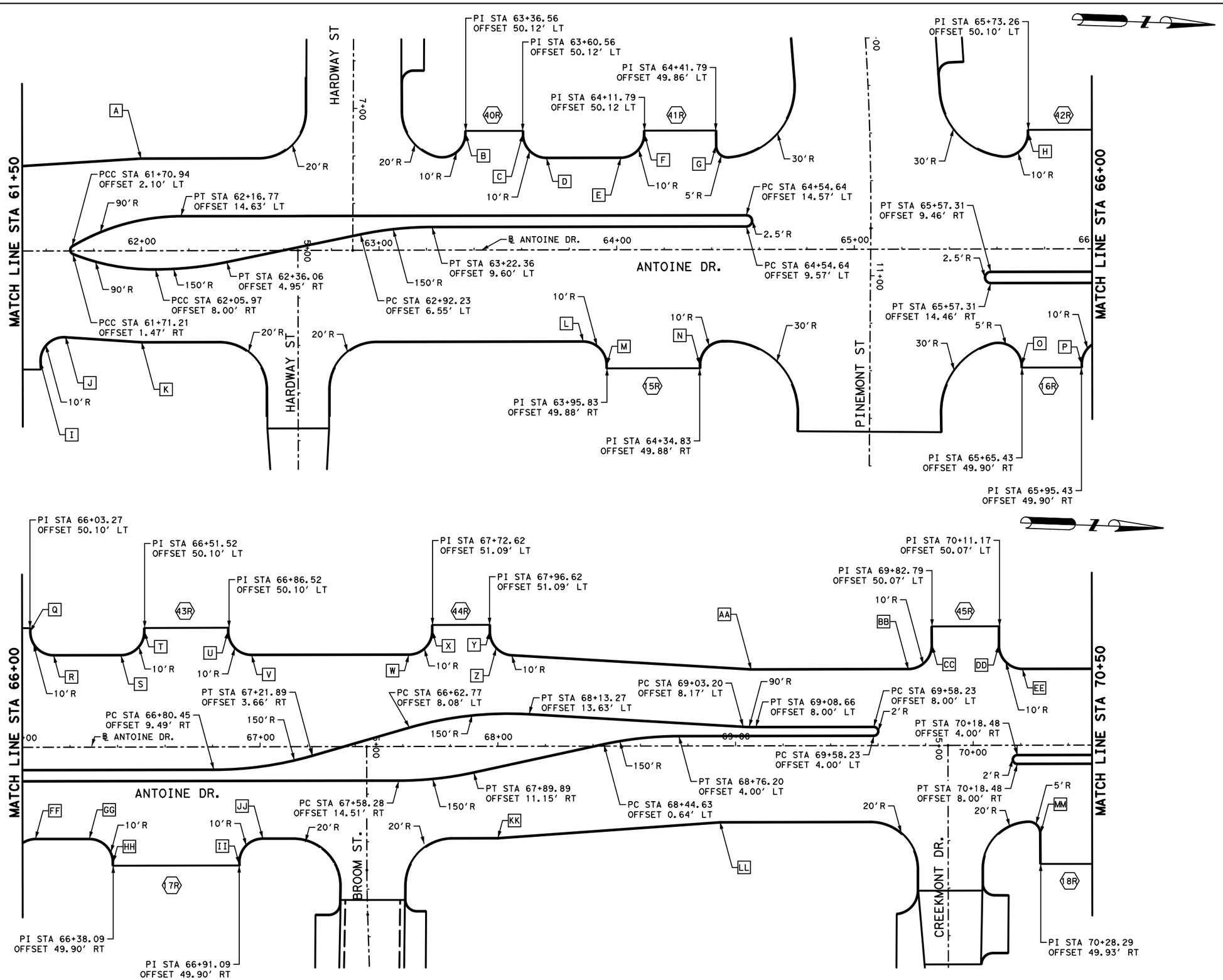

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PI	61+99.97	38.63'LT
B	PT	63+36.56	48.90'LT
C	PC	63+60.56	48.59'LT
D	PT	63+70.56	38.59'LT
E	PC	64+01.78	38.58'LT
F	PT	64+11.78	48.58'LT
G	PC	64+41.78	43.64'LT
H	PT	65+73.26	48.70'LT
I	PC	61+57.38	46.59'RT
J	PT	61+68.05	36.17'RT
K	PI	61+99.99	38.37'RT
L	PC	63+85.83	38.41'RT
M	PT	63+95.83	48.41'RT
N	PC	64+34.83	48.43'RT
O	PT	65+65.43	44.14'RT
P	PC	65+95.43	48.47'RT
Q	PC	66+03.26	48.53'LT
R	PT	66+13.25	38.53'LT
S	PC	66+41.52	38.52'LT
T	PT	66+51.52	48.52'LT
U	PC	66+86.52	48.51'LT
V	PT	66+96.52	38.51'LT
W	PC	67+62.62	38.49'LT
X	PT	67+72.62	48.49'LT
Y	PC	67+96.62	48.09'LT
Z	PT	68+06.01	38.12'LT
AA	PI	69+06.66	32.00'LT
BB	PC	69+72.79	32.00'LT
CC	PT	69+82.79	42.00'LT
DD	PC	70+10.79	42.00'LT
EE	PT	70+20.79	32.00'LT
FF	PC	66+05.43	38.47'RT
GG	PC	66+28.09	38.47'RT
HH	PT	66+38.09	48.47'RT
II	PC	66+91.04	49.23'RT
JJ	PT	67+01.01	38.49'RT
KK	PI	67+99.96	38.52'RT
LL	PI	68+93.39	32.00'RT
MM	PT	70+28.29	37.01'RT

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 61+50 TO STA 70+50

SHEET 709 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 215 OF 1067	

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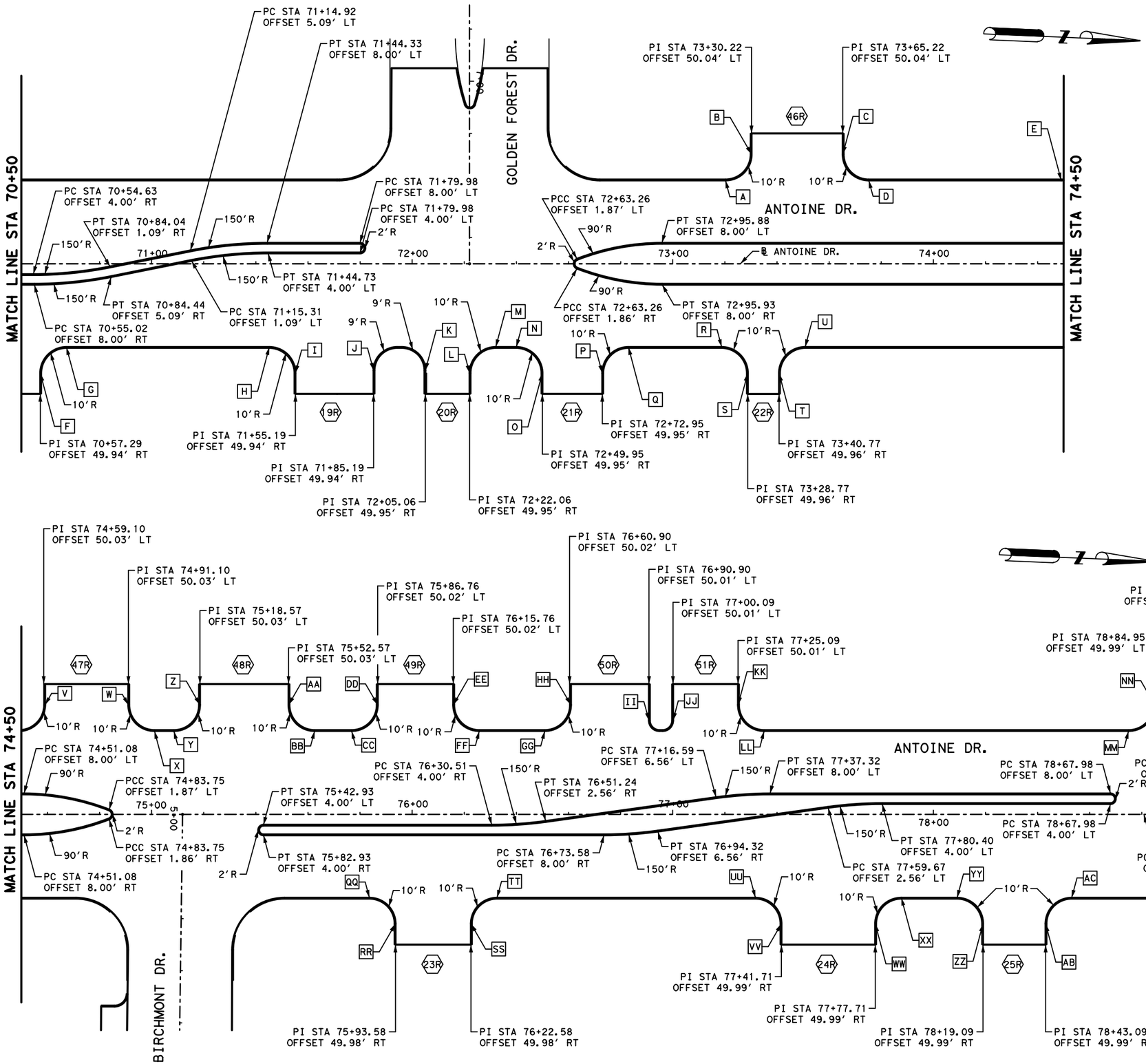

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B	PT	73+30.22	42.00'LT
C	PC	73+65.22	42.00'LT
D	PT	73+75.22	32.00'LT
E	PC	74+49.10	32.00'LT
F	PT	70+57.29	32.00'RT
G	PT	70+67.29	42.00'RT
H	PC	71+45.19	32.00'RT
I	PT	71+55.19	42.00'RT
J	PC	71+85.19	41.00'RT
K	PT	72+05.06	41.00'RT
L	PC	72+22.06	42.00'RT
M	PT	72+32.06	32.00'RT
N	PC	72+39.95	32.00'RT
O	PT	72+49.95	42.00'RT
P	PC	72+72.95	42.00'RT
Q	PT	72+82.95	32.00'RT
R	PC	73+18.77	32.00'RT
S	PT	73+28.77	42.00'RT
T	PC	73+40.77	42.00'RT
U	PT	73+50.77	32.00'RT
V	PT	74+59.10	42.00'LT
W	PC	74+91.10	42.00'LT
X	PT	75+01.10	32.00'RT
Y	PC	75+08.57	32.00'LT
Z	PT	75+18.57	42.00'LT
AA	PC	75+52.57	42.00'LT

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
BB	PT	75+62.57	32.00'LT
CC	PC	75+76.76	32.00'LT
DD	PT	75+86.76	42.00'LT
EE	PC	76+15.76	42.00'LT
FF	PT	76+25.76	32.00'LT
GG	PC	76+50.90	32.00'LT
HH	PT	76+60.90	42.00'LT
II	PC	76+90.90	36.00'LT
JJ	PT	77+00.08	36.00'LT
KK	PC	77+25.08	42.00'LT
LL	PT	77+35.08	32.00'LT
MM	PC	78+74.96	32.00'LT
NN	PT	78+84.96	42.00'LT
OO	PC	79+14.96	42.00'LT
PP	PT	79+24.96	32.00'LT
QQ	PC	75+83.58	32.00'RT
RR	PT	75+93.58	42.00'RT
SS	PC	76+22.58	42.00'RT
TT	PT	76+32.58	32.00'RT
UU	PC	77+31.71	32.00'RT
VV	PT	77+41.71	42.00'RT
WW	PC	77+77.71	42.00'RT
XX	PT	78+19.09	32.00'RT
YY	PC	78+09.09	32.00'RT
ZZ	PT	78+19.09	42.00'RT
AB	PC	78+43.09	42.00'RT
AC	PT	78+53.09	32.00'RT

0' 20' 40'
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Texas Registered Engineering Firm F-3401

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 70+50 TO STA 79+50

SHEET 710 OF 21

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 216 OF 1067

FOR CITY OF HOUSTON USE ONLY

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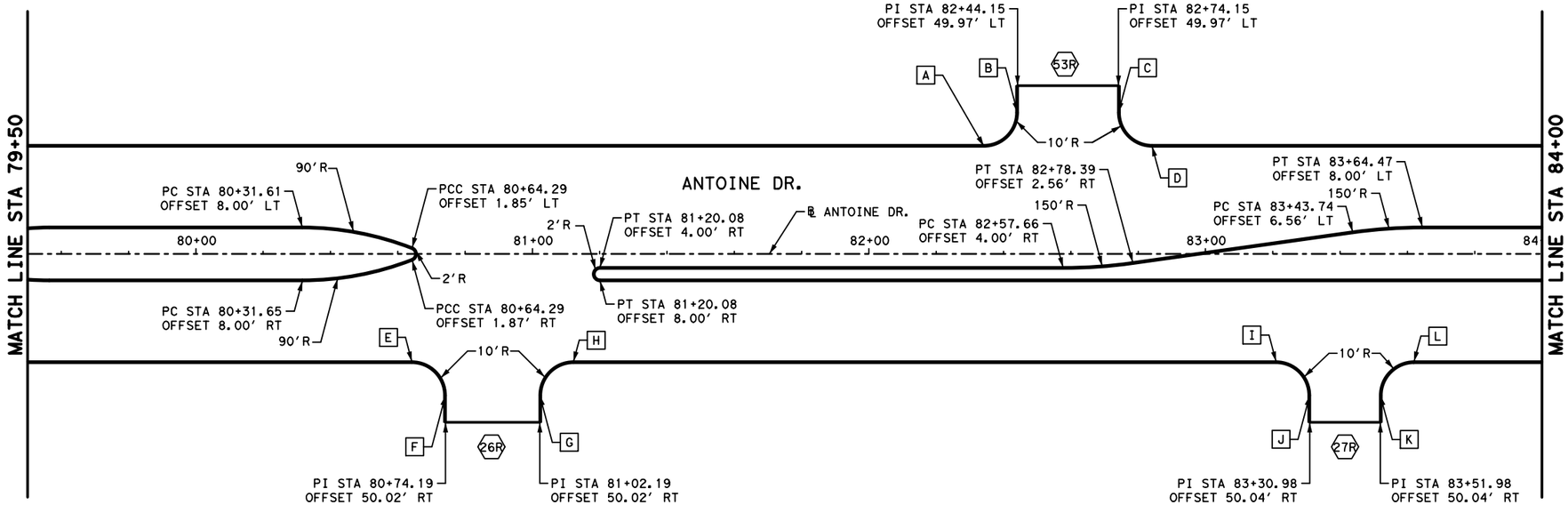
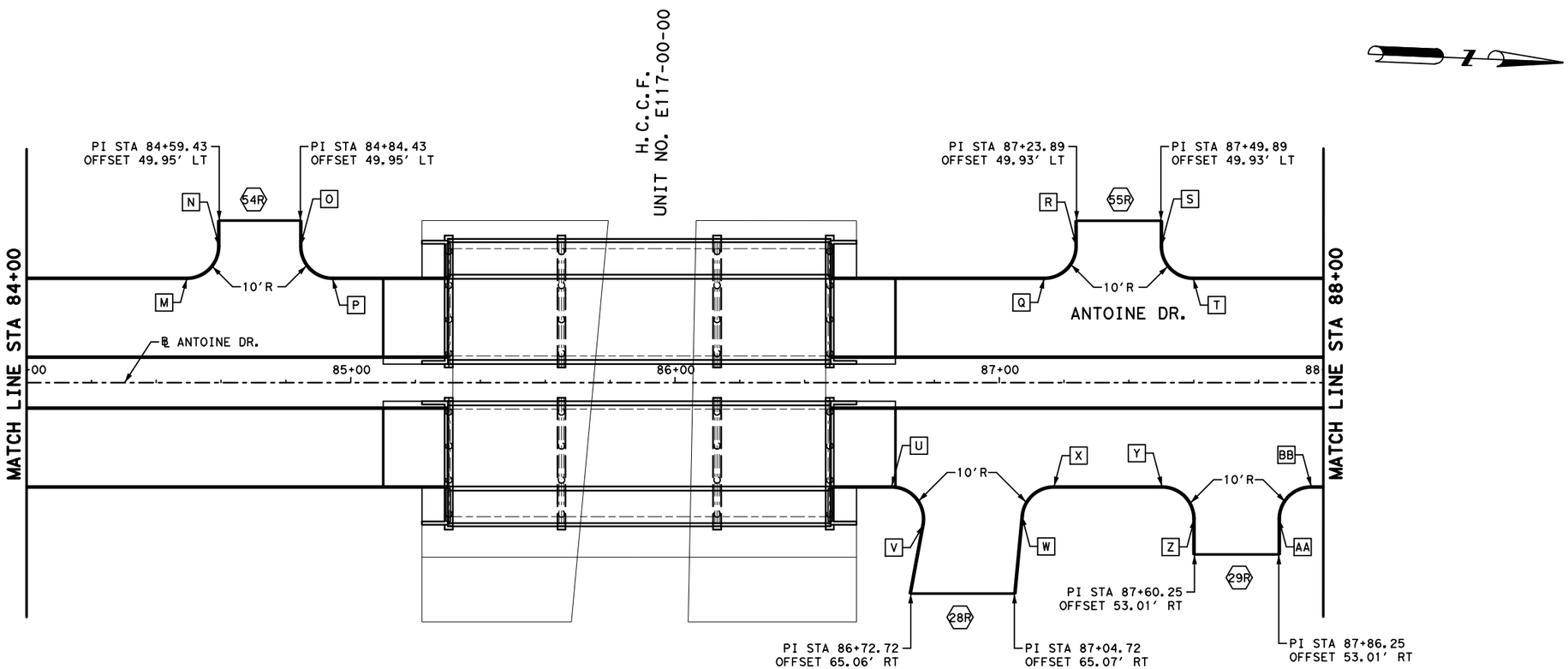


H.C.C.F.
UNIT NO. E117-00-00



HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	82+34.15	32.00'LT
B	PT	82+44.15	42.00'LT
C	PC	82+74.15	42.00'LT
D	PT	82+84.15	32.00'LT
E	PC	80+64.19	32.00'RT
F	PT	80+74.19	42.00'RT
G	PC	81+02.19	42.00'RT
H	PT	81+12.19	32.00'RT
I	PC	83+20.98	32.00'RT
J	PT	83+30.98	42.00'RT
K	PC	83+51.98	42.00'RT
L	PT	83+61.98	32.00'RT
M	PC	84+49.43	32.00'RT
N	PT	84+59.43	42.00'LT
O	PC	84+84.43	42.00'LT
P	PT	84+94.43	32.00'LT
Q	PC	87+13.89	32.00'LT
R	PT	87+23.89	42.00'LT
S	PC	87+49.89	42.00'LT
T	PT	87+59.89	32.00'LT
U	PC	86+66.82	32.00'RT
V	PT	86+76.65	43.82'RT
W	PC	87+06.95	41.07'RT
X	PT	87+16.91	32.00'RT
Y	PC	87+50.25	32.00'RT
Z	PT	87+60.25	42.00'RT
AA	PC	87+86.25	42.00'RT
BB	PT	87+96.25	32.00'RT

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 79+50 TO STA 88+00

SHEET 11 OF 21

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 217 OF 1067	

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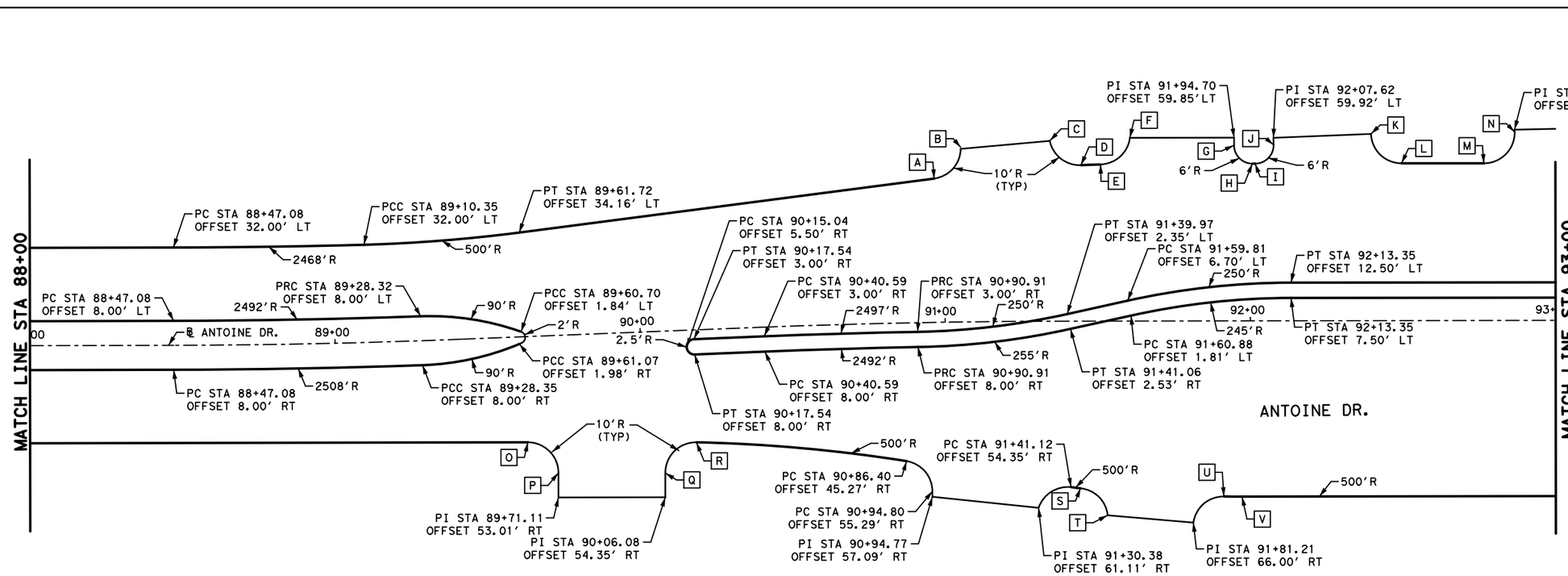

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
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B	PT	91+05.88	56.63'LT
C	PC	91+34.39	59.06'LT
D	PT	91+44.56	51.07'LT
E	PC	91+50.99	51.30'LT
F	PT	91+60.62	59.97'LT
G	PC	91+94.71	57.47'LT
H	PT	92+00.71	51.50'LT
I	PC	92+01.68	51.50'LT
J	PT	92+07.67	57.65'LT
K	PC	92+39.60	61.18'LT
L	PT	92+49.59	51.50'LT
M	PC	92+76.66	51.50'LT
N	PT	92+86.66	61.70'LT
O	PC	89+61.80	34.57'RT
P	PT	89+71.41	44.94'RT
Q	PC	90+06.38	46.38'RT
R	PCC	90+16.97	36.78'RT
S	PRC	91+44.26	54.69'RT
T	PT	91+53.15	63.59'RT
U	PC	91+91.23	57.46'RT
V	PT	91+97.18	57.50'RT
W	PC	93+21.27	56.56'LT
X	PCC	93+26.84	51.70'LT
Y	PC	95+67.89	55.50'LT
Z	PT	95+77.89	65.43'LT
AA	PC	96+07.89	65.56'LT
BB	PRC	96+17.88	55.50'LT
CC	PC	95+41.44	59.50'RT
DD	PT	95+51.44	69.13'RT
EE	PC	95+81.44	68.88'RT
FF	PRC	95+91.19	58.90'RT

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 88+00 TO STA 97+00

SHEET 11 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 218 OF 1067	

APP: | DATE | No. | REVISIONS

Plotted on: 3/12/2026 2:13:48 PM $USER$
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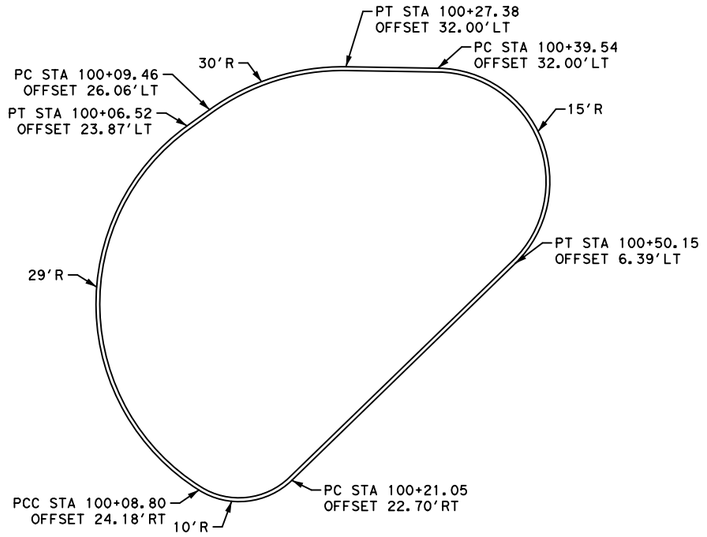
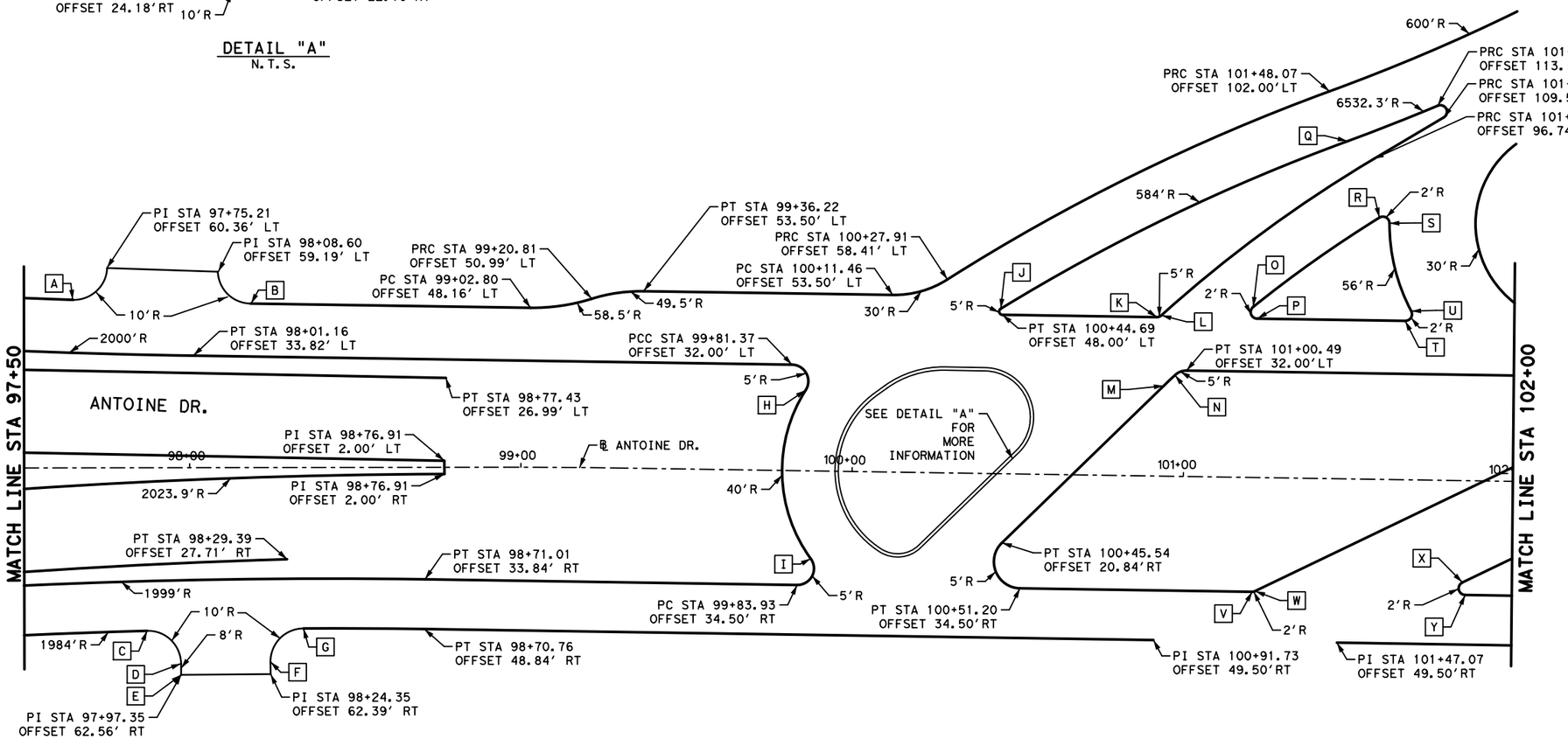
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_HORIZ GEO 11.dgn



DETAIL "A"
N. T. S.

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PCC	97+64.78	50.76'LT
B	PT	98+18.63	49.53'LT
C	PCC	97+87.07	49.22'RT
D	PCC	97+97.33	59.15'RT
E	PCC	97+97.35	62.56'RT
F	PC	98+24.32	58.63'RT
G	PC	98+34.30	48.57'RT
H	PRC	99+85.62	24.36'LT
I	PC	99+87.92	26.48'RT
J	PCC	100+44.15	49.84'LT
K	PC	100+91.29	48.00'LT
L	PT	100+92.65	48.53'LT
M	PC	100+97.00	30.57'LT
N	PT	101+00.49	32.00'LT
O	PT	101+20.31	51.54'LT
P	PT	101+21.59	48.00'LT
Q	PRC	101+48.07	101.99'LT
R	PC	101+57.99	79.05'LT
S	PRC	101+61.07	77.39'LT
T	PT	101+66.27	48.00'LT
U	PRC	101+68.02	50.96'LT
V	PC	101+21.30	34.50'RT
W	PT	101+22.20	34.29'RT
X	PT	101+84.70	30.71'RT
Y	PT	101+85.60	34.50'RT



N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 97+50 TO STA 102+50

SHEET 12 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 219 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/12/2026 2:13:49 PM $USER$
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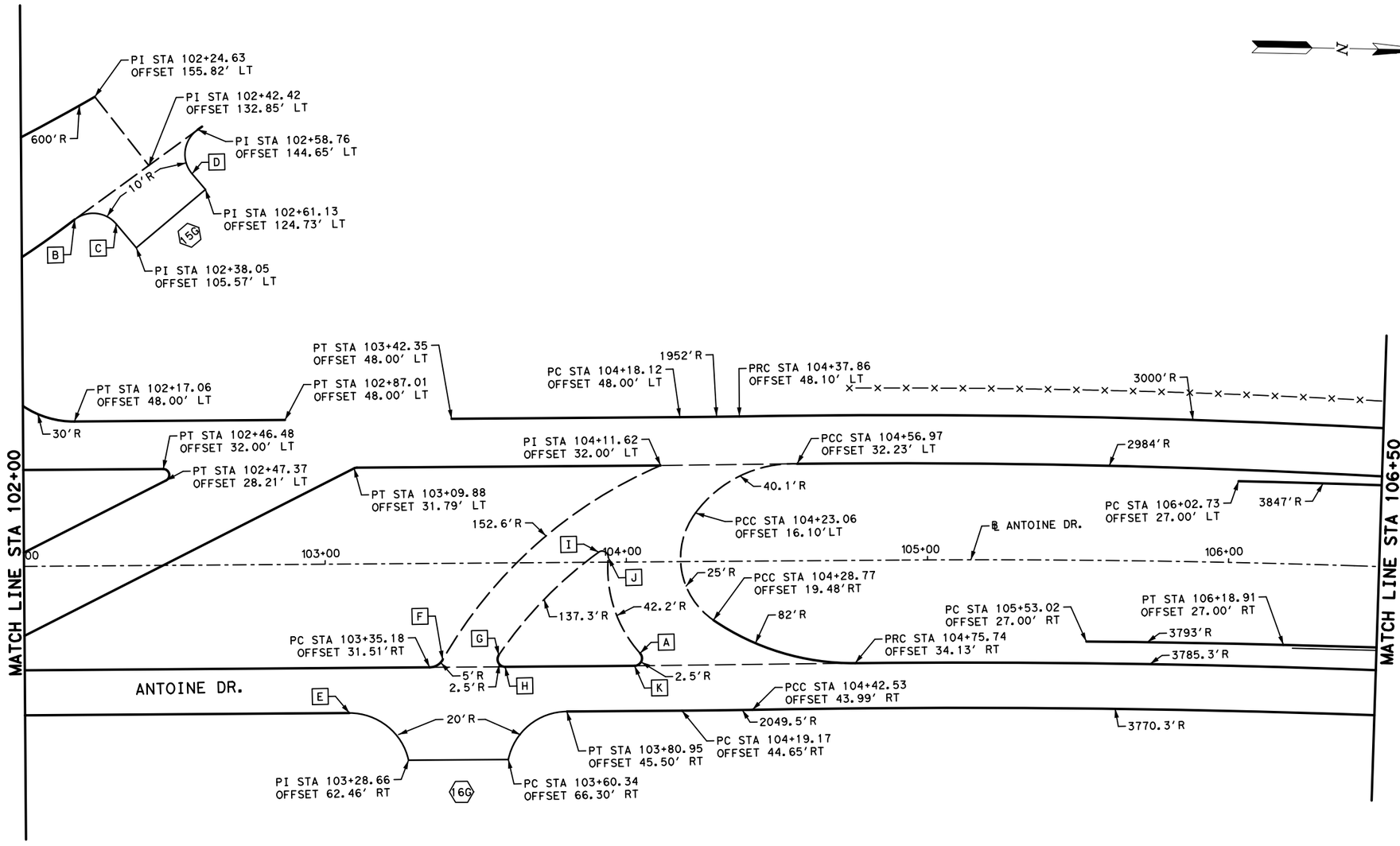

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PT	104+02.48	34.47'RT
B	PC	102+24.00	117.13'LT
C	PT	102+31.43	113.54'LT
D	PC	102+56.74	130.02'LT
E	PC	103+07.68	49.50'RT
F	PT	103+38.77	32.01'RT
G	PCC	103+57.43	30.58'RT
H	PT	103+59.49	34.50'RT
I	PCC	103+90.84	3.36'LT
J	PRC	103+94.00	1.54'LT
K	PC	104+02.48	34.47'RT

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 102+00 TO STA 106+50

SHEET 713 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 220 OF 1067	

Pen Table: TX_Pen.tbl
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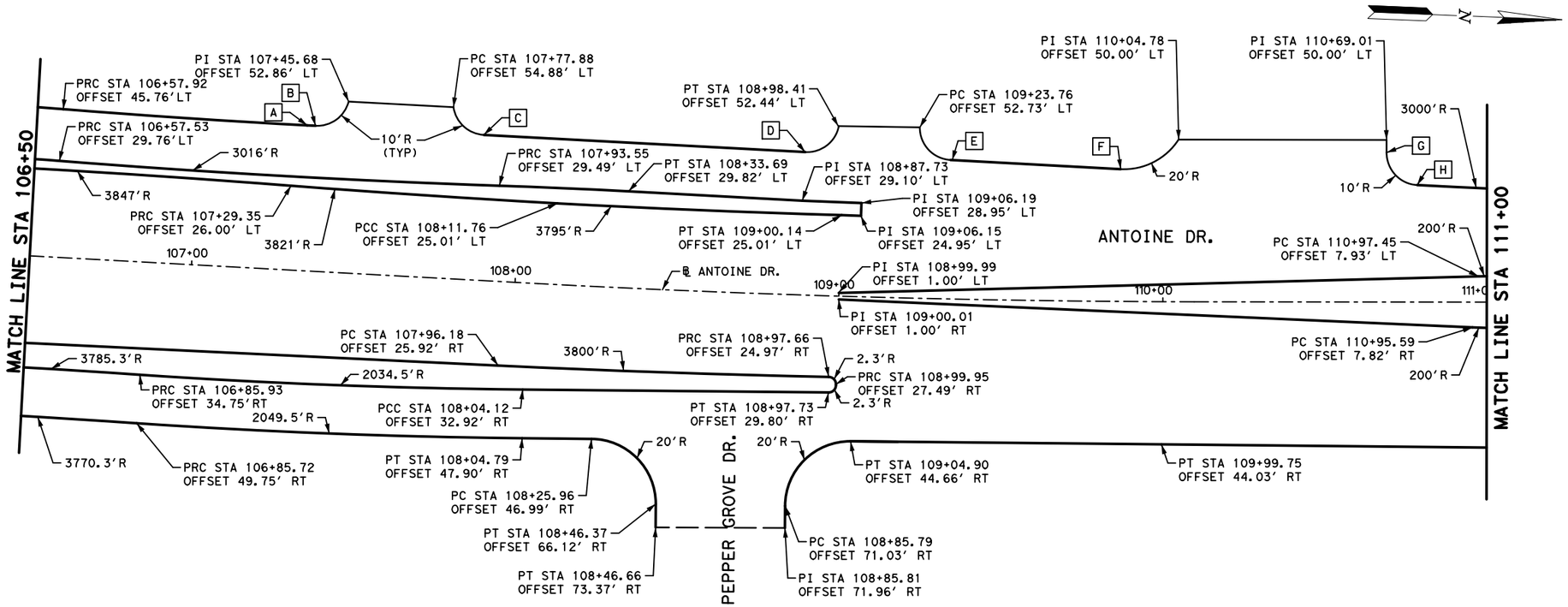

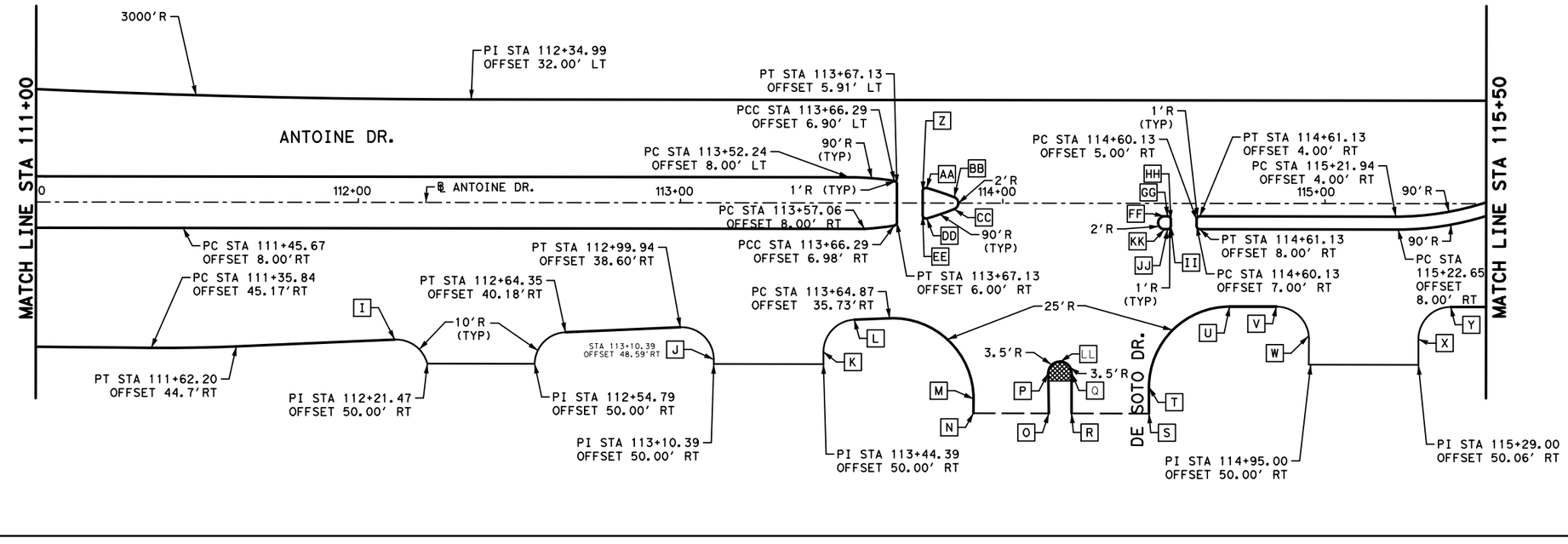

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PT	107+33.32	44.86'LT
B	PC	107+35.89	44.86'LT
C	PT	107+87.99	44.89'LT
D	PC	108+88.20	44.09'LT
E	PT	109+33.57	42.90'LT
F	PC	109+86.71	40.82'LT
G	PC	110+69.01	46.07'LT
H	PCC	110+78.49	36.08'LT
I	PC	112+11.35	42.53'RT
J	PT	113+10.39	48.59'RT
K	PC	113+44.39	46.20'RT
L	PT	113+53.94	36.21'RT
M	PT	113+90.97	60.73'RT
N	PI	113+90.97	65.16'RT
O	PI	114+14.32	65.19'RT
P	PC	114+14.18	52.67'RT
Q	PT	114+21.41	52.63'RT
R	PI	114+21.42	65.20'RT
S	PT	114+45.40	65.23'RT
T	PC	114+45.41	56.97'RT
U	PT	114+70.41	32.00'RT
V	PC	114+85.02	32.00'RT
W	PT	114+95.02	42.02'RT
X	PC	115+29.02	41.98'RT
Y	PT	115+39.02	32.00'RT
Z	PC	113+75.13	3.73'LT
AA	PT	113+76.40	4.70'LT
BB	PC	113+84.89	1.87'LT
CC	PC	113+84.88	1.87'RT
DD	PT	113+76.41	4.74'RT
EE	PC	113+75.13	3.77'RT
FF	PC	114+50.18	4.00'RT
GG	PC	114+51.13	4.00'RT
HH	PT	114+52.13	5.00'RT
II	PT	114+52.13	7.00'RT
JJ	PC	114+51.13	8.00'RT
KK	PT	114+50.18	8.00'RT
LL	PT	114+17.68	49.13'RT
MM	PT	113+86.18	0.00'RT

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 106+50 TO STA 115+50

SHEET 14 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 221 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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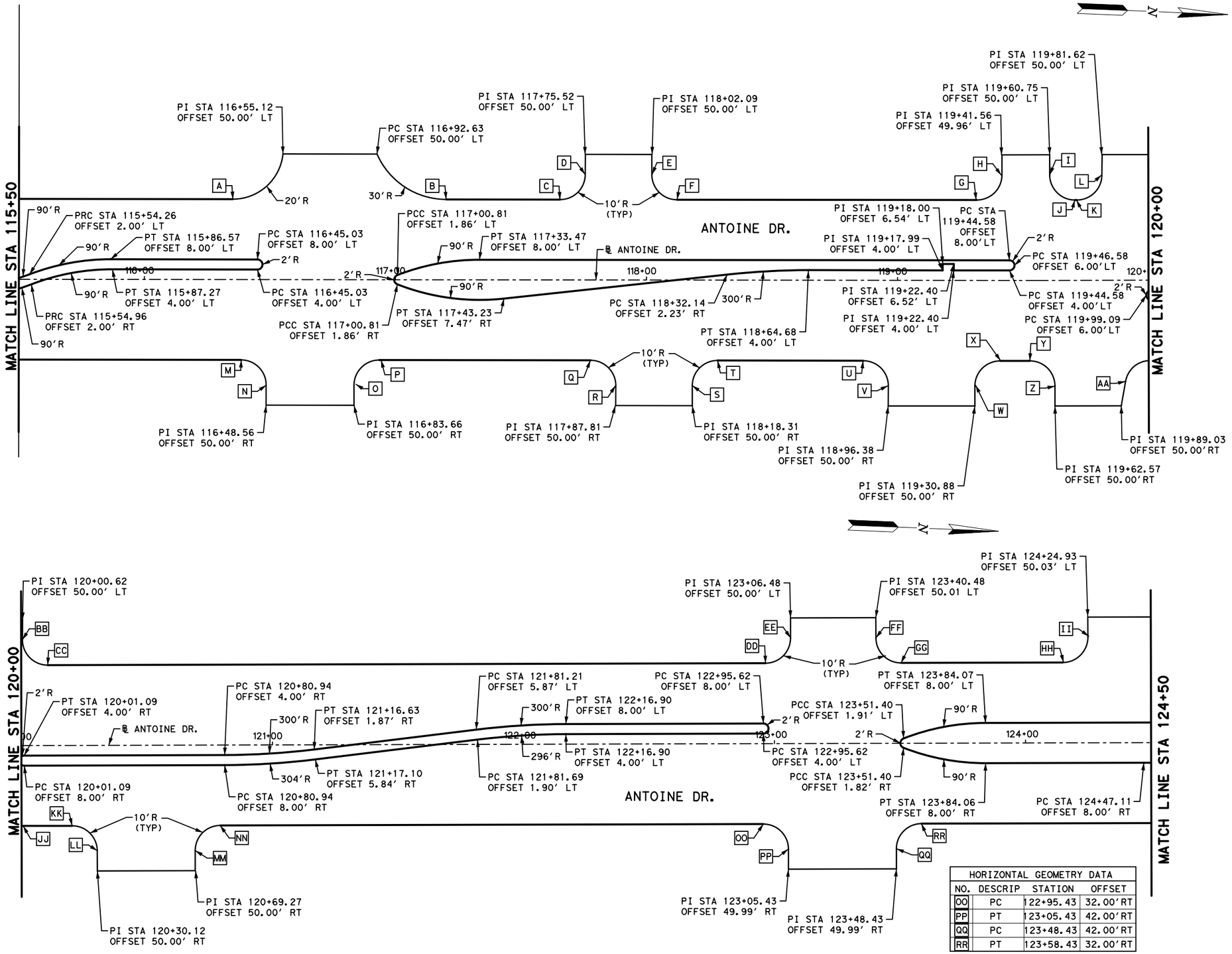

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	116+35.22	32.00'LT
B	PT	117+20.13	32.00'LT
C	PC	117+65.59	32.00'LT
D	PT	117+75.59	42.00'LT
E	PC	118+02.09	42.00'LT
F	PT	118+12.09	32.00'LT
G	PC	119+31.56	32.00'LT
H	PT	119+41.56	42.00'LT
I	PC	119+60.72	42.04'LT
J	PT	119+70.72	32.00'LT
K	PC	119+71.54	32.00'LT
L	PC	119+81.54	41.90'LT
M	PT	116+38.56	32.00'RT
N	PC	116+48.56	42.00'RT
O	PC	116+83.56	42.00'RT
P	PT	116+93.56	32.00'RT
Q	PC	117+77.81	32.00'RT
R	PT	117+87.81	42.00'RT
S	PC	118+18.31	42.00'RT
T	PT	118+28.31	32.00'RT
U	PC	118+86.38	32.00'RT
V	PT	118+96.38	42.00'RT
W	PC	119+30.88	42.04'RT
X	PT	119+40.84	32.04'RT
Y	PC	119+52.67	32.00'RT
Z	PT	119+62.63	42.07'RT
AA	PC	119+90.74	40.27'RT
BB	PC	120+00.54	42.10'LT
CC	PT	120+10.54	32.00'LT
DD	PC	122+96.53	32.00'LT
EE	PT	123+06.53	42.06'LT
FF	PC	123+40.08	42.00'LT
GG	PT	123+50.48	32.00'LT
HH	PC	124+14.93	32.00'LT
II	PT	124+24.93	42.00'LT
JJ	PT	120+00.59	32.00'RT
KK	PC	120+20.09	32.00'RT
LL	PT	120+30.09	41.97'RT
MM	PC	120+69.12	42.00'RT
NN	PT	120+79.12	32.00'RT

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
OO	PC	122+95.43	32.00'RT
PP	PT	123+05.43	42.00'RT
QQ	PC	123+48.43	42.00'RT
RR	PT	123+58.43	32.00'RT

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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GAUGE ENGINEERING Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 115+50 TO STA 124+50

SHEET 15 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 222 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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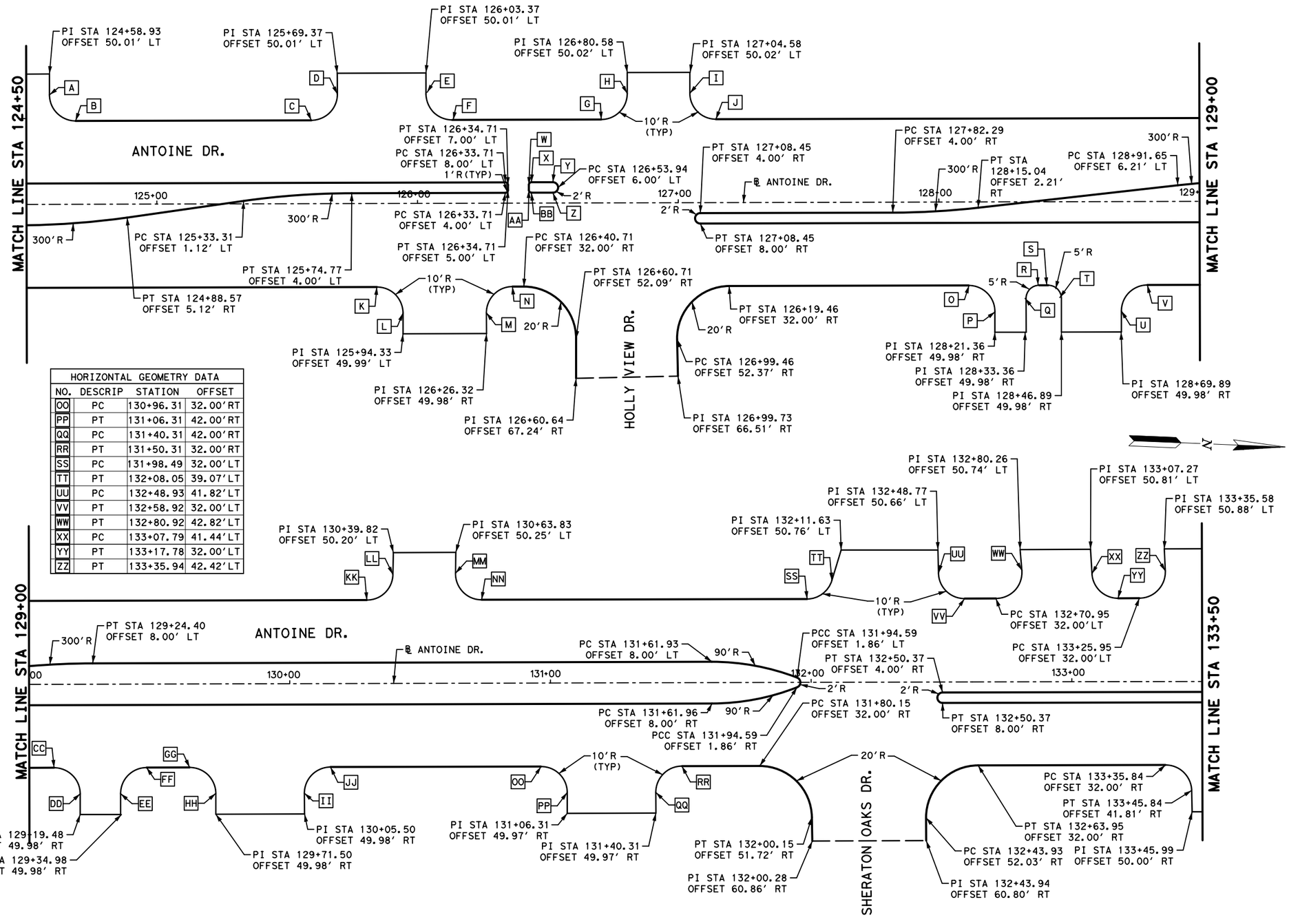

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	124+58.93	42.00'LT
B	PT	124+68.93	32.00'LT
C	PC	125+59.37	32.00'LT
D	PT	125+69.37	42.00'LT
E	PC	126+03.37	42.00'LT
F	PT	126+13.37	32.00'LT
G	PC	126+70.58	32.00'RT
H	PT	126+80.58	42.00'LT
I	PC	127+04.58	42.00'LT
J	PT	127+14.58	32.00'LT
K	PC	125+84.33	32.00'RT
L	PT	125+94.33	42.00'RT
M	PC	126+26.32	42.00'RT
N	PT	126+36.32	32.00'RT
O	PC	128+11.36	32.00'RT
P	PT	128+21.36	42.00'RT
Q	PC	128+33.36	37.00'RT
R	PT	128+38.36	32.00'RT
S	PC	128+41.89	32.00'RT
T	PT	128+46.89	37.00'RT
U	PC	128+69.89	42.00'RT
V	PT	128+79.89	32.00'RT
W	PC	126+42.71	7.00'LT
X	PT	126+43.71	8.00'LT
Y	PC	126+51.94	8.00'LT
Z	PT	126+51.94	4.00'LT
AA	PC	126+42.71	5.00'LT
BB	PT	126+43.71	4.00'RT
CC	PC	129+09.48	32.00'RT
DD	PT	129+19.48	42.00'RT
EE	PC	129+34.98	42.00'RT
FF	PT	129+44.98	32.00'RT
GG	PC	129+61.50	32.00'RT
HH	PT	129+71.50	42.00'RT
II	PC	130+05.50	42.00'RT
JJ	PT	130+15.50	32.00'RT
KK	PC	130+29.65	32.00'LT
LL	PT	130+39.65	41.80'LT
MM	PC	130+63.67	42.20'LT
NN	PT	130+73.66	32.00'LT

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
OO	PC	130+96.31	32.00'RT
PP	PT	131+06.31	42.00'RT
QQ	PC	131+40.31	42.00'RT
RR	PT	131+50.31	32.00'RT
SS	PC	131+98.49	32.00'LT
TT	PT	132+08.05	39.07'LT
UU	PC	132+48.93	41.82'LT
VV	PT	132+58.92	32.00'LT
WW	PT	132+80.92	42.82'LT
XX	PC	133+07.79	41.44'LT
YY	PT	133+17.78	32.00'LT
ZZ	PT	133+35.94	42.42'LT

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT
STA 124+50 TO STA 133+50

SHEET 16 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 223 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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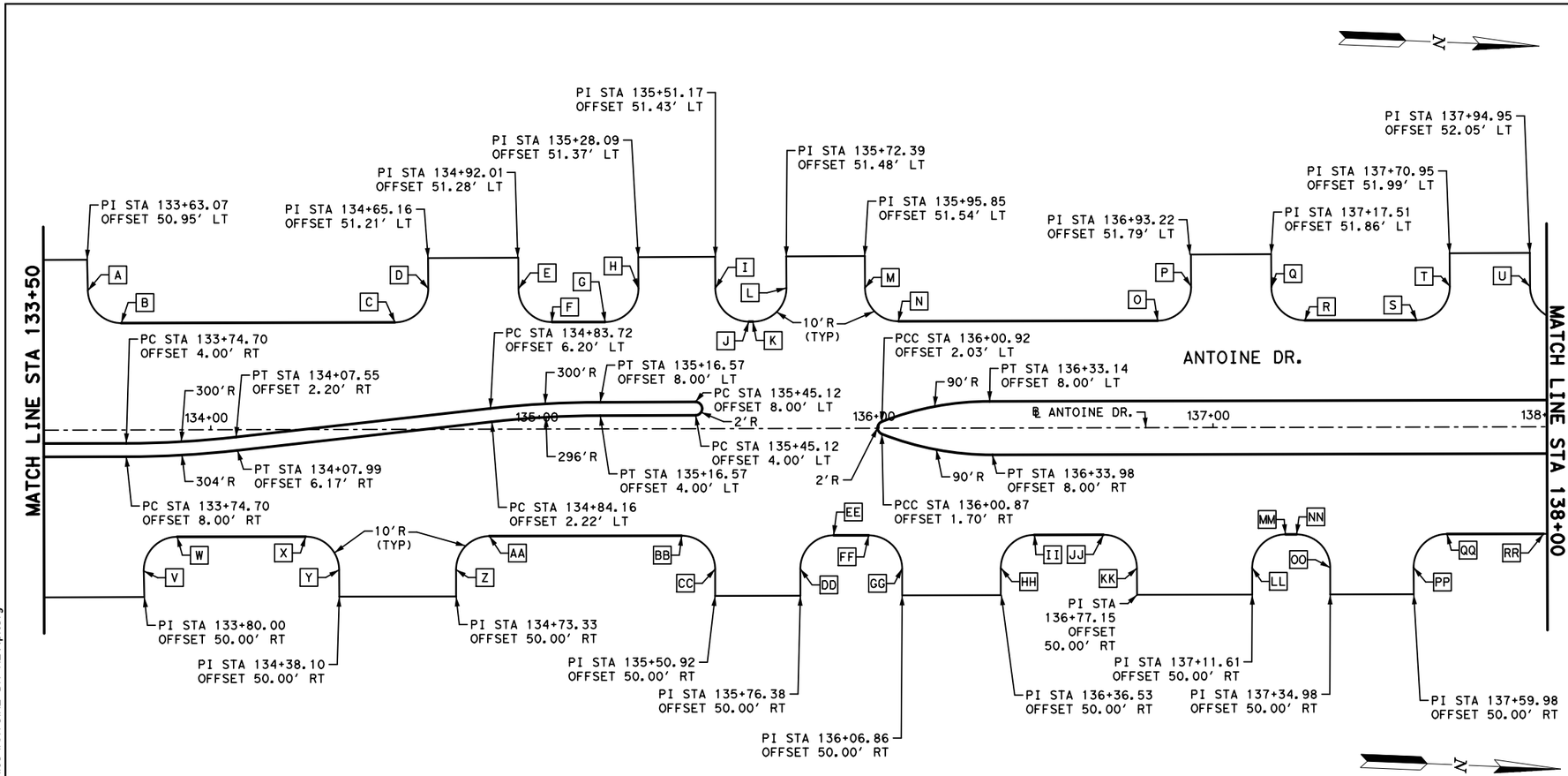

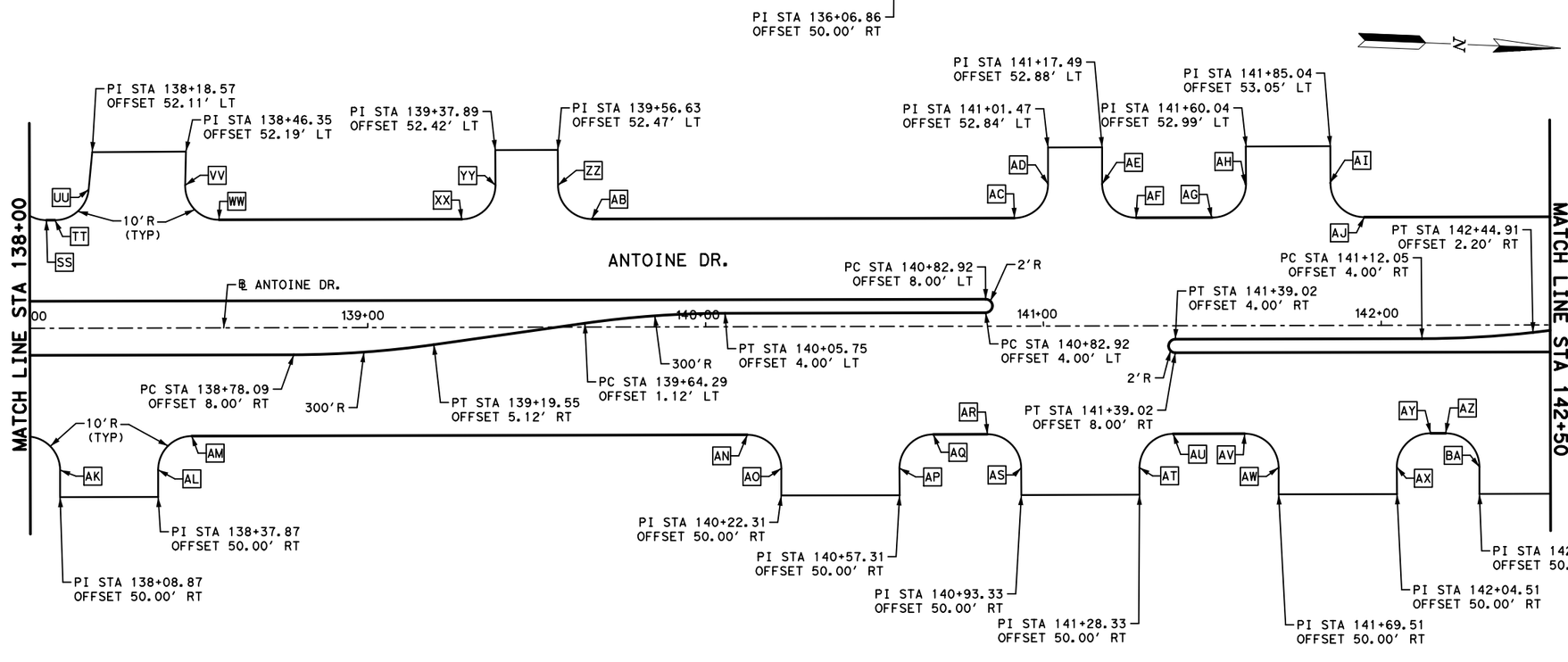

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	133+63.30	41.75'LT
B	PT	133+73.29	32.00'LT
C	PC	134+55.24	32.00'LT
D	PT	134+65.24	42.09'LT
E	PC	134+92.02	41.99'LT
F	PT	135+02.18	32.00'LT
G	PC	135+18.13	32.00'LT
H	PT	135+27.93	41.84'LT
I	PC	135+51.13	41.97'LT
J	PT	135+61.13	32.00'LT
K	PC	135+62.35	32.00'LT
L	PT	135+72.35	41.96'LT
M	PC	135+95.91	41.97'LT
N	PT	136+05.91	32.00'LT
O	PC	136+83.51	32.00'LT
P	PT	136+93.50	42.30'LT
Q	PC	137+17.59	41.92'LT
R	PT	137+27.59	32.00'RT
S	PC	137+61.05	32.00'LT
T	PT	137+71.05	42.10'LT
U	PC	137+94.98	41.97'LT
V	PC	133+79.85	42.19'RT
W	PT	133+89.85	32.00'RT
X	PC	134+28.10	32.00'RT
Y	PT	134+38.10	42.00'RT
Z	PC	134+73.33	42.00'RT
AA	PT	134+83.33	32.00'RT
BB	PC	135+40.88	32.00'RT
CC	PT	135+50.88	42.00'RT
DD	PC	135+76.38	42.00'RT
EE	PT	135+86.38	32.00'RT
FF	PC	135+96.86	32.00'RT
GG	PT	136+06.86	42.00'RT
HH	PC	136+36.53	42.00'RT
II	PT	136+46.53	32.00'RT
JJ	PC	136+67.15	32.00'RT
KK	PT	136+77.15	42.00'RT
LL	PC	137+11.65	42.00'RT
MM	PT	137+21.65	32.00'RT
NN	PC	137+24.98	32.00'RT
OO	PT	137+34.98	42.00'RT
PP	PC	137+59.98	42.00'LT
QQ	PT	137+69.98	32.00'RT

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
RR	PC	137+98.87	32.00'RT
SS	PT	138+04.98	32.00'LT
TT	PC	138+07.55	32.00'LT
UU	PT	138+17.50	41.03'LT
VV	PC	138+46.08	42.27'LT
WW	PT	138+56.08	32.00'LT
XX	PC	139+27.91	32.00'LT
YY	PT	139+37.91	42.00'LT
ZZ	PC	139+56.41	42.00'LT
AB	PT	139+66.41	32.00'LT
AC	PC	140+91.47	32.00'LT
AD	PT	141+01.47	42.00'LT
AE	PC	141+17.49	42.00'LT
AF	PT	141+27.49	32.00'LT
AG	PC	141+50.06	32.00'LT
AH	PT	141+60.06	42.00'LT
AI	PC	141+85.06	42.00'LT
AJ	PT	141+94.88	32.00'LT
AK	PT	138+08.87	42.00'RT
AL	PC	138+37.87	42.01'RT
AM	PT	138+47.87	32.00'RT
AN	PC	140+12.30	32.00'RT
AO	PT	140+22.30	42.00'RT
AP	PC	140+57.31	42.00'RT
AQ	PT	140+67.31	32.00'RT
AR	PC	140+83.33	32.00'RT
AS	PT	140+93.33	42.00'RT
AT	PC	141+28.33	42.00'RT
AU	PT	141+38.33	32.00'RT
AV	PC	141+59.51	32.00'RT
AW	PT	141+69.51	42.00'RT
AX	PC	142+04.51	42.00'RT
AY	PT	142+14.51	32.00'RT
AZ	PC	142+18.96	32.00'RT
BA	PT	142+28.96	42.00'RT

0' 20' 40'
SCALE IN FEET

No.	DATE	APP.	REVISIONS

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 138+00 TO STA 142+50

SHEET 717 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 224 OF 1067	

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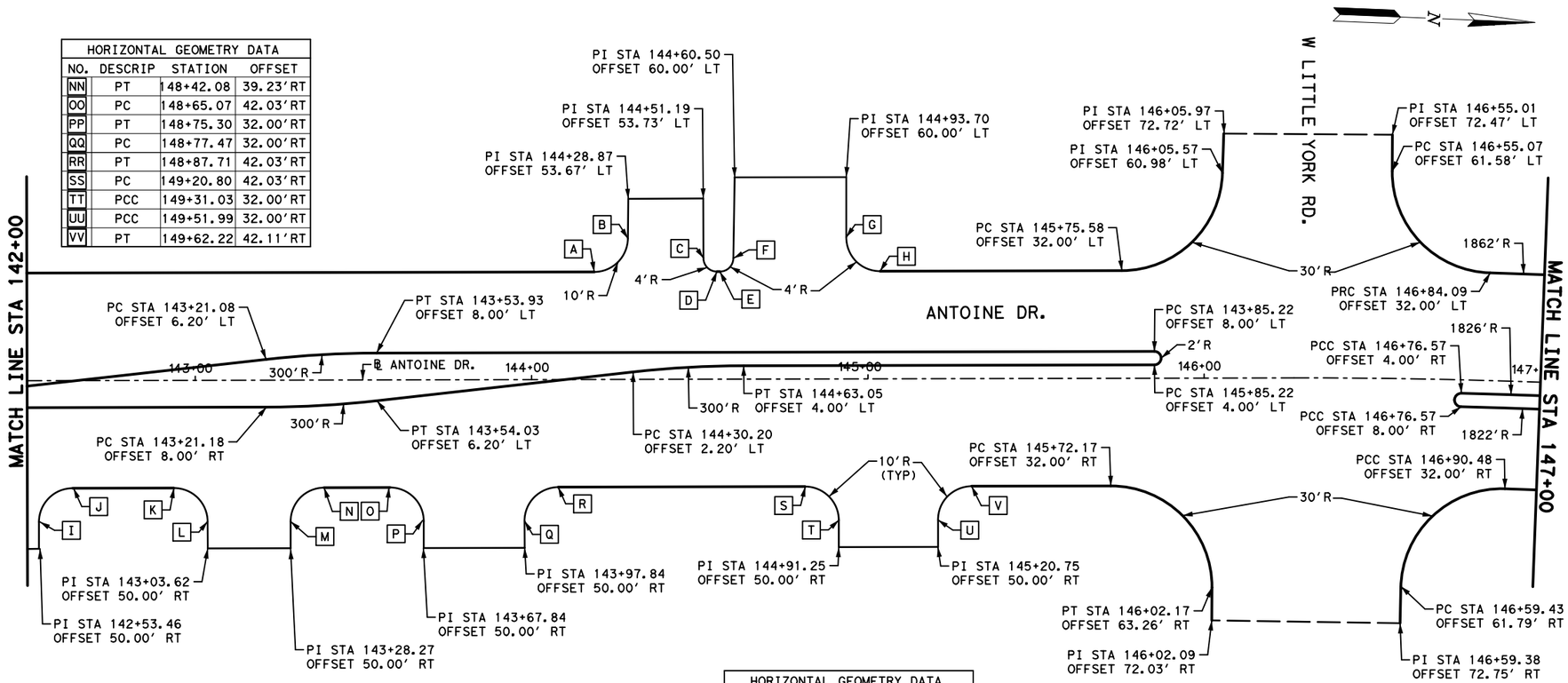
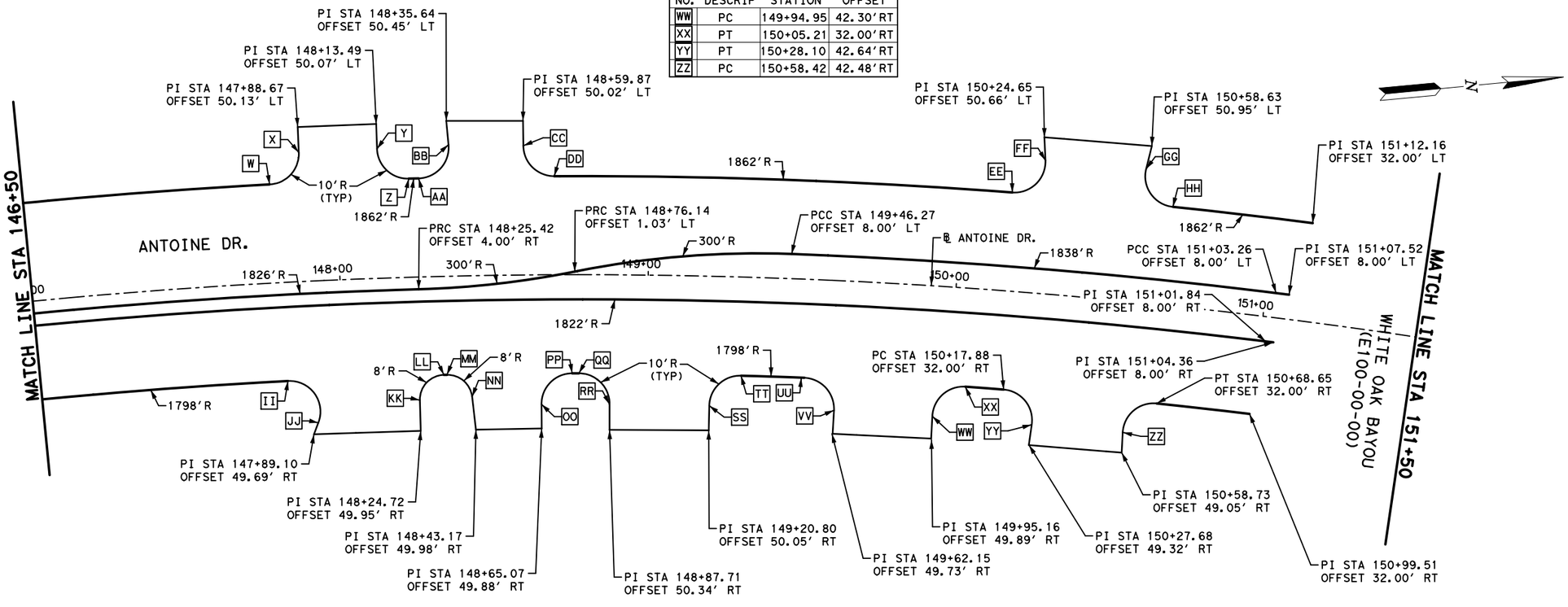
HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
NN	PT	148+42.08	39.23'RT
OO	PC	148+65.07	42.03'RT
PP	PT	148+75.30	32.00'RT
QQ	PC	148+77.47	32.00'RT
RR	PT	148+87.71	42.03'RT
SS	PC	149+20.80	42.03'RT
TT	PCC	149+31.03	32.00'RT
UU	PCC	149+51.99	32.00'RT
VV	PT	149+62.22	42.11'RT



HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
WW	PC	149+94.95	42.30'RT
XX	PT	150+05.21	32.00'RT
YY	PT	150+28.10	42.64'RT
ZZ	PC	150+58.42	42.48'RT



HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	144+18.73	32.00'LT
B	PT	144+28.73	41.89'LT
C	PC	144+51.20	36.00'LT
D	PT	144+55.20	32.00'LT
E	PC	144+56.09	32.00'LT
F	PT	144+60.08	35.93'LT
G	PC	144+93.70	42.17'LT
H	PT	145+03.69	32.00'LT
I	PC	142+53.46	42.00'RT
J	PT	142+63.46	32.00'RT
K	PC	142+93.61	32.00'RT
L	PT	143+03.61	42.00'RT
M	PC	143+28.27	42.00'RT
N	PT	143+38.27	32.00'RT
O	PC	143+57.84	32.00'RT
P	PT	143+67.84	42.00'RT
Q	PC	143+97.84	42.00'RT
R	PT	144+07.84	32.00'RT
S	PC	144+81.25	32.00'RT
T	PT	144+91.25	42.00'RT
U	PC	145+20.75	42.00'RT
V	PT	145+30.75	32.00'RT
W	PRC	147+78.87	32.00'LT
X	PT	147+88.64	41.94'LT
Y	PC	148+13.47	41.99'LT
Z	PT	148+23.25	32.00'LT
AA	PC	148+26.43	32.00'LT
BB	PT	148+36.18	42.69'LT
CC	PC	148+59.87	41.97'LT
DD	PRC	148+69.65	32.00'LT
EE	PRC	150+15.84	32.00'LT
FF	PT	150+25.54	43.20'LT
GG	PC	150+57.56	43.41'LT
HH	PRC	150+67.24	32.00'LT
II	PCC	147+81.40	32.00'RT
JJ	PT	147+90.75	46.09'RT
KK	PC	148+24.73	40.00'RT
LL	PT	148+32.91	32.00'RT
MM	PC	148+33.94	32.00'RT

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

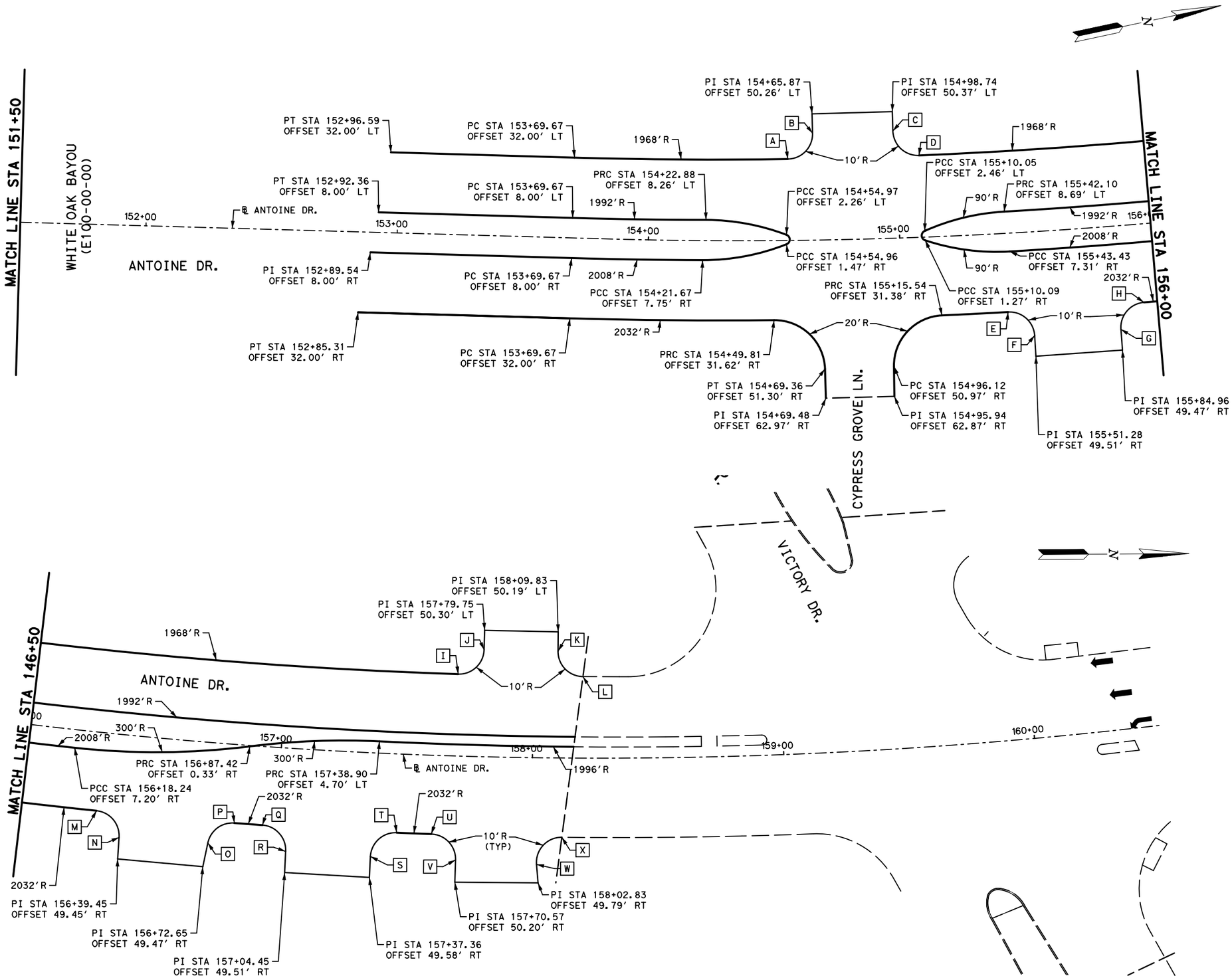
HORIZONTAL GEOMETRY LAYOUT
STA 142+00 TO STA 151+50

SHEET 718 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 225 OF 1067	

APP: | DATE | No. | REVISIONS

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:14:01 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_HORIZ GEO 18.dgn



HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PCC	154+55.79	32.41'LT
B	PT	154+65.97	42.56'LT
C	PC	154+98.70	42.68'LT
D	PCC	155+08.96	32.60'LT
E	PC	155+41.45	31.31'RT
F	PT	155+51.27	41.27'RT
G	PC	155+84.95	41.21'RT
H	PRC	155+94.73	31.22'RT
I	PCC	157+69.47	32.63'LT
J	PT	157+79.73	42.62'LT
K	PC	158+09.79	42.53'LT
L	PCC	158+19.98	32.46'LT
M	PRC	156+29.40	31.20'RT
N	PT	156+39.19	40.87'RT
O	PC	156+73.85	39.91'RT
P	PRC	156+83.57	31.21'RT
Q	PRC	156+94.56	31.22'RT
R	PT	157+04.34	41.06'RT
S	PC	157+37.41	41.23'RT
T	PRC	157+47.22	31.32'RT
U	PRC	157+60.83	31.35'RT
V	PT	157+70.59	41.35'RT
W	PC	158+02.15	42.43'RT
X	PRC	158+11.93	31.51'RT
Y	PRC	159+10.54	31.99'RT

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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125611
3/12/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HORIZONTAL GEOMETRY LAYOUT STA 151+50 TO END PROJECT

SHEET 79 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 226 OF 1067	

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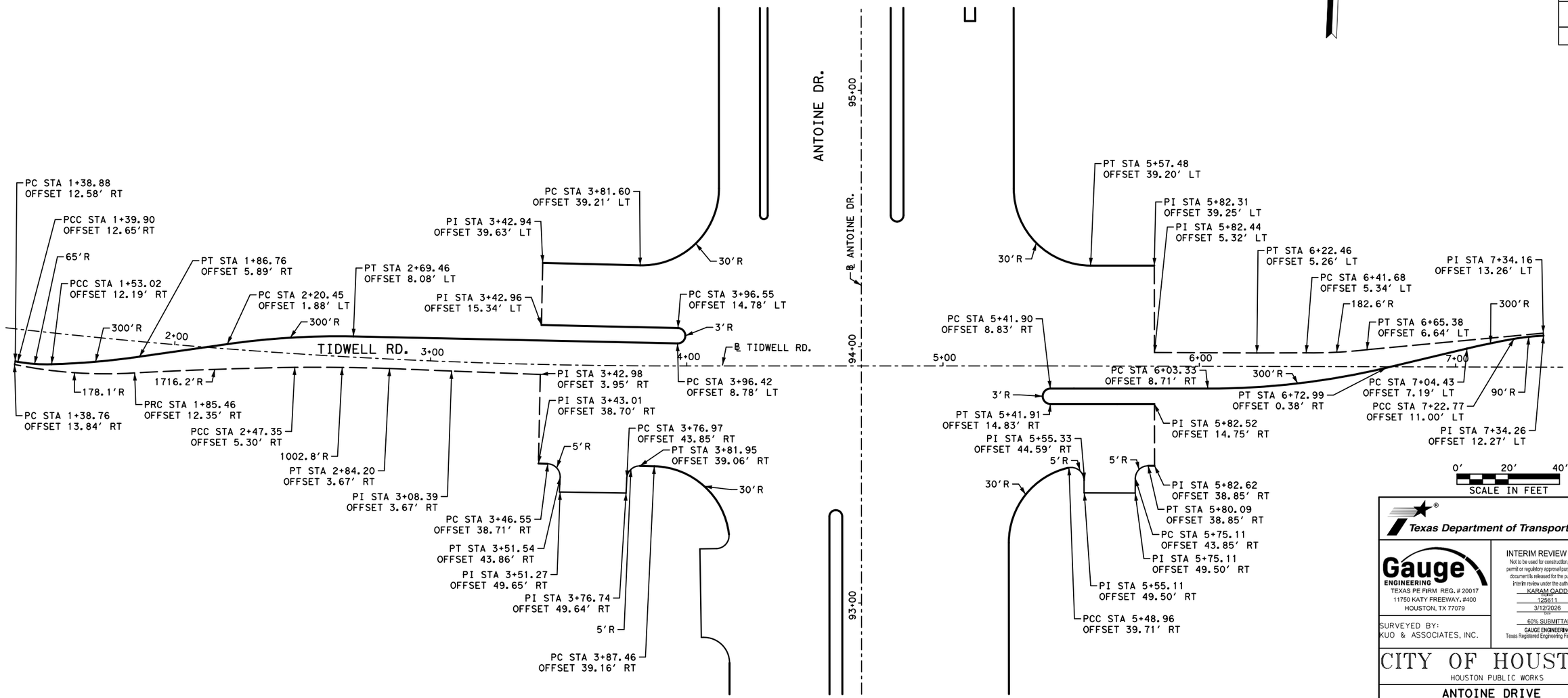

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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KARAM QADDO
P.E.
125611
3/12/2026
DATE
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TIDWELL RD
HORIZONTAL GEOMETRY LAYOUT
BEGIN PROJECT TO
END PROJECT

SHEET 720 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 227 OF 1067	

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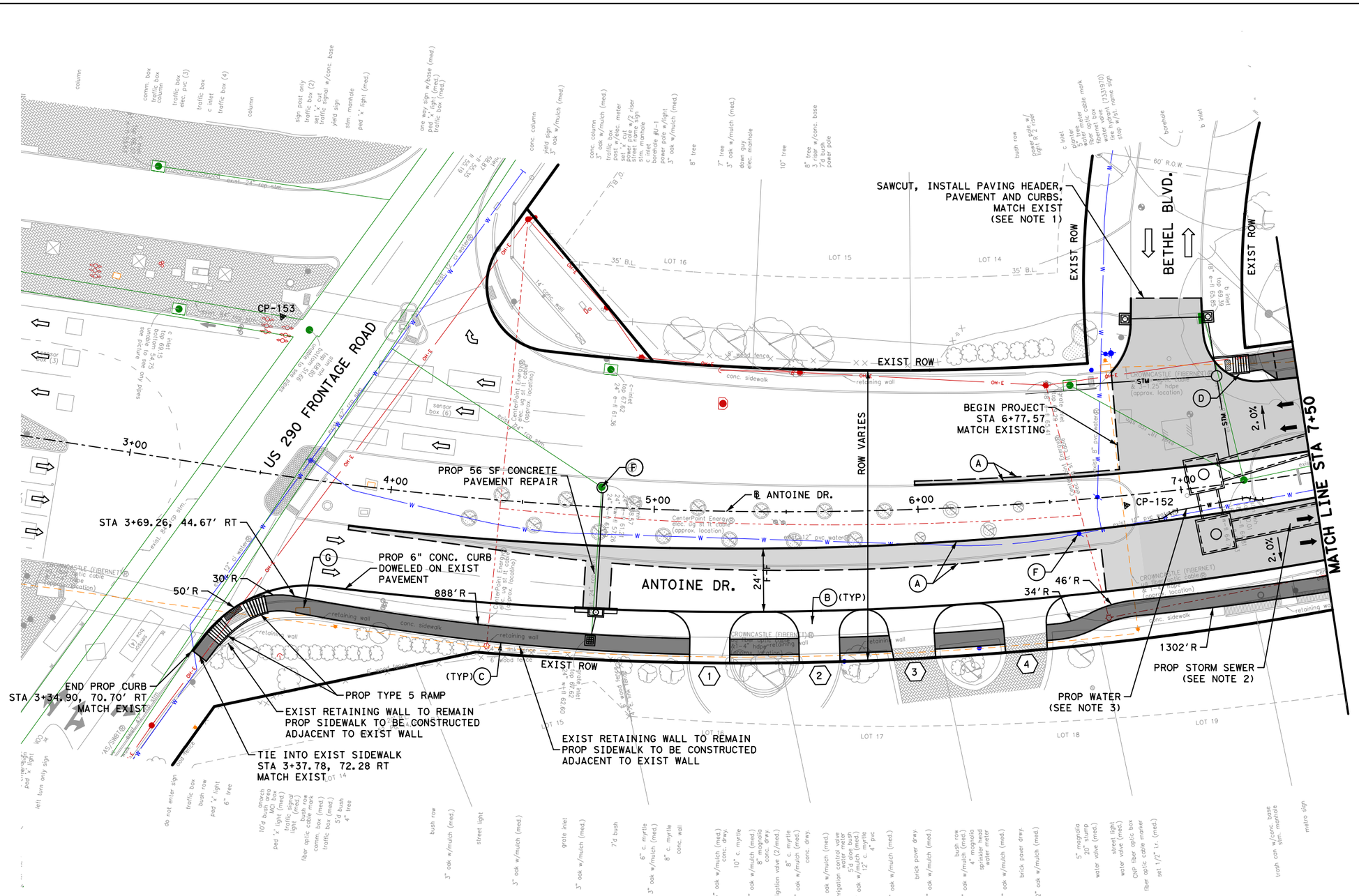

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-153, ELEV=69.44'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND US 290 FEEDER RD (NORTHBOUND)

CP-152, ELEV=70.06'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF BETHEL BLVD AND ANTOINE DR

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Signature valid for one year. Date

Texas Department of Transportation ©2026

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713.777.5337

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
BEGIN PROJECT TO STA 7+50

SHEET 7 1 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 228 OF 1067	

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Design Filename: K:\0050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 01.dgn

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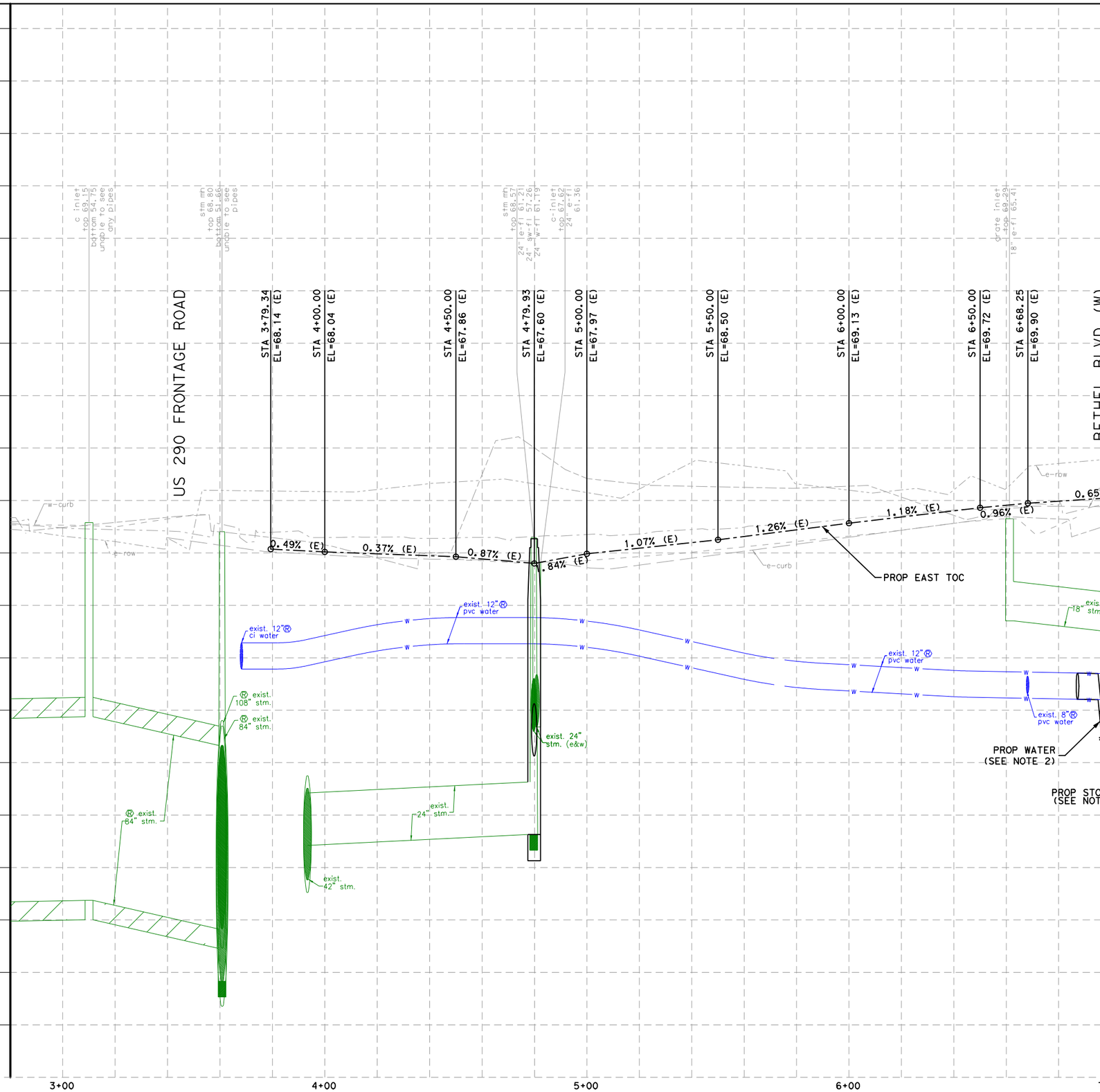

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Signature valid for one year.

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
BEGIN PROJECT TO STA 7+50

SHEET7 2 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 229 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
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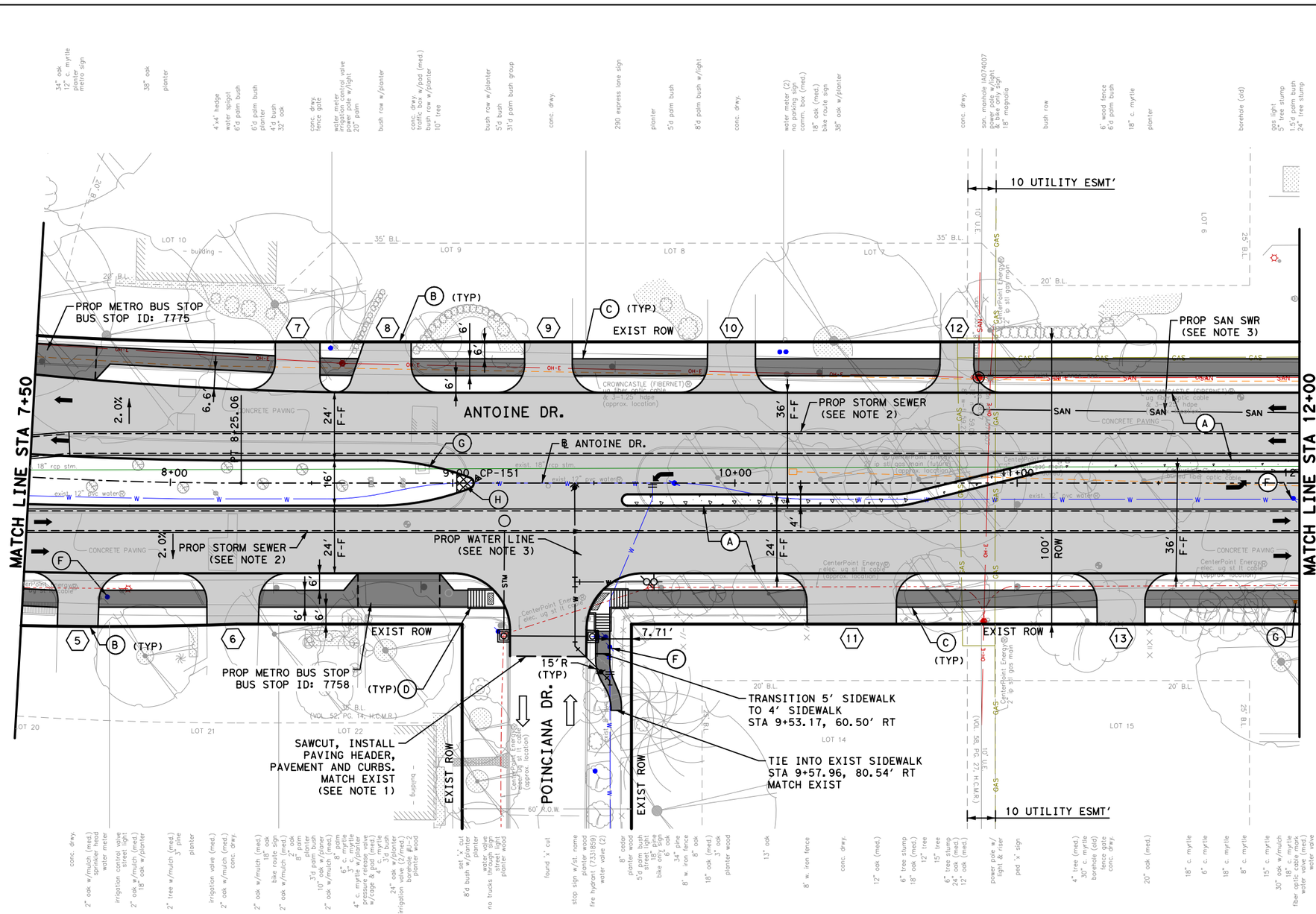

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Date

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Approved for AT&T underground conduit facilities only. Signature valid for one year. Date

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
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License No. 90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 7+50 TO STA 12+00

SHEET 3 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 230 OF 1067	

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-151, ELEV=69.28'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND POINCIANA DR

Plotted on: 3/9/2026 6:28:15 PM
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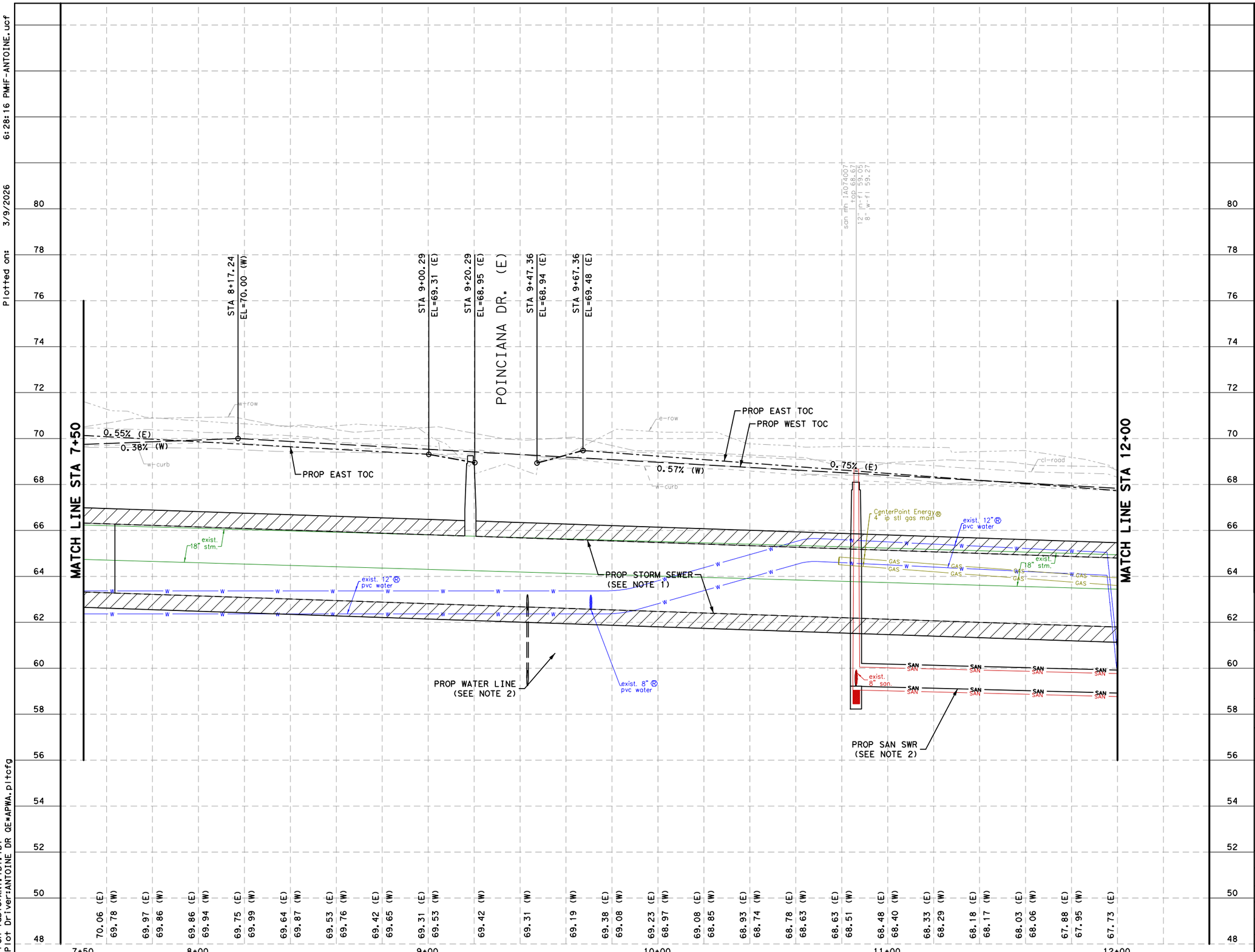
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 03.dgn

Plotted on: 3/9/2026 6:28:16 PMIF-ANTOINE.ucf



No.	DATE	REVISIONS	APP:

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Date

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Signature valid for six months.

Approved for AT&T underground conduit facilities only. Date
Signature valid for one year.

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6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713.777.5337

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MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 7+50 TO STA 12+00

SHEET 4 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 231 OF 1067	

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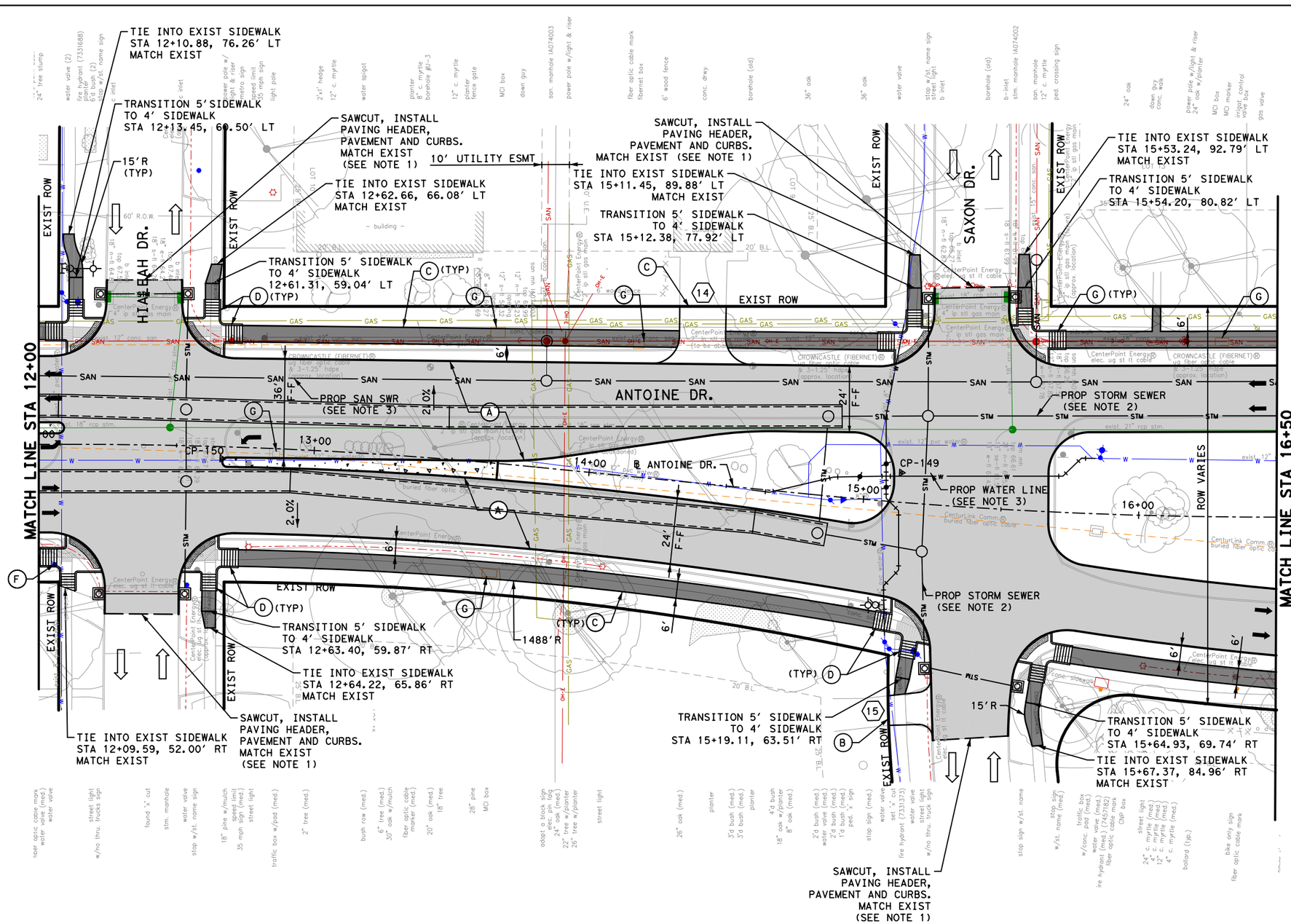

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-150, ELEV=67.41'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HIALEAH DR

CP-149, ELEV=66.72'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT ANTOINE DR AND SAXON DR

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

NOTICE:
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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Signature valid for six months.

Approved for AT&T underground conduit facilities only. Signature valid for one year. Date

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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90169
MARCH 2026
Date
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 12+00 TO STA 16+50

SHEET 5 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 232 OF 1067	

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Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 06.dgn

MATCH LINE STA 12+00

MATCH LINE STA 16+50

HIALEAH DR.

SAXON DR.

STA 12+03.63 EL=67.71 (E) STA 12+04.57 EL=67.81 (W)
STA 12+24.21 EL=67.10 (E) STA 12+24.21 EL=67.29 (W)
STA 12+50.87 EL=67.30 (W) STA 12+24.21 EL=67.10 (E)
STA 12+70.69 EL=67.72 (W)
STA 12+72.25 EL=67.56 (E)

STA 15+01.68 EL=66.62 (W) STA 15+10.54 EL=66.83 (E)
STA 15+20.63 EL=66.15 (W) STA 15+27.99 EL=66.55 (E)
STA 15+48.75 EL=66.02 (W) STA 15+57.45 EL=66.52 (E)
STA 15+70.63 EL=66.47 (W) STA 15+78.85 EL=66.67 (E)

PROP EAST TOC
0.31% (E)
0.47% (W)

PROP WEST TOC

PROP EAST TOC
0.36% (E)
0.30% (W)

PROP WEST TOC

PROP STORM SEWER (SEE NOTE 1)

PROP STORM SEWER (SEE NOTE 1)

PROP SAN SWR (SEE NOTE 2

PROP WATER LINE (SEE NOTE 2

exist. 18" stm.
exist. 12" pvc water
exist. 8" pvc water
exist. 8" drop
exist. 12" san.
exist. 12" dip water
exist. 8" di water
exist. 15" san.
exist. 6" fh lead
CenterPoint Energy 4" ip stl gas main
w-row
e-row
e-curb
ncl-road

67.83 (W)	67.54 (E)	67.67 (W)	67.48 (E)	67.58 (W)	67.41 (E)	67.48 (W)	67.35 (E)	67.39 (W)	67.29 (E)	67.29 (W)	67.23 (E)	67.20 (W)	67.17 (E)	67.10 (W)	67.11 (E)	67.01 (W)	67.04 (E)	66.91 (W)	66.98 (E)	66.82 (W)	66.92 (E)	66.72 (W)	66.86 (E)	66.63 (W)	66.67 (E)	66.50 (W)	66.60 (E)	66.55 (W)	66.52 (E)	66.61 (W)	66.45 (E)	66.67 (W)
12+00				13+00								14+00						15+00								16+00						16+50

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

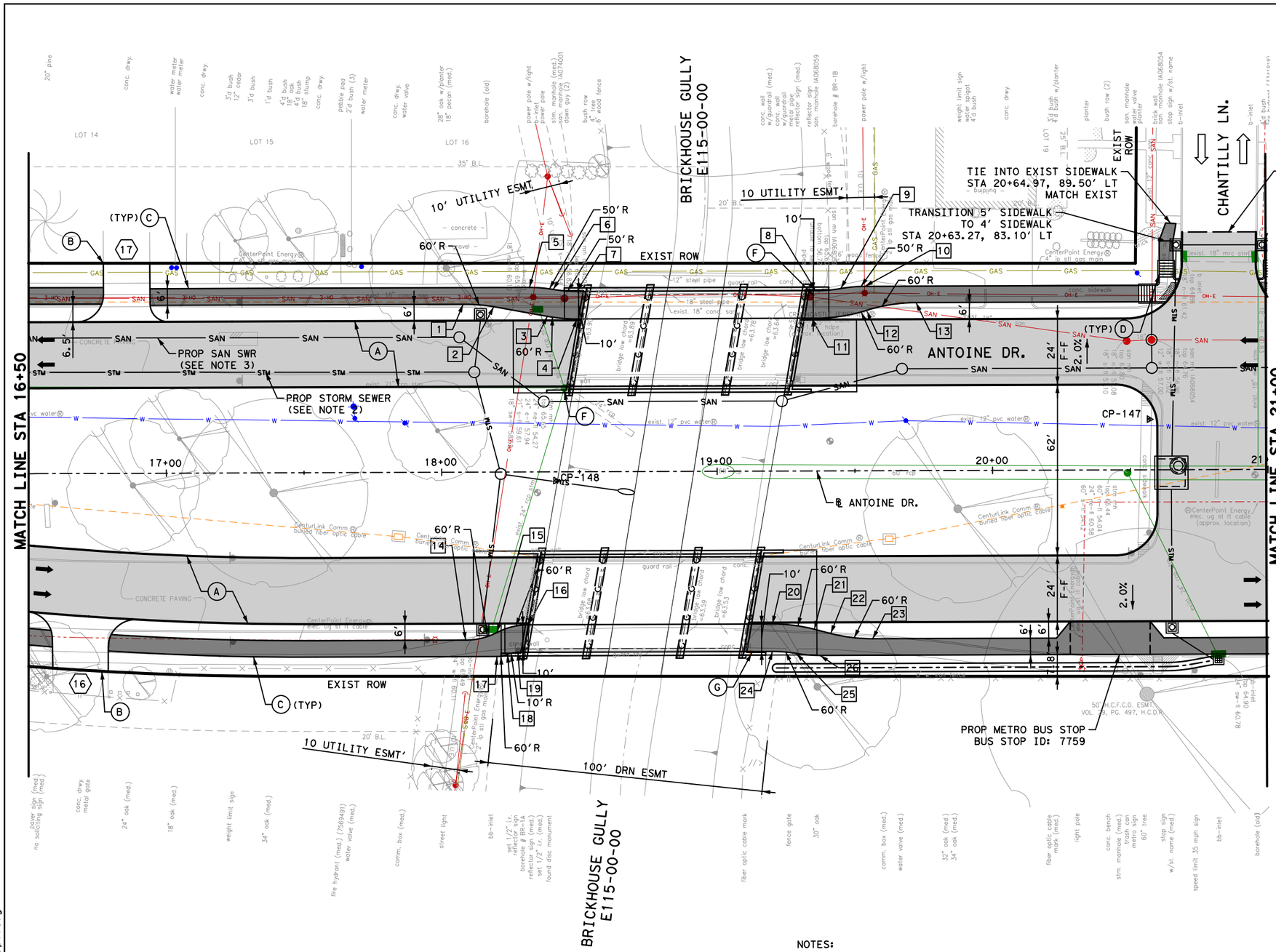
ANTOINE DRIVE

ROADWAY PROFILE
STA 12+00 TO STA 16+50

SHEET 6 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 233 OF 1067	

No.	DATE	REVISIONS	APP.



NOTE:
REFER TO BRICKHOUSE GULLY BRIDGE LAYOUT
FOR MORE INFORMATION ON BRIDGE

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
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6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-148, ELEV=64.55'
SET ½" IRON ROD WITH CAP
LOCATED APPROX 240' SOUTH OF THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

CP-147, ELEV=66.09'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

SIDEWALK GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
1	PC	18+08.31	61.00' LT
2	PT	18+19.10	60.02' LT
3	PC	18+38.51	56.48' LT
4	PT	18+49.29	55.50' LT
5	PC	18+32.04	67.00' LT
6	PRC	18+40.66	66.25' LT
7	PT	18+49.29	65.50' LT
8	PC	19+35.93	65.47' LT
9	PRC	19+45.11	66.23' LT
10	PT	19+53.83	67.00' LT
11	PC	19+34.40	55.50' LT
12	PRC	19+54.40	58.23' LT
13	PT	19+72.41	61.00' LT
14	PC	18+08.46	61.00' RT
15	PRC	18+19.86	58.25' RT
16	PT	18+31.25	55.50' RT
17	PC	18+19.83	67.00' RT
18	PRC	18+23.63	66.25' RT
19	PT	18+27.42	65.50' RT
20	PC	19+19.85	55.50' RT
21	PT	19+35.11	57.47' RT
22	PC	19+41.02	59.03' RT
23	PT	19+56.28	61.00' RT
24	PC	19+19.85	65.50' RT
25	PRC	19+28.48	66.25' RT
26	PT	19+37.10	67.00' RT

No.	DATE	REVISIONS	APP.

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Date

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Texas Registered Engineering Firm F-23290

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 16+50 TO STA 21+00

SHEET 7 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 234 OF 1067	

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Plotted on: 3/9/2026 6:28:24 PM
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BRICKHOUSE GULLY
UNIT # 115-00-00

CHANTILLY LN.

MATCH LINE STA 16+50

MATCH LINE STA 21+00

STA 16+50.80
EL=66.70 (W)

STA 17+00.00
EL=66.22 (E)

STA 18+31.36
EL=65.81 (E)

STA 18+50.76
EL=66.11 (W)

STA 19+11.36
EL=65.74 (E)

STA 19+30.76
EL=65.77 (W)

STA 20+48.98
EL=65.05 (W)

STA 20+64.98
EL=65.05 (E)

STA 20+68.98
EL=64.74 (W)

STA 20+95.79
EL=64.66 (W)

PROP EAST TOC

PROP WEST TOC

0.37% (E)

0.31% (E)

0.30% (W)

0.61% (W)

0.45% (E)

0.55% (E)

w-row

e-curb

w-curb

e-low cord bridge

w-abutment

w-low cord bridge

e-abutment

column

60° conc

CenterPoint Energy
4" ip stl gas main

exist. 6" CATV lead

exist. 21" stm.

exist. 24" stm.

exist. 18" stm.

exist. 18" stm. (approx. elev.)

exist. 24" stm.

exist. 18" san.

exist. 12" san.

exist. 12" pvc water

PROP STORM SEWER (SEE NOTE 1)

PROP SAN SWR (SEE NOTE 2

PROP STORM SEWER (SEE NOTE 1)

PROP STORM SEWER (SEE NOTE 1)

REFER TO BRICKHOUSE GULLY BRIDGE LAYOUT FOR MORE DETAIL

24" rcp

exist. 12" dip water

bb-inlet top 65.49 24" w-f 60.13

18" ne-f 60.10 sam mh 1A074004 top 66.12 18" n-f 56.82 18" s-f 57.44

stm mh top 65.65 24" ne-f 54.27 24" e-f 57.94 21" s-f 59.61 18" sw-f 58.52

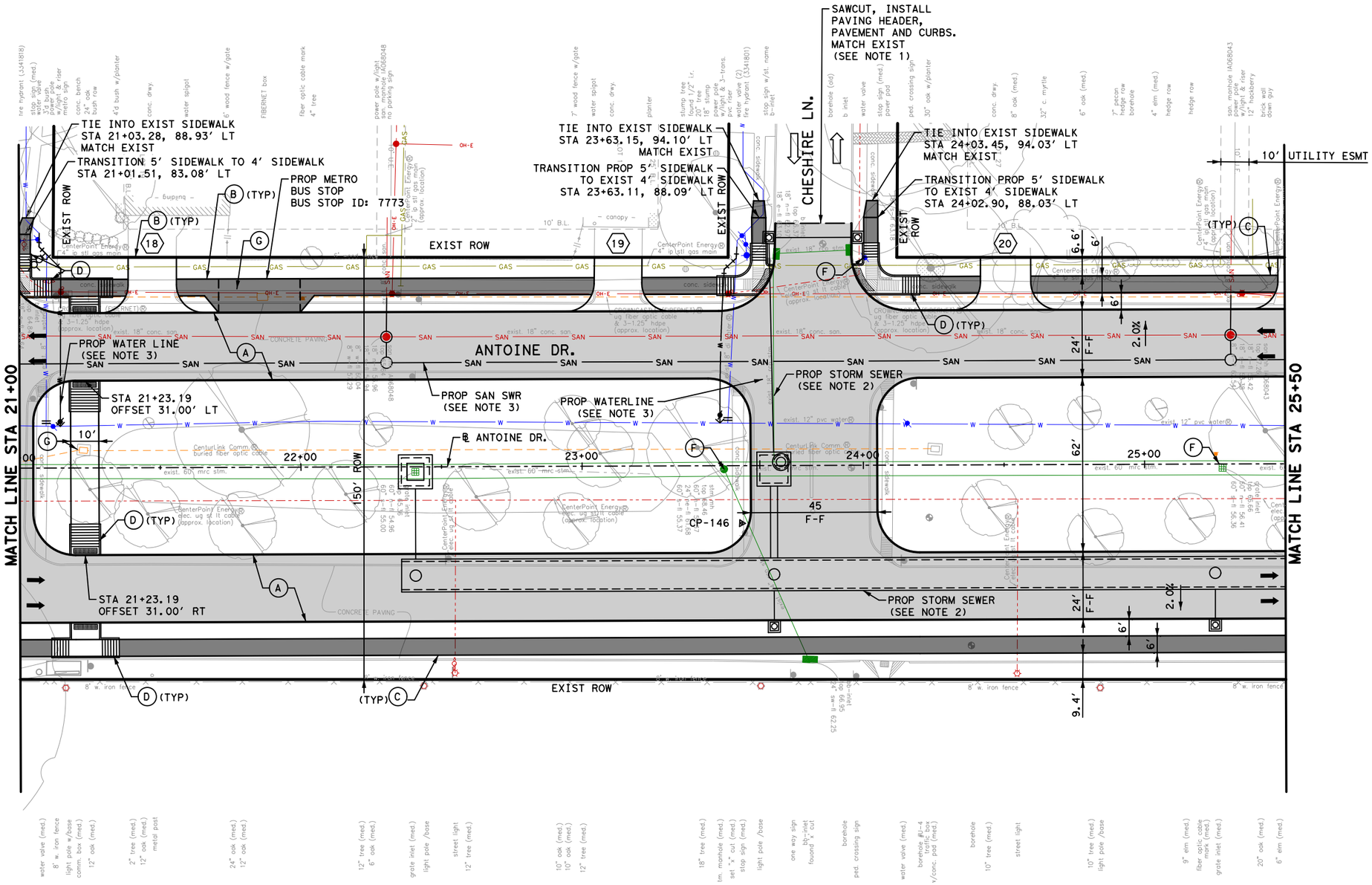
sam mh 1A068059 top 65.60 bottom 56.72 unable to see pipes

stm mh top 64.80 18" n-f 57.08 18" s-f 57.10

stm mh top 66.44 60" in-f 54.04 24" ne-f 60.58 60" s-f 54.12 sam mh 1A068054 top 64.76 18" n-f 56.96 18" s-f 57.02 12" w-f 57.00

bb-inlet top 64.90 24" sw-f 60.78

| | | |



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IBM INFO

CP-146, ELEV=62.28'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHESHIRE LN

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 21+00 TO STA 25+50

SHEET 9 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 236 OF 1067	

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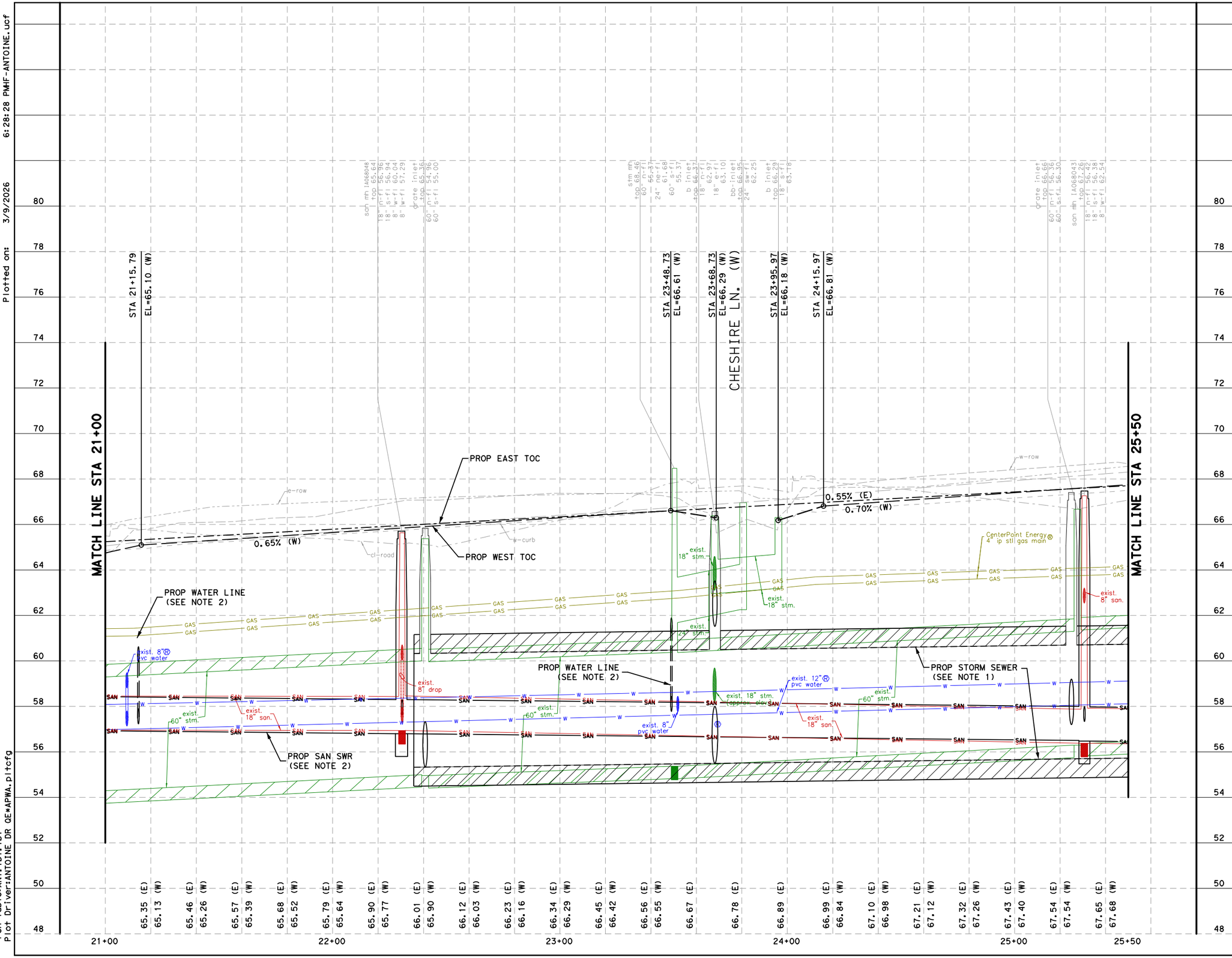

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 21+00 TO STA 25+50

SHEET 710 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 237 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 10.dgn

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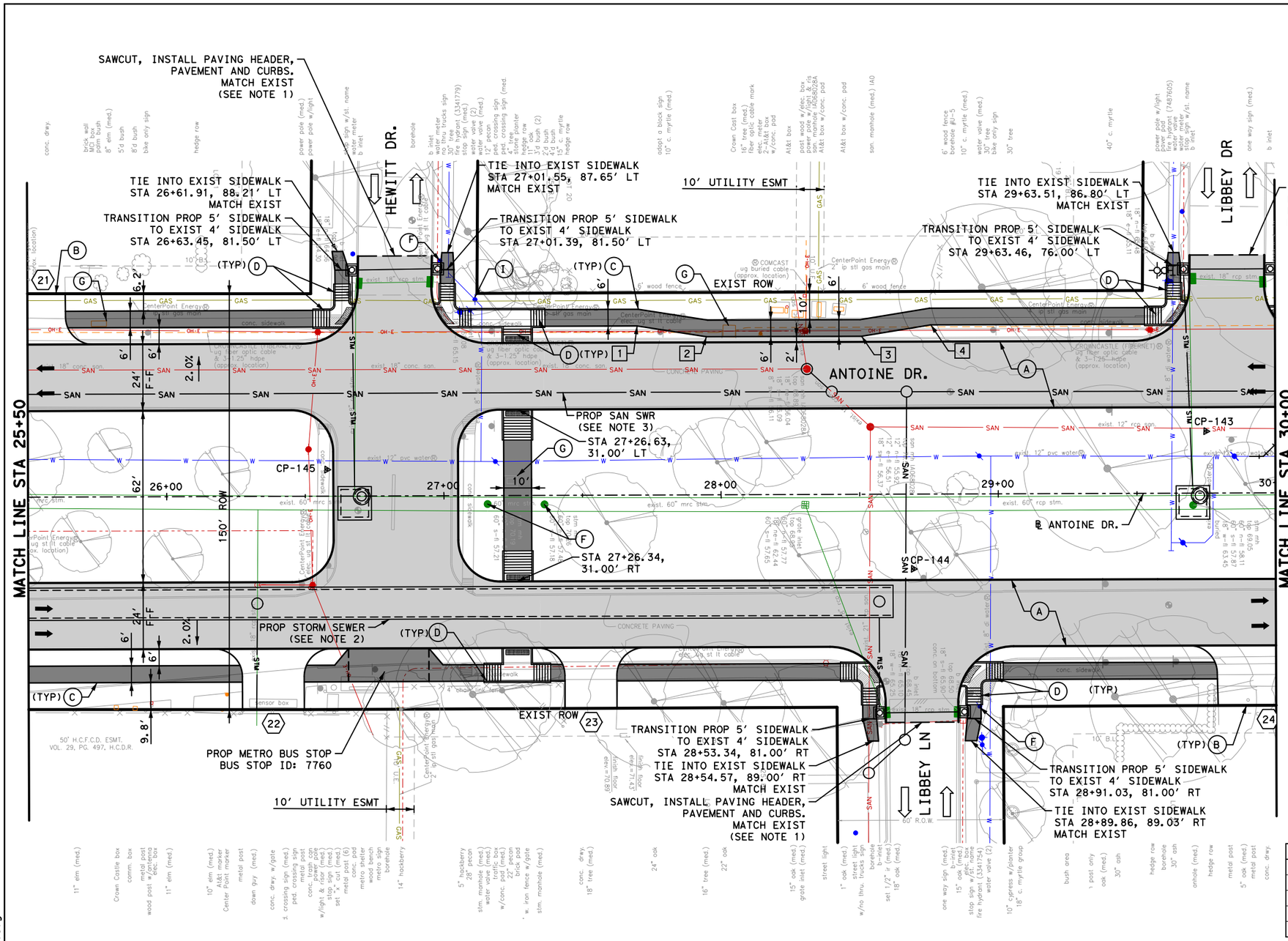
Plot Driver:ANTOINE DR QE*APWA.pltcfg



LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
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- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SIDEWALK GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
1	PI	27+69.90	61.00' LT
2	PI	27+94.90	57.00' LT
3	PI	28+50.86	57.00' LT
4	PI	28+75.86	61.00' LT

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

IBM INFO

CP-145, ELEV=69.40'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HEWITT DR

CP-144, ELEV=69.39'
SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY LN

CP-143, ELEV=70.52'
SET 1/2" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY DR

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 25+50 TO STA 30+00

SHEET 711 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 238 OF 1067	

Plotted on: 3/9/2026 6:28:30 PM
IF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 11.dgn

Plotted on: 3/9/2026 6:28:32 PMIF-ANTOINE.ucf

MATCH LINE STA 25+50

MATCH LINE STA 30+00

HEWITT DR. (W)

LIBBEY DR. (E)

LIBBEY DR. (W)

STA 26+49.17 EL=68.44 (W)

STA 26+69.16 EL=68.06 (W)

STA 26+95.72 EL=68.06 (W)

STA 27+15.72 EL=68.44 (W)

STA 27+89.87 EL=69.02 (E)

STA 28+39.07 EL=68.87 (E)

STA 28+59.07 EL=68.54 (E)

STA 28+85.34 EL=68.38 (E)

STA 29+05.34 EL=68.96 (E)

STA 29+49.18 EL=70.08 (W)

STA 29+69.18 EL=69.67 (W)

STA 29+96.14 Fl=69.86 (W)

PROP WEST TOC

PROP EAST TOC

0.70% (W)

0.55% (E)

0.30% (E)

0.70% (W)

0.50% (E)

PROP STORM SEWER (SEE NOTE 1)

PROP WATER LINE (SEE NOTE 2)

PROP SAN SWR (SEE NOTE 2)

cl-road

e-curb

w-curb

e-row

exist. 18" stm.

exist. 18" stm. (approx. elev.)

exist. 60" stm.

exist. 8" pvc water

exist. 12" pvc water

exist. 8" di water

exist. 18" san.

exist. 21" san.

exist. 12" san.

exist. 8" san.

CenterPoint Energy 4" ip stl gas main

exist. 8" pvc water

exist. 18" stm.

exist. 48" stm.

exist. 18" stm.

exist. 18" stm.

exist. 12" pvc water

exist. 8" pvc water

exist. 60" stm.

exist. 8" di water

exist. 18" stm.

25+50	26+00	27+00	28+00	29+00	30+00
67.76 (E)	67.87 (E)	67.98 (E)	68.09 (E)	68.20 (E)	68.31 (E)
67.82 (W)	67.96 (W)	68.10 (W)	68.24 (W)	68.38 (W)	
		68.42 (E)	68.53 (E)	68.64 (E)	68.75 (E)
				68.47 (W)	68.61 (W)
				68.86 (E)	68.97 (E)
				68.75 (W)	68.89 (W)
				68.99 (E)	68.93 (E)
				69.03 (W)	69.17 (W)
				69.31 (W)	69.45 (W)
				69.59 (W)	69.73 (W)
				69.03 (E)	69.13 (E)
				69.87 (W)	70.01 (W)
				69.23 (E)	69.33 (E)
					69.43 (E)

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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Approved for AT&T underground conduit facilities only. Date
Signature valid for one year.

No.	DATE	REVISIONS	APP.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
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713.777.5337

SURVEYED BY:
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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

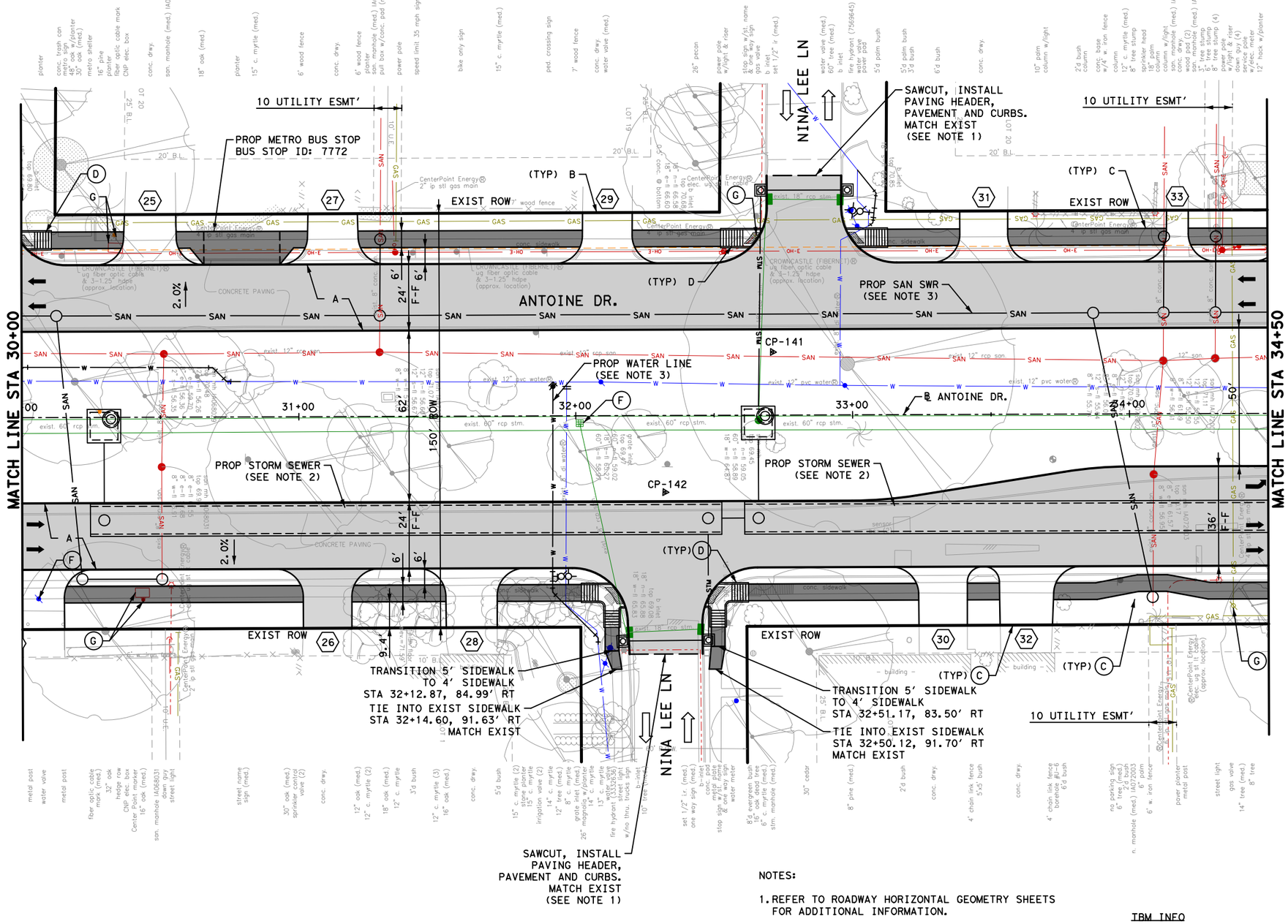
ROADWAY PROFILE
STA 25+50 TO STA 30+00

SHEET 712 OF 800

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 239 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 12.dgn



NOTES:

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4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-142, ELEV=70.12'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF
ANTOINE DR AND NINA LEE LN

CP-141, ELEV=70.96'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF
ANTOINE DR AND NINA LEE LN

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 30+00 TO STA 34+50

SHEET 13 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 240 OF 1067	

Plotted on: 3/9/2026 6:28:34 PM
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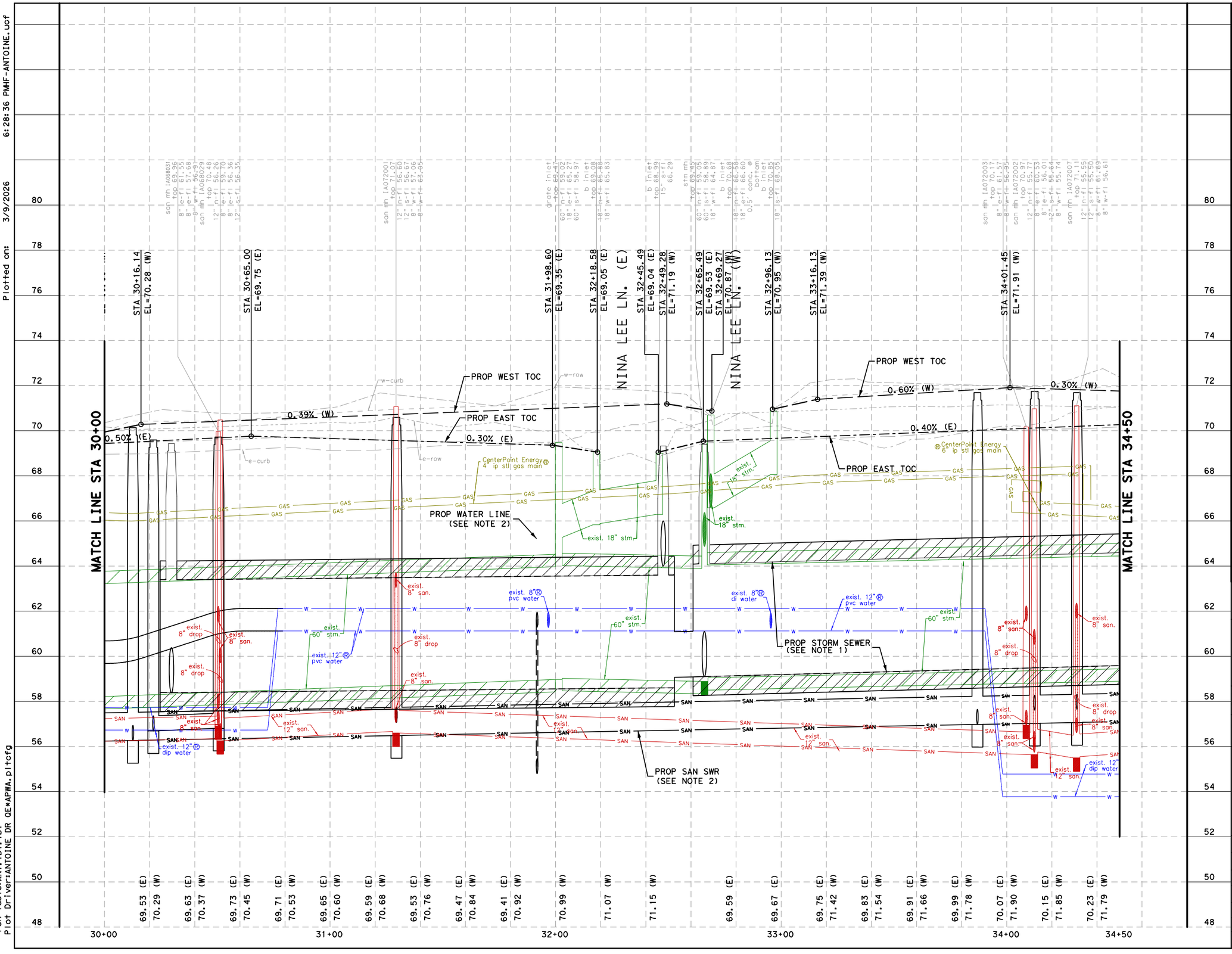
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\0050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 13.dgn

Plotted on: 3/9/2026 6:28:36 PM\F-ANTOINE.ucf



No.	DATE	REVISIONS	APP.

NOTES:

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2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 30+00 TO STA 34+50

SHEET 14 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 241 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 14.dgn

Pen Table:ANT.tbl
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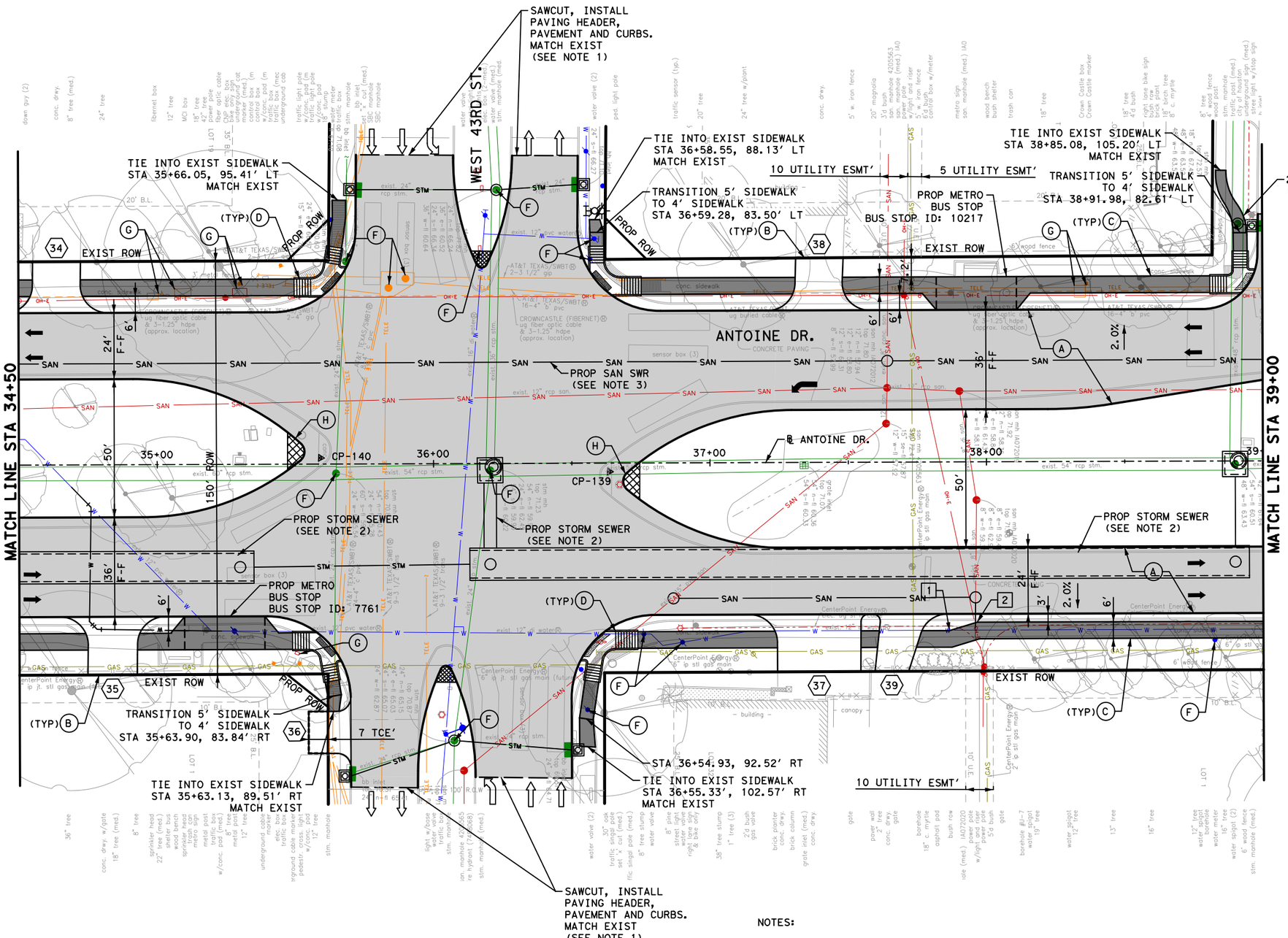

SIDEWALK GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
1	PI	37+86.43	61.00' RT
2	PI	67+96.48	58.00' RT

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
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5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-140, ELEV=71.43'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

CP-139, ELEV=71.48'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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VERIFICATION OF PRIVATE UTILITY LINES

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Date

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Texas Registered Engineering Firm F-23290

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 34+50 TO STA 39+00

SHEET 15 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 242 OF 1067	

Plotted on: 3/9/2026 6:28:38 PM
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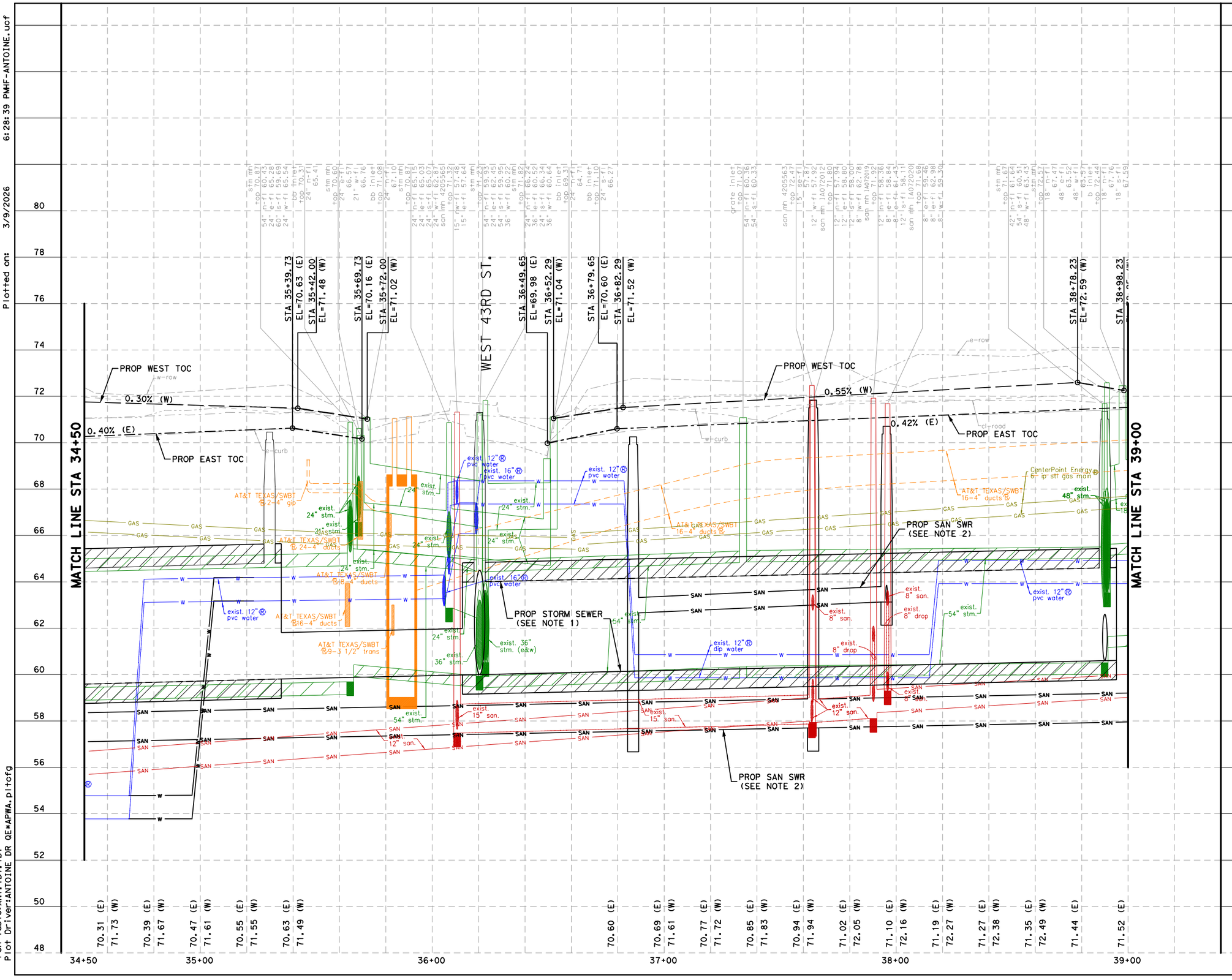
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEETS\RDWY P&P SHT\PR_RDWY 15.dgn

Plotted on: 3/9/2026 6:28:39 PMF-ANTOINE.ucf



NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Date: MARCH 2026
License: 90169
Item: 60% SUBMITTAL
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 34+50 TO STA 39+00

SHEET 716 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 243 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
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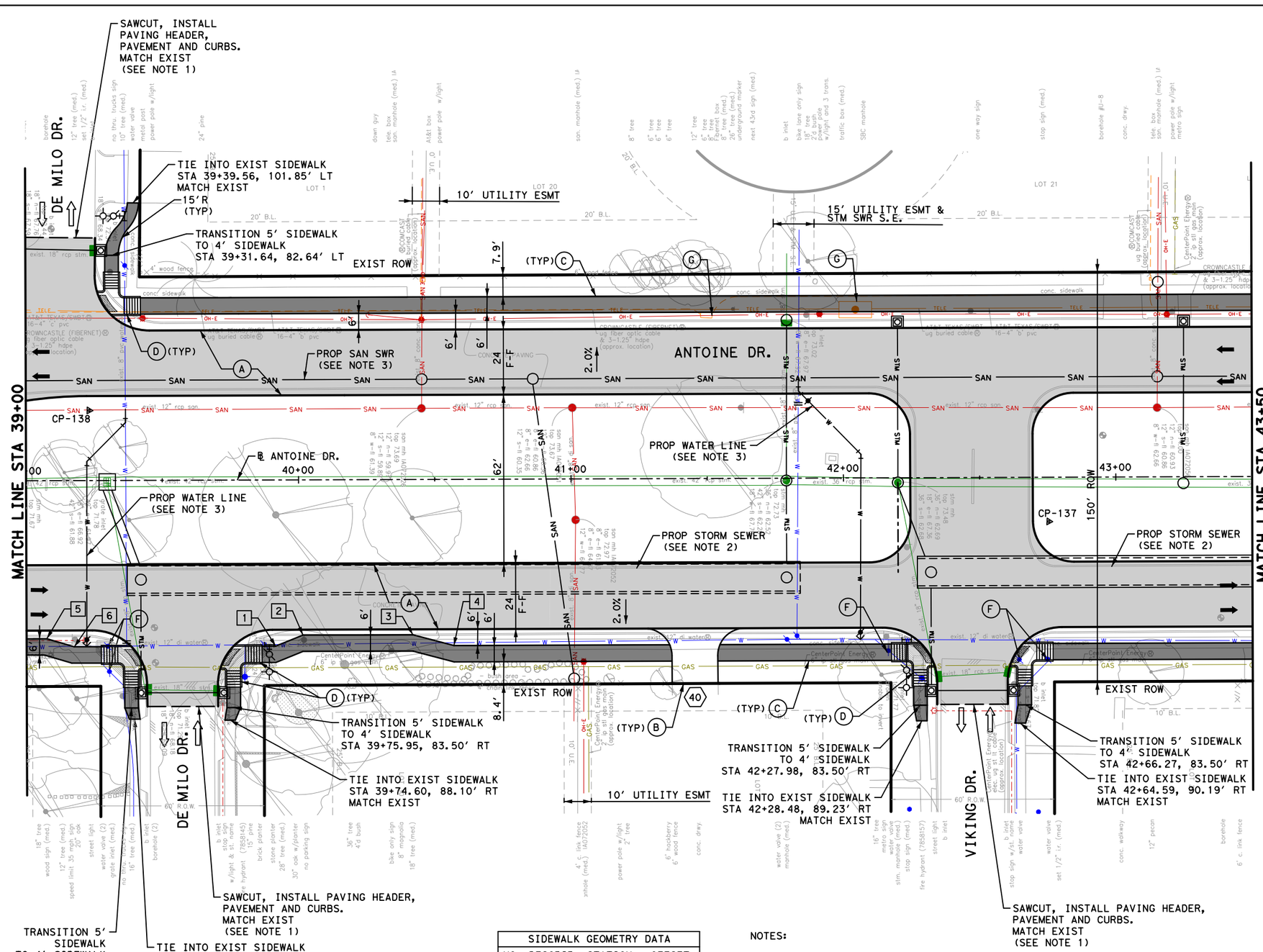

SIDEWALK GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
1	PI	39+91.42	61.00' RT
2	PI	40+01.42	57.00' RT
3	PI	40+41.80	57.00' RT
4	PI	40+56.82	61.00' RT
5	PI	39+07.44	58.00' RT
6	PI	39+17.45	61.00' RT

NOTES:

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4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-138, ELEV=72.61'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE MILO DR

CP-137, ELEV=73.29'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VIKING DR

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 39+00 TO STA 43+50

SHEET 17 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 244 OF 1067	

Plotted on: 3/9/2026 6:28:41 PM
F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\RDWY P&P SHT\PR_RDWY 17.dgn

Plotted on: 3/9/2026 6:28:43 PMF-ANTOINE.ucf

DE MILO DR. (W)

DE MILO DR. (E)

VIKING DR. (E)

MATCH LINE STA 39+00

MATCH LINE STA 43+50

STA 39+24.17 EL=71.62 (E)
STA 39+25.45 EL=72.13 (W)
STA 39+44.17 EL=71.31 (E)
STA 39+45.46 EL=72.45 (W)
STA 39+70.21 EL=71.23 (E)
STA 39+90.21 EL=71.70 (E)
STA 41+15.00 EL=73.32 (W)
STA 41+75.00 EL=72.44 (E)
STA 42+14.17 EL=72.28 (E)
STA 42+20.00 EL=73.01 (W)
STA 42+34.17 EL=71.79 (E)
STA 42+60.03 EL=71.76 (E)
STA 42+80.03 EL=72.38 (E)

0.42% (E)
0.52% (W)
0.30% (W)
0.40% (E)
0.40% (E)
0.33% (W)
0.30% (E)

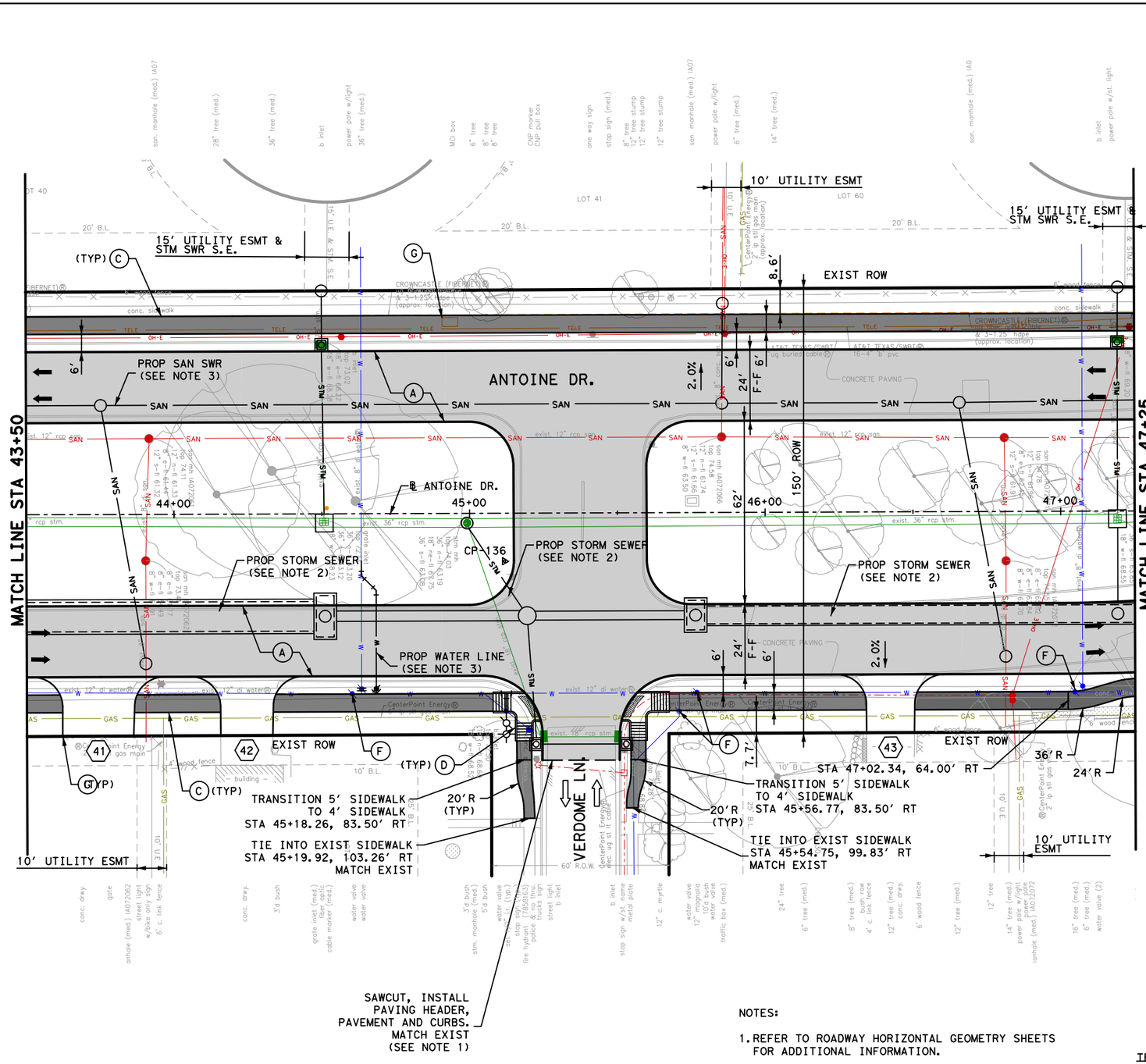
PROP WEST TOC
PROP EAST TOC
PROP EAST TOC

PROP WATER LINE (SEE NOTE 2)
PROP STORM SEWER (SEE NOTE 1)
PROP SAN SWR (SEE NOTE 2)

CenterPoint Energy® 6" ip stl gas main
AT&T TEXAS/SWBT 16 GAS ducts ®
AT&T TEXAS/SWBT 16-4" ducts ®

exist. 18" stm. (e&w)
exist. 8"® pvc water
exist. 6" fh lead
exist. 12"® pvc water
exist. 8" san.
exist. 8" drop
exist. 12" san.
exist. 18" stm. approx. elev.

| | | |



NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
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3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
6. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

TBM INFO

CP-136, ELEV=73.88'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VERDOME LN

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- PROP PAVEMENT
- PROP CONCRETE MEDIAN NOSE
- PROP SIDEWALK
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

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Date

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Signature valid for six months.

Approved for AT&T underground conduit facilities only. Signature valid for one year. Date

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713.777.5337

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License 90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 43+50 TO STA 47+25

SHEET 19 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
HORIZ 1"=40'	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 246 OF 1067	

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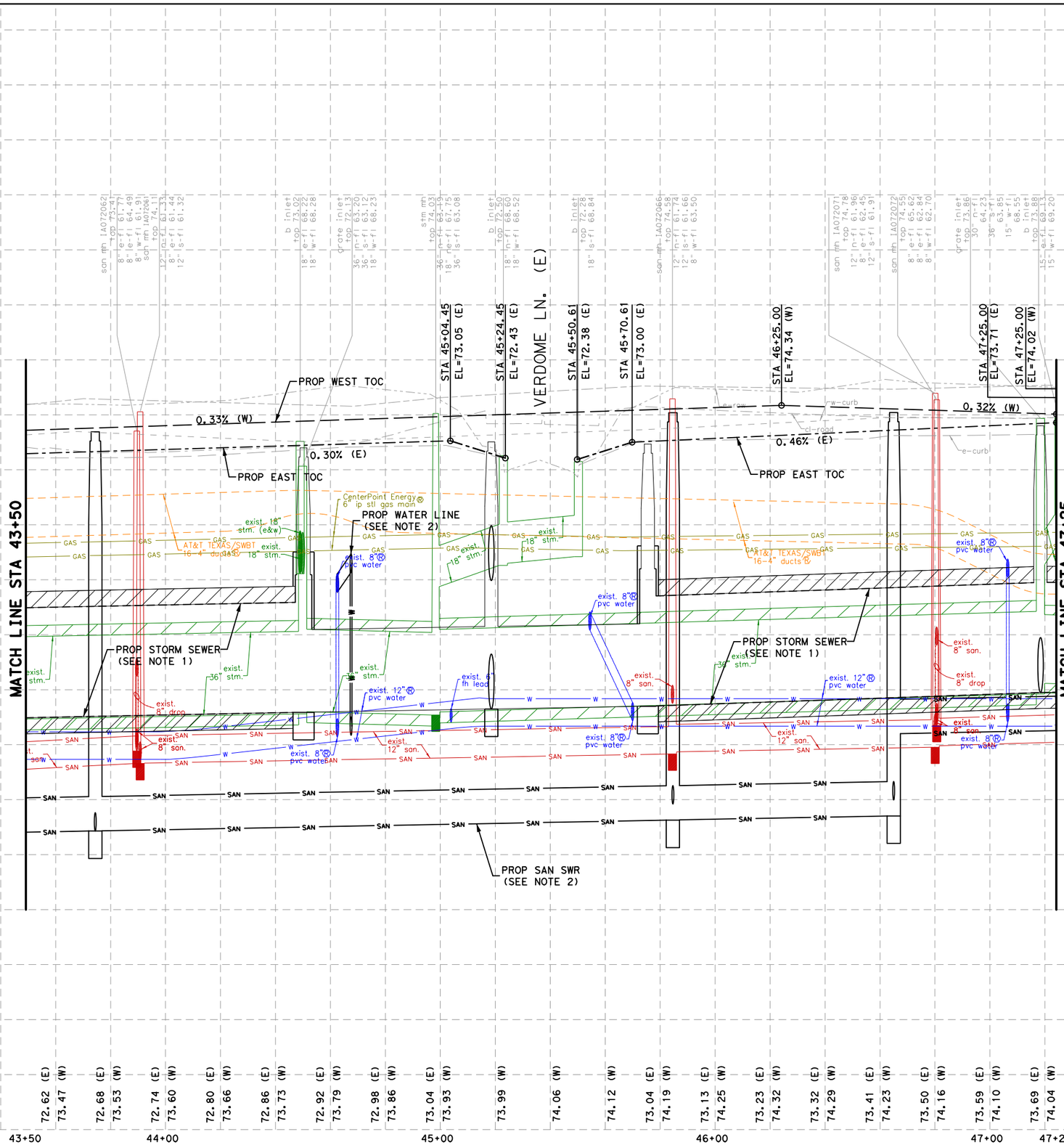

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HORZ 0' 20' 40'
VERT 0' 2' 4'
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90169
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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 43+50 TO STA 47+25

SHEET 720 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 247 OF 1067	

No.	DATE	REVISIONS	APP.

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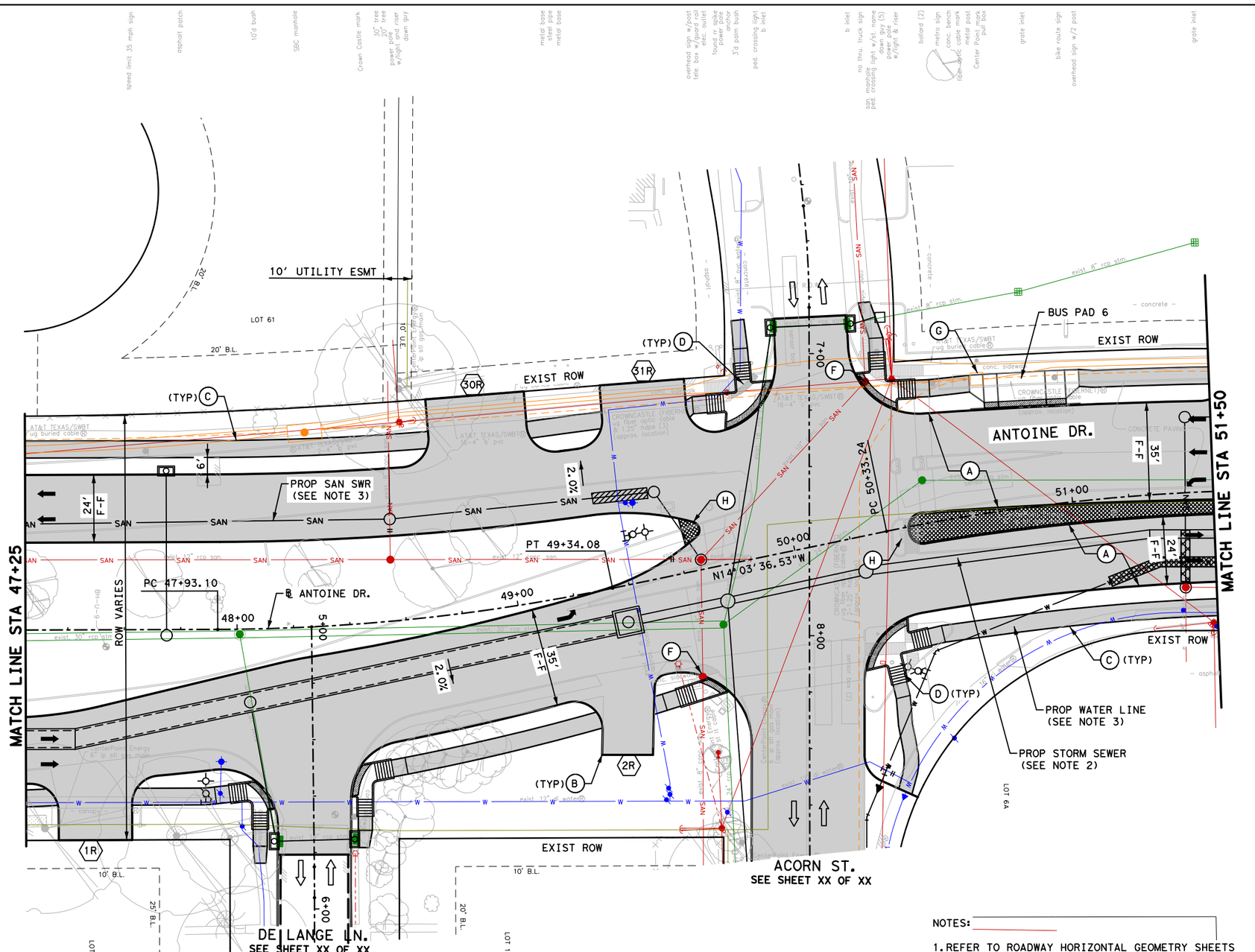

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
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- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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State 91874
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Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 47+25 TO STA 51+50

SHEET 7:1 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 248 OF 1067	

NOTES:

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4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
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speed limit 35 mph sign · asphalt patch · 10'd bush · SBC manhole · Crown Castle mark · 30" tree · 20" tree · power pole w/light and riser · down guy · metal base · steel pipe · metal base · overhead sign w/post · tele. box w/guard rail · elec. outlet · found rr spike · power pole · power box · 3'd palm bush · ped. crossing light · b inlet · b inlet · no thru truck sign · ped. crossing light · pole · down guy (5) · power pole · w/light & riser · bollard (2) · metro sign · conc. bench · fiber optic cable mark · metal post · Center Point mark · pull box · grate inlet · bike route sign · overhead sign w/2 post · grate inlet

planter · 12" tree (med.) · grate inlet (med.) · 30" tree · 12" tree (med.) · 6" tree (med.) · conc. drwy. · borehole #w-9 · 12" tree (med.) · 28" tree w/planter · 20" tree w/planter · water valve (2) · 12" c. myrtle · 8" tree stump (med.) · 8'd bush (med.) · 5'd bush (med.) · stm. manhole (med.) · police & trucks only · 6" c. myrtle · b inlet · wooden sign (med.) · set 1/2" ir. (med.) · b inlet · 5'd bush · light pole w/a. name · stop sign · 6" tree (med.) · 10" tree (med.) · 12" c. myrtle · 18" c. myrtle · 12" c. myrtle · 12" c. myrtle · san. manhole (med.) · 12" c. myrtle · 20" c. myrtle · 14" oak (med.) · 24" c. myrtle · 15" c. myrtle · 12" oak (med.) · water valve (med.) · fire hydrant (med.) · light pole · metro sign · traffic box w/base · water valve (3) · ped. crossing light · fiber optic cable mark · stm. manhole · san. manhole · panel box (2) · traffic box · stm. manhole · traffic post (med.) · traffic box (med.) · water valve · metal post · elec. box (med.) · ped. crossing light · ped. crossing light (med.) · traffic signal pole (med.) · traffic pull box (med.) · stm. manhole · water valve · do not enter sign (med.) · down guy · water meter · san. manhole

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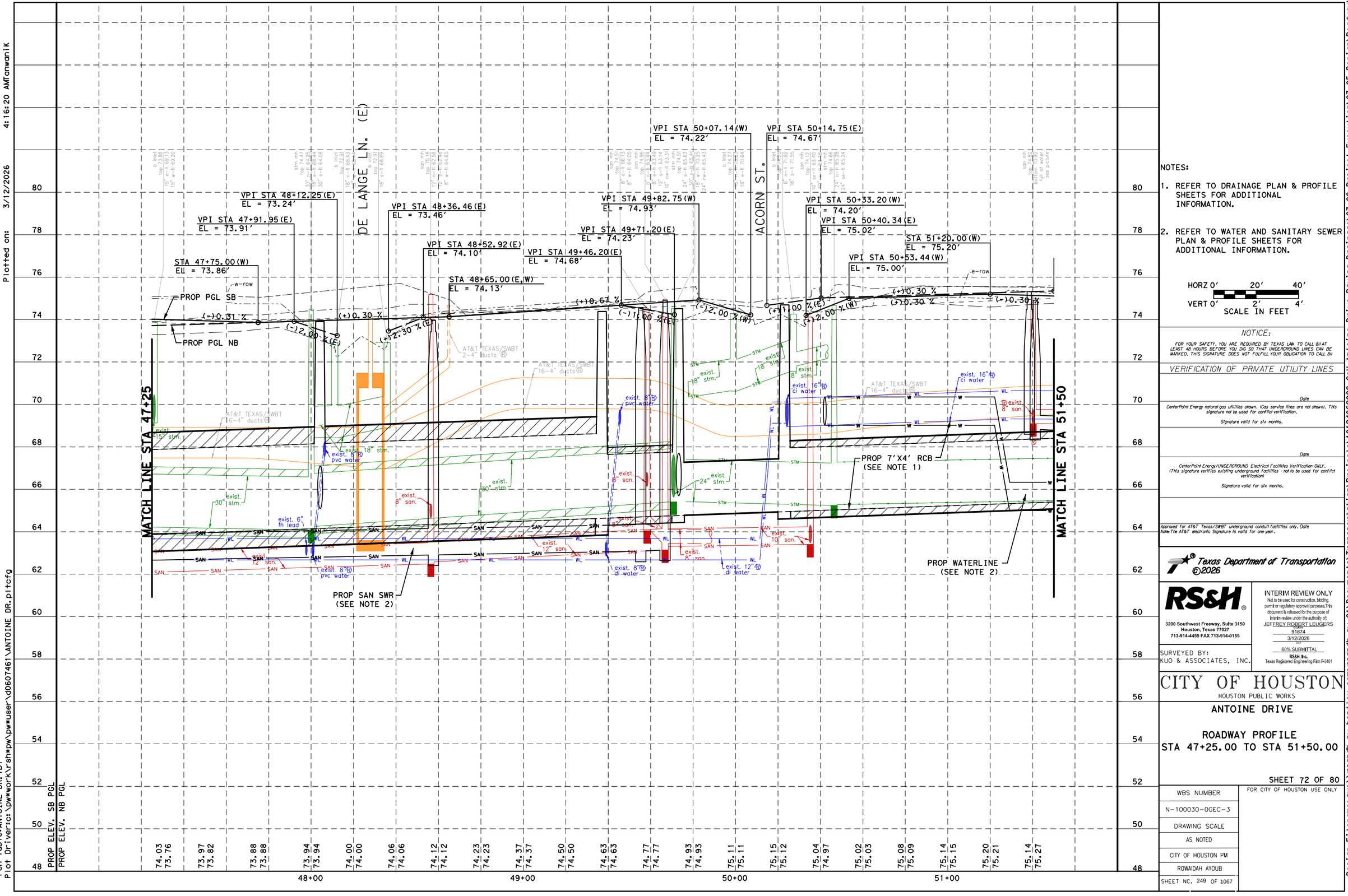

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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RS&H, Inc. Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

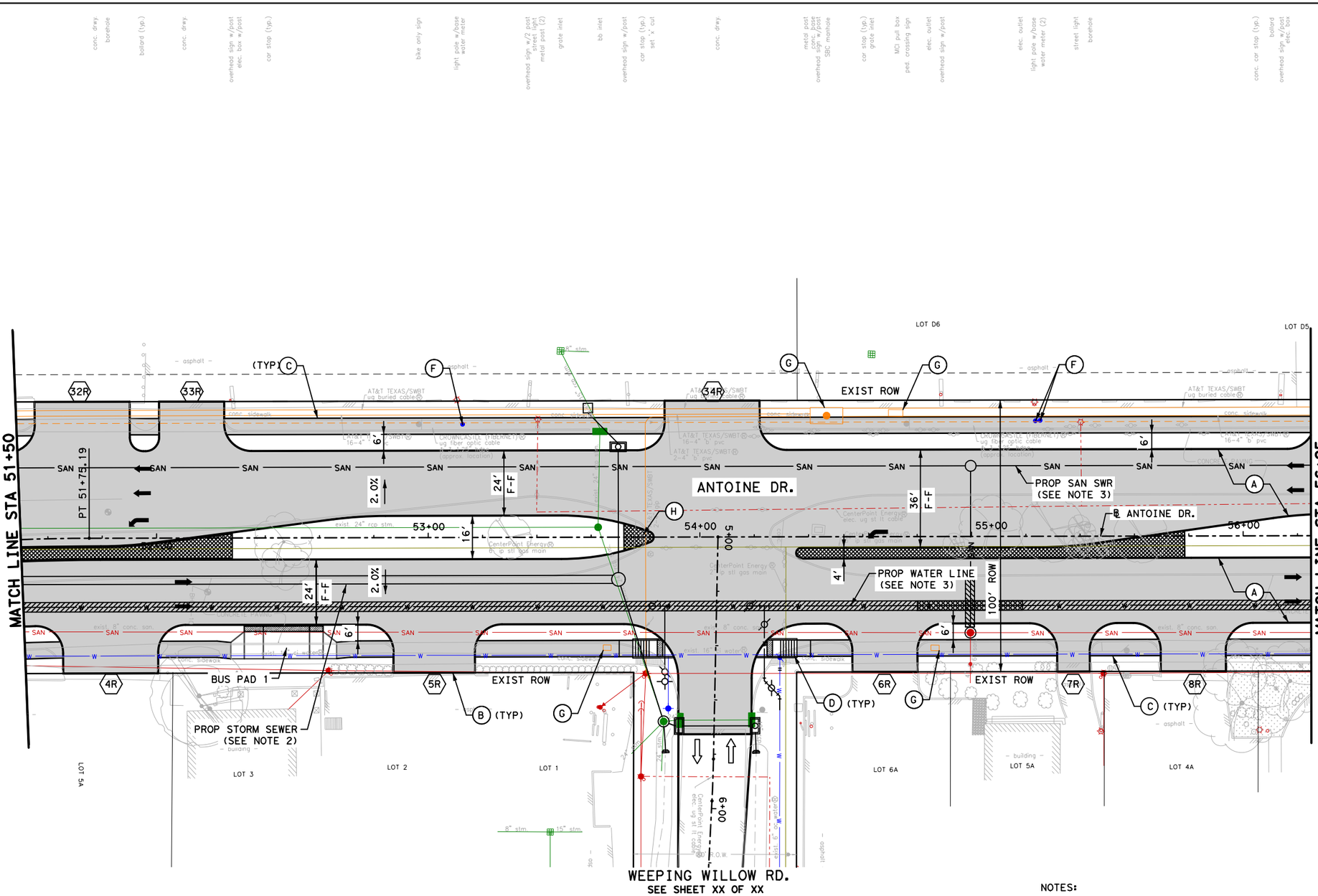
ANTOINE DRIVE

ROADWAY PROFILE
STA 47+25.00 TO STA 51+50.00

SHEET 72 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NC. 249 OF 1067	

Plotted on: 3/12/2026 4:16:24 AM anwanik



LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 51+50.00 TO STA 56+25.00

SHEET 7?3 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 250 OF 1067	

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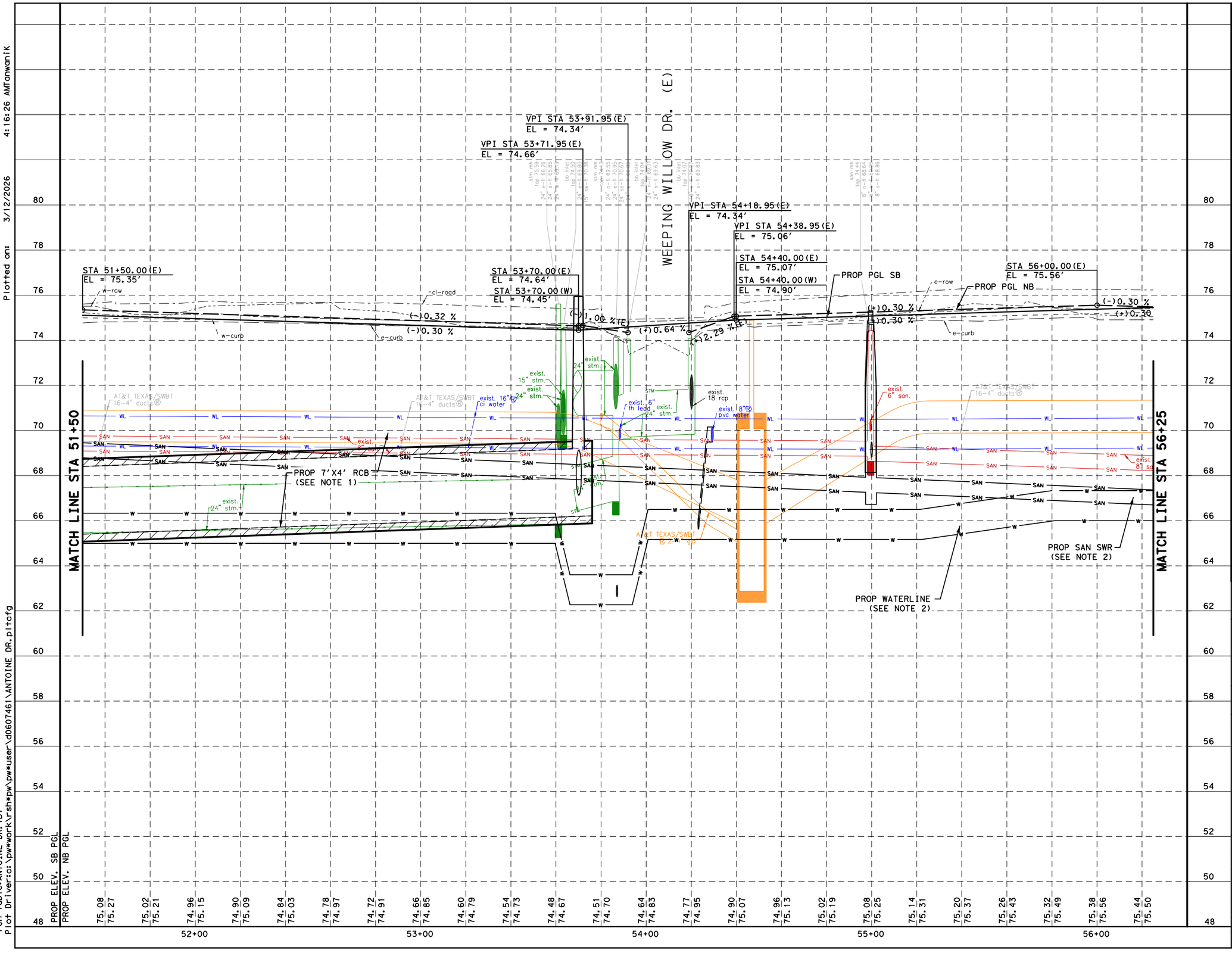

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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ANTOINE DRIVE

ROADWAY PROFILE
STA 51+50.00 TO STA 56+25.00

SHEET 74 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 251 OF 1067	

Plotted on: 3/12/2026 4:16:26 AMTanwanik

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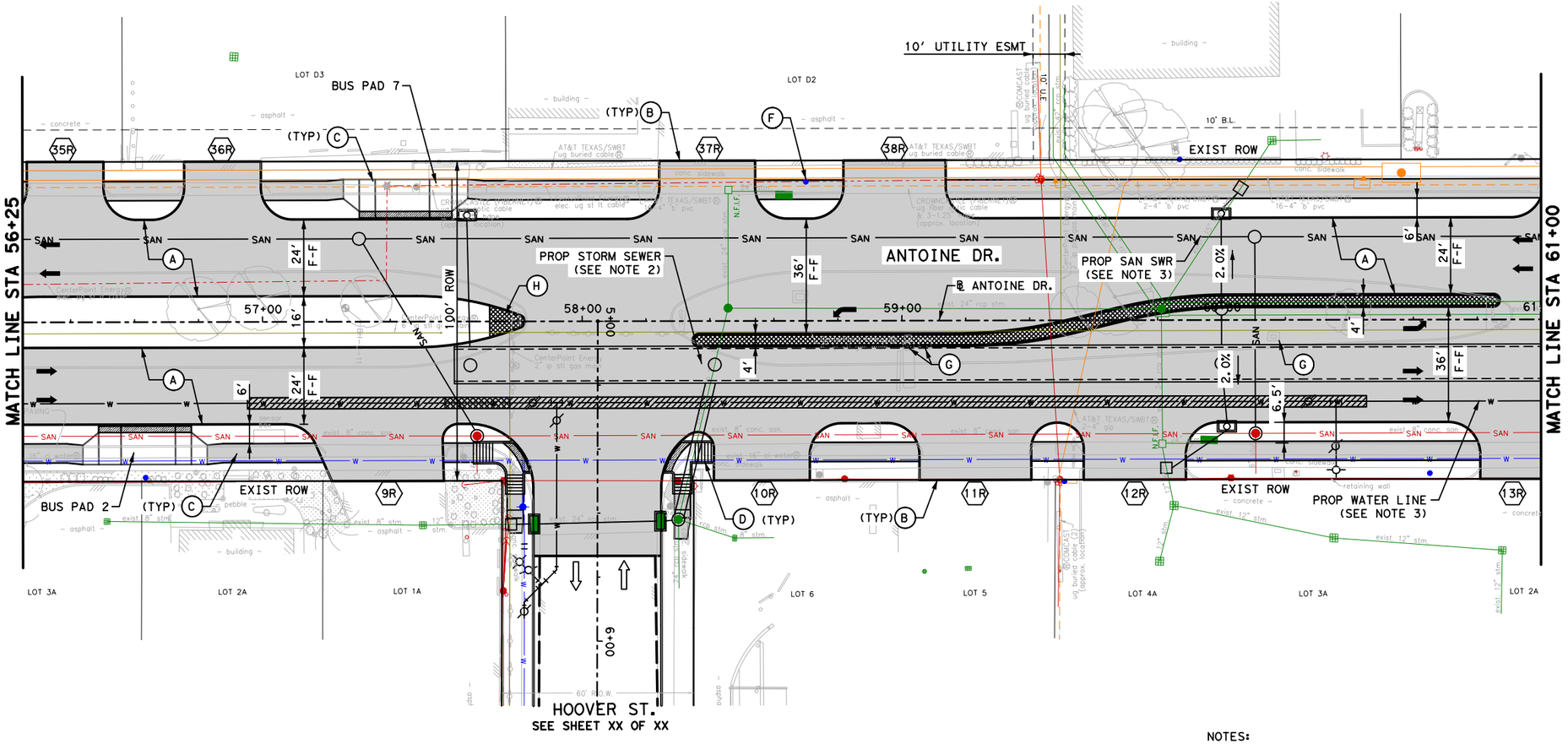

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
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- (X) PROP DRIVEWAY No.

0' 20' 40'
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 56+25 TO STA 61+00

SHEET 7?5 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 252 OF 1067	

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Plotted on: 3/12/2026 4:16:31 AMTanwanik

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Plotted on: 3/12/2026 4:16:33 AM anwanik
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HOOVER ST. (E)

VPI STA 58+24.64(E)
EL = 74.75'

VPI STA 57+64.64(E)
EL = 74.75'

VPI STA 58+33.28(E)
EL = 75.31'

STA 56+40.00(W)
EL = 75.50'

STA 57+64.00(W)
EL = 75.12'

STA 57+64.00(E)
EL = 75.06'

STA 58+70.15(E)
EL = 75.43'

STA 58+75.00(W)
EL = 75.45'

STA 60+00.00(E)
EL = 75.05'

STA 60+00.00(W)
EL = 75.08'

STA 60+75.00(W)
EL = 75.53'

PROP PGL SB

PROP PGL NB

(-)0.30 %

(+)0.30 %

(-)2.00 %(E)

(+)2.80 %(E)

(+)0.60 %

MATCH LINE STA 56+25

MATCH LINE STA 61+00

PROP WATERLINE
(SEE NOTE 2)

PROP 10'X5' RCB
(SEE NOTE 1)

PROP SAN SWR
(SEE NOTE 2)

PROP ELEV. SB PGL

PROP ELEV. NB PGL

56+25	57+00	58+00	59+00	60+00	61+00
75.50 / 75.44	75.44 / 75.38	75.38 / 75.31	75.32 / 75.26	75.26 / 75.20	75.20 / 75.14
75.14 / 75.08	75.17 / 75.12	75.23 / 75.19	75.29 / 75.26	75.35 / 75.33	75.41 / 75.40
75.44 / 75.41	75.38 / 75.34	75.32 / 75.29	75.26 / 75.23	75.20 / 75.17	75.14 / 75.11
75.08 / 75.05	75.20 / 75.11	75.32 / 75.17	75.44 / 75.22	75.54 / 75.28	75.60

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Approved for AT&T Texas/SWBT underground conduit facilities only. Date
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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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60% SUBMITTAL
RS&H, Inc. Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 56+25.00 TO STA 61+00.00

SHEET 76 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 253 OF 1067	

Plotted on: 3/12/2026 4:16:36 AM anwanik

HARDWAY ST.
SEE SHEET XX OF XX

PINEMONT DR.
SEE SHEET XX OF XX

MATCH LINE STA 61+00

MATCH LINE STA 66+00

ANTOINE DR.

BUS PAD 8

EXIST ROW

PROP SAN SWR
(SEE NOTE 3)

PROP STORM SEWER
(SEE NOTE 2)

BUS PAD 3
(TYP) C

PROP WATER LINE
(SEE NOTE 3)

PROP ROW

LOT 40

LOT 39A

LOT 1

HARDWAY ST.
SEE SHEET XX OF XX

PINEMONT DR.
SEE SHEET XX OF XX

NOTES:

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5. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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Houston, Texas 77027
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Date 91874
3/12/2026
for 60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 61+00.00 TO STA 66+00.00

SHEET 7 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 254 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: c:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg

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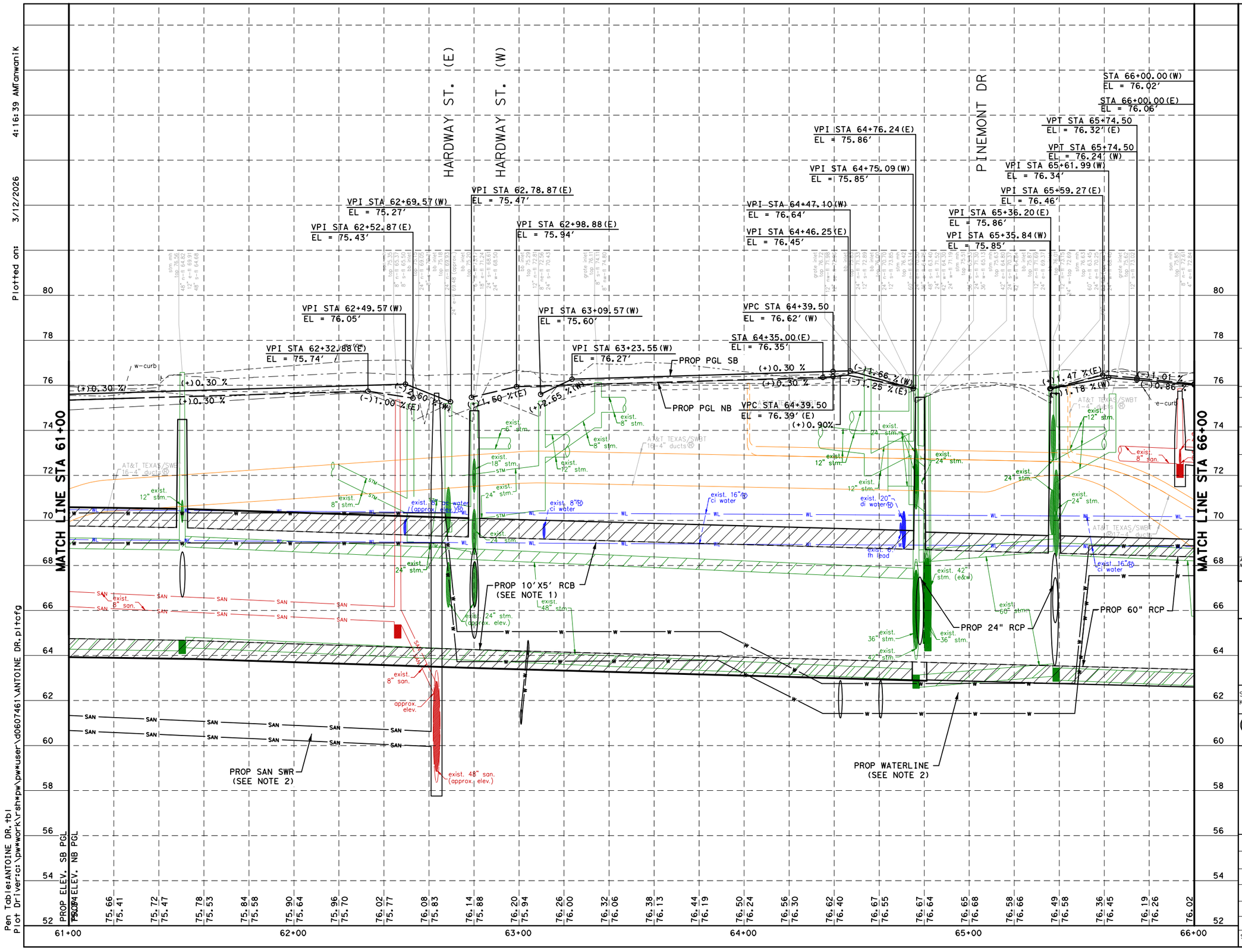

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 61+00.00 TO STA 66+00.00

SHEET 78 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 255 OF 1067	

Plotted on: 3/12/2026 4:16:39 AM anwanik
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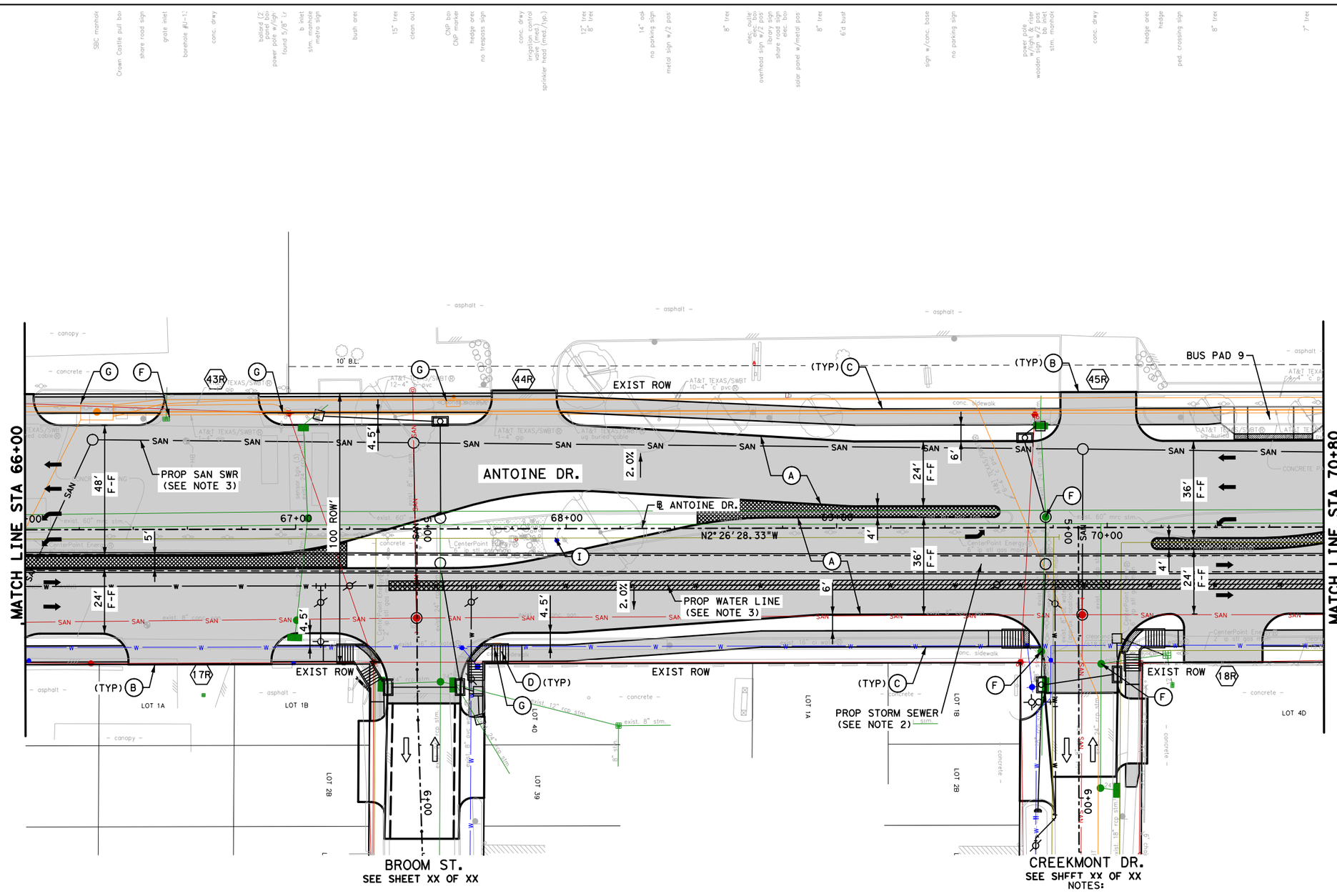

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 66+00.00 TO STA 70+80.00

SHEET 79 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 256 OF 1067	

Pen Table:ANTOINE DR.tbl
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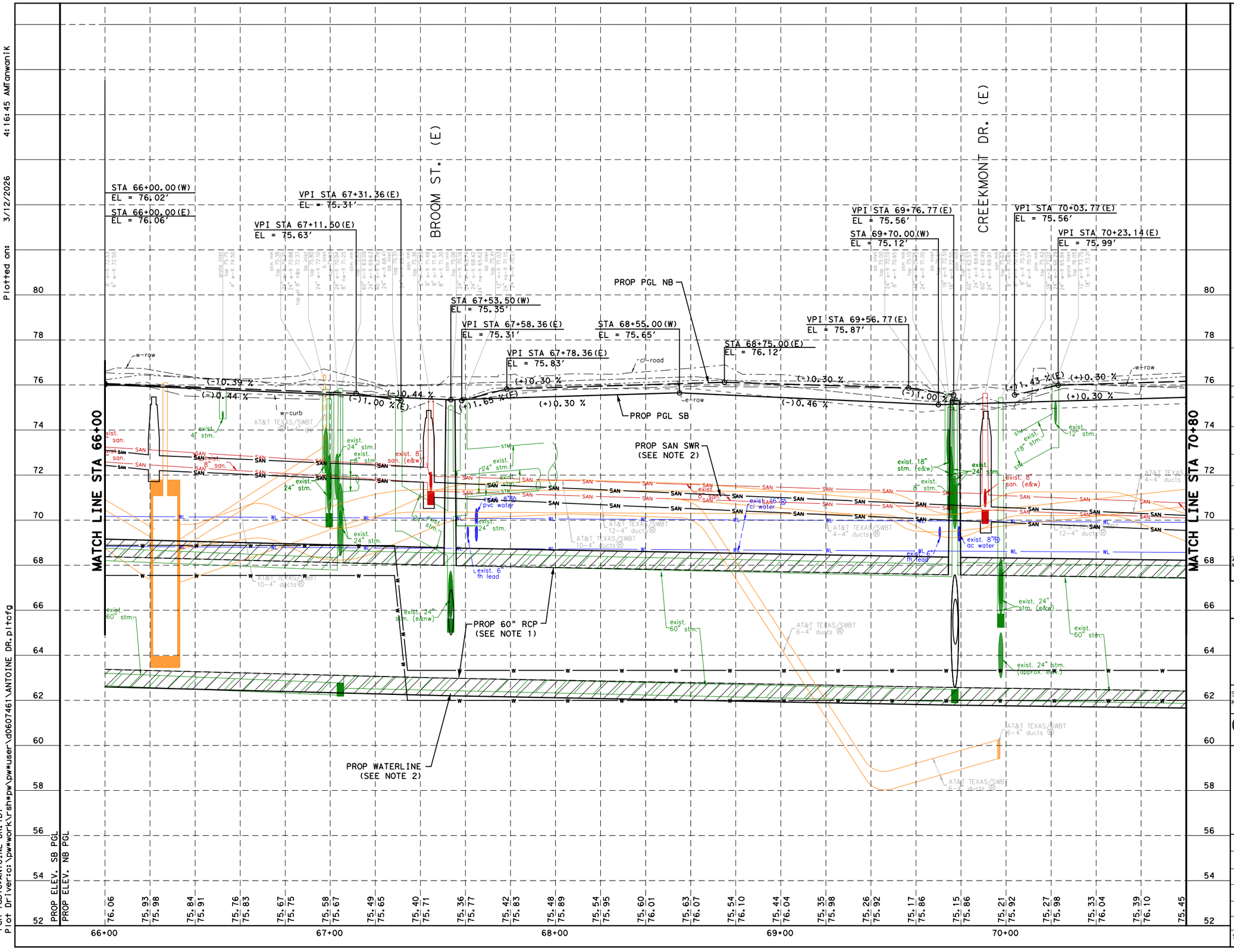

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 66+00.00 TO STA 70+80.00

SHEET 70 OF 80

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	257 OF 1067

FOR CITY OF HOUSTON USE ONLY

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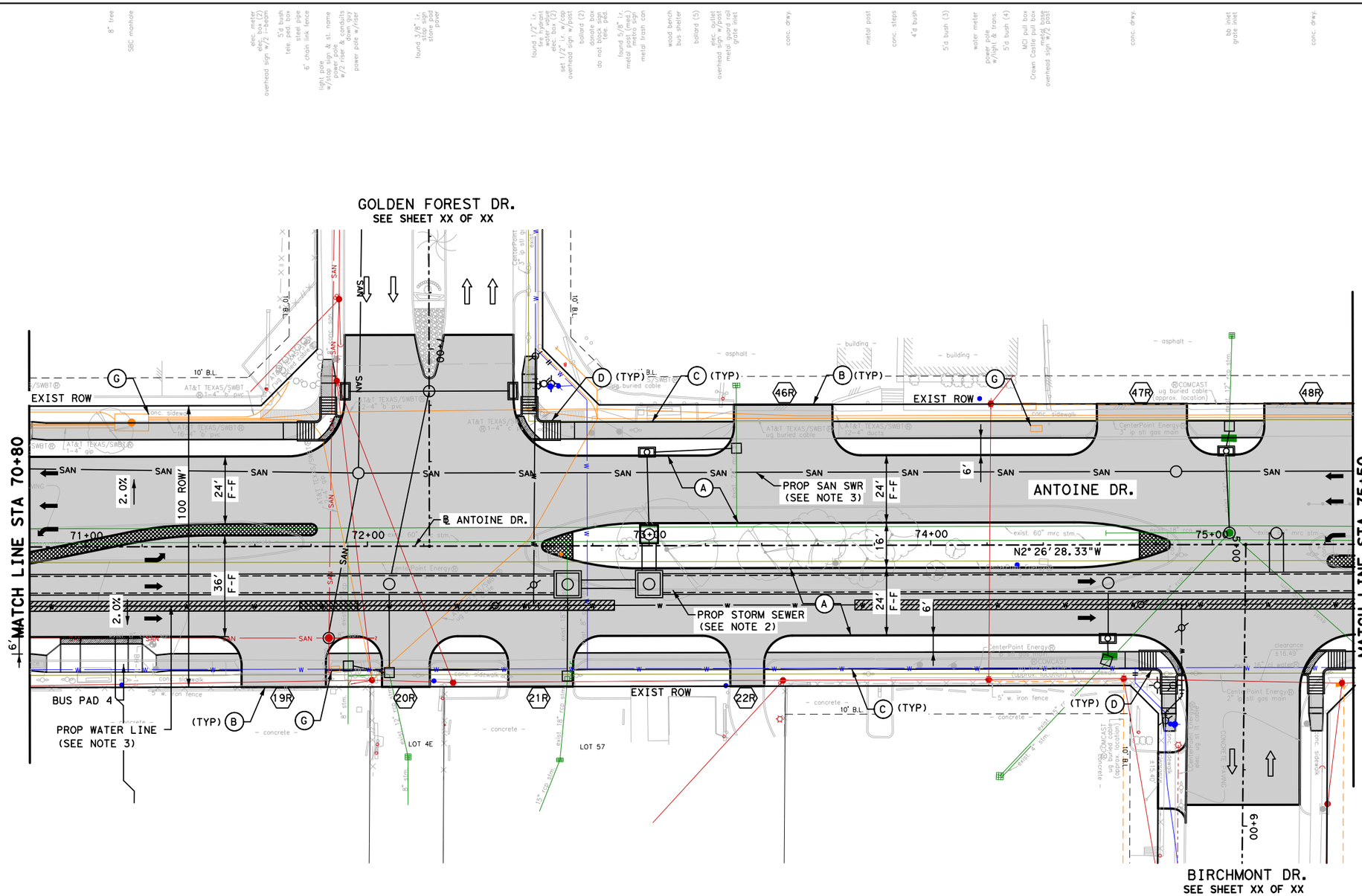

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
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- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 70+80.00 TO STA 75+50.00

SHEET 731 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 258 OF 1067	

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

Plotted on: 3/12/2026 4:16:48 AMTanwanik

Pen Table:ANTOINE DR.tbl
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Plotted on: 3/12/2026 4:16:50 AM anwanik
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GOLD FOREST DR. (W)

VPI STA 71+92.00(W)
EL = 75.46'
VPI STA 71+86.27(W)
EL = 75.90'
VPI STA 71+72.00(W)
EL = 75.73'
STA 71+60.00(E)
EL = 76.40'
VPI STA 72+52.00(W)
EL = 75.46'
VPI STA 72+57.71(W)
EL = 75.60'
VPI STA 72+72.00(W)
EL = 75.44'
STA 72+75.00(E)
EL = 75.83'
STA 73+00.00(W)
EL = 75.35'
STA 73+75.00(W)
EL = 75.58'
VPI STA 74+90.96(E)
EL = 75.63'
VPI STA 74+70.96(E)
EL = 75.31'
STA 74+63.00(E)
EL = 75.26'
STA 74+63.00(W)
EL = 75.09'
VPI STA 75+30.96(E)
EL = 75.63'
STA 75+05.00(W)
EL = 74.96'

MATCH LINE STA 70+80
MATCH LINE STA 75+50

PROP PGL NB
PROP PGL SB
e-curb
w-curb
cl-road
e-row
(+)0.30 %
(±)0.30 %
(-)0.50 %
(-)0.30 %
(+)1.00%(W)
(-)2.92%(W)
(-)1.00%(W)
(-)0.55 %
(+)0.65%
(-)0.16 %(E)
(+)1.00 %(E)
(-)0.30 %
(+)0.30 %

exist. 8" stm.
exist. 12" stm.
exist. 15" stm.
exist. 15" stm.
exist. 18" stm.
exist. 24" stm.
exist. 60" stm.
exist. 8" san
exist. 16" ci water
exist. 8" di water
exist. 18" stm. (approx. elev.)
exist. 24" stm. (approx. elev.)
PROP 60" RCP (SEE NOTE 1)
PROP SAN SWR (SEE NOTE 2)
PROP WATERLINE (SEE NOTE 2)
AT&T TEXAS/SWBT @ 2-3 1/2" ducts
AT&T TEXAS/SWBT @ 1-4" duct
AT&T TEXAS/SWBT @ 2-4" ducts

PROP ELEV. SB PGL
76.16 75.51 75.57 75.63 75.69 75.72 75.66 75.60 75.54 75.47 75.41 75.35 75.41 75.47 75.53 75.55 75.44 75.33 75.22 75.11 75.04 74.98 75.01 75.07
76.22 76.28 76.34 76.40 76.30 76.20 76.10 76.00 75.90 75.81 75.75 75.69 75.63 75.57 75.51 75.45 75.39 75.33 75.27 75.37 75.50 75.51 75.35

PROP ELEV. NB PGL

70+50 71+00 72+00 73+00 74+00 75+00

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RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 70+80.00 TO STA 75+50.00

SHEET 32 OF 80

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHE 259	OF 1067

FOR CITY OF HOUSTON USE ONLY

Plotted on: 3/12/2026 4:16:53 AM anwanik
Pen Table: ANTOINE DR.tbl
Plot Driver: c:\pw\work\rsh\pw\pw\user\d0607461\ANTOINE DR.pltcfg
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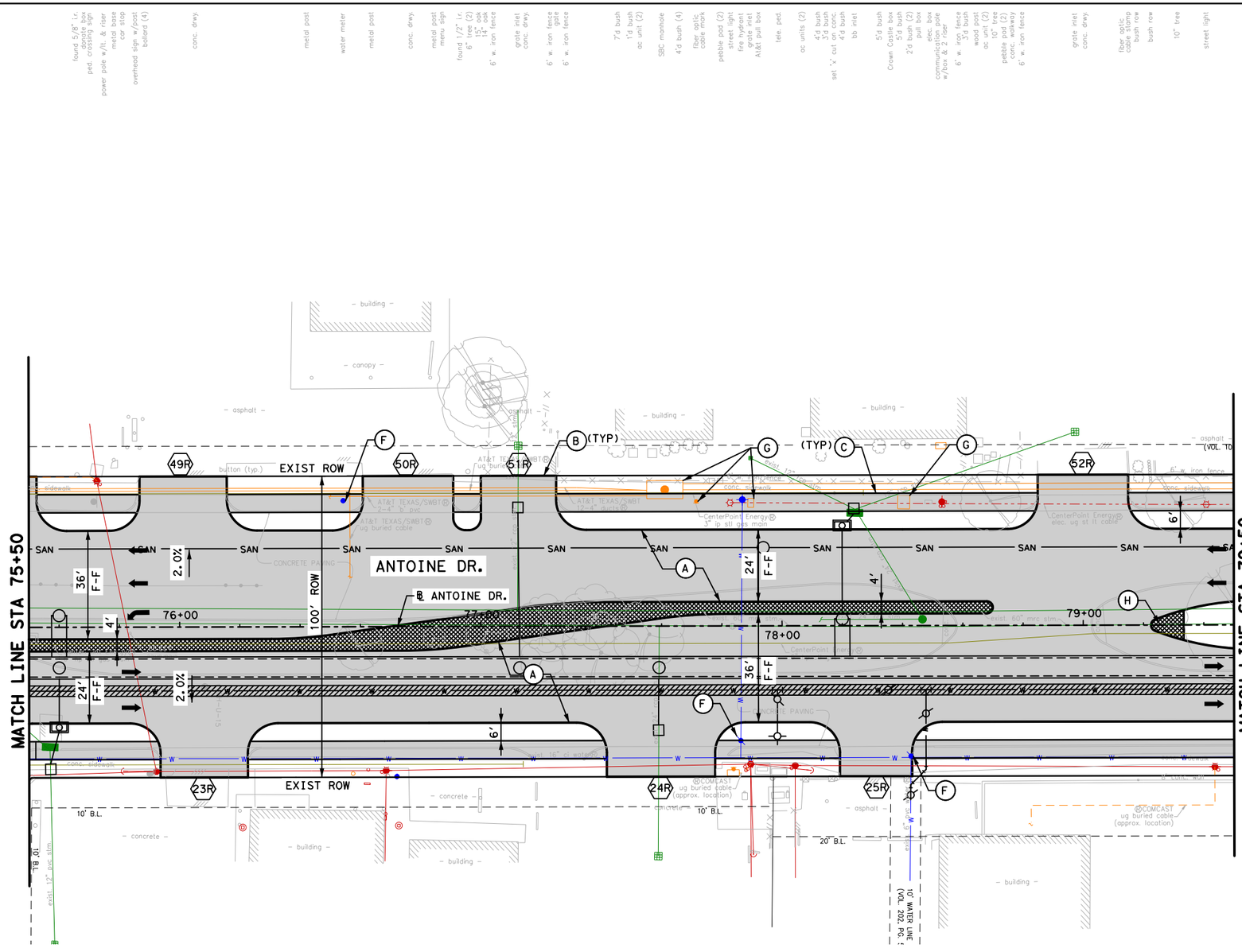

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
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0' 20' 40'
SCALE IN FEET

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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

INTERIM REVIEW ONLY
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91874
3/12/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 75+50.00 TO STA 79+50.00

SHEET 7.3 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NC. 260 OF 1067	

Plotted on: 3/12/2026 4:16:56 AM anwani K

BIRCHMONT DR. (E)

MATCH LINE STA 75+50

MATCH LINE STA 79+50

VPI STA 75+50.96 (E)
EL = 75.26'

STA 75+60.00 (E)
EL = 75.19'

STA 76+00.00 (W)
EL = 75.25'

STA 77+30.00 (E)
EL = 75.70'

PROP PGL NB

STA 78+20.00 (W)
EL = 74.55'

STA 78+85.00 (W)
EL = 74.75'

STA 79+25.00 (E)
EL = 75.12'

(+)0.30 %
(-)0.80%
(-)0.32 %
(+)0.30 %
(-)0.30 %
(-)0.32 %
(+)0.30 %
(-)0.30 %
(-)0.31 %
(-)0.47 %

cl-road
e-curb
w=curb
e-row
w=row

PROP PGL SB

exist. 12" stm.
AT&T TEXAS/SWBT 12-4" ducts
AT&T TEXAS/SWBT 2-4" b pvc
exist. 12" stm. (e&w)
exist. 6" ci water
exist. 24" stm.
exist. 12" stm.
exist. 6" pvc water
exist. 6" fh lead
exist. 60" stm.
exist. 12" stm. (approx. elev.)
exist. 24" stm. (approx. elev.)

PROP 60" RCP (SEE NOTE 1)

PROP WATERLINE (SEE NOTE 2)

PROP SAN SWR (SEE NOTE 2)

	76+00	77+00	78+00	79+00
PROP ELEV. SB PGL	75.13	75.19	74.93	75.61	74.74	75.61	74.61	75.49	74.55	75.43	74.67	75.31	74.73	75.25	74.64	75.13
PROP ELEV. NB PGL	75.19	75.25	74.87	75.67	74.68	75.55	74.61	75.37	74.70	75.19	74.58	75.05

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

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Date

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 75+50.00 TO STA 79+50.00

SHEET 34 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 240 OF 261	

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Plotted on: 3/12/2026 4:16:59 AM fanwanik
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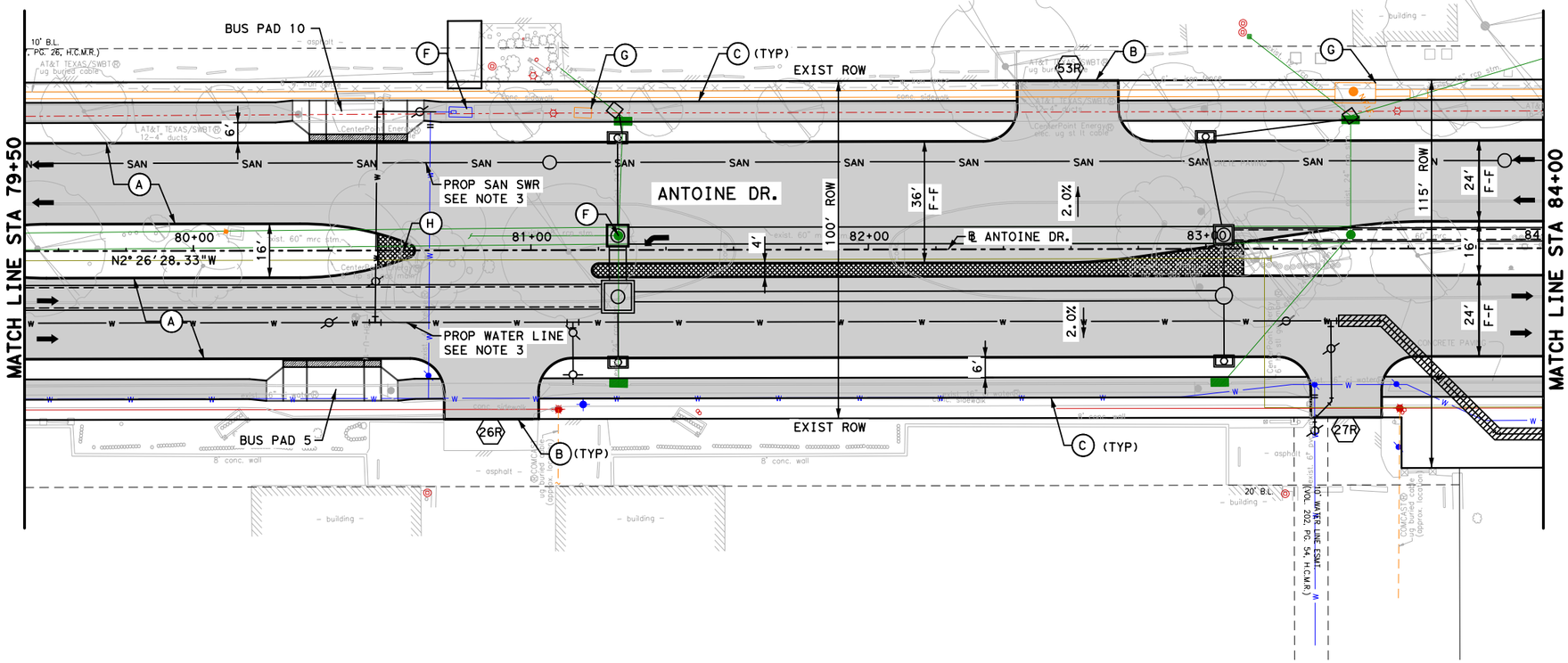

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

NOTES:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 79+50.00 TO STA 84+00.00

SHEET 75 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 262 OF 1067	

Plotted on: 3/12/2026 4:17:01 AM anwanik
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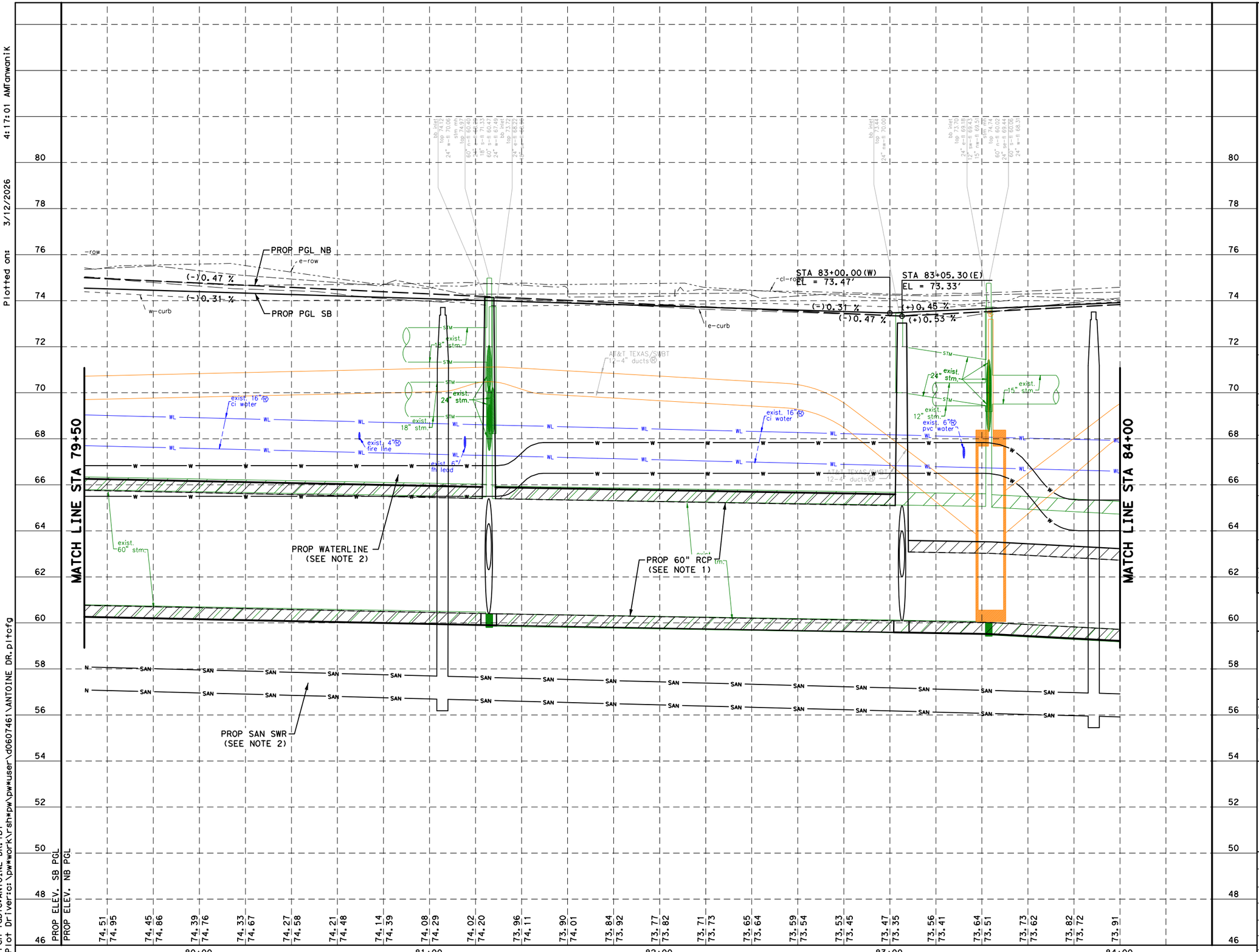

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VERT 0' 2' 4'
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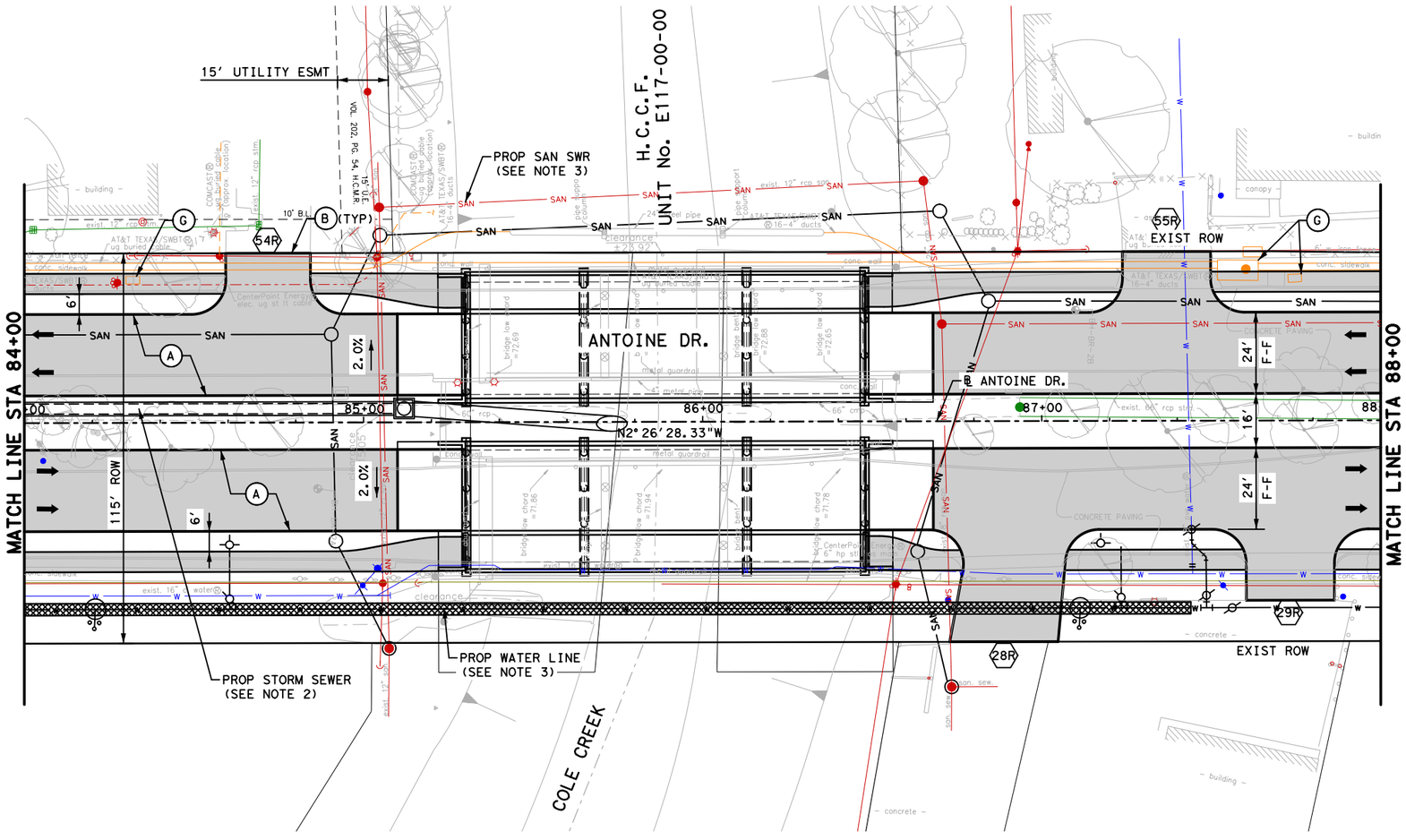
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 79+50.00 TO STA 84+00.00

SHEET 76 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 263 OF 1067	



LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
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- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 84+00.00 TO STA 88+00.00

SHEET 737 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 264 OF 1067	

NOTES:

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Plotted on: 3/12/2026 4:17:04 AM fanwanik

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Plotted on: 3/12/2026 4:17:06 AM anwanik

STA 85+00.00 (E, W)
EL = 74.36'

PROP PGL NB & SB

STA 86+00.01 (E, W)
EL = 74.76'

STA 87+05.00
EL = 74.34'
ex = -0.14'
K = 100
L = 105.00'

VPT STA 87+57.50
EL = 73.58' (E, W)

VPC STA 86+52.50 EL. = 74.55' (E, W)

(+)0.45 %
(+)0.53 %
(+)0.40 %
(-)0.40 %
(-)0.40 %
(-)1.45 %

MATCH LINE STA 84+00

MATCH LINE STA 88+00

H.C.C.F. UNIT # E117-00-00

PROP 60" RCP (SEE NOTE 1)

PROP SAN SWR (SEE NOTE 2)

PROP WATERLINE (SEE NOTE 2)

24" stl pipe

w-low cord bridge

e-low cord bridge

w-abutment

e-abutment

column

e-low

w-curb

cl-road

exist. 16" ci water

exist. 8" pvc water

exist. 8" san.

exist. 12" san. (w)

exist. 12" san. (e&w)

exist. 24" san.

exist. san. line (size unknown)

AT&T TEXAS/SWBT 16-4" ducts

60" rcp

66" cmp

exist. 66" stm.

PROP ELEV. SB PGL: 73.83 74.00 74.09 74.18 74.27 74.36 74.44 74.52 74.60 74.68 74.76 74.68 74.60 74.52 74.40 74.25 74.05 73.82 73.54 73.25 72.96

PROP ELEV. NB PGL: 73.94 74.04 74.15 74.25 74.36 74.44 74.52 74.60 74.68 74.76 74.68 74.60 74.52 74.40 74.25 74.05 73.82 73.54 73.25

84+00 85+00 86+00 87+00 88+00

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 84+00.00 TO STA 88+00.00

SHEET 78 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 265 OF 1067	

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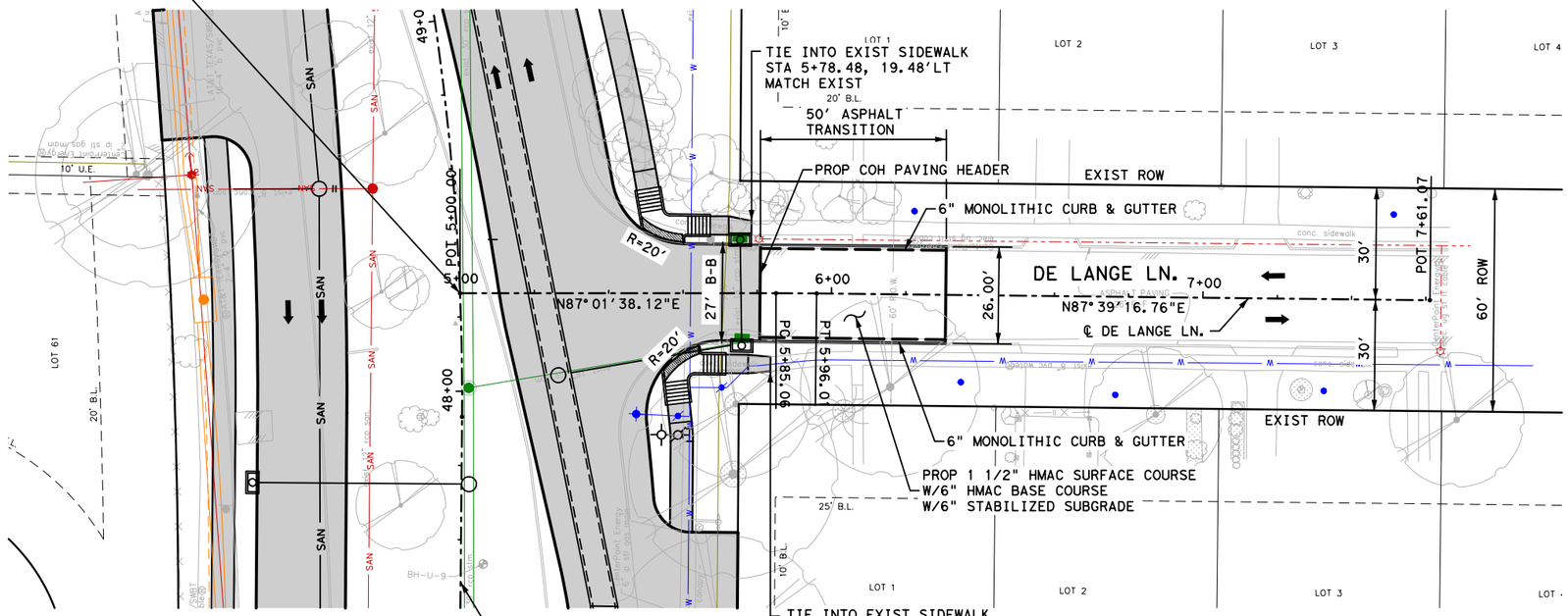
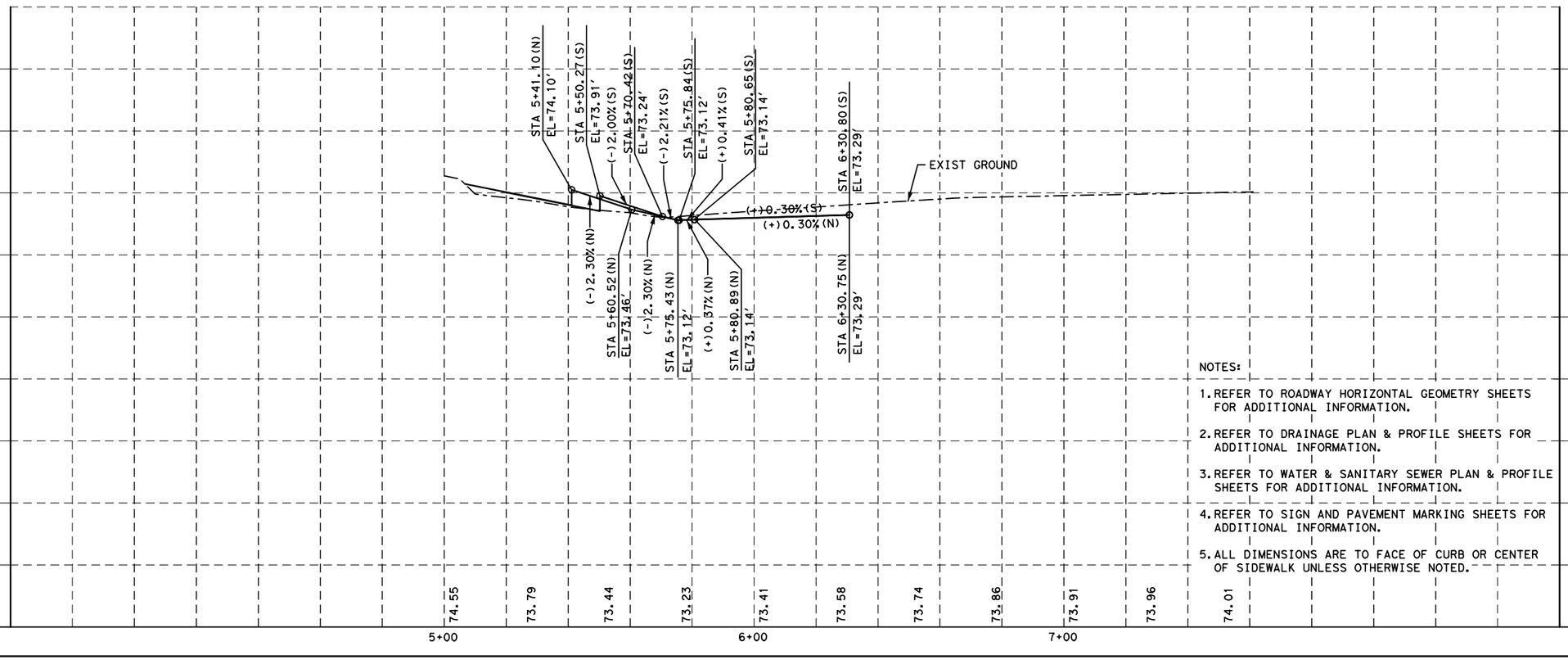
℄ ANTOINE DR. STA 50=05.30=
℄ DE LANCE LN. STA 48+26.39





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LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
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ANTOINE DRIVE

DE LANGE LN.
ROADWAY PLAN & PROFILE

SHEET 739 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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AS NOTED	
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SHEET NO. 266 OF 1067	

Plotted on: 3/12/2026 4:17:10 AM anwanik
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PROP SAWED JOINT AND EXPOSE 15" OF REINFORCING STEEL

℄ ANTOINE DR.

℄ ANTOINE DR. STA 50=05.30=
℄ ACORN ST. STA 7+68.66

TIE INTO EXIST SIDEWALK
STA 6+81.79, 21.52'LT
MATCH EXIST

PROP SAWED JOINT AND EXPOSE 15" OF REINFORCING STEEL

EXIST ROW

VARIES

PC 5+71.85

PT 6+13.74

N88° 36' 53.55"E

6+00

N81° 20' 29.95"E

PC 6+47.52

PT 6+83.60

27'B-B

60' ROW

VARIES

EXIST ROW

TIE INTO EXIST SIDEWALK
STA 6+88.31, 27.63'RT
MATCH EXIST

R=25'

7+00

8+00

9+00

50+00

PI 9+02.42

N87° 36' 23.57"E

℄ ACORN ST.

N88° 49' 08.53"E

ACORN ST.

LOT 6A

LOT 6C

60' ASPHALT TRANSITION

PROP COH PAVING HEADER

6" CONC CURB (SEE DETAIL A)

PROP 1 1/2" HMAC SURFACE COURSE
W/6" HMAC BASE COURSE
W/6" STABILIZED SUBGRADE

EXIST ROW

24.34'

30'

30'

60' ROW

10' U.E.

10' B.L.

CROWNCASTLE (FIBER) ug fiber optic cable & pull box (approx location)

CROWNCASTLE (FIBER) ug fiber optic cable (approx location)

DETAIL A
6" SLOTTED CURB

1'
6"
6'
1'
1'
2"R (TYP)
#4 REBAR (TYP)

ANTOINE DR.
SEE SHEET XX OF XX

LEGEND

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- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
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- (A) PROP 11" JRCP
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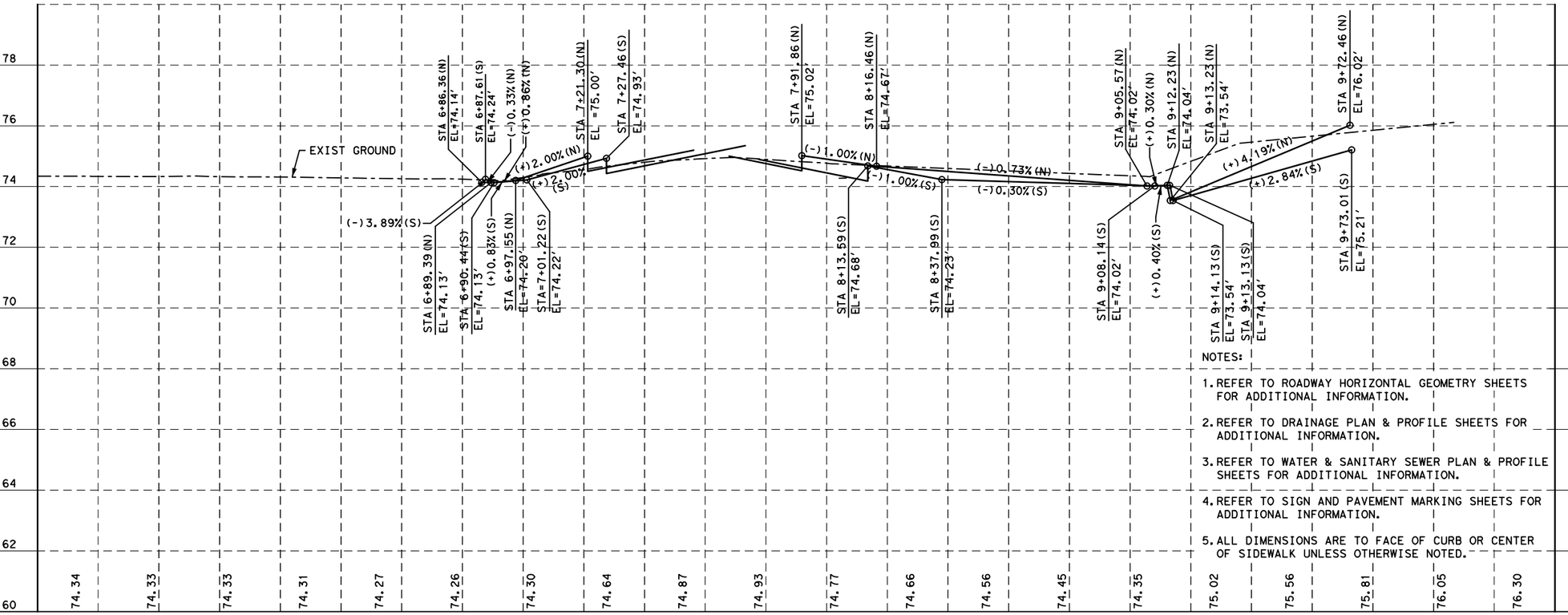
0' 20' 40'
SCALE IN FEET



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Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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3/12/2026
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RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ACORN ST.
ROADWAY PLAN & PROFILE

SHEET 710 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 267 OF 1067	

Plotted on: 3/12/2026 4:17:14 AM anwanik

Pen Table: ANTOINE DR.tbl
Plot Driver: s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg

Design Filename: pw:\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

℄ ANTOINE DR. STA 54=06.67=
℄ WEEPING WILLOW RD. STA 5+00.00

℄ ANTOINE DR.

50' ASPHALT TRANSITION

PROP COH PAVING HEADER

R=25'

PC 5+81.78

28' B-B

N88°49'38.09"E

5+00

54+00

6+00 S89°24'05.43"E 23.73'

PC 6+49.83

VARIES

PT 6+80.50

WEEPING WILLOW RD.

7+00 N87°05'01.05"E

POT 7+63.91

EXIST ROW

60' ROW

PT 5+97.23

PROP 1 1/2" HMAC SURFACE COURSE
W/6" HMAC BASE COURSE
W/6" STABILIZED SUBGRADE

℄ WEEPING WILLOW RD.

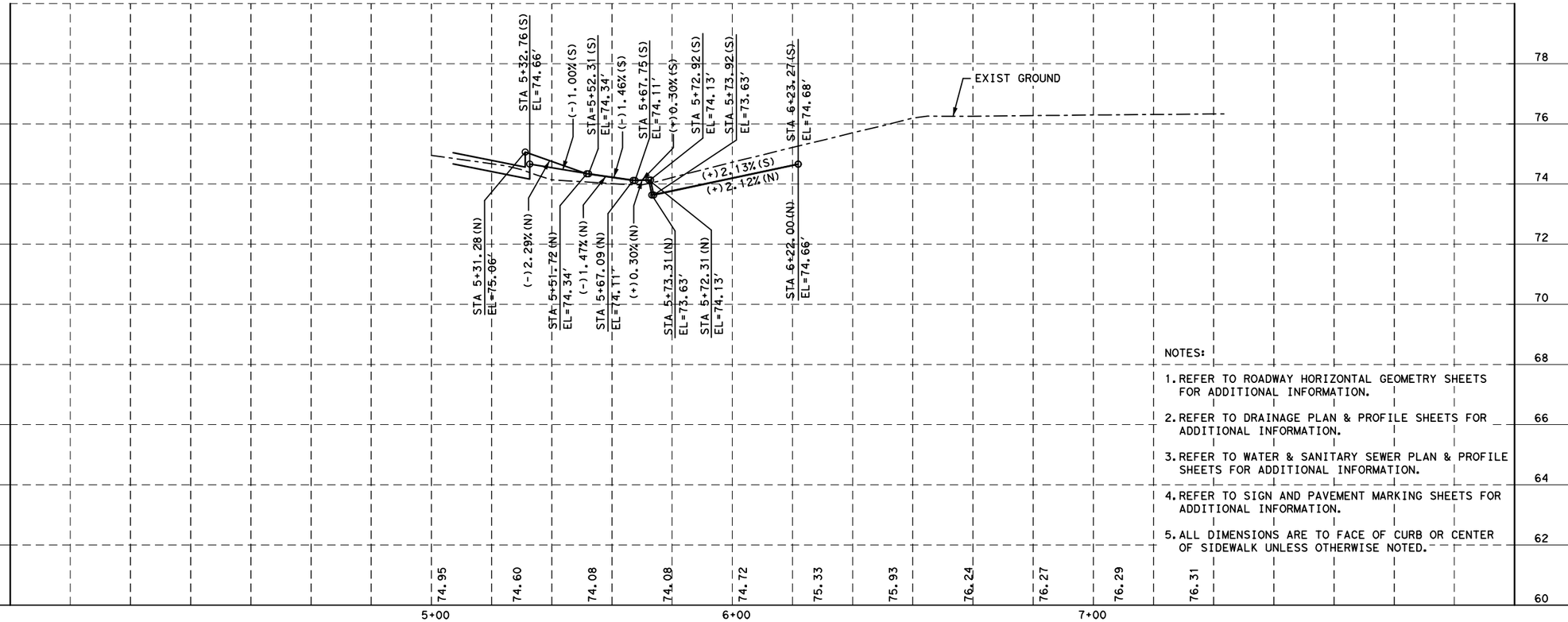
ANTOINE DR.
SEE SHEET XX OF XX

PROP 1 1/2" HMAC SURFACE COURSE
W/6" HMAC BASE COURSE
W/6" STABILIZED SUBGRADE

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET



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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WEEPING WILLOW RD.
ROADWAY PLAN & PROFILE

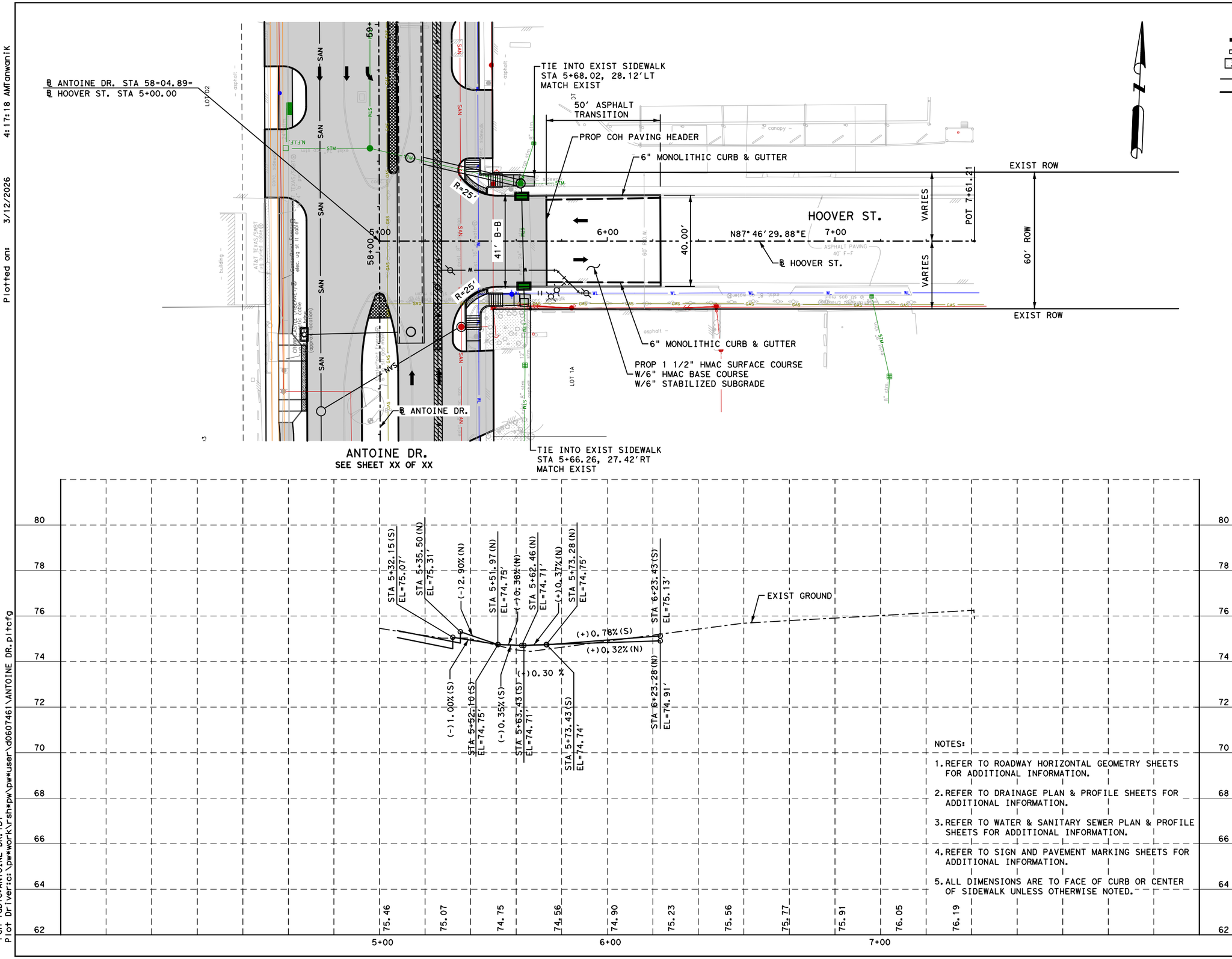
SHEET 711 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 268 OF 1067	

Plotted on: 3/12/2026 4:17:16 AM anwanik

Pen Table: ANTOINE DR.tbl
Plot Driver: s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_



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LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HOOVER ST.
ROADWAY PLAN & PROFILE

SHEET 712 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 269 OF 1067	

Plotted on: 3/12/2026 4:17:18 AMTanwanik
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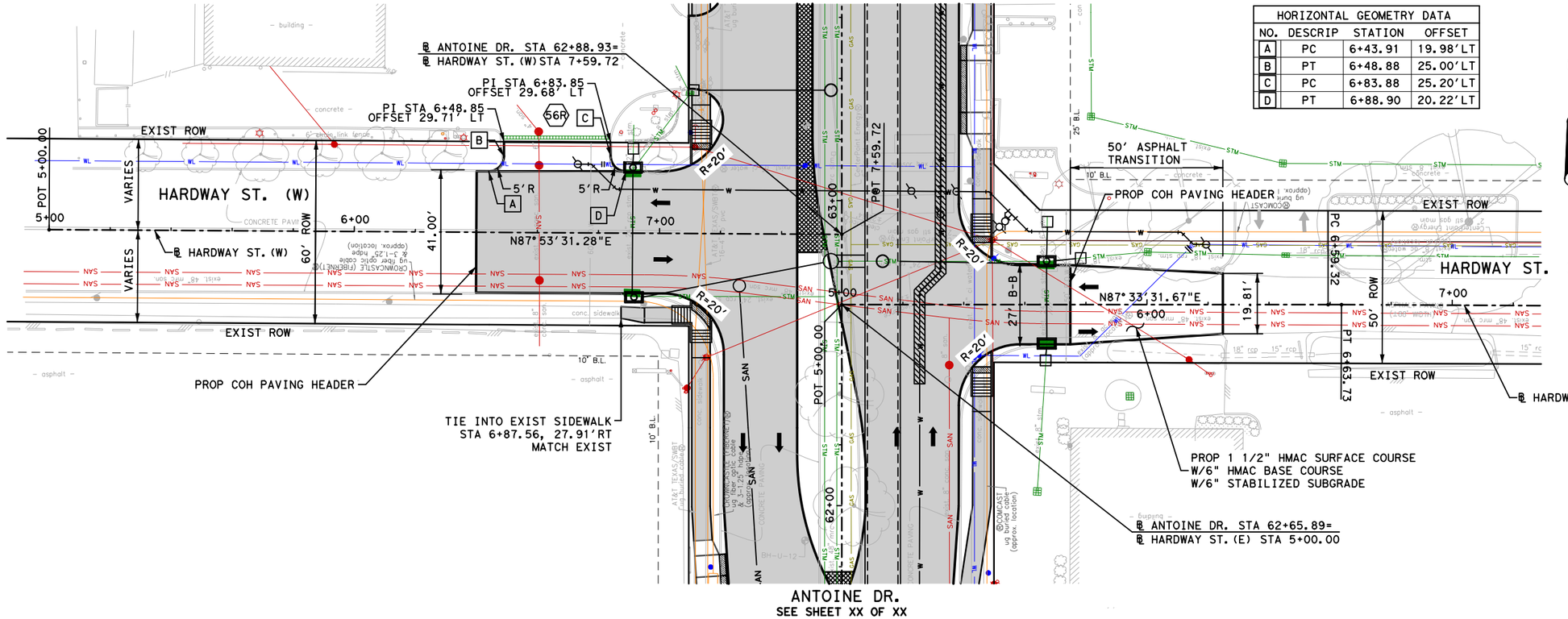
Plotted on: 3/12/2026 4:17:20 AM fanwanik

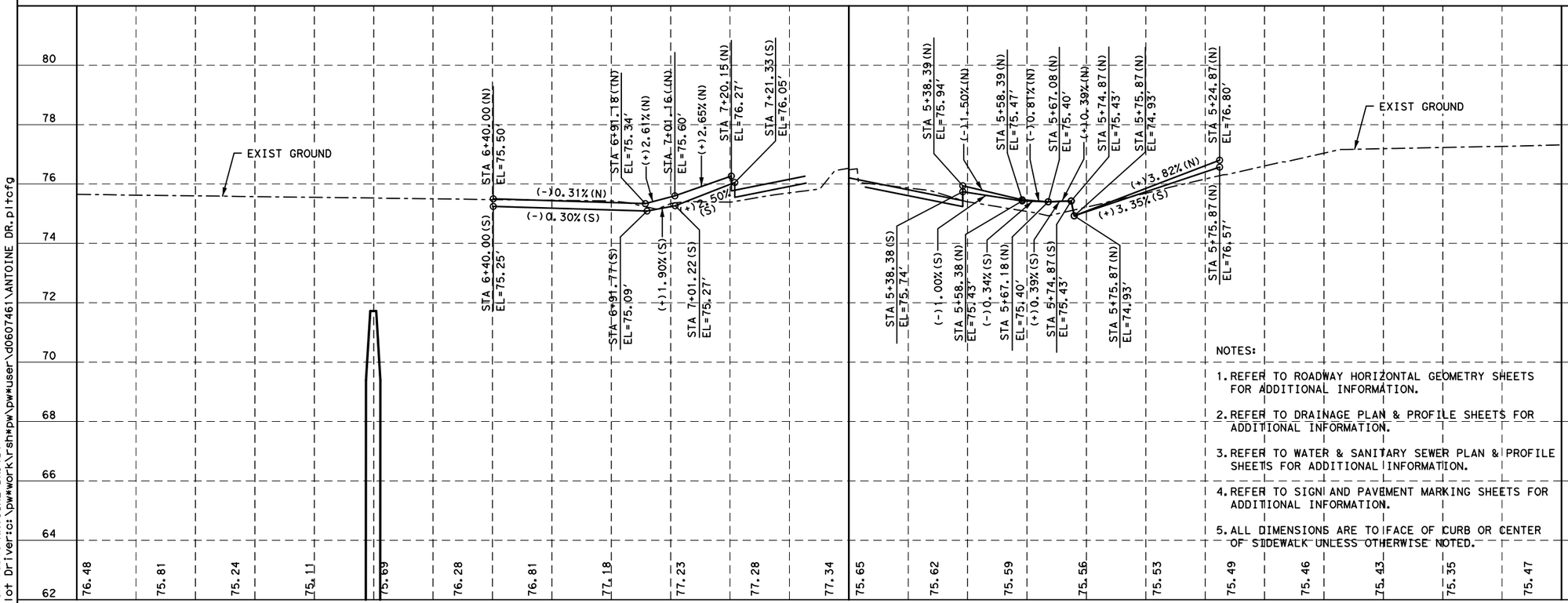


HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	6+43.91	19.98'LT
B	PT	6+48.88	25.00'LT
C	PC	6+83.88	25.20'LT
D	PT	6+88.90	20.22'LT

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET



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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HARDWAY ST. (E)&(W) ROADWAY PLAN & PROFILE

SHEET 713 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 270 OF 1067	

Pen Table:ANTOINE DR.tbl
Plot Driver:s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg
Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

℄ ANTOINE DR. STA 65+06.84=
℄ PINEMONT DR. STA 10+88.90

TIE INTO EXIST SIDEWALK
STA 10+12.55, 37.38'LT
MATCH EXIST

PI STA 10+11.95
OFFSET 40.61' LT

PI STA 9+81.02
OFFSET 40.60' LT

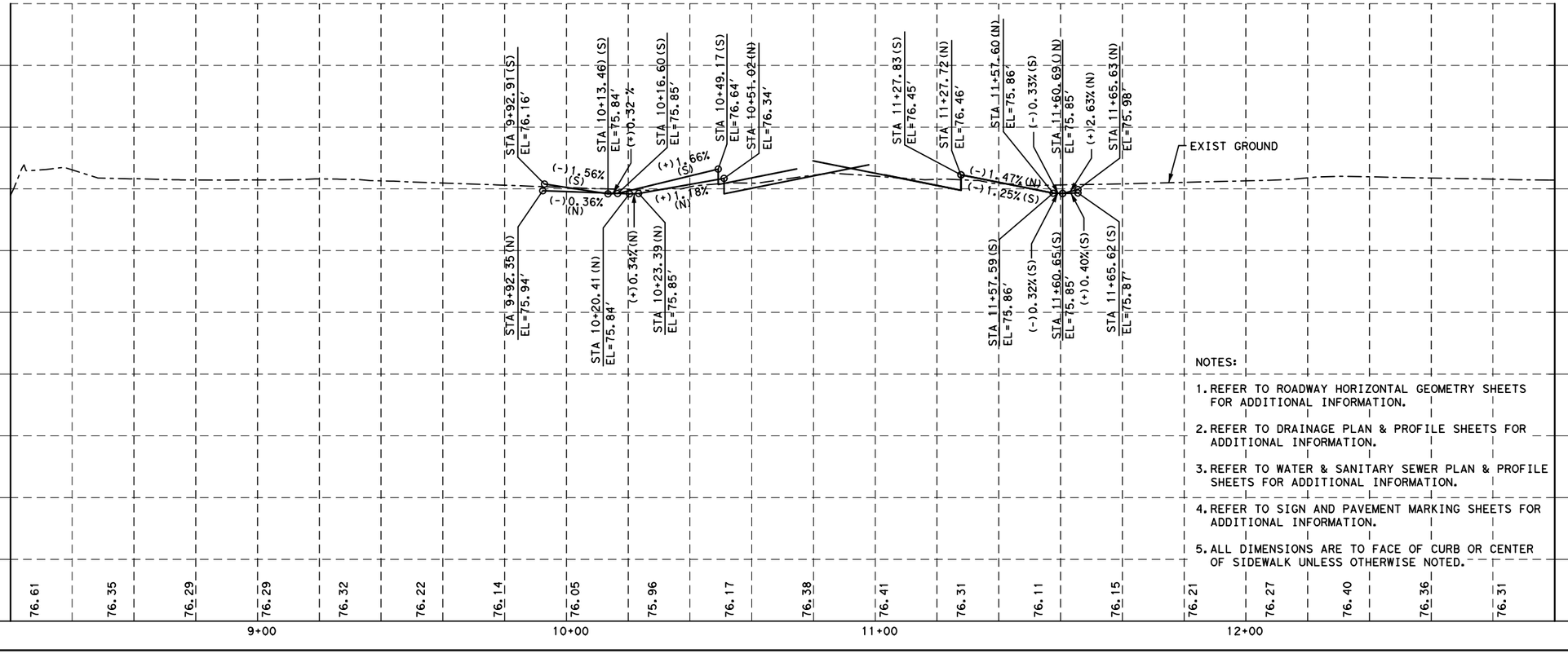
HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	9+76.06	29.63'LT
B	PT	9+80.86	34.48'LT
C	PC	10+11.94	34.72'LT
D	PT	10+16.87	29.73'LT

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

PINEMONT DR.
EXIST ROW
80' ROW
VARIES
61.00' B-B
10' B.L.
5'R
R=30'
9+00
10+00
11+00
12+00
13+00
PT 10+80.06
65+00
66+00
N88°02'33.82"E
90' ROW
61.00' B-B
℄ PINEMONT DR.
PROP COH PAVING HEADER
TIE INTO EXIST SIDEWALK
STA 10+15.12, 38.31'RT
MATCH EXIST
TIE INTO EXIST SIDEWALK
STA 11+70.87, 38.53'LT
MATCH EXIST
TIE INTO EXIST SIDEWALK
STA 11+75.08, 48.94'RT
MATCH EXIST
VOL. 421, PG. 14, H.C.M.R.
℄ ANTOINE DR.
ANTOINE DR.
SEE SHEET XX OF XX
LOT 40
LOT 37A
CONCRETE PAVING
asphalt
concrete
sensor box
shed
STM
SAN
WL
GAS
STLT

0' 20' 40'
SCALE IN FEET



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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

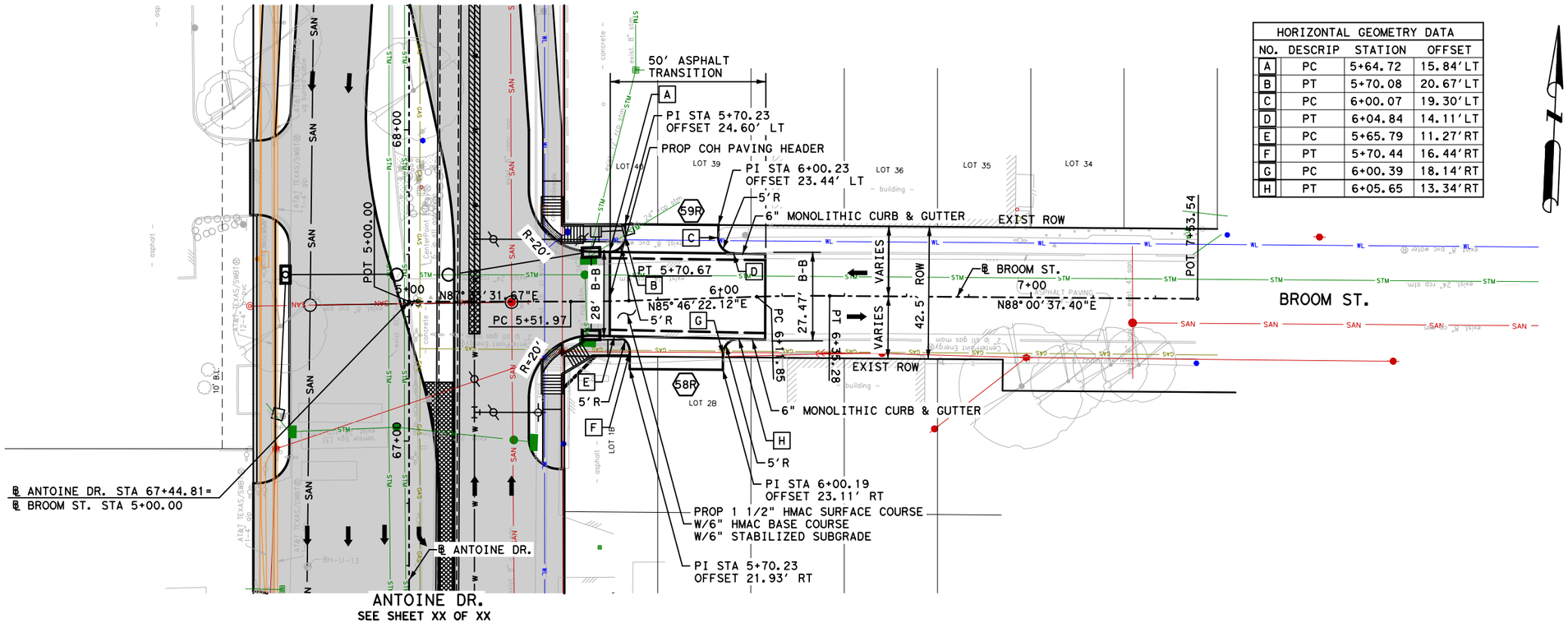
ANTOINE DRIVE

PINEMONT DR.
ROADWAY PLAN & PROFILE

SHEET 714 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 271 OF 1067	

Plotted on: 3/12/2026 4:17:23 AM anwanik
Pen Table: ANTOINE DR.tbl
Plot Driver: s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg
Design Filename: pw:\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_



HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	5+64.72	15.84'LT
B	PT	5+70.08	20.67'LT
C	PC	6+00.07	19.30'LT
D	PT	6+04.84	14.11'LT
E	PC	5+65.79	11.27'RT
F	PT	5+70.44	16.44'RT
G	PC	6+00.39	18.14'RT
H	PT	6+05.65	13.34'RT

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
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- (I) RELOCATE UTILITY
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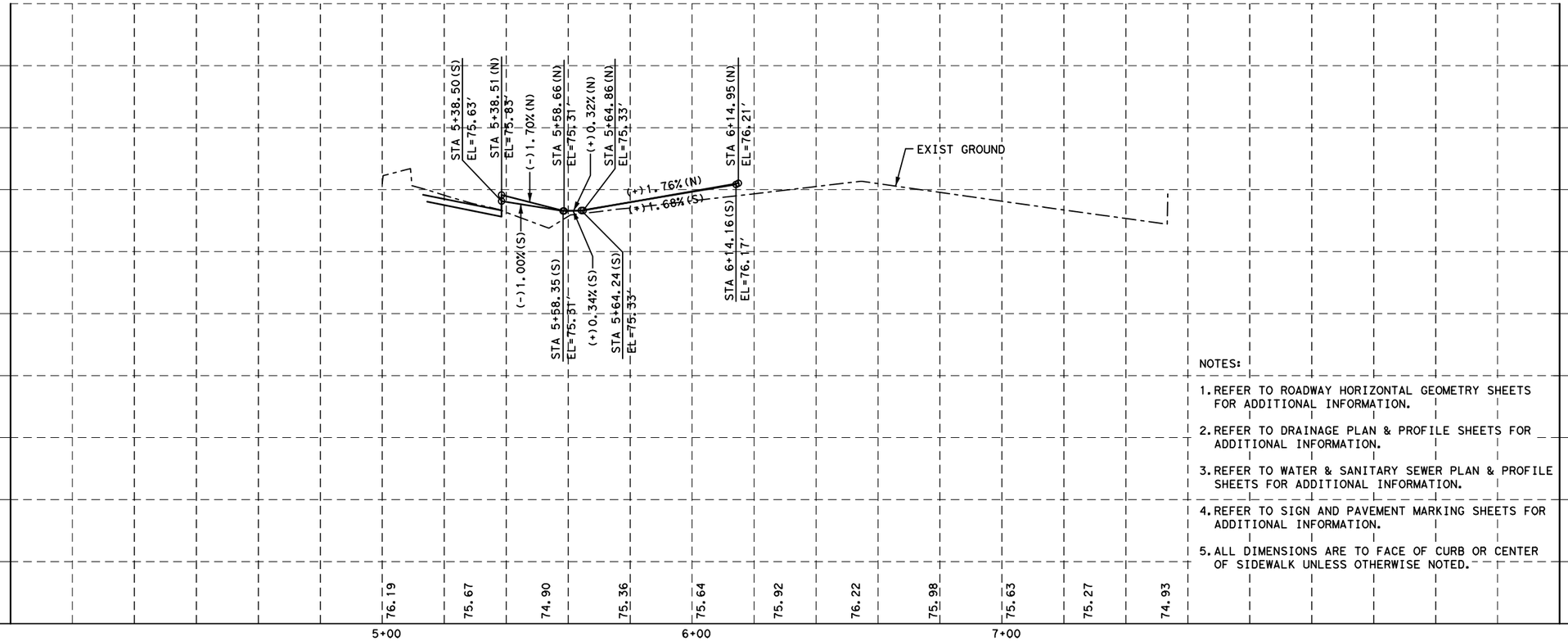
0' 20' 40'
SCALE IN FEET



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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BROOM ST.
ROADWAY PLAN & PROFILE

SHEET 715 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 272 OF 1067	

Plotted on: 3/12/2026 4:17:25 AM anwanik
Pen Table: ANTOINE DR.tbl
Plot Driver: s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg
Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

Plotted on: 3/12/2026 4:17:28 AM fanwanik

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	5+58.22	14.41'LT
B	PT	5+63.22	19.37'LT
C	PC	5+87.22	18.79'LT
D	PT	5+92.12	13.75'LT
E	PC	5+61.12	12.59'RT
F	PC	6+01.03	13.87'RT
G	PT	6+06.02	8.87'RT

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
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- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

℄ ANTOINE DR. STA 69+89.36=
℄ CREEKMONT DR. STA 5+00.00

31' ASPHALT TRANSITION

PI STA 5+63.27
OFFSET 25.39'LT

PI STA 5+87.27
OFFSET 25.20'LT

TIE INTO EXIST SIDEWALK
STA 5+695.90, 21.20'LT
MATCH EXIST

POT 5+00.00

5+00

7+00

6+00

R=20'

28' B-B

5'R 5'R

22.97'B-B

N87°33'31.67"E

VARIES

VARIES

45' ROW

EXIST ROW

℄ CREEKMONT DR.

CREEKMONT DR.

N88°08'37.58"E

EXIST ROW

10'R

PROP 1 1/2" HMAC SURFACE COURSE
W/6" HMAC BASE COURSE
W/6" STABILIZED SUBGRADE

5'R

PI STA 6+01.03
OFFSET 21.91'RT

PI STA 5+71.03
OFFSET 21.68'RT

PC 6+97.68

PT 7+07.89

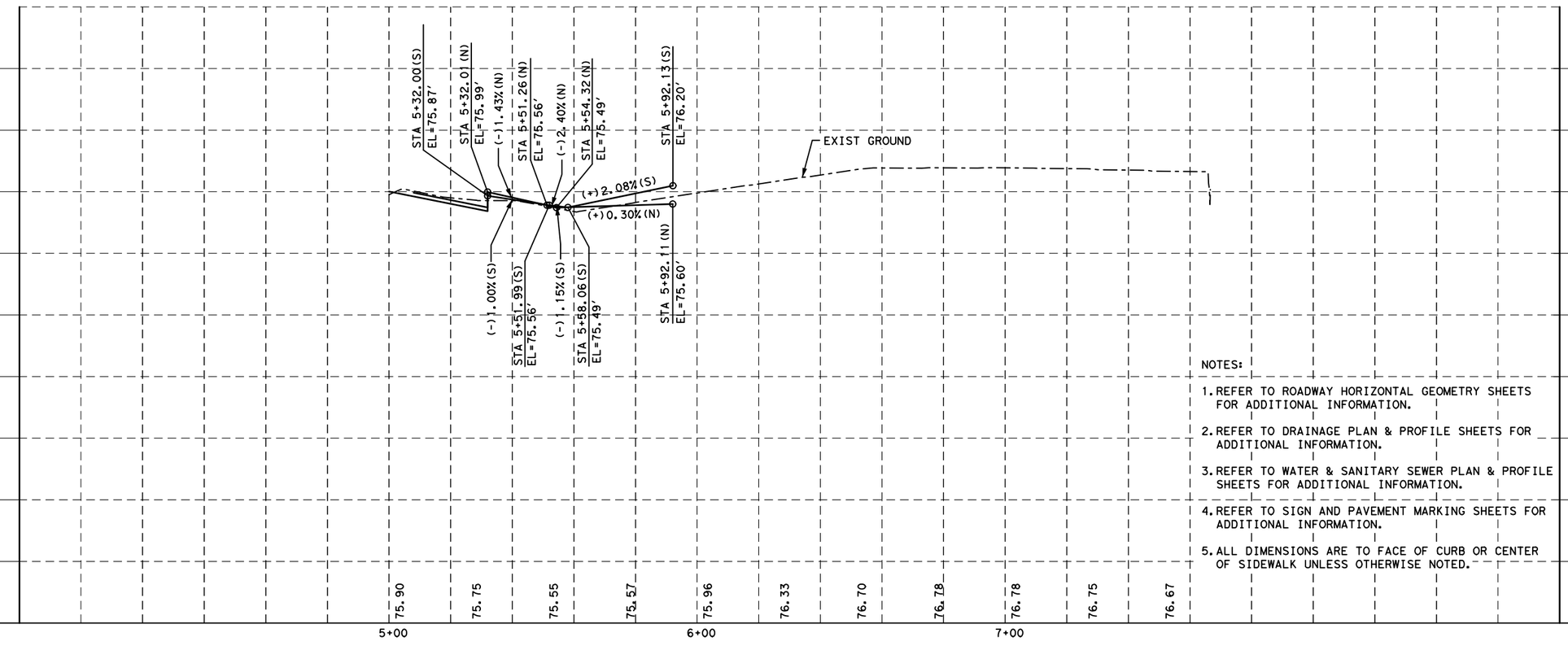
POT 7+99.91

LOT 1B LOT 2B LOT 3B LOT 4B LOT 4

℄ ANTOINE DR.

ANTOINE DR.
SEE SHEET XX OF XX

0' 20' 40'
SCALE IN FEET



NOTES:

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2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
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RS&H®
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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91874
3/12/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CREEKMONT DR.
ROADWAY PLAN & PROFILE

SHEET 716 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 273 OF 1067	

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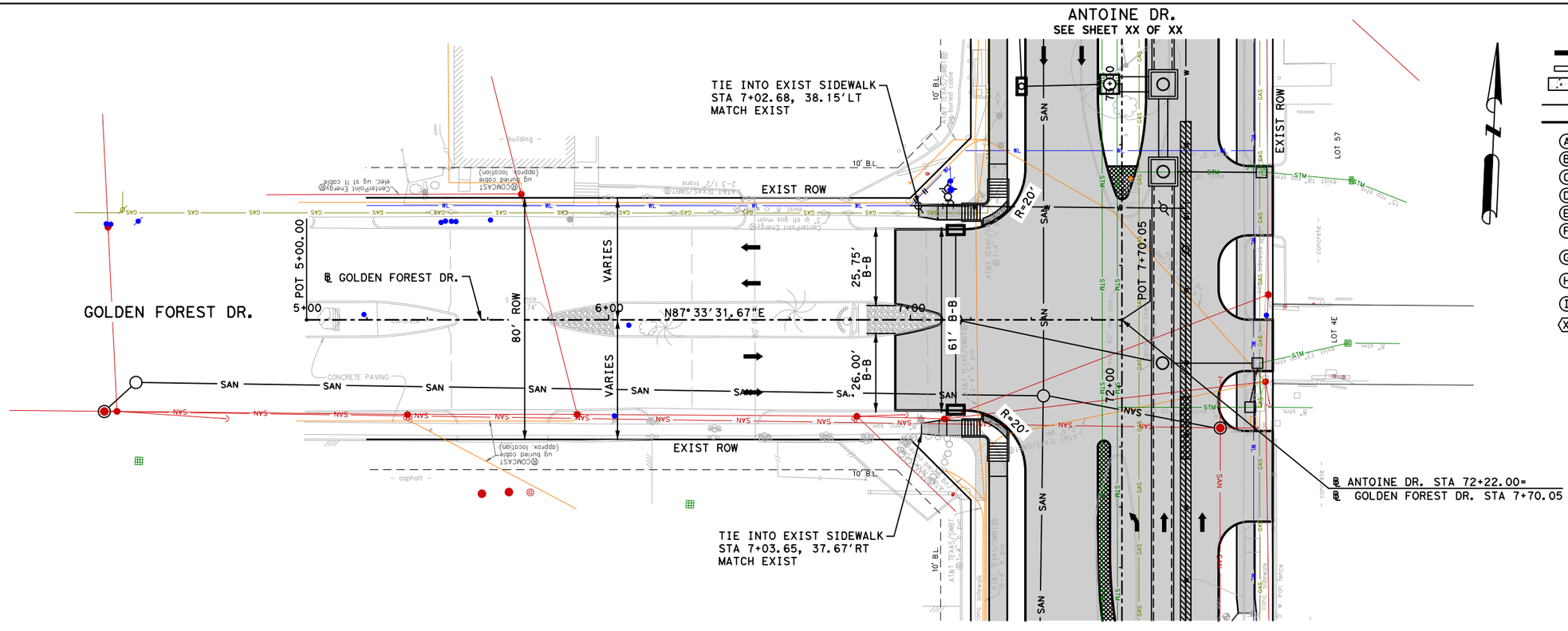

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEEL CHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

GOLDEN FOREST DR.
ROADWAY PLAN & PROFILE

SHEET 717 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 274 OF 1067	

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

Plotted on: 3/12/2026 4:17:30 AMTanwanik

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Plot Driver:c:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg

HORIZONTAL GEOMETRY DATA			
NO.	DESCRIP	STATION	OFFSET
A	PC	5+69.09	20.19'RT
B	PT	5+74.09	25.16'RT
C	PC	5+94.09	25.19'RT
D	PT	5+99.08	20.15'RT

TIE INTO EXIST SIDEWALK
STA 5+65.83, 27.89'LT
MATCH EXIST

EXIST ROW

POT 5+00.00

R=20'

℄ BIRCHMONT DR.

6+00

N88°20'29.36"E

41' B-B

60' ROW

VARIES

7+00

POT 7+84.52

BIRCHMONT DR.

5'R

PI STA 5+94.13
OFFSET 30.09'RT

PI STA 5+74.13
OFFSET 30.23'RT

TIE INTO EXIST SIDEWALK
STA 5+66.58, 28.17'RT
MATCH EXIST

℄ ANTOINE DR. STA 75+11.88=
℄ BIRCHMONT DR. STA 5+00.00

℄ ANTOINE DR.

ANTOINE DR.
SEE SHEET XX OF XX

LEGEND

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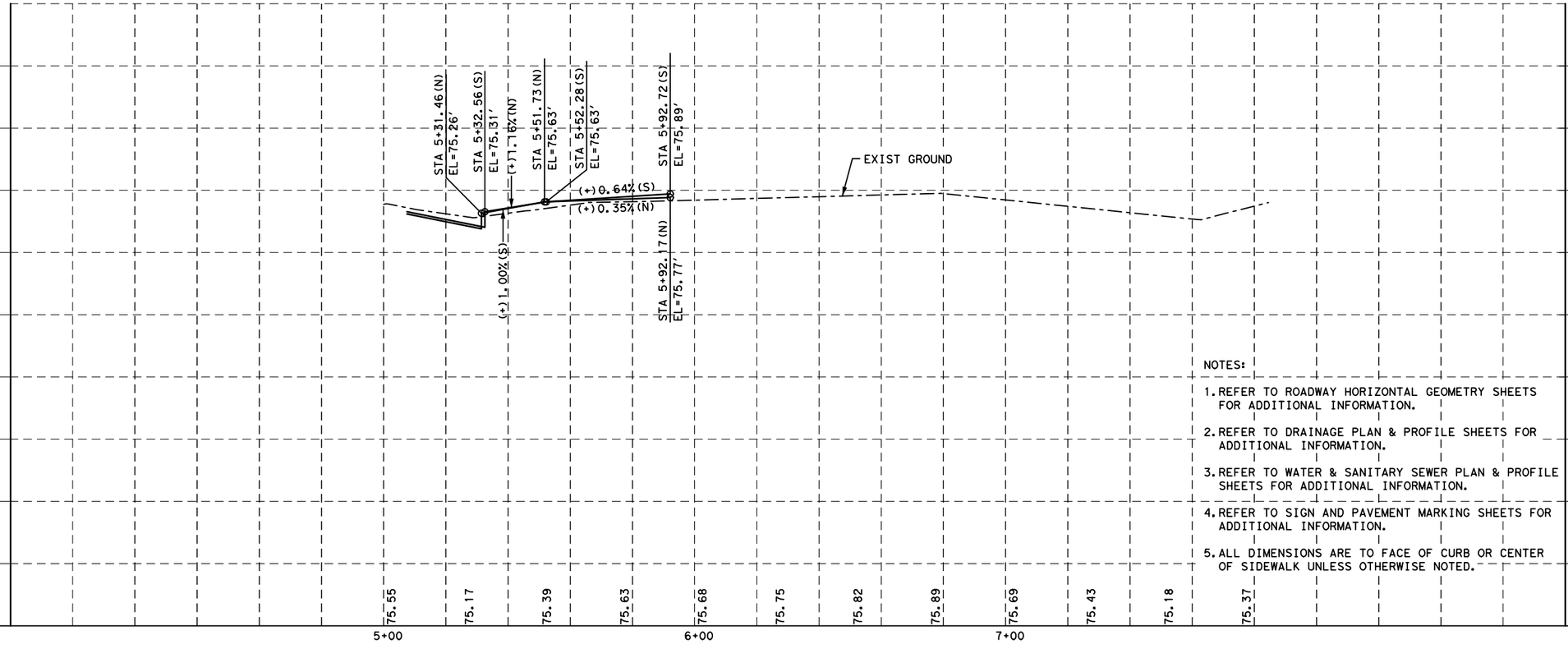
0' 20' 40'
SCALE IN FEET



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RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BIRCHMONT DR.
ROADWAY PLAN & PROFILE

SHEET 718 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 275 OF 1067	

Plotted on: 3/12/2026 4:17:32 AM anwanik
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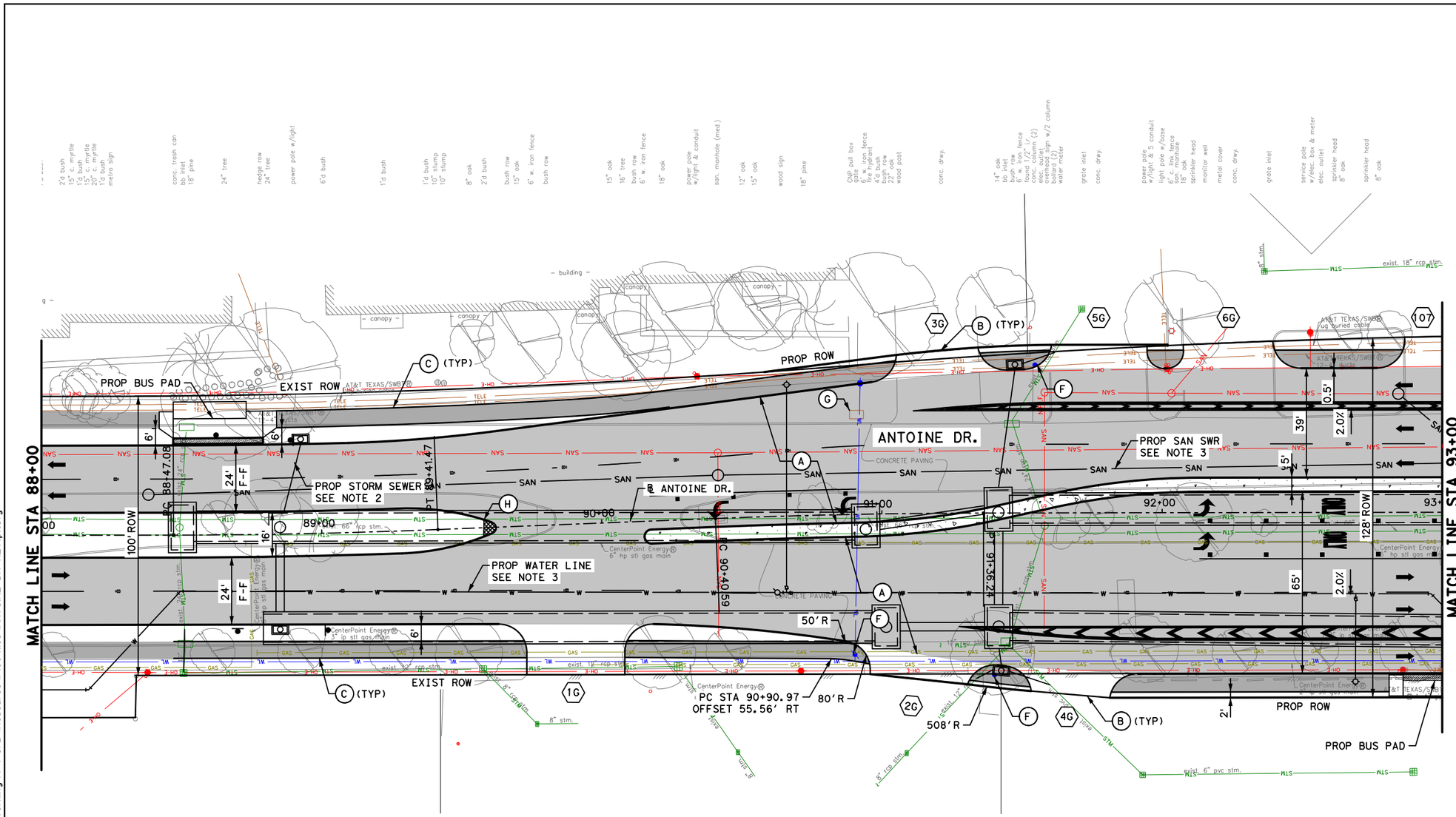

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0' 20' 40'
SCALE IN FEET

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No.	DATE	REVISIONS	APP.

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 88+00.00 TO STA 93+00.00

SHEET 79 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 276 OF 1067	

Pen Table: TX_Pen.tbl
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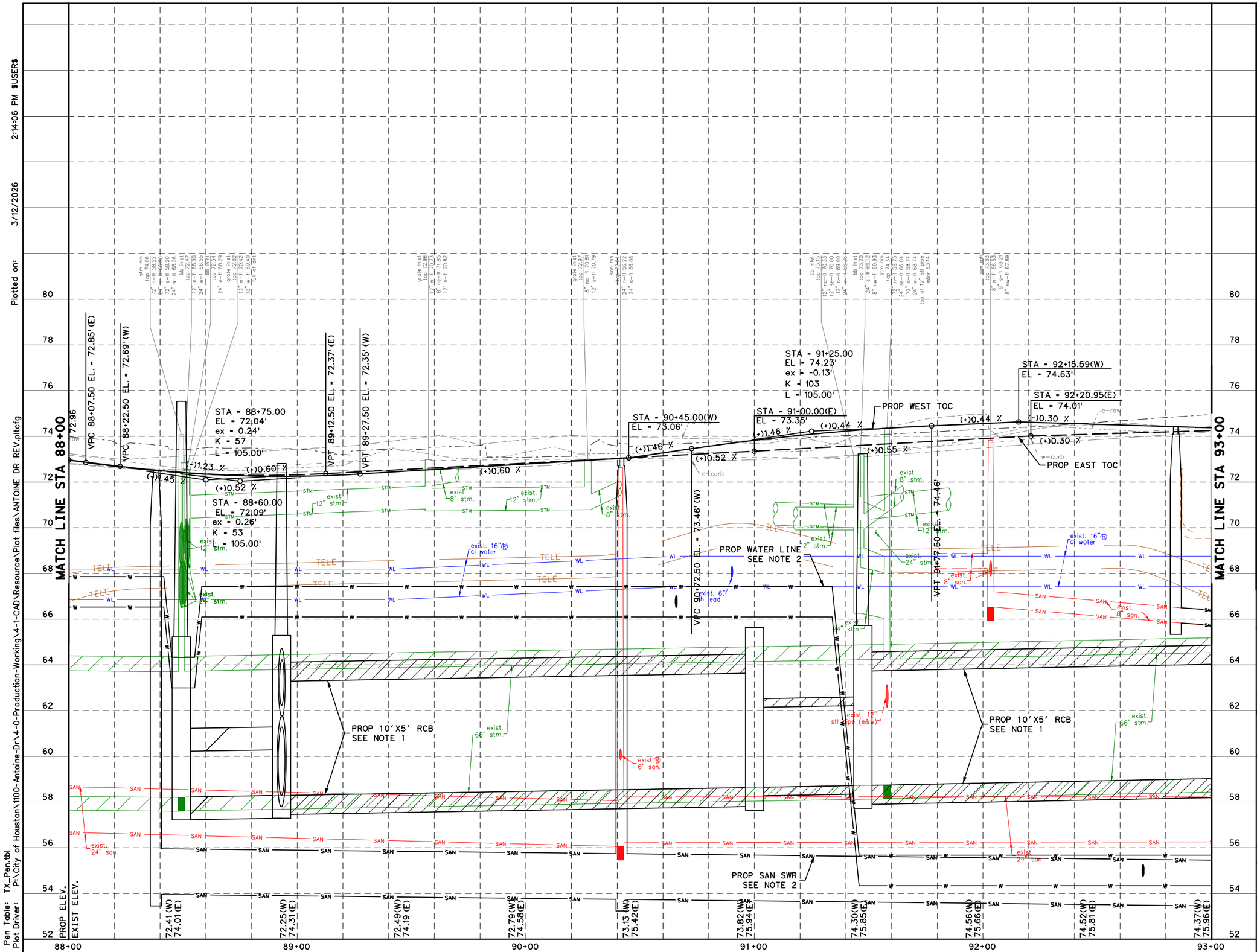

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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HOUSTON, TX 77079

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PE No. 125611
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Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 88+00.00 TO STA 93+00.00

SHEET 70 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 277 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 40.dgn

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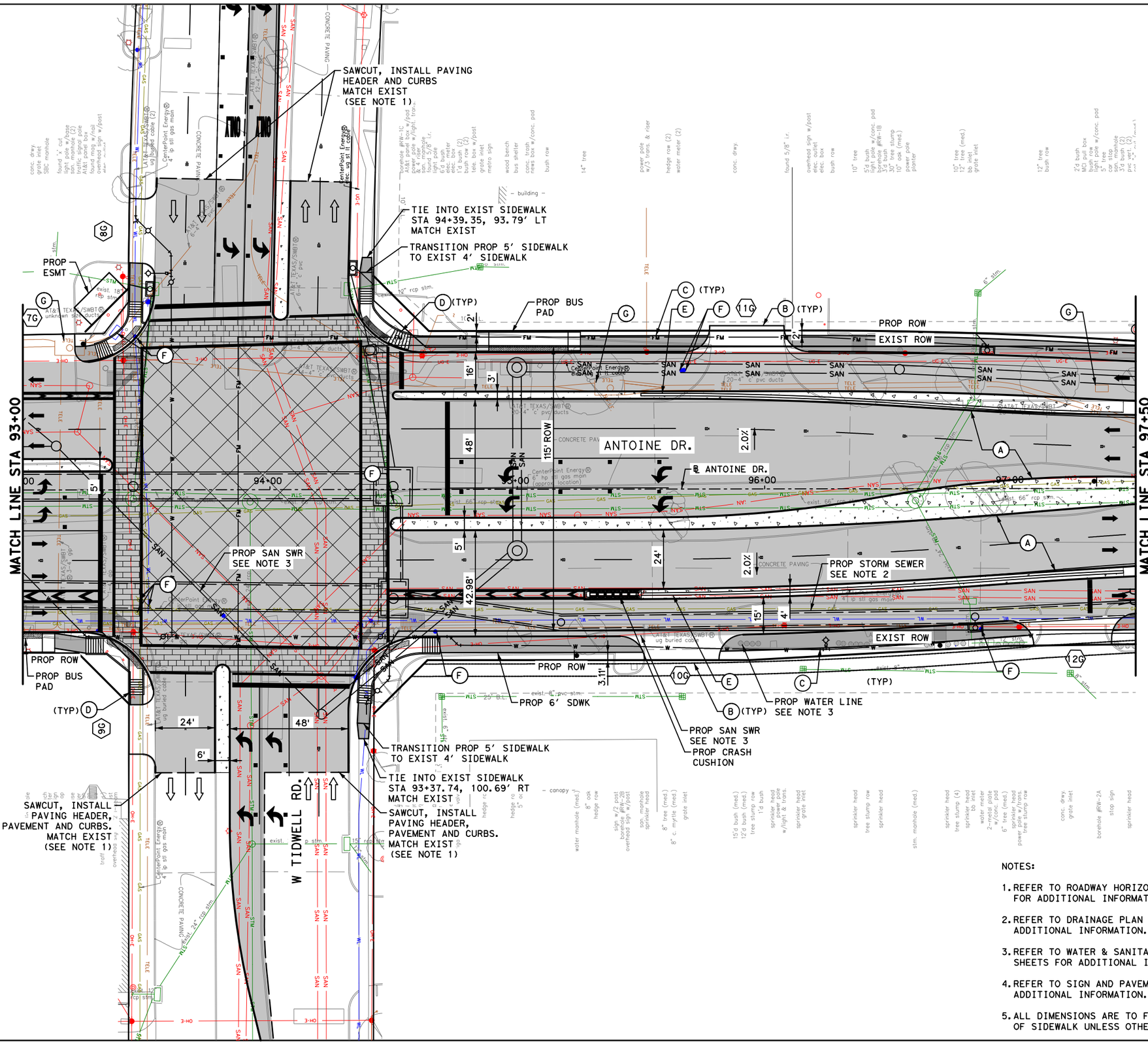

LEGEND

- PROP LANE
- EXIST LANE
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- EXIST ROW
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- (A) PROP 11" JRCP
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0' 20' 40'
SCALE IN FEET

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 93+00.00 TO STA 97+50.00

SHEET 731 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 278 OF 1067	

NOTES:

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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 41.dgn

W. TIDEWELL RD

MATCH LINE STA 93+00

MATCH LINE STA 97+50

STA - 93+23.50(E)
EL - 74.32'

STA - 93+53.50(E)
EL - 73.97'

STA - 93+55.40(W)
EL - 73.87'

STA - 93+26.84(W)
EL - 74.30'

STA - 94+31.81(W)
EL - 73.99'

STA - 94+31.61(E)
EL - 73.94'

STA - 94+61.80 EL - 74.49'(W)
VPT

STA - 94+81.25 EL - 74.44'(E)
VPC

STA - 94+89.50 EL - 74.68'(W)
VPC

STA - 94+61.61(E)
EL - 74.32'

STA - 95+22.00
EL - 74.90'
ex - 0.13'
K - 42
L - 65.00'

STA - 95+15.00
EL - 74.61'
ex - 0.15'
K - 37
L - 67.80'

STA - 95+48.75 EL - 75.39'(E)
VPT

STA - 95+55.00 EL - 75.54'
VPC

STA - 95+55.00(W)
EL - 75.64'

STA - 96+00.00
EL - 76.22'
ex - -0.20'
K - 50
L - 90.00'

STA - 96+00.00
EL - 76.17'
ex - -0.23'
K - 44
L - 90.00'

STA - 96+45.00 EL - 76.00'(W)
VPT

STA - 96+45.00 EL - 75.88'(E)
VPT

STA - 96+85.00(E)
EL - 75.62'

STA - 96+90.00(W)
EL - 75.78'

PROP BRIDGE
SEE NOTE 3

PROP EAST TOC

PROP WEST TOC

PROP WATER LINE
SEE NOTE 2

PROP 5'X10' RCB(E)
(SEE NOTE 1)

PROP 24" RCP(E)
(SEE NOTE 1)

PROP SAN SWR
SEE NOTE 2

cl-road

e-row

w-row

e-curb

(-)0.30 %
(+)0.30 %
(-)0.87 %
(-)1.00 %
(+)1.04 %
(+)0.81 %
(+)0.68 %
(+)0.50 %
(+)0.68 %
(+)0.50 %
(+)2.24 %
(+)2.32 %
(+)1.30 %
(+)1.40 %
(-)0.49 %
(-)0.65 %
(-)0.49 %
(-)0.65 %
(+)0.44 %
(+)0.30 %

PROP. ELEV.
EXIST ELEV.

74.40(W) 76.11 (E)
74.56(W) 76.58(E)
74.41(W) 77.94(E)
74.76(W) 79.58(E)
75.53(W) 80.57(E)
76.02(W) 80.70(E)
75.98(W) 80.70(E)
75.82(W) 80.70(E)
76.04(W) 80.62(E)

93+00 94+00 95+00 96+00 97+00 97+50

80 78 76 74 72 70 68 66 64 62 60 58 56 54 52 50 48 46

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VERT 0' 2' 4'
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 93+00.00 TO STA 97+50.00

SHEET 72 OF 80

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DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 279 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/12/2026 2:14:10 PM $USER$
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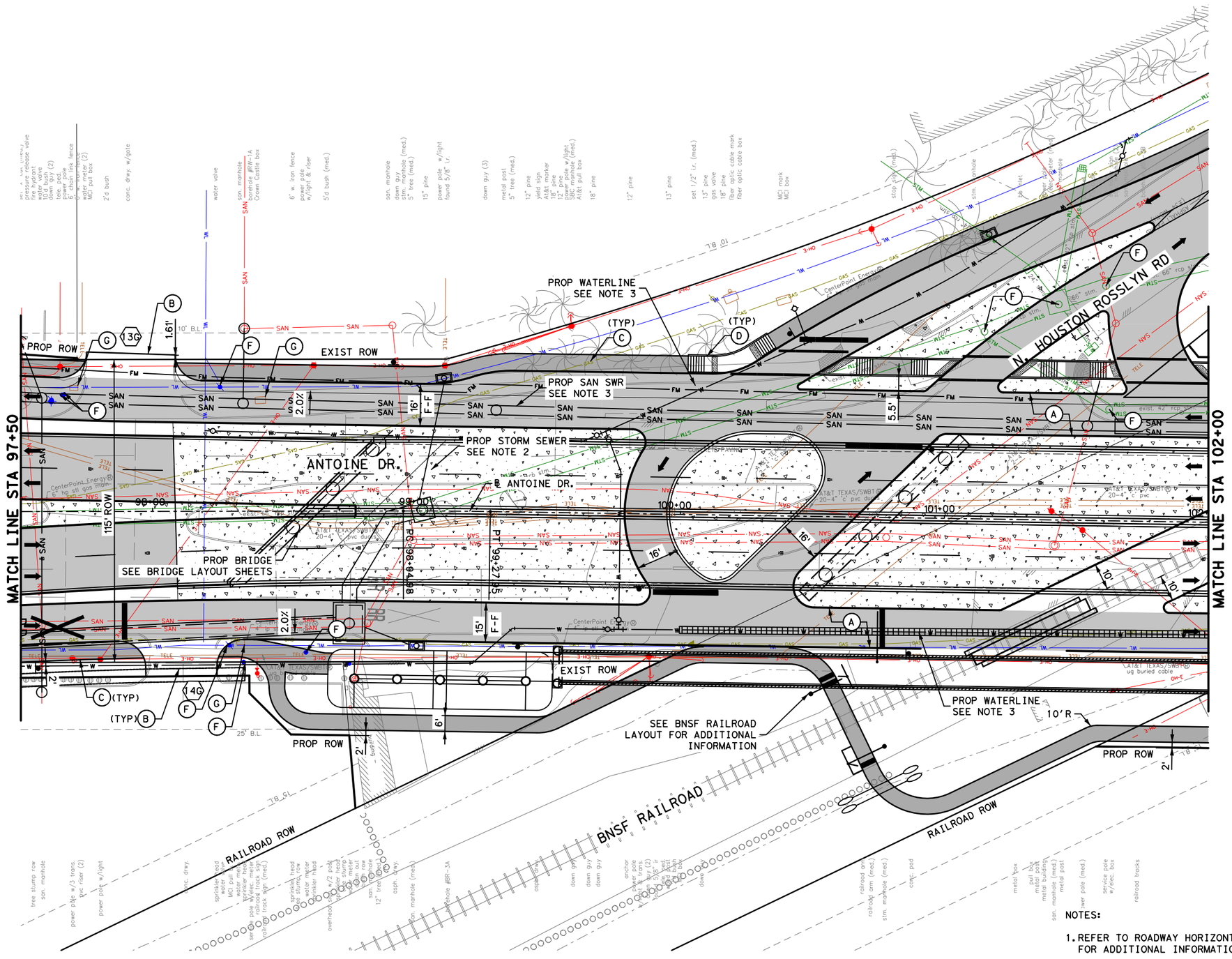

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
Not to be used for construction, bidding, permit or regulatory approval purposes. This document is released for the purpose of interim review under the authority of:
KARAM QADDO
Engineer
125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 97+50.00 TO STA 102+00.00

SHEET 753 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 280 OF 1067	

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 43.dgn

Plotted on: 3/12/2026 2:14:12 PM $USER$

Pen Table: TX_Pen.tbl
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Plotted on: 3/12/2026 2:14:13 PM $USER$
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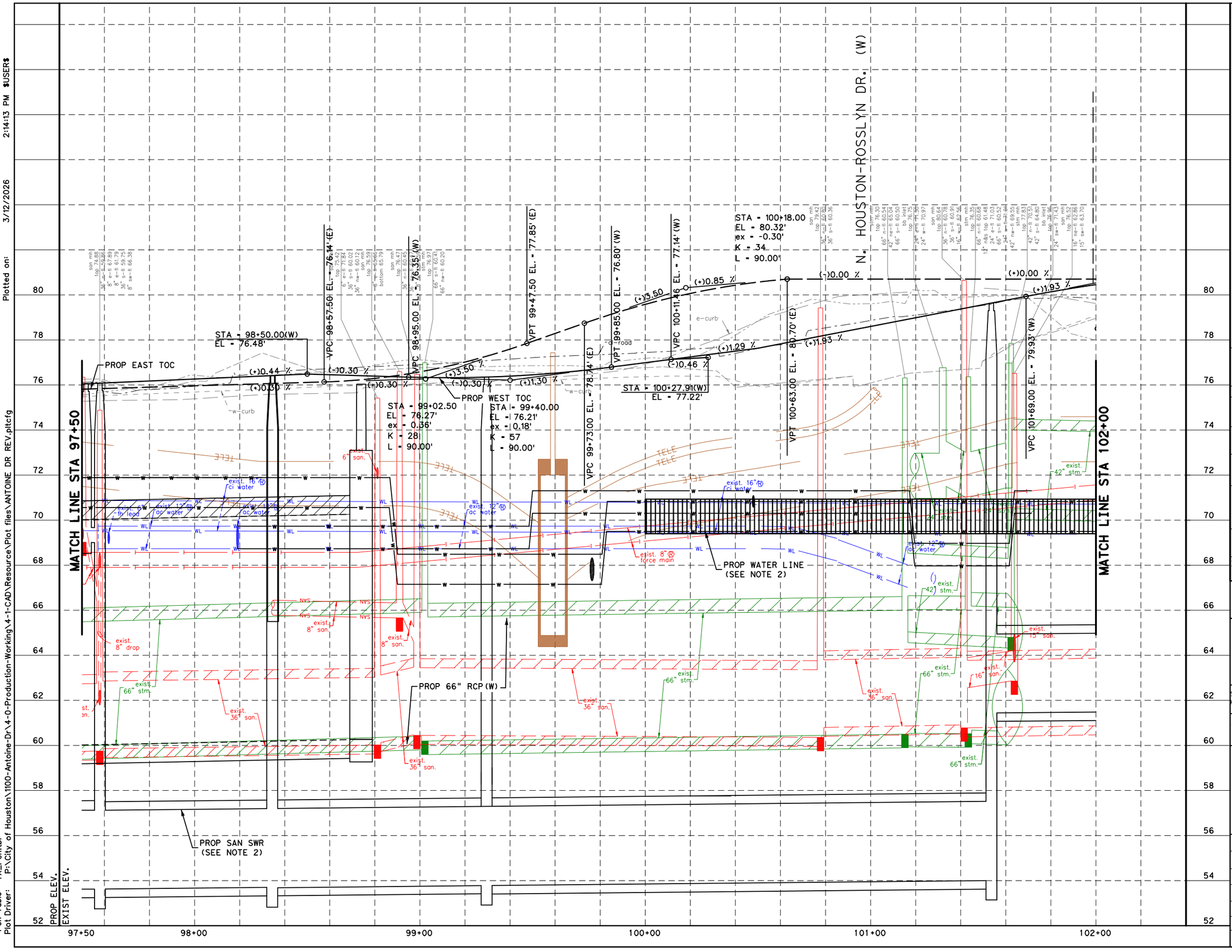

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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Texas Registered Engineering Firm F-20017

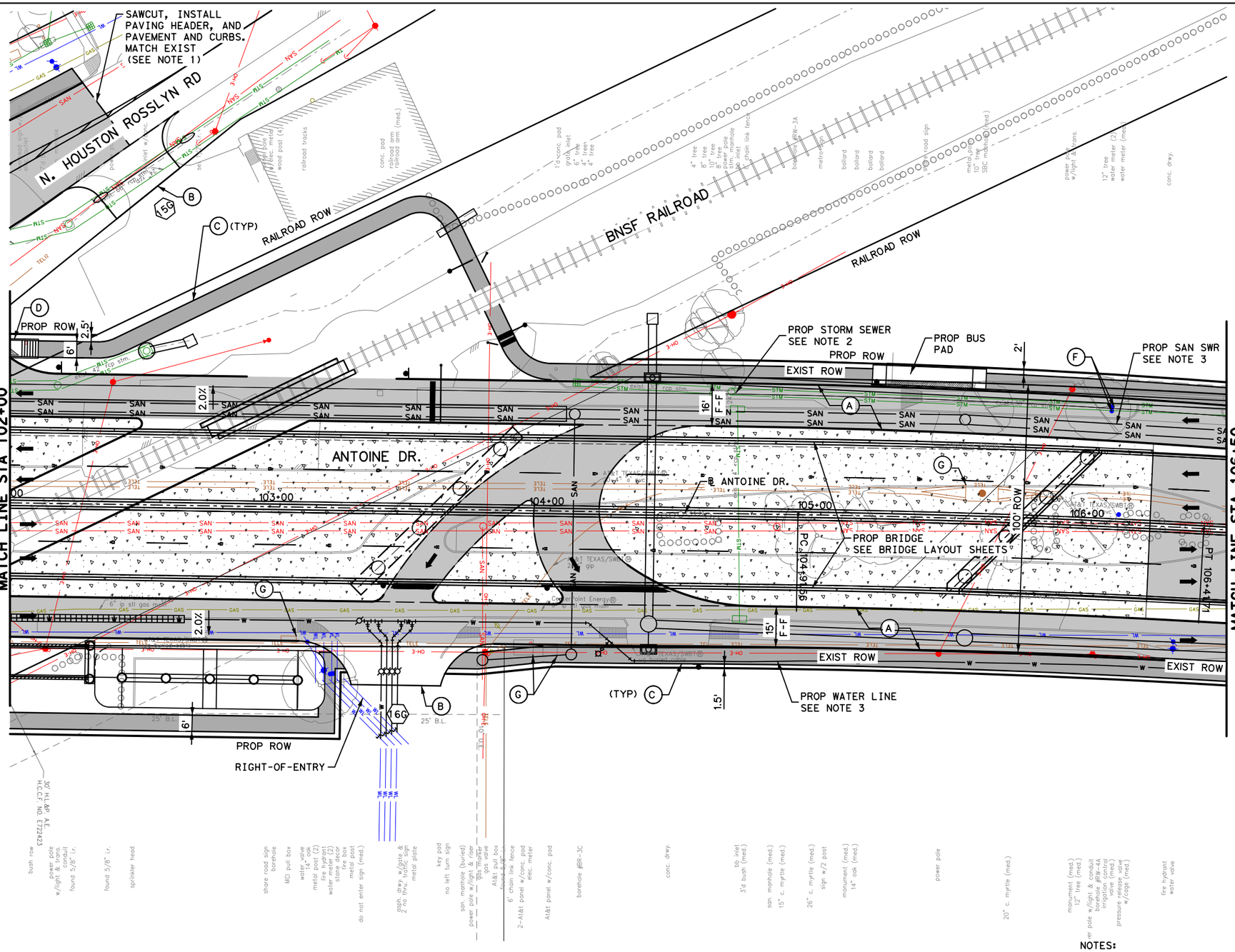
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 97+50.00 TO STA 102+00.00

SHEET 74 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 281 OF 1067	



LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
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- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 102+00 TO STA 106+50

SHEET 755 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 282 OF 1067	

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Pen Table: TX_Pen.tbl
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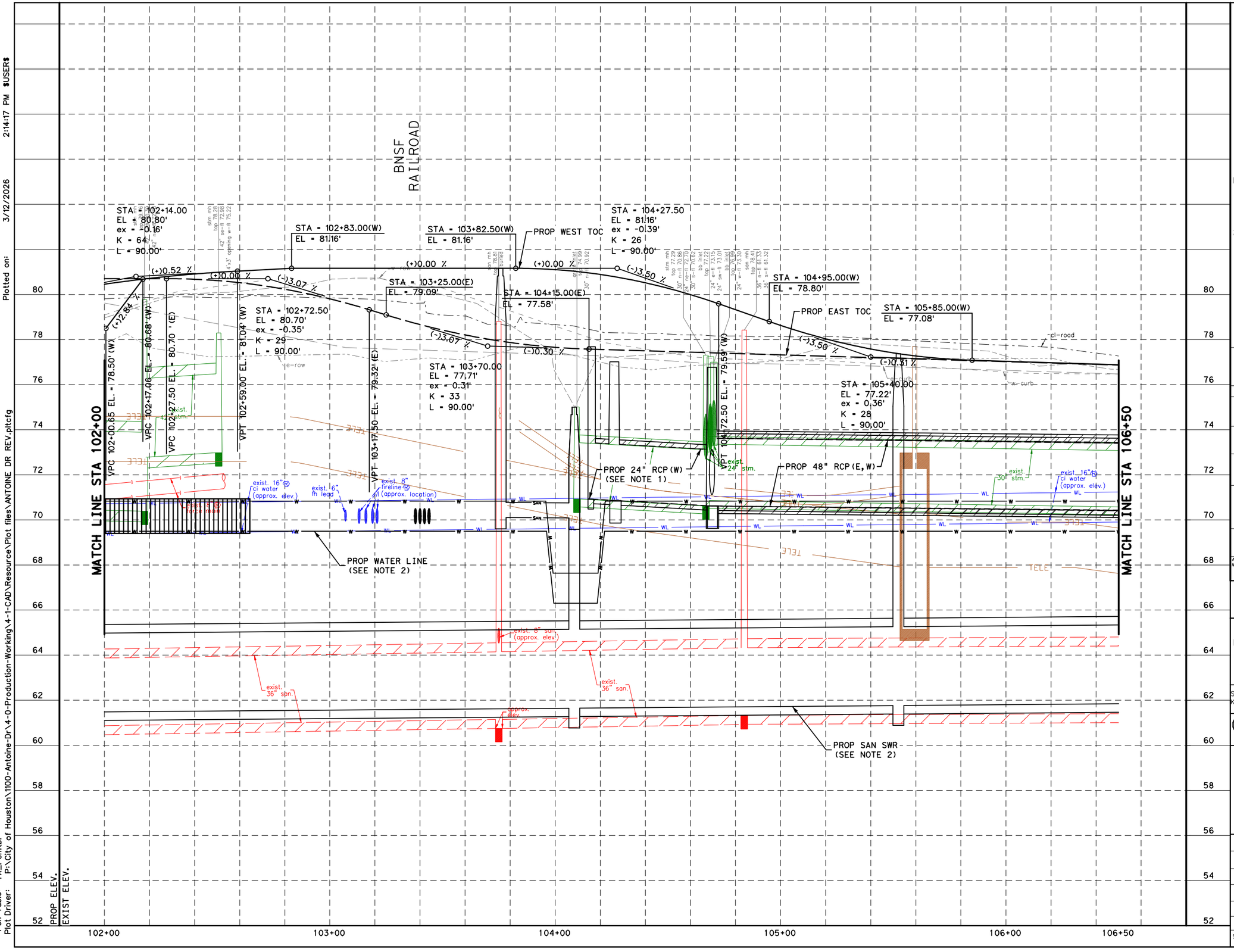
Plotted on: 3/12/2026 2:14:15 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 45.dgn



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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 102+00 TO STA 106+50

SHEET 76 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 283 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/12/2026 2:14:17 PM $USER$
Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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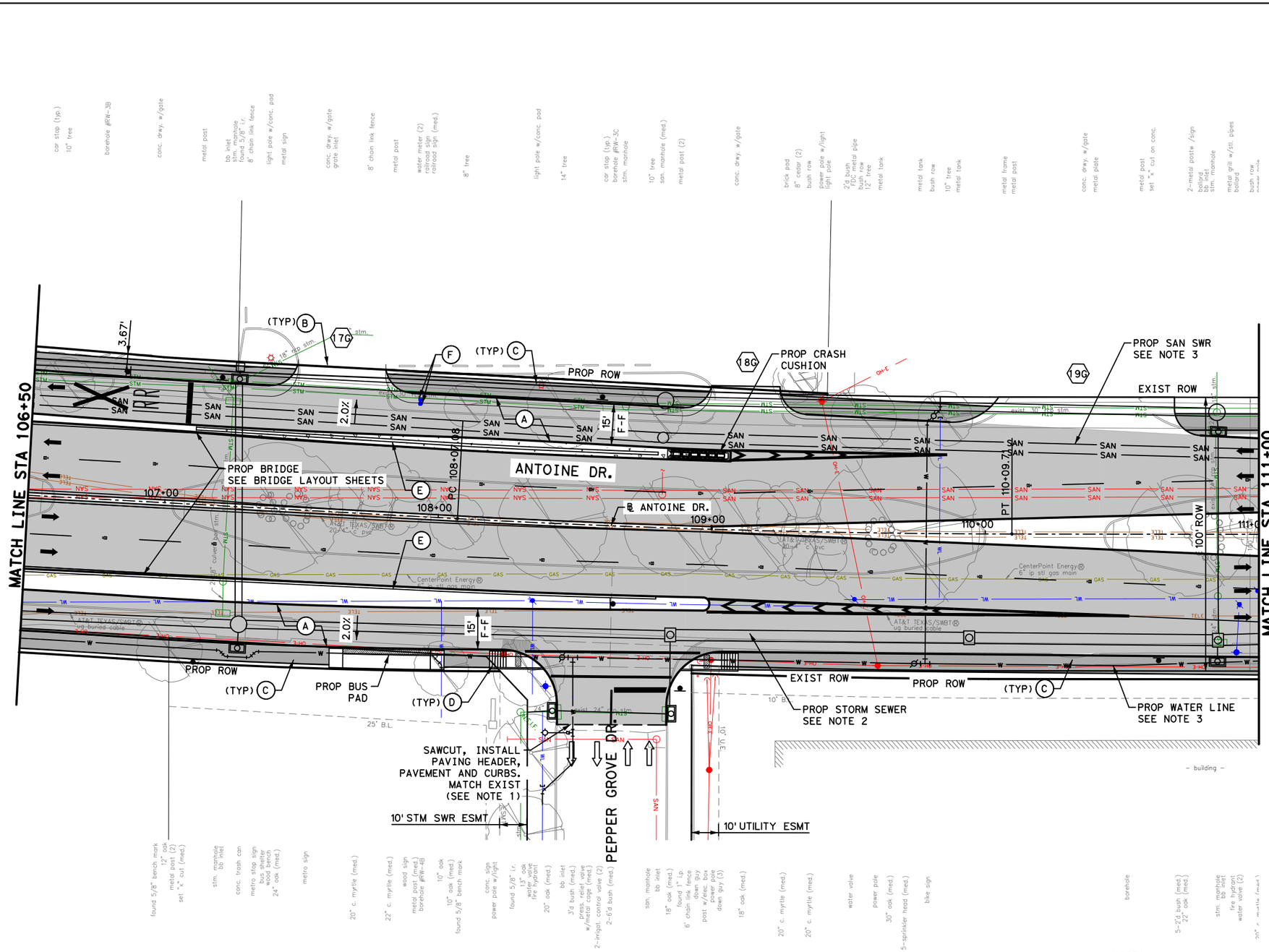

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
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- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

NOTES:

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3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
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No.	DATE	REVISIONS	APP.

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

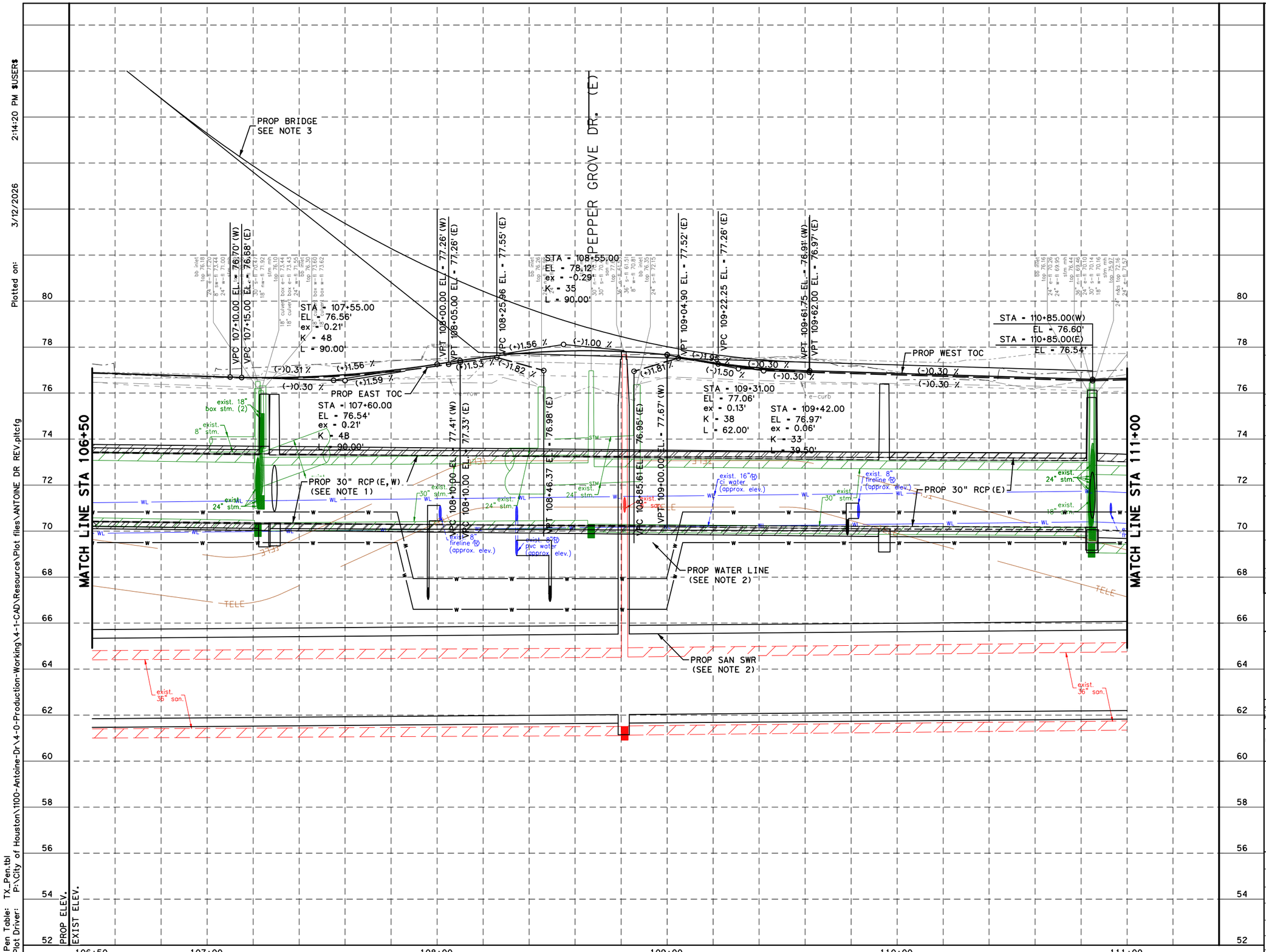
ANTOINE DRIVE

ROADWAY PLAN
STA 106+50 TO STA 111+00

SHEET 7i7 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 284 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:14:18 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 47.dgn



NOTES:

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2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO BRIDGE SHEETS FOR MORE INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KARAM QADDO
P.E. No. 125611
Date 3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 106+50 TO STA 111+00

SHEET 78 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 285 OF 1067	

Plotted on: 3/12/2026 2:14:20 PM $USER$
Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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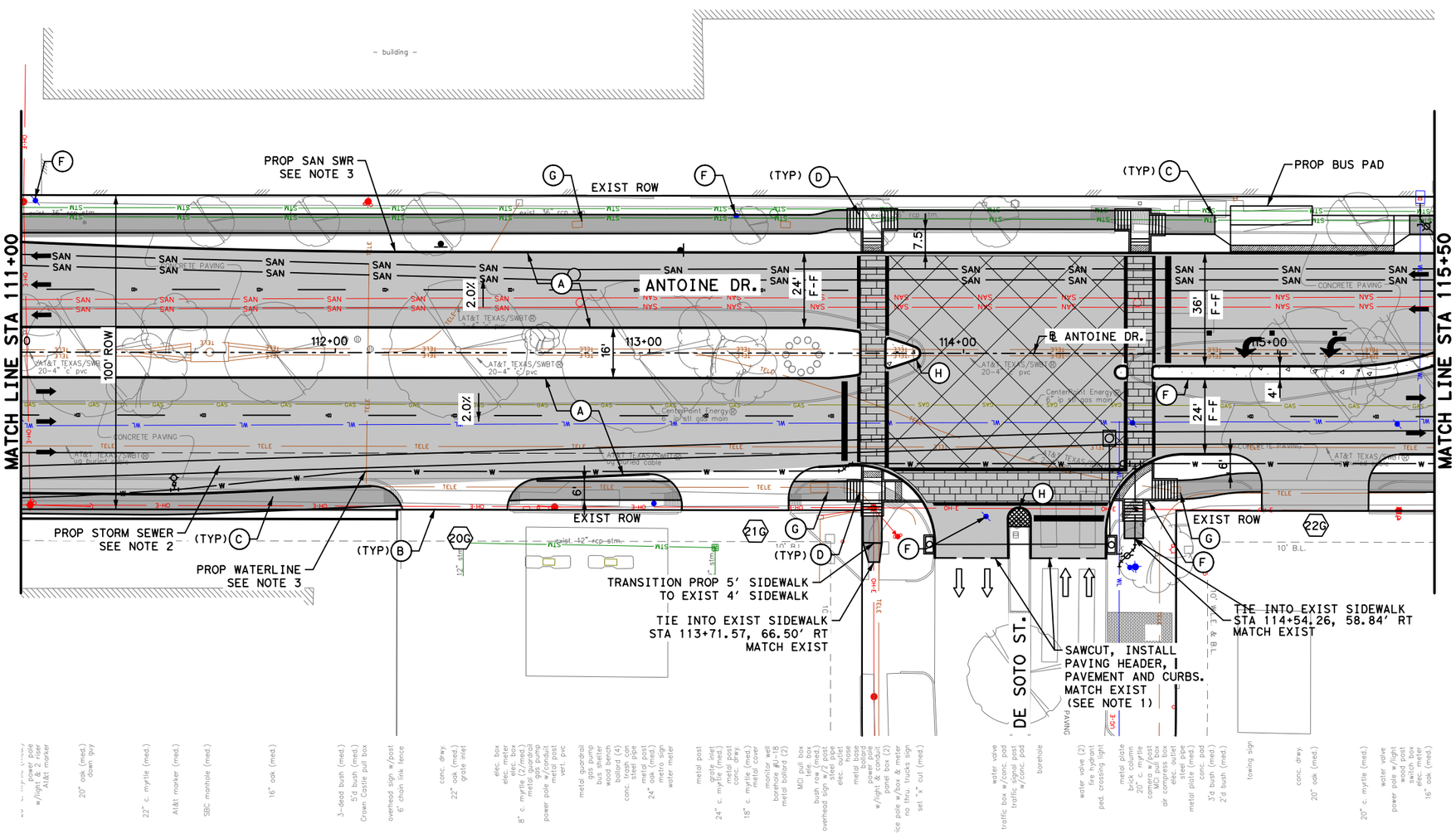

LEGEND

- PROP LANE
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- EXIST ROW
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0' 20' 40'
SCALE IN FEET

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APP: | No. | DATE | REVISIONS

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11750 KATY FREEWAY. #400
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 111+00 TO STA 115+50

SHEET 739 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 286 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:14:22 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 49.dgn

Plotted on: 3/12/2026 2:14:23 PM $USER$
Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 50.dgn

DE SOTO ST. (E)

STA = 113+35.00(E)
EL = 77.29'
STA = 113+25.00(W)
EL = 77.32'
PROP EAST TOC
STA 113+64.87(E)
EL.=77.20'
STA 114+70.41(E)
EL.=76.66'
PROP WEST TOC
STA 113+90.97(E)
EL.=76.52'
STA 114+45.41(E)
EL.=76.45'

(+)0.30 %
(+)0.30 %
(+)0.30 %
(-)0.30 %
(-)1.73 %
(+)0.53 %
(-)0.47 %
(-)0.46 %

MATCH LINE STA 111+00
MATCH LINE STA 115+50

PROP 36" RCP
(SEE NOTE 1)
PROP WATER LINE
(SEE NOTE 2)
PROP SAN SWR
(SEE NOTE 2)

exist. 16" ci water (approx. elev.)
exist. 36" strm.
exist. 8" pvd water
exist. 36" san.

PROP ELEV.
EXIST ELEV.

111+00 112+00 113+00 114+00 115+00 115+50

80 78 76 74 72 70 68 66 64 62 60 58 56 54 52

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HORZ 0' 20' 40'
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SCALE IN FEET

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KUO & ASSOCIATES, INC.

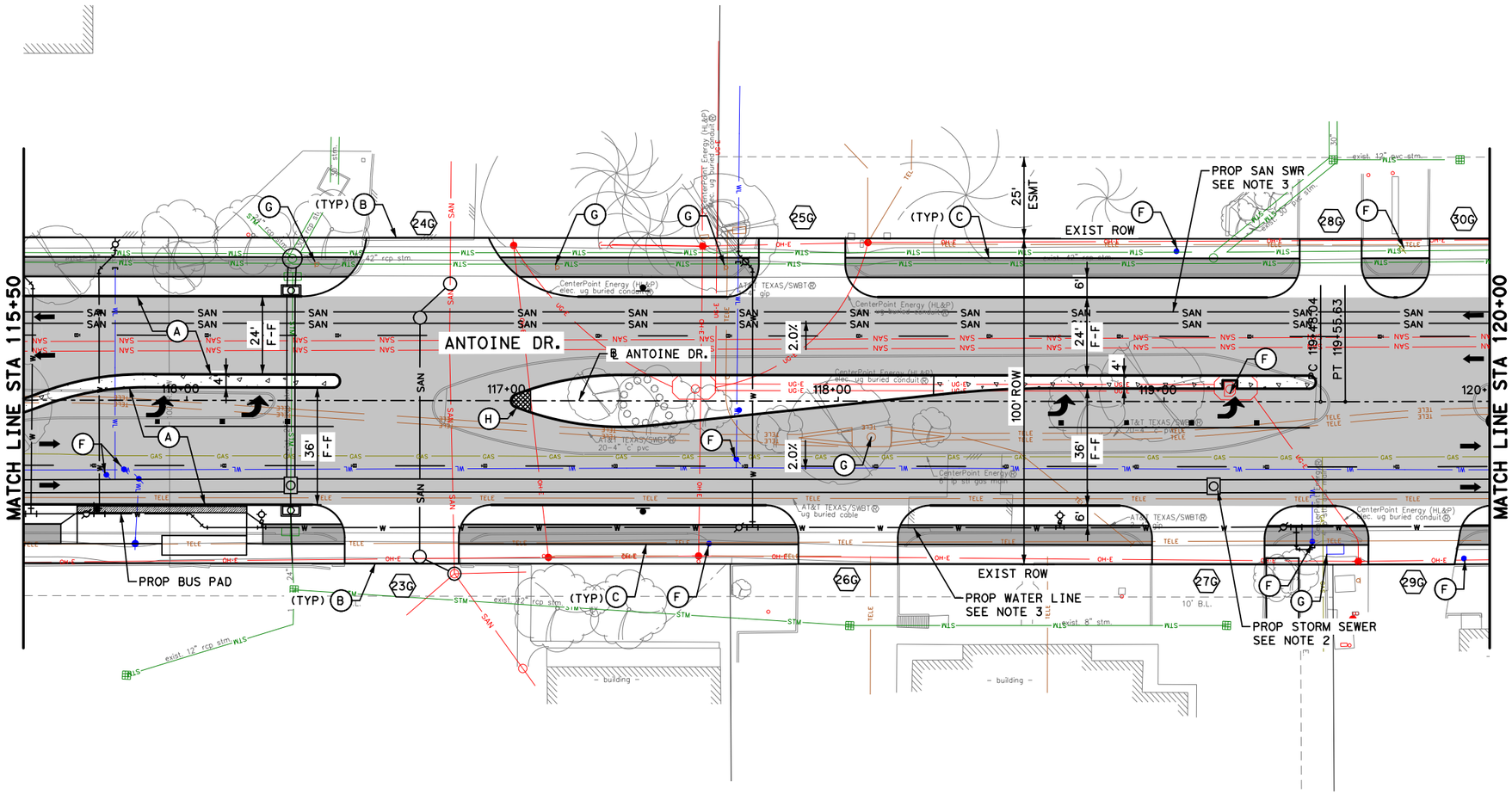
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 111+00 TO STA 115+50

SHEET 70 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 287 OF 1067	



LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 115+50 TO STA 120+00

SHEET 7.1 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 288 OF 1067	

NOTES:

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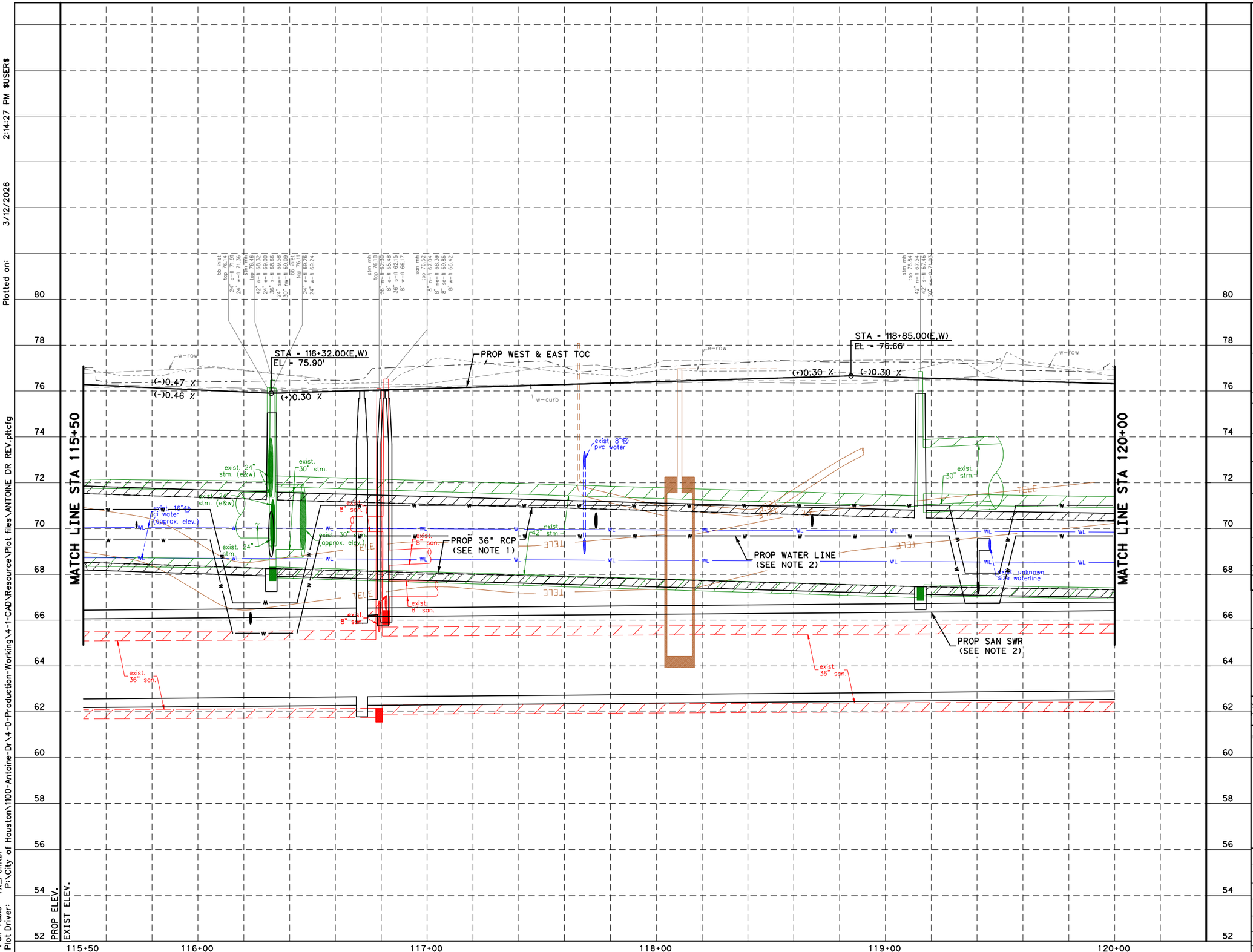

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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TEXAS PE FIRM REG. # 20017
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

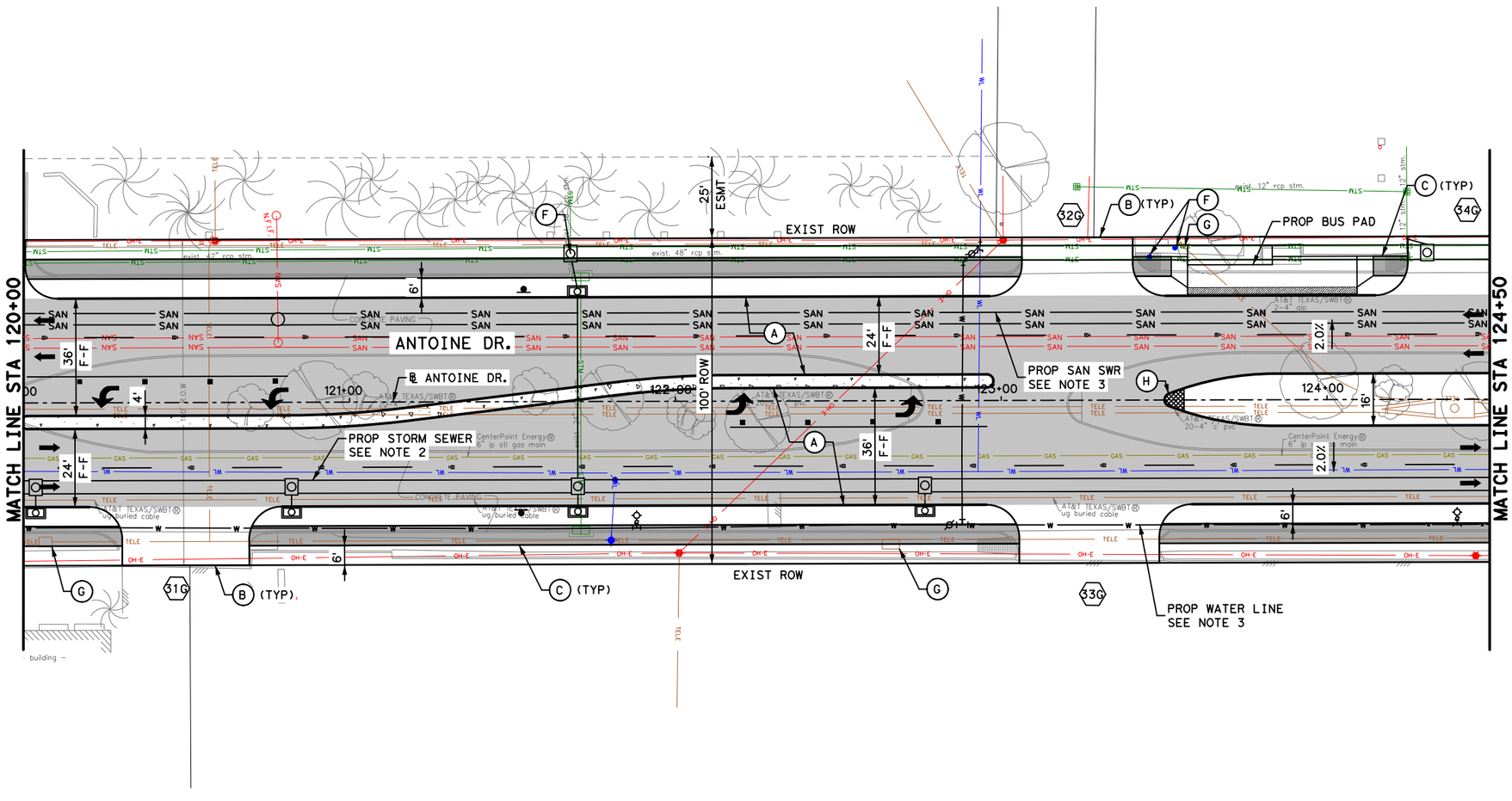
ROADWAY PROFILE
STA 115+50 TO STA 120+00

SHEET 72 OF 80

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 289 OF 1067

FOR CITY OF HOUSTON USE ONLY

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 52.dgn



LEGEND

- PROP LANE
- EXIST LANE
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- EXIST ROW
- PROP 6" CURB
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No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 120+00 TO STA 124+50

SHEET 73 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 290 OF 1067	

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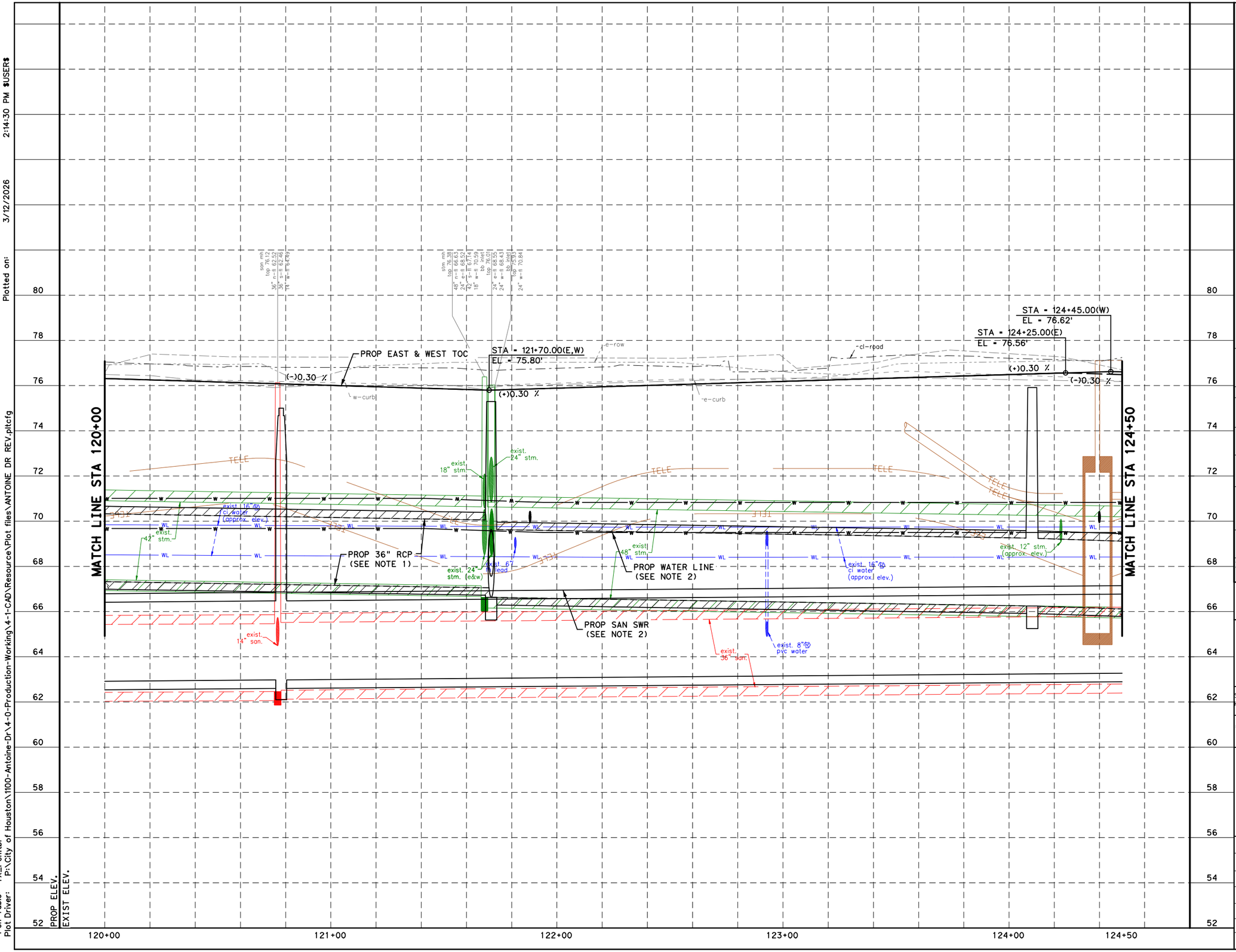

No.	DATE	REVISIONS	APP.

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VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

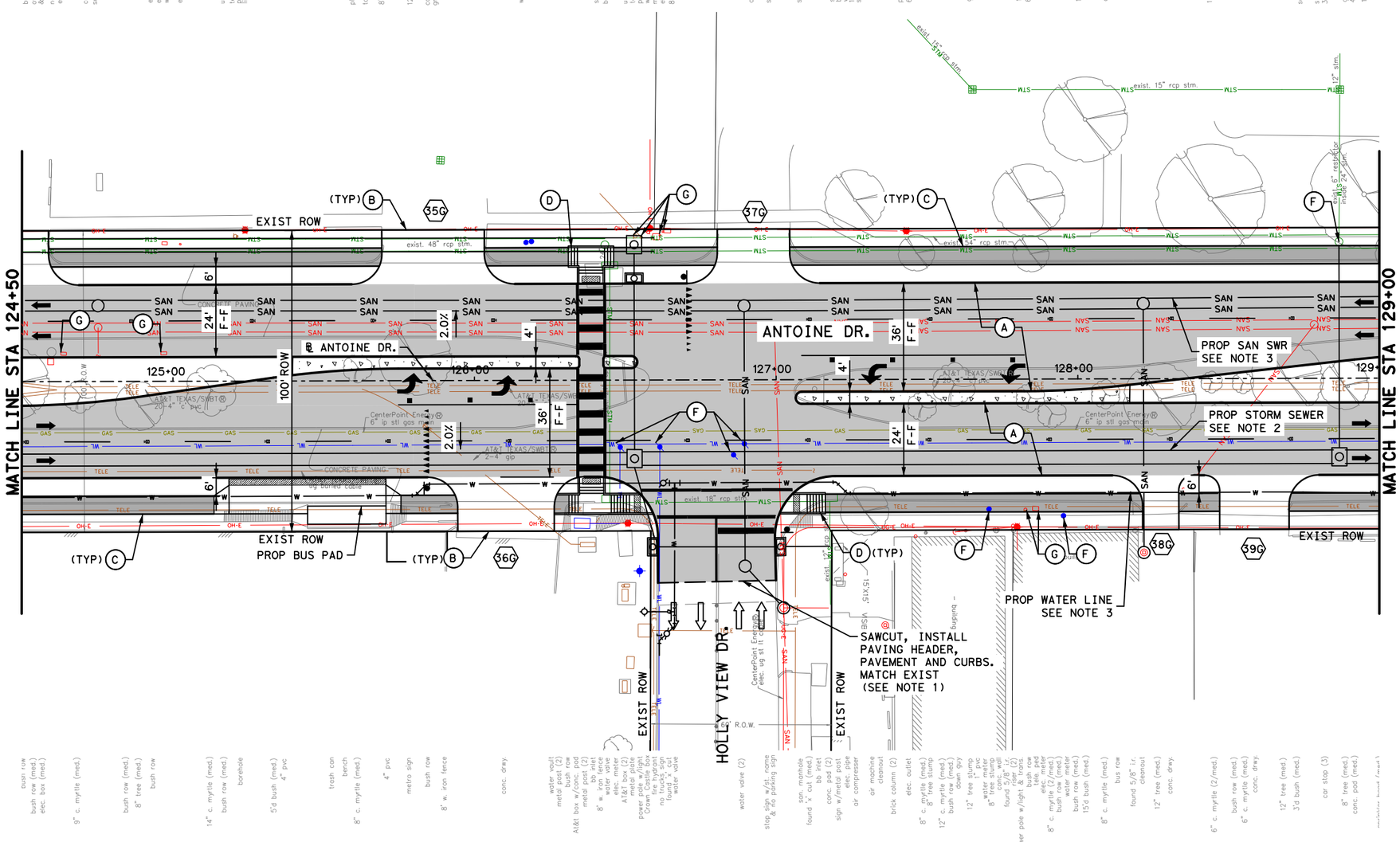
ANTOINE DRIVE

ROADWAY PROFILE
STA 120+00 TO STA 124+50

SHEET 74 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 291 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 54.dgn



bush row (med.)
metal post (2)
& conc. pad (med.)
no parking & towing sign
elec. box (med.)

conc. pad
san. manhole

elec. box (med.)
elec. box
wood sign

elec. meter w/post

underground cable marker
tele. ped
power pole w/
light & trans.

plastic pad
towing sign
8' chain link fence

12" tree (med.)

conc. dway.
grate inlet

water meter (2)

stm. manhole
bb inlet

underground cable marker
tele. ped
power pole
& 2 riser
metal pipe
elec. box w/meter (2)
8' c. link fence

conc. dway.

san. manhole

set 1/2" i.r.

sign
borehole #U-21
water well
10" oak
sprinkler head

power pole w/light
6" tree

grate inlet

12" tree
6" tree

14" tree

conc. walkway

18" tree

san. manhole

stm. manhole
3'd bush (2/med.)

grate inlet
4'd bush (med.)
18" tree

bush row (med.)
elec. box (med.)

9' c. myrtle (med.)

bush row (med.)
8" tree (med.)
bush row

14" c. myrtle (med.)
bush row (med.)
borehole

5'd bush (med.)
4" pvc

trash can
bench

8" c. myrtle (med.)

4" pvc

metro sign
bush row

8' w. iron fence

conc. dway.

water vault
metal post (2)
bush row
At&t box w/conc. pad
metal post (2)
bb inlet
8" w. iron fence
water valve
elec. meter
At&t box (2)
metal post
power pole w/light
Crash cushion
fire hydrant
no trucks sign
fire hydrant
water valve

water valve (2)

stop sign w/st. name
& no parking sign

san. manhole
found "x" cut (med.)
bb inlet
conc. pad (2)
sign w/metal post
elec. meter
or compressor

air machine
cleanout
brick column (2)

elec. outlet

8" c. myrtle (med.)
8" tree stump
bush row (med.)
bush row
12" c. myrtle (med.)
bush row (med.)
bush row
12" tree stump
water meter
8" tree stump
conc. wall
found 5/8" i.r.
power pole w/light & trans.
bush row
tree stump
elec. meter
8" c. myrtle (2/med.)
bush row (med.)
water meter
bush row (med.)
15'd bush (med.)

8" c. myrtle (med.)

bus row

found 5/8" i.r.
cleanout

12" tree (med.)
conc. dway.

6" c. myrtle (2/med.)
bush row (med.)
6" c. myrtle (med.)
conc. dway.

12" tree (med.)
3'd bush (med.)

car stop (3)

8" tree (med.)
conc. pad (med)

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
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- (E) PROP RETAINING WALL
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No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 124+50 TO STA 129+00

SHEET 7;5 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 292 OF 1067	

NOTES:

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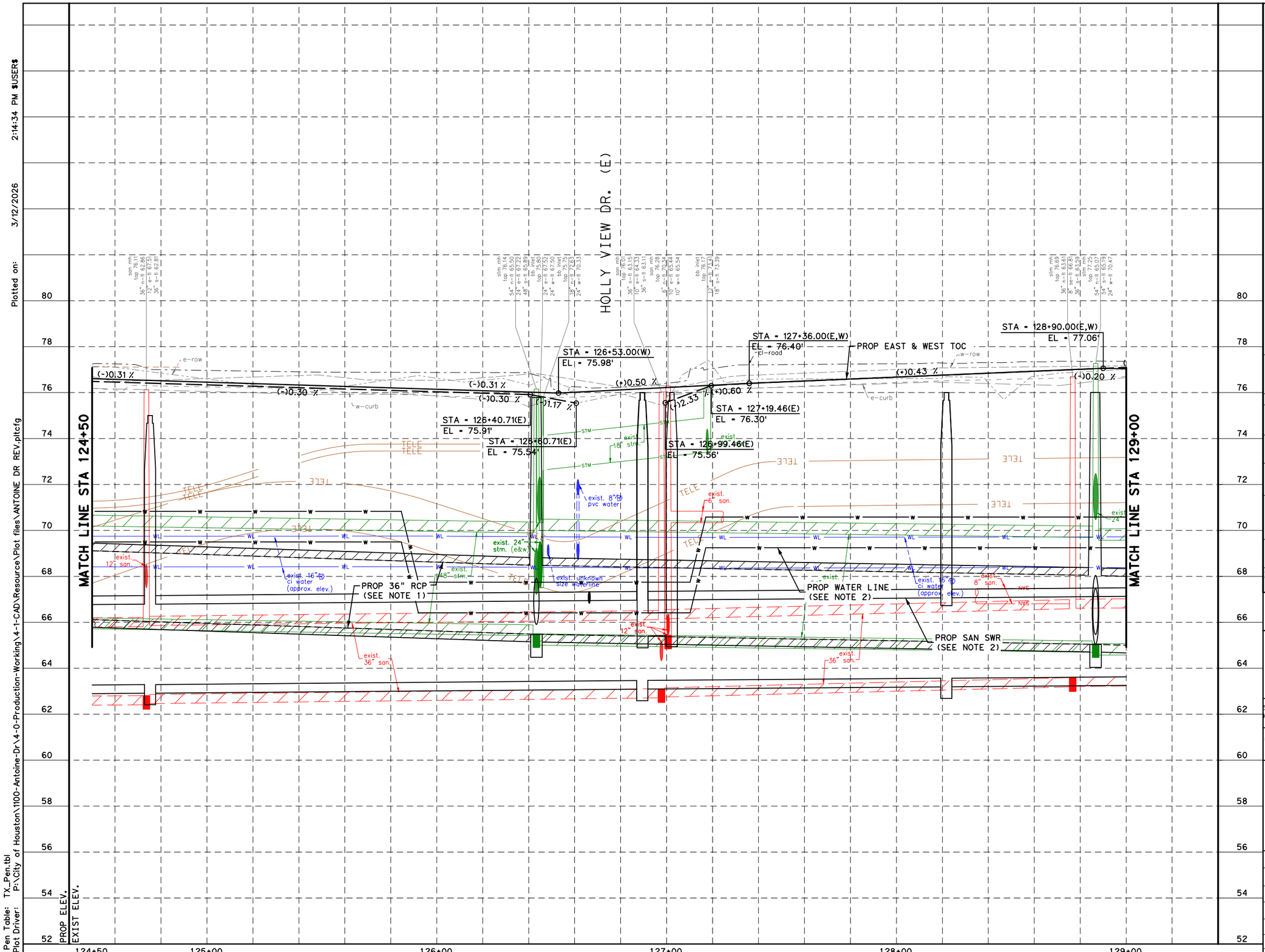

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 124+50 TO STA 129+00

SHEET 76 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 293 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/12/2026 2:14:34 PM $USER$
Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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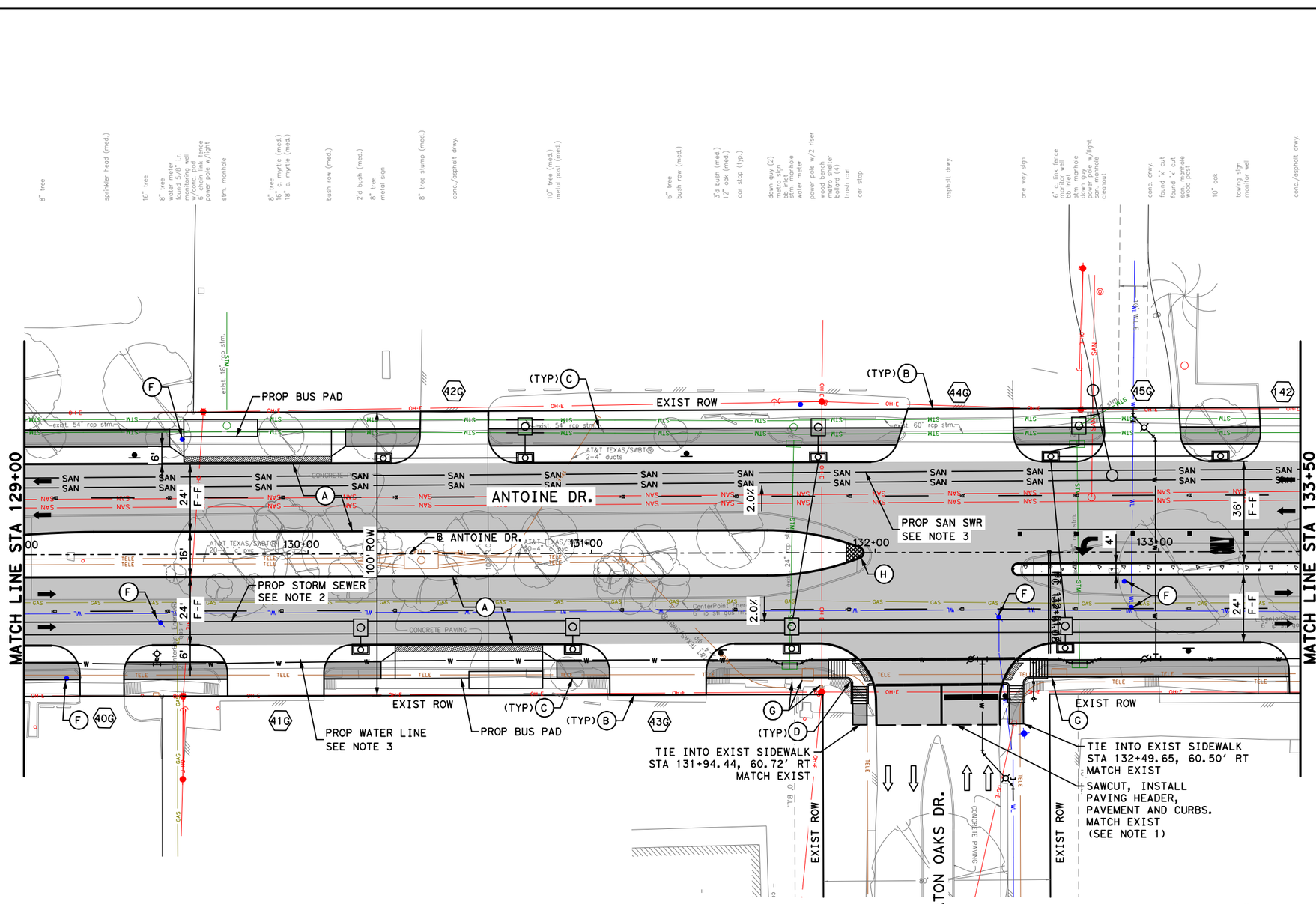

LEGEND

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No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 129+00 TO STA 133+50

SHEET 7.7 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 294 OF 1067	

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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 57.dgn

Plotted on: 3/12/2026 2:14:38 PM $USER$

Pen Table: TX_Pen.tbl
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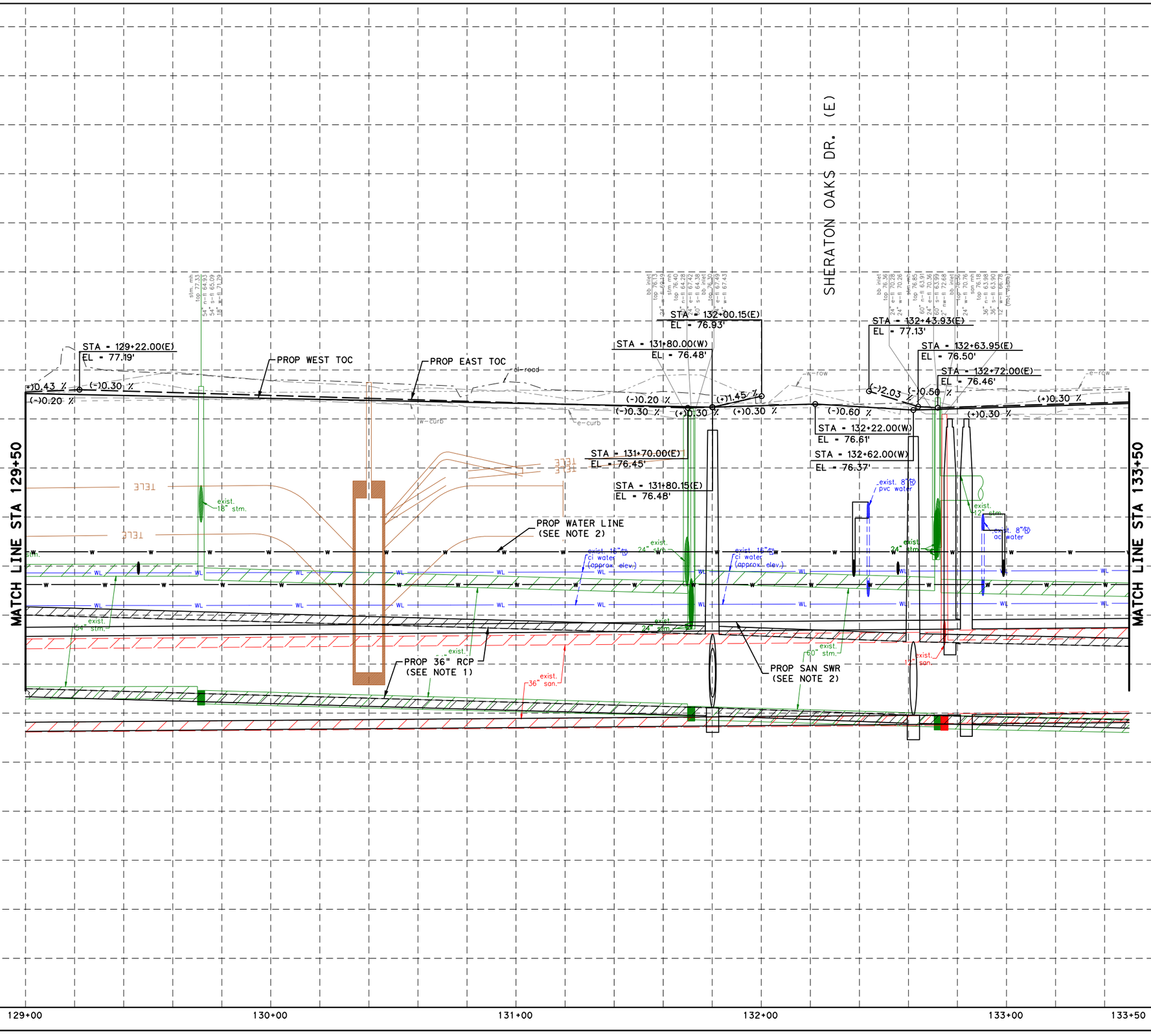
PROP ELEV.
EXIST ELEV.



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SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

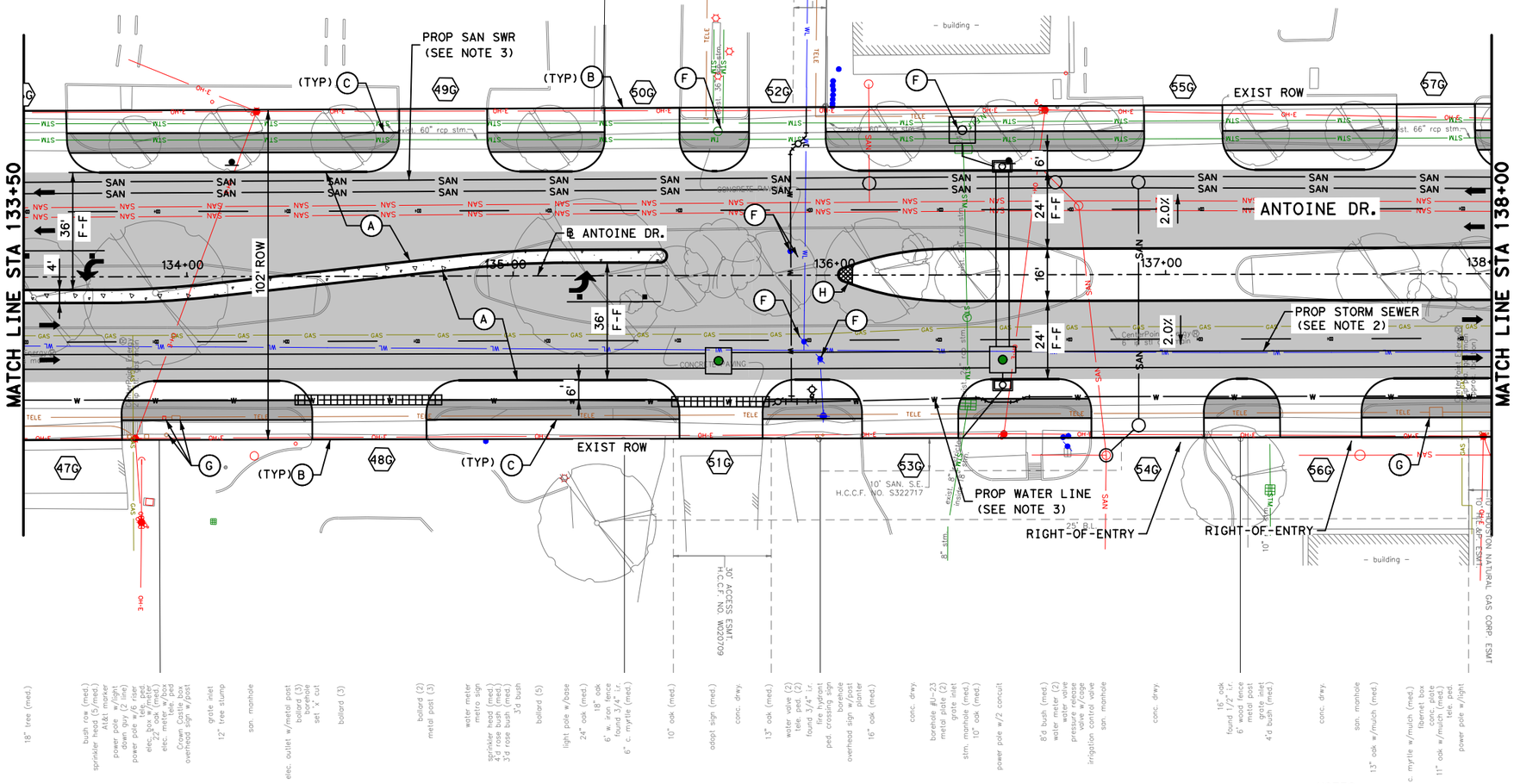
ROADWAY PROFILE
STA 129+00 TO STA 133+50

SHEET 78 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 295 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 58.dgn



NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
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3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
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HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 133+50 TO STA 138+00

SHEET 7 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 296 OF 1067	

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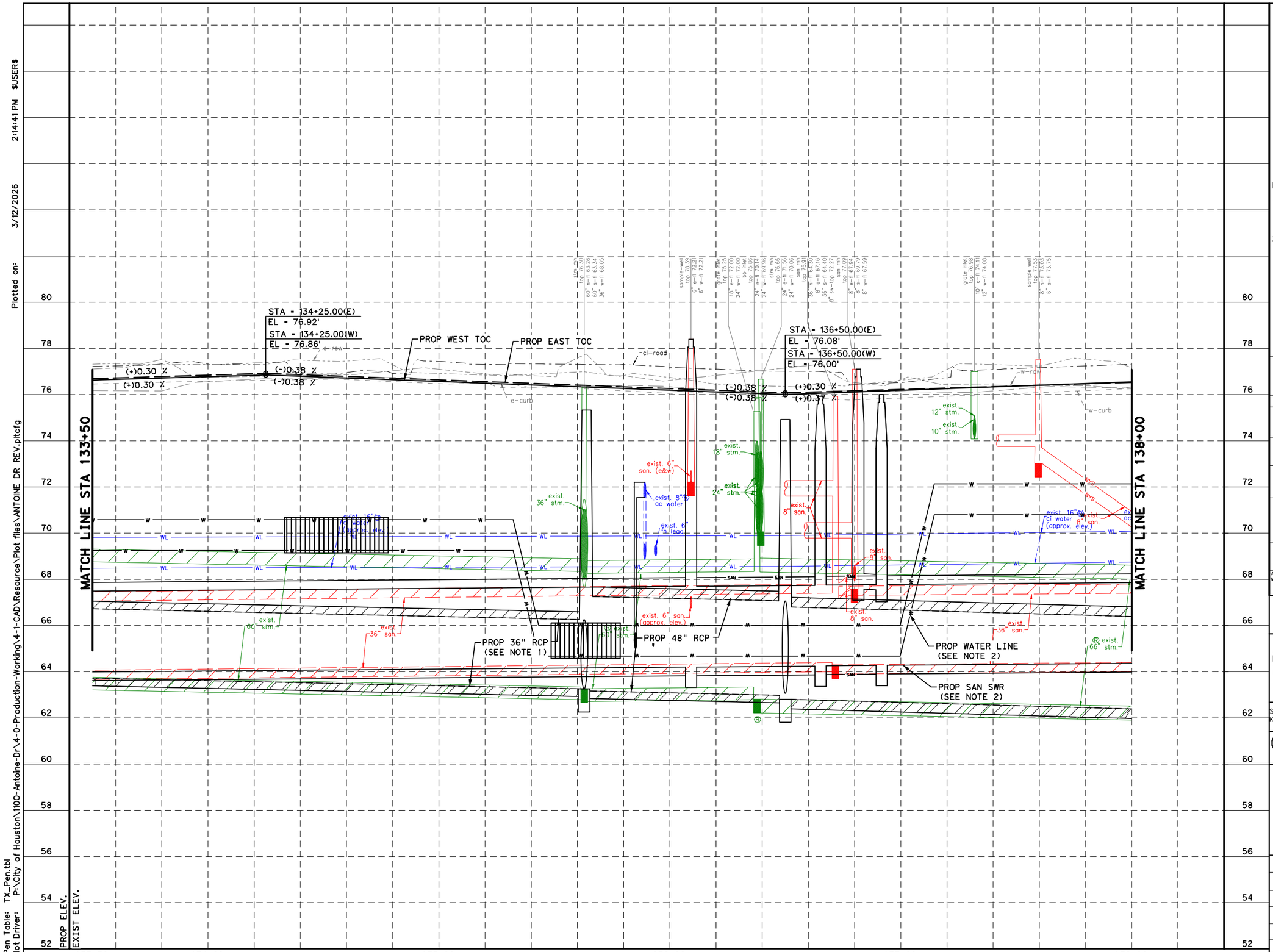

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HORZ 0' 20' 40'
VERT 0' 2' 4'
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 133+50 TO STA 138+00

SHEET 70 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 297 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: TX_Pen.tbl
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Plotted on: 3/12/2026 2:14:41 PM $USER$
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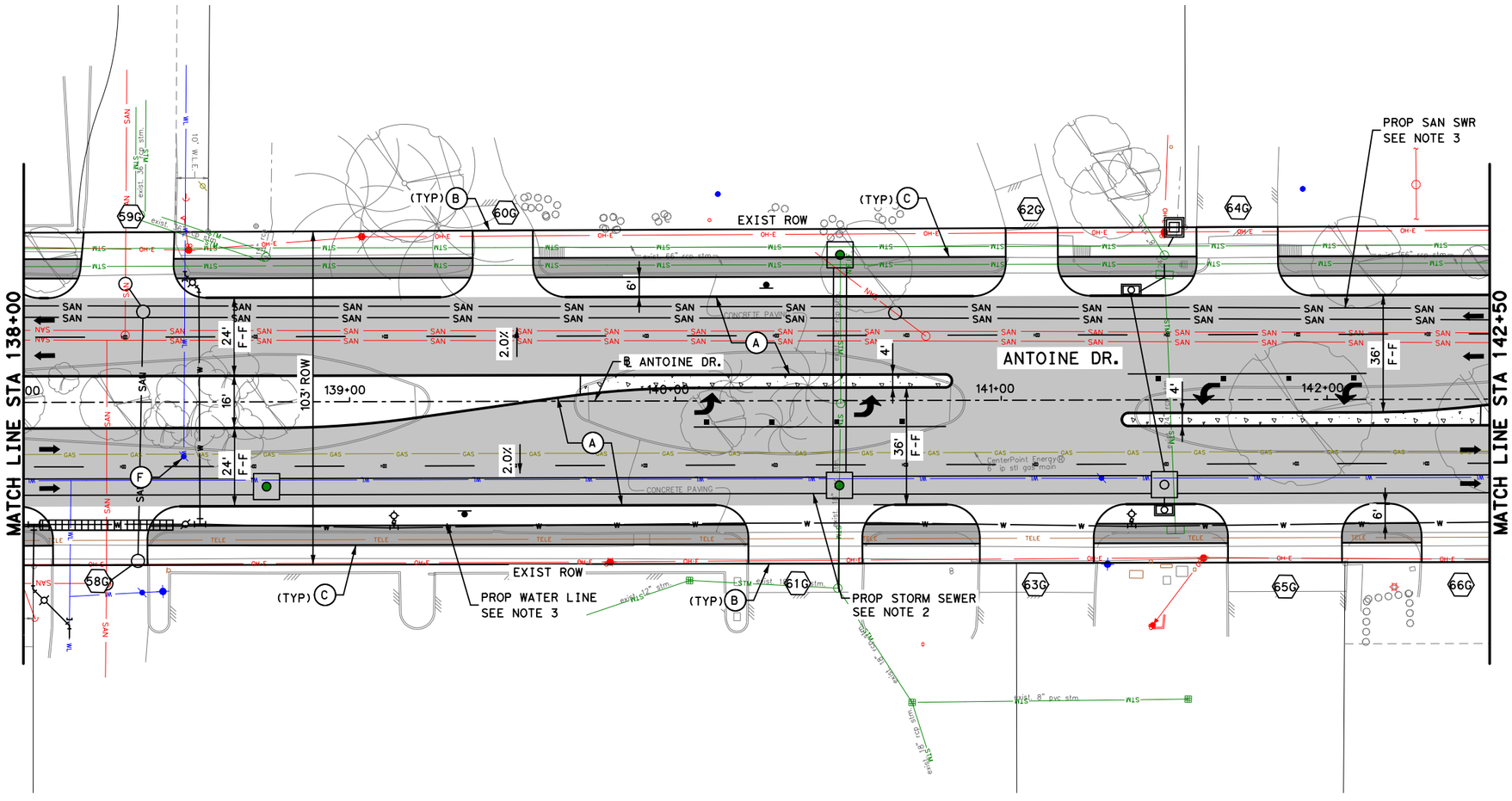

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
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- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE(BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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P.E. 125611
3/12/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 138+00 TO STA 142+50

SHEET 71 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 298 OF 1067	

NOTES:

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Pen Table: TX_Pen.tbl
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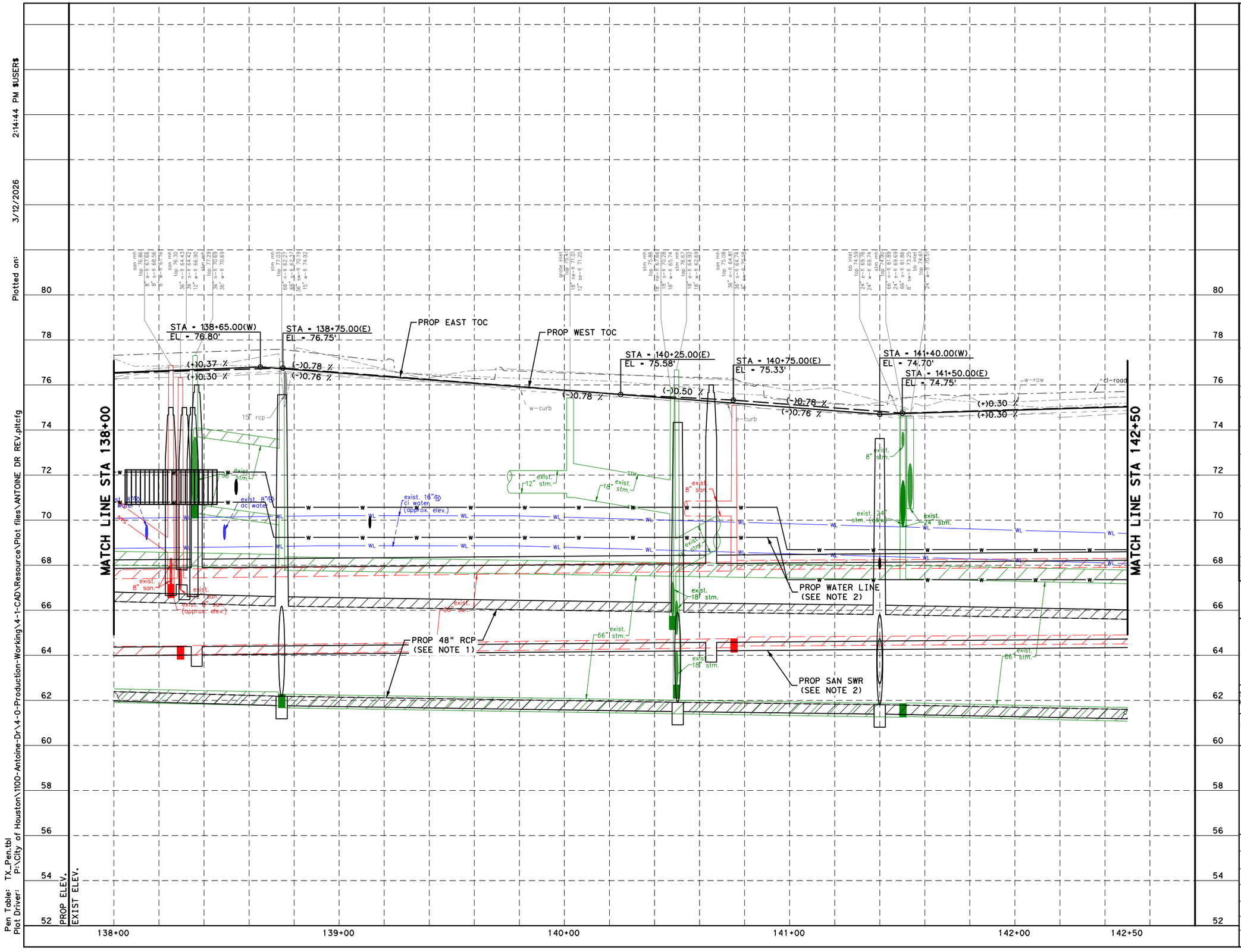

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 138+00 TO STA 142+50

SHEET 72 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 299 OF 1067	

No.	DATE	REVISIONS	APP.

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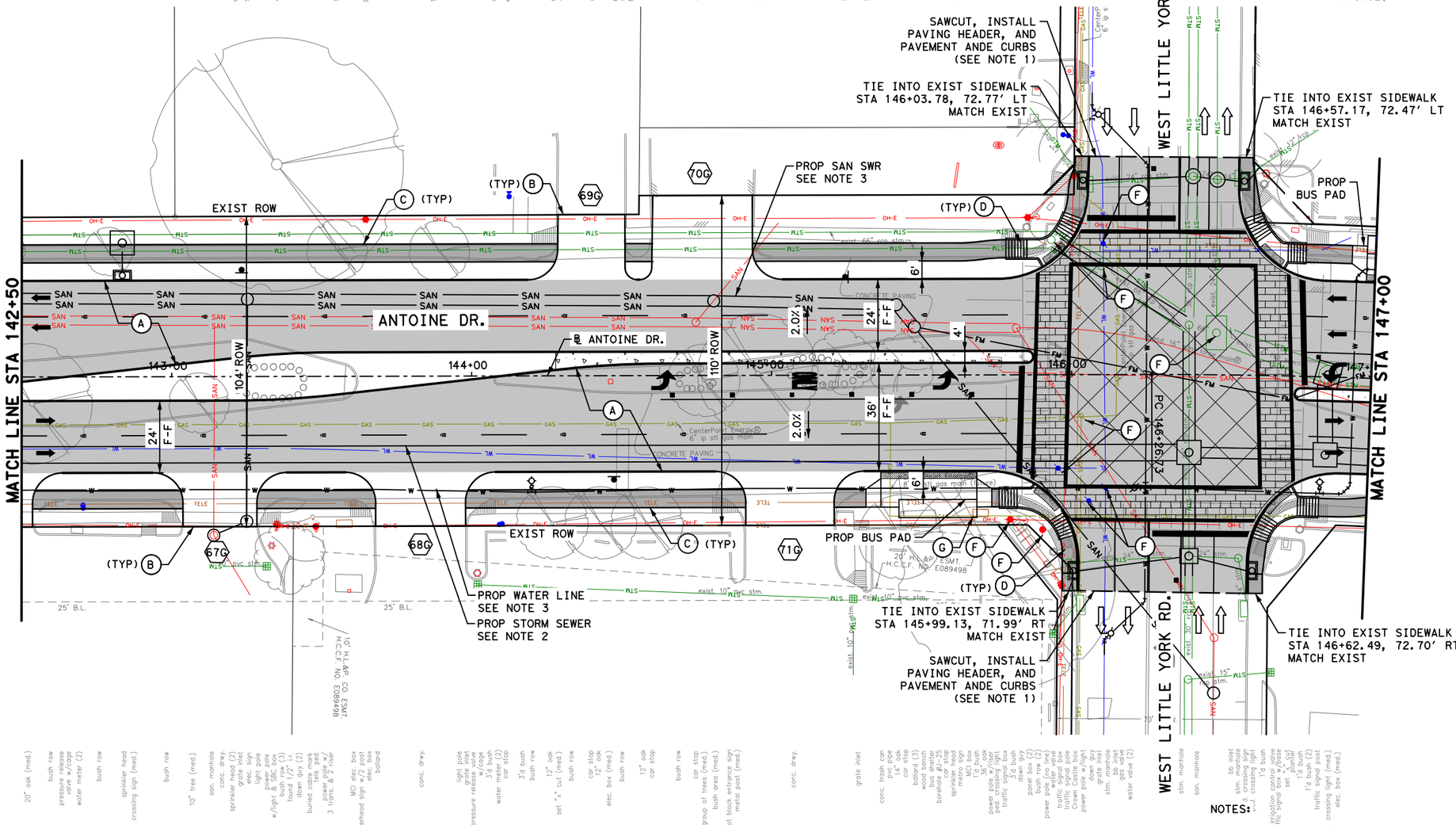

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- (B) PROP CONC DRIVEWAY
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- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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11750 KATY FREEWAY. #400
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 142+50 TO STA 147+00

SHEET 73 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 300 OF 1067	

Pen Table: TX_Pen.tbl
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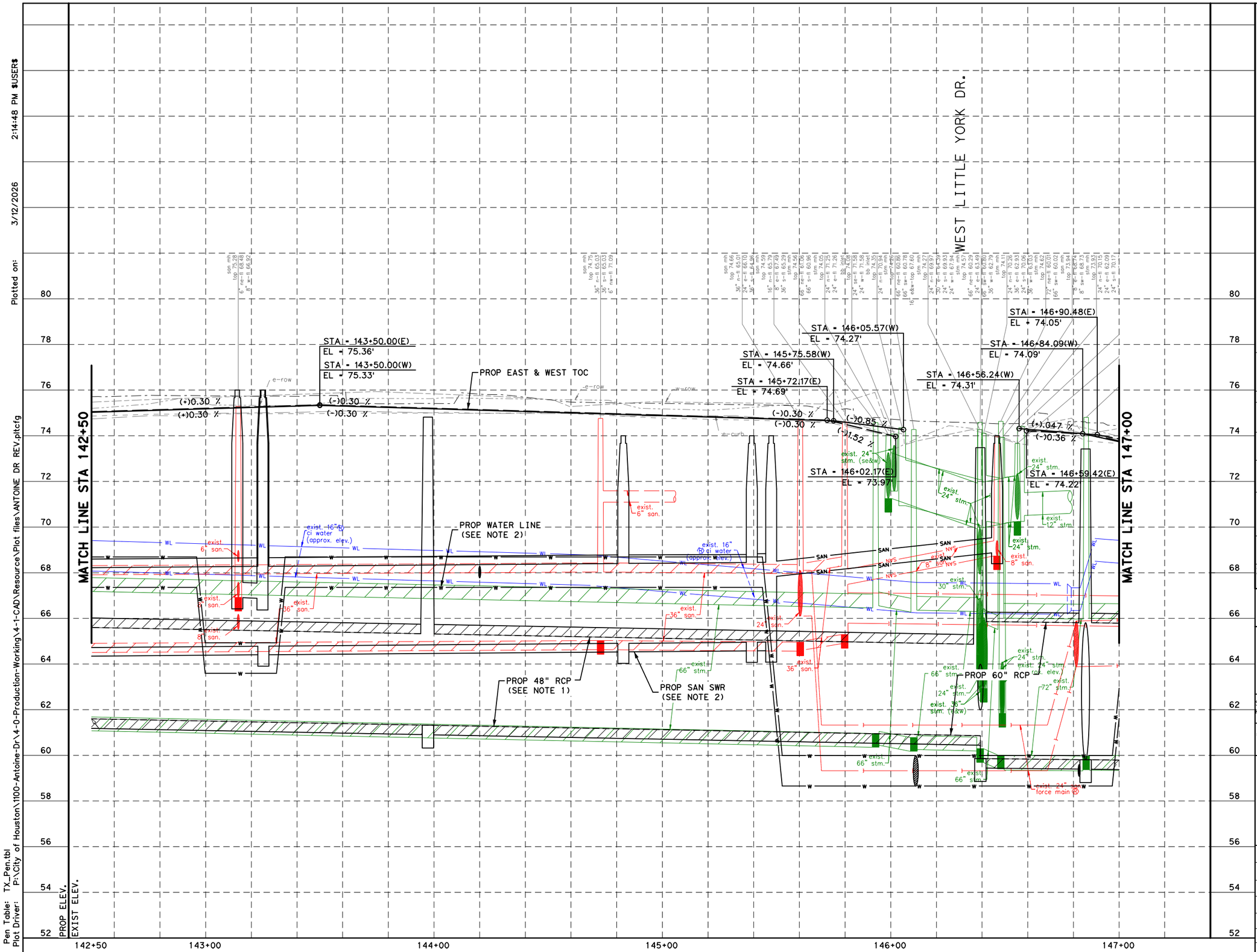

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 142+50 TO STA 147+00

SHEET 74 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 301 OF 1067	

No.	DATE	REVISIONS	APP.

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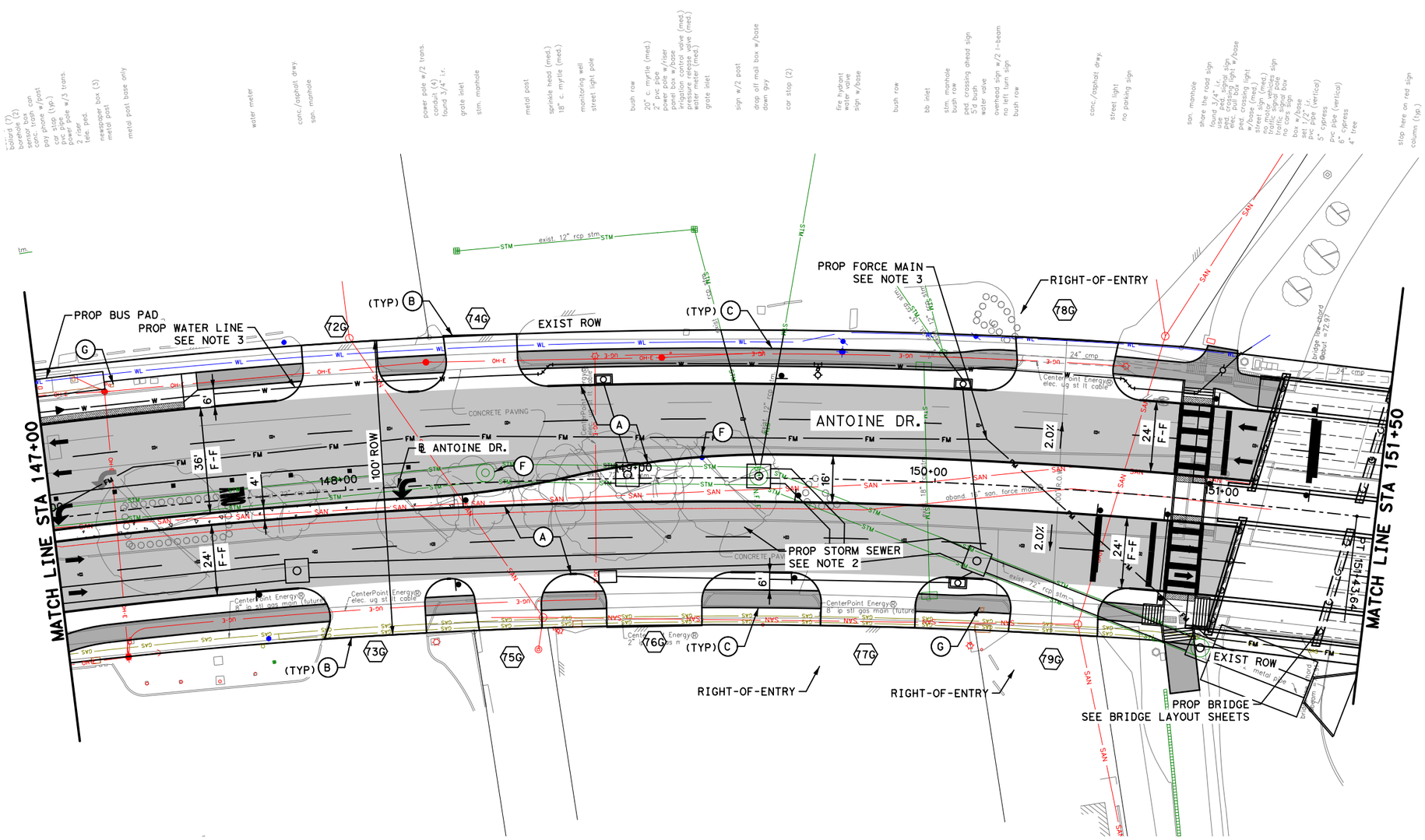

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
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- PROP 6" CURB
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Engineer
125611
3/12/2026
Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 147+00 TO STA 151+50

SHEET 75 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 302 OF 1067	

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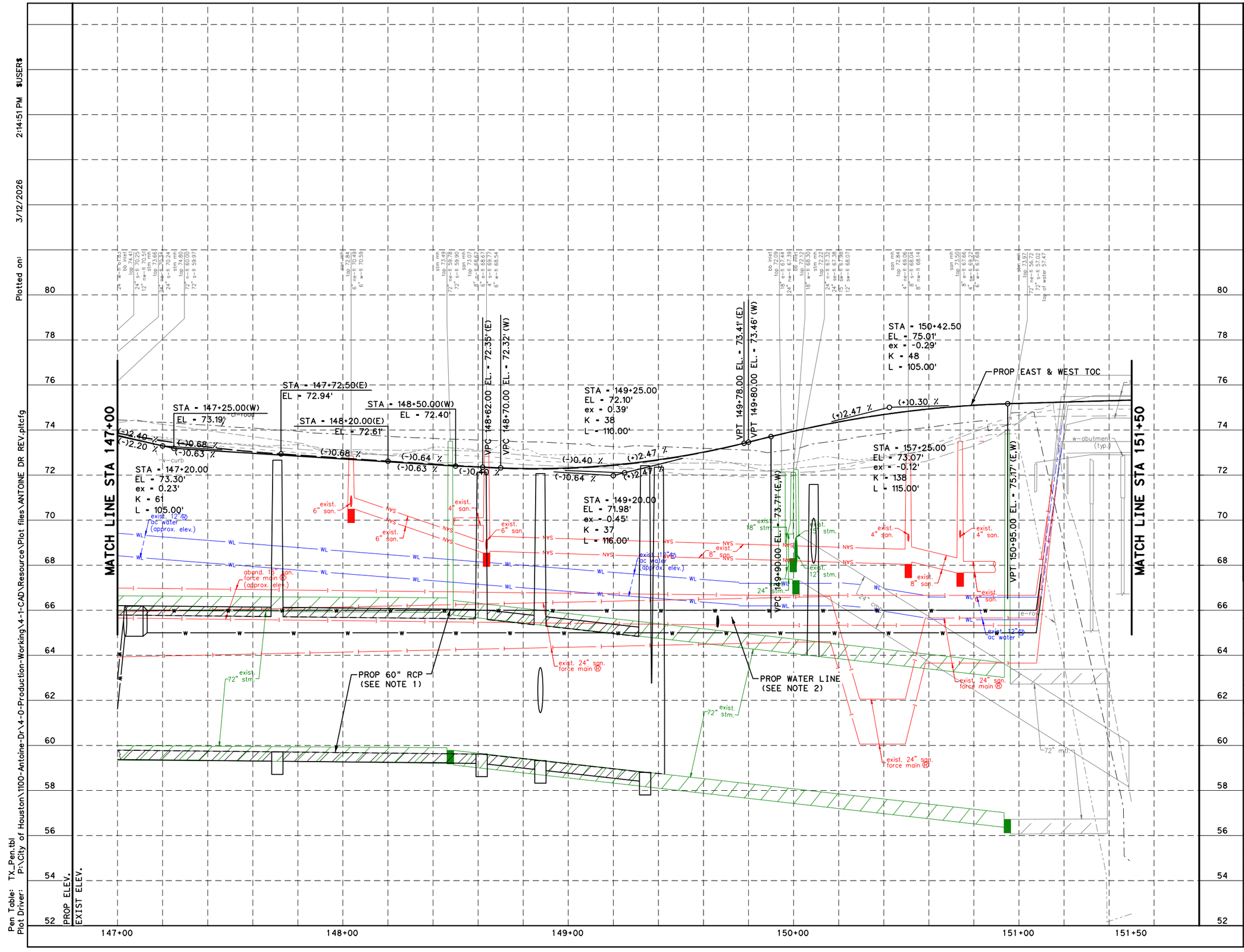
No.	DATE	REVISIONS	APP.

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:14:49 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 65.dgn



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 147+00 TO STA 151+50

SHEET 76 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 303 OF 1067	

No.	DATE	REVISIONS	APP.

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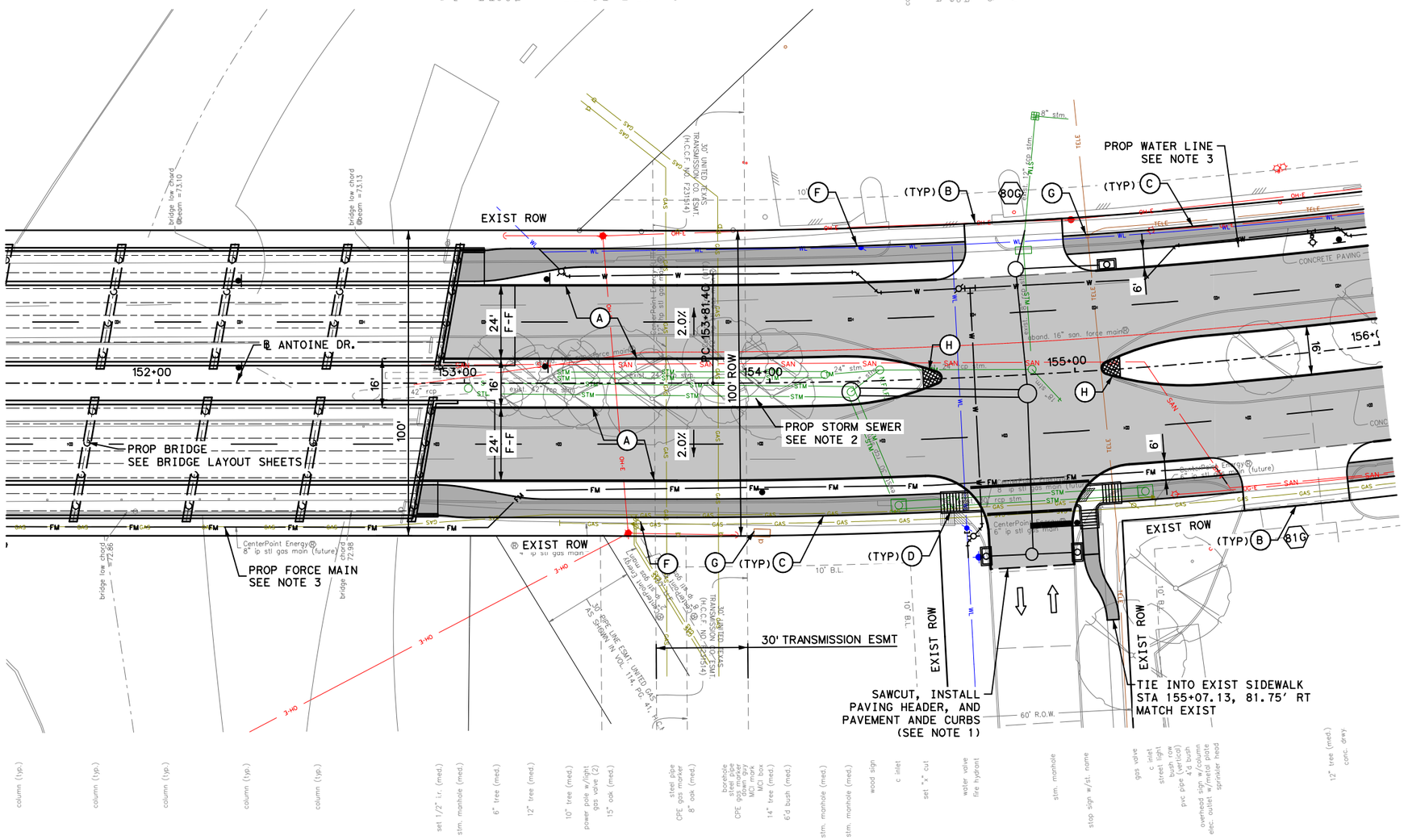
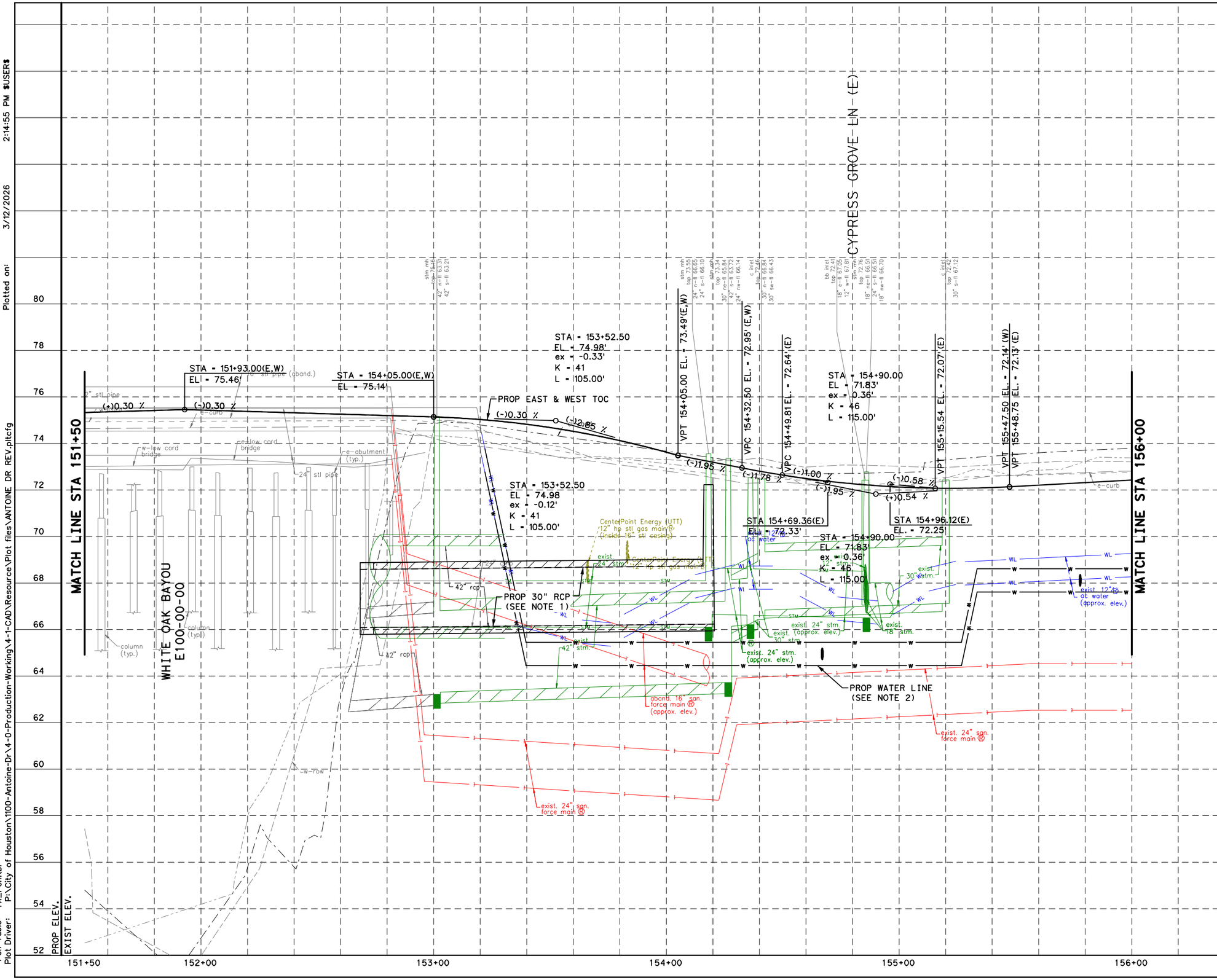

EXIST ROW
R ANTOINE DR.
152+00
153+00
154+00
155+00
156+00
PC 153+81.40
100' ROW
PROP BRIDGE
SEE BRIDGE LAYOUT SHEETS
PROP FORCE MAIN
SEE NOTE 3
PROP STORM SEWER
SEE NOTE 2
PROP WATER LINE
SEE NOTE 3
30' TRANSMISSION ESMT
SAWCUT, INSTALL
PAVING HEADER, AND
PAVEMENT ANDE CURBS
(SEE NOTE 1)
TIE INTO EXIST SIDEWALK
STA 155+07.13, 81.75' RT
MATCH EXIST
EXIST ROW
(TYP) A
(TYP) B
(TYP) C
(TYP) D
F
G
H
80G
81G
24' F-F
2.0%
16'
100'
6'
9'
10' B.L.
60' R.O.W.
CONCRETE PAVING
CenterPoint Energy
8" ip stl gas main (future)
CenterPoint Energy
6" ip stl gas main
abond. 16" san. force main
24" stm.
42" rcp
exist. 42" rcp storm
exist. 15" san.
exist. 8" san.
exist. 8" gas
exist. 6" gas
exist. 2" gas
exist. 4" gas
exist. 6" gas
exist. 8" gas
exist. 12" gas
exist. 16" gas
exist. 24" gas
exist. 30" gas
exist. 36" gas
exist. 42" gas
exist. 48" gas
exist. 54" gas
exist. 60" gas
exist. 66" gas
exist. 72" gas
exist. 78" gas
exist. 84" gas
exist. 90" gas
exist. 96" gas
exist.



NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY,YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED.THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown.(Gas service lines are not shown).This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

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Note: The AT&T electronic Signature is valid for one year.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 151+50 TO STA 156+00

SHEET 78 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 305 OF 1067	

No.	DATE	REVISIONS	APP.

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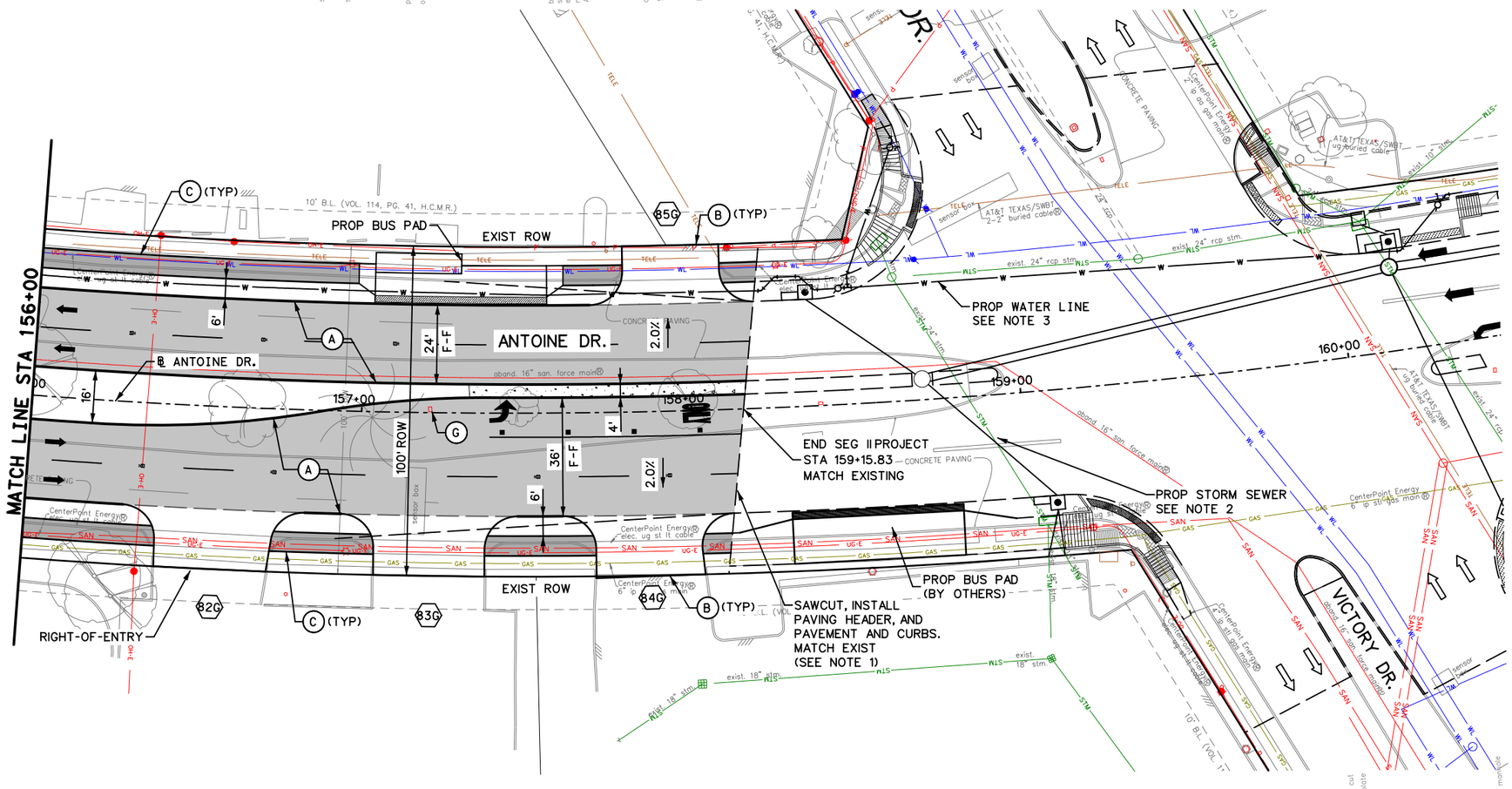

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
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No.	DATE	REVISIONS	APP.

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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P.E. 125611
3/12/2026
DATE
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
STA 156+00 TO END PROJECT

SHEET 79 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 306 OF 1067	

Plotted on: 3/12/2026 2:14:56 PM $USER$
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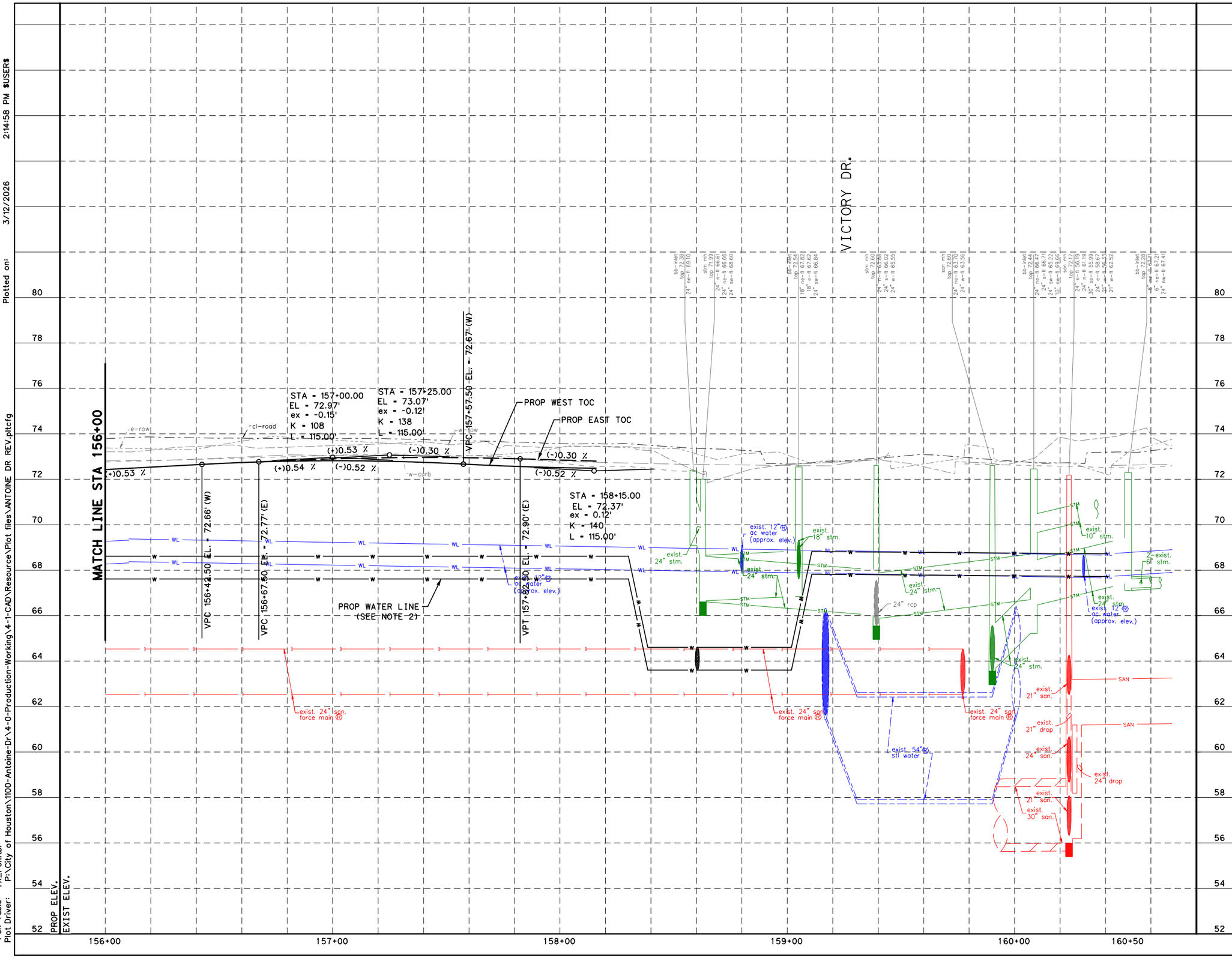

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PROFILE
STA 156+00 TO END PROJECT

SHEET 80 OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 307 OF 1067	

No.	DATE	REVISIONS	APP.

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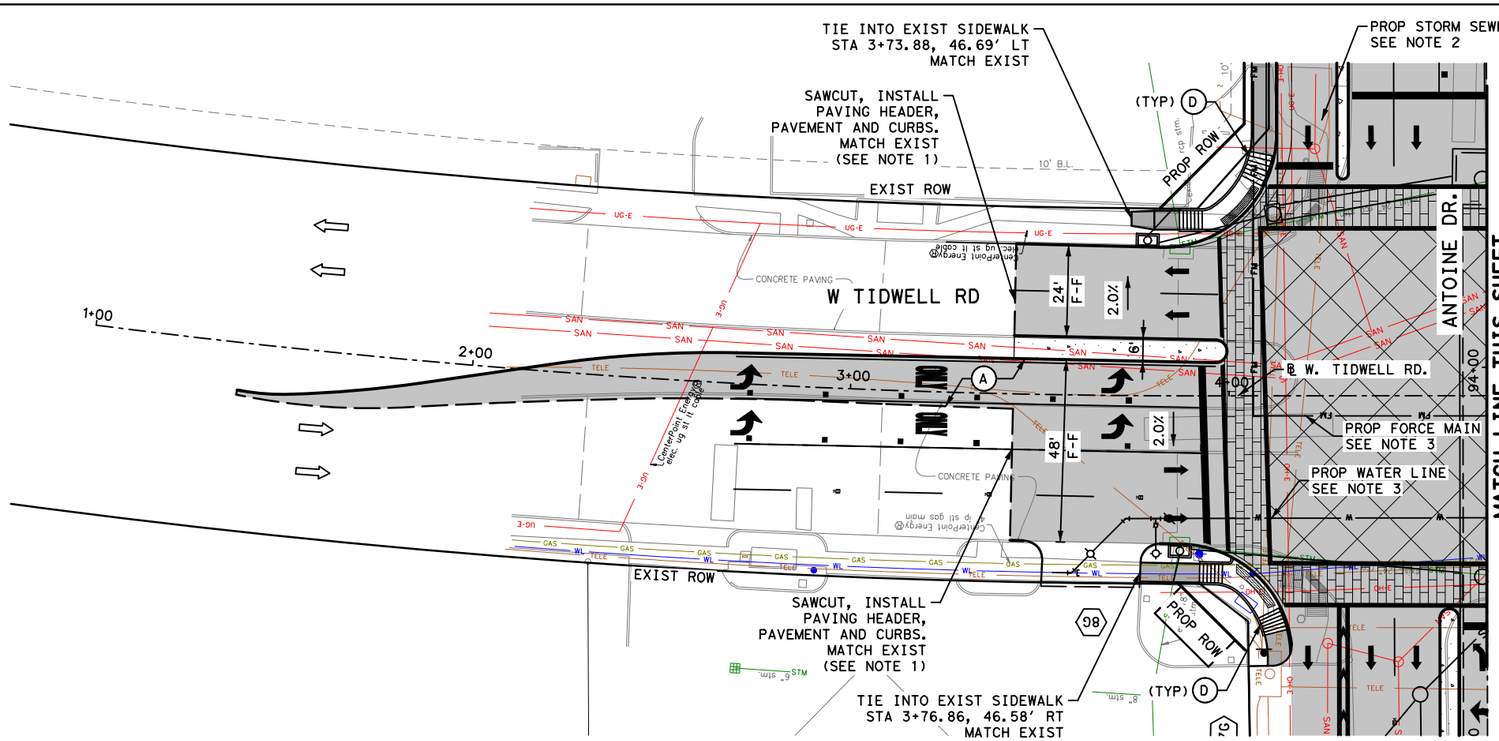

LEGEND

- PROP LANE
- EXIST LANE
- CONCRETE MEDIAN
- EXIST ROW
- PROP 6" CURB
- (A) PROP 11" JRCP
- (B) PROP CONC DRIVEWAY
- (C) PROP 6' CONC SDWK
- (D) PROP WHEELCHAIR RAMP
- (E) PROP RETAINING WALL
- (F) ADJUST TO GRADE
- (G) ADJUST TO GRADE/ RELOCATE (BY OTHERS)
- (H) PROP 6' CONC MEDIAN NOSE
- (I) RELOCATE UTILITY
- (X) PROP DRIVEWAY No.

0' 20' 40'
SCALE IN FEET

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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KARAM QADDO
Date
125611
3/12/2026
Date
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ROADWAY PLAN
W. TIDWELL RD

SHEET 41A OF 80

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 308 OF 1067	

NOTES:

1. REFER TO ROADWAY HORIZONTAL GEOMETRY SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO SIGN AND PAVEMENT MARKING SHEETS FOR ADDITIONAL INFORMATION.
5. ALL DIMENSIONS ARE TO FACE OF CURB OR CENTER OF SIDEWALK UNLESS OTHERWISE NOTED.

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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_RDWY 71.dgn

LEGEND

- APPROX EXIST. (22,270 SF = 0.51 AC)
- PROP EASEMENT (15,213 SF = 0.35 AC)
- ON GRADE ROADWAY LANES
- PROP BRIDGED LANES
- PROP PED BRIDGE

0' 20' 40'
SCALE IN FEET

N. HOUSTON ROSSLYN RD
EXIST ROW
6' w. iron fence
10' B.L.
PROP ROW
EXIST ROW
21.5'
16'
ANTOINE DR.
PROP 6' SIDEWALK (ANTOINE SB)
PROPOSED 2'X8' STOP LINE W/ DETECTABLE WARNING, LOCATED 2' IN ADVANCE OF RR GATE, OR 17' FROM CL TRACK (TYP)
RAILROAD ROW
PROPOSED FENCING ON RAILROAD ROW, TERMINATING 15' FROM CL OF TRACK, OR AT LOCATIONS OF SWING GATES AND RR GATE.
BNSF RAILROAD
PROPOSED SWING GATES, IN-LINE WITH STOP LINES, DESIGNED TO PUSH OPEN AWAY FROM TRACK, ON EMERGENCY EXIT ROUTES. (TYP)
PROP 14' CONCRETE CROSSING
PROPOSED 8'X8' RR CROSSING CONTROL HOUSE ANTOINE DRIVE SB FR RD DOT NO. 023009B RR MP: 65.832 REQUIRED 32' CURB CUT & REINFORCED SIDEWALK SECTION FOR 12' RR DRIVEWAY
25'
17' (TYP)
PROPOSED PEDESTRIAN RR FLASHING LIGHT W/15' GATES, W/CL OF SIGNAL FOUNDATION LOCATED 15' FROM CL OF TRACK & 5'-3" FROM EDGE OF SIDEWALK (TYP)
18.2'
30'
RAILROAD ROW
PROP 56' CONCRETE CROSSING
5.25'
PROPOSED RR FLASHING LIGHT W/21' GATE, W/CL OF SIGNAL FOUNDATION LOCATED 15' FROM CL OF TRACK & 5'-3" FROM FACE OF CURB
PROP 6' SIDEWALK (ANTOINE SB)
24'
24'
100+00
101+00
102+00
103+00
104+00
105+00
℄ ANTOINE DR.
NEW DOT #023010V, RR MILEPOST 65.806
FUTURE ANTOINE DRIVE OVERPASS
15'
PROP 48' CONCRETE CROSSING
5.3'
14.9'
PROP PED BRIDGE
30'
25'
17' (TYP)
CONC PED RAMP
RAILROAD ROW
PROPOSED PEDESTRIAN RR FLASHING LIGHT W/ 15' GATE, W/ CL OF SIGNAL FOUNDATION LOCATED 15' FROM CL OF TRACK & 5'-3" FROM EDGE OF SIDEWALK
PROP RR FLASHING LIGHT W/19' GATE, W/CL OF SIGNAL FOUNDATION LOCATED 15' FROM CL OF TRACK & 5'-3" FROM FACE OF CURB. PROPOSED 12' FROM EDGE OF SIDEWALK TO CL OF SIGNAL FOUNDATION (6' MIN. REQUIRED OFFSET)
BNSF RAILROAD
PROP 14' CONCRETE CROSSING
PROPOSED SWING GATES, IN-LINE WITH STOP LINES, DESIGNED TO PUSH OPEN AWAY FROM TRACK, ON EMERGENCY EXIT ROUTES (TYP)
PROPOSED 2'X8' STOP LINE W/ DETECTABLE WARNING, LOCATED 2' IN ADVANCE OF RR GATE, OR 17' FROM CL TRACK (TYP)
RAILROAD ROW
EXIST 6'X6' RR CROSSING CONTROL BOX ANTOINE DRIVE DOT NO. 597084X RR MP: 65.810
30' H.L.&P. A/E H.C.C.F. NO. E722423
PROPOSED 8'X8' RR CROSSING CONTROL HOUSE ANTOINE DRIVE NB FR RD DOT NO. 597084X RR MP: 65.796 REQUIRED 32' CURB CUT FOR 12' RR DRIVEWAY
PROPOSED FENCING ON RAILROAD ROW, TERMINATING 15' FROM CL OF TRACK, OR AT LOCATIONS OF SWING GATES AND RR GATE.
PROP ROW
PROP 6' SIDEWALK (ANTOINE NB)
CONC PED RAMP
EXIST ROW
25' B.L.
10' U.E.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE AT BNSF RAILROAD
DOT No. 597084X, RR MP 65.810
SB SIDEWALK, RR MP 65.843
NB SIDEWALK, RR MP 65.768
HOUSTON SUBDIVISION

SHEET 1 OF 1

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO. 309 OF 1067	

FOR CITY OF HOUSTON USE ONLY

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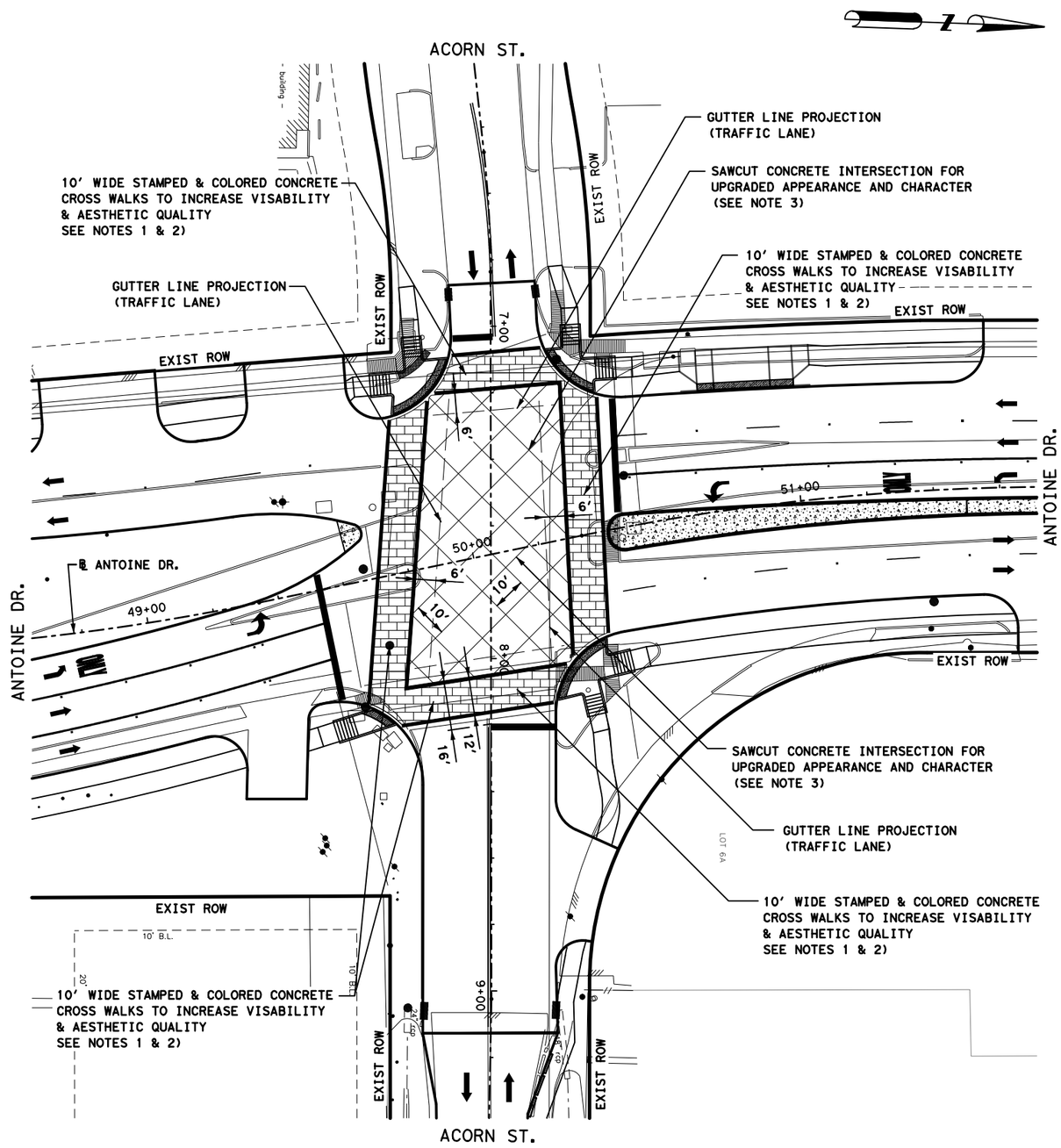
NOTES:
1. COLOR SELECTION TO BE MADE IN FIELD BY NEAR NORTHWEST MANAGMENT DISTRICT USING TEMPORARY 6'X6' CONCRETE PADS. (FRENCH GRAY. CHARCOAL & DARK GRAY CONSIDERED AT THIS TIME.
2. SEE SEPCIFICATION 02750, 02760, & 3360 FOR INTEGRALLY COLORED CONCRETE AND STAMPED/IMPRINTED CONRETE PAVEMENT.
3. SAWCUTS SHALL BE 1/4" DEPTH TO A 10' GRID.



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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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91874
3/10/2026
60% SUBMITTAL
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

INTERSECTION BEAUTIFICATION LAYOUT
ANTOINE @ ACORN

SHEET 01 OF 05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 310 OF 1067	

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NOTES:
1. COLOR SELECTION TO BE MADE IN FIELD BY NEAR NORTHWEST MANAGMENT DISTRICT USING TEMPORARY 6'X6' CONCRETE PADS. (FRENCH GRAY. CHARCOAL & DARK GRAY CONSIDERED AT THIS TIME.
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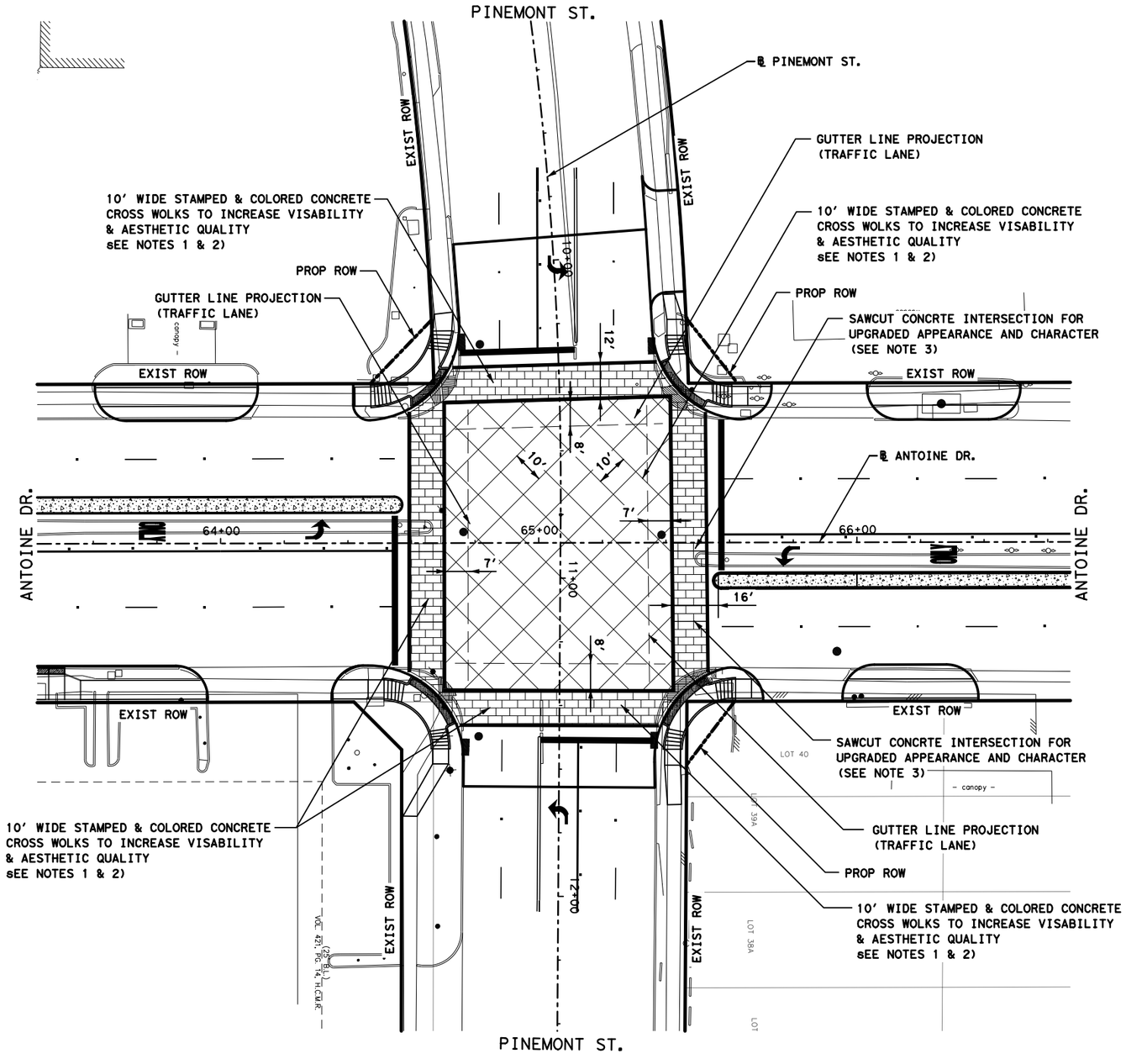

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Houston, Texas 77027
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3/10/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

INTERSECTION BEAUTIFICATION LAYOUT
ANTOINE @ PINEMONT

SHEET 02 OF 05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 311 OF 1067	

Plotted on: 3/10/2026 11:10:28 AM
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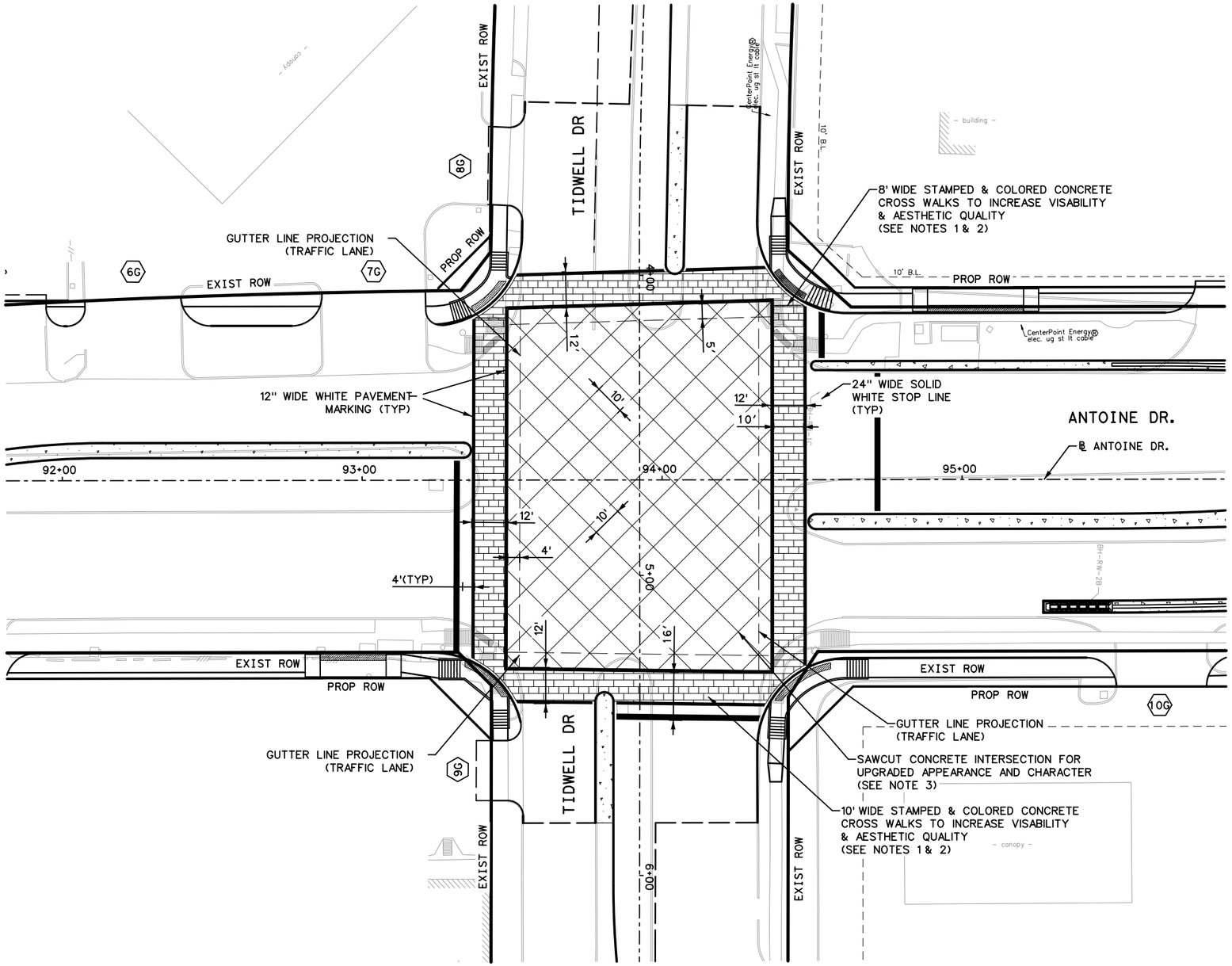

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No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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P.E. No. 125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

INTERSECTION BEAUTIFICATION LAYOUT
ANTOINE @ TIDWELL

SHEET 3 OF 05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 312 OF 1067	

Pen Table: TX_Pen.tbl
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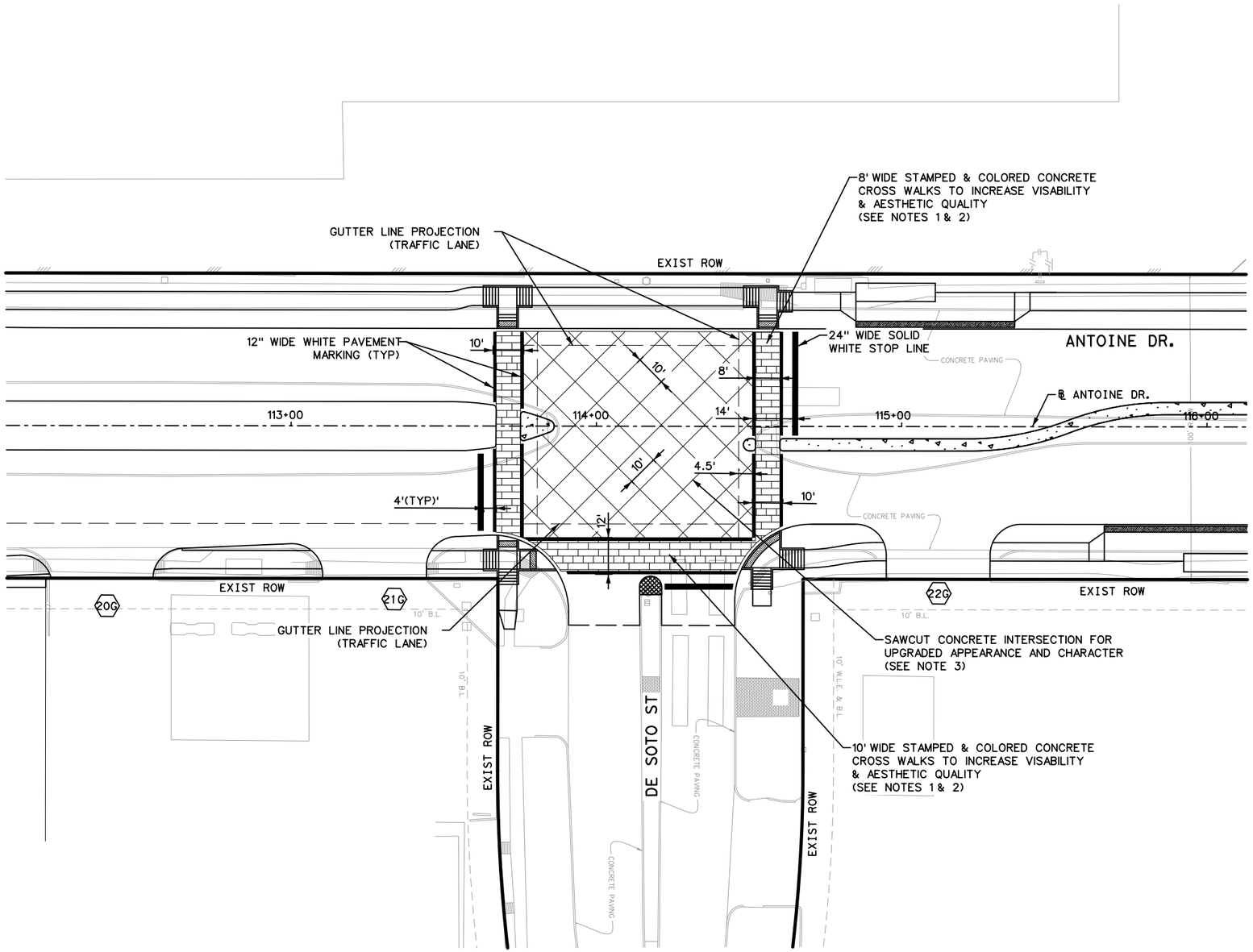

NOTES:

1. COLOR SELECTION TO BE MADE IN FIELD BY NEAR NORTHWEST MANAGEMENT DISTRICT USING TEMPORARY 6'X6' CONCRETE PADS. (FRENCH GRAY. CHARCOAL & DARK GRAY CONSIDERED AT THIS TIME).
2. SEE SPECIFICATION 02750, 02760, 3360 FOR INTEGRALLY COLORED CONCRETE AND STAMPED/IMPRINTED CONCRETE PAVEMENT.
3. SAWCUTS SHALL BE 1/4" DEPTH TO A 10' GRID.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

INTERSECTION BEAUTIFICATION LAYOUT
ANTOINE @ DE SOTO

SHEET 4 OF 05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 313 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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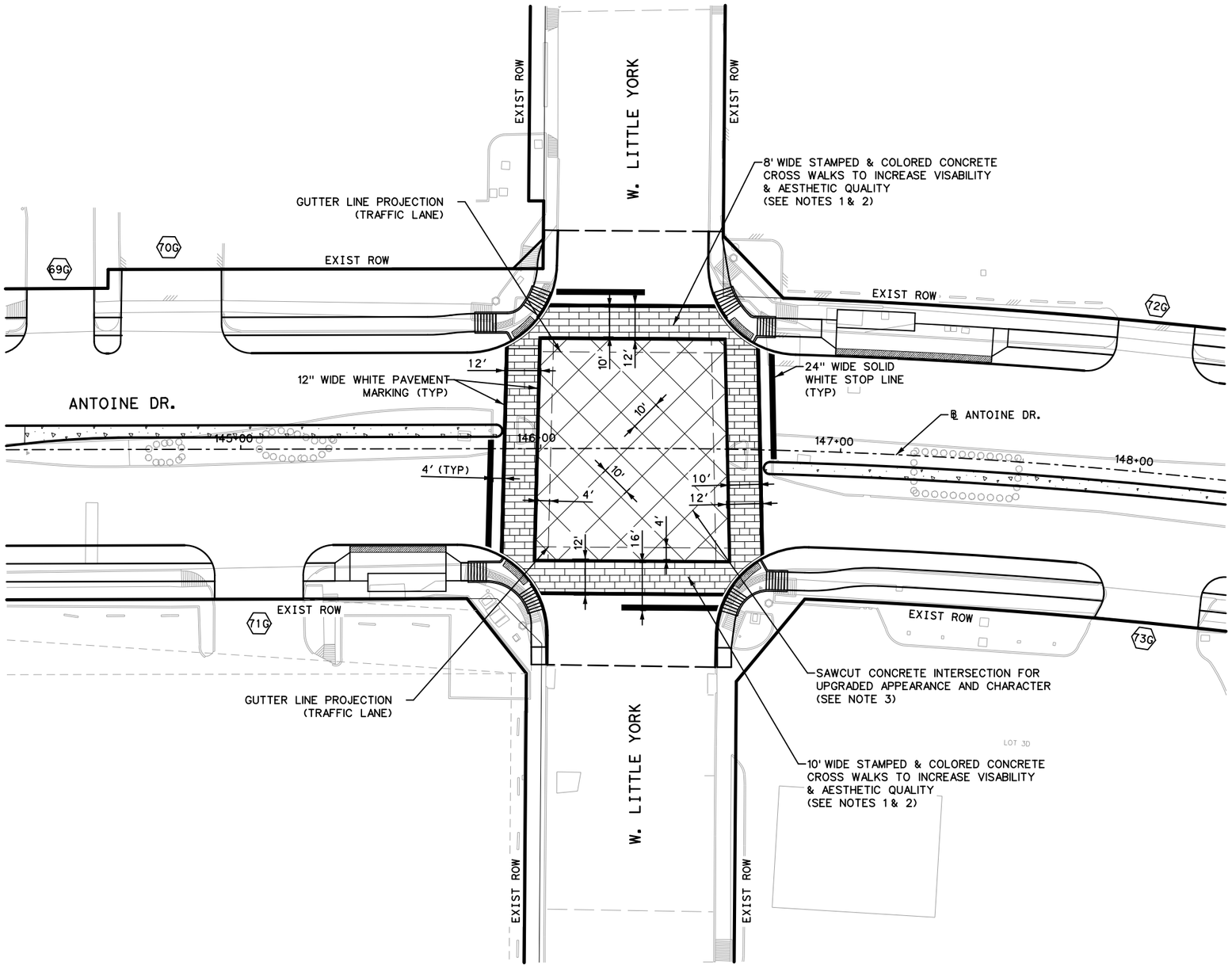

NOTES:

1. COLOR SELECTION TO BE MADE IN FIELD BY NEAR NORTHWEST MANAGEMENT DISTRICT USING TEMPORARY 6'X6' CONCRETE PADS. (FRENCH GRAY. CHARCOAL & DARK GRAY CONSIDERED AT THIS TIME).
2. SEE SPECIFICATION 02750, 02760, 3360 FOR INTEGRALLY COLORED CONCRETE AND STAMPED/IMPRINTED CONCRETE PAVEMENT.
3. SAWCUTS SHALL BE 1/4" DEPTH TO A 10' GRID.

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

INTERSECTION BEAUTIFICATION LAYOUT
ANTOINER @ W. LITTLE YORK

SHEET 5 OF 05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 314 OF 1067	

Plotted on: 3/12/2026 2:15:04 PM $USER$
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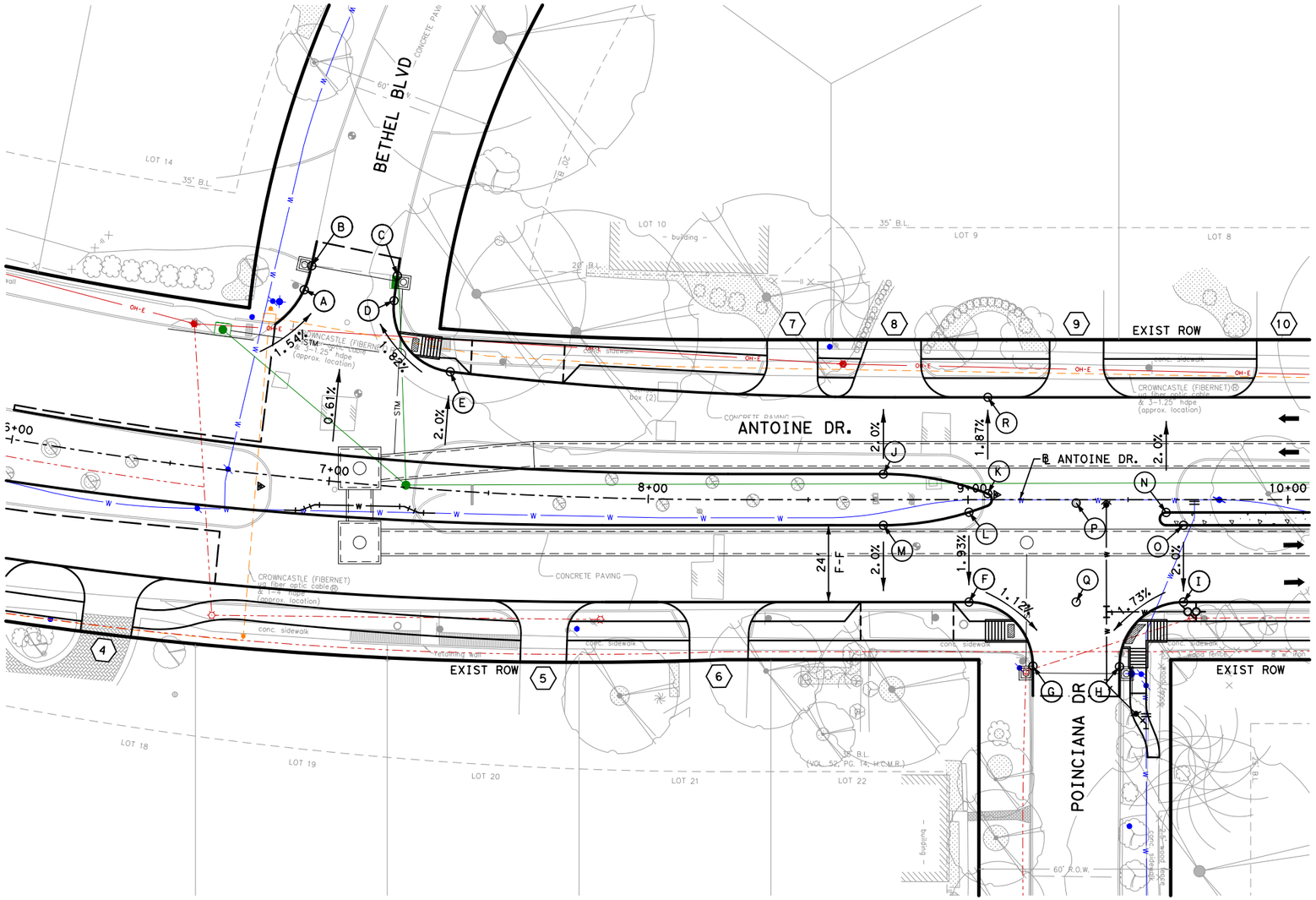

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	69.18	TOC
B*	69.34	TOC
C*	69.08	TOC
D	69.12	TOC
E	69.69	TOC
F	69.31	TOC
G*	68.96	TOC
H*	68.93	TOC
I	69.48	TOC
J	70.17	TOC
K	70.10	TOC
L	69.87	TOC
M	69.94	TOC
N	69.99	TOC
O	69.69	TOC
P	69.50	TOP
Q	69.48	TOP
R	69.50	TOC
TOC = TOP OF CURB		
TOP = TOP OF PAVEMENT		
* MATCH EXIST		

0' 20' 40'
SCALE IN FEET

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MARCH 2026
Date
60% SUBMITTAL
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Texas Registered Engineering Firm F-23290

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE
BETHEL BLVD & POINCIANA DR INTERSECTION LAYOUT

SHEET 1 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 315 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_01-BETHEL.dgn

Plotted on: 3/9/2026 6:32:53 PMHF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

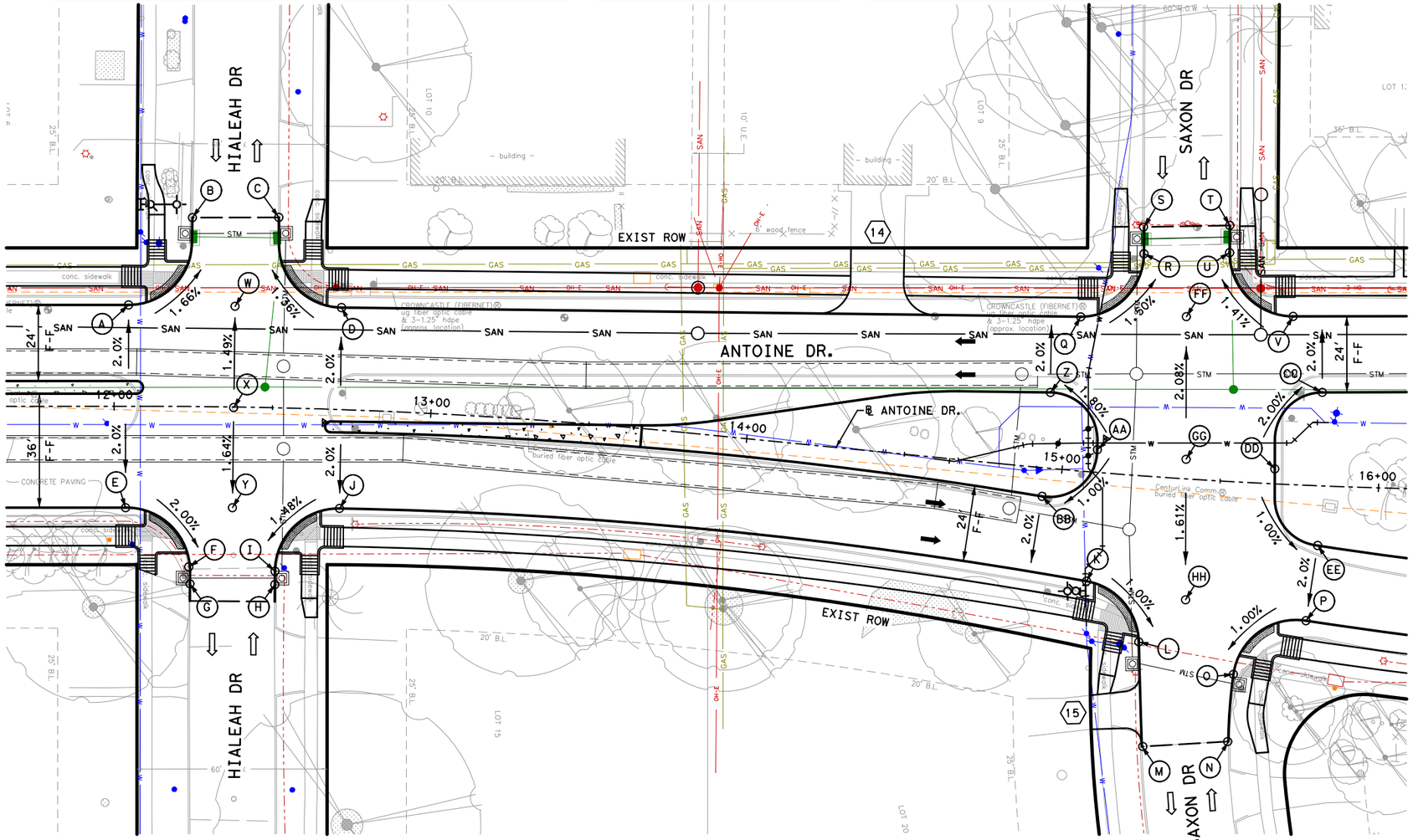
HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	67.81	TOC
B*	67.30	TOC
C*	67.30	TOC
D	67.72	TOC
E	67.71	TOC
F	67.10	TOC
G*	67.05	TOC
H*	67.05	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
I	67.09	TOC
J	67.56	TOC
K	66.83	TOC
L	66.55	TOC
M*	66.44	TOC
N*	66.46	TOC
O	66.52	TOC
P	66.84	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
Q	66.62	TOC
R	66.15	TOC
S*	66.15	TOC
T*	66.02	TOC
U	66.02	TOC
V	66.47	TOC
W	67.38	TOP
X	67.85	TOP

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
Y	67.33	TOP
Z	67.15	TOC
AA	67.62	TOC
BB	67.36	TOC
CC	66.98	TOC
DD	67.63	TOC
EE	67.32	TOC
FF	66.30	TOP

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
GG	67.23	TOP
HH	66.52	TOP
TOC = TOP OF CURB		
TOP = TOP OF PAVEMENT		
* MATCH EXIST		



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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HIALEAH DR & SAXON DR INTERSECTION LAYOUT

SHEET 2 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 316 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:32:53 PM
F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_02-HIALEAH.dgn

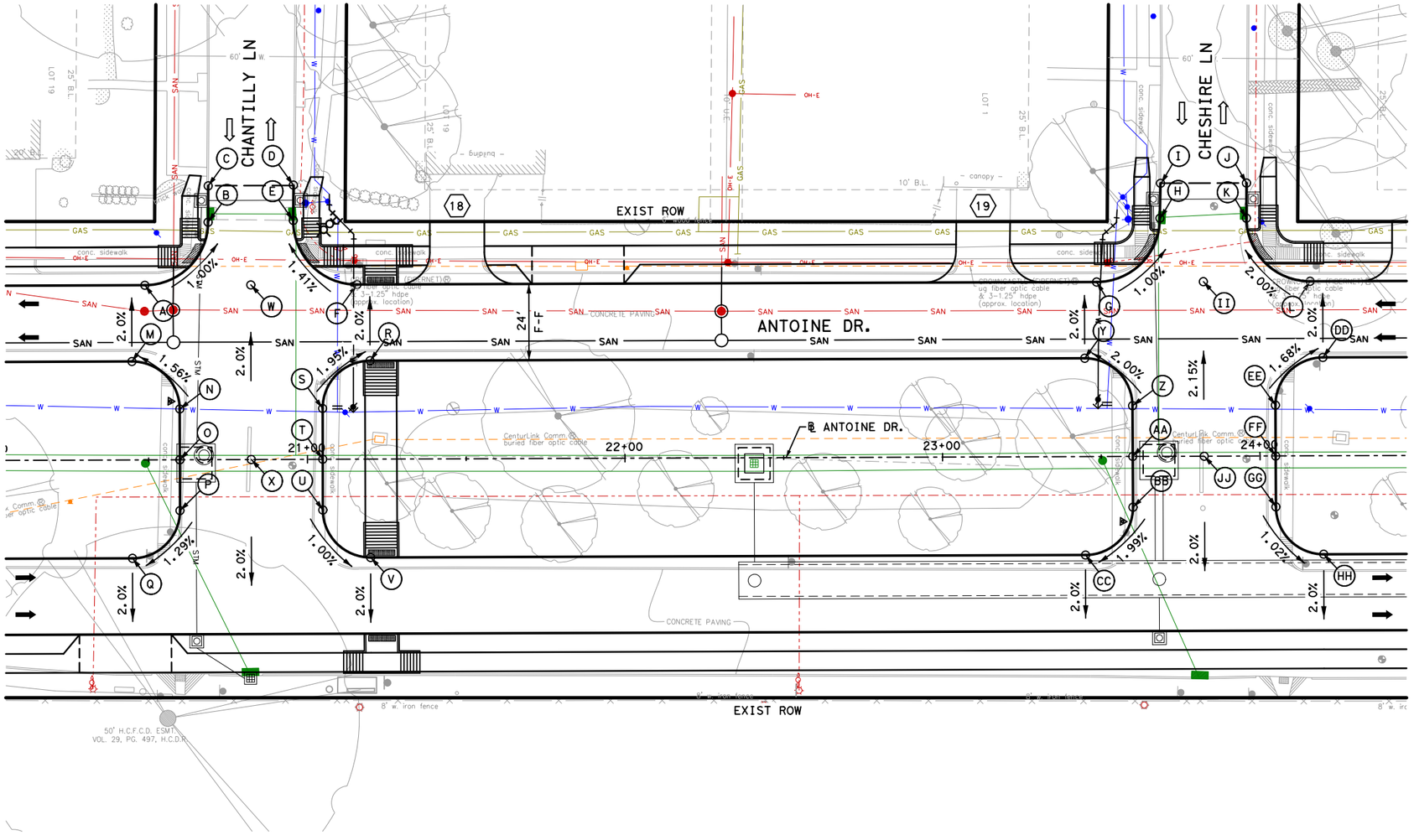
HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	65.05	TOC
B	64.74	TOC
C*	64.74	TOC
D*	64.66	TOC
E	67.71	TOC
F	67.10	TOC
G	66.61	TOC
H	66.29	TOC
I	66.30	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
J	66.19	TOC
K	66.18	TOC
L	66.81	TOC
M	65.55	TOC
N	65.92	TOC
O	66.24	TOC
P	65.92	TOC
Q	65.62	TOC
R	65.11	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
S	66.07	TOC
T	66.39	TOC
U	66.07	TOC
V	65.33	TOC
W	64.64	TOP
X	65.84	TOP
Y	67.06	TOC
Z	67.53	TOC
AA	67.85	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
BB	67.53	TOC
CC	67.06	TOC
DD	67.32	TOC
EE	67.72	TOC
FF	68.04	TOC
GG	67.72	TOC
HH	67.47	TOC
II	66.21	TOP
JJ	67.39	TOP

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT
* MATCH EXIST



0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CHANTILLY LN & CHESHIRE LN INTERSECTION LAYOUT

SHEET 3 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 317 OF 1067	

No.	DATE	REVISIONS	APP:

Plotted on: 3/9/2026 6:32:54 PM
F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_03-CHANTILLY.dgn

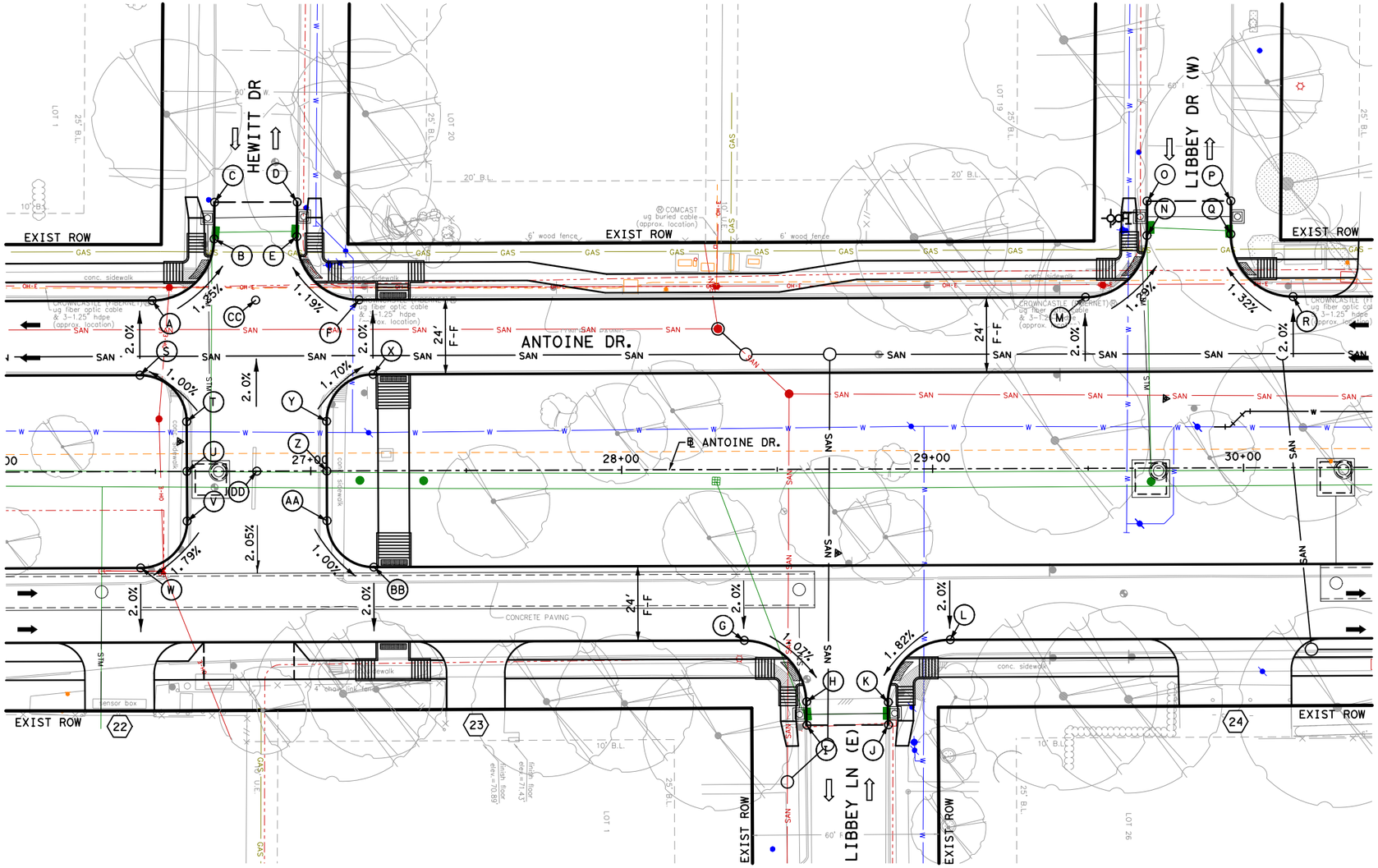
HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	68.44	TOC
B	68.06	TOC
C*	68.06	TOC
D*	68.07	TOC
E	68.06	TOC
F	68.44	TOC
G	68.87	TOC
H	68.54	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
I*	68.54	TOC
J*	68.39	TOC
K	68.38	TOC
L	68.96	TOC
M	70.08	TOC
N	69.67	TOC
O*	69.68	TOC
P*	69.87	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
Q	69.86	TOC
R	70.28	TOC
S	68.89	TOC
T	69.13	TOC
U	69.45	TOC
V	69.13	TOC
W	68.71	TOC
X	68.95	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
Y	69.36	TOC
Z	69.68	TOC
AA	69.36	TOC
BB	69.12	TOC
CC	68.04	TOP
DD	69.06	TOP

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT
* MATCH EXIST



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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HEWITT DR LIBERY LN (E,W) INTERSECTION LAYOUT

SHEET 4 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 318 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:32:55 PM
IF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_04-HEWITT.dgn

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	69.35	TOC
B	69.05	TOC
C*	69.05	TOC
D*	69.05	TOC
E	69.04	TOC
F	69.53	TOC
G	71.19	TOC
H	70.87	TOC
I*	70.88	TOC
J*	70.96	TOC
K	70.95	TOC
L	71.39	TOC
TOC = TOP OF CURB		
* MATCH EXIST		

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

NINA LEE (E,W) INTERSECTION LAYOUT

SHEET 5 OF 18

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
HORIZ 1"=40'
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 319 OF 1067

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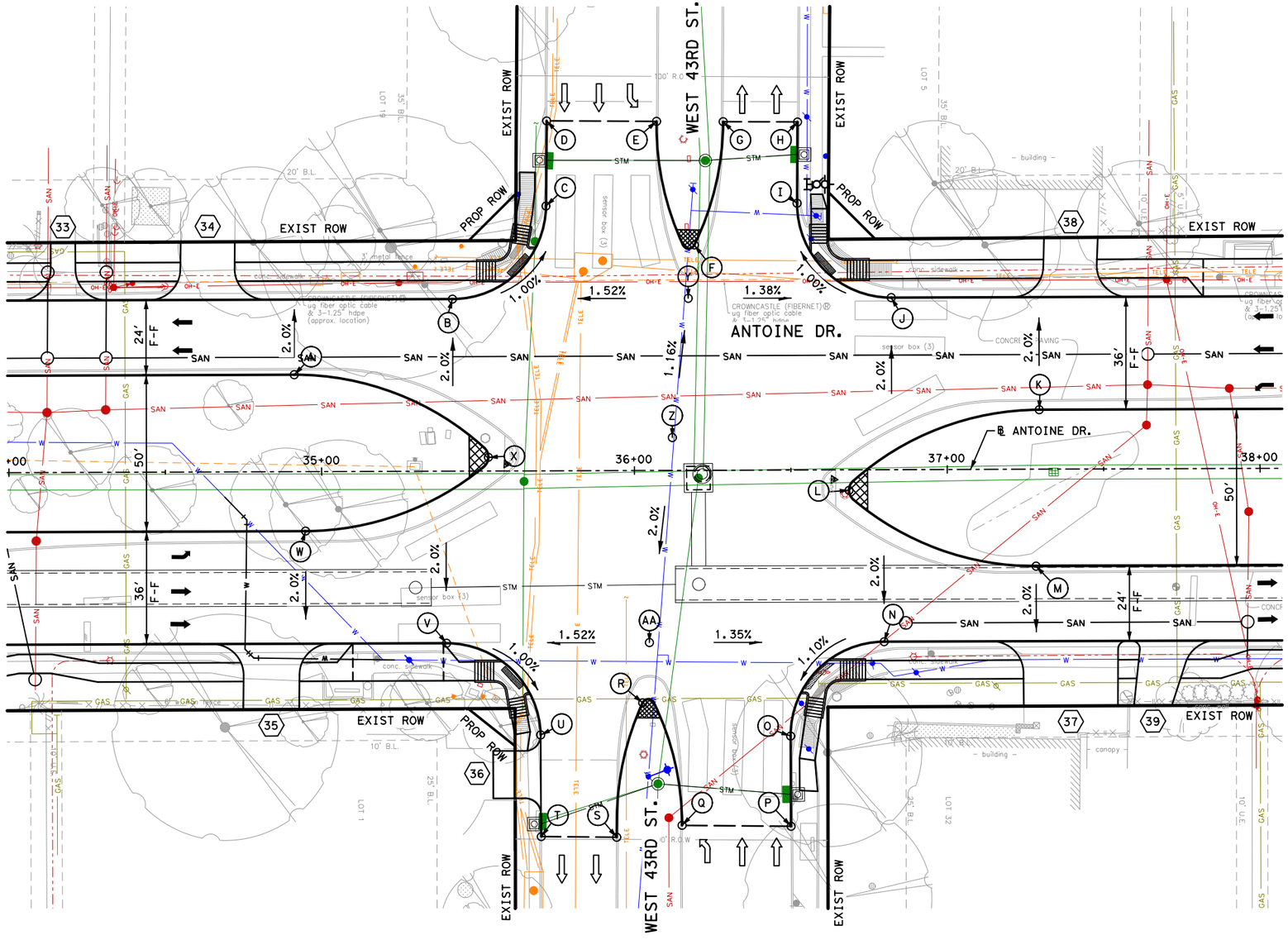
Plotted on: 3/9/2026 6:32:56 PMHF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\0005\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_05-NINA LEE.dgn



HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	72.12	TOC
B	71.48	TOC
C	71.02	TOC
D*	71.06	TOC
E*	71.93	TOC
F	72.21	TOC
G*	71.79	TOC
H*	71.07	TOC
I	71.04	TOC
J	71.52	TOC
K	72.50	TOC
L	71.88	TOC
M*	71.28	TOC
N*	70.60	TOC
O	70.08	TOC
P	70.00	TOC
Q	70.78	TOC
R	71.23	TOC
S*	71.09	TOC
T*	70.10	TOC
U	70.16	TOC
V	70.63	TOC
W	71.17	TOC
X	71.95	TOC
Y	71.91	TOP
Z	72.43	TOP
AA	71.11	TOP
TOC = TOP OF CURB		
TOP = TOP OF PAVEMENT		
* MATCH EXIST		

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

W. 43RD STREET INTERSECTION LAYOUT

SHEET 6 OF 18

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
HORIZ 1"=40'
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 320 OF 1067

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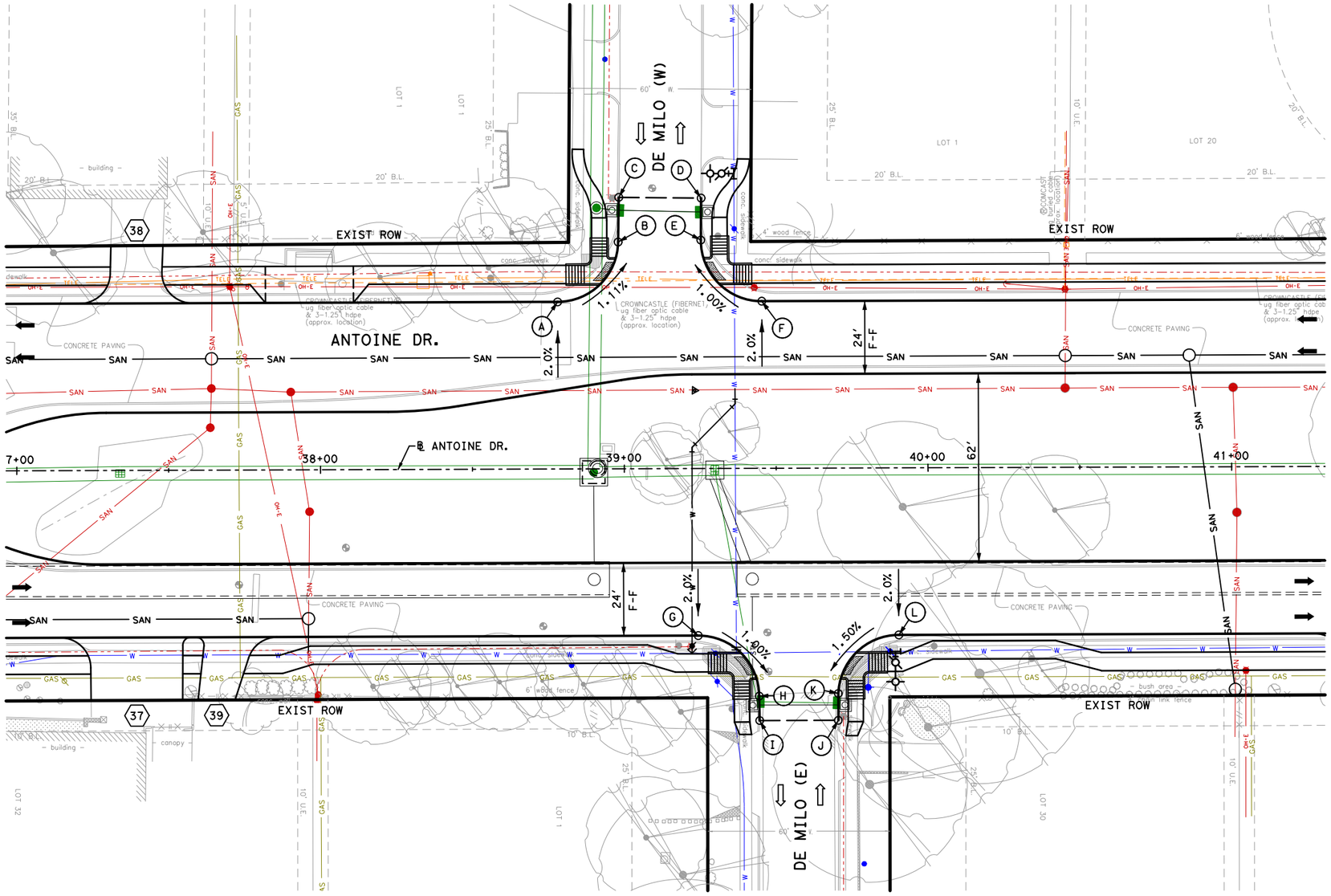
Plotted on: 3/9/2026 6:32:56 PM\F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_06-W 43RD.dgn



HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	72.59	TOC
B	72.25	TOC
C*	72.24	TOC
D*	72.13	TOC
E	72.08	TOC
F	72.40	TOC
G	71.62	TOC
H	71.31	TOC
I*	71.33	TOC
J*	71.25	TOC
K	71.23	TOC
L	71.70	TOC
TOC = TOP OF CURB		
* MATCH EXIST		

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DE MILO (E,W) INTERSECTION LAYOUT

SHEET 8 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 321 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:32:57 PMHF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

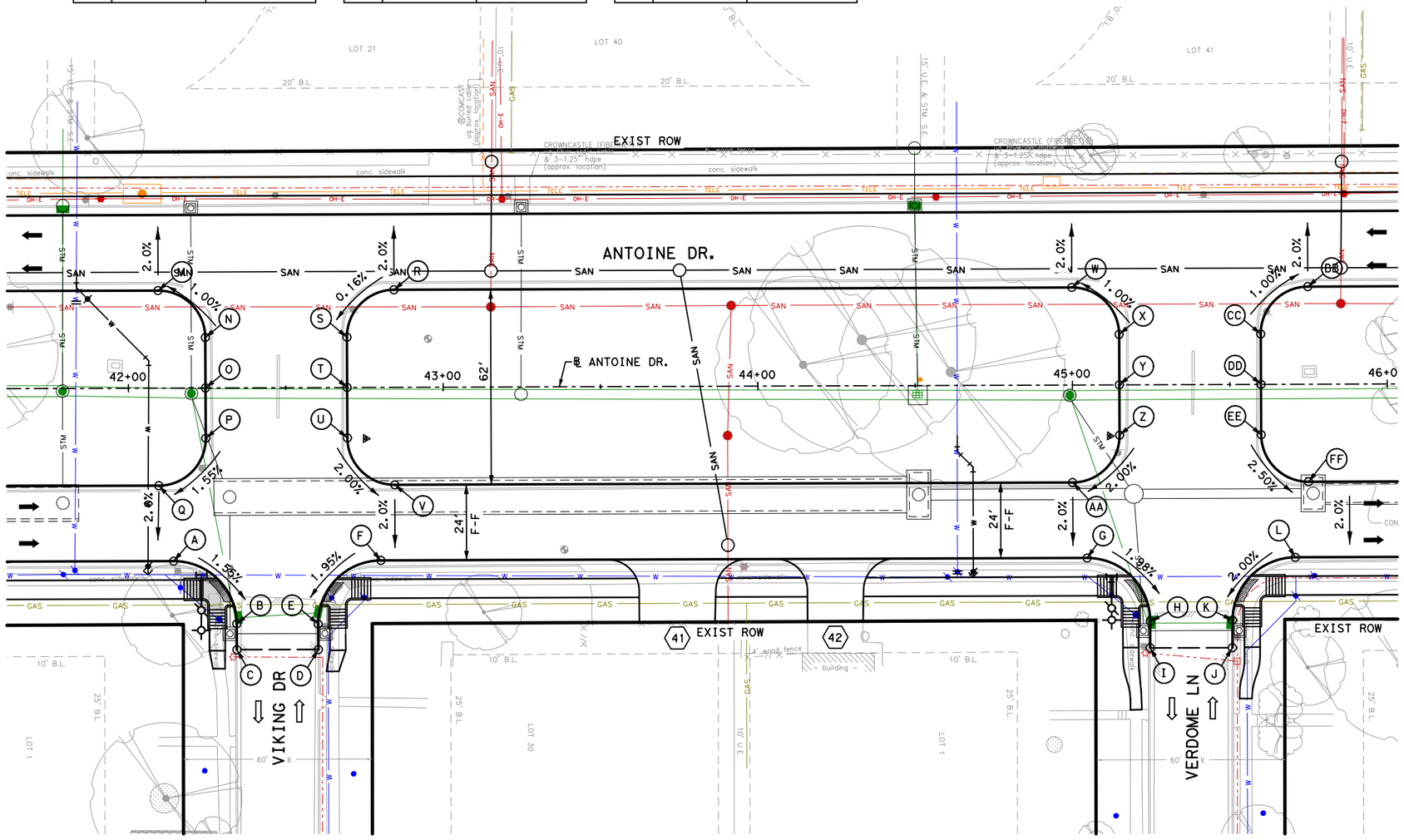
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\INTERSECTION SHT\PR_INTER_07-DE MILO.dgn

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	72.28	TOC
B	71.79	TOC
C*	71.80	TOC
D*	71.77	TOC
E	71.76	TOC
F	72.38	TOC
G	73.05	TOC
H	72.43	TOC
I*	72.45	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
J*	72.37	TOC
K	72.38	TOC
L	73.00	TOC
M	73.52	TOC
N	73.76	TOC
O	73.45	TOC
P	73.15	TOC
Q	72.78	TOC
R	73.70	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
S	73.67	TOC
T	73.64	TOC
U	73.34	TOC
V	72.87	TOC
W	74.41	TOC
X	74.65	TOC
Y	74.32	TOC
Z	73.99	TOC
AA	73.52	TOC

HORIZONAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
BB	74.66	TOC
CC	74.89	TOC
DD	74.49	TOC
EE	74.09	TOC
FF	73.50	TOC
TOC = TOP OF CURB		
* MATCH EXIST		



0' 20' 40'
SCALE IN FEET

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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90169
MARCH 2026
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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

VIKING DR & VERDOME LN INTERSECTION LAYOUT

SHEET 8 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 322 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:32:58 PM
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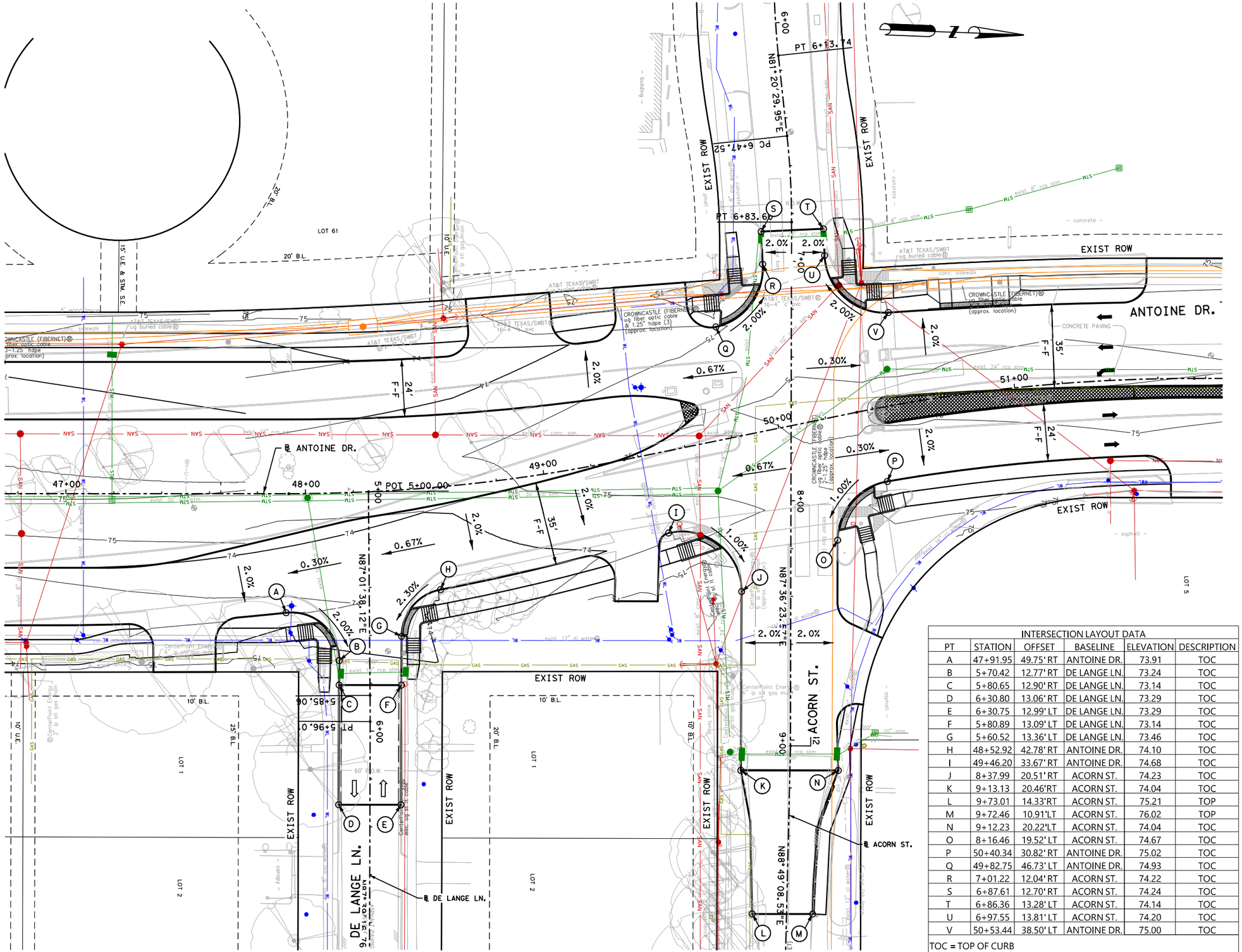

INTERSECTION LAYOUT DATA					
PT	STATION	OFFSET	BASELINE	ELEVATION	DESCRIPTION
A	47+91.95	49.75' RT	ANTOINE DR.	73.91	TOC
B	5+70.42	12.77' RT	DE LANGE LN.	73.24	TOC
C	5+80.65	12.90' RT	DE LANGE LN.	73.14	TOC
D	6+30.80	13.06' RT	DE LANGE LN.	73.29	TOC
E	6+30.75	12.99' LT	DE LANGE LN.	73.29	TOC
F	5+80.89	13.09' LT	DE LANGE LN.	73.14	TOC
G	5+60.52	13.36' LT	DE LANGE LN.	73.46	TOC
H	48+52.92	42.78' RT	ANTOINE DR.	74.10	TOC
I	49+46.20	33.67' RT	ANTOINE DR.	74.68	TOC
J	8+37.99	20.51' RT	ACORN ST.	74.23	TOC
K	9+13.13	20.46'RT	ACORN ST.	74.04	TOC
L	9+73.01	14.33'RT	ACORN ST.	75.21	TOP
M	9+72.46	10.91'LT	ACORN ST.	76.02	TOP
N	9+12.23	20.22'LT	ACORN ST.	74.04	TOC
O	8+16.46	19.52' LT	ACORN ST.	74.67	TOC
P	50+40.34	30.82' RT	ANTOINE DR.	75.02	TOC
Q	49+82.75	46.73' LT	ANTOINE DR.	74.93	TOC
R	7+01.22	12.04' RT	ACORN ST.	74.22	TOC
S	6+87.61	12.70' RT	ACORN ST.	74.24	TOC
T	6+86.36	13.28' LT	ACORN ST.	74.14	TOC
U	6+97.55	13.81' LT	ACORN ST.	74.20	TOC
V	50+53.44	38.50' LT	ANTOINE DR.	75.00	TOC

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT

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Houston, Texas 77027
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Texas 91874
3/10/2026
date
60% SUBMITTAL
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DE LANGE LN. & ACORN ST. INTERSECTION LAYOUT

SHEET 09 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 323 OF 1067	

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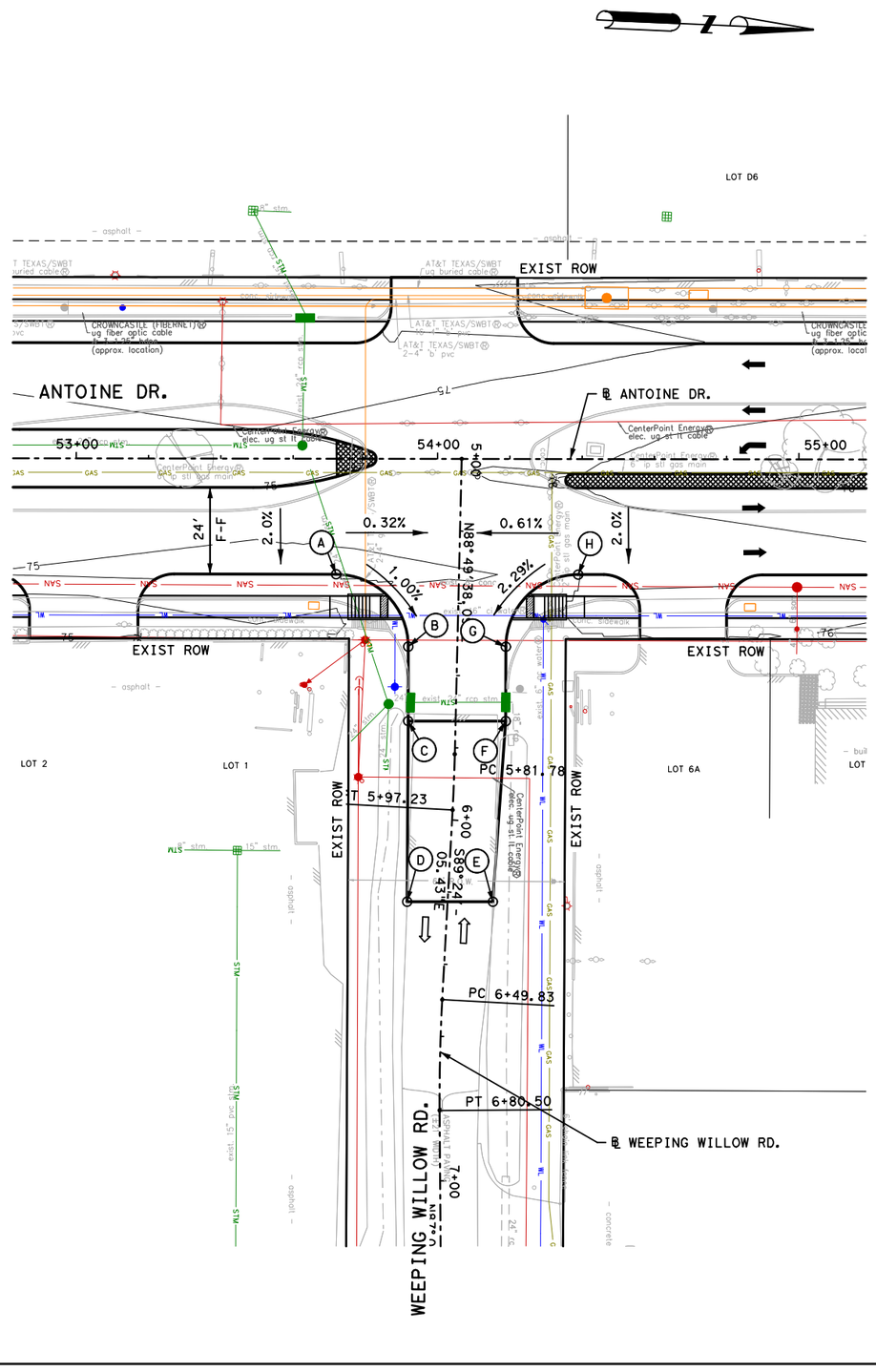

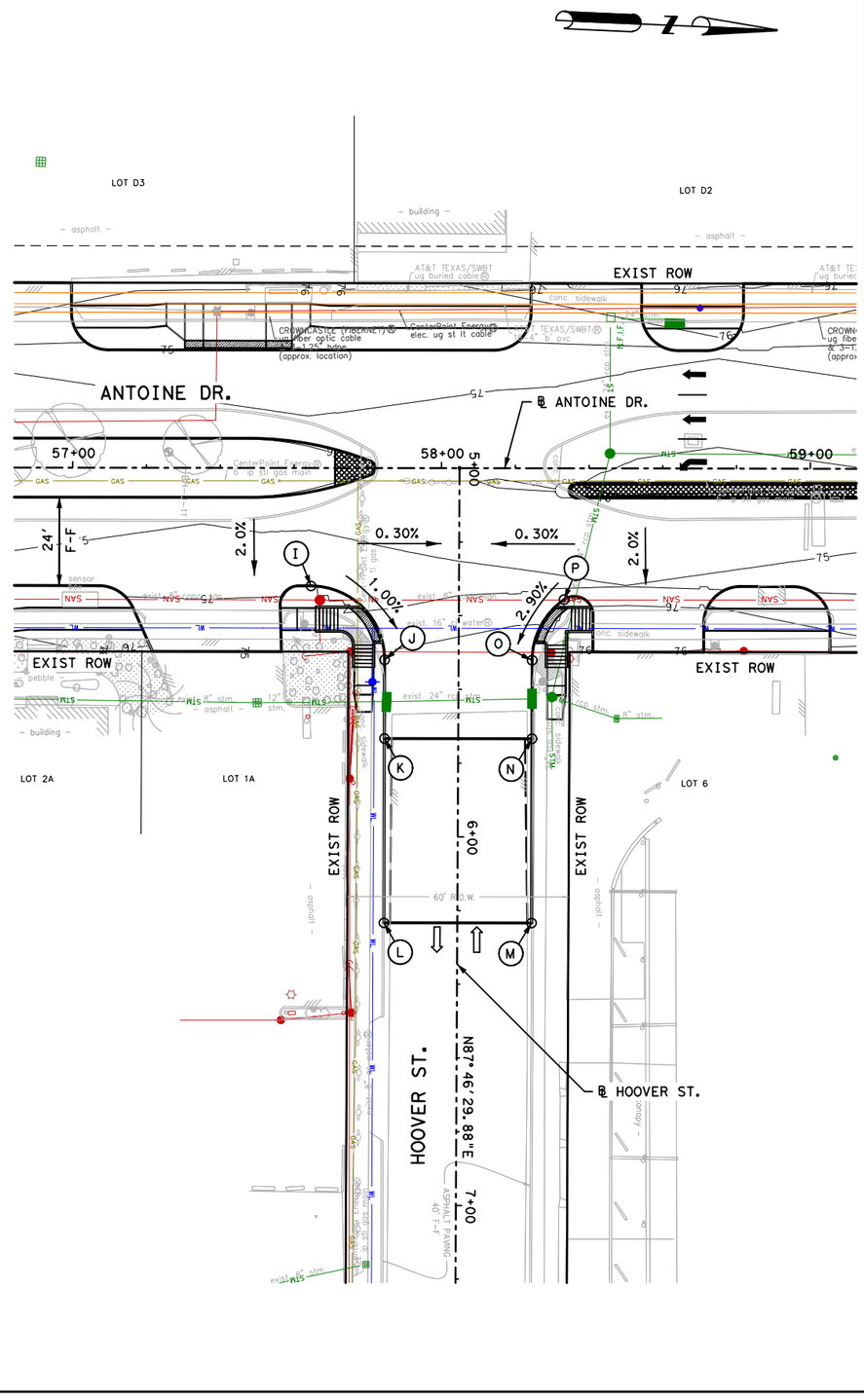

INTERSECTION LAYOUT DATA					
PT	STATION	OFFSET	BASELINE	ELEVATION	DESCRIPTION
A	53+71.95	32.00' RT	ANTOINE DR.	74.66	TOC
B	5+52.31	13.56' RT	WEEPING WILLOW RD.	74.34	TOC
C	5+72.92	13.11' RT	WEEPING WILLOW RD.	74.13	TOC
D	6+23.27	11.18' RT	WEEPING WILLOW RD.	74.68	TOP
E	6+22.00	12.52' LT	WEEPING WILLOW RD.	74.66	TOP
F	5+72.31	13.89' LT	WEEPING WILLOW RD.	74.13	TOC
G	5+51.72	13.43' LT	WEEPING WILLOW RD.	74.34	TOC
H	54+38.95	32.00' RT	ANTOINE DR.	75.06	TOC
I	57+64.64	31.63' RT	ANTOINE DR.	75.07	TOC
J	5+52.10	20.06' RT	HOOVER ST.	74.75	TOC
K	5+73.43	20.00'RT	HOOVER ST.	74.74	TOC
L	6+23.43	19.87'RT	HOOVER ST.	75.13	TOC
M	6+23.28	20.15'LT	HOOVER ST.	74.91	TOC
N	5+73.28	14.02'LT	HOOVER ST.	74.75	TOC
O	5+51.97	19.94' LT	HOOVER ST.	74.75	TOC
P	58+33.28	35.60' LT	ANTOINE DR.	75.31	TOC

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
WEEPING WILLOW RD. & HOOVER ST. INTERSECTION LAYOUT

SHEET 10 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 324 OF 1067	

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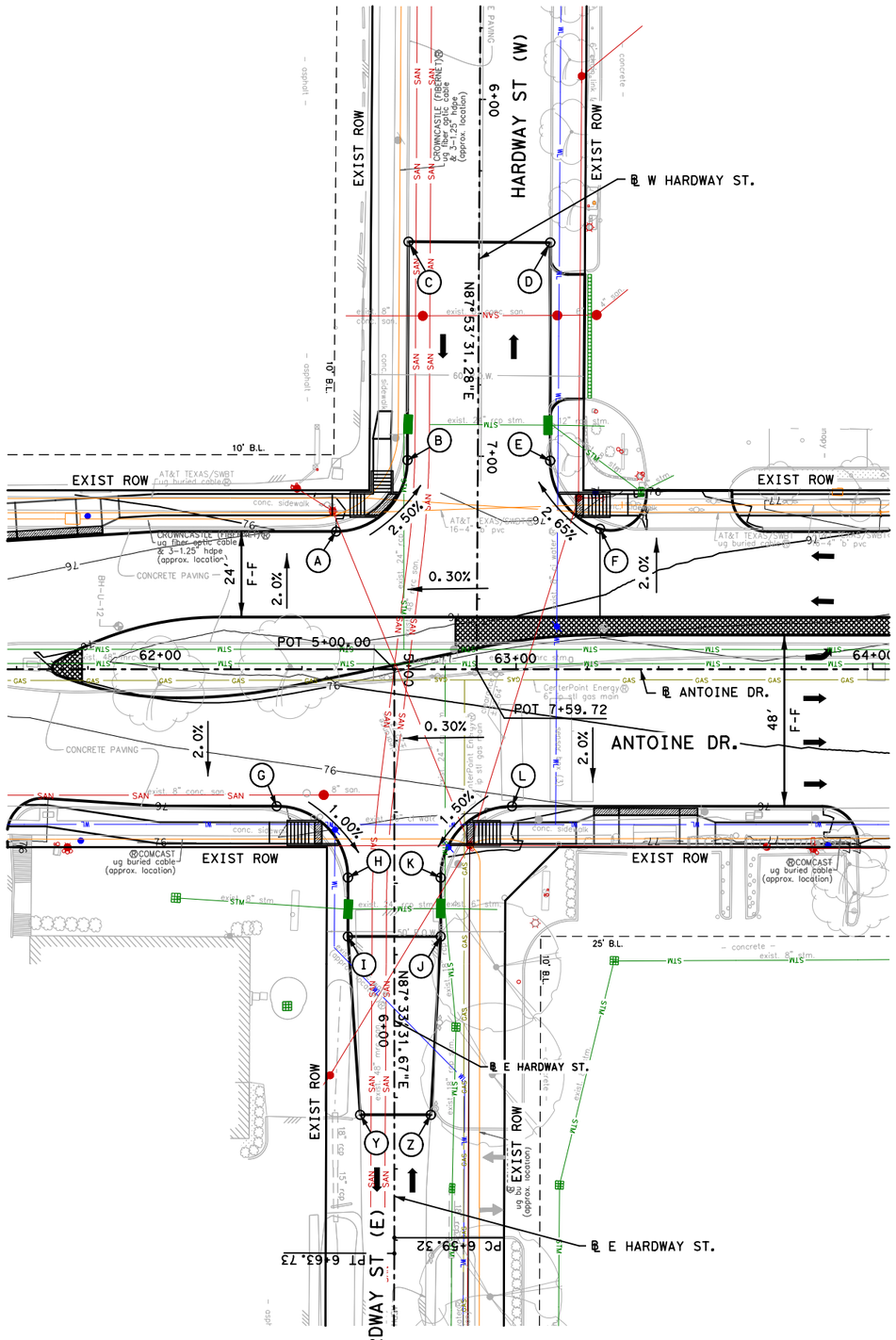

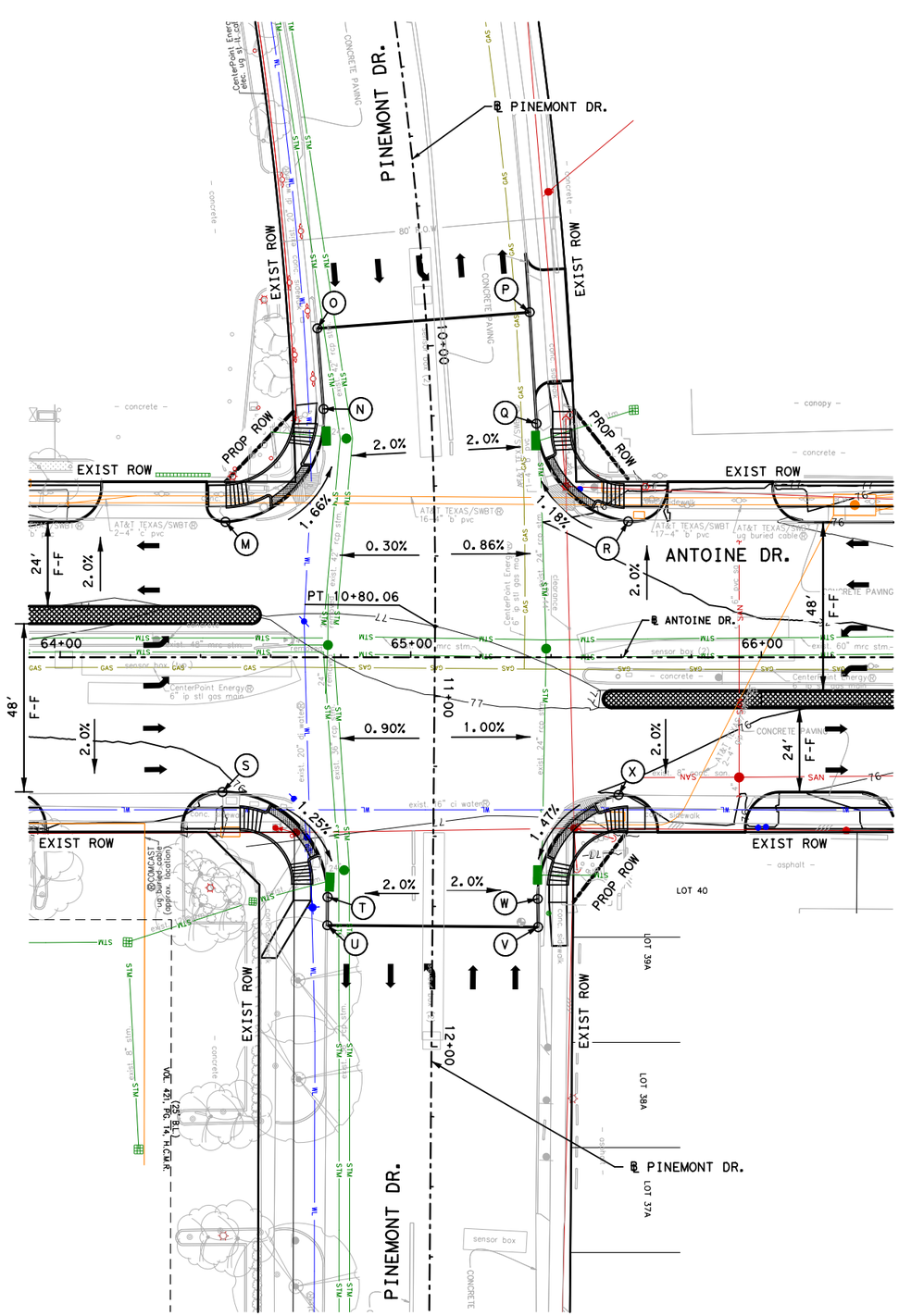

INTERSECTION LAYOUT DATA					
PT	STATION	OFFSET	BASELINE	ELEVATION	DESCRIPTION
A	62+49.57	38.62'LT	ANTOINE DR.	76.05	TOC
B	7+01.22	19.70'RT	HARDWAY ST.(W)	75.27	TOC
C	6+40.00	19.78'RT	HARDWAY ST.(W)	75.24	TOC
D	6+40.00	19.96'LT	HARDWAY ST.(W)	75.50	TOC
E	7+01.16	20.30'LT	HARDWAY ST.(W)	75.60	TOC
F	63+23.55	39.37'LT	ANTOINE DR.	76.27	TOC
G	62+32.88	38.38'RT	ANTOINE DR.	75.74	TOC
H	5+58.38	13.02'RT	HARDWAY ST.(E)	75.43	TOC
I	5+74.87	13.02'RT	HARDWAY ST.(E)	75.43	TOC
J	5+74.87	12.98'LT	HARDWAY ST.(E)	75.43	TOC
K	5+58.39	12.98'LT	HARDWAY ST.(E)	75.47	TOC
L	62+98.88	38.39'RT	ANTOINE DR.	75.94	TOC
M	64+47.10	38.64'LT	ANTOINE DR.	76.64	TOC
N	10+16.60	30.66'RT	PINEMONT DR.	75.85	TOC
O	9+92.91	31.12'RT	PINEMONT DR.	76.16	TOC
P	9+92.35	29.60'LT	PINEMONT DR.	75.94	TOC
Q	10+23.39	29.85'LT	PINEMONT DR.	75.85	TOC
R	65+61.99	38.78'LT	ANTOINE DR.	76.34	TOC
S	64+46.25	38.43'RT	ANTOINE DR.	76.45	TOC
T	11+57.59	30.02'RT	PINEMONT DR.	75.86	TOC
U	11+65.62	30.02'RT	PINEMONT DR.	75.87	TOC
V	11+65.63	30.11'LT	PINEMONT DR.	75.98	TOC
W	11+57.60	29.95'LT	PINEMONT DR.	75.86	TOC
X	65+59.27	39.27'RT	ANTOINE DR.	76.46	TOC
Y	6+24.87	9.58'RT	PINEMONT DR.	76.57	TOP
Z	6+24.87	10.23'LT	PINEMONT DR.	76.80	TOP

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HARDWAY ST. & PINEMONT DR. INTERSECTION LAYOUT

SHEET 11 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 325 OF 1067	

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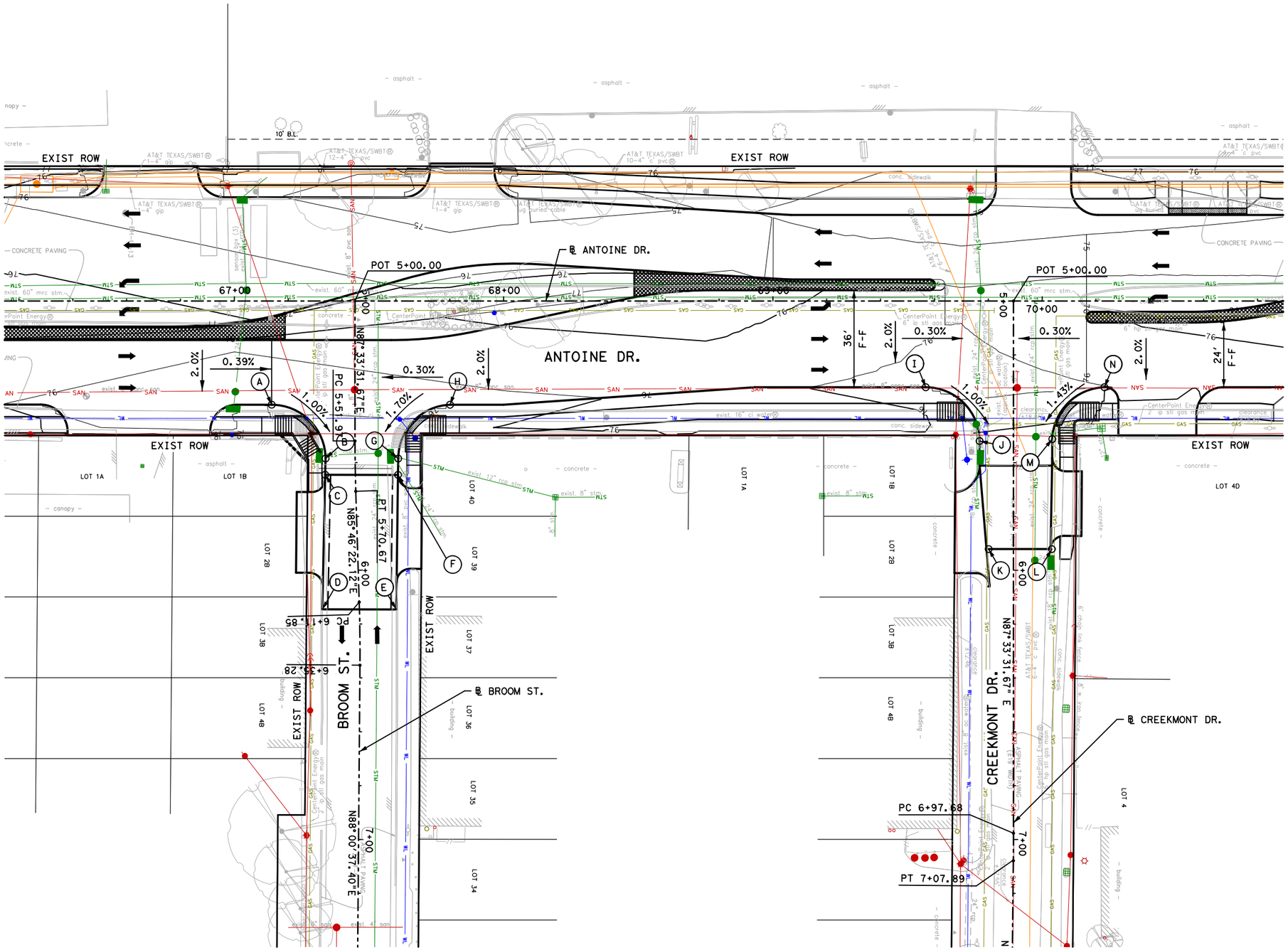

INTERSECTION LAYOUT DATA					
PT	STATION	OFFSET	BASELINE	ELEVATION	DESCRIPTION
A	67+13.85	38.50' RT	ANTOINE DR.	75.63	TOC
B	5+58.35	10.99' RT	BROOM ST.	75.31	TOC
C	5+64.24	11.21' RT	BROOM ST.	75.33	TOC
D	6+14.16	13.79' RT	BROOM ST.	76.17	TOC
E	6+14.95	13.67' LT	BROOM ST.	76.21	TOC
F	5+64.86	15.84' LT	BROOM ST.	75.33	TOC
G	5+58.66	16.01' LT	BROOM ST.	75.31	TOC
H	67+80.10	38.51' RT	ANTOINE DR.	75.83	TOC
I	69+56.77	32.00' RT	ANTOINE DR.	75.87	TOC
J	5+51.99	12.59' RT	CREEKMONT DR.	75.56	TOC
K	5+92.13	9.22' RT	CREEKMONT DR.	76.20	TOC
L	5+92.11	14.25' LT	CREEKMONT DR.	75.60	TOC
M	5+51.26	14.41' LT	CREEKMONT DR.	75.56	TOC
N	70+23.14	32.00' RT	ANTOINE DR.	75.99	TOC

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT

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Date: 60% SUBMITTAL
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BROOM ST. & CREEKMONT DR. INTERSECTION LAYOUT

SHEET 12 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 326 OF 1067	

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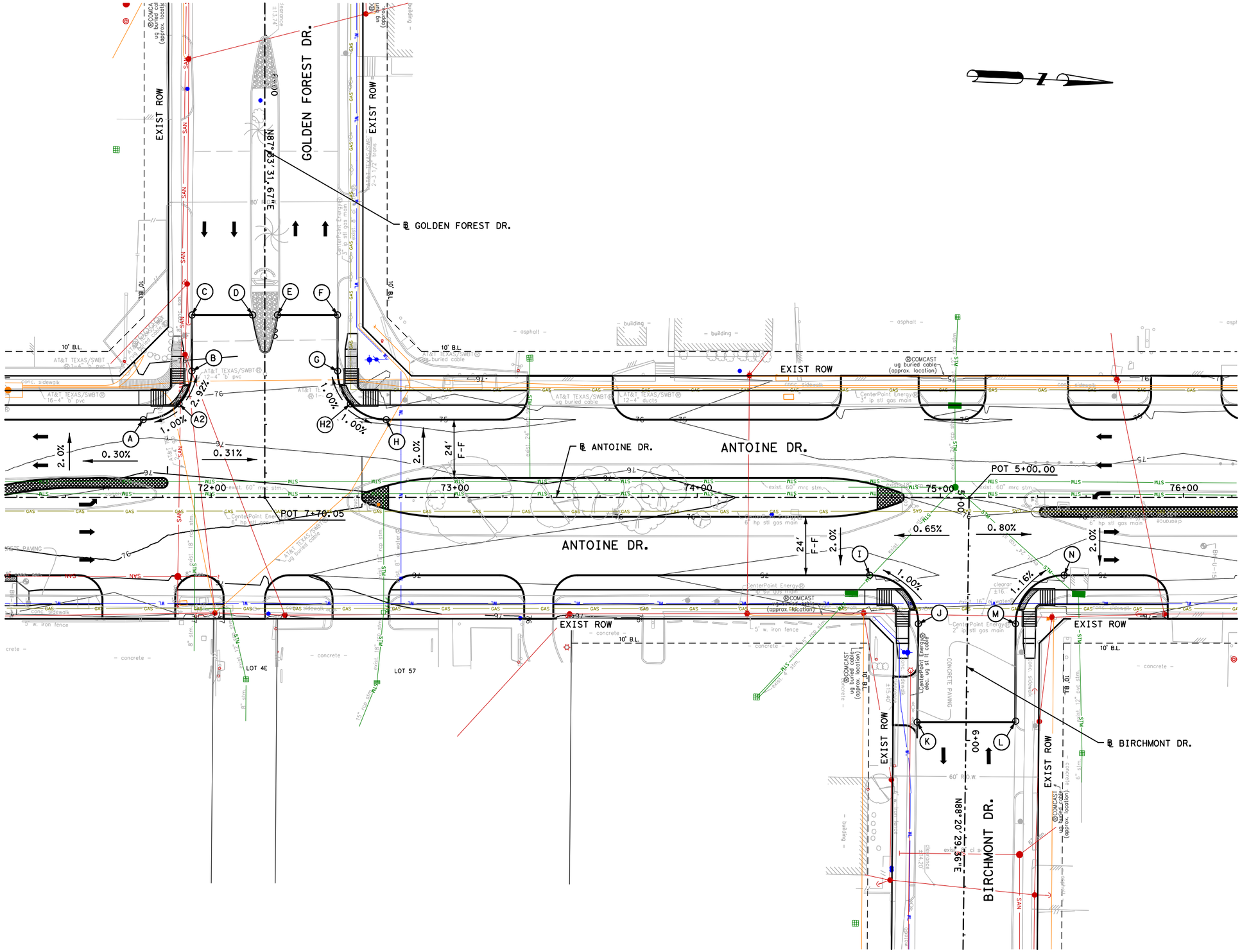

INTERSECTION LAYOUT DATA					
PT	STATION	OFFSET	BASELINE	ELEVATION	DESCRIPTION
A	71+72.00	32.00' LT	ANTOINE DR.	75.73	TOC
A2	7+31.55	35.26' RT	GOLD FOREST DR.	75.90	TOC
B	7+18.05	30.00' RT	GOLD FOREST DR.	75.46	TOC
C	6+94.99	29.93' RT	GOLD FOREST DR.	75.77	TOC
D	6+94.99	4.99' RT	GOLD FOREST DR.	76.16	TOC
E	6+94.99	5.25' LT	GOLD FOREST DR.	76.18	TOC
F	6+94.99	29.96' LT	GOLD FOREST DR.	75.69	TOC
G	7+18.05	30.00' LT	GOLD FOREST DR.	75.46	TOC
H	72+72.00	32.00' LT	ANTOINE DR.	75.44	TOC
H2	7+31.54	35.24' LT	GOLD FOREST DR.	75.60	TOC
I	74+70.96	32.00' RT	ANTOINE DR.	75.31	TOC
J	5+52.28	20.21' RT	BIRCHMONT DR.	75.63	TOC
K	5+92.72	20.17' RT	BIRCHMONT DR.	75.89	TOC
L	5+92.17	20.18' LT	BIRCHMONT DR.	75.77	TOC
M	5+51.73	19.78' LT	BIRCHMONT DR.	75.63	TOC
N	75+50.96	32.00' RT	ANTOINE DR.	75.26	TOC

TOC = TOP OF CURB
TOP = TOP OF PAVEMENT

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
GOLDEN FOREST DR. & BIRCHMONT DR. INTERSECTION LAYOUT

SHEET 13 OF 18

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 327 OF 1067	

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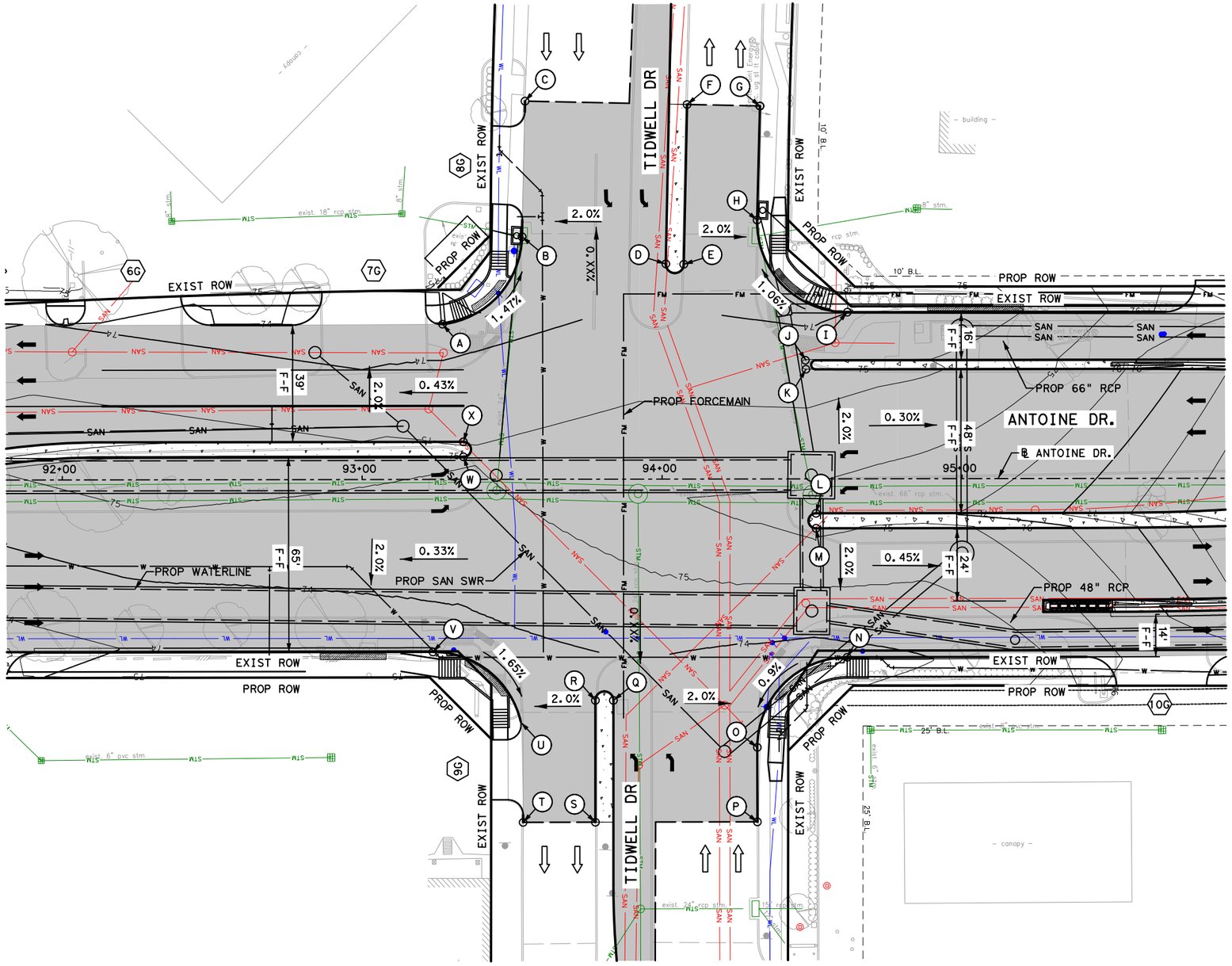

HORIZONTAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
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B	73.37	TOC
C	73.50	TOC
D	74.35	TOC
E	74.35	TOC
F	73.83	TOC
G	73.56	TOC
H	73.49	TOC
I	74.00	TOC
J	74.20	TOC
K	74.26	TOC
L	75.16	TOC
M	75.12	TOC
N	73.86	TOC
O	73.44	TOC
P	73.23	TOC
Q	74.41	TOC
R	73.75	TOC
S	73.47	TOC
T	73.27	TOC
U	73.52	TOC
V	73.82	TOC
W	74.54	TOC
X	74.49	TOC

TOC = TOP OF CURB

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TIDWELL DRIVE
INTERSECTION LAYOUT

SHEET 15 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 328 OF 1067	

No.	DATE	REVISIONS	APP.

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HORIZONTAL GEOMETRY DATA		
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C	76.29	TOC
D	76.34	TOC
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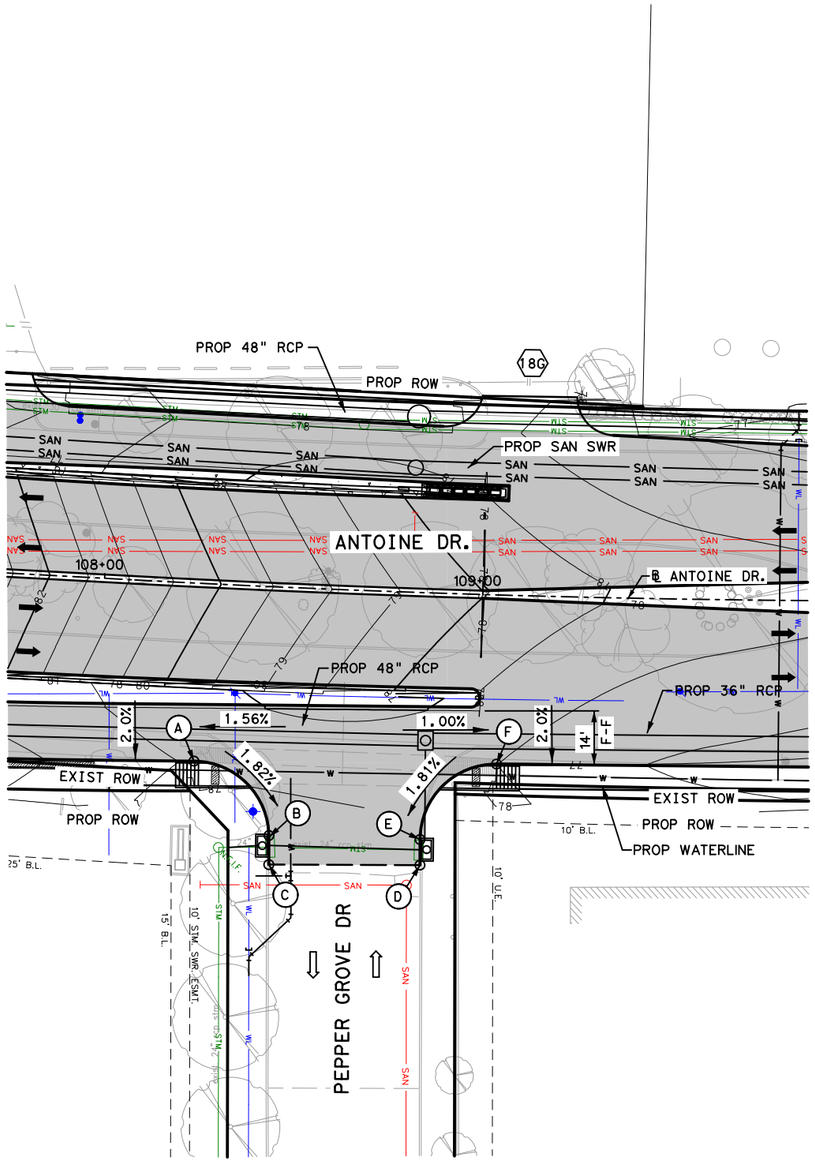
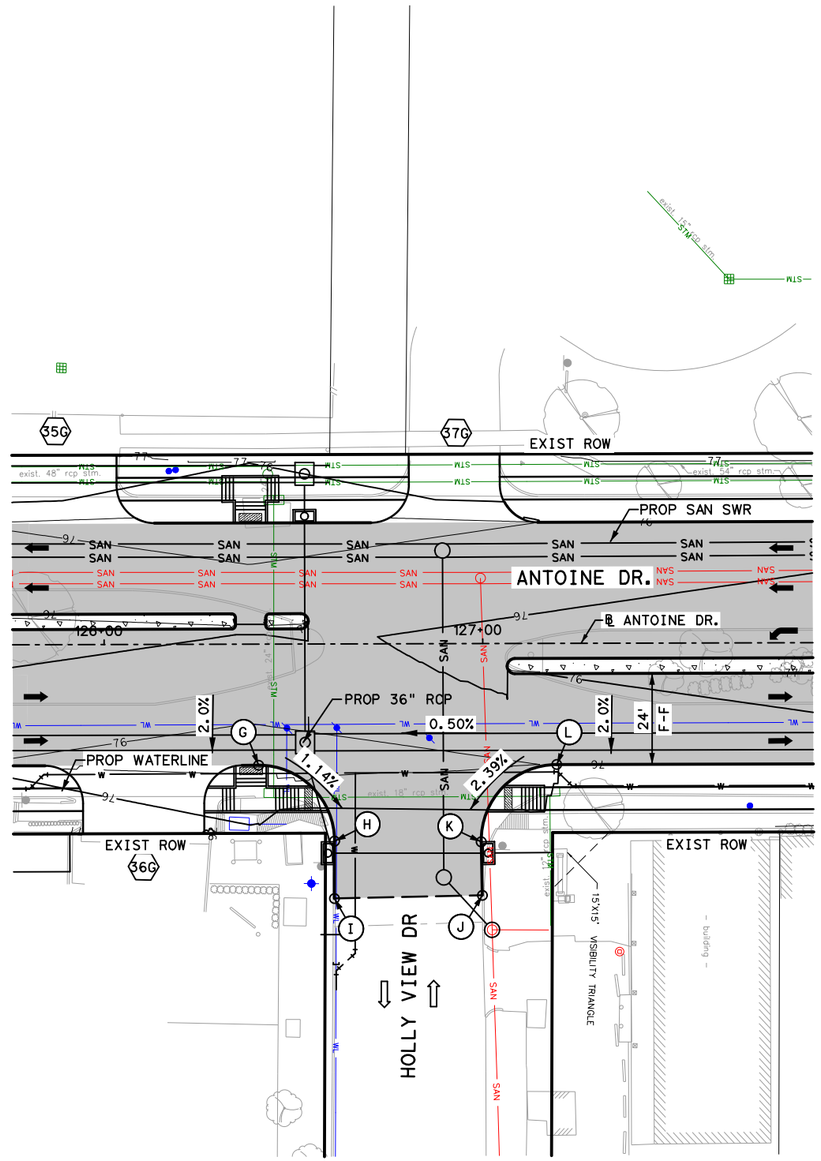
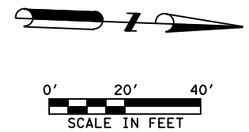
L	75.82	TOC

TOC = TOP OF CURB







Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PEPPER GROVE DR & HOLLY VIEW DR INTERSECTION LAYOUT

SHEET 16 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 329 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/12/2026 2:15:07 PM $USER$
Pen Table: TX_Pen.tbl
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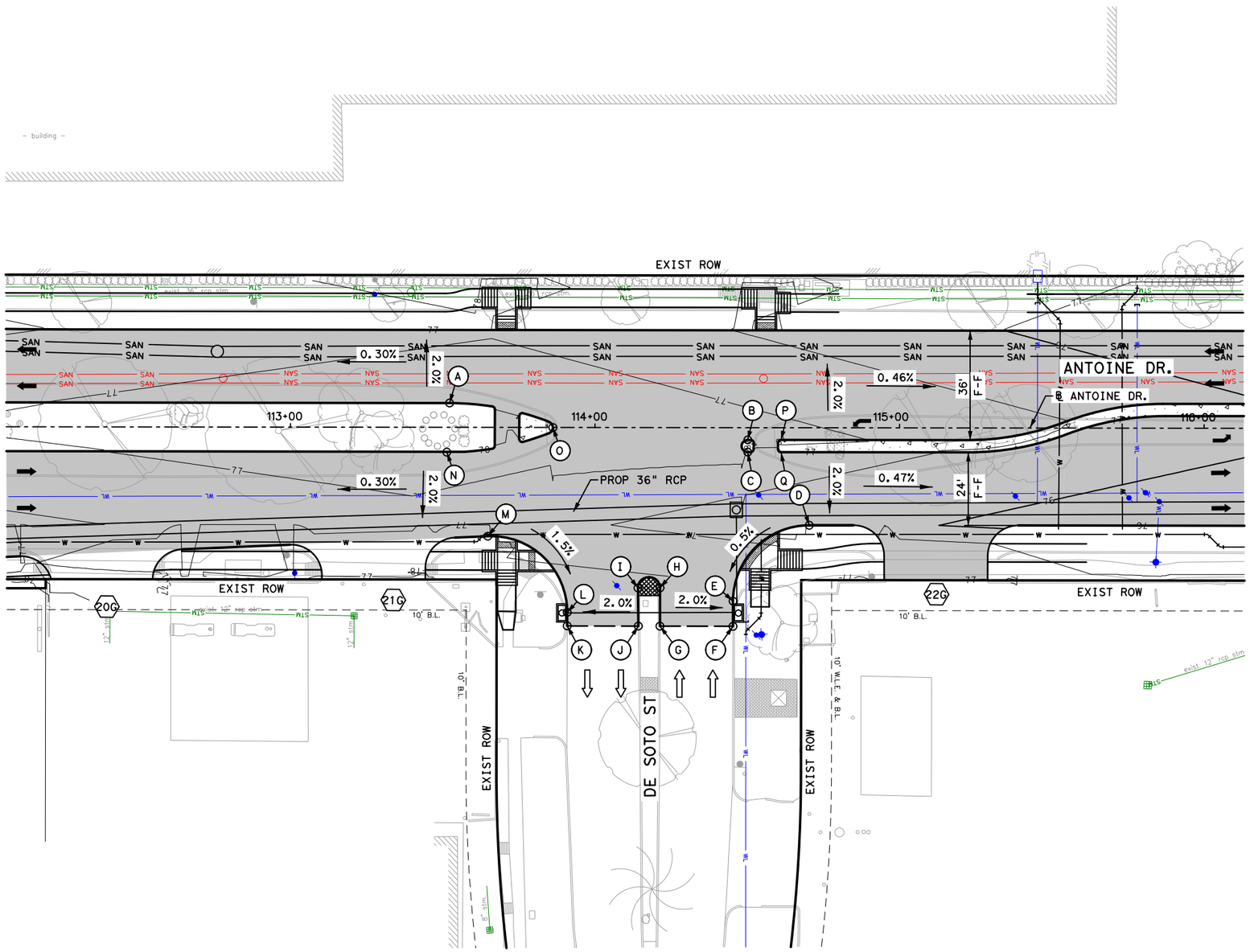
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_INTER_16-PEPPER GROVE.dgn

HORIZONTAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	77.19	TOC
B	76.79	TOC
C	76.75	TOC
D	76.16	TOC
E	75.95	TOC
F	75.83	TOC
G	76.35	TOC
H	76.35	TOC
I	76.46	TOC
J	76.12	TOC
K	75.97	TOC
L	76.06	TOC
M	77.20	TOC
N	77.18	TOC
O	77.02	TOC
P	76.81	TOC
Q	76.70	TOC

TOC = TOP OF CURB



0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DE SOTO STREET INTERSECTION LAYOUT

SHEET 17 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 330 OF 1067	

No.	DATE	REVISIONS	APP:

Plotted on: 3/12/2026 2:15:08 PM $USER$
Pen Table: TX_Pen.tbl
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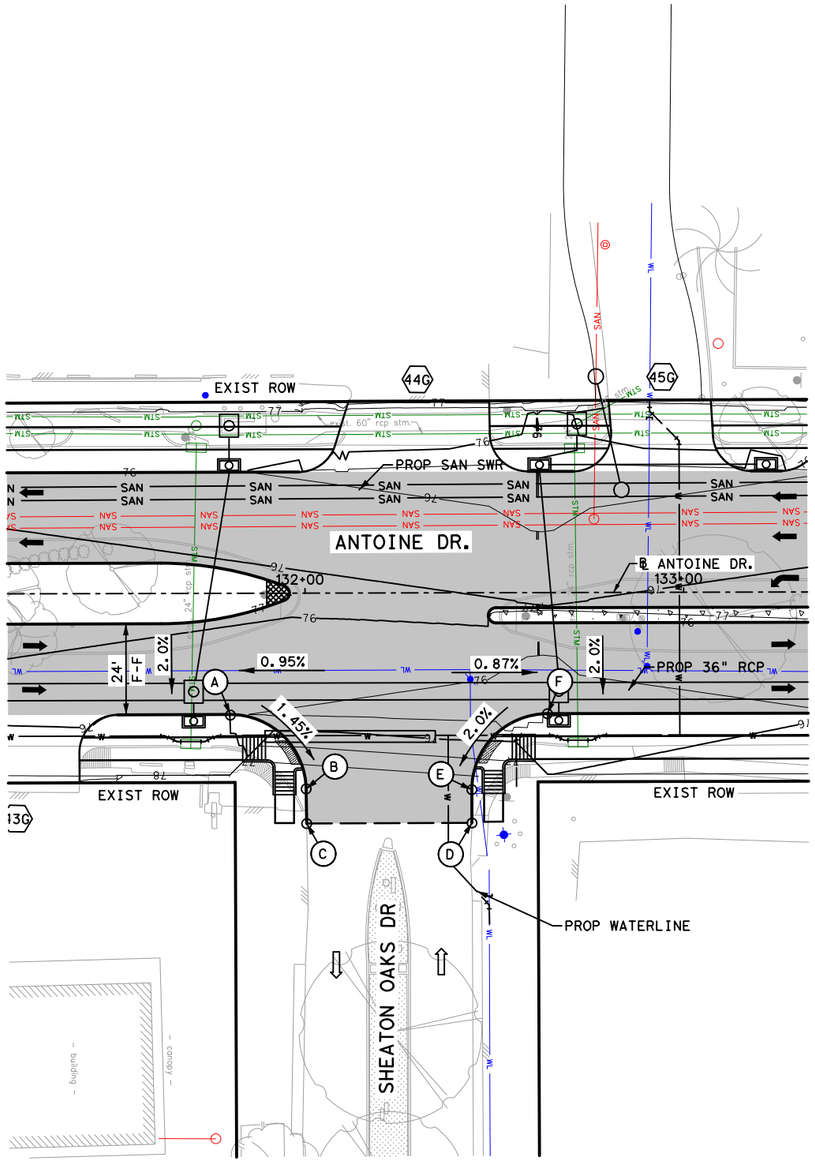

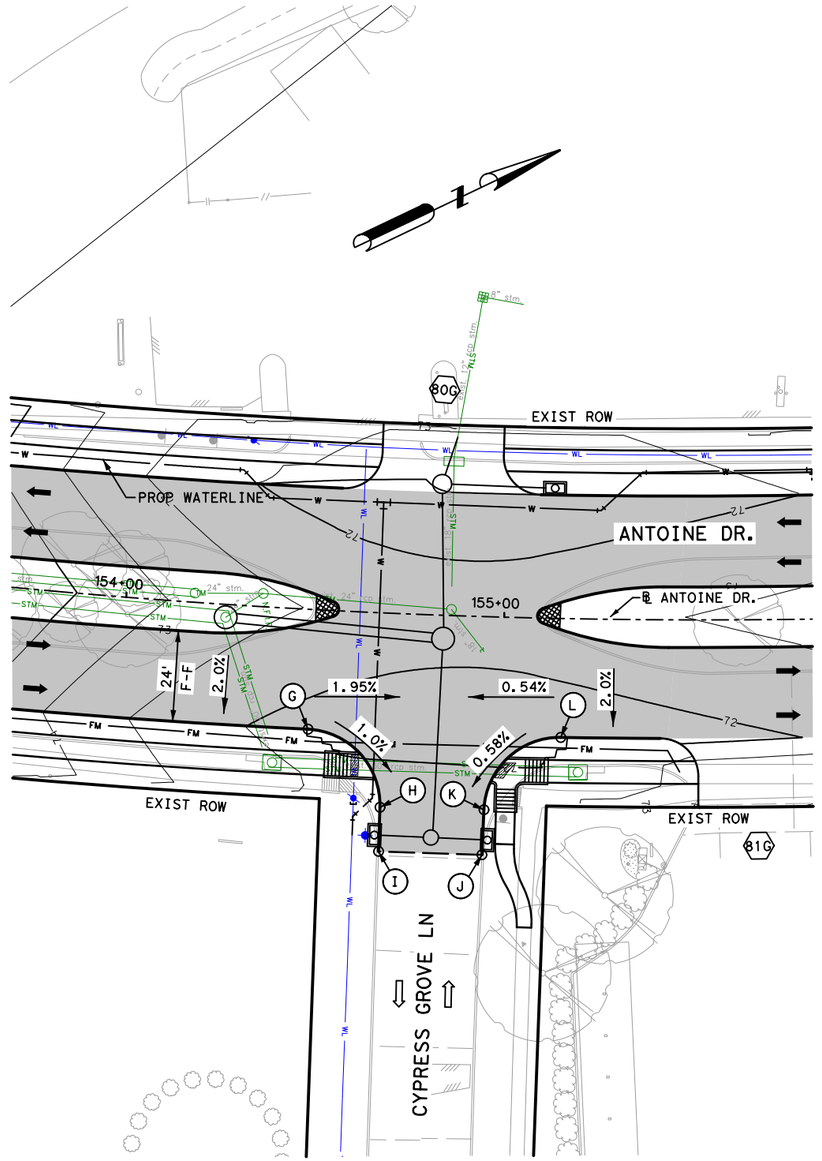

HORIZONTAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	75.98	TOC
B	76.43	TOC
C	76.66	TOC
D	76.83	TOC
E	76.63	TOC
F	76.00	TOC
G	72.14	TOC
H	71.83	TOC
I	71.78	TOC
J	71.63	TOC
K	71.75	TOC
L	71.57	TOC

TOC = TOP OF CURB

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SHEATON OAKS DR &
CYPRESS GROVE LN
INTERSECTION LAYOUT

SHEET 18 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 331 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg

Plotted on: 3/12/2026 2:15:09 PM $USER$

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_INTER_18-SHERATON OAKS.dgn

HORIZONTAL GEOMETRY DATA		
NO.	ELEVATION	DESCRIPTION
A	74.63	TOC
B	74.16	TOC
C	73.77	TOC
D	73.70	TOC
E	73.67	TOC
F	73.81	TOC
G	73.59	TOC
H	74.37	TOC
I	74.34	TOC
J	73.55	TOC
K	73.74	TOC
L	73.49	TOC
M	73.32	TOC
N	73.47	TOC
O	74.19	TOC
P	74.72	TOC

TOC = TOP OF CURB

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

W. LITTLE YORK ROAD INTERSECTION LAYOUT

SHEET 19 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 332 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:15:10 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\PR_INTER_19-W LITTLE YORK.dgn

DRIVEWAY NO.	DRIVEWAY CL STATION	EXIST DRWY WIDTH (ft)	EXIST DRWY MATERIAL	PROP DRWY WIDTH (ft)	PROP DRWY MATERIAL	PROP RADIUS (ft)	OFFSET *				ELEVATION				Slope			DRIVEWAY CONCRETE THICKNESS	SIDEWALK WIDTH THRU DRIVEWAY	DRIVEWAY TYPE
							POINT "A"	POINT "B"	POINT "C"	POINT "D"	POINT "A"	POINT "B"	POINT "C"	POINT "D"	A-B	B-C	C-D			
1	5+21.93	15.35	Concrete	15.29	Concrete	10/10	38.24	48.45	54.48	57.60	67.70	67.96	68.08	68.14	2.50%	2.00%	2.1%	7"	6.0 ft	RESIDENTIAL
2	5+61.90	15.45	Concrete	15.50	Concrete	10/9	37.66	47.89	53.89	57.09	68.15	68.42	68.48	68.51	2.60%	1.00%	1.1%	7"	6.0 ft	RESIDENTIAL
3	5+96.46	15.92	Concrete	15.80	Concrete	9/10	37.08	47.32	53.33	56.53	68.59	69.05	69.17	69.23	4.45%	2.00%	2.0%	7"	6.0 ft	RESIDENTIAL
4	6+37.08	15.50	Concrete	15.82	Concrete	10/10	36.30	46.51	52.51	55.71	69.07	69.74	69.86	69.92	6.54%	2.00%	1.9%	7"	6.0 ft	RESIDENTIAL
5	7+68.79	14.39	Concrete	14.39	Concrete	10/10	33.08	39.21	45.22	51.99	69.53	70.27	70.39	71.37	12.00%	2.00%	14.5%	7"	6.0 ft	RESIDENTIAL
6	8+22.14	18.22	Concrete	18.22	Concrete	10/10	32.00	38.00	44.00	50.17	69.23	69.95	70.07	70.89	12.00%	2.00%	13.3%	7"	6.0 ft	RESIDENTIAL
7	8+44.61	15.80	Concrete	15.80	Concrete	10/6	32.43	38.67	44.66	50.00	69.35	69.97	70.09	70.65	10.00%	2.00%	10.4%	7"	6.0 ft	RESIDENTIAL
8	8+76.95	19.39	Concrete	16.68	Concrete	6/10	32.00	38.03	44.02	50.00	69.17	69.77	69.89	70.50	10.00%	2.00%	10.2%	7"	6.0 ft	RESIDENTIAL
9	9+33.94	16.89	Concrete	16.89	Concrete	10/10	32.00	38.00	44.00	50.00	68.84	69.44	69.56	70.06	10.00%	2.00%	8.3%	7"	6.0 ft	RESIDENTIAL
10	9+98.78	16.99	Concrete	16.99	Concrete	10/10	32.00	38.00	44.00	50.00	68.48	69.08	69.20	69.66	10.00%	2.00%	7.7%	7"	6.0 ft	RESIDENTIAL
11	10+41.39	31.54	Concrete	31.54	Concrete	10/10	32.00	38.00	44.00	50.00	68.42	69.02	69.14	69.90	10.00%	2.00%	12.7%	7"	6.0 ft	RESIDENTIAL
12	10+78.74	12.00	Concrete	12.00	Concrete	10/10	32.00	38.00	44.00	50.00	68.02	68.62	68.74	69.22	10.00%	2.00%	8.0%	7"	6.0 ft	RESIDENTIAL
13	11+36.78	35.52	Concrete	16.88	Concrete	10/10	32.00	38.00	44.00	50.00	67.71	68.43	68.55	69.44	12.00%	2.00%	14.8%	7"	6.0 ft	RESIDENTIAL
14	14+36.99	16.86	Concrete	16.86	Concrete	10/10	43.12	49.10	55.08	63.99	66.42	67.02	67.14	67.64	10.00%	2.00%	5.6%	7"	6.0 ft	RESIDENTIAL
15	7+96.64	10.73	Concrete	10.73	Concrete	5/5	14.17	23.60	27.67	29.93	66.00	66.74	66.83	66.87	7.89%	2.00%	2.0%	7"	6.0 ft	RESIDENTIAL
16	16+70.05	20.13	Concrete	20.13	Concrete	10/10	51.80	57.82	63.82	71.34	66.00	66.57	66.69	66.84	9.52%	2.00%	2.0%	7"	6.0 ft	RESIDENTIAL
17	16+85.82	16.86	Concrete	16.86	Concrete	10/7	55.00	61.23	67.24	76.32	66.10	66.65	66.77	66.95	8.84%	2.00%	2.0%	7"	6.0 ft	RESIDENTIAL
18	21+47.38	17.21	Concrete	17.21	Concrete	10/10	55.00	61.00	67.00	74.74	64.80	65.40	65.52	66.16	10.00%	2.00%	8.3%	7"	6.0 ft	RESIDENTIAL
19	23+13.07	16.94	Concrete	16.94	Concrete	10/10	55.00	61.00	67.00	74.17	65.88	66.48	66.60	67.18	10.00%	2.00%	8.1%	7"	6.0 ft	RESIDENTIAL
20	24+50.79	17.87	Concrete	17.87	Concrete	10/10	55.00	61.00	67.00	73.70	66.55	67.15	67.27	68.26	10.00%	2.00%	14.8%	7"	6.0 ft	RESIDENTIAL
21	25+55.61	16.00	Concrete	16.00	Concrete	10/10	55.00	61.00	67.00	73.34	67.29	68.01	68.13	69.09	12.00%	2.00%	15.1%	7"	6.0 ft	RESIDENTIAL
22	26+38.25	22.30	Concrete	22.30	Concrete	10/10	55.00	61.00	67.00	76.94	67.69	68.29	68.41	69.10	10.00%	2.00%	6.9%	7"	6.0 ft	COMMERCIAL
23	27+52.81	18.73	Concrete	18.73	Concrete	10/10	55.00	61.00	67.00	76.87	68.32	68.92	69.04	69.94	10.00%	2.00%	9.1%	7"	6.0 ft	RESIDENTIAL
24	29+97.12	36.13	Concrete	36.13	Concrete	10/10	55.00	61.00	67.00	76.59	68.91	69.51	69.63	70.19	10.00%	2.00%	5.8%	7"	6.0 ft	RESIDENTIAL
25	30+46.56	18.52	Concrete	18.52	Concrete	10/10	55.00	61.00	67.00	73.21	69.90	70.50	70.62	70.85	10.00%	2.00%	3.7%	7"	6.0 ft	RESIDENTIAL
26	31+10.18	17.56	Concrete	17.56	Concrete	10/10	55.00	61.00	67.00	76.45	69.12	69.72	69.84	70.46	10.00%	2.00%	6.6%	7"	6.0 ft	RESIDENTIAL
27	31+12.46	17.83	Concrete	17.83	Concrete	10/10	55.00	61.00	67.00	73.26	70.15	70.75	70.87	71.69	10.00%	2.00%	13.1%	7"	6.0 ft	RESIDENTIAL
28	31+62.19	18.42	Concrete	18.42	Concrete	10/10	55.00	61.00	67.00	76.39	68.96	69.56	69.68	70.51	10.00%	2.00%	8.8%	7"	6.0 ft	RESIDENTIAL
29	32+11.71	17.92	Concrete	17.92	Concrete	10/10	55.00	61.00	67.00	73.34	70.54	71.14	71.26	71.85	10.00%	2.00%	9.3%	7"	6.0 ft	RESIDENTIAL
30	33+32.46	17.43	Concrete	17.43	Concrete	10/6	55.00	61.00	67.00	76.19	69.30	69.90	70.02	70.90	10.00%	2.00%	9.6%	7"	6.0 ft	RESIDENTIAL
31	33+47.58	17.38	Concrete	17.38	Concrete	10/10	55.00	61.00	67.00	73.45	71.08	71.68	71.80	72.29	10.00%	2.00%	7.6%	7"	6.0 ft	RESIDENTIAL
32	33+62.47	18.85	Concrete	18.85	Concrete	6/10	55.00	61.00	67.00	76.16	69.42	70.02	70.14	71.13	10.00%	2.00%	10.8%	7"	6.0 ft	RESIDENTIAL
33	34+17.54	7.88	Concrete	7.88	Concrete	10/10	55.00	61.00	67.00	73.51	71.36	71.96	72.08	72.61	10.00%	2.00%	8.1%	7"	6.0 ft	RESIDENTIAL
34	34+63.82	17.31	Concrete	17.31	Concrete	10/10	55.00	61.00	67.00	73.55	71.22	71.82	71.94	72.17	10.00%	2.00%	3.5%	7"	6.0 ft	RESIDENTIAL
35	34+83.63	17.87	Concrete	17.87	Concrete	10/10	55.00	61.00	67.00	76.02	69.90	70.50	70.62	71.55	10.00%	2.00%	10.3%	7"	6.0 ft	RESIDENTIAL
36	5+97.09	16.44	Concrete	15.16	Concrete	5/5	34.44	38.48	42.36	49.64	69.63	70.11	70.19	71.29	12.00%	2.00%	15.1%	7"	6.0 ft	RESIDENTIAL
37	37+39.27	30.13	Concrete	30.13	Concrete	10/3	55.00	61.00	67.00	75.72	70.35	71.07	71.19	71.90	12.00%	2.00%	8.1%	7"	6.0 ft	RESIDENTIAL
38	37+39.77	17.16	Concrete	17.46	Concrete	10/10	55.00	61.00	67.00	74.02	71.33	71.81	71.93	72.57	8.00%	2.00%	9.1%	7"	6.0 ft	RESIDENTIAL
39	37+70.03	12.15	Concrete	12.15	Concrete	3/10	55.00	61.00	67.00	75.69	70.48	71.22	71.34	72.20	12.00%	2.00%	9.9%	7"	6.0 ft	RESIDENTIAL
40	41+45.33	16.82	Concrete	16.82	Concrete	10/10	55.00	61.00	67.00	75.24	71.82	72.54	72.66	73.94	12.00%	2.00%	15.5%	7"	6.0 ft	RESIDENTIAL
41	43+74.12	24.01	Concrete	24.01	Concrete	10/10	55.00	61.00	67.00	74.97	72.16	73.09	73.21	74.40	12.00%	2.00%	14.9%	7"	6.0 ft	RESIDENTIAL
42	44+24.37	17.62	Concrete	17.62	Concrete	10/10	55.00	61.00	67.00	74.91	72.31	73.24	73.36	74.70	12.00%	2.00%	16.9%	7"	6.0 ft	RESIDENTIAL
43	46+42.19	16.18	Concrete	16.18	Concrete	10/10	55.00	61.00	67.00	74.66	72.83	73.55	73.67	74.59	12.00%	2.00%	12.0%	7"	6.0 ft	RESIDENTIAL

1. REFER TO CONCRETE & DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION.
2. ELEVATION AT POINT "D" IS (+/-) AS SHOWN IN DRIVEWAY TABLE. MATCH EXIST ELEVATION AT ROW.
3. REFER TO PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. 4"/FT MAXIMUM IS OVER A DISTANCE OF 1'-6". IF DISTANCE FROM A TO B IS GREATER TAN 1'-6", MAXIMUM SLOPE IS 12%.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation ©2026

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401 713.777.5337

SURVEYED BY:
KUO & ASSOCIATES, INC.

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRIVEWAY TABULATION DETAILS

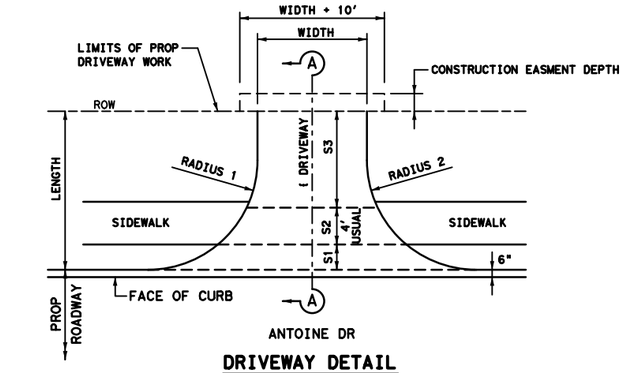
SHEET 1 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 333 OF 1067	

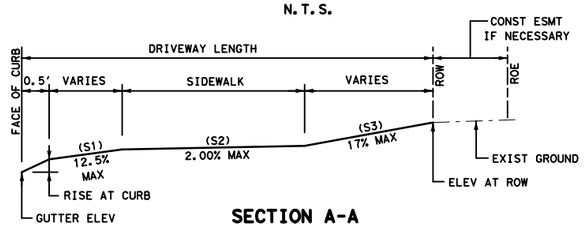
Plotted on: 3/9/2026 6:30:51 PM\F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\RDWY P&P SHT\PR_DWY TABLE.dgn

SUMMARY OF DRIVEWAYS

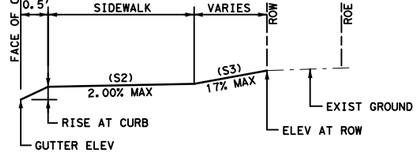
PLAN AND PROFILE SHEET NO.			DRIVE. NO.	STATION	LT OR RT	PROP WIDTH	PROP LENGTH	ELEV AT GUTTER	ELEV AT ROW	RISE AT CURB	SLOPE (S1)	SLOPE (S2)	SLOPE (S3)	RADIUS (R-1)	RADIUS (R-2)	RIGHT OF ENTRY WIDTH	RIGHT OF ENTRY DEPTH	RIGHT OF ENTRY LENGTH TO TIE	HMAC Driveway (SF)	SPEC NO. 02754 7-IN CONC DRIVEWAY (SF)	SPEC NO. 02754 HES 7-IN CONC DRIVEWAY (SF)
SHT OF SHT	ROADWAY	TYPE				(FT)	(FT)	(FT)	(FT)	(FT)	(%)	(%)	(%)	(FT)	(FT)	(FT)	(FT)	(FT)	(SF)		
	ANTOINE	CONC	1R	47+49.54	RT	26.00	21.00	73.29	74.91	0.00	8.00%	1.50%	11.88%	10.0	10.0					589	
	ANTOINE	CONC	2R	49+32.26	RT	18.00	24.50	74.09	74.89	0.00	2.00%	1.50%	4.83%	10.0	10.0					484	
	ACORN ST	CONC	3R	8+66.98	RT	29.00	15.50	73.80	74.49	0.00	6.00%	1.50%	5.25%	10.0	8.0					485	
	ANTOINE	CONC	4R	51+83.02	RT	35.00	18.00	74.74	75.15	0.00	2.00%	1.50%	3.45%	10.0	10.0					673	
	ANTOINE	CONC	5R	53+02.11	RT	30.00	18.00	74.36	75.00	0.00	4.00%	1.50%	5.27%	10.0	10.0					583	
	ANTOINE	CONC	6R	54+68.04	RT	24.00	18.00	74.66	75.08	0.00	2.00%	1.50%	3.64%	10.0	10.0					475	
	ANTOINE	CONC	7R	55+37.46	RT	12.00	18.00	74.87	75.50	0.00	4.00%	1.50%	5.09%	10.0	10.0					259	
	ANTOINE	CONC	8R	55+81.95	RT	24.00	18.00	75.00	75.41	0.00	2.00%	1.50%	3.45%	10.0	10.0					475	
	ANTOINE	CONC	9R	57+39.16	RT	35.00	18.00	74.64	75.04	0.00	2.00%	1.50%	3.27%	10.0	5.0					657	
	ANTOINE	CONC	10R	58+56.15	RT	30.00	18.00	74.89	75.50	0.00	3.00%	1.50%	5.91%	5.0	10.0					567	
	ANTOINE	CONC	11R	59+22.92	RT	35.00	18.00	74.78	75.29	0.00	2.00%	1.50%	5.27%	10.0	8.0					665	
	ANTOINE	CONC	12R	59+72.79	RT	32.00	18.00	74.63	75.23	0.00	3.00%	1.50%	5.72%	8.0	10.0					611	
	ANTOINE	CONC	13R	60+98.36	RT	35.00	18.00	74.84	75.55	0.00	3.00%	1.50%	7.73%	10.0	3.0					653	
	ANTOINE	CONC	14R	61+40.02	RT	35.00	18.00	74.97	75.68	0.00	4.00%	1.50%	6.55%	3.0	10.0					653	
	ANTOINE	CONC	15R	64+15.33	RT	39.00	11.50	75.79	76.40	0.00	9.00%	1.50%	11.50%	10.0	10.0					491	
	ANTOINE	CONC	16R	65+80.43	RT	30.00	11.50	75.76	76.42	0.00	10.00%	1.50%	12.00%	5.0	10.0					372	
	ANTOINE	CONC	17R	66+64.59	RT	53.00	11.50	75.31	76.12	0.00	12.50%	1.50%	15.83%	10.0	10.0					652	
	ANTOINE	CONC	18R	70+42.79	RT	29.00	18.00	75.55	76.18	0.00	3.00%	1.50%	6.25%	5.0	10.0					549	
	ANTOINE	CONC	19R	71+70.19	RT	30.00	18.00	75.85	76.37	0.00	3.00%	1.50%	4.34%	10.0	9.0					579	
	ANTOINE	CONC	20R	72+13.56	RT	17.00	18.00	75.63	76.48	0.00	5.00%	1.50%	7.79%	9.0	10.0					345	
	ANTOINE	CONC	21R	72+61.45	RT	23.00	18.00	75.39	76.18	0.00	6.00%	1.50%	5.62%	10.0	10.0					457	
	ANTOINE	CONC	22R	73+34.77	RT	12.00	18.00	75.15	75.94	0.00	5.00%	1.50%	6.87%	10.0	10.0					259	
	ANTOINE	CONC	23R	76+08.08	RT	29.00	18.00	74.83	75.70	0.00	4.00%	1.50%	9.34%	10.0	10.0					565	
	ANTOINE	CONC	24R	77+59.71	RT	36.00	18.00	75.11	76.10	0.00	5.00%	1.50%	10.40%	10.0	10.0					691	
	ANTOINE	CONC	25R	78+31.09	RT	24.00	18.00	74.90	75.79	0.00	4.00%	1.50%	9.87%	9.5	10.0					473	
	ANTOINE	CONC	26R	80+88.20	RT	28.00	18.00	73.85	74.59	0.00	6.00%	1.50%	4.69%	10.0	10.0					547	
	ANTOINE	CONC	27R	83+41.47	RT	21.00	18.00	73.02	73.90	0.00	5.00%	1.50%	8.51%	10.0	10.0					421	
	ANTOINE	CONC	28R	86+88.72	RT	32.00	33.00	73.84	74.40	0.00	1.00%	1.50%	2.00%	10.0	10.0					1099	
	ANTOINE	CONC	29R	87+73.25	RT	26.00	21.00	72.85	73.08	0.00	1.00%	1.00%	1.21%	10.0	10.0					589	
	ANTOINE	CONC	30R	48+94.10	LT	35.00	23.50	73.83	74.25	0.00	2.00%	1.50%	1.84%	10.0	10.0					865	
	ANTOINE	CONC	31R	49+56.40	LT	30.00	20.50	74.25	74.88	0.00	2.00%	1.50%	5.17%	10.0	10.0					658	
	ANTOINE	CONC	32R	51+72.87	LT	35.00	18.25	74.54	75.14	0.00	6.00%	1.50%	2.11%	10.0	5.0					666	
	ANTOINE	CONC	33R	52+13.00	LT	24.00	18.75	74.42	74.79	0.00	2.00%	1.50%	2.51%	5.0	10.0					477	
	ANTOINE	CONC	34R	54+04.57	LT	35.00	18.25	74.17	74.91	0.00	4.00%	1.50%	6.74%	10.0	10.0					682	
	ANTOINE	CONC	35R	56+38.36	LT	24.00	18.25	74.99	75.49	0.00	3.00%	1.50%	3.68%	10.0	10.0					481	
	ANTOINE	CONC	36R	56+87.59	LT	24.00	18.25	74.86	75.71	0.00	5.00%	1.50%	7.58%	10.0	10.0					481	
	ANTOINE	CONC	37R	58+39.20	LT	30.00	18.25	74.85	75.29	0.00	3.00%	1.50%	2.84%	10.0	10.0					590	
	ANTOINE	CONC	38R	58+97.82	LT	32.00	18.25	74.89	75.43	0.00	4.00%	1.50%	3.45%	10.0	10.0					627	
	ANTOINE	CONC	39R	61+18.24	LT	35.00	18.25	75.16	75.96	0.00	5.00%	1.50%	6.78%	10.0	10.0					840	
	ANTOINE	CONC	40R	63+48.56	LT	24.00	11.50	75.85	75.97	0.00	1.00%	1.00%	2.04%	10.0	10.0					319	
	ANTOINE	CONC	41R	64+26.78	LT	30.00	11.50	76.08	76.33	0.00	2.00%	1.50%	6.61%	10.0	5.0					372	
	ANTOINE	CONC	42R	65+88.26	LT	30.00	11.50	75.62	76.38	0.00	12.00%	1.50%	12.34%	10.0	10.0					388	
	ANTOINE	CONC	43R	66+69.02	LT	35.00	12.00	75.22	76.28	0.21	12.50%	2.00%	17.03%	10.0	10.0					463	
	ANTOINE	CONC	44R	67+84.62	LT	24.00	13.00	74.94	76.14	0.21	12.50%	2.00%	15.46%	10.0	10.0					355	
	ANTOINE	CONC	45R	69+96.98	LT	28.00	18.00	74.70	75.22	0.00	2.00%	1.50%	5.37%	10.0	10.0					547	
	ANTOINE	CONC	46R	73+47.72	LT	35.00	18.00	74.99	75.53	0.00	1.00%	1.50%	6.87%	10.0	10.0					673	
	ANTOINE	CONC	47R	74+75.10	LT	32.00	18.00	74.55	75.12	0.00	2.00%	1.50%	6.24%	10.0	10.0					619	
	ANTOINE	CONC	48R	75+35.37	LT	34.00	18.00	74.56	75.29	0.00	5.00%	1.50%	5.74%	10.0	10.0					655	
	ANTOINE	CONC	49R	76+01.26	LT	29.00	18.00	74.75	75.42	0.00	4.00%	1.50%	5.93%	10.0	10.0					565	
	ANTOINE	CONC	50R	76+75.90	LT	30.00	18.00	74.51	75.34	0.00	4.00%	1.50%	8.77%	10.0	3.5					564	
	ANTOINE	CONC	51R	77+12.59	LT	25.00	18.00	74.39	75.19	0.00	6.00%	1.50%	5.82%	4.0	10.0					475	
	ANTOINE	CONC	52R	78+99.95	LT	30.00	18.00	74.20	74.98	0.00	6.00%	1.50%	5.48%	10.0	10.0					583	
	ANTOINE	CONC	53R	82+59.15	LT	30.00	18.00	73.09	74.12	0.00	8.00%	1.50%	7.57%	10.0	10.0					583	
	ANTOINE	CONC	54R	84+71.93	LT	25.00	18.00	73.73	74.24	0.00	3.00%	1.50%	4.05%	10.0	10.0					493	
	ANTOINE	CONC	55R	87+36.89	LT	26.00	18.00	73.36	74.24	0.00	5.00%	1.50%	8.55%	10.0	10.0					511	
	HARDWAY ST. (W)	CONC	56R	6+66.34	LT	35.00	9.50	74.92	75.36	0.00	0.00%	0.00%	4.63%	5.0	5.0					343	
	PINEMONT DR.	CONC	57R	9+92.35	LT	32.00	11.00	75.52	76.02	0.00	8.00%	1.50%	4.00%	5.0	5.0					363	
	BROOM ST.	CONC	58R	5+85.36	RT	30.00	10.50	75.19	76.19	0.21	9.00%	2.00%	17.00%	5.0	5.0					326	
	BROOM ST.	CONC	59R	5+85.25	LT	30.00	9.50	75.19	75.85	0.21	9.00%	2.00%	8.00%	5.0	5.0					296	
	CREEKMONT DR.	CONC	60R	5+86.03	RT	30.00	11.00	75.57	76.16	0.00	2.00%	1.50%	9.80%	10.0	5.0					357	
	CREEKMONT DR.	CONC	61R	5+75.25	LT	24.00	11.50	75.06	76.26	0.21	12.50%	2.00%	16.00%	5.0	5.0					287	
	BIRCHMONT DR.	CONC	62R	5+84.13	RT	20.00	10.50	75.33	76.28	0.21	11.00%	1.50%	12.00%	5.0	5.0					221	
																	DRIVEWAY TOTALS		0	30450	0



DRIVEWAY DETAIL
N. T. S.



SECTION A-A
(SIDEWALK AWAY FROM CURB)
N. T. S.



SECTION A-A
(SIDEWALK FLUSH WITH CURB)
N. T. S.

Texas Department of Transportation ©2026

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Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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JEFEREY ROBERT LEUGERS
91874
3/12/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRIVEWAY TABULATION DETAILS

SHEET 02 OF 04

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 312 OF 1067	

Plotted on: 3/12/2026 4:18:09 AM\anwanik
Pen Table:ANTOINE DR.tbl
Plot Driver:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg
Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

DRIVEWAY NO.	DRIVEWAY CL STATION	EXIST DRWY WIDTH (ft)	EXIST DRWY MATERIAL	PROP DRWY WIDTH (ft)	PROP DRWY MATERIAL	PROP RADIUS (ft)	OFFSET *				ELEVATION				Slope			DRIVEWAY CONCRETE THICKNESS	SIDEWALK WIDTH THRU DRIVEWAY	DRIVEWAY TYPE
							POINT "A"	POINT "B"	POINT "C"	POINT "D"	POINT "A"	POINT "B"	POINT "C"	POINT "D"	*A-B*	*B-C*	*C-D*			
1	160+75	34.33	Concrete	34.33	Concrete	5	32	38	48	50	72.13	72.63	72.83	73.16	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
2	161+58	25.64	Concrete	25.64	Concrete	5	32	38	48	50	72.41	72.91	73.11	73.45	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
3	161+58	25.82	Concrete	25.82	Concrete	10	32	38	48	50	72.35	72.84	73.04	73.38	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
4	163+25	35.07	Concrete	35.07	Concrete	10	32	38	48	50	71.06	71.56	71.76	72.1	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
5	164+25	28.09	Concrete	28.09	Concrete	5	32	38	48	50	71.74	72.24	72.44	72.78	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
6	164+57	34.93	Concrete	34.93	Concrete	10	32	38	48	50	70.67	71.17	71.37	71.7	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
7	165+67	35.2	Concrete	35.2	Concrete	10	32	38	48	50	70.34	70.84	71.04	71.37	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
8	166+14	27.83	Concrete	27.83	Concrete	5	32	38	48	50	71.16	71.66	71.86	72.19	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
9	168+96	12.31	Concrete	12.31	Concrete	5	32	38	48	50	71.13	71.63	71.83	72.16	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
10	169+75	11.78	Concrete	11.78	Concrete	5	32	38	48	50	71.36	71.86	72.06	72.39	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
11	170+25	17.33	Concrete	17.33	Concrete	5	32	38	48	50	71.51	72.01	72.21	72.55	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
12	171+01	10.22	Concrete	10.22	Concrete	5	32	38	48	50	71.74	72.24	72.44	72.77	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
13	171+13	10	Concrete	10	Concrete	5	32	38	48	50	71.78	72.28	72.48	72.81	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
14	171+25	13.49	Concrete	13.49	Concrete	5	32	38	48	50	71.81	72.31	72.51	72.84	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
15	171+75	12.91	Concrete	12.91	Concrete	5	32	38	48	50	71.96	72.46	72.66	72.99	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
16	171+99	9.76	Concrete	9.76	Concrete	5	32	38	48	50	72.04	72.53	72.73	73.07	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
17	172+25	9.98	Concrete	9.98	Concrete	5	32	38	48	50	72.11	72.61	72.81	73.15	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
18	172+62	13.93	Concrete	13.93	Concrete	5	32	38	48	50	72.22	72.72	72.92	73.25	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
19	172+93	12.1	Concrete	12.1	Concrete	5	32	38	48	50	72.31	72.81	73.01	73.35	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
20	172+86	11.05	Concrete	11.05	Concrete	5	32	38	48	50	72.3	72.8	73	73.33	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
21	173+41	15.97	Concrete	15.97	Concrete	5	32	38	48	50	72.46	72.96	73.16	73.49	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
22	173+56	10.89	Concrete	10.89	Concrete	5	32	38	48	50	72.51	73.01	73.21	73.54	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
23	173+65	14.27	Concrete	14.27	Concrete	5	32	38	48	50	72.53	73.03	73.23	73.56	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
24	174+75	13.73	Concrete	13.73	Concrete	5	32	38	48	50	72.86	73.36	73.56	73.9	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
25	173+75	12.14	Concrete	12.14	Concrete	5	32	38	48	50	72.56	73.06	73.26	73.59	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
26	174+41	17.8	Concrete	17.8	Concrete	5	32	38	48	50	72.76	73.26	73.46	73.79	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
27	174+53	10.91	Concrete	10.91	Concrete	5	32	38	48	50	72.8	73.3	73.5	73.83	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
28	175+09	12.07	Concrete	12.07	Concrete	5	32	38	48	50	72.96	73.46	73.66	74	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
29	174+62	14.96	Concrete	14.96	Concrete	5	32	38	48	50	72.82	73.32	73.52	73.86	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
30	175+10	10.97	Concrete	10.97	Concrete	5	32	38	48	50	72.97	73.46	73.66	74	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
31	175+55	10.85	Concrete	10.85	Concrete	5	32	38	48	50	73.1	73.6	73.8	74.14	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
32	176+00	10.17	Concrete	10.17	Concrete	5	32	38	48	50	73.24	73.73	73.93	74.27	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
33	176+00	10.83	Concrete	10.83	Concrete	5	32	38	48	50	73.24	73.74	73.94	74.27	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
34	176+85	10.12	Concrete	10.12	Concrete	10	32	38	48	50	73.49	73.99	74.19	74.52	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
35	176+75	9.93	Concrete	9.93	Concrete	5	32	38	48	50	73.46	73.96	74.16	74.5	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
36	176+95	12.02	Concrete	12.02	Concrete	10	32	38	48	50	73.52	74.02	74.22	74.55	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
37	177+59	16.65	Concrete	16.65	Concrete	5	32	38	48	50	73.72	74.21	74.41	74.75	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
38	177+55	10.46	Concrete	10.46	Concrete	10	32	38	48	50	73.7	74.2	74.4	74.73	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
39	177+89	13.87	Concrete	13.87	Concrete	10	32	38	48	50	73.8	74.3	74.5	74.84	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
40	178+37	13.75	Concrete	13.75	Concrete	5	32	38	48	50	73.95	74.45	74.65	74.98	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
41	178+37	10.44	Concrete	10.44	Concrete	10	32	38	48	50	73.95	74.45	74.65	74.98	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
42	179+25	9.78	Concrete	9.78	Concrete	10	32	38	48	50	74.21	74.71	74.91	75.24	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
43	179+25	8.91	Concrete	8.91	Concrete	5	32	38	48	50	74.21	74.71	74.91	75.25	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
44	179+47	15.21	Concrete	15.21	Concrete	5	32	38	48	50	74.28	74.78	74.98	75.31	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
45	179+47	11.02	Concrete	11.02	Concrete	5	32	38	48	50	74.28	74.78	74.98	75.31	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
46	179+99	20.55	Concrete	20.55	Concrete	5	32	38	48	50	74.13	74.63	74.83	75.17	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
47	179+99	10.26	Concrete	10.26	Concrete	10	32	38	48	50	74.14	74.64	74.84	75.17	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
48	180+30	10.23	Concrete	10.23	Concrete	10	32	38	48	50	74.02	74.52	74.72	75.06	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
49	180+85	9.81	Concrete	9.81	Concrete	5	32	38	48	50	73.81	74.31	74.51	74.84	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
50	180+89	8.77	Concrete	8.77	Concrete	5	32	38	48	50	73.8	74.3	74.5	74.84	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
51	181+25	10.32	Concrete	10.32	Concrete	5	32	38	48	50	73.67	74.17	74.37	74.7	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
52	181+64	12.07	Concrete	12.07	Concrete	5	32	38	48	50	73.53	74.03	74.23	74.56	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
53	181+71	8.97	Concrete	8.97	Concrete	5	32	38	48	50	73.48	73.98	74.18	74.51	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
54	183+68	12.43	Concrete	12.43	Concrete	5	32	38	48	50	73.45	73.95	74.15	74.49	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
55	184+37	14.22	Brick	14.22	Concrete	5	32	38	48	50	73.74	74.24	74.44	74.78	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
56	184+79	14.59	Brick	14.59	Concrete	5	32	38	48	50	73.92	74.42	74.62	74.95	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
57	185+71	12.28	Concrete	12.28	Concrete	5	32	38	48	50	74.31	74.81	75.01	75.34	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
58	186+25	19.43	Concrete	19.43	Concrete	5	32	38	48	50	74.53	75.03	75.23	75.57	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
59	186+89	12.96	Concrete	12.96	Concrete	5	32	38	48	50	74.8	75.3	75.5	75.84	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
60	187+14	11.08	Concrete	11.08	Concrete	5	32	38	48	50	74.91	75.41	75.61	75.94	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
61	187+91	11.41	Concrete	11.41	Concrete	4	32	38	48	50	75.23	75.73	75.93	76.26	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
62	188+85	26.93	Concrete	26.93	Concrete	10	32	38	48	50	75.35	75.85	76.05	76.39	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
63	189+09	13.15	Concrete	13.15	Concrete	4	32	38	48	50	75.32	75.82	76.02	76.36	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
64	189+33	7.85	Concrete	7.85	Concrete	5	32	38	48	50	75.25	75.75	75.95	76.28	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
65	189+45	22.82	Concrete	22.82	Concrete	10	32	38	48	50	75.07	75.57	75.77	76.11	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
66	189+60	13.6	Brick	13.6	Concrete	5	32	38	48	50	75.16	75.66	75.86	76.19	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
67	189+95	13.64	Brick	13.64	Concrete	5	32	38	48	50	75.05	75.55	75.75	76.08	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
68	190+65	12.85	Concrete	12.85	Concrete	5	32	38	48	50	74.82	75.32	75.52	75.86	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
69	190+95	18.4	Concrete	18.4	Concrete	5	32	38	48	50	74.73	75.23	75.43	75.76	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
70	192+06	22.22	Concrete	22.22	Concrete	5	32	38	48	50	74.82	75.32	75.52	75.85	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
71	192+17	16.82	Concrete	16.82	Concrete	5	32	38	48	50	74.44	74.94	75.14	75.48	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
72	192+34	9.05	Concrete	9.05	Concrete	5	32	38	48	50	74.9	75.4	75.6	75.94	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
73	192+95	10.38	Concrete	10.38	Concrete	5	32	38	48	50	74.68	75.18	75.38	75.71	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
74	192+60	10.15	Concrete	10.15	Concrete	5	32	38	48	50	74.98	75.48	75.68	76.01	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
75	193+16	12.81	Concrete	12.81	Concrete	5	32	38	48	50	75.13	75.63	75.83	76.16	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
76	193+75	11.91	Concrete	11.91	Concrete	5	32	38	48	50	74.92	75.42	75.62	75.95	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
77	193+62	11.26	Concrete	11.26	Concrete	5	32	38	48	50	74.99	75.49	75.69	76.03	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
78	193+81	10.23	Concrete	10.23	Concrete	5	32	38	48	50	74.93	75.43	75.63	75.97	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
79	194+00	11.8	Concrete	11.8	Concrete	5	32	38	48	50	74.88	75.38	75.58	75.91	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
80	194+48	9.42	Concrete	9.42	Concrete	5	32	38	48	50	75.14	75.63	75.83	76.17	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
81	194+48	11.83	Concrete	11.83	Concrete	5	32	38	48	50	75.05	75.55	75.75	76.08	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
82	194+71	9.31	Concrete	9.31	Concrete	5	32	38	48	50	75.2	75.7	75.9	76.24	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
83	195+25	12.86	Concrete	12.86	Concrete	5	32	38	48	50	75.32	75.82	76.02	76.35	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
84	195+15	9.74	Concrete	9.74	Concrete	5	32	38	48	50	75.34	75.84	76.04	76.37	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL

No.	DATE	REVISIONS	APP.

NOTES:

1. REFER TO CONCRETE & DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION.
2. ELEVATION AT POINT "D" IS (+/-) AS SHOWN IN DRIVEWAY TABLE. MATCH EXIST ELEVATION AT ROW.
3. REFER TO PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. 4"/FT MAXIMUM IS OVER A DISTANCE OF 1'-6". IF DISTANCE FROM A TO B IS GREATER THAN 1'-6", MAXIMUM SLOPE IS 12%.

Texas Department of Transportation ©2026

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Texas
125611
3/13/2026
Date
95% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRIVEWAY TABULATION DETAILS

SHEET 1 OF 3

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 335 OF 1067

FOR CITY OF HOUSTON USE ONLY

Plotted on: 3/13/2026 12:33:30 AM BY USER$
Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\W GULF BANK\PR DRIVEWAY TAB 01.dgn

DRIVEWAY NO.	DRIVEWAY CL STATION	EXIST DRWY WIDTH (ft)	EXIST DRWY MATERIAL	PROP DRWY WIDTH (ft)	PROP DRWY MATERIAL	PROP RADIUS (ft)	OFFSET *				ELEVATION				Slope			DRIVEWAY CONCRETE THICKNESS	SIDEWALK WIDTH THRU DRIVEWAY	DRIVEWAY TYPE
							POINT "A"	POINT "B"	POINT "C"	POINT "D"	POINT "A"	POINT "B"	POINT "C"	POINT "D"	A-B	B-C	C-D			
85	195+33	11.92	Concrete	11.92	Concrete	5	32	38	48	50	75.35	75.85	76.05	76.38	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
86	195+92	10.13	Concrete	10.13	Concrete	5	32	38	48	50	75.57	76.07	76.27	76.6	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
87	195+92	17.71	Concrete	17.71	Concrete	5	32	38	48	50	75.55	76.05	76.25	76.59	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
88	196+25	13.57	Concrete	13.57	Concrete	5	32	38	48	50	75.53	76.03	76.23	76.56	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
89	196+67	8.78	Concrete	8.78	Concrete	5	32	38	48	50	75.34	75.84	76.04	76.37	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
90	196+86	12.02	Concrete	12.02	Concrete	5	32	38	48	50	75.33	75.83	76.03	76.36	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
91	197+35	9.85	Concrete	9.85	Concrete	5	32	38	48	50	75.06	75.56	75.76	76.1	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
92	197+35	9.95	Concrete	9.95	Concrete	5	32	38	48	50	75.17	75.67	75.87	76.2	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
93	197+53	10.05	Concrete	10.05	Concrete	5	32	38	48	50	74.99	75.49	75.69	76.02	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
94	198+15	9.48	Concrete	9.48	Concrete	5	32	38	48	50	74.97	75.47	75.67	76.01	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
95	198+25	15.32	Concrete	15.32	Concrete	5	32	38	48	50	74.84	75.34	75.54	75.87	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
96	198+41	10.05	Concrete	10.05	Concrete	5	32	38	48	50	75.05	75.55	75.75	76.09	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
97	198+78	9.32	Concrete	9.32	Concrete	5	32	38	48	50	75	75.5	75.7	76.03	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
98	198+78	17	Concrete	17	Concrete	5	32	38	48	50	75.17	75.67	75.87	76.2	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
99	199+00	14.09	Concrete	14.09	Concrete	5	32	38	48	50	75.07	75.56	75.76	76.1	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
100	199+45	11.38	Concrete	11.38	Concrete	5	32	38	48	50	75.38	75.88	76.08	76.41	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
101	199+12	9.86	Concrete	9.86	Concrete	5	32	38	48	50	75.1	75.6	75.8	76.13	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
102	199+64	15.5	Concrete	15.5	Concrete	5	32	38	48	50	75.44	75.94	76.14	76.47	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
103	199+64	9.7	Concrete	9.7	Concrete	5	32	38	48	50	75.26	75.76	75.96	76.29	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
104	200+09	10.27	Concrete	10.27	Concrete	4	32	38	48	50	75.58	76.08	76.28	76.61	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
105	199+90	14.68	Concrete	14.68	Concrete	3	32	38	48	50	75.34	75.83	76.03	76.37	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
106	200+49	8.89	Concrete	8.89	Concrete	5	32	38	48	50	75.7	76.2	76.4	76.73	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
107	200+83	9.07	Concrete	9.07	Concrete	5	32	38	48	50	75.61	76.11	76.31	76.65	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
108	201+46	13.84	Concrete	13.84	Concrete	5	32	38	48	50	75.8	76.3	76.5	76.84	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
109	201+39	21.09	Gravel	21.09	Concrete	5	32	38	48	50	75.98	76.48	76.68	77.01	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
110	201+89	13.27	Gravel	13.27	Concrete	5	32	38	48	50	76.13	76.63	76.83	77.17	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
111	202+09	17.51	Concrete	17.51	Concrete	5	32	38	48	50	75.99	76.49	76.69	77.03	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
112	202+25	9.79	Concrete	9.79	Concrete	5	32	38	48	50	76.25	76.74	76.94	77.28	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
113	202+54	17.95	Concrete	17.95	Concrete	5	32	38	48	50	76.34	76.83	77.03	77.37	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
114	202+92	10.31	Concrete	10.31	Concrete	5	32	38	48	50	76.24	76.74	76.94	77.27	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
115	202+50	18.59	Concrete	18.59	Concrete	5	32	38	48	50	76.32	76.82	77.02	77.36	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
116	202+92	12.07	Concrete	12.07	Concrete	5	32	38	48	50	76.24	76.74	76.94	77.27	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
117	203+12	21.84	Concrete	21.84	Concrete	5	32	38	48	50	76.51	77.01	77.21	77.55	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
118	203+50	11.31	Concrete	11.31	Concrete	5	32	38	48	50	76.28	76.78	76.98	77.31	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
119	203+70	15.42	Concrete	15.42	Concrete	5	32	38	48	50	76.4	76.9	77.1	77.43	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
120	204+25	10.06	Concrete	10.06	Concrete	5	32	38	48	50	76.03	76.53	76.73	77.06	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
121	203+80	11.12	Concrete	11.12	Concrete	5	32	38	48	50	76.36	76.86	77.06	77.4	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
122	204+32	13.04	Concrete	13.04	Concrete	5	32	38	48	50	76.01	76.51	76.71	77.04	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
123	204+53	9.86	Concrete	9.86	Concrete	5	32	38	48	50	75.94	76.44	76.64	76.97	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
124	204+90	11.87	Concrete	11.87	Concrete	5	32	38	48	50	75.97	76.47	76.67	77	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
125	205+31	17.48	Concrete	17.48	Concrete	5	32	38	48	50	75.83	76.32	76.52	76.86	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
126	205+75	21.72	Concrete	21.72	Concrete	5	32	38	48	50	76.11	76.61	76.81	77.14	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
127	206+42	19.5	Concrete	19.5	Concrete	5	32	38	48	50	76.31	76.81	77.01	77.34	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
128	206+42	9.5	Concrete	9.5	Concrete	5	32	38	48	50	76.16	76.66	76.86	77.19	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
129	206+77	11.75	Concrete	11.75	Concrete	5	32	38	48	50	76.41	76.91	77.11	77.45	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
130	206+65	9.37	Concrete	9.37	Concrete	5	32	38	48	50	76.23	76.73	76.93	77.26	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
131	207+39	11.09	Concrete	11.09	Concrete	5	32	38	48	50	76.45	76.95	77.15	77.48	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
132	207+52	9.69	Concrete	9.69	Concrete	5	32	38	48	50	76.64	77.14	77.34	77.67	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
133	208+51	9.85	Concrete	9.85	Concrete	5	32	38	48	50	76.79	77.28	77.48	77.82	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
134	208+70	15.58	Concrete	15.58	Concrete	5	32	38	48	50	76.99	77.49	77.69	78.03	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
135	209+17	19.58	Concrete	19.58	Concrete	5	32	38	48	50	76.9	77.4	77.6	77.93	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
136	209+17	17.21	Concrete	17.21	Concrete	5	32	38	48	50	76.76	77.26	77.46	77.79	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
137	211+55	13.01	Concrete	13.01	Concrete	5	32	38	48	50	76.86	77.35	77.55	77.89	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
138	211+55	40.04	Concrete	40.04	Concrete	10	32	38	48	50	76.98	77.47	77.67	78.01	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
139	212+17	29.52	Asphalt	29.52	Concrete	15	32	38	48	50	77.16	77.66	77.86	78.19	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
140	212+17	12.79	Concrete	12.79	Concrete	5	32	38	48	50	77.04	77.54	77.74	78.07	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
141	212+73	25.47	Concrete	25.47	Concrete	5	32	38	48	50	77.21	77.71	77.91	78.24	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
142	213+58	10.35	Concrete	10.35	Concrete	5	32	38	48	50	77.46	77.96	78.16	78.5	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
143	214+48	18.77	Asphalt	18.77	Concrete	5	32	38	48	50	77.73	78.23	78.43	78.77	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
144	214+48	30	Concrete	30	Concrete	10	32	38	48	50	77.85	78.35	78.55	78.89	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
145	215+39	10.78	Concrete	10.78	Concrete	5	32	38	48	50	78.01	78.51	78.71	79.04	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
146	215+92	9.28	Concrete	9.28	Concrete	5	32	38	48	50	78.17	78.67	78.87	79.2	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
147	216+30	21.59	Asphalt	21.59	Concrete	5	32	38	48	50	78.4	78.9	79.1	79.43	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
148	216+73	9.21	Concrete	9.21	Concrete	5	32	38	48	50	78.41	78.91	79.11	79.44	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
149	216+87	10.06	Concrete	10.06	Concrete	5	32	38	48	50	78.45	78.95	79.15	79.48	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
150	217+25	10.67	Concrete	10.67	Concrete	3	32	38	48	50	78.44	78.94	79.14	79.47	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
151	219+62	16.71	Concrete	16.71	Concrete	5	32	38	48	50	77.9	78.4	78.6	78.93	8.33%	2.00%	16.66%	7" CONC	10.0 ft	RESIDENTIAL
152	220+86	29.43	Concrete	29.43	Concrete	5	32	38	48	50	78.27	78.77	78.97	79.3	8.33%	2.00%	16.66%	7" CONC	10.0 ft	COMMERCIAL
153	221+60	34.21	Concrete	34.21	Concrete	10'	32.00	38.00	48.00	50.00	0.00	0.50	0.70	1.03	8.33%	2.0%	16.66%	7" CONC	10'	COMMERCIAL
154	222+37	34.80	Concrete	34.80	Concrete	10'	32.00	38.00	48.00	50.00	79.13	79.22	79.42	79.38	1.50%	2.00%	-2.0%	7" CONC	10'	COMMERCIAL
155	224+25	35.50	Concrete	35.50	Concrete	10'	32.00	38.00	48.00	50.00	79.37	79.52	79.72	79.73	2.50%	2.00%	0.5%	7" CONC	10'	COMMERCIAL
156	224+25	35.00	Concrete	35.00	Concrete	10'	32.00	38.00	48.00	50.00	79.37	79.76	79.96	80.15	6.50%	2.00%	9.5%	7" CONC	10'	COMMERCIAL
157	224+98	34.90	Concrete	34.90	Concrete	10.5	32.00	38.00	48.00	53.00	79.89	80.37	80.57	81.02	8.00%	2.00%	9.0%	7" CONC	10'	COMMERCIAL
158	225+01	35.70	Concrete	35.70	Concrete	10'	32.00	38.00	48.00	50.00	79.89	80.25	80.45	80.48	6.00%	2.00%	1.5%	7" CONC	10'	COMMERCIAL
159	225+33.46		Conc. Pvm	15	Conc. Pvmt	L=5'/R=15'	32	36.5	46.5	49.94	80.11	80.56	80.66	81.02	10.00%	1.00%	10.50%	10"	10'	COMMERCIAL
160	225+76.00		Conc. Pvm	35.5	Conc. Pvmt	L=15'/R=9'	32	38	48	50.1	80.4	80.46	80.66	80.87	1.00%	2.00%	10.00%	10"	10'	COMMERCIAL
161	225+74.10		Conc. Pvm	10	Conc. Pvmt	L=15'/R=8'	32	38	48	49.93	80.39	80.75	80.95	81.16	6.00%	2.00%	10.90%	10"	10'	HCMUD 118 PVT LIFT STATION ACCESS
162	226+17.01		Conc. Pvm	35	Conc. Pvmt	L=8'/R=15'	32	38	48	50	80.64	81.18	81.38	81.54	9.00%	2.00%	8.00%	10"	10'	COMMERCIAL
163	226+31.52		Conc. Pvm	35.8	Conc. Pvmt	L=10'/R=15'	32	38	48	50.15	80.79	81	81.2	81.41	3.50%	2.00%	9.80%	10"	10'	COMMERCIAL
164	227+60.03		Conc. Pvm	27.7	Conc. Pvmt	12'	32	38	48	57.5	81.62	82.22	82.42	82.64	10.00%	2.00%	2.30%	10"	10'	COMMERCIAL
165	227+77.00		Conc. Pvm	35.9	Conc. Pvmt	15'	32	36.5	46.5	50.16	81.57	81.82	82.02	82.33	5.50%	2.00%	8.50%	10"	10'	COMMERCIAL
166	228+68.43		Conc. Pvm	23.9	Conc. Pvmt	15'	32	38	48	52	81.82	82.42	82.62	83.04	10.00%	2.00%	10.50%	10"	10'	COMMERCIAL
167	229+13.01		Conc. Pvm	35.6	Conc. Pvmt	15'	32	38	48	50.16	81.72	81.84	82.04	82.2	2.00%	2.00%	7.40%	10"	10'	COMMERCIAL
168	229+18.46		Conc. Pvm	25	Conc. Pvmt	L=10'/R=15'	32	38	48	49.88	82.04	82.55	82.75	82.93	8.50%	2.00%	9.60%	10"	10'	COMMERCIAL
169	230+35.62		Conc. Pvm	34.7	Conc. Pvmt	15'	32	38	48	50	82.55	82.88	83.08	83.14	5.50%	2.00%	3.00%	10"	10'	COMMERCIAL

NOTES:

1. REFER TO CONCRETE & DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION.
2. ELEVATION AT POINT "D" IS (+/-) AS SHOWN IN DRIVEWAY TABLE. MATCH EXIST ELEVATION AT ROW.
3. REFER TO PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. 4"/FT MAXIMUM IS OVER A DISTANCE OF 1'-6". IF DISTANCE FROM A TO B IS GREATER THAN 1'-6", MAXIMUM SLOPE IS 12%.

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Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas 125611
3/13/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRIVEWAY TABULATION DETAILS

SHEET 2 OF 3

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 336 OF 1067

FOR CITY OF HOUSTON USE ONLY

No.	DATE	REVISIONS	APP.

Plotted on: 3/13/2026 12:33:32 AM\$USER\$
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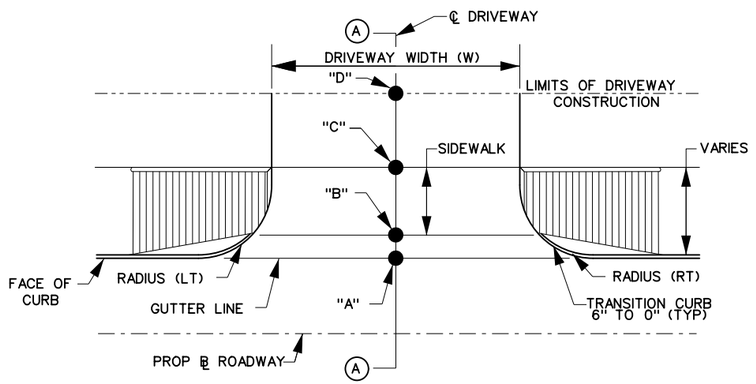
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\W GULF BANK\PR DRIVEWAY TAB 02.dgn

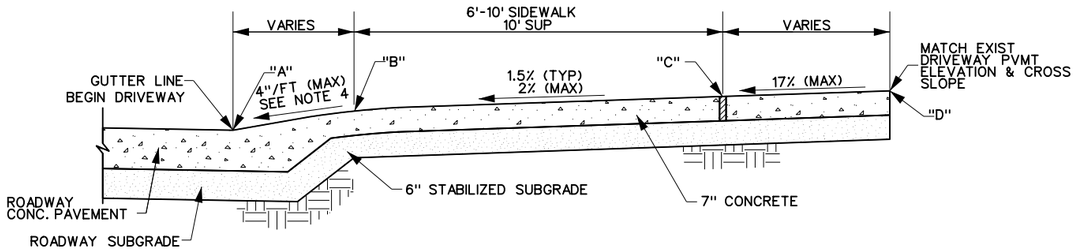
DRIVEWAY NO.	DRIVEWAY CL STATION	EXIST DRWY WIDTH (ft)	EXIST DRWY MATERIAL	PROP DRWY WIDTH (ft)	PROP DRWY MATERIAL	PROP RADIUS (ft)	OFFSET *				ELEVATION				Slope			DRIVEWAY CONCRETE THICKNESS	SIDEWALK WIDTH THRU DRIVEWAY	DRIVEWAY TYPE
							POINT "A"	POINT "B"	POINT "C"	POINT "D"	POINT "A"	POINT "B"	POINT "C"	POINT "D"	A-B	B-C	C-D			
170	231+29.91		Conc. Pvm	29.6	Conc. Pvm†	12′	32	38	48	49.86	82.83	82.89	83.09	83.14	1.00%	2.00%	2.70%	10"	10′	COMMERCIAL
171	232+34.29		Conc. Pvm	36	Conc. Pvm†	15′	32	38	48	50.31	82.64	82.7	82.75	82.69	1.00%	0.50%	-2.60%	10"	10′	COMMERCIAL
172	233+51.80		Conc. Pvm	24	Conc. Pvm†	15′	32	36	46	50.06	82.47	82.77	82.97	83.34	7.50%	2.00%	9.10%	10"	10′	COMMERCIAL
173	234+51.97		Conc. Pvm	30.4	Conc. Pvm†	15′	32	38	48	49.91	82.77	83.22	83.42	83.61	7.50%	2.00%	9.90%	10"	10′	COMMERCIAL
174	234+77.13		Conc. Pvm	20.3	Conc. Pvm†	15′	32	38	48	51.98	82.85	82.97	83.07	83.16	2.00%	1.00%	2.30%	10"	10′	COMMERCIAL
175	235+85.50		Conc. Pvm	25.6	Conc. Pvm†	L=8′/R=10′	32	37	47	52.66	82.63	83.08	83.28	83.74	9.00%	2.00%	8.10%	10"	10′	COMMERCIAL
176	236+32.47		Conc. Pvm	19.3	Conc. Pvm†	L=9′/R=8′	32	38	48	52.3	82.85	82.97	83.17	83.44	2.00%	2.00%	6.30%	10"	10′	COMMERCIAL
177	237+74.40		Conc. Pvm	25.5	Conc. Pvm†	L=15′/R=10′	32	38	48	49.73	83.4	83.91	84.11	84.29	8.50%	2.00%	10.40%	10"	10′	COMMERCIAL
178	238+87.27		Conc. Pvm	30.1	Conc. Pvm†	15′	32	38	48	53	83.6	84.2	84.4	84.89	10.00%	2.00%	9.80%	10"	10′	COMMERCIAL
179	239+65.42		Conc. Pvm	24.9	Conc. Pvm†	L=15′/R=10′	32	38	48	51.84	83.84	84.44	84.64	84.95	10.00%	2.00%	8.10%	10"	10′	COMMERCIAL
180	242+14.69		Conc. Pvm	34.7	Conc. Pvm†	L=15′/R=10′	32	38	48	51.3	84.85	85.45	85.65	85.99	10.00%	2.00%	10.30%	10"	10′	COMMERCIAL
181	243+24.90		Conc. Pvm	35.5	Conc. Pvm†	L=10′/R=5′	32	38	48	49.8	85.46	85.94	86.14	86.2	8.00%	2.00%	3.30%	10"	10′	COMMERCIAL
182	243+25.72		Conc. Pvm	34.9	Conc. Pvm†	15′	32	38	48	50.2	85.46	85.82	86.02	86.25	6.00%	2.00%	10.50%	10"	10′	COMMERCIAL
183	244+82.52		Conc. Pvm	34.9	Conc. Pvm†	15′	32	38	48	54.77	85.52	85.64	85.84	86.19	2.00%	2.00%	5.20%	10"	10′	COMMERCIAL
184	245+60.00		Conc. Pvm	25.4	Conc. Pvm†	15′	32	38	48	51.14	85.23	85.83	86.03	86.28	10.00%	2.00%	8.00%	10"	10′	COMMERCIAL
185	245+92.44		Conc. Pvm	36.2	Conc. Pvm†	15′	32	38	48	49.86	85.11	85.41	85.61	85.74	5.00%	2.00%	7.00%	10"	10′	COMMERCIAL
186	246+14.81		Conc. Pvm	24.2	Conc. Pvm†	15′	32	38	48	52.5	85.03	85.63	85.83	86.28	10.00%	2.00%	10.00%	10"	10′	COMMERCIAL
187	247+33.74		Conc. Pvm	28.12	Conc. Pvm†	20′	32	38	48	52.93	85.17	85.56	85.76	86.27	6.50%	2.00%	10.30%	10"	10′	PVT RESIDENTIAL
188	250+21.29		Conc. Pvm	15.2	Conc. Pvm†	L=15′/R=10′	32	38	48	54.5	85.07	85.67	85.87	86.54	10.00%	2.00%	10.30%	10"	10′	HCMUD 119 PVT WWTF ACCESS
189	250+45.26		Conc. Pvm	35.1	Conc. Pvm†	15′	32	38	48	49.96	86.14	86.56	86.76	86.97	7.00%	2.00%	10.70%	10"	10′	RESIDENTAL/APPARTMENT
190	252+03.77		Conc. Pvm	27.8	Conc. Pvm†	15′	32	38	48	51.5	85.48	86.08	86.28	86.6	10.00%	2.00%	9.10%	10"	10′	COMMERCIAL
191	253+53.24		Conc. Pvm	35.7	Conc. Pvm†	15′	32	38	48	51	85.64	86.24	86.44	86.69	10.00%	2.00%	8.30%	10"	10′	RESIDENTAL/APPARTMENT
192	256+15.30		Conc. Pvm	41.3	Conc. Pvm†	15′	32	38	48	50.06	85.58	85.94	86.14	86.35	6.00%	2.00%	10.20%	10"	10′	COMMERCIAL
193	257+07.19		Conc. Pvm	40.9	Conc. Pvm†	12′	32	38	48	49.93	85.17	85.8	86	86.19	10.50%	2.00%	9.80%	10"	10′	COMMERCIAL
194	258+60.79		Conc. Pvm	36	Conc. Pvm†	15′	32	38	48	49.94	85.34	85.46	85.66	85.8	2.00%	2.00%	7.20%	10"	10′	COMMERCIAL
195	259+43.58		Conc. Pvm	24.9	Conc. Pvm†	10′	32	38	48	59	85.71	86.31	86.51	87.9	10.00%	2.00%	12.60%	10"	10′	COMMERCIAL
196	259+99.73		Conc. Pvm	25	Conc. Pvm†	8′	32	38	48	49.95	85.76	86.12	86.32	86.51	6.00%	2.00%	9.70%	10"	10′	COMMERCIAL
197	260+43.46		Conc. Pvm	20	Conc. Pvm†	15′	32	38	48	49.97	85.89	86.37	86.57	86.7	8.00%	2.00%	6.60%	10"	10′	COMMERCIAL
198	260+79.90		Conc. Pvm	36	Conc. Pvm†	15′	32	38	48	53.1	86	86.6	86.8	87.29	10.00%	2.00%	9.60%	10"	10′	COMMERCIAL
199	261+01.34		Conc. Pvm	19.8	Conc. Pvm†	L=10′/R=3′	32	38	48	50.02	86.07	86.58	86.78	87	8.50%	2.00%	10.90%	10"	10′	COMMERCIAL
200	261+27.17		Conc. Pvm	21.2	Conc. Pvm†	L=3′/R=15′	32	38	48	49.94	86.14	86.35	86.55	86.75	3.50%	2.00%	10.30%	10"	10′	COMMERCIAL
201	261+72.03		Conc. Pvm	35.1	Conc. Pvm†	15′	32	38	48	50.12	86.11	86.56	86.76	86.97	7.50%	2.00%	9.90%	10"	10′	COMMERCIAL
202	262+22.21		Conc. Pvm	32.4	Conc. Pvm†	15′	32	38	48	49.84	85.86	86.37	86.57	86.75	8.50%	2.00%	9.80%	10"	10′	COMMERCIAL
203	262+64.54		Conc. Pvm	35.1	Conc. Pvm†	15′	32	38	48	50.13	85.66	85.99	86.19	86.41	5.50%	2.00%	10.30%	10"	10′	COMMERCIAL
204	262+98.72		Conc. Pvm	26.3	Conc. Pvm†	15′	32	38	48	52.9	85.49	86.09	86.29	86.83	10.00%	2.00%	11.00%	10"	10′	COMMERCIAL
205	265+81.97		Conc. Pvm	35.8	Conc. Pvm†	15′	32.41	42	48	49.47	85.95	86.86	86.98	87.12	9.50%	2.00%	9.50%	10"	10′	COMMERCIAL
206	266+99.79		Conc. Pvm	31.8	Conc. Pvm†	10′	36.18	42	48	50.11	86.32	86.44	86.56	86.77	2.00%	2.00%	10.10%	10"	10′	COMMERCIAL
207	267+41.02		Conc. Pvm	31	Conc. Pvm†	10′	38.77	44	48	56	86.65	87.17	87.25	88.1	10.00%	2.00%	10.60%	10"	10′	COMMERCIAL
208	267+85.11		Conc. Pvm	19.7	Conc. Pvm†	10′	39.45	44	48	56	86.85	87.31	87.39	88.2	10.00%	2.00%	10.20%	10"	10′	COMMERCIAL

NOTES:

1. REFER TO CONCRETE & DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION.
2. ELEVATION AT POINT "D" IS (+/-) AS SHOWN IN DRIVEWAY TABLE. MATCH EXIST ELEVATION AT ROW.
3. REFER TO PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. 4"/FT MAXIMUM IS OVER A DISTANCE OF 1′-6". IF DISTANCE FROM A TO B IS GREATER THAN 1′-6", MAXIMUM SLOPE IS 12%.



TYPICAL DRIVEWAY LAYOUT
N.T.S



SECTION A
TYPICAL DRIVEWAY SECTION
N.T.S

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRIVEWAY TABULATION DETAILS

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 337 OF 1067	

No.	DATE	REVISIONS	APP:

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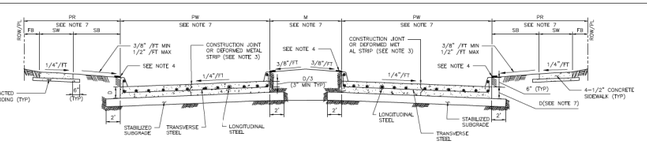
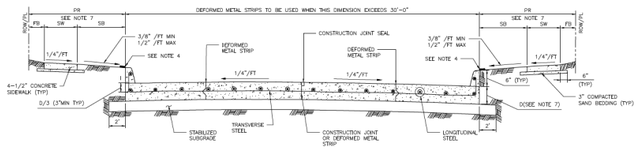


TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

NOTES:

1. THE MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 15'-0".
2. ALL EARTHEN AREAS ARE TO BE HYDROMULCHED UNLESS SHOWN OTHERWISE ON DRAWINGS.
3. CONTRACTOR MAY SAW CUT IN LIEU OF DEFORMED METAL STRIP.
4. USE STRIP OF SOD GRASS TO PREVENT EROSION UNTIL STAND OF GRASS IS ESTABLISHED.
5. AN EQUAL OR LARGER AREA OF WELDED REINFORCEMENT BAR CONFORMING TO ASTM A497, MAY BE SUBSTITUTED FOR REBARS LISTED IN TABLE 1.
6. IF AVAILABLE ROW IS NOT SUFFICIENT TO ACCOMMODATE SIDEWALK WIDTH (SW) ACCORDING TO ESM REQUIREMENTS, ENGINEER SHALL OBTAIN A VARIANCE FROM THE CITY ENGINEER.
7. REFER TO CONTRACT DRAWINGS FOR PAVEMENT WIDTH (PW) AND PAVEMENT THICKNESS (D), MEDIAN (M), PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

TABLE 1

REINFORCING STEEL BAR SIZES AND SPACINGS FOR VARIOUS PAVEMENT THICKNESSES (D) WITH: MAXIMUM TRANSVERSE CONTROL JOINT SPACING = 20'-0"
MAXIMUM EXPANSION JOINT SPACING = 80'-0"
f'c = 4,000 PSI/28 DAYS AND FY = 60,000 PSI

PAVEMENT THICKNESS 'D' (IN)	PAVEMENT WIDTH 'PW' (FT)	LONGITUDINAL STEEL									TRAVERSE STEEL		
		#4 BARS			#5 BARS			#6 BARS			#4 BARS	#5 BARS	#6 BARS
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	SPACING (IN)	SPACING (IN)	SPACING (IN)
6	28	17	20.50	4.00	–	–	–	–	–	–	36	–	–
7	25	17	18.25	4.00	–	–	–	–	–	–	36	–	–
7	35	24	18.00	3.00	–	–	–	–	–	–	36	–	–
7	36	25	17.75	3.00	–	–	–	–	–	–	36	–	–
7	37	25	18.25	3.00	–	–	–	–	–	–	36	–	–
7	41	28	18.00	3.00	–	–	–	–	–	–	36	–	–
7	45	31	17.75	3.75	–	–	–	–	–	–	36	–	–
8	25	20	15.50	2.75	13	24.50	3.0	–	–	–	36	36	–
8	34	27	15.50	2.50	17	25.00	4.0	–	–	–	36	36	–
8	35	27	16.00	2.00	18	24.25	4.0	–	–	–	36	36	–
8	36	28	15.75	3.25	18	25.00	3.0	–	–	–	30	36	–
8	44	24	15.75	4.00	22	24.75	4.0	–	–	–	30	36	–
8	45	35	15.75	2.25	23	24.25	3.0	–	–	–	30	36	–
9	25	22	14.00	3.00	14	22.50	4.0	–	–	–	36	36	–
9	34	31	13.50	2.00	19	22.25	3.5	–	–	–	30	36	–
9	35	31	13.75	3.75	20	21.75	3.5	–	–	–	30	36	–
9	36	32	13.75	3.00	21	21.25	3.5	–	–	–	30	36	–
9	44	39	13.75	2.75	25	21.75	3.0	–	–	–	24	36	–
9	45	39	14.00	4.00	26	21.25	4.5	–	–	–	24	36	–
10	25	24	12.75	3.50	17	18.25	4.0	–	–	–	36	36	36
10	34	33	12.50	4.00	21	20.00	4.0	–	–	–	30	36	36
10	35	34	12.50	3.75	23	18.75	4.0	–	–	–	30	36	36
10	36	35	12.50	3.50	24	18.50	3.0	–	–	–	30	36	36
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12	36	–	–	–	27	16.25	4.5	20	22.25	4.5	24	36	36
12	44	–	–	–	33	16.25	4.0	24	22.50	5	24	30	36
12	45	–	–	–	35	15.75	3.0	25	22.25	3	24	30	36

MINIMUM LAP LENGTH (L):
A. # 4 BARS : L = 22 INCHES
B. # 5 BARS : L = 27 INCHES
C. # 6 BARS : L = 32 INCHES

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02751-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONCRETE PAVEMENT DETAILS

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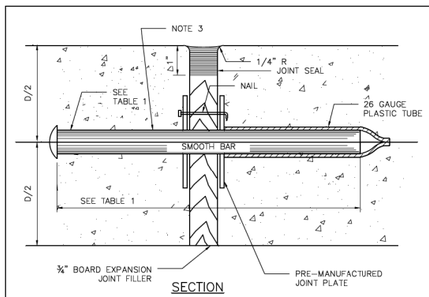
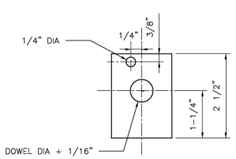


SECTION

DOWEL TYPE EXPANSION JOINT

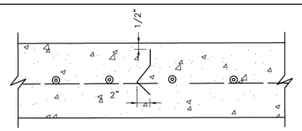
PLAN VIEW

JOINT PLATE



ELEVATION VIEW

JOINT PLATE



SECTION

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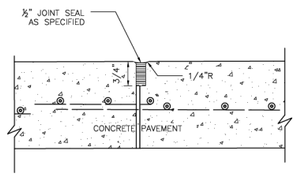

SECTION

CONSTRUCTION JOINT SEAL

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. UNITS TO BE SPACED 12" CENTER ON CENTER.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 3" MIN COVER.
5. CITY OF HOUSTON APPROVED PRODUCTS MAY BE USED AS JOINT PLATE ALTERNATIVE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER

CITY TRAFFIC ENGINEER

DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02752-01

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Date: 3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-2017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 1 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 338 OF 1067	

No.	DATE	REVISIONS	APP.

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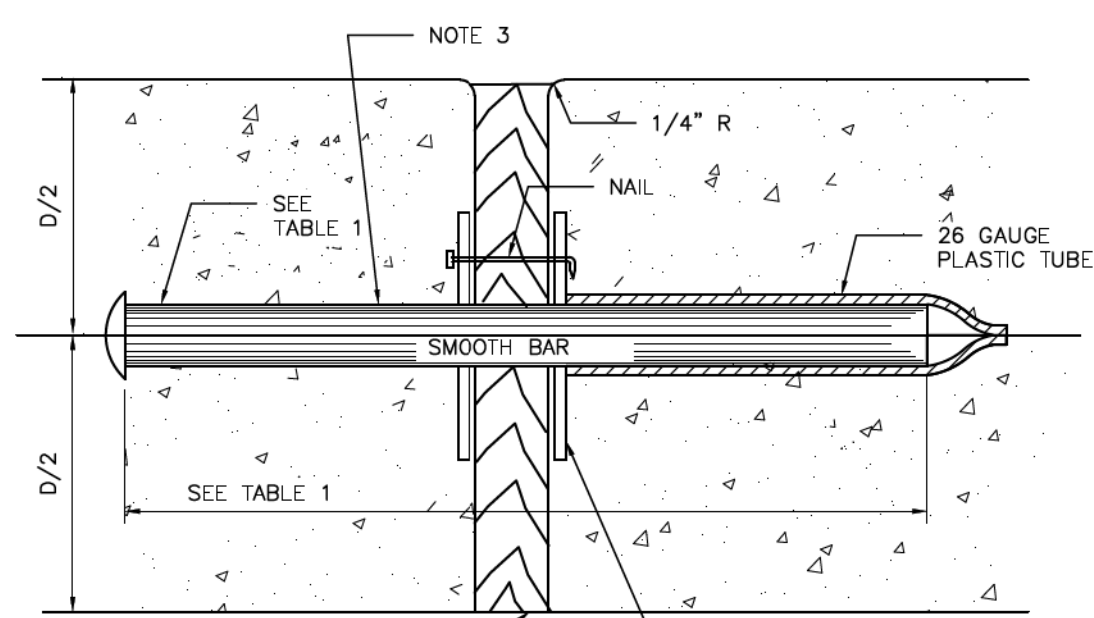
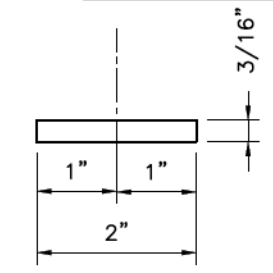


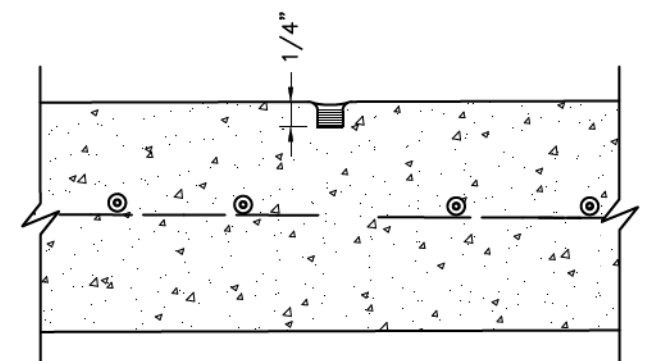
SECTION

DOWEL TYPE EXPANSION JOINT



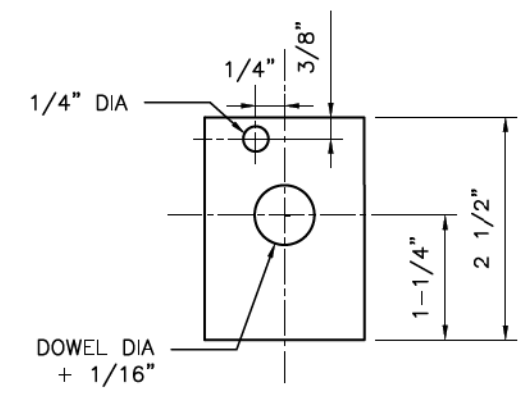
PLAN VIEW

JOINT PLATE



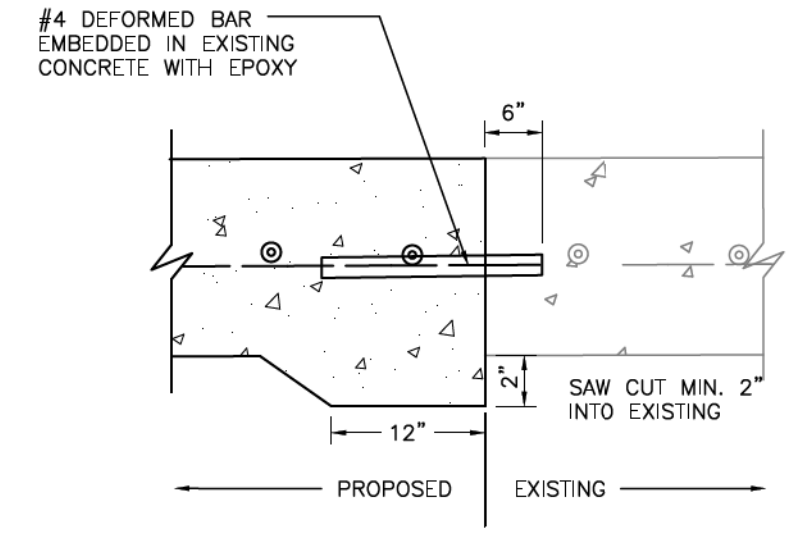
SECTION

CONTROL JOINT



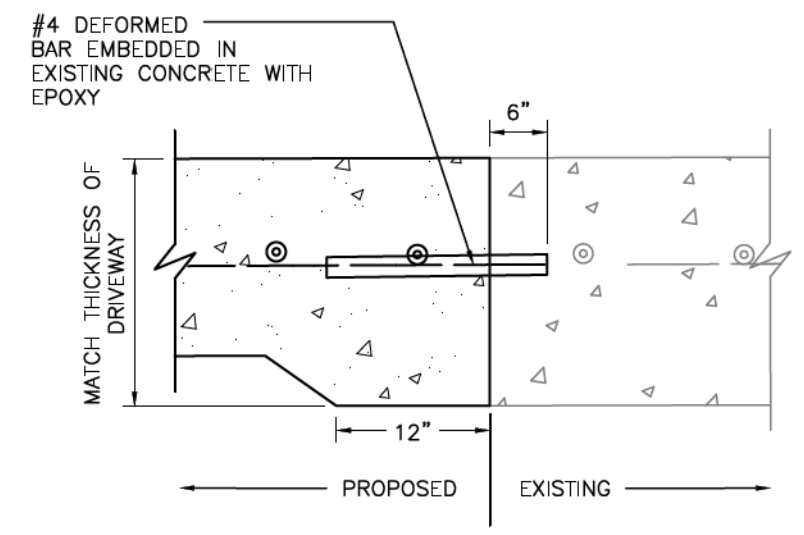
ELEVATION VIEW

JOINT PLATE



SECTION

SIDEWALK TO EXISTING SIDEWALK



SECTION

SIDEWALK TO EXISTING DRIVEWAY

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 3 FEET MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN A 2 INCH MINIMUM COVER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C641F5476...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02752-02

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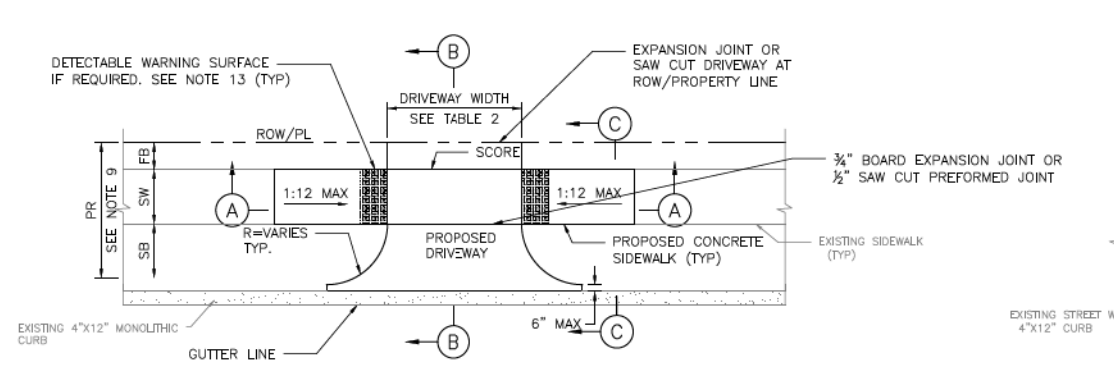
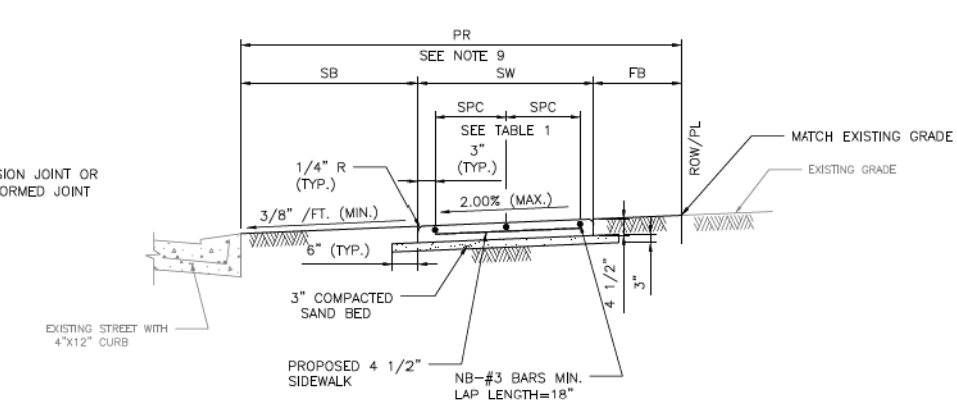
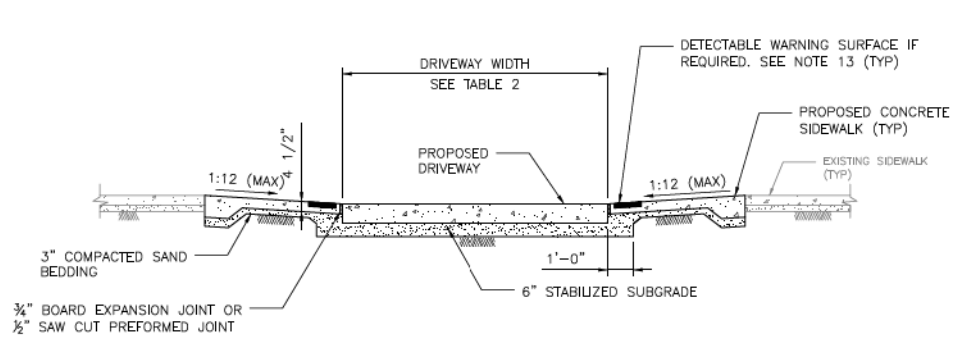


PLAN VIEW
DRIVEWAY



SECTION C-C
TYPICAL SIDEWALK SECTION

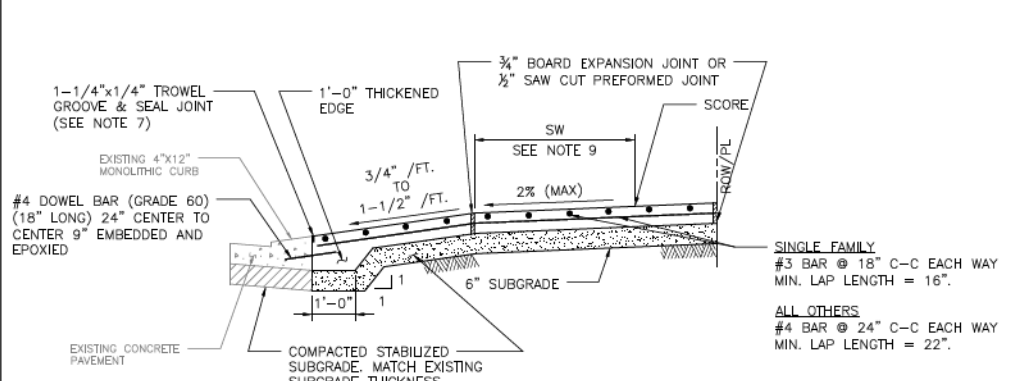


SECTION A-A
PROPOSED SIDEWALK, THROUGH DRIVEWAY WITH EXCESSIVE GRADES

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS: NO. OF BARS "NB"	SPACING "SPC" (IN)	END BAR SPACING (IN)	TRANSVERSE STEEL #3 BARS SPACING (IN)
4.5	5	3	27	3	48
4.5	6	4	22	3	48



SECTION B-B
TYPICAL DRIVEWAY SECTION

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) WIDTH (FT) MIN	WIDTH (FT) MAX	RADIUS (FT) MIN	RADIUS (FT) MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MIN	WIDTH (FT) MAX	RADIUS (FT) MIN	RADIUS (FT) MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MIN	WIDTH (FT) MAX	RADIUS (FT) MIN	RADIUS (FT) MAX
ONE-WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO-WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE-WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42-146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40-552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY: OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. IF AVAILABLE ROW IS NOT SUFFICIENT TO ACCOMMODATE SIDEWALK WIDTH (SW) ACCORDING TO IDM REQUIREMENTS, ENGINEER SHALL OBTAIN A VARIANCE FROM THE CITY ENGINEER.
4. DRIVEWAYS SHALL BE 6" THICK FOR SINGLE FAMILY OR DUPLEXES.
5. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE AND INCLUDE 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
6. THE OUTER DOWEL BARS ARE TO BE LOCATED 12" FROM END OF PROPOSED EDGE OF DRIVEWAY RETURN. EXTEND DOWEL 3" INCHES INTO PROPOSED DRIVEWAY AND BEND REMAINING BAR TO EXTEND TO RADIUS RETURN BOTH SIDES.
7. TROWEL GROOVE SEALANT SHALL BE LOW MODULUS SILICONE OR POLYURETHANE SEALANT.
8. ALL JOINTS ALONG THE SIDEWALK SHALL BE CONSTRUCTED ACCORDING TO DRAWING 02752-02 AND SPECIFICATION 02752.
9. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
10. CEMENT STABILIZED SAND 1.5 SACKS OF CEMENT PER TON OF DRY SAND.
11. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
12. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
13. DETECTABLE WARNING SURFACES:
   - 13.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
     - 13.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD OR TRAFFIC SIGNAL CONTROLLED; OR
     - 13.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
   - 13.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 13.3. REFER TO STANDARD DETAILS 02775-06 TO 02775-07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY: DocuSigned by: Suhail Kanwar — CITY ENGINEER
APPROVED BY: DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock — DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 02754-01A

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRIVEWAY DETAIL WITH 4"x12" CURB FOR LOCAL RESIDENTIAL STREETS

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Texas Department of Transportation

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11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Engineer
125611
3/12/2026
Date
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Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 2 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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SHEET NO. 339 OF 1067	

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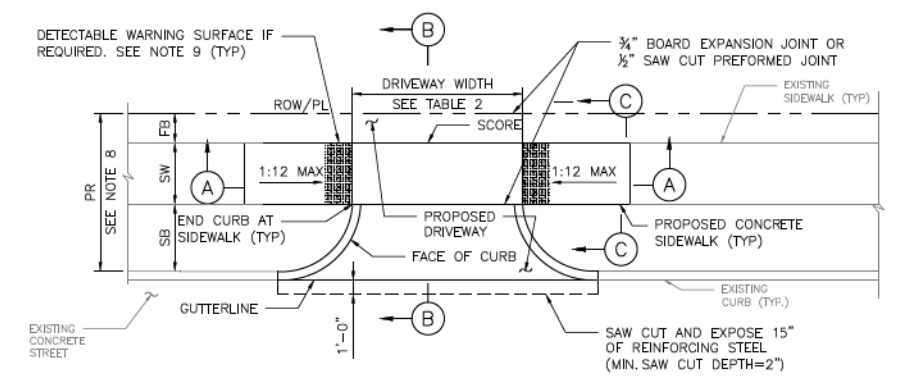
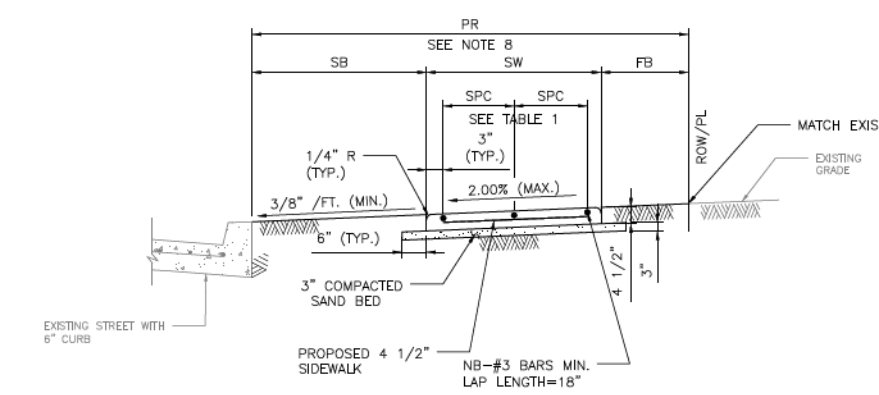
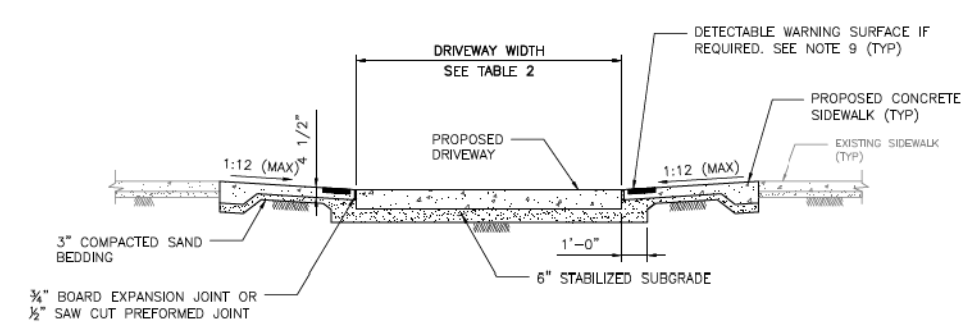


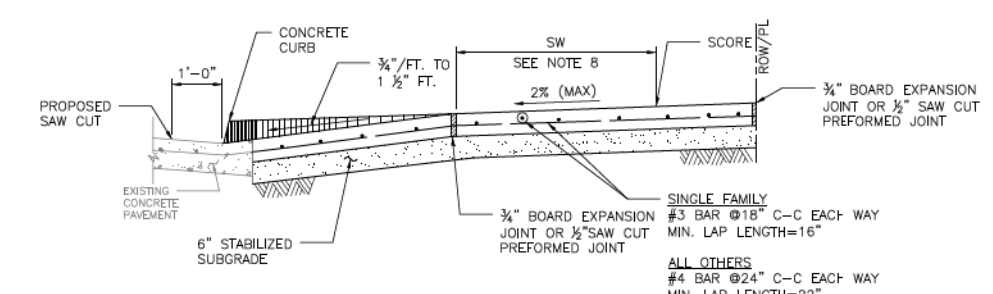
PLAN VIEW
DRIVEWAY



SECTION C-C
TYPICAL SIDEWALK SECTION



SECTION A-A
PROPOSED SIDEWALK THROUGH DRIVEWAY
WITH EXCESSIVE ELEVATION DIFFERENCE
WITH EXISTING SIDEWALK



SECTION B-B
TYPICAL DRIVEWAY SECTION

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS NO. OF BARS "NB"	SPACING "SPC" (IN)	END BAR SPACING (IN)	TRANSVERSE STEEL #3 BARS SPACING (IN)
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX
ONE-WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO-WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE-WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42-146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40-552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. ALL JOINTS ALONG THE SIDEWALK SHALL BE CONSTRUCTED ACCORDING TO DRAWING 02752-02 AND SPECIFICATION 02752.
4. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)
5. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE AND INCLUDE 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
6. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
7. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
8. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
9. DETECTABLE WARNING SURFACES:
   - 9.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
     - 9.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD, OR TRAFFIC SIGNAL CONTROLLED; OR
     - 9.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
   - 9.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 9.3. REFER TO STANDARD DETAILS 02775-06 TO 02775-07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY:	APPROVED BY:
Suhail Kanwar	KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02754-01B

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRIVEWAY DETAIL WITH 6" CURBED STREETS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

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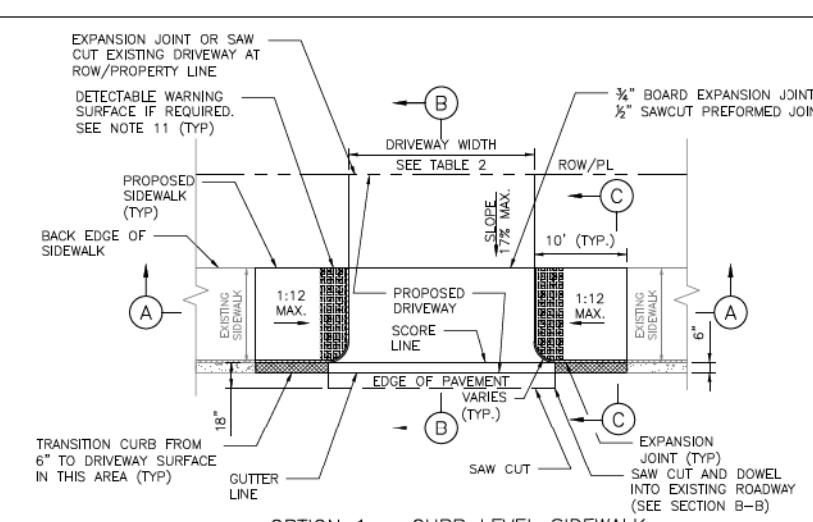
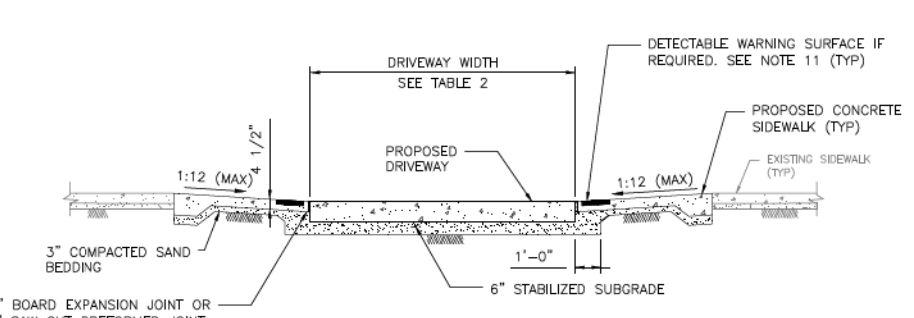
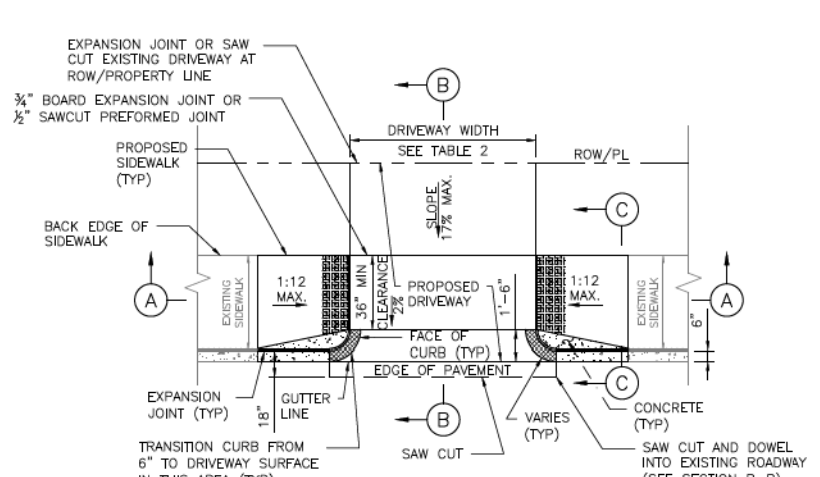


OPTION 1 - CURB LEVEL SIDEWALK
PLAN VIEW - DRIVEWAY WITHOUT CURB AT CURB RETURN



SECTION A-A
PROPOSED SIDEWALK THROUGH DRIVEWAY



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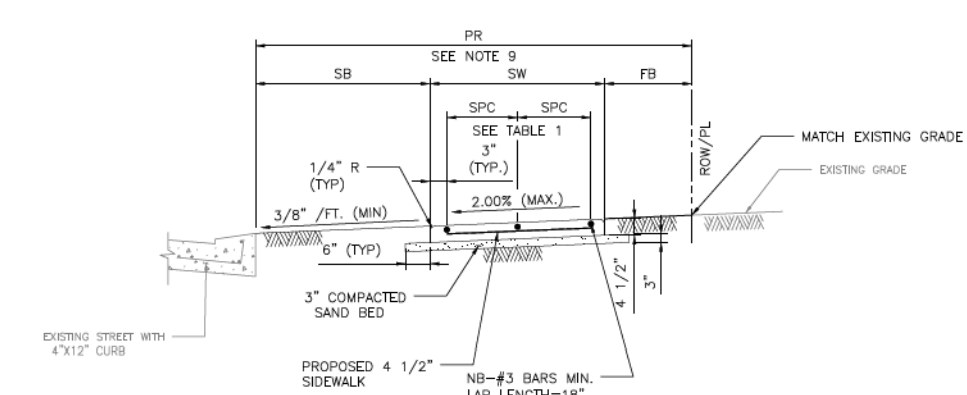
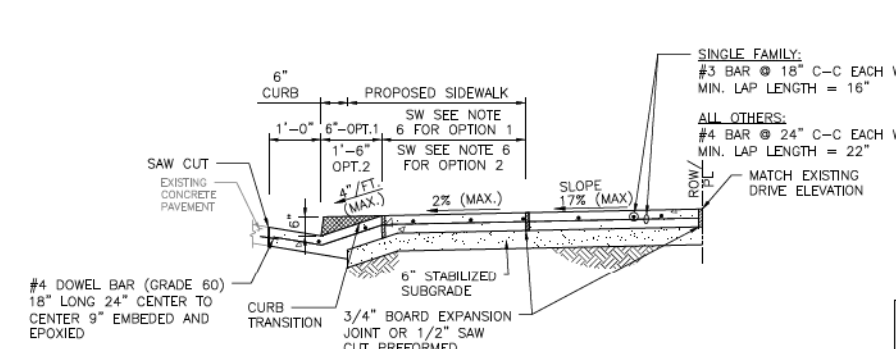
PLAN VIEW - DRIVEWAY WITH CURB AT CURB RETURN



SECTION C-C
TYPICAL SIDEWALK SECTION



SECTION B-B
TYPICAL DRIVEWAY SECTION THROUGH DRIVEWAY

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS NO. OF BARS "NB"	SPACING "SPC" (IN)	END BAR SPACING (IN)	TRANSVERSE STEEL #3 BARS SPACING (IN)
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MIN	MAX	RADIUS (FT) MIN	MAX
ONE-WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO-WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE-WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42-146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40-552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. PROPOSED SIDEWALKS THAT DO NOT FALL WITHIN THE SCOPE DEFINED IN NOTE 2 SHALL BE DESIGNED ACCORDING TO IDM REQUIREMENTS AND CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS.
4. DRIVEWAY WIDTH VARIES TO MATCH EXISTING DRIVE.
5. DRIVEWAY DETAIL TO PROVIDE FOR SIDEWALK TRANSITION FROM EXISTING BACK OF CURB TO PROPOSED DRIVEWAY EDGE.
6. DRIVEWAY WITH WIDTH >5' @ 2% CROSS SLOPE QUALIFIES AS PASSING SPACE. (SEE OPTION 1 AND OPTION 2 PLANS)
7. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBLITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
8. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
9. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
10. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)
11. DETECTABLE WARNING SURFACES:
   - 11.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
     - 11.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD OR TRAFFIC SIGNAL CONTROLLED; OR
     - 11.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
   - 11.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 11.3. REFER TO STANDARD DETAILS 02775-06 TO 02775-07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY:	APPROVED BY:
Suhail Kanwar	KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02754-03

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PROPOSED SIDEWALK THROUGH DRIVEWAY WITH EXCESSIVE ELEVATION DIFFERENCE

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Engineer
125611
3/12/2026
Date
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 3 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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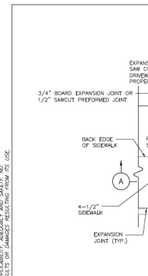
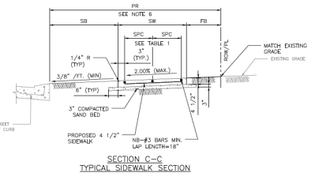
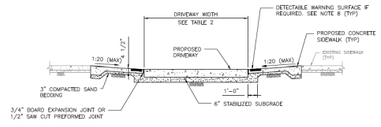




SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40-552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE APPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. PROPOSED SIDEWALKS THAT DO NOT FALL WITHIN THE SCOPE DEFINED IN NOTE 2 SHALL BE DESIGNED ACCORDING TO IDM REQUIREMENTS AND CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS.
4. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
5. CURB RAMPS THAT ARE STEEPER THAN A 1:20 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
6. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), HYDRAULIC BUFFER (HB), AND SAFETY BUFFER (SB) WIDTHS.
7. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)
8. DETECTABLE WARNING SURFACES:
   - 8.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD, OR TRAFFIC SIGNAL CONTROLLED.
   - 8.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 8.3. REFER TO STANDARD DETAILS 02775-06 TO 02775-07 FOR DETECTABLE WARNING SURFACE STANDARDS.

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½" THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
f_c' = 3,500 PSI AND f_y = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

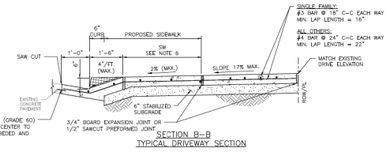
SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		NO. OF BARS "NB"	SPACING "SPAC" (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES)				TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY)				TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)			
	WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
ONE-WAY	10	12	4	10	12(3)	16(3)	4(3)	10(3)	15	20	10	20
TWO-WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLES 15.2.07.C.1.C.(1) AND 15.2.07.C.1.C.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE-WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42-146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.



SECTION B–B
TYPICAL DRIVEWAY SECTION

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02754-04

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PROPOSED SIDEWALK THROUGH DRIVEWAY WITH MINIMAL ELEVATION DIFFERENCE

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

No.	DATE	REVISIONS	APP.

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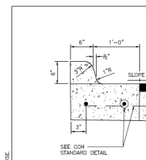
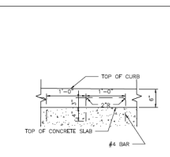
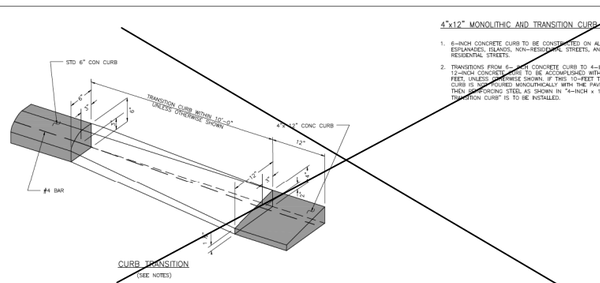


ESPLANADE CURB CONNECTED TO CONCRETE BASE



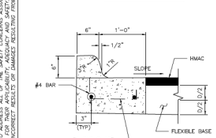
ALTERNATE CONCRETE CURB REINFORCEMENT



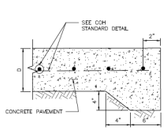
CURB TRANSITION
(SEE NOTES)

4"x12" MONOLITHIC AND TRANSITION CURB NOTES:

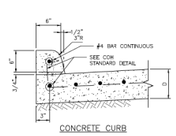
1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS, NON-RESIDENTIAL STREETS, AND RESIDENTIAL STREETS.
2. TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURBS TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF TWO 10-FEET TRANSITION CURB IS NOT REQUIRED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" IS TO BE INSTALLED.



ESPLANADE CURB CONNECTED TO FLEXIBLE BASE

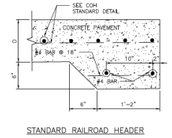


STANDARD CONCRETE PAVING HEADER

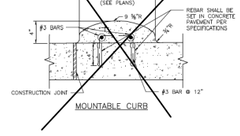


CONCRETE CURB

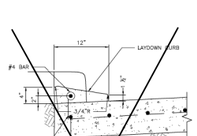
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 BAR @ 18±10" LONG, DOWELED AND SET IN EPOXY GROUT SET #4 DOWEL BARS, 25" LONG AT 12" C-C WHEN PAVEMENT SECTION POURED.



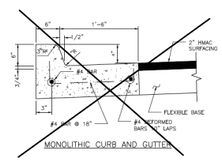
STANDARD RAILROAD HEADER



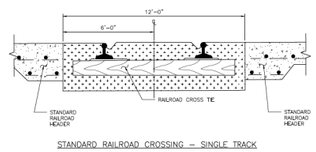
MOUNTABLE CURB



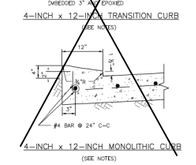
4-INCH x 12-INCH TRANSITION CURB
(SEE NOTES)



MONOLITHIC CURB AND GUTTER



STANDARD RAILROAD CROSSING – SINGLE TRACK



4-INCH x 12-INCH MONOLITHIC CURB
(SEE NOTES)

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02771-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CURB, CURB AND GUTTER AND HEADER DETAILS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Engineer
125611
Date
3/12/2026
For
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 4 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 341 OF 1067	

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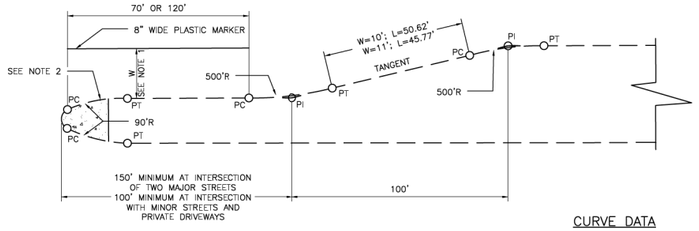
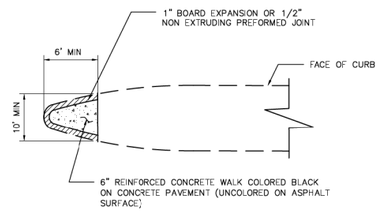


DETAIL OF LEFT TURN LANE

CURVE DATA

W=10' R=500' Δ = 5°42'38.14" L = 49.83' T=24.94'	W=11' R=500' Δ = 6°16'38.27" L = 54.78' T=27.42'



ESPLANADE NOSE

NOTES:

1. 10 FT FOR 80 FT ROW; 11 FT FOR 100 FT ROW.
2. FOR MEDIANS WITH BULLET NOSE CONFIGURATION, PAINT CURB WITH YELLOW REFLECTORIZED PAINT AROUND THE ESPLANADE NOSE TO THE PT OF THE 90 FT R. FOR MEDIANS WITHOUT BULLET NOSE CONFIGURATION, PAINT CURB FROM PC TO PT AND 30 FT BACK OF PC/PT.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

ESPLANADE NOSE AND LEFT TURN DETAILS
(SCALE: NOT TO SCALE)

APPROVED BY:

Suhail Kanawar — CITY ENGINEER
HAING NGUYEN — CITY TRAFFIC ENGINEER
Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02772-01

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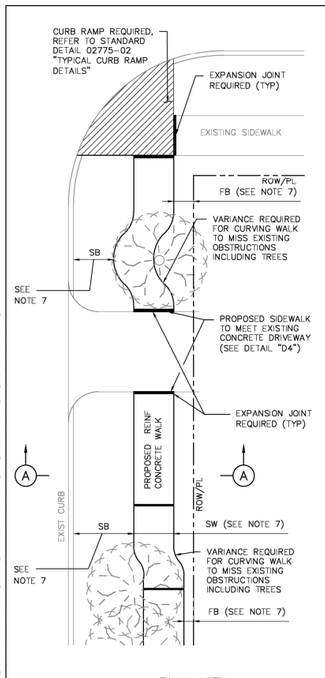
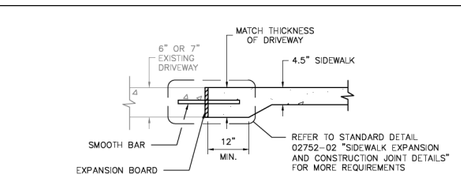


PLAN VIEW

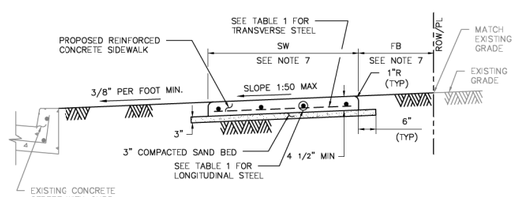


DETAIL D4
DRIVEWAY/SIDEWALK HEADER

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
f'_c = 3,500 PSI AND f_y = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS			TRANSVERSE STEEL #3 BARS SPACING (IN)
		NO. OF BARS	SPACING (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48



SECTION A-A

NOTES:

1. 6X6 – W2.9XW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF THE REINFORCING STEEL GIVEN IN TAB F 1.
2. REINFORCED CONCRETE SIDEWALKS THRU DRIVEWAYS OPENINGS SHALL BE EITHER 6" THICK OR 7" THICK AS SPECIFIED ON 6" STABILIZED SUBGRADE. FOR THE REINFORCING STEEL REQUIREMENTS, SEE CITY OF HOUSTON STANDARD DETAILS 02754-01A, 02754-01B, 02754-03, AND 02754-04.
3. MAXIMUM SPACING FOR EXPANSION JOINTS SHALL BE 40 FEET.
4. CONTRACTOR SHALL CONSTRUCT SIDEWALK IN A MANNER NOT TO BLOCK THE NATURAL DRAINAGE FROM ADJACENT PROPERTY.
5. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
6. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
7. REFER TO CONTRACT DRAWINGS FOR SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL SIDEWALK LAYOUT AND DETAILS FOR STREETS WITH CURBS
(SCALE: NOT TO SCALE)

APPROVED BY:

Suhail Kanawar — CITY ENGINEER
HAING NGUYEN — CITY TRAFFIC ENGINEER
Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02775-01

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 5 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 342 OF 1067	

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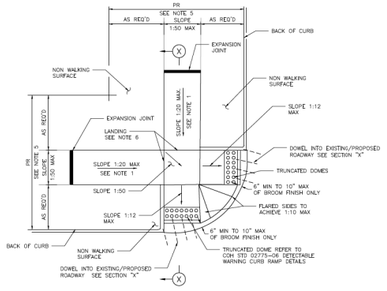
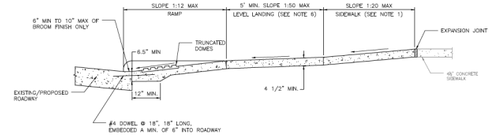


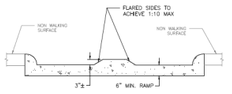
STREETS WITH NON- WALKING SURFACE BEHIND CURB
SEE NOTE-7



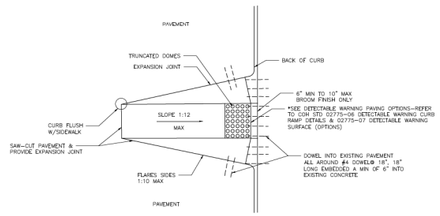
SECTION X-X

NOTES:

1. REPLACE EXISTING SIDEWALK FROM LEVEL LANDING AS NECESSARY TO ACHIEVE 1:20 SLOPE.
2. BROOM FINISH IS MEASURED FROM FACE OF CURB.
3. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
4. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
5. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR) WIDTH.
6. MINIMUM 5'x5' LANDING PAD ACCORDING TO ADA REQUIREMENTS. WHEN THE APPROACHING SIDEWALK IS WIDER THAN 5', THE LANDING PAD AND RAMP WIDTH MUST MATCH THE SIDEWALK WIDTH.
7. FOR STREETS WITH WALKABLE SURFACES IMMEDIATELY BEHIND THE CURB A FLARE IS REQUIRED ON BOTH SIDES OF THE RAMP.



ELEVATION
LOOKING UP RAMP



CURB RAMP CONSTRUCTION FOR EXISTING PAVEMENT

APPROVED BY:	APPROVED BY:
Sohail Kanwar	Ludwig Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carl Hedebeck	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02775-02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CURB RAMP DETAILS

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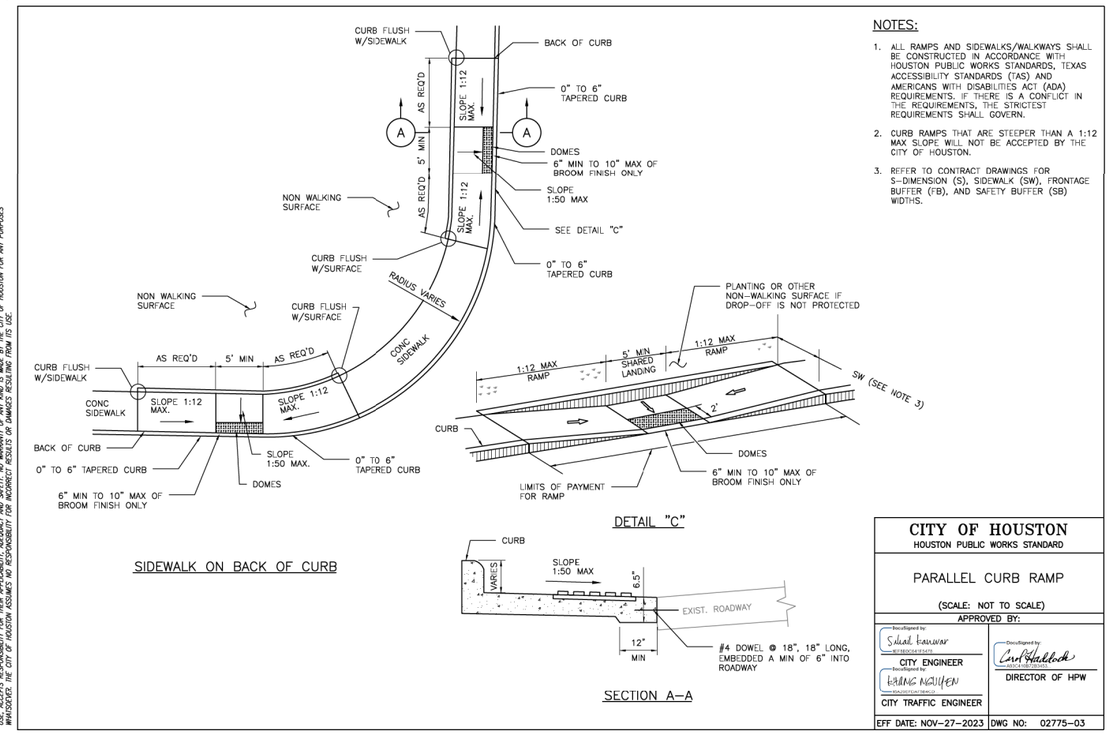

SIDEWALK ON BACK OF CURB

DETAIL "C"

SECTION A-A

NOTES:

1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
2. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
3. REFER TO CONTRACT DRAWINGS FOR S-DIMENSION (S), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PARALLEL CURB RAMP

(SCALE: NOT TO SCALE)

APPROVED BY:	
Sohail Kanwar — CITY ENGINEER	Carl Hedebeck — DIRECTOR OF HPW
Ludwig Nguyen — CITY TRAFFIC ENGINEER	
EFF DATE: NOV-27-2023	DWG NO: 02775-03

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Texas Department of Transportation

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11750 KATY FREEWAY. #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 6 OF 9

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SHEET NO. 343 OF 1067	

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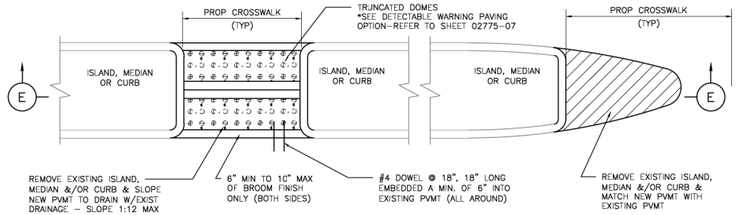

SECTION E–E
FOR ISLAND, MEDIAN, OR CURB MODIFICATIONS FOR CROSSWALKS

NOTES:

1. SEE COH STANDARD DETAIL FOR PAVEMENT MARKING DETAILS.
2. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
3. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CURB MODIFICATION FOR CURB RAMPS & CROSSWALKS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

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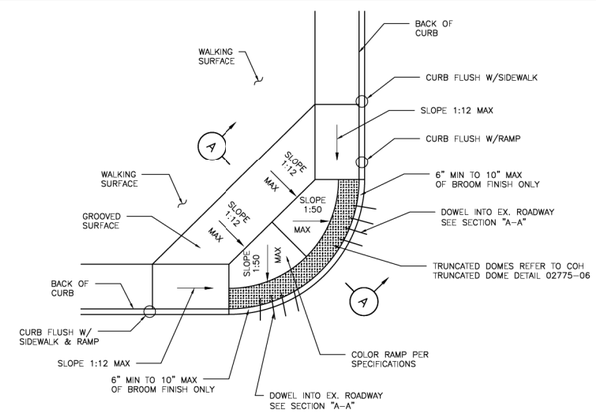
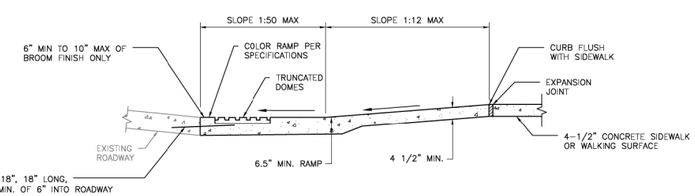


PLAN



SECTION A–A

NOTES:

1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
2. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
3. THIS STANDARD DETAIL SHALL BE USED ONLY IF THE ROADWAY GEOMETRIC DOESN'T ALLOW STANDARD DETAILS 02775-02, 02775-03, AND 02775-09 TO BE USED.
4. THIS STANDARD DETAIL SHALL NOT BE USED IN LIEU OF STANDARD DETAILS 02775-02, 02775-03, AND 02775-09 UNLESS APPROVED BY THE CITY.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

COMMERCIAL & HIGH DENSITY CONDITIONS CURB RAMP DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023 | DWG NO: 02775-05

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Engineer
125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 7 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 344 OF 1067	

No.	DATE	REVISIONS	APP.

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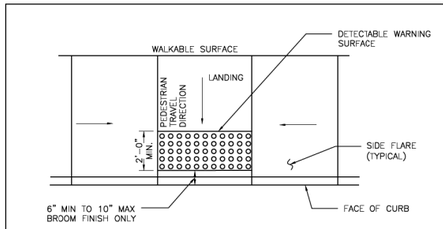
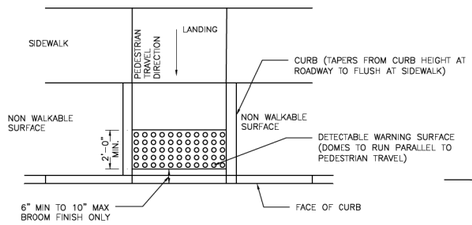
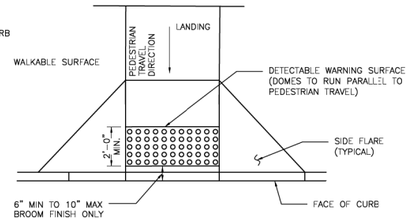


TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE





TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN

GENERAL NOTES FOR DETECTABLE WARNINGS:

1. DETECTABLE WARNING SURFACES MUST BE FULLY ADA COMPLIANT.
2. ALL NEW CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES. THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACE, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
3. DETECTABLE WARNING SURFACES MUST MAINTAIN A SLIP RESISTANCE WITH FA-VALUE OF EQUAL TO OR GREATER THAN 0.8.
4. DETECTABLE WARNING SURFACES MUST MAINTAIN A WATER ABSORPTION RATE OF LESS THAN 1%. DETECTABLE WARNING SHALL NOT ALLOW WATER TO ACCUMULATE.
5. DETECTABLE WARNINGS INSTALLED INTO FRESH CONCRETE SHALL BE WITHOUT VOIDS AND UTILIZING AN ACCEPTABLE ANCHORING SYSTEM.
6. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
7. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
8. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6" MIN TO 10" MAX FROM THE DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
9. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
10. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

DISCLAIMER:
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CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
DETECTABLE WARNING CURB RAMP DETAILS (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukut Kanwar CITY ENGINEER	DocuSigned by: Carl Haddock DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	
EFF DATE: NOV-27-2023	DWG NO: 02775-06

No.	DATE	REVISIONS	APP:

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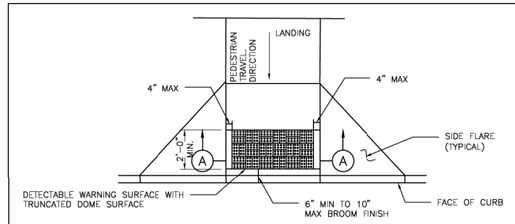
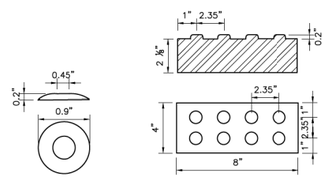


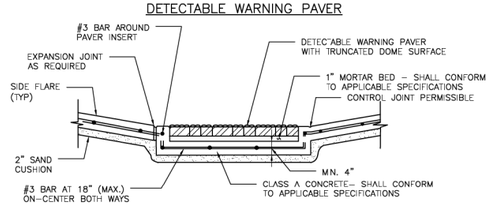
PLAN VIEW

DETECTABLE WARNING SURFACE



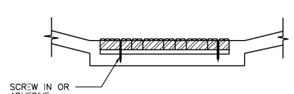
DETAIL

DETECTABLE WARNING PAVER



SECTION A-A

PAVER



DETAIL A-5

NOTES:

GENERAL NOTES

1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
2. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

PAVERS

1. FURNISH DETECTABLE WARNING SURFACE UNITS MEETING ALL REQUIREMENTS OF ASTM C-936, C-33. LAY IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS DIRECTED.
2. LAY FULL-SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25 PERCENT OF A FULL UNIT. CUT DETECTABLE WARNING POWER UNITS USING A POWER SAW.

POLYMER CONCRETE

1. DETECTABLE WARNING TILES SHALL BE MADE OF POLYMER CONCRETE MATERIALS.
2. DETECTABLE WARNING TILES SHALL BE INSTALLED INTO FRESH CONCRETE (CAST-IN-PLACE) UTILIZING AN ANCHORING SYSTEM.
3. DETECTABLE WARNING TILES SHALL BE OF TERRACOTTA (BRICK-RED) COLOR AND COLORED THROUGHOUT TO GUARANTEE THE ADA REQUIRED COLOR CONTRAST.
4. DETECTABLE WARNING TILES SHALL MEET OR EXCEED THE FOLLOWING ASTM-BASED "STANDARDS" FOR CONCRETE MATERIALS.
   A. COMPRESSION STRENGTH > 12,500 PSI PER ASTM C 39-04
   B. WATER ABSORPTION < 0.25% PER ASTM C 97-09

PADS

1. FURNISH REQUIREMENTS OF ADAAG (MARCH 2003).
2. OTHER MATERIALS MAY BE USED IF APPROVED BY THE CITY ENGINEER

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CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
DETECTABLE WARNING SURFACE (OPTIONS) (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukut Kanwar CITY ENGINEER	DocuSigned by: Carl Haddock DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	
EFF DATE: NOV-27-2023	DWG NO: 02775-07

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Engineer
125611
License
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 8 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 345 OF 1067	

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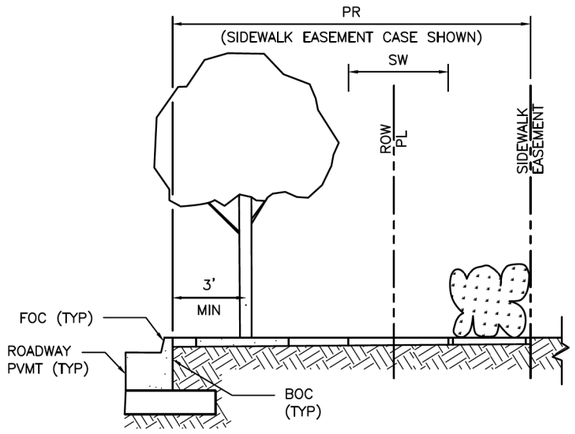
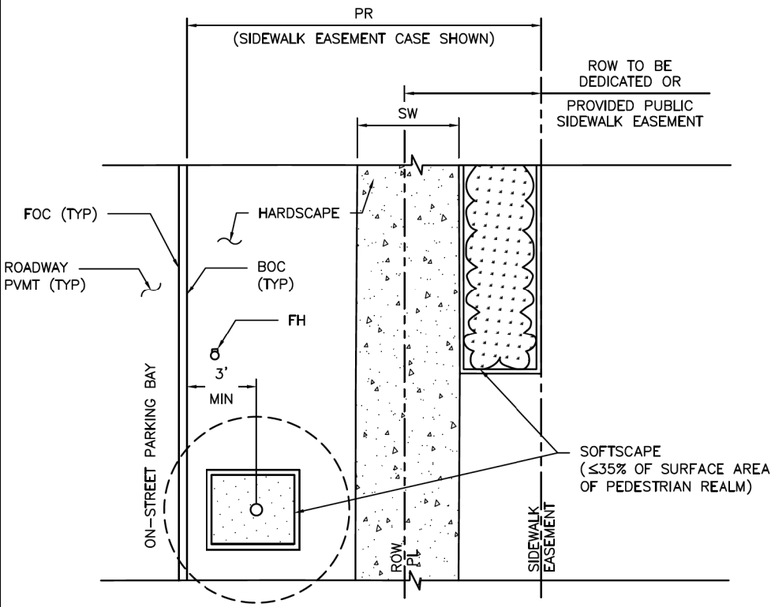
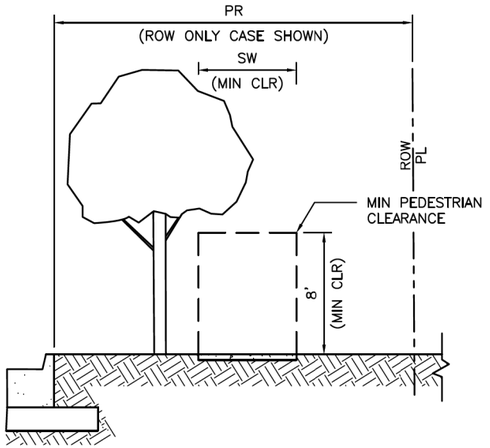


ELEVATION



PLAN

PEDESTRIAN REALM PERFORMANCE STANDARD



ELEVATION

PLAN

SIDEWALK & CLEAR PEDESTRIAN ZONE MANDATORY MINIMUM REQUIREMENT

NOTES

1. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), AND SIDEWALK (SW) WIDTHS.
2. THE MINIMUM UNOBSTRUCTED VERTICAL CLEARANCE OF A SIDEWALK IS EIGHT (8) FEET AS MEASURED VERTICALLY FROM THE SURFACE OF THE SIDEWALK. FOR VERTICAL CLEARANCE TO IMPROVEMENTS CONSTRUCTED OVER A SIDEWALK WITHIN THE PEDESTRIAN REALM, REFER TO THE CONTRACT DRAWINGS.
3. FOR PEDESTRIAN REALM DESIGN BACKGROUND, REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES, ARTICLE IV – ENHANCED PEDESTRIAN REALM STANDARDS AND THE USERS' GUIDE FOR WALKABLE PLACES AND TRANSIT–ORIENTED DEVELOPMENT.
4. FOR ADDITIONAL PLANTING REQUIREMENTS, REFER TO CHAPTER 33 OF THE CODE OF ORDINANCES, SECTION 129 – GENERAL PLANTING STANDARDS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK AND CLEAR ZONE
TRANSIT CORRIDOR STREET

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02775–08

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET PAVING & SIDEWALK STANDARDS

SHEET 9 OF 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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ROWAIDAH AYOUB	
SHEET NO. 346 OF 1067	

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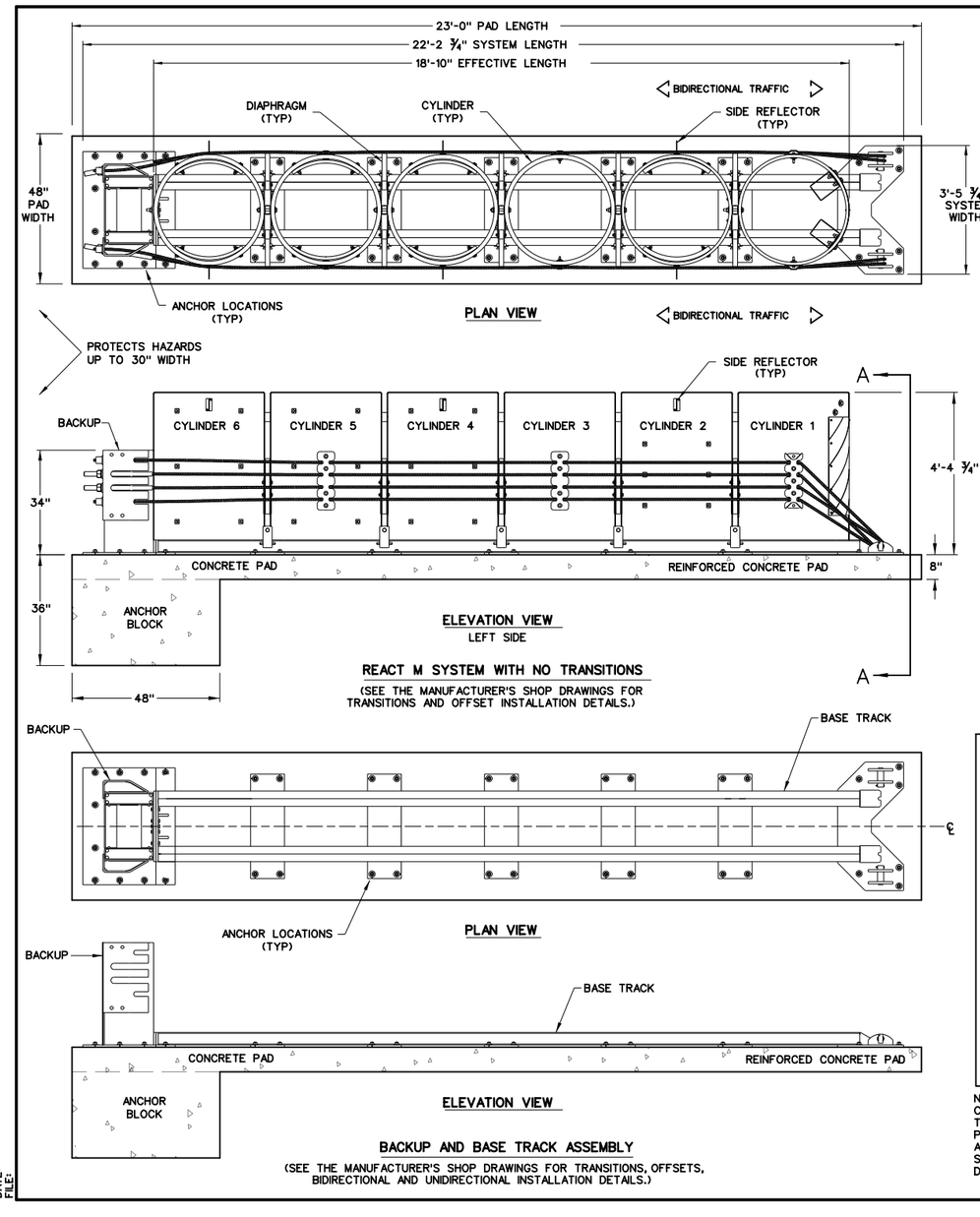

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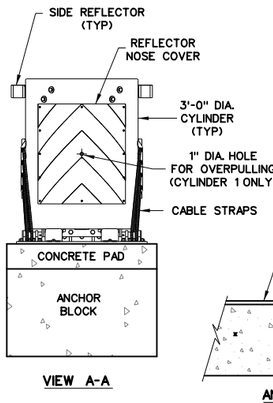
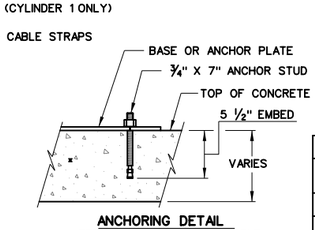


VIEW A-A

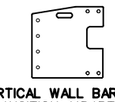


ANCHORING DETAIL
*SEE FOUNDATION TYPES TABLE

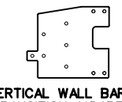
BACKUP ASSEMBLY TYPES FOR SYSTEM TRANSITIONS



SAFETY SHAPE BARRIER TRANSITION (ADAPTER)
TRANSITION PLATE(S)(OPTIONAL) REQUIRED W/BI-DIRECTIONAL TRAFFIC FLOWS ONLY.



VERTICAL WALL BARRIER TRANSITION (ADAPTER)
TRANSITION PLATE(S)(OPTIONAL) REQUIRED W/UNIDIRECTIONAL TRAFFIC FLOWS ONLY.



VERTICAL WALL BARRIER TRANSITION (ADAPTER)
TRANSITION PLATE(S)(OPTIONAL) REQUIRED W/BI-DIRECTIONAL TRAFFIC FLOWS ONLY.

NOTES:
CONTACT THE MANUFACTURER WITH SITE SPECIFIC DATA (SSD) FOR THE CORRECT BACKUP ASSEMBLY AND TRANSITION PANELS OR SIDE PANELS USED FOR STANDARD AND BI-DIRECTIONAL INSTALLATIONS: AT DIVIDED-HIGHWAY MEDIANS OR UNDIVIDED ROADWAYS WHERE THE SYSTEM IS EXPOSED TO IMPACTS FROM ONE OR TWO DIFFERENT DIRECTIONS OF TRAFFIC FLOW.

LOW MAINTENANCE

GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: TRINITY HIGHWAY - ENERGY ABSORPTION AT 1(888)323-6374 OR WEBSITE: www.trinityhighway.com.
2. THE NOSE OF THE REACT M SHALL BE CLAD WITH A PLASTIC WRAP WITH STANDARD DELINEATION ADHERED TO THE WRAP AND SHALL HAVE A SERIES OF SIDE MARKER REFLECTORS ON BOTH SIDES OF THE UNIT. SEE SITE PLAN VIEWS FOR MARKER AND PLASTIC WRAP COLOR ORIENTATION.
3. FOR BI-DIRECTIONAL TRAFFIC, APPROPRIATE TRANSITION DETAILS WILL BE AS SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS.
4. DETAILS OF COMPONENTS FOR THE REACT M, BACKUPS AND REINFORCING DETAILS WILL BE SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS FURNISHED TO THE ENGINEER.
5. IF THE CROSS-SLOPE VARIES MORE THAN 2% OVER THE LENGTH OF THE SYSTEM, THE CONCRETE PAD WILL REQUIRE LEVELING. MAXIMUM PERMISSIBLE CROSS-SLOPE IS 8%.
6. THE INSTALLATION AREA SHOULD BE FREE FROM CURBS, ELEVATED OBJECTS, OR DEPRESSIONS.
7. THE REACT M SYSTEM SHOULD BE APPROXIMATELY PARALLEL WITH THE BARRIER OR CENTERLINE OF MERGING BARRIERS.
8. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED EXCEPT STAKES, DRIVE SPIKES, THREADED BOLTS IN BACKUP UNIT, AND WEDGE FITTINGS ON CABLES.
9. THIS DRAWING REPRESENTS THE REACT M TL-3 SYSTEM, RE-DIRECTIVE, NON-GATING CRASH CUSHION THAT CAN PROTECT HAZARDS UP TO 30-INCHES IN WIDTH.

DESIGN DATA TABLE FOR REACT M

TEST NUMBER	TEST LEVEL	OVERALL LENGTH	TRANSITION LENGTH	SYSTEM WIDTH
3-30 TO 3-36	TL-3	22'-2 ¾"	-	3'-5 ¾"
3-37A	TL-3	22'-2 ¾"	9'-10 ¾"	3'-5 ¾"
3-38	TL-3	22'-2 ¾"	-	3'-5 ¾"

ANCHOR SYSTEM TYPE
APPROVED ADHESIVE, 7" STUDS, 5.5" EMBEDMENT
FOUNDATION TYPES
MINIMUM 8" REINFORCED PORTLAND CEMENT CONCRETE PAD (REQUIRED REINFORCING STEEL FOR CONCRETE PAD SHALL BE SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS. MINIMUM 8" NON-REINFORCED PORTLAND CEMENT CONCRETE ROADWAY MEASURING AT LEAST 12' WIDE BY 50' LONG) MINIMUM 7" CONCRETE DECK STRUCTURE, OR MINIMUM 6" REINFORCED CONCRETE ROADWAY

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE REACT M SYSTEM AND IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

Texas Department of Transportation — Design Division Standard

TRINITY HIGHWAY ENERGY ABSORPTION CRASH CUSHION REACT M (NARROW) (MASH TL-3)

REACT(M)-21

FILE: reactm21.dgn	DN: TXDOT	CK: KM	DW: SS	CK: CL
©TxDOT: JULY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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3/13/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
TRINITY HIGHWAY ENERGY ABSORPTION CRASH CUSHION REACT M (NARROW)

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 347 OF 1067	

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Table B-1 - Bus Stop Design Variables

Design Variable	Value	Design Criteria
Back-of-Curb to ROW Dimension (E)	20' ≤ E ≤ 25'	See Table B-2
	E < 20'	Use Standard ROW Detail A
	E > 25'	Atypical; Adapt As Needed
Design Bus Length	40'	Dimensions Marked * = 0'
	60'	Include Dimensiones Marked *
Platform Curb Height	9" (Preferred)	Include Design Elements Marked ^
	6"	Omit Design Elements Marked ^

Table B-2 - Dimensions

Total Back-of-Curb (E)	20'	23'	25'
Front Curbside Programming (A1)	2'	5'	5'
Rear Curbside Programming (A2)	3'	6'	6'
Clear Shelter Frontage (B)	5'	5'	5'
Shelter Foundation Depth (C1)	6'	6'	6'
Back-of-Platform Programming (C2)	4'	4'	4'
ROW Buffer (D)	1'	1'	1'
Clear Sidewalk (G)	6'	6'	8'

Table B-3 - Slopes & Concrete Thickness

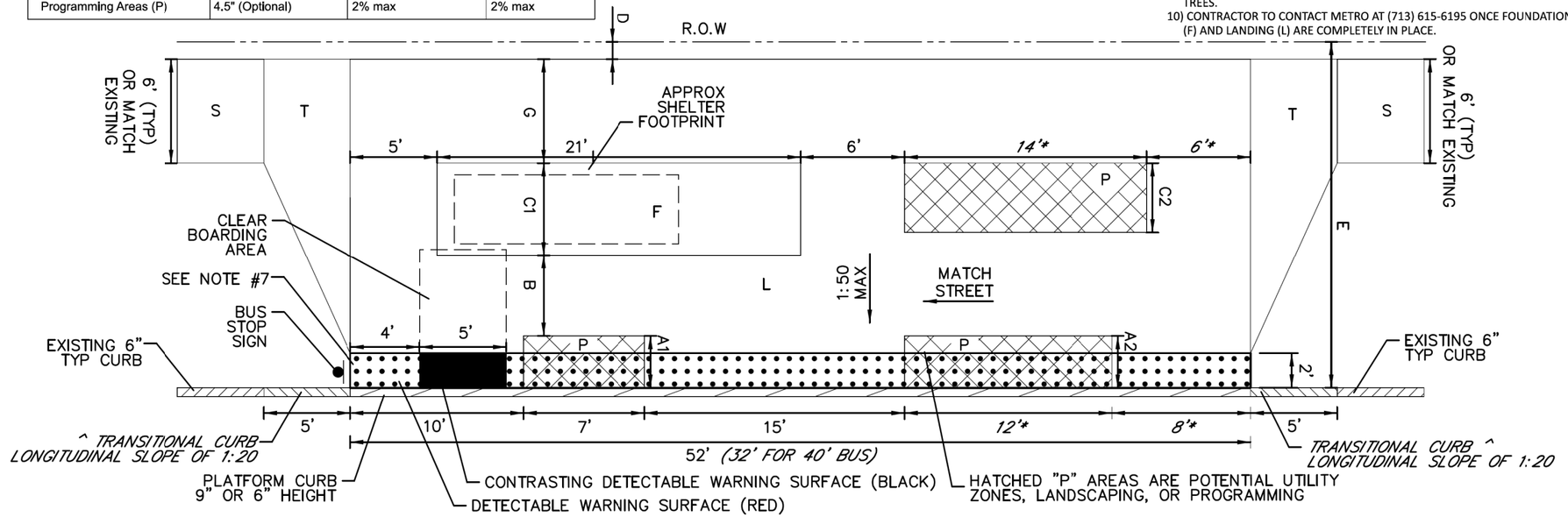
Area	Paving Thickness	Running Slope	Cross Slope
Landing (L) 2'	4.5"	Match Street	2% max
Bus Shelter Area (F)'	9"	2% max	2% max
Transition Area (T)	4.5"	5% max	2% max
Sidewalk (S)	4.5"	5% max	2% max'
Programming Areas (P)	4.5" (Optional)	2% max	2% max

† Except to match existing

‡ See METRO Foundation Details Type I, II, and IV

Notes

1) LOCATION OF BUS STOP LONGITUDINALLY ALONG THE ROADWAY SHOULD ACCOUNT FOR THE CRITICAL SHELTER OBSTRUCTION TO LINE OF SIGHT AND OTHER GUIDELINES SET FORTH IN METRO TRANSIT DESIGN STANDARDS.
2) THE TRANSITION (T) SHOULD BE MINIMUM 5' LONG OR MAY BE LENGTHENED TO MITIGATE EXCESSIVE SLOPE.
3) REFER TO "METRO BUS STOP CONCRETE DETAILS" FOR REBAR REQUIREMENTS FOR 9 INCH AND TRANSITIONAL CURB AND EXPANSION AND CONTROL JOINTS. EXPANSION JOINTS WILL BE USED BETWEEN LANDING (L) AND TRANSITION (T). SAW CUT CONTROL JOINTS SHOULD BE SPACED MAX 8' IN EACH DIRECTION.
4) REFER TO CITY OF HOUSTON "CONCRETE SIDEWALK DETAILS FOR STREETS WITH CURBS" DWG NO. 02775-01 FOR SIDEWALK DETAILS. THE DRIVEWAY/SIDEWALK HEADER DETAIL PER CITY OF HOUSTON DWG NO. 02775-01 WILL BE USED TO CONNECT THE LANDING (L) (4 1/2" THICK) TO THE PAD (F) (9" THICK).
5) PROGRAMMING AREAS (P) MAY INCLUDE LANDSCAPING, BIKE PARKING, UTILITIES, STREET FURNITURE, ETC. TO BE DETERMINED BY METRO.
6) THE LANDING AREA (L) SHALL CONTAIN REINFORCING TRANSVERSE STEEL #4 BAR CONTINUOUS 12" C-C (TYP) AND LONGITUDINAL STEEL #4 BAR CONTINUOUS 12" C-C (TYP).
7) DETECTABLE WARNING SURFACE SHALL EXTEND ALONG TRANSITIONAL CURB WHERE SIDEWALK PAVING MEETS TRANSITIONAL CURB.
8) SHOW EXISTING PRIVATE AND PUBLIC UTILITIES. ADJUST VALVES AND PULLBOXES IF NEEDED. AVOID VERTICAL UTILITY CONFLICTS IN AREAS MARKED "L." VERTICAL UTILITES MAY EXIST IN AREAS MARKED "P." IDENTIFY AND PROTECT EXISTING GAS PIPELINES OR VALVES WITHIN THE WORK AREA.
9) CONTRACTOR TO AVOID DAMAGE TO ANY PRIVATE PROPERTY AND/OR TREES.
10) CONTRACTOR TO CONTACT METRO AT (713) 615-6195 ONCE FOUNDATION (F) AND LANDING (L) ARE COMPLETELY IN PLACE.



NO	DATE	REVISIONS	BY	CK	APP

METRO

JL	3/16/2021	DESIGNED
JL	3/16/2021	DRAWN
JL	3/16/2021	CHECKED
		APPROVED

SCALE: N.T.S

CONTRACT NO | DRAWING NO | PAGE

METRO BOOST Bus Stop Detail B
Sidewalk Behind Shelter

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

METRO BOOST BUS STOP
CONCRETE DETAILS

SHEET 1 OF 1

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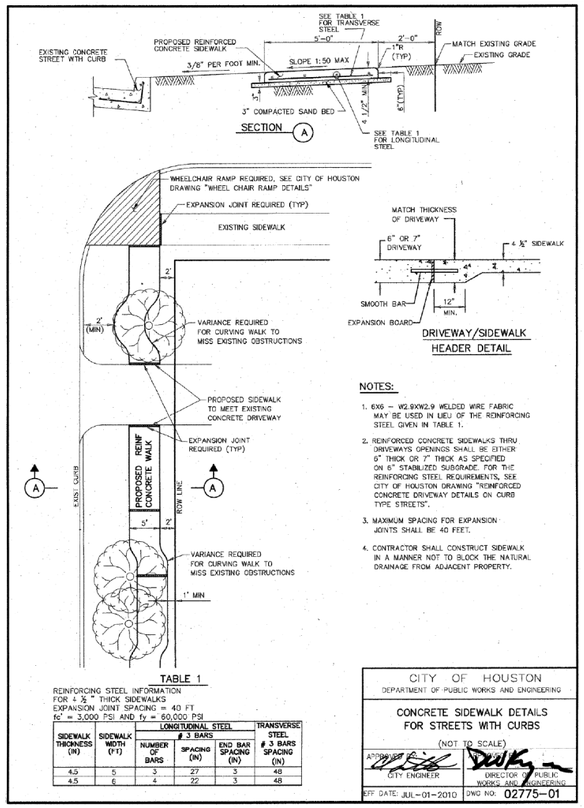


NOTES:

1. 6X6 – W2.9XW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF THE REINFORCING STEEL GIVEN IN TABLE 1.
2. REINFORCED CONCRETE SIDEWALKS THRU DRIVEWAYS OPENINGS SHALL BE EITHER 6" THICK OR 7" THICK AS SPECIFIED ON 6" STABILIZED SUBGRADE. FOR THE REINFORCING STEEL REQUIREMENTS, SEE CITY OF HOUSTON DRAWING "REINFORCED CONCRETE DRIVEWAY DETAILS ON CURB TYPE STREETS".
3. MAXIMUM SPACING FOR EXPANSION JOINTS SHALL BE 40 FEET.
4. CONTRACTOR SHALL CONSTRUCT SIDEWALK IN A MANNER NOT TO BLOCK THE NATURAL DRAINAGE FROM ADJACENT PROPERTY.

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,000 PSI AND fy = 60,000 PSI

SIDEWALK THICKNESS (in)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL # 3 BARS			TRANSVERSE STEEL # 3 BARS SPACING (IN)
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48

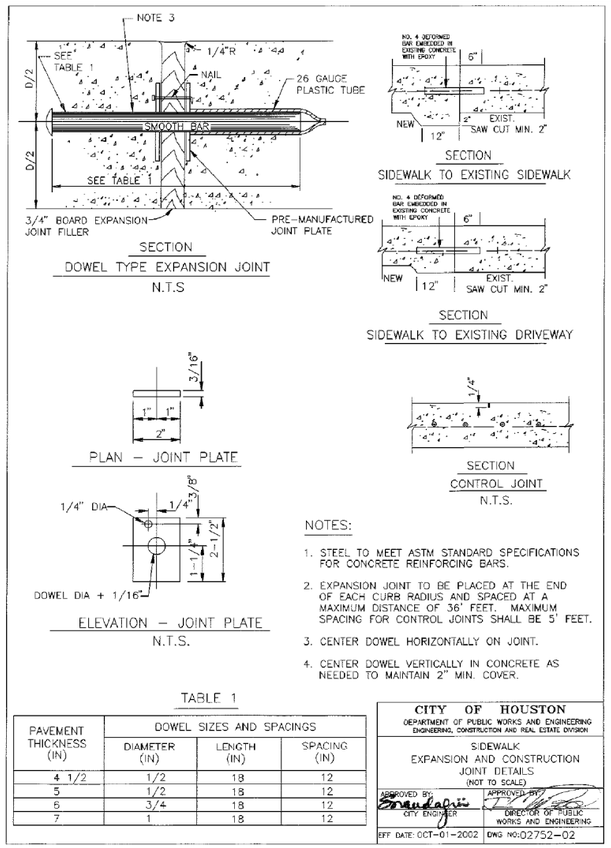
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

CONCRETE SIDEWALK DETAILS FOR STREETS WITH CURBS

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF. DATE: JUL-01-2010 DWG NO: 02775-01



NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 36' FEET. MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5' FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN 2" MIN. COVER.

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12

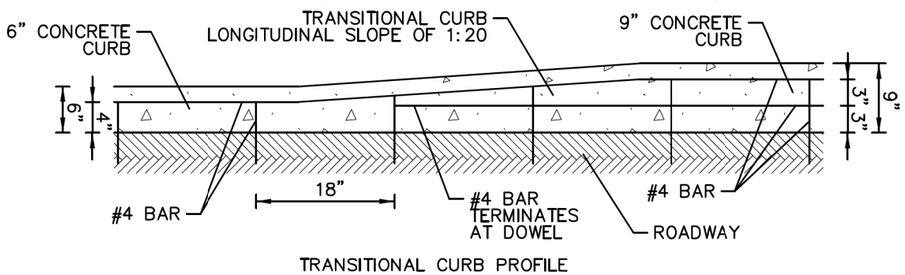
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

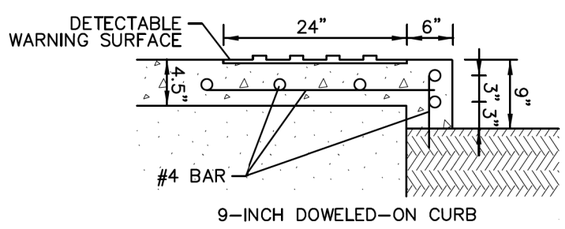
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER — APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF. DATE: OCT-01-2002 DWG NO: 02752-02



TRANSITIONAL CURB PROFILE



9–INCH DOWELED–ON CURB

NO.	DATE	REVISIONS	BY	CK	APP

METRO

JLL	3/16/2021	DESIGNED
VKM	3/16/2021	DRAWN
JLL	3/16/2021	CHECKED
	DATE	APPROVED

SCALE: N.T.S

METRO BOOST Bus Stop Concrete Details

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

METRO BOOST BUS STOP DETAIL B
SIDEWALK BEHIND SHELTER

SHEET 1 OF 1

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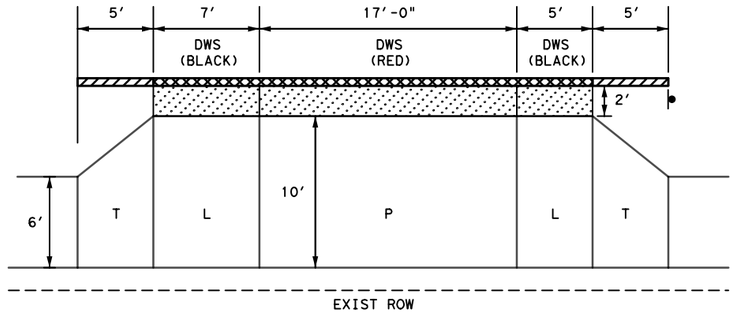
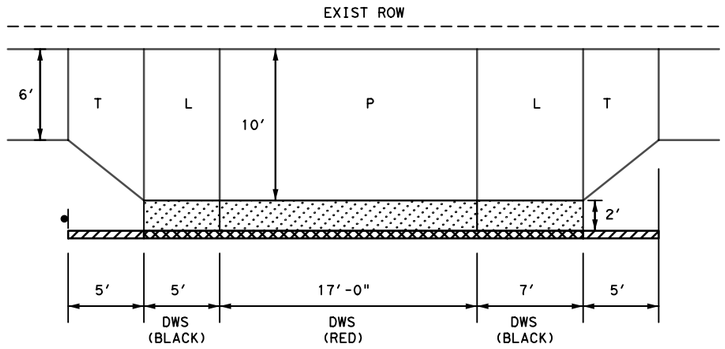


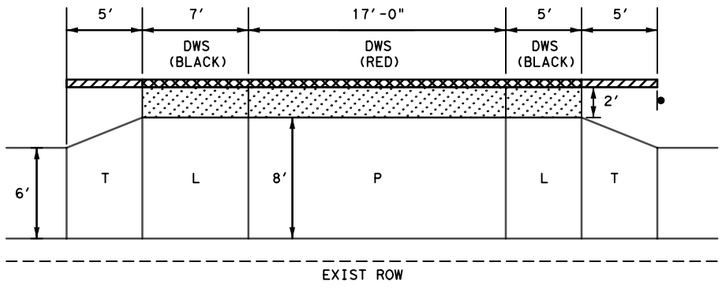
BUS PAD 1,2,4 & 5

N.T.S.



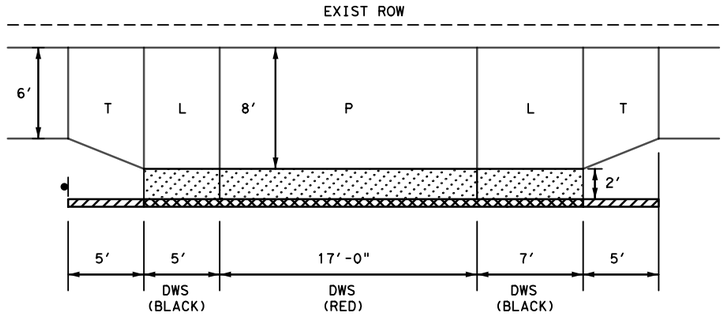
BUS PAD 6,7,9 & 10

N.T.S.



BUS PAD 3

N.T.S.



BUS PAD 8

N.T.S.

LEGEND

T - SIDEWALK TRANSITION
(4 1/2" CONC. THICKNESS)

L - LANDING
(4 1/2" CONC. THICKNESS)

P - BUS PAD
(9" CONC. THICKNESS)

DWS - DETECTABLE WARNING SURFACE

CURB TRANSITION

9" CONC. CURB

BUS STOP SIGN

NOTES:

1. REFER TO CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL "STANDARD BUS PAD AND LANDINGS" FIGURE 10.14 FOR FURTHER CONSTRUCTION INFORMATION.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BUS PAD LAYOUT DETAIL

SHEET 02 OF 02

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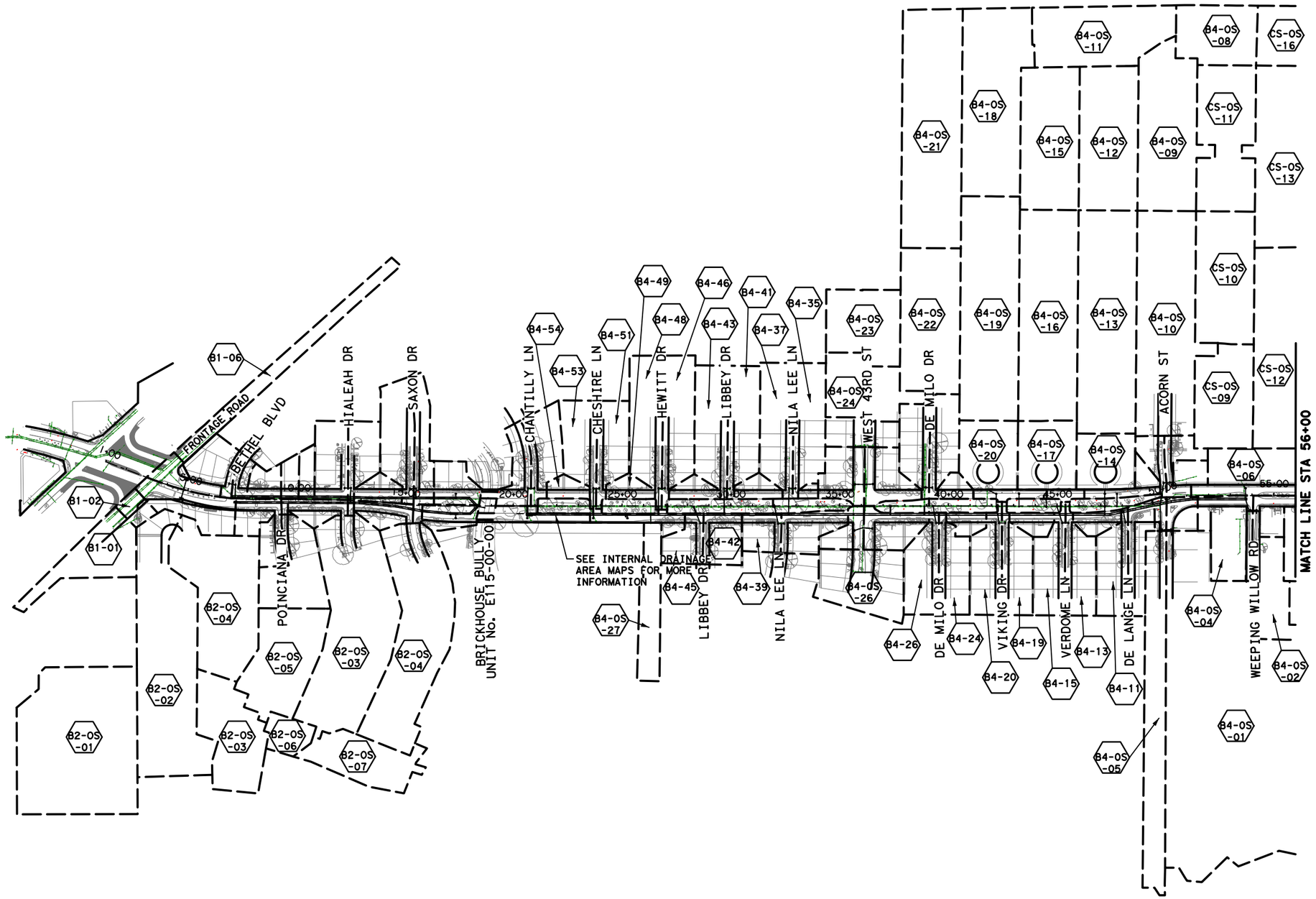

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- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW

N

0' 250' 500'
SCALE IN FEET

Texas Department of Transportation

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

OVERALL DRAINAGE AREA MAP
BEGIN PROJECT TO STA 56+00

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW

No.	DATE	REVISIONS	APP.

MATCH LINE STA 56+00

HOOVER ST

HARDWAY ST

PINEMONT DR

BROOM ST

CREEKMONT DR

GOLDEN FOREST DR

BIRCHMONT DR

COLE CREEK UNIT No. E117-00-00

SEE INTERNAL DRAINAGE AREA MAPS FOR MORE INFORMATION

W. TIDWELL RD

N HOUSTON-ROSSLYN RD

BSNF RR

PEPPER GROVE DR

DE SOTO ST

MATCH LINE STA 121+00

0' 250' 500'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

OVERALL DRAINAGE AREA MAP
STA 56+00 TO STA 121+00

SHEET 2 OF 3

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N-100030-0GEC-3	
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ROWAIDAH AYOUB	
SHEET NO. 352 OF 1067	

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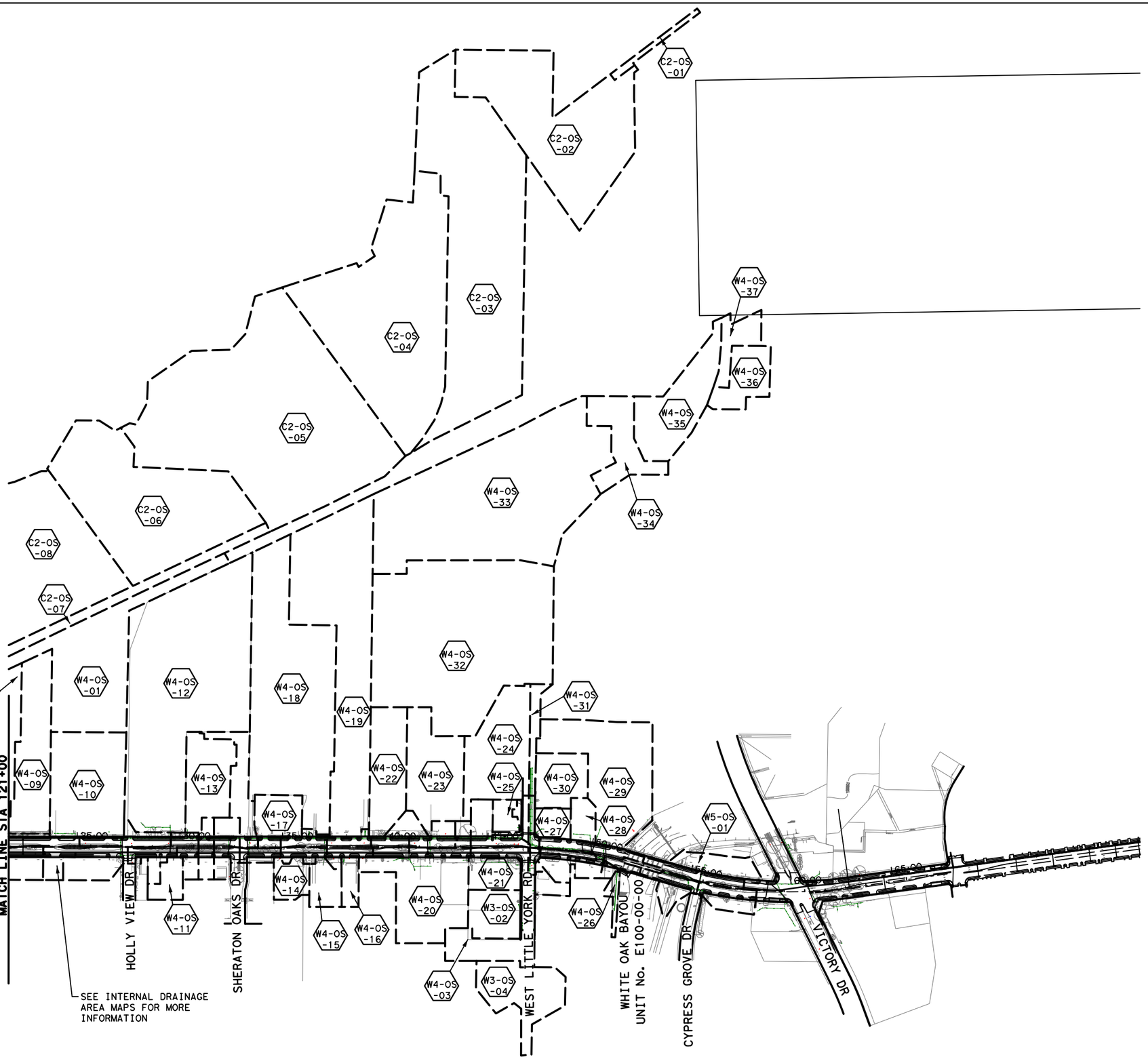

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW

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N

0′ 250′ 500′
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

OVERALL DRAINAGE AREA MAP
STA 121+00 TO END PROJECT

SHEET 3 OF 3

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- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

MODELING INFORMATION PROVIDED BY OTHERS

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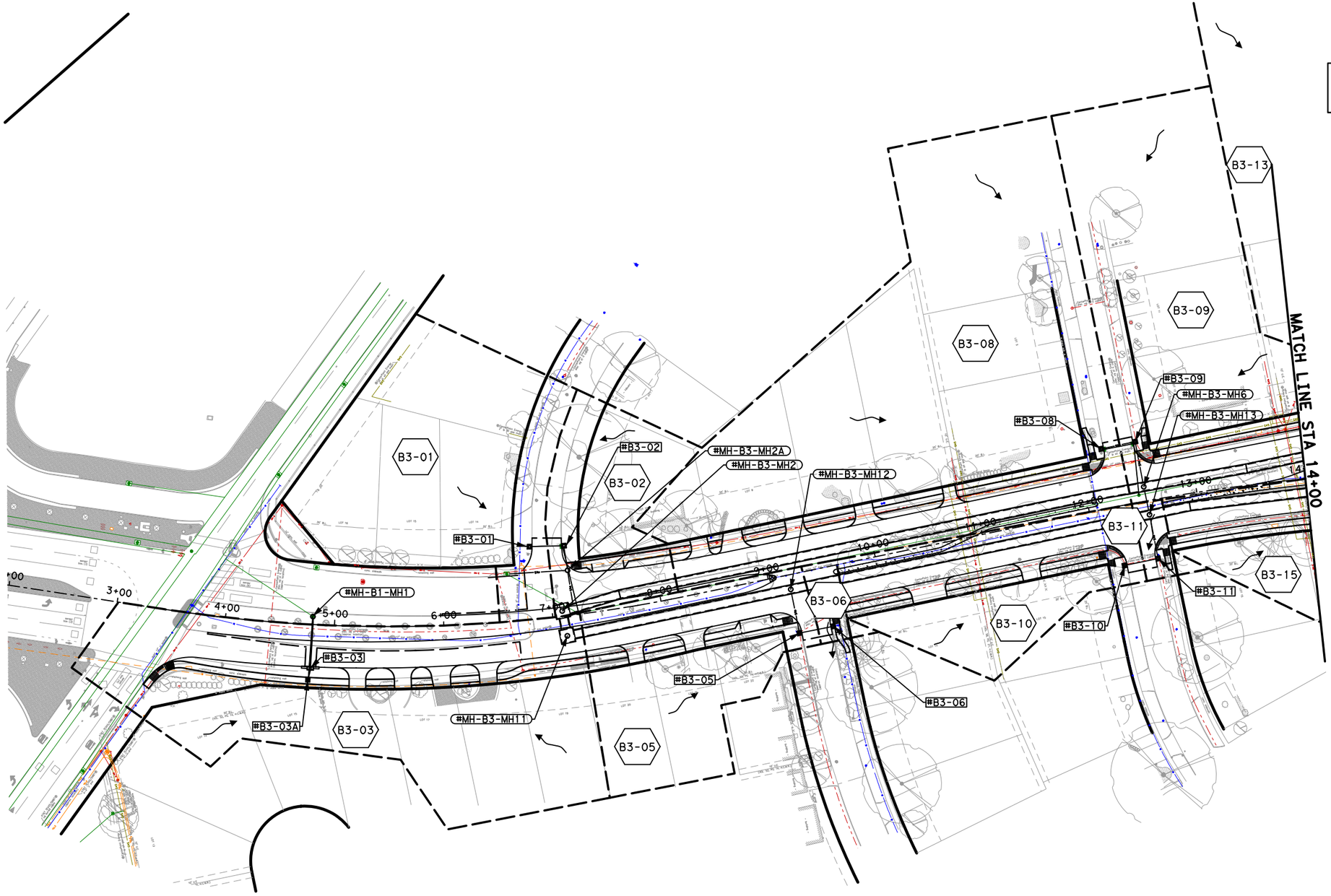

0′ 50′ 100′
SCALE IN FEET

Texas Department of Transportation ©2026

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713 777 5337

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90169
MARCH 2026
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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
PROPOSED
DRAINAGE AREA MAP
BEGIN PROJECT TO STA 14+00

SHEET 1 OF 14

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DRAWING SCALE	
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ROWAIDAH AYOUB	
SHEET NO. 354 OF 1067	

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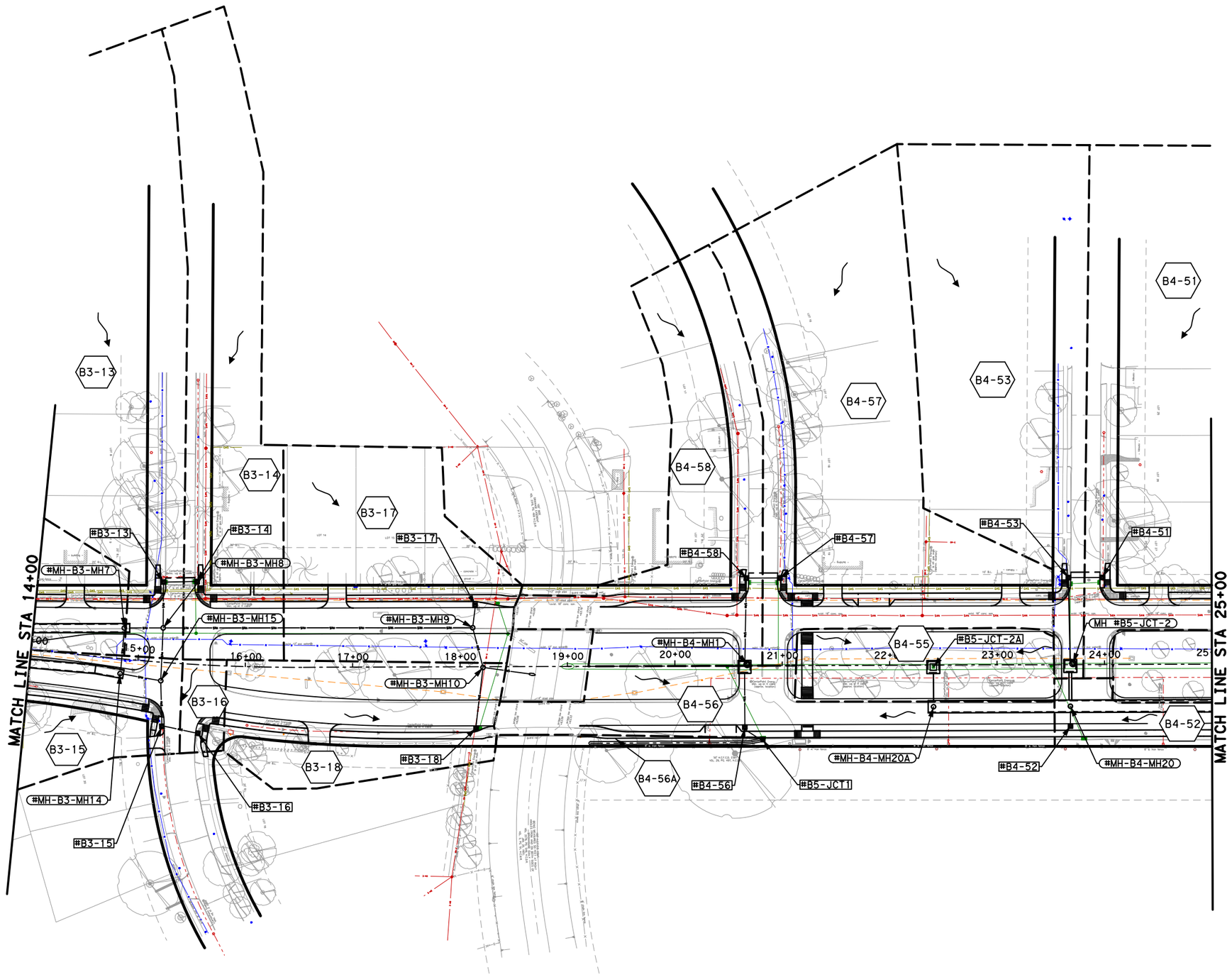
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

MODELING INFORMATION PROVIDED BY OTHERS

No.	DATE	REVISIONS	APP.



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SCALE IN FEET

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
PROPOSED
DRAINAGE AREA MAP
STA 14+00 TO STA 25+00

SHEET 2 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 355 OF 1067	

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

No.	DATE	REVISIONS	APP:

MODELING INFORMATION
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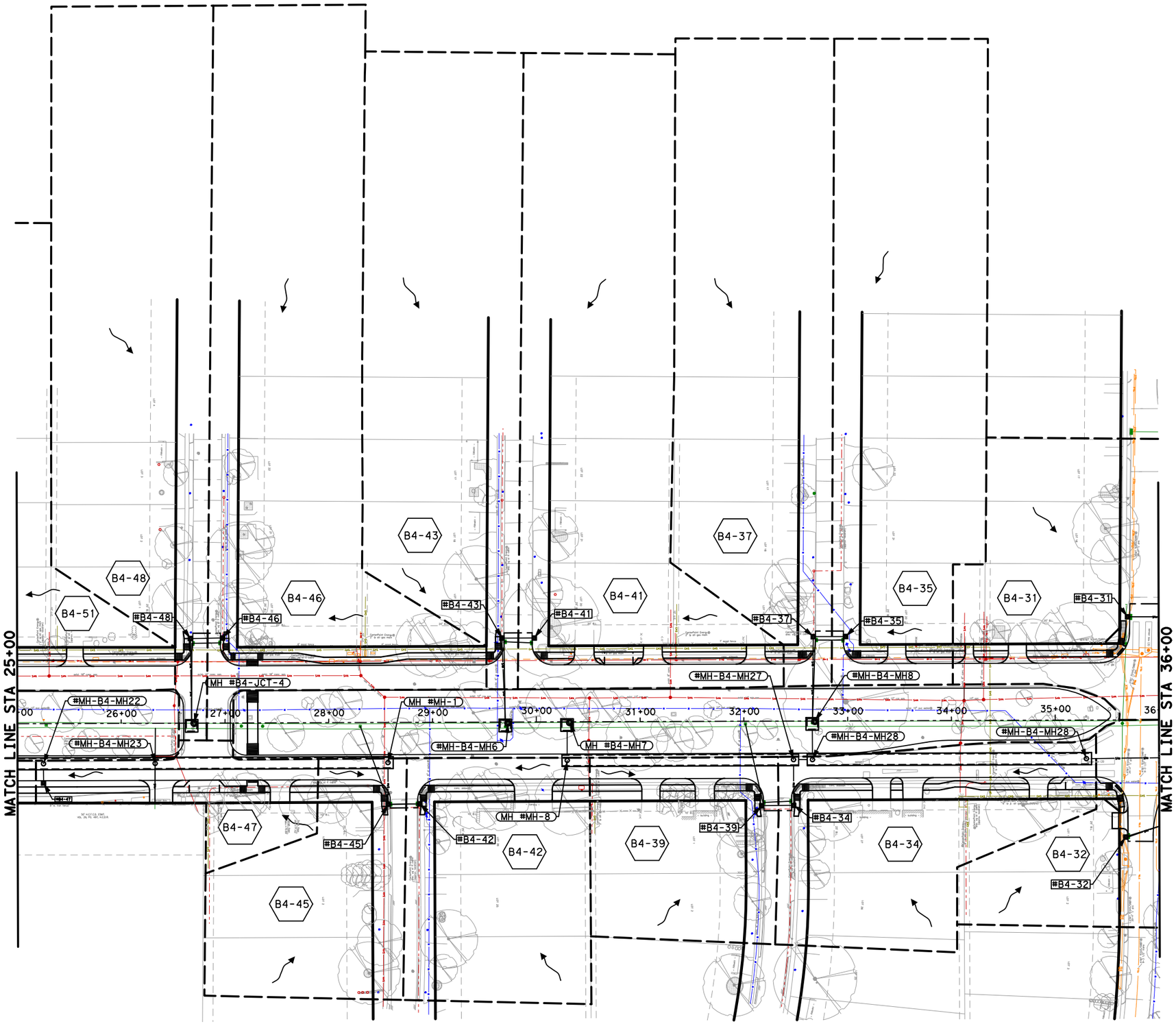

0' 50' 100'
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
PROPOSED
DRAINAGE AREA MAP
STA 25+00 TO STA 36+00

SHEET 3 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 356 OF 1067	

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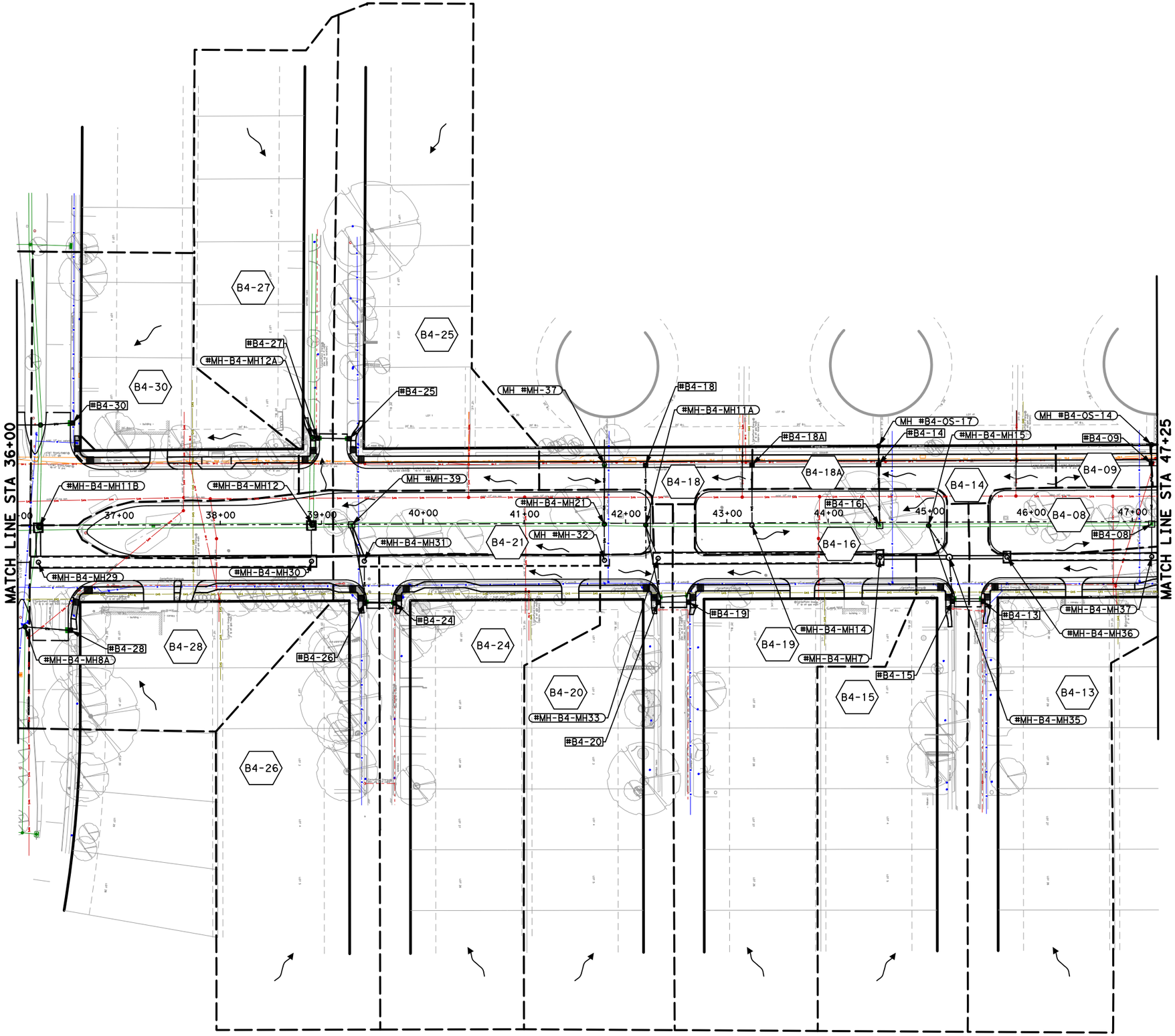

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
PROPOSED
DRAINAGE AREA MAP
STA 36+00 TO END

SHEET 4 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 357 OF 1067	

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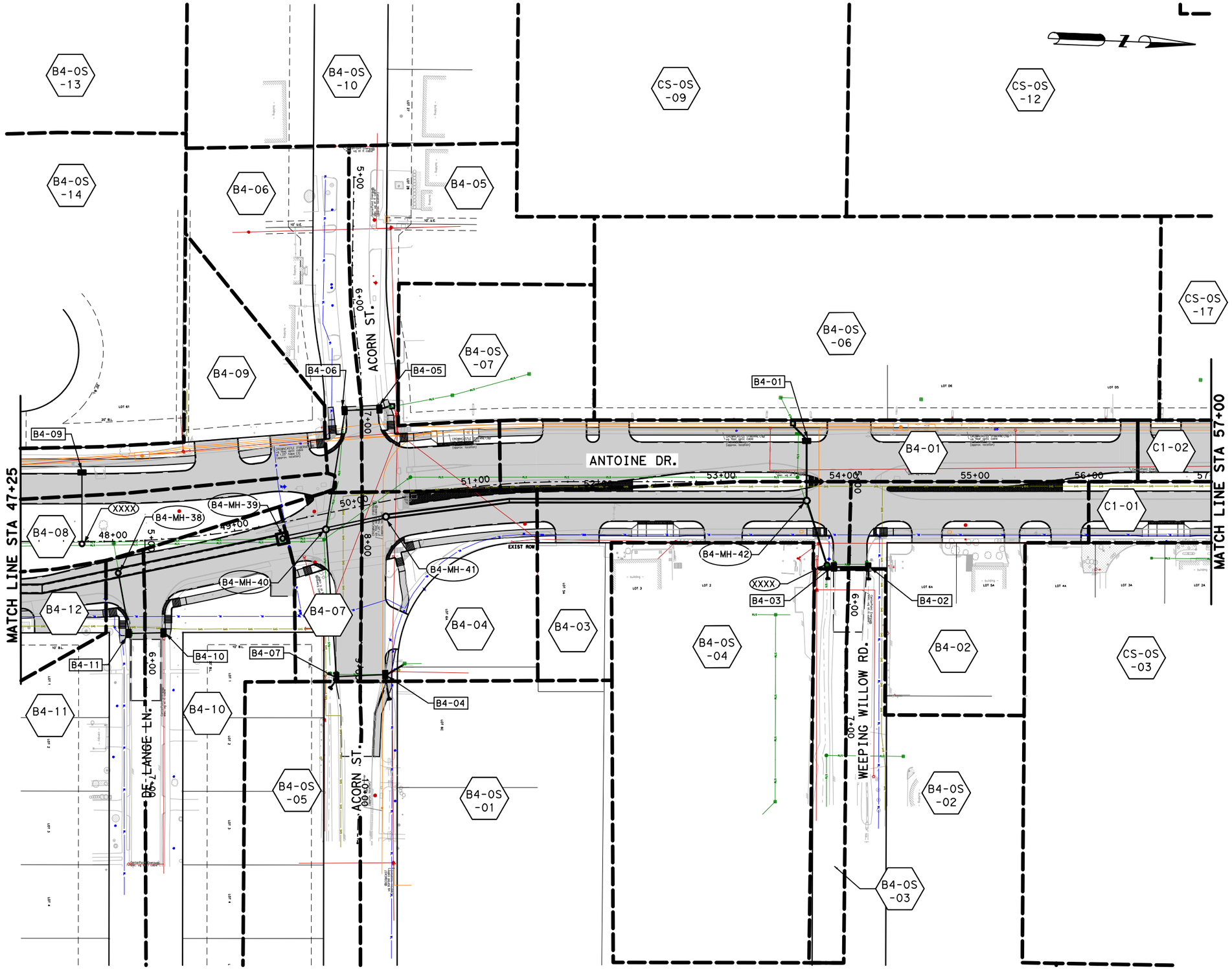

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

0' 40' 80'
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3/10/2026
Date: 60% SUBMITTAL
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE AREA MAP
STA 47+25 TO STA 57+00

SHEET 06 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 358 OF 1067	

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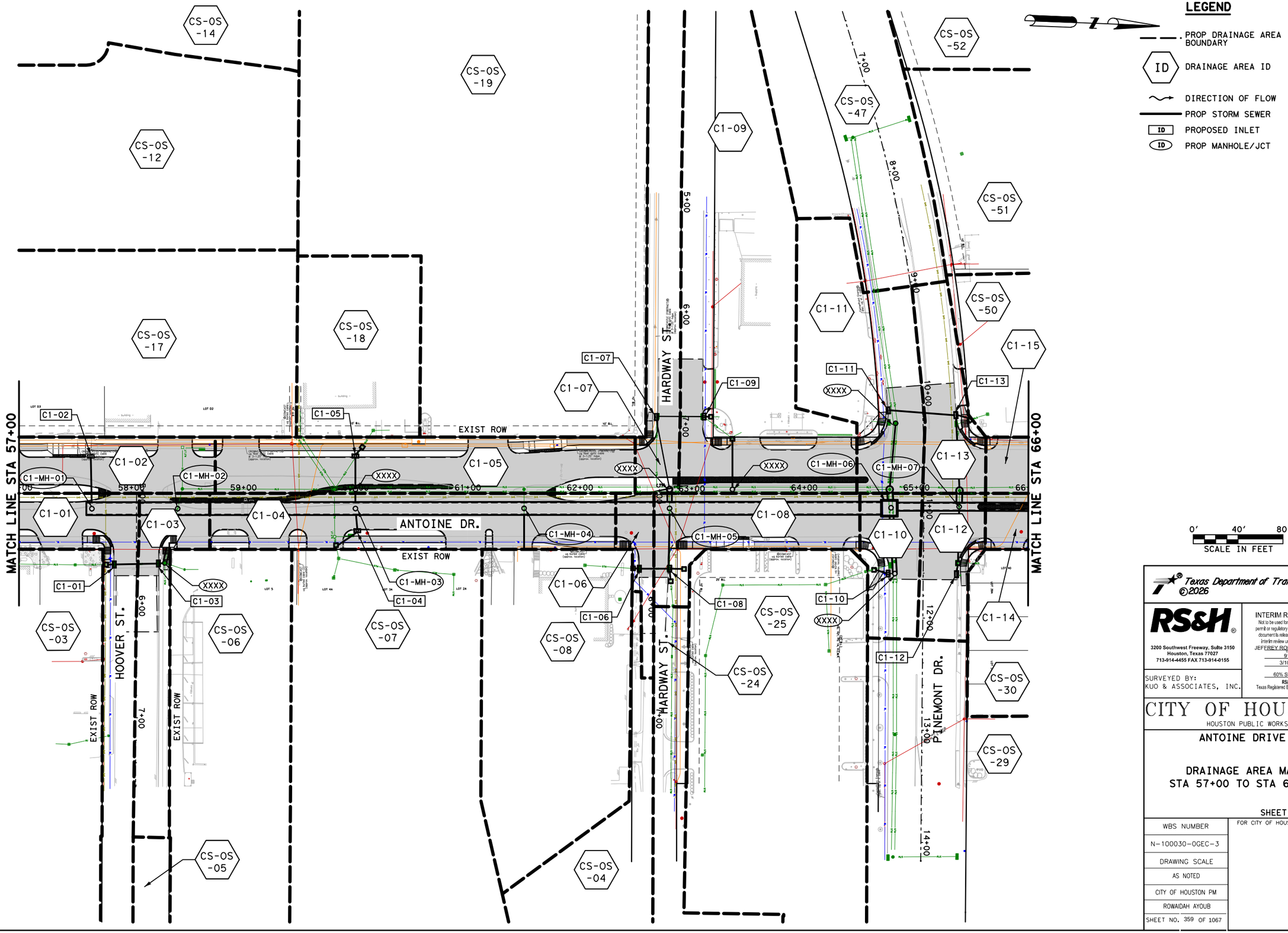

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE AREA MAP
STA 57+00 TO STA 66+00

SHEET 07 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 359 OF 1067	

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LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

MATCH LINE STA 66+00

MATCH LINE STA 75+50

ANTOINE DR.

GOLDEN FOREST DR.

BROOM ST.

CREEKMONT DR.

BIRCHMONT DR.

CS-OS-29, CS-OS-30, CS-OS-33, CS-OS-34, CS-OS-36, CS-OS-41, CS-OS-42, CS-OS-43, CS-OS-44, CS-OS-45, CS-OS-50, CS-OS-51, CS-OS-52, CS-OS-53, CS-OS-54, CS-OS-55, CS-OS-56, CS-OS-57

C1-12, C1-15, C1-16, C1-17, C1-18, C1-19, C1-20, C1-21, C1-22, C1-23, C1-24, C1-XX

C1-MH-08, C1-MH-09, C1-MH-10, C1-MH-11, C1-MH-12, C1-MH-13

XXXX

0′ 40′ 80′
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ANTOINE DRIVE

DRAINAGE AREA MAP
STA 66+00 TO STA 75+50

SHEET 08 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 360 OF 1067	

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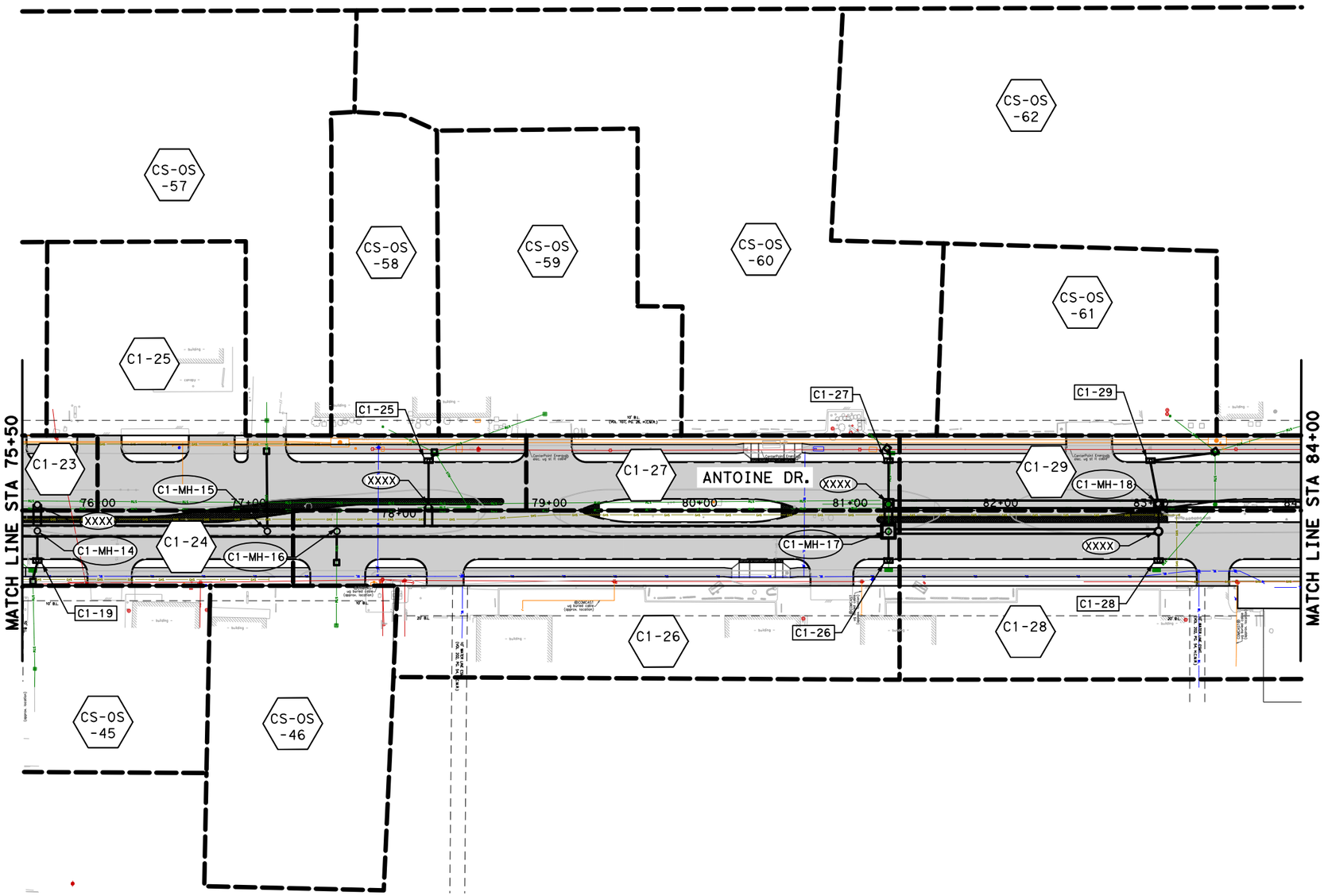

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

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ANTOINE DRIVE

DRAINAGE AREA MAP
STA 75+00 TO STA 84+00

SHEET 09 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 361 OF 1067	

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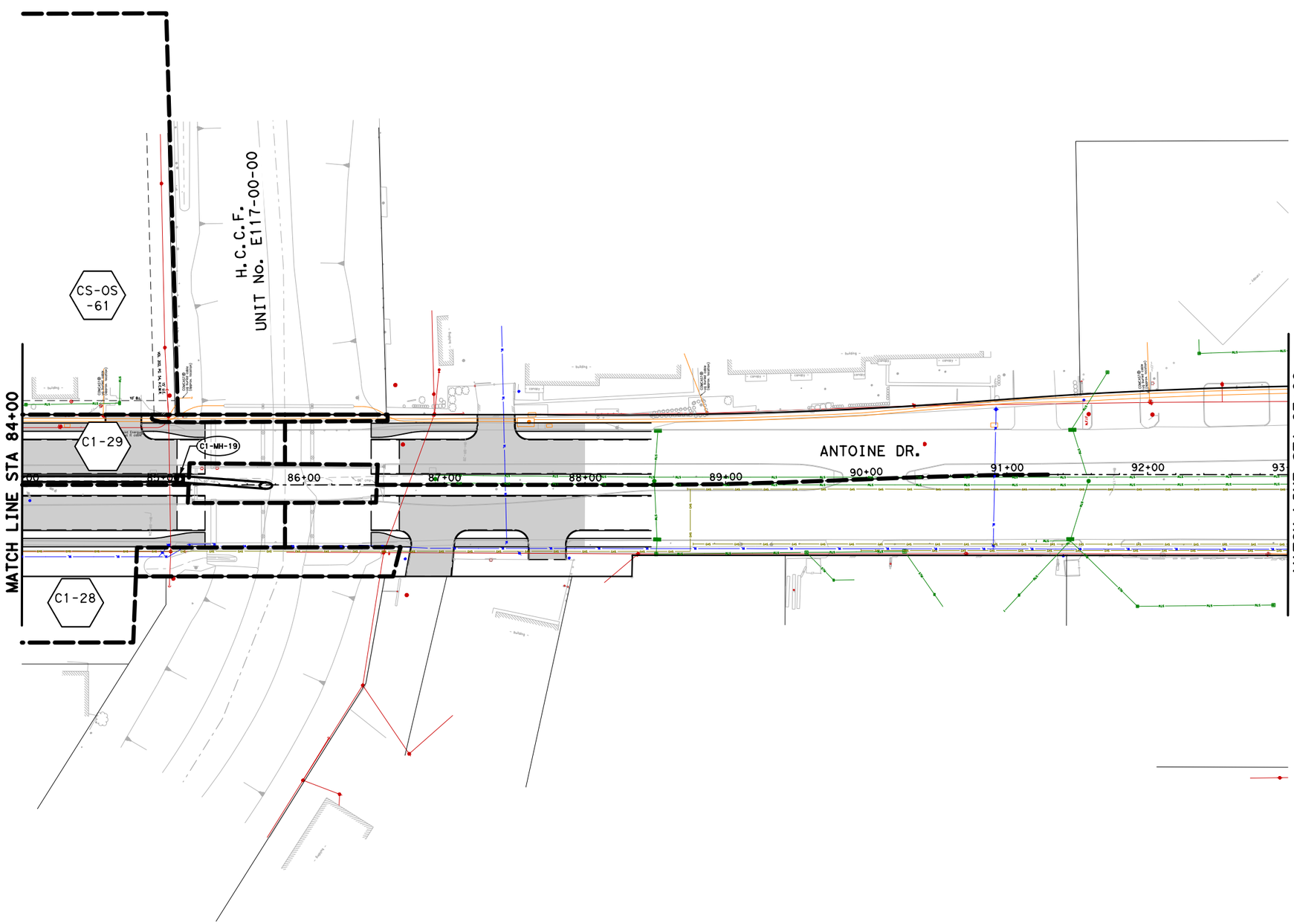

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

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ANTOINE DRIVE

DRAINAGE AREA MAP
STA 84+00 TO STA 93+00

SHEET 05 OF 05

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 362 OF 1067	

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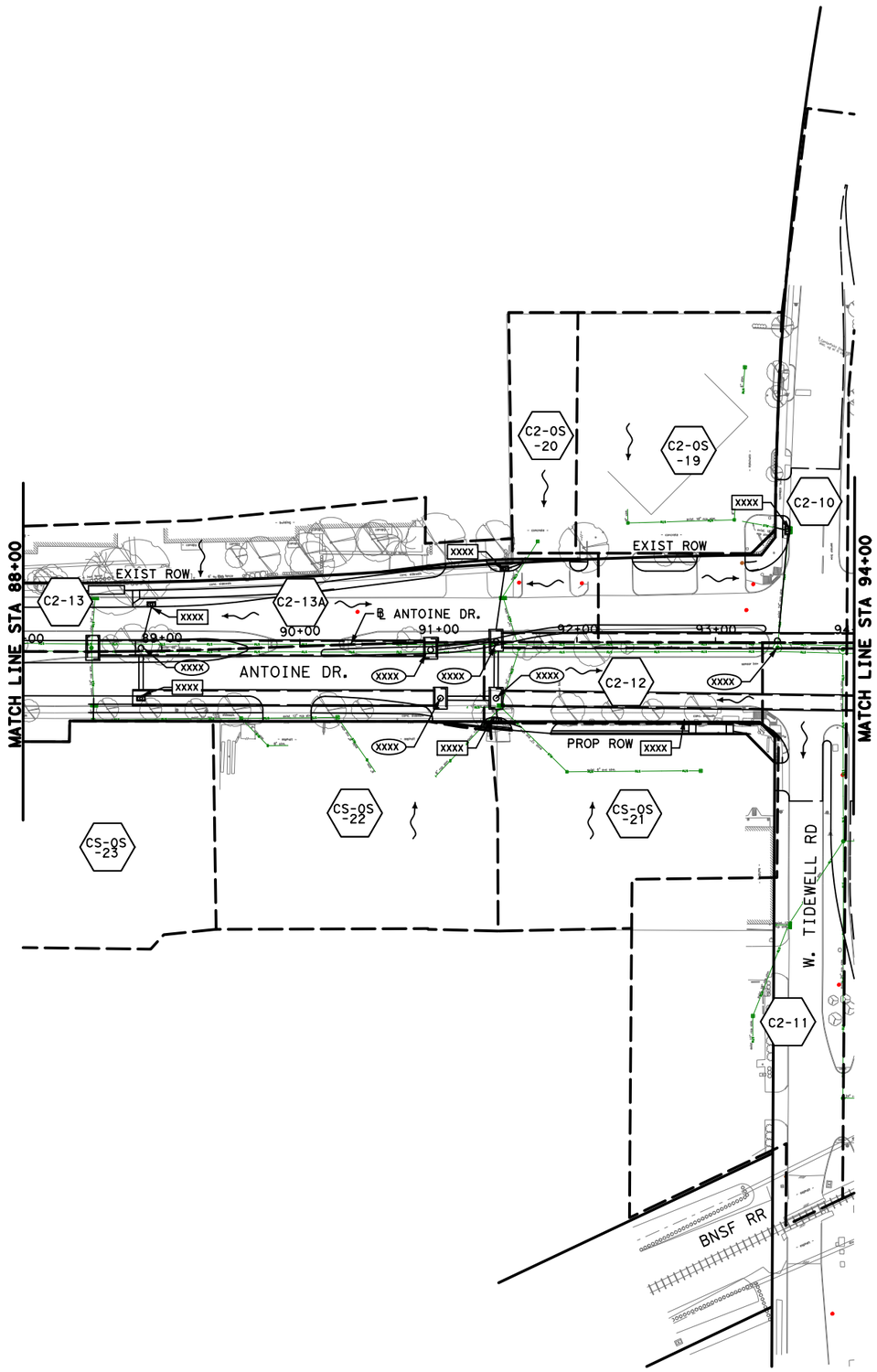

LEGENDEGEND

- PROP DRAINAGE AREA BOUNDARY
- PROP PAVEMENT
- SOIL BORING
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

N

No.	DATE	REVISIONS	APP.

0′ 50′ 100′
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11750 KATY FREEWAY. #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP STA 88+00 TO STA 94+00

SHEET 8 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 363 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DAM 08.dgn

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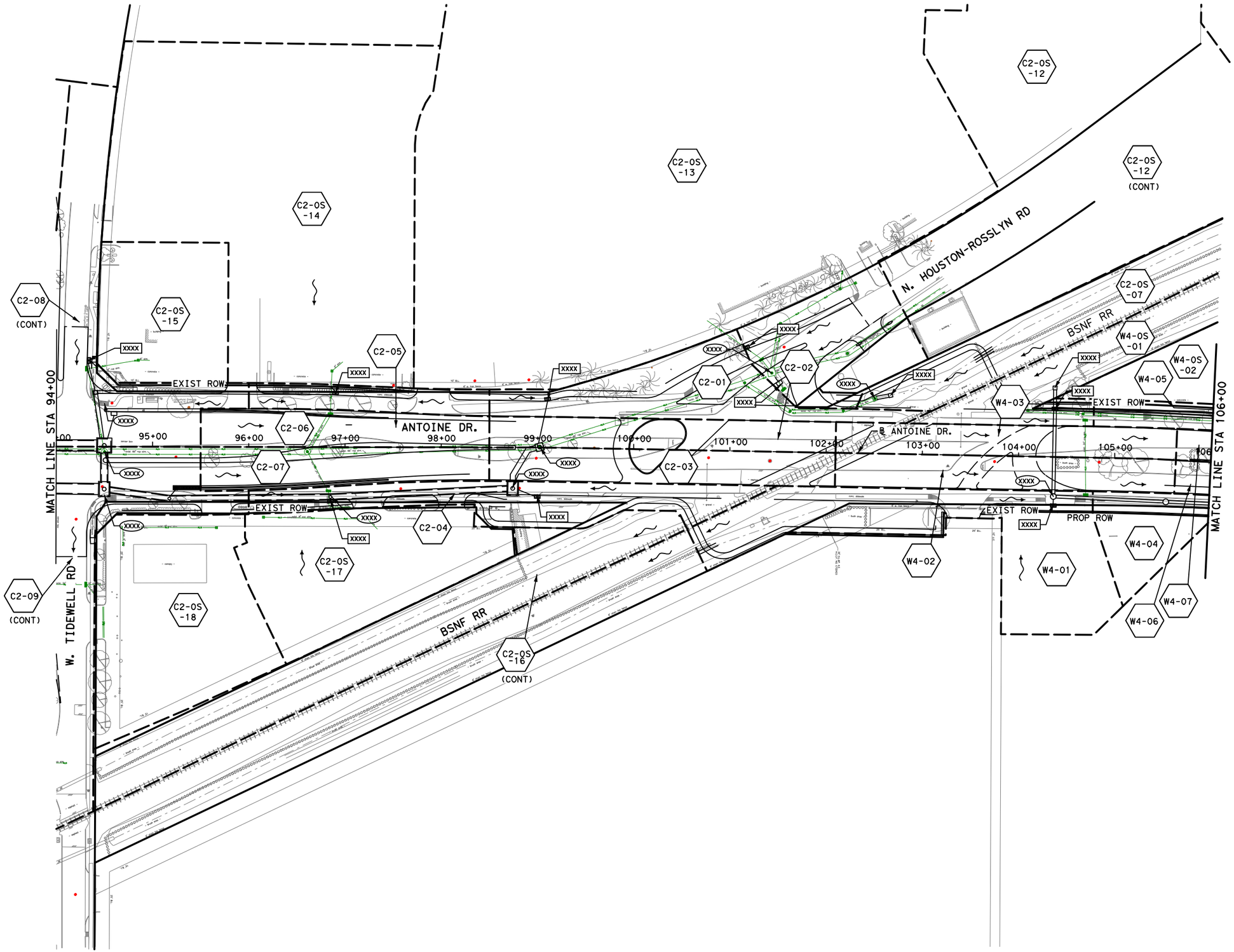

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

N

0' 50' 100'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP
STA 94+00 TO STA 106+00

SHEET 9 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 364 OF 1067	

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LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

No.	DATE	REVISIONS	APP:

BSNF RR

C2-0S-10, C2-0S-11, C2-0S-07, C2-0S-12, W4-0S-01, W4-0S-02 (CONT), W4-0S-03, W4-0S-04, W4-0S-05, W4-0S-08, W4-05 (CONT), W4-07 (CONT), W4-06 (CONT), W4-04 (CONT), W4-08, W4-09, W4-11, W4-10, W4-12, W4-13, W4-14, W4-15, W1-0S-01, W2-0S-01, W2-0S-02, W2-0S-03, W2-0S-04, W4-0S-06, W4-0S-07

MATCH LINE STA 106+00

MATCH LINE STA 118+00

EXIST ROW

ANTOINE DR.

PEPPER GROVE DR

DE SOTO ST

XXXX

107+00, 108+00, 109+00, 110+00, 111+00, 112+00, 113+00, 114+00, 115+00, 116+00, 117+00

0′ 50′ 100′
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP STA 106+00 TO STA 118+00

SHEET 10 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 365 OF 1067	

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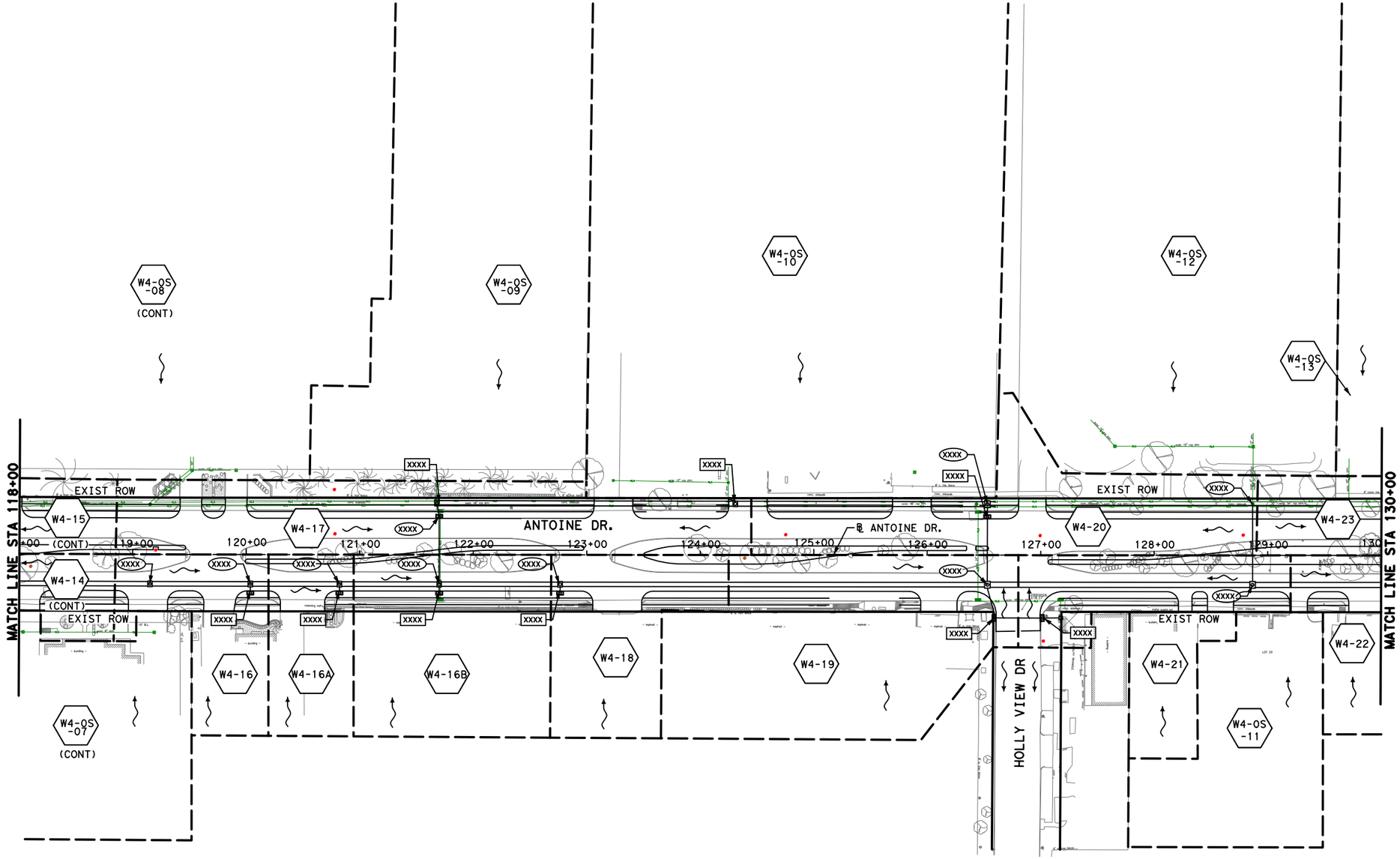

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

N

0′ 50′ 100′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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60% SUBMITTAL
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP STA 118+00 TO STA 130+00

SHEET 11 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 366 OF 1067	

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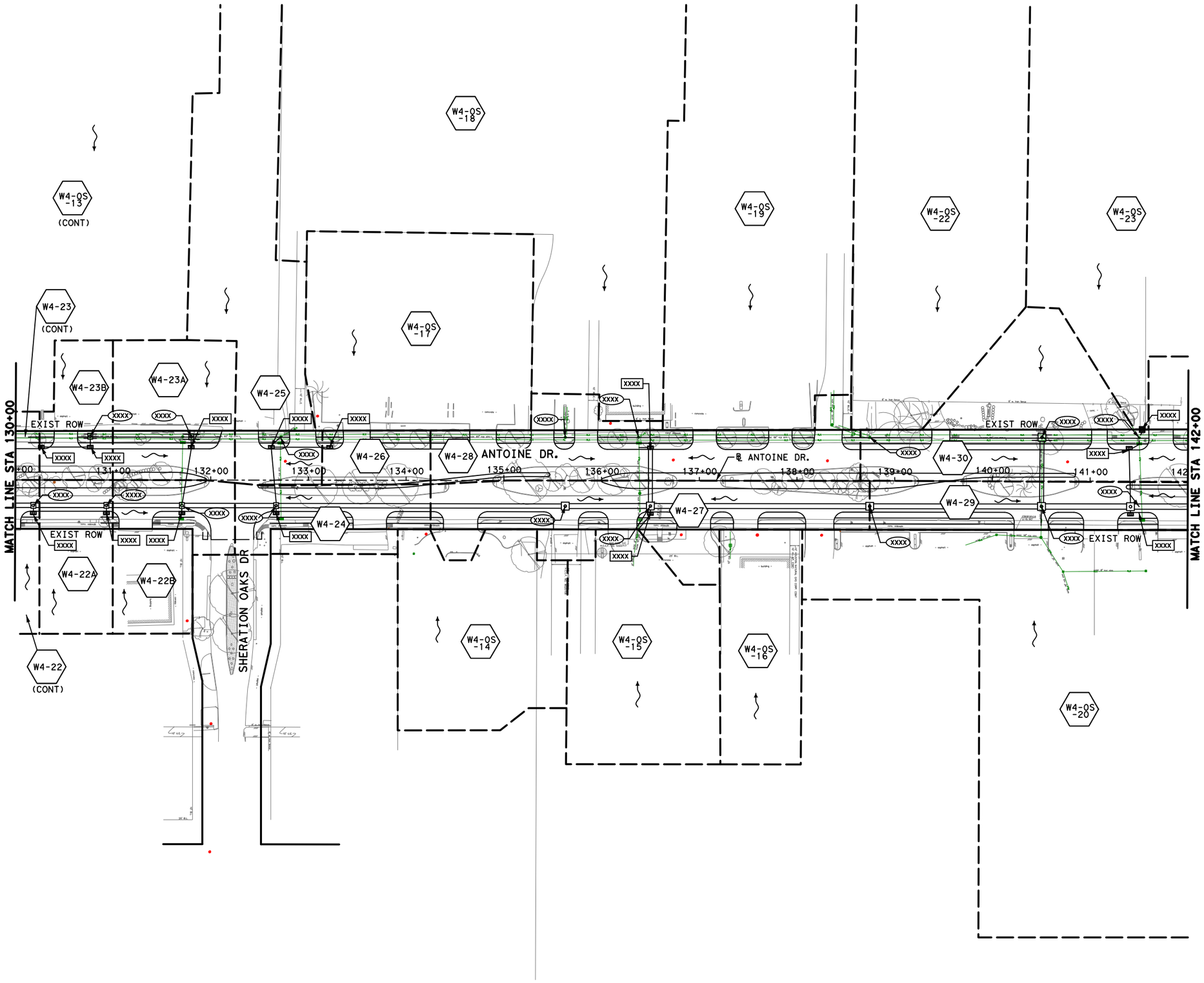

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

N

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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PATRICK W. PHILLIPS
92917
3/20/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP STA 130+00 TO STA 142+00

SHEET 12 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 367 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DAM 12.dgn

Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:24:45 PM$USER$

Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:24:47 PM@USER$

LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

N

No.	DATE	REVISIONS	APP.

W4-OS-23 (CONT) · W4-OS-24 · W4-OS-31 · W4-OS-30 · W4-OS-29 · W4-OS-25 · W4-32 · W4-30 (CONT) · W4-30A · W4-OS-27 · W4-OS-28 · W4-31 · W4-36 · W4-35 · W4-35A · W4-29 (CONT) · W4-OS-21 · W4-OS-20 (CONT) · W3-OS-01 · W4-33 · W4-OS-26 · W3-OS-02 · W3-OS-03 · W5-OS-01 · W5-03 · W5-02

EXIST ROW

℄ ANTOINE DR.

ANTOINE DR.

143+00 · 144+00 · 145+00 · 146+00 · 147+00 · 148+00 · 149+00 · 150+00 · 151+00 · 152+00 · 153+00 · 154+00

MATCH LINE STA 142+00

MATCH LINE STA 154+00

WEST LITTLE YORK RD

WHITE OAK BAYOU UNIT NO. E100-00-00

PROJECT OUTFALL W4 72" RCP

PROJECT OUTFALL W5 42" RCP

0′ 50′ 100′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

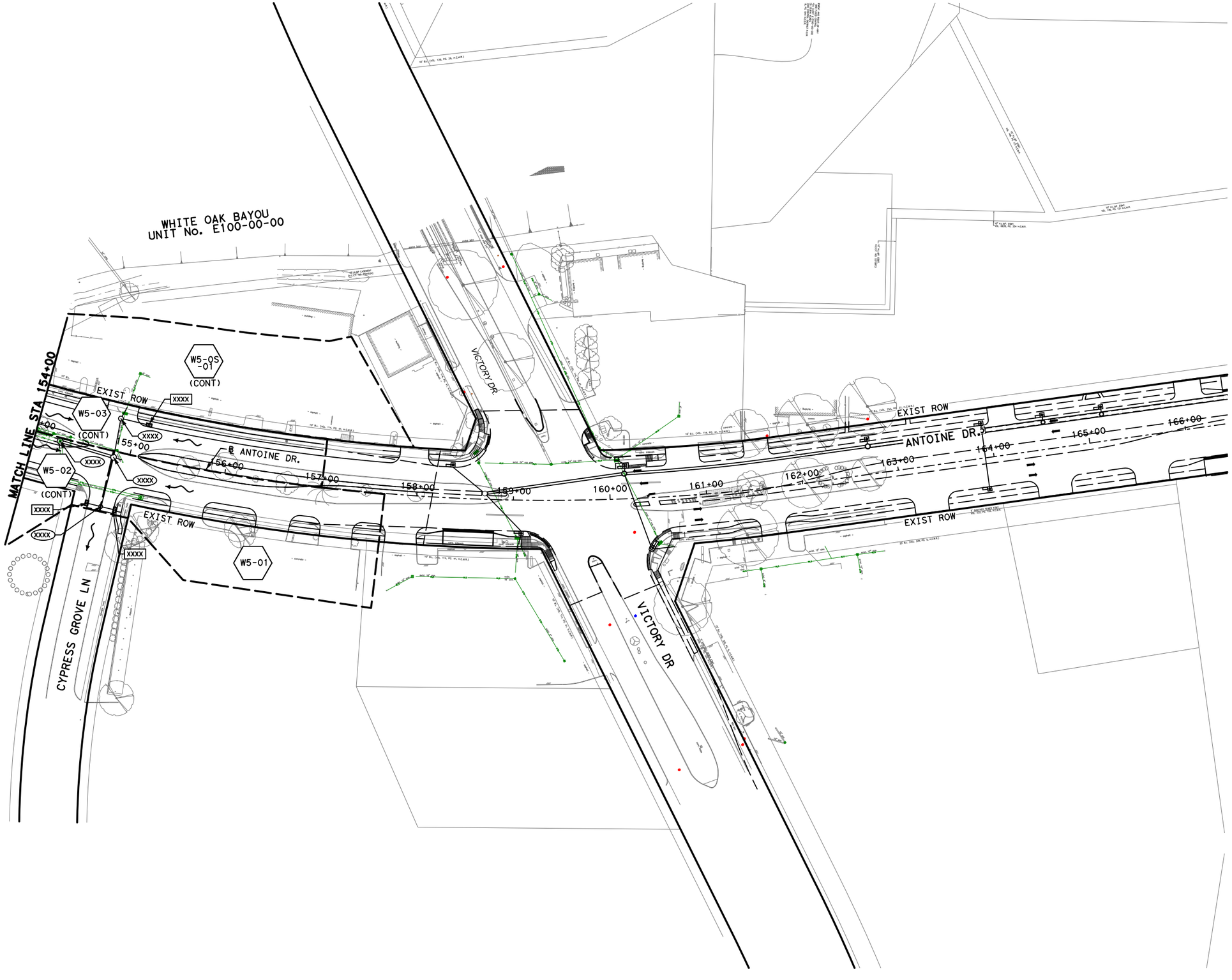
ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP STA 142+00 TO STA 154+00

SHEET 13 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 368 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DAM 13.dgn



LEGEND

- PROP DRAINAGE AREA BOUNDARY
- ID — DRAINAGE AREA ID
- DIRECTION OF FLOW
- PROP STORM SEWER
- ID — PROPOSED INLET
- ID — PROP MANHOLE/JCT

N

No.	DATE	REVISIONS	APP:

0′ 50′ 100′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED DRAINAGE AREA MAP STA 154+00 TO END PROJECT

SHEET 14 OF 14

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 369 OF 1067	

Pen Table:TX*Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DAM 14.dgn

SYSTEM B1						
ID	Runoff (C)	Drainage Area (AC)	Time of Conc. (Min)	Time Used (Min)	Intensity (IN/HR)	Discharge (CFS)
B1-03	0.62	1.43	31.00	31.00	3.43	3.05

SYSTEM B3						
ID	Runoff (C)	Drainage Area (AC)	Time of Conc. (Min)	Time Used (Min)	Intensity (IN/HR)	Discharge (CFS)
B3-01	0.59	1.02	31.00	31.00	3.43	3.05
B3-02	0.70	0.44	31.00	31.00	3.43	3.05
B3-08	0.63	2.36	31.00	31.00	3.43	3.05
B3-09	0.61	0.98	31.00	31.00	3.43	3.05
B3-13	0.62	2.24	31.00	31.00	3.43	3.05
B3-14	0.64	1.06	31.00	31.00	3.43	3.05
B3-05	0.62	0.66	27.00	27.00	3.70	1.51
B3-06	0.81	0.06	10.00	10.00	5.74	0.26
B3-10	0.70	0.59	16.00	16.00	4.78	1.98
B3-11	0.79	0.05	10.00	10.00	5.74	0.24
B3-15	0.66	0.61	18.00	18.00	4.53	1.82
B3-16	0.76	0.08	10.00	10.00	5.74	0.35
B3-17	0.58	0.85	16.00	16.00	4.78	2.34
B3-18	0.58	0.62	22.00	22.00	4.12	1.49

SYSTEM B4						
ID	Runoff (C)	Drainage Area (AC)	Time of Conc. (Min)	Time Used (Min)	Intensity (IN/HR)	Discharge (CFS)
B4-58	0.65	0.93	31.00	31.00	3.43	3.05
B4-57	0.62	1.72	31.00	31.00	3.43	3.05
B4-56	0.71	0.59	31.00	31.00	3.43	3.05
B4-55	0.58	0.37	31.00	31.00	3.43	3.05
B4-53	0.61	1.45	31.00	31.00	3.43	3.05
B4-51	0.63	1.79	31.00	31.00	3.43	3.05
B4-48	0.61	2.13	31.00	31.00	3.43	3.05
B4-46	0.61	2.47	31.00	31.00	3.43	3.05
B4-45	0.60	0.79	31.00	31.00	3.43	3.05
B4-42	0.62	0.97	31.00	31.00	3.43	3.05
B4-43	0.61	1.93	31.00	31.00	3.43	3.05
B4-41	0.61	2.26	31.00	31.00	3.43	3.05
B4-39	0.63	0.73	31.00	31.00	3.43	3.05
B4-34	0.66	1.03	31.00	31.00	3.43	3.05
B4-37	0.61	2.01	31.00	31.00	3.43	3.05
B4-35	0.61	2.03	31.00	31.00	3.43	3.05
B4-32	0.68	0.59	31.00	31.00	3.43	3.05
B4-28	0.66	1.05	31.00	31.00	3.43	3.05
B4-31	0.66	1.12	31.00	31.00	3.43	3.05
B4-30	0.67	1.15	31.00	31.00	3.43	3.05
B4-27	0.61	1.21	31.00	31.00	3.43	3.05
B4-25	0.62	1.61	31.00	31.00	3.43	3.05
B4-26	0.61	1.45	31.00	31.00	3.43	3.05
B4-21	0.37	0.46	31.00	31.00	3.43	3.05
B4-24	0.61	1.69	31.00	31.00	3.43	3.05
B4-18	0.73	0.22	31.00	31.00	3.43	3.05
B4-20	0.62	1.46	31.00	31.00	3.43	3.05
B4-19	0.62	1.78	31.00	31.00	3.43	3.05
B4-16	0.87	0.37	31.00	31.00	3.43	3.05
B4-15	0.62	1.41	31.00	31.00	3.43	3.05
B4-13	0.62	1.79	31.00	31.00	3.43	3.05
B4-08	0.43	0.48	31.00	31.00	3.43	3.05
B4-56A	0.57	0.06	11.09	11.09	5.54	0.18
B4-52	0.72	0.18	10.00	10.00	5.74	0.75
B4-47	0.69	0.40	21.00	21.00	4.21	1.17
B4-18A	0.71	0.12	10.00	10.00	5.74	0.49
B4-14	0.73	0.19	10.00	10.00	5.74	0.78
B4-09	0.80	0.09	10.00	10.00	5.74	0.42

No.	DATE	REVISIONS	APP.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713 777 5337

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED 2-YEAR
RUNOFF COMPUTATION

SHEET 1 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 370 OF 1067	

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Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\DRAINAGE\PR_INLET CALCS.dgn

SYSTEM B1																	
ID	Type		Discharge (cfs)	Discharge (cfs)		Max Allow Pond Width (ft)	Slope %		Curb Length (ft)	Grate Length (ft)	Width (ft)	Gutter Depr. (ft)	Area (ft)	Perim. (ft)	Capacity (cfs)	Max Allow Ponded	Ponded Depth (ft)	Transverse Slope (%)
				Left	Right		Left	Right										
B1-03	Type C-2	Curb	3.05	1.06	1.99	11.0	0.84%	1.79%	16.00	n/a	n/a	0.25	n/a	n/a	15.00	0.50	0.16	2.00%

SYSTEM B3																	
ID	Type		Discharge (cfs)	Discharge (cfs)		Max Allow Pond Width (ft)	Slope %		Curb Length (ft)	Grate Length (ft)	Width (ft)	Gutter Depr. (ft)	Area (ft)	Perim. (ft)	Capacity (cfs)	Max Allow Ponded	Ponded Depth (ft)	Transverse Slope (%)
				Left	Right		Left	Right										
B3-01	Type C	Curb	2.47	2.37	0.10	11.0	1.02%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.24	4.00%
B3-02	Type C	Curb	1.43	0.91	0.52	11.0	0.50%	1.02%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.19	4.00%
B3-08	Type C	Curb	5.37	2.46	2.92	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.33	4.00%
B3-09	Type C	Curb	1.64	0.06	1.58	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.26	4.00%
B3-13	Type C	Curb	4.80	3.77	1.03	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.32	3.00%
B3-14	Type C	Curb	2.58	0.49	2.09	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.29	4.00%

SYSTEM B4																	
ID	Type		Discharge (cfs)	Discharge (cfs)		Max Allow Pond Width (ft)	Slope %		Curb Length (ft)	Grate Length (ft)	Width (ft)	Gutter Depr. (ft)	Area (ft)	Perim. (ft)	Capacity (cfs)	Max Allow Ponded	Ponded Depth (ft)	Transverse Slope (%)
				Left	Right		Left	Right										
B4-58	Type C	Curb	2.73	1.67	1.06	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.18	2.00%
B4-57	Type C	Curb	4.30	1.27	3.02	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.27	3.00%
B4-56	Type C	Curb	2.39	1.40	0.99	11.0	0.45%	0.55%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.18	2.00%
B4-55	Type E	Median	1.23	0.66	0.58	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.09	1.00%
B4-53	Type C	Curb	3.54	3.39	0.15	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.28	3.00%
B4-51	Type C	Curb	4.00	1.17	2.83	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.29	4.00%
B4-48	Type C	Curb	3.91	3.79	0.12	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.29	3.00%
B4-46	Type C	Curb	5.12	1.04	4.08	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.30	3.00%
B4-45	Type C	Curb	1.88	0.26	1.63	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.23	3.00%
B4-42	Type C	Curb	2.21	1.61	0.61	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.24	4.00%
B4-43	Type C	Curb	3.51	3.41	0.10	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.31	4.00%
B4-41	Type C	Curb	4.69	0.99	3.70	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.32	4.00%
B4-39	Type C	Curb	1.78	0.60	1.18	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.19	3.00%
B4-34	Type C	Curb	2.68	1.19	1.49	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.23	3.00%
B4-37	Type C	Curb	3.32	0.14	3.18	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.30	3.00%
B4-35	Type C	Curb	3.90	0.30	3.60	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.29	3.00%
B4-32	Type C	Curb	1.56	0.47	1.09	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.18	3.00%
B4-28	Type C	Curb	2.51	0.69	1.82	11.0	0.30%	0.60%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.18	2.00%
B4-31	Type C	Curb	2.64	1.50	1.14	11.0	0.70%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.18	2.00%
B4-30	Type C	Curb	3.20	1.63	1.56	11.0	0.30%	0.70%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.23	3.00%
B4-27	Type C	Curb	2.23	2.11	0.12	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.26	4.00%
B4-25	Type C	Curb	3.19	0.77	2.42	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.28	4.00%
B4-26	Type C	Curb	3.04	0.11	2.93	11.0	0.30%	0.60%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.26	3.00%
B4-21	Type E	Median	0.98	0.06	0.92	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.10	1.00%
B4-24	Type C	Curb	4.17	3.14	1.02	11.0	0.60%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.29	4.00%
B4-18	Type C	Curb	0.91	0.49	0.42	11.0	0.33%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.13	2.00%
B4-20	Type C	Curb	3.22	0.25	2.97	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.33	4.00%
B4-19	Type C	Curb	3.74	2.74	1.00	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.32	4.00%
B4-16	Type E	Median	1.37	1.01	0.36	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.10	1.00%
B4-15	Type C	Curb	2.80	0.22	2.59	11.0	0.30%	0.60%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.27	4.00%
B4-13	Type C	Curb	4.39	0.27	4.13	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.37	4.00%
B4-08	Type E	Median	0.70	0.34	0.36	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.07	1.00%

No.	DATE	REVISIONS	APP.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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MARCH 2026
60% SUBMITTAL
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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED 2-YEAR
SAG INLET SUMMARY

SHEET 2 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 371 OF 1067	

Plotted on: 3/9/2026 6:58:34 PM
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_INLET CALCS.dgn

SYSTEM B3														
ID	Type		Discharge (cfs)	Ponded Width (ft)	Ponded Depth (ft)	Max Allow Pond Width (ft)	Transverse Slope (%)	Longitudinal Slope %		Length (ft)	Width (ft)	Depr. (ft)	Capacity (cfs)	By Pass (cfs)	To Node
								Left	Right						
B3-05	Type C	Curb	1.51	0	0	11.00	0.03	1.15%	0.53%	6.00	n/a	0.25	5.00	0.00	OUT
B3-06	Type C	Curb	0.26	0	0	11.00	0.03	1.73%	0.26%	6.00	n/a	0.25	5.00	0.00	OUT
B3-10	Type C	Curb	1.98	0	0	11.00	0.03	1.00%	0.19%	6.00	n/a	0.25	5.00	0.00	OUT
B3-11	Type C	Curb	0.24	0	0	11.00	0.03	1.00%	1.49%	6.00	n/a	0.25	5.00	0.00	OUT
B3-15	Type C	Curb	1.82	0	0	11.00	0.03	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	OUT
B3-16	Type C	Curb	0.35	0	0	11.00	0.03	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	OUT
B3-17	Type C	Curb	2.34	0	0	11.00	0.02	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	B4-58
B3-18	Type C	Curb	1.49	0	0	11.00	0.02	0.31%	0.31%	6.00	n/a	0.25	5.00	0.00	B4-56

SYSTEM B4														
ID	Type		Discharge (cfs)	Ponded Width (ft)	Ponded Depth (ft)	Max Allow Pond Width (ft)	Transverse Slope (%)	Longitudinal Slope %		Length (ft)	Width (ft)	Depr. (ft)	Capacity (cfs)	By Pass (cfs)	To Node
								Left	Right						
B4-56A	Type A	Curb	0.18	0	0	11.00	0.001	0.10%	0.10%	3.00	n/a	0.25	2.50	0.00	B4-56
B4-52	Type C	Curb	0.75	0	0	11.00	0.02	0.55%	0.55%	6.00	n/a	0.25	5.00	0.00	B4-56
B4-47	Type C	Curb	1.17	0	0	11.00	0.02	0.55%	0.55%	6.00	n/a	0.25	5.00	0.00	B4-52
B4-18A	Type C	Curb	0.49	0	0	11.00	0.02	0.33%	0.33%	6.00	n/a	0.25	5.00	0.00	B4-18
B4-14	Type C	Curb	0.78	0	0	11.00	0.02	0.33%	0.33%	6.00	n/a	0.25	5.00	0.00	B4-18A
B4-09	Type C	Curb	0.42	0	0	11.00	0.02	0.32%	0.32%	6.00	n/a	0.25	5.00	0.00	OUT

No.	DATE	REVISIONS	APP.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED 2-YEAR ON GRADE INLET SUMMARY

SHEET 3 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 372 OF 1067	

Plotted on: 3/9/2026 6:58:35 PMIF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_INLET CALCS.dgn

SYSTEM B1						
ID	Runoff (C)	Drainage Area (AC)	Time of Conc. (Min)	Time Used (Min)	Intensity (IN/HR)	Discharge (CFS)
B1-03	0.62	1.43	31.00	31.00	3.43	7.22

SYSTEM B3						
ID	Runoff (C)	Drainage Area (AC)	Time of Conc. (Min)	Time Used (Min)	Intensity (IN/HR)	Discharge (CFS)
B3-01	0.59	1.02	31.00	31.00	3.43	7.22
B3-02	0.70	0.44	31.00	31.00	3.43	7.22
B3-08	0.63	2.36	31.00	31.00	3.43	7.22
B3-09	0.61	0.98	31.00	31.00	3.43	7.22
B3-13	0.62	2.24	31.00	31.00	3.43	7.22
B3-14	0.64	1.06	31.00	31.00	3.43	7.22
B3-05	0.62	0.66	27.00	27.00	3.70	1.51
B3-06	0.81	0.06	10.00	10.00	5.74	0.26
B3-10	0.70	0.59	16.00	16.00	4.78	1.98
B3-11	0.79	0.05	10.00	10.00	5.74	0.24
B3-15	0.66	0.61	18.00	18.00	4.53	1.82
B3-16	0.76	0.08	10.00	10.00	5.74	0.35
B3-17	0.58	0.85	16.00	16.00	4.78	2.34
B3-18	0.58	0.62	22.00	22.00	4.12	1.49

SYSTEM B4						
ID	Runoff (C)	Drainage Area (AC)	Time of Conc. (Min)	Time Used (Min)	Intensity (IN/HR)	Discharge (CFS)
B4-58	0.65	0.93	31.00	31.00	3.43	7.22
B4-57	0.62	1.72	31.00	31.00	3.43	7.22
B4-56	0.71	0.59	31.00	31.00	3.43	7.22
B4-55	0.58	0.37	31.00	31.00	3.43	7.22
B4-53	0.61	1.45	31.00	31.00	3.43	7.22
B4-51	0.63	1.79	31.00	31.00	3.43	7.22
B4-48	0.61	2.13	31.00	31.00	3.43	7.22
B4-46	0.61	2.47	31.00	31.00	3.43	7.22
B4-45	0.60	0.79	31.00	31.00	3.43	7.22
B4-42	0.62	0.97	31.00	31.00	3.43	7.22
B4-43	0.61	1.93	31.00	31.00	3.43	7.22
B4-41	0.61	2.26	31.00	31.00	3.43	7.22
B4-39	0.63	0.73	31.00	31.00	3.43	7.22
B4-34	0.66	1.03	31.00	31.00	3.43	7.22
B4-37	0.61	2.01	31.00	31.00	3.43	7.22
B4-35	0.61	2.03	31.00	31.00	3.43	7.22
B4-32	0.68	0.59	31.00	31.00	3.43	7.22
B4-28	0.66	1.05	31.00	31.00	3.43	7.22
B4-31	0.66	1.12	31.00	31.00	3.43	7.22
B4-30	0.67	1.15	31.00	31.00	3.43	7.22
B4-27	0.61	1.21	31.00	31.00	3.43	7.22
B4-25	0.62	1.61	31.00	31.00	3.43	7.22
B4-26	0.61	1.45	31.00	31.00	3.43	7.22
B4-21	0.37	0.46	31.00	31.00	3.43	7.22
B4-24	0.61	1.69	31.00	31.00	3.43	7.22
B4-18	0.73	0.22	31.00	31.00	3.43	7.22
B4-20	0.62	1.46	31.00	31.00	3.43	7.22
B4-19	0.62	1.78	31.00	31.00	3.43	7.22
B4-16	0.87	0.37	31.00	31.00	3.43	7.22
B4-15	0.62	1.41	31.00	31.00	3.43	7.22
B4-13	0.62	1.79	31.00	31.00	3.43	7.22
B4-08	0.43	0.48	31.00	31.00	3.43	7.22
B4-56A	0.57	0.06	11.09	11.09	5.54	0.18
B4-52	0.72	0.18	10.00	10.00	5.74	0.75
B4-47	0.69	0.40	21.00	21.00	4.21	1.17
B4-18A	0.71	0.12	10.00	10.00	5.74	0.49
B4-14	0.73	0.19	10.00	10.00	5.74	0.78
B4-09	0.80	0.09	10.00	10.00	5.74	0.42

No.	DATE	REVISIONS	APP.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
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Texas No.
90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED 100-YEAR RUNOFF COMPUTATION

SHEET 4 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 373 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\DRAINAGE\PR_INLET CALCS.dgn
Plotted on: 3/9/2026 6:58:35 PM
F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

SYSTEM B3														
ID	Type		Discharge (cfs)	Ponded Width (ft)	Ponded Depth (ft)	Max Allow Pond Width (ft)	Transverse Slope (%)	Longitudinal Slope %		Length (ft)	Width (ft)	Depr. (ft)	Capacity (cfs)	By Pass (cfs)	To Node
								Left	Right						
B3-05	Type C	Curb	1.51	0	0	11.00	0.03	1.15%	0.53%	6.00	n/a	0.25	5.00	0.00	OUT
B3-06	Type C	Curb	0.26	0	0	11.00	0.03	1.73%	0.26%	6.00	n/a	0.25	5.00	0.00	OUT
B3-10	Type C	Curb	1.98	0	0	11.00	0.03	1.00%	0.19%	6.00	n/a	0.25	5.00	0.00	OUT
B3-11	Type C	Curb	0.24	0	0	11.00	0.03	1.00%	1.49%	6.00	n/a	0.25	5.00	0.00	OUT
B3-15	Type C	Curb	1.82	0	0	11.00	0.03	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	OUT
B3-16	Type C	Curb	0.35	0	0	11.00	0.03	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	OUT
B3-17	Type C	Curb	2.34	0	0	11.00	0.02	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	B4-58
B3-18	Type C	Curb	1.49	0	0	11.00	0.02	0.31%	0.31%	6.00	n/a	0.25	5.00	0.00	B4-56

SYSTEM B4														
ID	Type		Discharge (cfs)	Ponded Width (ft)	Ponded Depth (ft)	Max Allow Pond Width (ft)	Transverse Slope (%)	Longitudinal Slope %		Length (ft)	Width (ft)	Depr. (ft)	Capacity (cfs)	By Pass (cfs)	To Node
								Left	Right						
B4-56A	Type A	Curb	0.18	0	0	11.00	0.001	0.10%	0.10%	3.00	n/a	0.25	2.50	0.00	B4-56
B4-52	Type C	Curb	0.75	0	0	11.00	0.02	0.55%	0.55%	6.00	n/a	0.25	5.00	0.00	B4-56
B4-47	Type C	Curb	1.17	0	0	11.00	0.02	0.55%	0.55%	6.00	n/a	0.25	5.00	0.00	B4-52
B4-18A	Type C	Curb	0.49	0	0	11.00	0.02	0.33%	0.33%	6.00	n/a	0.25	5.00	0.00	B4-18
B4-14	Type C	Curb	0.78	0	0	11.00	0.02	0.33%	0.33%	6.00	n/a	0.25	5.00	0.00	B4-18A
B4-09	Type C	Curb	0.42	0	0	11.00	0.02	0.32%	0.32%	6.00	n/a	0.25	5.00	0.00	OUT

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED 100-YEAR
ON GRADE INLET SUMMARY

SHEET 6 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 374 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\DRAINAGE\PR_INLET CALCS.dgn

Plotted on: 3/9/2026 6:58:35 PM
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

SYSTEM B1																	
ID	Type	Discharge (cfs)	Discharge (cfs)		Max Allow Pond Width (ft)	Slope %		Curb Length (ft)	Grate Length (ft)	Width (ft)	Gutter Depr. (ft)	Area (ft)	Perim. (ft)	Capacity (cfs)	Max Allow Ponded	Ponded Depth (ft)	Transverse Slope (%)
			Left	Right		Left	Right										
B1-03	Type C-2 Curb	7.22	2.52	4.70	11.0	0.84%	1.79%	16.00	n/a	n/a	0.25	n/a	n/a	15.00	0.50	0.21	2.00%

SYSTEM B3																	
ID	Type		Discharge (cfs)	Discharge (cfs)		Max Allow Pond Width	Slope %		Curb Length (ft)	Grate Length (ft)	Width (ft)	Gutter Depr. (ft)	Area (ft)	Perim. (ft)	Capacity (cfs)	Max Allow Ponded	Ponded Depth (ft)	Transverse Slope (%)
				Left	Right		Left	Right										
B3-01	Type C	Curb	5.72	5.49	0.23	11.0	1.02%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.33	4.00%
B3-02	Type C	Curb	3.26	2.08	1.19	11.0	0.50%	1.02%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.26	4.00%
B3-08	Type C	Curb	12.64	5.78	6.86	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.45	4.00%
B3-09	Type C	Curb	3.98	0.14	3.84	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.36	4.00%
B3-13	Type C	Curb	11.36	8.92	2.44	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.44	3.00%
B3-14	Type C	Curb	6.04	1.15	4.89	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.39	4.00%

SYSTEM B4																	
ID	Type		Discharge (cfs)	Discharge (cfs)		Max Allow Pond Width	Slope %		Curb Length (ft)	Grate Length (ft)	Width (ft)	Gutter Depr. (ft)	Area (ft)	Perim. (ft)	Capacity (cfs)	Max Allow Ponded	Ponded Depth (ft)	Transverse Slope (%)
				Left	Right		Left	Right										
B4-58	Type C	Curb	6.25	3.82	2.43	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.25	2.00%
B4-57	Type C	Curb	9.98	2.96	7.02	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.37	3.00%
B4-56	Type C	Curb	5.30	3.11	2.20	11.0	0.45%	0.55%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.24	2.00%
B4-55	Type E	Median	2.74	1.46	1.28	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.12	1.00%
B4-53	Type C	Curb	8.22	7.88	0.35	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.39	3.00%
B4-51	Type C	Curb	9.43	2.77	6.66	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.40	4.00%
B4-48	Type C	Curb	9.42	9.12	0.30	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.41	3.00%
B4-46	Type C	Curb	12.15	2.46	9.69	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.42	3.00%
B4-45	Type C	Curb	4.38	0.59	3.79	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.32	3.00%
B4-42	Type C	Curb	5.19	3.77	1.42	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.33	4.00%
B4-43	Type C	Curb	8.45	8.21	0.24	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.44	4.00%
B4-41	Type C	Curb	11.13	2.34	8.78	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.45	4.00%
B4-39	Type C	Curb	4.16	1.40	2.76	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.26	3.00%
B4-34	Type C	Curb	6.25	2.77	3.47	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.31	3.00%
B4-37	Type C	Curb	8.08	0.33	7.75	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.42	3.00%
B4-35	Type C	Curb	9.34	0.73	8.61	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.40	3.00%
B4-32	Type C	Curb	3.64	1.10	2.54	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.25	3.00%
B4-28	Type C	Curb	5.91	1.63	4.28	11.0	0.30%	0.60%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.25	2.00%
B4-31	Type C	Curb	6.23	3.54	2.69	11.0	0.70%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.24	2.00%
B4-30	Type C	Curb	7.40	3.78	3.62	11.0	0.30%	0.70%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.32	3.00%
B4-27	Type C	Curb	5.38	5.08	0.30	11.0	0.50%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.36	4.00%
B4-25	Type C	Curb	7.62	1.85	5.78	11.0	0.30%	0.50%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.38	4.00%
B4-26	Type C	Curb	7.21	0.26	6.95	11.0	0.30%	0.60%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.36	3.00%
B4-21	Type E	Median	2.18	0.14	2.04	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.14	1.00%
B4-24	Type C	Curb	9.68	7.30	2.38	11.0	0.60%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.40	4.00%
B4-18	Type C	Curb	2.02	1.09	0.94	11.0	0.33%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.17	2.00%
B4-20	Type C	Curb	7.59	0.60	6.99	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.45	4.00%
B4-19	Type C	Curb	8.88	6.51	2.36	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.44	4.00%
B4-16	Type E	Median	3.15	2.32	0.83	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.14	1.00%
B4-15	Type C	Curb	6.70	0.52	6.18	11.0	0.30%	0.60%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.38	4.00%
B4-13	Type C	Curb	10.23	0.62	9.61	11.0	0.30%	0.30%	6.00	n/a	n/a	0.25	n/a	n/a	5.00	0.50	0.51	4.00%
B4-08	Type E	Median	1.66	0.81	0.85	11.0	1.00%	1.00%	3.00	n/a	n/a	0.25	n/a	n/a	20.00	0.50	0.10	1.00%

No.	DATE	REVISIONS	APP.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713 777 5337

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KUO & ASSOCIATES, INC.

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED 100-YEAR
SAG INLET SUMMARY

SHEET 5 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 375 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_INLET CALCS.dgn

Plotted on: 3/9/2026 6:58:35 PM
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

SYSTEM B4														
Basin ID	Type		Discharge (cfs)	Ponded Width (ft)	Ponded Depth (ft)	Max Allow Pond Width (ft)	Traverse Slope (%)	Longitudanal Slope		Curb Length (ft)	Width (ft)	Gutter Depr. (ft)	Capacity (cfs)	By Pass (cfs)	To Node
								Left	Right						
B4-01	Type C	Curb	2.37	0.00	0.00	11.00	0.02	2.00%	1.74%	6.00	n/a	0.25	5.00	0.00	B4-01
B4-02	Type C	Curb	2.64	0.00	0.00	11.00	0.02	2.13%	2.12%	6.00	n/a	0.25	5.00	0.00	B4-02
B4-03	Type C	Curb	1.85	0.00	0.00	11.00	0.02	2.13%	2.12%	6.00	n/a	0.25	5.00	0.00	B4-03
B4-04	Type C	Curb	2.06	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	B4-04
B4-05	Type C	Curb	2.64	0.00	0.00	11.00	0.02	0.30%	0.40%	6.00	n/a	0.25	5.00	0.00	B4-05
B4-06	Type C	Curb	1.97	0.00	0.00	11.00	0.02	0.30%	0.40%	6.00	n/a	0.25	5.00	0.00	B4-06
B4-07	Type C	Curb	0.72	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	B4-07
B4-08	Type C	Curb	1.03	0.00	0.00	11.00	0.02	2.00%	1.64%	6.00	n/a	0.25	5.00	0.00	B4-08
B4-10	Type C	Curb	3.47	0.00	0.00	11.00	0.02	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	B4-10
B4-11	Type C	Curb	4.34	0.00	0.00	11.00	0.02	0.30%	0.30%	6.00	n/a	0.25	5.00	0.00	B4-11

Subarea ID	Area (Acres)	Area (SQ Miles)	SCS or Rational Method Methodology	Weighted Prop C	EXIST % Imp.	EXIST TC (min)	EXIST TC (hr)	I2 (in/hr)	I5 (in/hr)	I10 (in/hr)	I25 (in/hr)	I50 (in/hr)	I100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
B4-01	0.62	0.00097	Rational Method	0.76	74	20	0.3333	5.04	6.82	8.60	11.40	13.90	16.80	2.37	3.20	4.04	5.35	6.53	7.89
B4-02	0.60	0.00094	Rational Method	0.87	85	20	0.3333	5.04	6.82	8.60	11.40	13.90	16.80	2.64	3.57	4.50	5.96	7.27	8.78
B4-03	0.45	0.00070	Rational Method	0.82	80	23	0.3833	5.04	6.82	8.60	11.40	13.90	16.80	1.85	2.50	3.15	4.18	5.10	6.16
B4-04	0.51	0.00080	Rational Method	0.80	76	22	0.3667	5.04	6.82	8.60	11.40	13.90	16.80	2.06	2.78	3.51	4.65	5.67	6.85
B4-05	0.67	0.00105	Rational Method	0.78	74	30	0.5000	5.04	6.82	8.60	11.40	13.90	16.80	2.64	3.57	4.50	5.97	7.28	8.80
B4-06	0.52	0.00081	Rational Method	0.75	69	28	0.4667	5.04	6.82	8.60	11.40	13.90	16.80	1.97	2.67	3.36	4.46	5.44	6.57
B4-07	0.20	0.00031	Rational Method	0.72	68	23	0.3833	5.04	6.82	8.60	11.40	13.90	16.80	0.72	0.97	1.22	1.62	1.98	2.39
B4-08	0.48	0.00074	Rational Method	0.43	14	31	0.5167	5.04	6.82	8.60	11.40	13.90	16.80	1.03	1.39	1.76	2.33	2.84	3.43
B4-10	1.06	0.00166	Rational Method	0.65	55	25	0.4167	5.04	6.82	8.60	11.40	13.90	16.80	3.47	4.69	5.91	7.84	9.56	11.55
B4-11	1.41	0.00221	Rational Method	0.61	50	29	0.4833	5.04	6.82	8.60	11.40	13.90	16.80	4.34	5.88	7.41	9.83	11.98	14.48
B4-OS-01	30.64	0.04787	Rational Method	0.45	15	39	0.6500	5.04	6.82	8.60	11.40	13.90	16.80	69.08	93.48	117.88	156.26	190.53	230.28
B4-OS-02	1.90	0.00298	Rational Method	0.72	61	16	0.2667	5.04	6.82	8.60	11.40	13.90	16.80	6.89	9.33	11.76	15.59	19.01	22.97
B4-OS-03	0.20	0.00032	Rational Method	0.80	80	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.82	1.11	1.40	1.86	2.27	2.74
B4-OS-05	3.75	0.00586	Rational Method	0.64	55	18	0.3000	5.04	6.82	8.60	11.40	13.90	16.80	12.12	16.41	20.69	27.42	33.44	40.42
B4-OS-06	1.76	0.00275	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	7.98	10.80	13.62	18.05	22.01	26.60
B4-OS-07	0.41	0.00064	Rational Method	0.90	85	12	0.2000	5.04	6.82	8.60	11.40	13.90	16.80	1.86	2.52	3.18	4.21	5.14	6.21

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713-914-4455 FAX 713-914-0155

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HYDROLOGICAL COMPUTATIONS

SHEET 05 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 376 OF 1067	

Plotted on: 3/12/2026 10:53:02 AM by keD
Pen Tables:ANTOINE DR.tbl
Plot Driver:s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg
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SYSTEM C1														
Basin ID	Type		Discharge (cfs)	Ponded Width (ft)	Ponded Depth (ft)	Max Allow Pond Width (ft)	Traverse Slope (%)	Longitudanal Slope		Curb Length (ft)	Width (ft)	Gutter Depr. (ft)	Capacity (cfs)	By Pass (cfs)	To Node
								Left	Right						
C1-01	Type C	Curb	1.58	0.00	0.00	11.00	0.02	0.78%	0.32%	6.00	n/a	0.25	5.00	0.00	C1-01
C1-02	Type C	Curb	1.04	0.00	0.00	11.00	0.02	2.01%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-02
C1-03	Type C	Curb	1.05	0.00	0.00	11.00	0.02	0.78%	0.32%	6.00	n/a	0.25	5.00	0.00	C1-03
C1-04	Type C	Curb	1.72	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-04
C1-05	Type C	Curb	1.72	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-05
C1-06	Type C	Curb	0.31	0.00	0.00	11.00	0.02	3.82%	3.35%	6.00	n/a	0.25	5.00	0.00	C1-06
C1-07	Type C	Curb	2.04	0.00	0.00	11.00	0.02	2.65%	2.50%	6.00	n/a	0.25	5.00	0.00	C1-07
C1-08	Type C	Curb	1.07	0.00	0.00	11.00	0.02	3.82%	3.35%	6.00	n/a	0.25	5.00	0.00	C1-08
C1-09	Type C	Curb	4.68	0.00	0.00	11.00	0.02	2.65%	2.50%	6.00	n/a	0.25	5.00	0.00	C1-09
C1-10	Type C	Curb	0.62	0.00	0.00	11.00	0.02	1.47%	1.25%	6.00	n/a	0.25	5.00	0.00	C1-10
C1-11	Type C	Curb	1.98	0.00	0.00	11.00	0.02	1.66%	1.18%	6.00	n/a	0.25	5.00	0.00	C1-11
C1-12	Type C	Curb	0.64	0.00	0.00	11.00	0.02	1.47%	1.25%	6.00	n/a	0.25	5.00	0.00	C1-12
C1-13	Type C	Curb	0.76	0.00	0.00	11.00	0.02	1.66%	1.18%	6.00	n/a	0.25	5.00	0.00	C1-13
C1-14	Type C	Curb	1.50	0.00	0.00	11.00	0.02	1.76%	1.68%	6.00	n/a	0.25	5.00	0.00	C1-14
C1-15	Type C	Curb	1.40	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-15
C1-16	Type C	Curb	0.86	0.00	0.00	11.00	0.02	1.76%	1.68%	6.00	n/a	0.25	5.00	0.00	C1-16
C1-17	Type C	Curb	0.65	0.00	0.00	11.00	0.02	2.08%	0.30%	6.00	n/a	0.25	5.00	0.00	C1-17
C1-18	Type C	Curb	1.48	0.00	0.00	11.00	0.02	3.25%	1.22%	6.00	n/a	0.25	5.00	0.00	C1-18
C1-19	Type C	Curb	1.11	0.00	0.00	11.00	0.02	2.08%	0.30%	6.00	n/a	0.25	5.00	0.00	C1-19
C1-20	Type C	Curb	1.82	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-20
C1-21	Type C	Curb	0.99	0.00	0.00	11.00	0.02	2.92%	1.00%	6.00	n/a	0.25	5.00	0.00	C1-21
C1-22	Type C	Curb	1.47	0.00	0.00	11.00	0.02	2.89%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-22
C1-23	Type C	Curb	1.02	0.00	0.00	11.00	0.02	3.16%	1.81%	6.00	n/a	0.25	5.00	0.00	C1-23
C1-24	Type C	Curb	1.29	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-24
C1-25	Type C	Curb	3.09	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-25
C1-26	Type C	Curb	3.74	0.00	0.00	11.00	0.02	2.00%	1.78%	6.00	n/a	0.25	5.00	0.00	C1-26
C1-27	Type C	Curb	1.08	0.00	0.00	11.00	0.02	2.00%	1.78%	6.00	n/a	0.25	5.00	0.00	C1-27
C1-28	Type C	Curb	3.75	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-28
C1-29	Type C	Curb	1.87	0.00	0.00	11.00	0.02	2.00%	2.00%	6.00	n/a	0.25	5.00	0.00	C1-29

Subarea ID	Area (Acres)	Area (SQ Miles)	SCS or Rational Method Methodology	Weighted Prop C	EXIST % Imp.	EXIST TC (min)	EXIST TC (hr)	I2 (in/hr)	I5 (in/hr)	I10 (in/hr)	I25 (in/hr)	I50 (in/hr)	I100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
C1-01	0.41	0.00064	Rational Method	0.77	75	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.58	2.14	2.70	3.58	4.37	5.28
C1-02	0.27	0.00042	Rational Method	0.76	75	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.04	1.40	1.77	2.34	2.86	3.45
C1-03	0.25	0.00040	Rational Method	0.83	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.05	1.42	1.80	2.38	2.90	3.51
C1-04	0.41	0.00065	Rational Method	0.82	86	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.72	2.32	2.93	3.89	4.74	5.73
C1-05	0.43	0.00067	Rational Method	0.79	80	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.72	2.32	2.93	3.88	4.73	5.72
C1-06	0.08	0.00012	Rational Method	0.82	84	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.31	0.42	0.53	0.70	0.85	1.03
C1-07	0.51	0.00079	Rational Method	0.79	79	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	2.04	2.76	3.48	4.61	5.62	6.79
C1-08	0.25	0.00039	Rational Method	0.85	90	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.07	1.45	1.83	2.42	2.95	3.57
C1-09	1.18	0.00184	Rational Method	0.79	74	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	4.68	6.34	7.99	10.59	12.92	15.61
C1-10	0.15	0.00023	Rational Method	0.83	86	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.62	0.84	1.06	1.41	1.72	2.08
C1-11	0.45	0.00071	Rational Method	0.87	86	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.98	2.68	3.38	4.48	5.46	6.60
C1-12	0.15	0.00023	Rational Method	0.85	89	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.64	0.87	1.09	1.45	1.77	2.13
C1-13	0.18	0.00028	Rational Method	0.83	87	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.76	1.04	1.31	1.73	2.11	2.55
C1-14	0.35	0.00055	Rational Method	0.84	87	12	0.2000	5.04	6.82	8.60	11.40	13.90	16.80	1.50	2.03	2.55	3.39	4.13	4.99
C1-15	0.34	0.00053	Rational Method	0.82	86	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.40	1.89	2.39	3.16	3.86	4.66
C1-16	0.21	0.00033	Rational Method	0.80	81	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.86	1.16	1.46	1.94	2.37	2.86
C1-17	0.16	0.00026	Rational Method	0.79	80	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.65	0.88	1.11	1.47	1.79	2.17
C1-18	0.37	0.00058	Rational Method	0.79	81	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.48	2.00	2.52	3.34	4.07	4.92
C1-19	0.27	0.00042	Rational Method	0.83	87	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.11	1.51	1.90	2.52	3.07	3.71
C1-20	0.47	0.00073	Rational Method	0.77	76	11	0.1833	5.04	6.82	8.60	11.40	13.90	16.80	1.82	2.46	3.10	4.11	5.01	6.05
C1-21	0.24	0.00038	Rational Method	0.81	83	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	0.99	1.34	1.69	2.24	2.74	3.31
C1-22	0.37	0.00058	Rational Method	0.79	79	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.47	1.99	2.51	3.33	4.06	4.91
C1-23	0.26	0.00040	Rational Method	0.78	78	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.02	1.38	1.73	2.30	2.80	3.39
C1-24	0.32	0.00050	Rational Method	0.80	82	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.29	1.74	2.19	2.91	3.55	4.29
C1-25	0.72	0.00112	Rational Method	0.85	84	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	3.09	4.18	5.28	6.99	8.53	10.31
C1-26	0.94	0.00146	Rational Method	0.79	72	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	3.74	5.06	6.38	8.45	10.31	12.46
C1-27	0.28	0.00044	Rational Method	0.75	74	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.08	1.47	1.85	2.45	2.99	3.61
C1-28	0.98	0.00154	Rational Method	0.76	66	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	3.75	5.07	6.40	8.48	10.34	12.50
C1-29	0.49	0.00076	Rational Method	0.77	76	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.87	2.53	3.19	4.23	5.16	6.24

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AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 377 OF 1067	

Plotted on: 3/12/2026 10:53:13 AM by keD
Pen Table:ANTOINE DR.tbl
Plot Driver:s:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg
Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Drainage\RSH

Subarea ID	Area (Acres)	Area (SQ Miles)	SCS or Rational Method Methodology	Weighted Prop C	EXIST % Imp.	EXIST TC (min)	EXIST TC (hr)	I 2 (in/hr)	I 5 (in/hr)	I 10 (in/hr)	I 25 (in/hr)	I 50 (in/hr)	I 100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
C1-OS-03	1.79	0.00280	Rational Method	0.84	73	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	7.60	10.29	12.97	17.19	20.96	25.34
C1-OS-06	0.86	0.00135	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	3.91	5.29	6.67	8.84	10.78	13.02
C1-OS-18	0.41	0.00064	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.85	2.50	3.15	4.18	5.10	6.16
C1-OS-24	0.43	0.00066	Rational Method	0.68	61	33	0.5500	5.04	6.82	8.60	11.40	13.90	16.80	1.46	1.97	2.49	3.30	4.02	4.86
C1-OS-25	1.30	0.00203	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	5.90	7.99	10.07	13.35	16.28	19.68
C1-OS-41	0.55	0.00087	Rational Method	0.90	84	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	2.51	3.39	4.28	5.67	6.91	8.35
C1-OS-42	0.38	0.00060	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.73	2.33	2.94	3.90	4.76	5.75
C1-OS-43	0.54	0.00084	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	2.43	3.29	4.15	5.50	6.71	8.11
C1-OS-44	0.33	0.00051	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.49	2.01	2.54	3.36	4.10	4.96
C1-OS-45	0.38	0.00059	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	1.71	2.32	2.92	3.87	4.72	5.70
C1-OS-46	0.56	0.00088	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	2.55	3.46	4.36	5.78	7.04	8.51
C1-OS-50	0.51	0.00080	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	2.32	3.14	3.96	5.25	6.40	7.74
C1-OS-54	2.34	0.00365	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	10.60	14.34	18.08	23.97	29.23	35.32
C1-OS-55	1.11	0.00174	Rational Method	0.90	85	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	5.05	6.84	8.62	11.43	13.94	16.84
C1-OS-56	0.38	0.00059	Rational Method	0.90	85	18	0.3000	5.04	6.82	8.60	11.40	13.90	16.80	1.72	2.33	2.94	3.90	4.76	5.75
C1-OS-57	1.32	0.00206	Rational Method	0.80	65	16	0.2667	5.04	6.82	8.60	11.40	13.90	16.80	5.30	7.18	9.05	11.99	14.63	17.68
C1-OS-58	0.34	0.00054	Rational Method	0.80	65	29	0.4833	5.04	6.82	8.60	11.40	13.90	16.80	1.39	1.88	2.37	3.15	3.83	4.63
C1-OS-60	1.34	0.00209	Rational Method	0.80	65	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	5.40	7.31	9.21	12.22	14.89	18.00
C1-OS-61	0.53	0.00083	Rational Method	0.80	65	10	0.1667	5.04	6.82	8.60	11.40	13.90	16.80	2.13	2.88	3.63	4.82	5.87	7.10

Plotted on: 3/12/2026 10:53:17 AM by keD

Pen Table:ANTOINE DR.tbl
Plot Driver:c:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Drainage\RSH

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HYDROLOGICAL COMPUTATIONS

SHEET 07 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 378 OF 1067	

Subarea ID	Area (Acres)	Weighted EXIST C	EXIST % Imp.	EXIST TC (min)	I 2 (in/hr)	I 5 (in/hr)	I 10 (in/hr)	I 25 (in/hr)	I 50 (in/hr)	I 100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
C1-01	0.41	0.79	78	10	5.74	7.18	8.39	10.08	11.39	12.75	1.85	2.31	2.69	3.24	3.66	4.09
C1-02	0.27	0.79	80	10	5.74	7.18	8.39	10.08	11.39	12.75	1.23	1.54	1.80	2.16	2.44	2.73
C1-03	0.25	0.83	86	10	5.74	7.18	8.39	10.08	11.39	12.75	1.20	1.50	1.75	2.11	2.38	2.67
C1-04	0.41	0.85	90	10	5.74	7.18	8.39	10.08	11.39	12.75	2.01	2.52	2.94	3.53	3.99	4.47
C1-05	0.43	0.82	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.02	2.52	2.95	3.54	4.00	4.48
C1-06	0.08	0.82	84	10	5.74	7.18	8.39	10.08	11.39	12.75	0.35	0.44	0.51	0.62	0.70	0.78
C1-07	0.51	0.79	79	10	5.74	7.18	8.39	10.08	11.39	12.75	2.32	2.90	3.39	4.07	4.61	5.15
C1-08	0.25	0.85	91	10	5.74	7.18	8.39	10.08	11.39	12.75	1.22	1.53	1.79	2.15	2.43	2.71
C1-09	1.18	0.79	74	10	5.74	7.18	8.39	10.08	11.39	12.75	5.34	6.68	7.80	9.37	10.60	11.86
C1-10	0.15	0.83	86	10	5.74	7.18	8.39	10.08	11.39	12.75	0.71	0.88	1.03	1.24	1.40	1.57
C1-11	0.45	0.87	86	10	5.74	7.18	8.39	10.08	11.39	12.75	2.26	2.82	3.30	3.96	4.48	5.01
C1-12	0.15	0.85	90	10	5.74	7.18	8.39	10.08	11.39	12.75	0.73	0.92	1.07	1.29	1.46	1.63
C1-13	0.18	0.84	87	10	5.74	7.18	8.39	10.08	11.39	12.75	0.87	1.09	1.28	1.53	1.74	1.94
C1-14	0.35	0.85	87	12	5.38	6.72	7.87	9.47	10.73	12.03	1.60	2.01	2.35	2.83	3.20	3.59
C1-15	0.34	0.84	89	10	5.74	7.18	8.39	10.08	11.39	12.75	1.63	2.03	2.38	2.86	3.23	3.61
C1-16	0.21	0.82	84	10	5.74	7.18	8.39	10.08	11.39	12.75	1.00	1.25	1.46	1.75	1.98	2.22
C1-17	0.16	0.82	85	10	5.74	7.18	8.39	10.08	11.39	12.75	0.77	0.96	1.12	1.35	1.53	1.71
C1-18	0.37	0.82	86	10	5.74	7.18	8.39	10.08	11.39	12.75	1.74	2.17	2.54	3.05	3.45	3.86
C1-19	0.27	0.84	88	10	5.74	7.18	8.39	10.08	11.39	12.75	1.28	1.60	1.87	2.24	2.54	2.84
C1-20	0.47	0.79	80	11	5.55	6.94	8.12	9.76	11.05	12.38	2.07	2.59	3.03	3.64	4.12	4.61
C1-21	0.24	0.81	83	10	5.74	7.18	8.39	10.08	11.39	12.75	1.13	1.42	1.66	1.99	2.25	2.52
C1-22	0.37	0.79	80	10	5.74	7.18	8.39	10.08	11.39	12.75	1.69	2.11	2.46	2.96	3.34	3.74
C1-23	0.26	0.81	84	10	5.74	7.18	8.39	10.08	11.39	12.75	1.20	1.50	1.75	2.11	2.38	2.66
C1-24	0.32	0.83	87	10	5.74	7.18	8.39	10.08	11.39	12.75	1.51	1.89	2.21	2.65	3.00	3.36
C1-25	0.72	0.87	86	10	5.74	7.18	8.39	10.08	11.39	12.75	3.59	4.48	5.24	6.29	7.11	7.96
C1-26	0.94	0.81	74	10	5.74	7.18	8.39	10.08	11.39	12.75	4.34	5.42	6.33	7.61	8.60	9.62
C1-27	0.28	0.78	79	10	5.74	7.18	8.39	10.08	11.39	12.75	1.28	1.60	1.87	2.25	2.54	2.84
C1-28	0.98	0.77	69	10	5.74	7.18	8.39	10.08	11.39	12.75	4.37	5.46	6.38	7.67	8.67	9.70
C1-29	0.49	0.80	81	10	5.74	7.18	8.39	10.08	11.39	12.75	2.22	2.78	3.25	3.90	4.41	4.93
C1-OS-01	0.24	0.67	59	14	5.06	6.33	7.42	8.95	10.15	11.41	0.80	1.00	1.17	1.41	1.60	1.80
C1-OS-02	1.14	0.77	65	19	4.42	5.55	6.52	7.90	8.98	10.14	3.90	4.89	5.75	6.96	7.92	8.94
C1-OS-03	1.79	0.84	73	10	5.74	7.18	8.39	10.08	11.39	12.75	8.66	10.83	12.65	15.20	17.18	19.22
C1-OS-04	1.90	0.74	61	16	4.78	5.99	7.03	8.49	9.64	10.86	6.68	8.38	9.83	11.87	13.48	15.18
C1-OS-05	1.32	0.80	68	10	5.74	7.18	8.39	10.08	11.39	12.75	6.05	7.56	8.84	10.62	12.01	13.43
C1-OS-06	0.86	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	4.45	5.56	6.50	7.81	8.83	9.88
C1-OS-07	1.40	0.72	56	19	4.42	5.55	6.52	7.90	8.98	10.14	4.43	5.57	6.54	7.93	9.02	10.18
C1-OS-08	0.81	0.81	72	25	3.86	4.86	5.72	6.96	7.94	9.00	2.55	3.21	3.78	4.60	5.25	5.95
C1-OS-09	2.84	0.61	49	23	4.03	5.06	5.96	7.24	8.26	9.35	6.91	8.70	10.24	12.44	14.18	16.05
C1-OS-10	3.77	0.61	49	31	3.43	4.33	5.12	6.25	7.15	8.13	7.82	9.88	11.67	14.24	16.29	18.53
C1-OS-11	3.96	0.61	50	29	3.56	4.49	5.31	6.47	7.39	8.40	8.61	10.85	12.82	15.63	17.86	20.29
C1-OS-12	6.79	0.61	50	34	3.26	4.12	4.87	5.96	6.82	7.77	13.50	17.06	20.19	24.68	28.26	32.18
C1-OS-13	5.38	0.62	52	31	3.43	4.33	5.12	6.25	7.15	8.13	11.51	14.53	17.17	20.96	23.98	27.27
C1-OS-14	5.04	0.63	52	29	3.56	4.49	5.31	6.47	7.39	8.40	11.24	14.18	16.74	20.42	23.33	26.51
C1-OS-15	4.64	0.63	53	35	3.21	4.05	4.80	5.87	6.72	7.66	9.41	11.90	14.08	17.22	19.73	22.48
C1-OS-16	4.45	0.61	49	30	3.50	4.41	5.21	6.36	7.27	8.26	9.43	11.90	14.05	17.14	19.60	22.28
C1-OS-17	1.11	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	5.72	7.15	8.36	10.04	11.35	12.70
C1-OS-18	0.41	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.11	2.63	3.07	3.69	4.18	4.67
C1-OS-19	3.77	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	19.47	24.33	28.43	34.16	38.62	43.21
C1-OS-20	3.02	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	13.89	17.36	20.28	24.37	27.55	30.82
C1-OS-21	0.96	0.68	48	20	4.31	5.42	6.37	7.72	8.79	9.93	2.78	3.50	4.11	4.98	5.67	6.41
C1-OS-22	1.82	0.64	49	20	4.31	5.42	6.37	7.72	8.79	9.93	5.02	6.31	7.41	8.99	10.23	11.56
C1-OS-23	1.23	0.61	43	26	3.78	4.76	5.61	6.83	7.80	8.84	2.85	3.59	4.23	5.15	5.88	6.67
C1-OS-24	0.43	0.68	61	33	3.32	4.19	4.95	6.05	6.93	7.89	0.96	1.21	1.43	1.75	2.00	2.28
C1-OS-25	1.30	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	6.73	8.41	9.82	11.80	13.34	14.93
C1-OS-26	1.70	0.75	62	16	4.78	5.99	7.03	8.49	9.64	10.86	6.07	7.61	8.93	10.79	12.25	13.80
C1-OS-27	1.09	0.79	72	10	5.74	7.18	8.39	10.08	11.39	12.75	4.95	6.18	7.22	8.68	9.81	10.98
C1-OS-28	3.10	0.84	78	14	5.06	6.33	7.42	8.95	10.15	11.41	13.16	16.48	19.31	23.30	26.42	29.69
C1-OS-29	2.47	0.77	70	19	4.42	5.55	6.52	7.90	8.98	10.14	8.40	10.54	12.39	15.01	17.07	19.27
C1-OS-30	0.54	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.80	3.50	4.09	4.91	5.55	6.21
C1-OS-31	1.89	0.78	64	31	3.43	4.33	5.12	6.25	7.15	8.13	5.04	6.36	7.52	9.18	10.50	11.94
C1-OS-32	4.04	0.71	58	24	3.94	4.96	5.84	7.10	8.10	9.17	11.35	14.29	16.83	20.46	23.34	26.44
C1-OS-33	1.94	0.80	68	17	4.65	5.83	6.85	8.28	9.41	10.61	7.21	9.04	10.61	12.83	14.58	16.43
C1-OS-34	0.90	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	4.65	5.81	6.79	8.15	9.22	10.31
C1-OS-35	1.98	0.58	42	18	4.53	5.69	6.68	8.08	9.19	10.37	5.22	6.55	7.70	9.32	10.59	11.95
C1-OS-36	3.84	0.70	55	32	3.37	4.26	5.04	6.15	7.04	8.01	9.03	11.40	13.48	16.46	18.84	21.43
C1-OS-37	0.28	0.60	44	24	3.94	4.96	5.84	7.10	8.10	9.17	0.66	0.83	0.98	1.19	1.36	1.54
C1-OS-38	0.30	0.58	40	19	4.42	5.55	6.52	7.90	8.98	10.14	0.76	0.95	1.12	1.36	1.55	1.75
C1-OS-39	1.14	0.44	16	25	3.86	4.86	5.72	6.96	7.94	9.00	1.93	2.43	2.86	3.48	3.98	4.51
C1-OS-40	0.27	0.81	79	31	3.43	4.33	5.12	6.25	7.15	8.13	0.76	0.95	1.13	1.37	1.57	1.79
C1-OS-41	0.55	0.90	84	10	5.74	7.18	8.39	10.08	11.39	12.75	2.86	3.57	4.17	5.01	5.66	6.34
C1-OS-42	0.38	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	1.97	2.46	2.87	3.45	3.90	4.36
C1-OS-43	0.54	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.77	3.46	4.05	4.86	5.50	6.15
C1-OS-44	0.33	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	1.70	2.12	2.48	2.97	3.36	3.76
C1-OS-45	0.38	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	1.95	2.44	2.85	3.42	3.87	4.33
C1-OS-46	0.56	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.91	3.64	4.25	5.11	5.77	6.46
C1-OS-47	1.11	0.77	73	10	5.74	7.18	8.39	10.08	11.39	12.75	4.88	6.09	7.12	8.55	9.67	10.82
C1-OS-48	3.79	0.80	69	22	4.12	5.18	6.09	7.39	8.43	9.53	12.49	15.70	18.48	22.43	25.56	28.92
C1-OS-49	1.16	0.80	65	15	4.91	6.16	7.22	8.71	9.89	11.12	4.57	5.72	6.71	8.10	9.20	10.34
C1-OS-50	0.51	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.65	3.31	3.86	4.64	5.25	5.87
C1-OS-51	0.56	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.91	3.63	4.25	5.10	5.77	6.45
C1-OS-52	2.21	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	11.43	14.28	16.68	20.04	22.66	25.36
C1-OS-53	1.53	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	7.89	9.86	11.52	13.84	15.64	17.50
C1-OS-54	2.34	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	12.08	15.09	17.64	21.19	23.95	26.80
C1-OS-55	1.11	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	5.76	7.20	8.41	10.10	11.42	12.78
C1-OS-56	0.38	0.90	85	18	4.53	5.69	6.68	8.08	9.19	10.37	1.55	1.95	2.29	2.77	3.14	3.55
C1-OS-57	1.32	0.80	65	15	4.91	6.16	7.22	8.71	9.89	11.12	5.17	6.48	7.59	9.17	10.40	11.71
C1-OS-58	0.34	0.80	65	29	3.56	4.49	5.31	6.47	7.39	8.40	0.98	1.24	1.46	1.78	2.04	2.32

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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PATRICK W. PHILLIPS
92917
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED HYDROLOGICAL COMPUTATIONS

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 379 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:16:08 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR-HYDROLOGY 01.dgn

Subarea ID	Area (Acres)	Weighted EXIST C	EXIST % Imp.	EXIST TC (min)	I 2 (in/hr)	I 5 (in/hr)	I 10 (in/hr)	I 25 (in/hr)	I 50 (in/hr)	I 100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
C1-OS-59	0.68	0.80	65	32	3.37	4.26	5.04	6.15	7.04	8.01	1.83	2.31	2.73	3.33	3.81	4.34
C1-OS-60	1.34	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	6.15	7.69	8.99	10.80	12.21	13.66
C1-OS-61	0.53	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	2.43	3.03	3.54	4.26	4.81	5.39
C1-OS-62	1.98	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	9.09	11.36	13.27	15.95	18.03	20.17
C2-01	0.41	0.76	74	10	5.74	7.18	8.39	10.08	11.39	12.75	1.77	2.21	2.58	3.11	3.51	3.93
C2-02	0.26	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.37	1.71	2.00	2.40	2.71	3.03
C2-03	0.29	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.51	1.89	2.21	2.65	3.00	3.35
C2-04	0.39	0.74	71	10	5.74	7.18	8.39	10.08	11.39	12.75	1.65	2.06	2.41	2.89	3.27	3.66
C2-05	0.15	0.87	94	10	5.74	7.18	8.39	10.08	11.39	12.75	0.75	0.94	1.10	1.32	1.50	1.67
C2-06	0.26	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.33	1.66	1.94	2.33	2.63	2.95
C2-07	0.28	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.43	1.78	2.08	2.50	2.83	3.17
C2-08	0.61	0.84	89	10	5.74	7.18	8.39	10.08	11.39	12.75	2.96	3.70	4.33	5.20	5.88	6.58
C2-09	0.62	0.85	90	10	5.74	7.18	8.39	10.08	11.39	12.75	3.03	3.79	4.43	5.32	6.02	6.73
C2-10	0.64	0.85	90	10	5.74	7.18	8.39	10.08	11.39	12.75	3.15	3.93	4.59	5.52	6.24	6.98
C2-11	1.00	0.82	77	10	5.74	7.18	8.39	10.08	11.39	12.75	4.72	5.90	6.89	8.28	9.36	10.48
C2-12	0.27	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.40	1.75	2.04	2.45	2.77	3.10
C2-13	1.08	0.81	78	10	5.74	7.18	8.39	10.08	11.39	12.75	5.03	6.29	7.35	8.83	9.98	11.17
C2-14	1.08	0.82	79	10	5.74	7.18	8.39	10.08	11.39	12.75	5.07	6.33	7.40	8.89	10.05	11.24
C2-OS-01	0.32	0.81	79	10	5.74	7.18	8.39	10.08	11.39	12.75	1.50	1.88	2.19	2.63	2.98	3.33
C2-OS-02	9.12	0.63	42	10	5.74	7.18	8.39	10.08	11.39	12.75	33.06	41.32	48.27	58.00	65.57	73.36
C2-OS-03	15.09	0.80	67	10	5.74	7.18	8.39	10.08	11.39	12.75	69.78	87.21	101.89	122.41	138.39	154.85
C2-OS-04	13.33	0.77	63	19	4.42	5.55	6.52	7.90	8.98	10.14	45.63	57.29	67.33	81.56	92.77	104.73
C2-OS-05	19.35	0.55	31	10	5.74	7.18	8.39	10.08	11.39	12.75	61.26	76.56	89.45	107.47	121.50	135.95
C2-OS-06	10.05	0.88	82	10	5.74	7.18	8.39	10.08	11.39	12.75	50.85	63.54	74.24	89.19	100.84	112.83
C2-OS-07	3.84	0.79	64	26	3.78	4.76	5.61	6.83	7.80	8.84	11.46	14.43	17.02	20.71	23.64	26.81
C2-OS-08	28.43	0.50	24	34	3.26	4.12	4.87	5.96	6.82	7.77	46.08	58.23	68.89	84.21	96.44	109.82
C2-OS-09	27.30	0.45	15	38	3.06	3.87	4.58	5.61	6.44	7.34	37.15	47.02	55.71	68.23	78.25	89.26
C2-OS-10	12.05	0.47	19	10	5.74	7.18	8.39	10.08	11.39	12.75	32.63	40.78	47.65	57.24	64.71	72.41
C2-OS-11	5.64	0.85	78	27	3.70	4.67	5.51	6.70	7.66	8.69	17.79	22.42	26.45	32.21	36.79	41.75
C2-OS-12	5.20	0.80	67	10	5.74	7.18	8.39	10.08	11.39	12.75	23.90	29.87	34.90	41.93	47.41	53.04
C2-OS-13	8.04	0.80	65	22	4.12	5.18	6.09	7.39	8.43	9.53	26.39	33.18	39.06	47.42	54.02	61.12
C2-OS-14	2.19	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	11.29	14.11	16.48	19.80	22.39	25.05
C2-OS-15	0.45	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.31	2.89	3.38	4.06	4.59	5.13
C2-OS-16	0.79	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	3.63	4.54	5.30	6.37	7.21	8.06
C2-OS-17	0.68	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	3.10	3.88	4.53	5.44	6.15	6.89
C2-OS-18	0.80	0.80	65	19	4.42	5.55	6.52	7.90	8.98	10.14	2.82	3.54	4.15	5.03	5.72	6.46
C2-OS-19	0.58	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.98	3.72	4.35	5.22	5.91	6.61
C2-OS-20	0.19	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	0.98	1.23	1.44	1.73	1.95	2.18
C2-OS-21	0.60	0.89	84	10	5.74	7.18	8.39	10.08	11.39	12.75	3.07	3.84	4.49	5.39	6.10	6.82
C2-OS-22	0.70	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	3.60	4.50	5.26	6.32	7.14	7.99
C2-OS-23	0.58	0.35	0	22	4.12	5.18	6.09	7.39	8.43	9.53	0.83	1.05	1.23	1.50	1.71	1.93
Basin-C-1	0.09	0.72	67	10	5.74	7.18	8.39	10.08	11.39	12.75	0.36	0.45	0.53	0.64	0.72	0.80
Basin-C-2	0.02	0.81	83	10	5.74	7.18	8.39	10.08	11.39	12.75	0.09	0.11	0.13	0.16	0.18	0.20
Basin-C-3	0.08	0.86	93	10	5.74	7.18	8.39	10.08	11.39	12.75	0.42	0.52	0.61	0.74	0.83	0.93

Subarea ID	Area (Acres)	Weighted EXIST C	EXIST % Imp.	EXIST TC (min)	I 2 (in/hr)	I 5 (in/hr)	I 10 (in/hr)	I 25 (in/hr)	I 50 (in/hr)	I 100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
W1-OS-01	2.10	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	10.86	13.58	15.86	19.06	21.54	24.11
W2-OS-01	0.52	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.70	3.37	3.94	4.73	5.35	5.99
W2-OS-02	0.43	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.23	2.79	3.26	3.91	4.42	4.95
W2-OS-03	0.20	0.81	80	10	5.74	7.18	8.39	10.08	11.39	12.75	0.95	1.18	1.38	1.66	1.88	2.10
W2-OS-04	0.22	0.81	81	10	5.74	7.18	8.39	10.08	11.39	12.75	1.05	1.31	1.53	1.83	2.07	2.32
W3-OS-01	0.55	0.86	83	10	5.74	7.18	8.39	10.08	11.39	12.75	2.72	3.40	3.97	4.77	5.39	6.03
W3-OS-02	1.56	0.89	84	12	5.38	6.72	7.87	9.47	10.73	12.03	7.45	9.31	10.90	13.12	14.86	16.67
W3-OS-03	1.36	0.88	84	10	5.74	7.18	8.39	10.08	11.39	12.75	6.85	8.57	10.01	12.02	13.59	15.21
W3-OS-04	2.42	0.86	81	10	5.74	7.18	8.39	10.08	11.39	12.75	11.96	14.95	17.46	20.98	23.72	26.54
W4-01	0.71	0.52	31	10	5.74	7.18	8.39	10.08	11.39	12.75	2.11	2.64	3.08	3.70	4.18	4.68
W4-02	0.29	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.48	1.85	2.16	2.59	2.93	3.28
W4-03	0.26	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.35	1.69	1.98	2.37	2.68	3.00
W4-04	0.34	0.67	57	10	5.74	7.18	8.39	10.08	11.39	12.75	1.30	1.62	1.89	2.27	2.57	2.87
W4-05	0.23	0.86	93	25	3.86	4.86	5.72	6.96	7.94	9.00	0.75	0.95	1.12	1.36	1.55	1.76
W4-06	0.27	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.38	1.73	2.02	2.43	2.74	3.07
W4-07	0.25	0.90	100	10	5.74	7.18	8.39	10.08	11.39	12.75	1.27	1.59	1.86	2.23	2.52	2.82
W4-08	0.26	0.64	52	18	4.53	5.69	6.68	8.08	9.19	10.37	0.76	0.95	1.12	1.36	1.54	1.74
W4-09	0.15	0.81	82	10	5.74	7.18	8.39	10.08	11.39	12.75	0.70	0.88	1.02	1.23	1.39	1.55
W4-10	0.51	0.80	82	10	5.74	7.18	8.39	10.08	11.39	12.75	2.34	2.93	3.42	4.11	4.64	5.20
W4-11	0.51	0.78	78	10	5.74	7.18	8.39	10.08	11.39	12.75	2.25	2.81	3.29	3.95	4.46	5.00
W4-12	0.12	0.81	84	10	5.74	7.18	8.39	10.08	11.39	12.75	0.57	0.72	0.84	1.01	1.14	1.27
W4-13	0.08	0.82	85	10	5.74	7.18	8.39	10.08	11.39	12.75	0.39	0.49	0.57	0.69	0.77	0.87
W4-14	0.55	0.83	86	12	5.38	6.72	7.87	9.47	10.73	12.03	2.48	3.10	3.62	4.36	4.94	5.54
W4-15	0.74	0.81	81	10	5.74	7.18	8.39	10.08	11.39	12.75	3.45	4.31	5.04	6.05	6.84	7.65
W4-16	1.25	0.83	76	10	5.74	7.18	8.39	10.08	11.39	12.75	5.95	7.44	8.69	10.45	11.81	13.21
W4-17	0.79	0.81	81	10	5.74	7.18	8.39	10.08	11.39	12.75	3.68	4.59	5.37	6.45	7.29	8.16
W4-18	0.43	0.80	72	10	5.74	7.18	8.39	10.08	11.39	12.75	1.97	2.47	2.88	3.46	3.91	4.38
W4-19	1.00	0.80	71	10	5.74	7.18	8.39	10.08	11.39	12.75	4.64	5.79	6.77	8.13	9.20	10.29
W4-20	0.68	0.72	67	10	5.74	7.18	8.39	10.08	11.39	12.75	2.83	3.54	4.14	4.97	5.62	6.28
W4-21	0.52	0.84	84	10	5.74	7.18	8.39	10.08	11.39	12.75	2.52	3.15	3.68	4.42	5.00	5.60
W4-22	0.95	0.85	82	10	5.74	7.18	8.39	10.08	11.39	12.75	4.63	5.78	6.76	8.12	9.18	10.27
W4-23	0.85	0.80	75	14	5.06	6.33	7.42	8.95	10.15	11.41	3.45	4.32	5.06	6.11	6.93	7.79
W4-24	0.31	0.85	87	10	5.74	7.18	8.39	10.08	11.39	12.75	1.49	1.86	2.18	2.62	2.96	3.31
W4-25	1.23	0.90	86	10	5.74	7.18	8.39	10.08	11.39	12.75	6.31	7.88	9.21	11.07	12.51	14.00
W4-26	0.14	0.84	89	10	5.74	7.18	8.39	10.08	11.39	12.75	0.68	0.85	0.99	1.19	1.35	1.51
W4-27	0.66	0.82	83	10	5.74	7.18	8.39	10.08	11.39	12.75	3.14	3.93	4.59	5.52	6.24	6.98
W4-28	0.64	0.81	81	10	5.74	7.18	8.39	10.08	11.39	12.75	2.97	3.71	4.33	5.20	5.88	6.58
W4-29	0.54	0.83	86	10	5.74	7.18	8.39	10.08	11.39	12.75	2.55	3.19	3.73	4.48	5.06	5.67
W4-30	1.27	0.79	71	10	5.74	7.18	8.39	10.08	11.39	12.75	5.79	7.23	8.45	10.15	11.48	12.85

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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PATRICK W. PHILLIPS
92917
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDROLOGICAL COMPUTATIONS

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 380 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:16:09 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR-HYDROLOGY 02.dgn

Subarea ID	Area (Acres)	Weighted EXIST C	EXIST % Imp.	EXIST TC (min)	I 2 (in/hr)	I 5 (in/hr)	I 10 (in/hr)	I 25 (in/hr)	I 50 (in/hr)	I 100 (in/hr)	Q 2 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 50 (CFS)	Q100 (CFS)
W4-31	0.42	0.84	89	10	5.74	7.18	8.39	10.08	11.39	12.75	2.03	2.54	2.96	3.56	4.03	4.51
W4-32	1.08	0.80	72	28	3.63	4.58	5.40	6.58	7.52	8.54	3.14	3.95	4.67	5.69	6.50	7.38
W4-33	0.18	0.85	86	10	5.74	7.18	8.39	10.08	11.39	12.75	0.88	1.10	1.29	1.54	1.75	1.95
W4-34	0.21	0.83	87	10	5.74	7.18	8.39	10.08	11.39	12.75	1.00	1.25	1.46	1.75	1.98	2.22
W4-35	1.12	0.86	85	10	5.74	7.18	8.39	10.08	11.39	12.75	5.54	6.93	8.09	9.72	10.99	12.30
W4-36	0.58	0.80	82	10	5.74	7.18	8.39	10.08	11.39	12.75	2.66	3.32	3.88	4.66	5.27	5.90
W4-OS-01	8.01	0.68	48	41	2.92	3.70	4.39	5.38	6.18	7.06	15.89	20.13	23.88	29.28	33.61	38.38
W4-OS-02	0.49	0.89	83	10	5.74	7.18	8.39	10.08	11.39	12.75	2.53	3.16	3.69	4.43	5.01	5.61
W4-OS-03	1.03	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	5.30	6.63	7.74	9.30	10.52	11.77
W4-OS-04	1.16	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	6.00	7.50	8.77	10.53	11.91	13.32
W4-OS-05	7.57	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	39.13	48.90	57.13	68.64	77.60	86.83
W4-OS-06	1.33	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	6.86	8.57	10.01	12.03	13.60	15.21
W4-OS-07	0.80	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	4.16	5.20	6.08	7.30	8.25	9.23
W4-OS-08	6.15	0.80	65	22	4.12	5.18	6.09	7.39	8.43	9.53	20.29	25.51	30.02	36.45	41.52	46.98
W4-OS-09	3.36	0.80	65	15	4.91	6.16	7.22	8.71	9.89	11.12	13.22	16.56	19.42	23.45	26.60	29.93
W4-OS-10	4.25	0.87	80	11	5.55	6.94	8.12	9.76	11.05	12.38	20.47	25.59	29.92	35.99	40.72	45.62
W4-OS-11	0.61	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	3.18	3.97	4.64	5.57	6.30	7.05
W4-OS-12	13.32	0.36	1	37	3.10	3.93	4.65	5.69	6.53	7.44	14.75	18.66	22.10	27.06	31.02	35.37
W4-OS-13	2.17	0.83	74	10	5.74	7.18	8.39	10.08	11.39	12.75	10.35	12.94	15.12	18.16	20.54	22.98
W4-OS-14	0.74	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	3.81	4.76	5.56	6.68	7.55	8.45
W4-OS-15	0.76	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	3.95	4.94	5.77	6.94	7.84	8.77
W4-OS-16	0.46	0.90	85	11	5.55	6.94	8.12	9.76	11.05	12.38	2.30	2.88	3.37	4.05	4.58	5.13
W4-OS-17	1.07	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	5.53	6.91	8.08	9.71	10.97	12.28
W4-OS-18	10.07	0.81	66	26	3.78	4.76	5.61	6.83	7.80	8.84	30.67	38.63	45.56	55.45	63.30	71.79
W4-OS-19	9.20	0.81	67	19	4.42	5.55	6.52	7.90	8.98	10.14	32.90	41.30	48.54	58.80	66.88	75.50
W4-OS-20	3.48	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	17.99	22.49	26.27	31.56	35.68	39.93
W4-OS-21	0.91	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	4.72	5.90	6.90	8.29	9.37	10.48
W4-OS-22	2.42	0.79	63	19	4.42	5.55	6.52	7.90	8.98	10.14	8.41	10.56	12.40	15.03	17.09	19.30
W4-OS-23	3.05	0.79	64	19	4.42	5.55	6.52	7.90	8.98	10.14	10.70	13.43	15.78	19.12	21.75	24.55
W4-OS-24	3.45	0.80	67	21	4.21	5.29	6.23	7.55	8.60	9.72	11.60	14.58	17.15	20.81	23.70	26.79
W4-OS-25	0.43	0.80	65	10	5.74	7.18	8.39	10.08	11.39	12.75	1.96	2.45	2.87	3.45	3.89	4.36
W4-OS-26	0.25	0.83	81	11	5.55	6.94	8.12	9.76	11.05	12.38	1.13	1.42	1.66	1.99	2.25	2.52
W4-OS-27	0.57	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.96	3.70	4.33	5.20	5.87	6.57
W4-OS-28	0.56	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	2.92	3.65	4.26	5.12	5.79	6.48
W4-OS-29	4.90	0.84	77	10	5.74	7.18	8.39	10.08	11.39	12.75	23.55	29.43	34.39	41.32	46.71	52.27
W4-OS-30	1.48	0.90	85	10	5.74	7.18	8.39	10.08	11.39	12.75	7.62	9.53	11.13	13.37	15.12	16.92
W4-OS-31	0.54	0.75	71	11	5.55	6.94	8.12	9.76	11.05	12.38	2.23	2.79	3.27	3.93	4.45	4.98
W4-OS-32	14.35	0.48	21	36	3.15	3.99	4.72	5.78	6.62	7.55	21.91	27.70	32.80	40.13	46.00	52.42
W4-OS-33	13.96	0.50	24	34	3.26	4.12	4.87	5.96	6.82	7.77	22.83	28.85	34.14	41.73	47.79	54.42
W4-OS-34	1.93	0.71	61	25	3.86	4.86	5.72	6.96	7.94	9.00	5.31	6.69	7.88	9.59	10.94	12.40
W4-OS-35	3.06	0.64	50	33	3.32	4.19	4.95	6.05	6.93	7.89	6.50	8.21	9.72	11.87	13.59	15.47
W4-OS-36	1.45	0.87	83	10	5.74	7.18	8.39	10.08	11.39	12.75	7.21	9.01	10.52	12.64	14.29	15.99
W4-OS-37	0.90	0.85	82	10	5.74	7.18	8.39	10.08	11.39	12.75	4.40	5.49	6.42	7.71	8.72	9.76
W5-01	0.65	0.57	41	10	5.74	7.18	8.39	10.08	11.39	12.75	2.14	2.68	3.13	3.76	4.25	4.76
W5-02	0.64	0.55	37	21	4.21	5.29	6.23	7.55	8.60	9.72	1.48	1.86	2.19	2.66	3.03	3.42
W5-03	0.59	0.78	77	10	5.74	7.18	8.39	10.08	11.39	12.75	2.61	3.27	3.82	4.58	5.18	5.80
W5-OS-01	0.85	0.84	76	10	5.74	7.18	8.39	10.08	11.39	12.75	4.09	5.10	5.96	7.17	8.10	9.06
Basin-1	0.03	0.84	88	10	5.74	7.18	8.39	10.08	11.39	12.75	0.16	0.19	0.23	0.27	0.31	0.34
Basin-2	0.04	0.82	85	10	5.74	7.18	8.39	10.08	11.39	12.75	0.17	0.21	0.24	0.29	0.33	0.37
Basin-3	0.12	0.86	93	10	5.74	7.18	8.39	10.08	11.39	12.75	0.58	0.73	0.85	1.02	1.15	1.29

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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PATRICK W. PHILLIPS
92917
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED HYDROLOGICAL COMPUTATIONS

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 381 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:16:10 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR-HYDROLOGY 03.dgn

ID	TYPE	DISCHARGE (CFS)	PONDED WIDTH (FT)	MAX ALLOW POND WIDTH (FT)	TRANSVERSE SLOPE %	LONGITUDINAL SLOPE %	LENGTH (FT)	WIDTH (FT)	DEPR. (FT)	CAPACITY (CFS)	BY PASS (CFS)	TO NODE
W4-6	Curb	1.4	2.8	12	2	2	5	2	0.25	1.28	0.11	W4-10
W4-7	Curb	1.28	2.5	12	2	1.8	5	2	0.25	1.21	0.07	W4-11
W4-16	Curb	1.68	8	12	2	0.3	5	2	0.25	1.68	0	W4-16A
W4-18	Curb	1.96	8.8	12	2	0.3	5	2	0.25	1.95	0.01	W4-16B
W4-22	Curb	1.5	7.5	12	2	0.3	5	2	0.25	1.5	0	W4-22A
W4-23	Curb	0.82	4.7	12	2	0.3	5	2	0.25	0.82	0	W4-23B
W4-26	Curb	0.66	3.6	12	2	0.3	5	2	0.25	0.66	0	W4-25
W4-35	Curb	1.22	6.5	12	2	0.3	5	2	0.25	1.22	0	(N/A)
W4-1	Curb	2.11	9.1	12	2	0.3	5	2	0.25	2.08	0.03	W4-4
W4-16	Curb	1.31	6.8	12	2	0.3	5	2	0.25	1.31	0	W4-16B
W4-22	Curb	1.33	6.9	12	2	0.3	5	2	0.25	1.33	0	W4-22B
W4-23	Curb	1.07	5.9	12	2	0.3	5	2	0.25	1.07	0	W4-23A
W4-30	Curb	0.97	5.4	12	2	0.3	5	2	0.25	0.97	0	W4-30
W4-35	Curb	2.51	10	12	2	0.3	5	2	0.25	2.39	0.12	(N/A)

ID	TYPE	DISCHARGE (CFS)	PONDED WIDTH (FT)	MAX ALLOW POND WIDTH (FT)	TRANSVERSE SLOPE %	Left SLOPE %	Right SLOPE %	LENGTH (FT)	WIDTH (FT)	DEPR. (FT)	CAPACITY (CFS)	BY PASS (CFS)	TO NODE
W4-5	Curb	1.06	7.1	12	2	N/A	N/A	5	2	0.25	1.06	0	(N/A)
W4-8	Curb	0.97	6.7	12	2	N/A	N/A	5	2	0.25	0.97	0	(N/A)
W4-9	Curb	0.7	5.4	12	2	N/A	N/A	5	2	0.25	0.7	0	(N/A)
W4-10	Curb	2.35	9.1	12	2	N/A	N/A	9.5	2	0.25	2.35	0	(N/A)
W4-11	Curb	2.3	11.9	12	2	N/A	N/A	5	2	0.25	2.3	0	(N/A)
W4-12	Curb	0.57	4.7	12	2	N/A	N/A	5	2	0.25	0.57	0	(N/A)
W4-13	Curb	0.39	3.6	12	2	N/A	N/A	5	2	0.25	0.39	0	(N/A)
W4-14	Curb	2.57	9.7	12	2	N/A	N/A	9.5	2	0.25	2.57	0	(N/A)
W4-15	Curb	3.36	11.6	12	2	N/A	N/A	9.5	2	0.25	3.36	0	(N/A)
W4-17	Curb	3.6	9.7	12	2	N/A	N/A	14	2	0.25	3.6	0	(N/A)
W4-19	Curb	4.64	11.5	12	2	N/A	N/A	14	2	0.25	4.64	0	(N/A)
W4-20	Curb	2.78	10.2	12	2	N/A	N/A	9.5	2	0.25	2.78	0	(N/A)
W4-21	Curb	2.49	9.5	12	2	N/A	N/A	9.5	2	0.25	2.49	0	(N/A)
W4-24	Curb	1.47	8.8	12	2	N/A	N/A	5	2	0.25	1.47	0	(N/A)
W4-25	Curb	6.35	14.2	12	2	N/A	N/A	14	2	0.25	6.35	0	(N/A)
W4-27	Curb	3.09	11	12	2	N/A	N/A	9.5	2	0.25	3.09	0	(N/A)
W4-28	Curb	2.86	10.4	12	2	N/A	N/A	9.5	2	0.25	2.86	0	(N/A)
W4-29	Curb	2.48	9.5	12	2	N/A	N/A	9.5	2	0.25	2.48	0	(N/A)
W4-30	Curb	4.79	11.8	12	2	N/A	N/A	14	2	0.25	4.79	0	(N/A)
W4-31	Curb	2.01	10.9	12	2	N/A	N/A	5	2	0.25	2.01	0	(N/A)
W4-32	Curb	4	10.4	12	2	N/A	N/A	14	2	0.25	4	0	(N/A)
W4-33	Curb	0.88	6.3	12	2	N/A	N/A	5	2	0.25	0.88	0	(N/A)
W4-34	Curb	1	6.8	12	2	N/A	N/A	5	2	0.25	1	0	(N/A)
W4-35	Grate	1.8	10.9	12	2	N/A	N/A	2.5	2.5	0.25	1.8	0	(N/A)
W4-36	Curb	2.61	9.8	12	2	N/A	N/A	9.5	2	0.25	2.61	0	(N/A)
W4-4	Curb	1.14	7.5	12	2	N/A	N/A	5	2	0.25	1.14	0	(N/A)
W4-16	Curb	2.93	10.6	12	2	N/A	N/A	9.5	2	0.25	2.93	0	(N/A)
W4-22	Curb	1.81	10.1	12	2	N/A	N/A	5	2	0.25	1.81	0	(N/A)
W4-23	Curb	2	10.9	12	2	N/A	N/A	5	2	0.25	2	0	(N/A)
W5-03	Curb	2.27	11.8	12	2	N/A	N/A	5	2	0.25	2.27	0	(N/A)
W5-01	Curb	2.32	12	12	2	N/A	N/A	5	2	0.25	2.32	0	(N/A)
W5-02	Curb	1.53	9.1	12	2	N/A	N/A	5	2	0.25	1.53	0	(N/A)

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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on 9/29/17
$DATE$
on
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED HYDRAULIC COMPUTATIONS

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO: 382 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table: $PENTBLS$
Plot Driver: $PLTDRVL$
Design Filename: $FILEL$

BRICKHOUSE GULLY

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
B4-MH27(1)	B4-MH-27	MH-8	217.8	Box	1		10	5	0.013	0.11	58.6	58.35	32.81	266.03	1.2	66.33	66.32
B4-MH29(2)	MH-28	B4-MH-28	263.4	Box	1		10	5	0.013	0.257	59.8	59.1	29.38	406.91	1.81	66.63	66.63
CO-25123	MH-1312	MH-1	107	Box	1		10	5	0.013	0.093	56.25	56.15	1.98	245.61	0.09	61.32	61.32
CO-B1-6(2)	MH-8B	B1-OUT	287.8	Box	2		10	10	0.013	0.174	52.1	51.6	24.31	1755.13	2.97	52.56	51.96
CO-B4-MH22	B4-MH-22	B4-MH-20	156.4	Box	1		10	5	0.013	0.128	55.7	55.5	12.68	287.58	0.39	61.32	61.32
CO-B4-MH23	B4-MH-23	B4-MH-22	107.9	Box	1		10	5	0.013	0.14	55.85	55.7	10.23	300.09	0.42	61.32	61.32
CO-B4-MH25	MH-1	B4-MH-23	224.5	Box	1		10	5	0.013	0.116	56.15	55.85	7.72	273.55	0.3	61.32	61.32
CO-B4-MH30	B4-MH-30	B4-MH-29	269.2	Box	1		10	4	0.013	0.213	60.6	60	40.45	267.5	1.43	68.12	68.1
CO-B4-MH32	B4-MH-32	B4-MH-31	52.1	Box	1		10	4	0.013	0.345	62.1	61.92	29.6	340.82	0.92	69.73	69.73
CO-B4-MH33(2)	MH-32	B4-MH-32	185.3	Box	1		10	4	0.013	0.281	62.62	62.1	28.36	307.57	1.03	69.73	69.73
CO-B4-MH34	B4-MH-34	B4-MH-33	50.9	Box	1		10	4	0.013	0.177	62.85	62.75	33.01	243.71	0.83	71.32	71.32
CO-B4-MH35(2)	MH-7	B4-MH-34	167.8	Box	1		10	4	0.013	0.198	63.18	62.85	33.6	258.16	0.84	71.33	71.32
CO-B4=MH20A	B4-MH-20A	B4-MH-20	127.6	Box	1		10	5	0.013	-0.133	55.33	55.5	28.86	293.21	1.09	61.32	61.32
CO-2(1)(1)	B3-MH-13	B3-MH-14	229.9	Box	1		7	3	0.013	0.348	61.63	60.83	5.21	146.28	0.72	62.87	62.87
CO-1(2)	B3-MH-12	B3-MH-13	334.7	Box	1		7	3	0.013	0.344	62.78	61.63	2.79	145.35	1.28	62.97	62.87
CO-7A	B3-MH-11	B3-MH-12	209.1	Box	1		7	3	0.013	0.325	63.46	62.78	1.36	141.41	1.26	63.58	62.97
CO-15	B3-MH-2	B3-MH-11	23.5	Box	1		7	3	0.013	0	63.46	63.46	1.37	2.48	1.37	63.63	63.58
CO-B3-MH1(1)	B3-MH-2	B3-MH-3	231.8	Box	1		7	3	0.013	0.302	63.46	62.76	2.13	136.26	1.8	63.63	62.93
CO-B3-MH1(2)(1)(1)	B3-MH-3	MH-2	0.2	Box	1		7	3	0.013	16.385	62.76	62.73	3.43	1003.74	2.6	62.93	62.93
CO-B3-MH1(2)(1)(2)	MH-2	B3-MH-4	66	Box	1		7	3	0.013	0.388	62.73	62.47	3.43	154.43	2.17	62.93	62.88
CO-B3-MH1(2)(2)(1)	B3-MH-4	B3-MH-5	75.4	Box	1		7	3	0.013	0.345	62.47	62.21	4.16	145.61	2.27	62.88	62.88
CO-B3-MH1(2)(2)(2)	B3-MH-5	B3-MH-6	171	Box	1		7	3	0.013	0.339	62.21	61.63	4.69	144.39	1.56	62.88	62.87
CO-B3-MH2(1)	B3-MH-6	B3-MH-7	232.8	Box	1		7	3	0.013	0.344	61.63	60.83	6.13	145.35	0.82	62.87	62.87
CO-B4-MH37	B4-MH-37	B4-MH-36	143.1	Box	1		6	4	0.013	0.349	63.9	63.4	43.08	183.12	1.79	71.56	71.55
CO-B4-MH38	B4-MH-38	B4-MH-37	85.5	Box	1		6	4	0.013	0.116	64	63.9	65.22	105.35	2.72	71.58	71.56
CO-B4-MH39(2)	MH-33	B4-MH-38	122	Box	1		6	4	0.013	0.246	66	65.7	61.25	153.63	5.09	71.61	71.58
B5-JCT2	B5-JCT2	B5-MH-3	17.8	Circle	1	60			0.013	0.618	55.48	55.37	195.39	204.78	9.95	61.45	61.35
B5-MH3	B5-MH-3	B4-55	110.2	Circle	1	60			0.013	0.374	55.37	54.96	195.38	159.19	9.95	61.35	60.73
CO-B4-33	B4-33	B4-MH-7	172.1	Circle	1	60			0.013	0.475	58.97	58.11	165.9	179.42	8.45	66.37	65.64
CO-B4-40	B4-40	B4-MH-5	114.6	Circle	1	60			0.013	0.384	57.65	57.21	205.86	161.4	10.48	64.48	63.77
CO-B4-50	B4-50	B4-MH-4	98.3	Circle	1	60			0.013	0.55	56.36	55.82	214.14	193.05	10.91	62.53	61.86
CO-B4-55(1)	B4-55	B4-MH-2	82.9	Circle	1	60			0.013	0.48	54.96	54.56	224.76	180.44	11.45	60.73	60.11
CO-B4-JCT3	B4-JCT3	B4-50	105.2	Circle	1	60			0.013	0.494	56.88	56.36	213.61	183.1	10.88	63.23	62.53
CO-B4-JCT4	B4-JCT4	B4-JCT3	35.1	Circle	1	60			0.013	0.342	57	56.88	213.59	152.33	10.88	63.47	63.23
CO-B4-MH1	B4-MH-1	B4-OUT	164.7	Circle	1	60			0.013	0.338	54.04	53.5	229.58	151.35	12.21	58.9	57.78
CO-B4-MH10	B4-MH-10	B4-MH9	250.5	Circle	1	60			0.013	0.212	59.69	59.16	158.78	119.8	8.09	67.74	66.81
CO-B4-MH4	B4-MH-4	B5-JCT2	61.2	Circle	1	60			0.013	0.556	55.82	55.48	214.72	194.17	10.94	61.86	61.45
CO-B4-MH5	B4-MH-5	B4-JCT4	47.8	Circle	1	60			0.013	0.439	57.21	57	206.46	172.61	10.51	63.77	63.47
CO-B4-MH6	B4-MH-6	B4-40	139.7	Circle	1	60			0.013	0.158	57.87	57.65	204.83	103.56	10.43	65.34	64.48
CO-B4-MH7	B4-MH-7	B4-MH-6	59.6	Circle	1	60			0.013	0.473	58.11	57.87	198.58	179.1	10.11	65.64	65.34
CO-B4-MH8	B4-MH-8	B4-33	64.1	Circle	1	60			0.013	0.124	59.05	58.97	165.18	91.76	8.41	66.63	66.37
CO-B4-MH9	B4-MH9	B4-MH-8	48.3	Circle	1	60			0.013	0.228	59.16	59.05	158.95	124.26	8.14	66.81	66.63
CO-B4-OS-10STRT	B4-OS-10	B4-OS-13	273.3	Circle	1	60			0.013	0.121	67.13	66.8	12.6	90.49	1.77	73.46	73.46
CO-B4-OS-13STRT	B4-OS-13	B4-OS-16	270.3	Circle	1	60			0.013	0.2	66.8	66.26	25.22	116.41	2.3	73.46	73.44
CO-B4-29	B4-29	B4-MH-11B	113.3	Circle	1	54			0.013	0.352	60.33	59.93	133.88	116.7	8.42	68.58	68.1
CO-B4-MH11B	B4-MH-11B	B4-MH-10	56	Circle	1	54			0.013	0.43	59.93	59.69	159.03	129.01	10	68.1	67.74
CO-B4-MH12	B4-MH-12	B4-29	155.9	Circle	1	54			0.013	0.115	60.51	60.33	133.18	66.82	8.37	69.23	68.58
CO-B4-MH8(2)	B4-MH-29	B4-MH-11B	33.8	Circle	1	54			0.013	1.17	62.87	62.45	22.54	212.72	4.4	68.1	68.1
CO-22	B4-27	B4-MH-12	87.5	Circle	1	48			0.013	0.103	63.52	63.43	93.57	46.08	8.79	69.57	69.23
CO-B1-05	B1-05	B1-06	102	Circle	1	48			0.013	0.333	55.19	54.85	18.54	82.92	4.25	56.63	56.44
CO-B1-6(1)	B1-06	MH-8B	935	Circle	1	48			0.013	0.288	54.79	52.1	24.3	77.04	9.17	56.44	52.56
CO-B2-OS-07	B2-OS-07	B2-OUT	190.2	Circle	1	48			0.013	0.079	50.15	50	95.49	40.33	8.63	53.77	52.96
CO-B4-OS-22	B4-OS-22	B4-27	621.2	Circle	1	48			0.013	0.221	64.94	63.57	89.64	67.46	7.46	71.78	69.57
CO-23a(1)	B4-21	MH-39	217.2	Circle	1	42			0.013	0.161	62.28	61.93	57.79	40.38	6.03	70.13	69.64
CO-23a(2)	MH-39	B4-MH-12	71.8	Circle	1	42			0.013	0.404	61.93	61.64	91.65	63.92	9.53	69.64	69.23
CO-B1-01	B1-01	B1-02	69.9	Circle	1	42			0.013	0.744	56.5	55.98	10.62	86.75	4.03	57.46	57.26
CO-B1-02	B1-02	B1-JCT1	233.6	Circle	1	42			0.013	0.193	55.98	55.53	12.06	44.16	3.65	57.26	56.88
CO-B1-JCT1	B1-JCT1	B1-05	90.9	Circle	1	42			0.013	0.198	55.53	55.35	16.38	44.76	4.95	56.88	56.63
CO-B4-39	B4-34	B4-MH-27	44.3	Circle	1	42			0.013	0.236	58.7	58.6	4.48	48.83	4.08	66.54	66.33
CO-B4-JCT100STRT	B4-JCT100	B4-OS-22	397.5	Circle	1	42			0.013	0.121	65.42	64.94	50.91	34.96	5.29	72.4	71.78
CO-B4-OS-21STRT	B4-OS-21	B4-JCT100	554.5	Circle	1	42			0.013	0.119	66.08	65.42	49.17	34.71	5.11	73.28	72.4
CO-B2-OS-03	B2-OS-03	B2-OS-06	294.5	Circle	1	36			0.013	0.244	58.54	57.82	60.55	32.98	9.78	62.5	59.73
CO-B2-OS-06	B2-OS-06	B2-OS-07	303.9	Circle	1	36			0.013	2.524	57.82	50.15	77.78	105.96	12.56	59.73	53.77
CO-B4-08	B4-08	B4-MH-15	220.1	Circle	1	36			0.013	0.3	63.85	63.19	46.78	36.52	6.62	71.42	71.26
CO-B4-16	B4-16	B4-MH-14	126	Circle	1	36			0.013	0.187	63.12	62.88	59.85	28.81	8.47	71.16	70.82
CO-B4-JCT101	B4-JCT101	B4-MH-11B	101.6	Circle	1	36			0.013	0.296	60.52	60.22	17.65	36.27	2.5	68.14	68.1
CO-B4-MH11A	B4-MH-11A	B4-21	40.9	Circle	1	36			0.013	0.391	62.68	62.52	83.28	41.71	11.78	70.54	70.13
CO-B4-MH14	B4-MH-14	B4-MH-11A	104.5	Circle	1	36			0.013	0.187	62.88	62.69	59.85	28.81	8.47	70.82	70.54
CO-B4-MH15	B4-MH-15	B4-16	48.7	Circle	1	36			0.013	0.021	63.21	63.2	56.82	9.56	8.04	71.26	71.16
CO-B4-MH17	B4-MH-16	B4-08	55.6	Circle	1	36			0.013	0.018	64.24	64.23	0.5	8.94	0.21	71.42	71.42
CO-B4-MH31	B4-MH-31	MH-39	41.2	Circle	1	36			0.013	0.152	61.92	61.85	33.94	26.03	4.8	69.73	69.64

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CITY OF HOUSTON
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PROPOSED
HYDRAULIC DATA SHEET

SHEET 1 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 383 ;D$ 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBL$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$

BRICKHOUSE GULLY

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
CO-B4-MH39(1)	B4-MH-39	MH-33	50.8	Circle	1	36			0.013	0.256	64.76	64.63	61.29	33.72	8.67	71.82	71.61
CO-B4-MH40(1)	B4-MH-40	MH-21	345	Circle	1	36			0.013	0.365	66.19	64.93	26.12	40.31	3.69	71.89	71.84
CO-B4-OS-18STRT	B4-OS-18	B4-OS-21	233.6	Circle	1	36			0.013	0.12	66.36	66.08	38.26	23.09	5.41	73.76	73.28
CO-B4-OS-19STRT	B4-OS-19	B4-OS-22	256.1	Circle	1	36			0.013	0.199	65.45	64.94	40.81	29.76	5.77	72.7	71.78
CO-B4-OS-25	B4-OS-25	B4-JCT101	178	Circle	1	36			0.013	3.579	67.01	60.64	12.81	126.17	3.7	68.2	68.14
CO-37	B4-MH-20	B5-JCT2	37.5	Circle	1	30			0.013	0.054	55.5	55.48	28.49	9.53	5.8	61.32	61.45
CO-45	B4-18	B4-21	59.4	Circle	1	30			0.013	0.184	62.38	62.28	4.71	17.59	0.96	70.14	70.13
CO-B2-OS-02	B2-OS-02	B2-OS-03	396.3	Circle	1	30			0.013	0.462	60.37	58.54	35.67	27.87	7.27	65.49	62.5
CO-B4-14	B4-14	B4-16	60.1	Circle	1	30			0.013	0.016	68.24	68.23	3.81	5.22	3.1	71.16	71.16
CO-B4-MH40(2)	MH-21	B4-MH-39	48.4	Circle	1	30			0.013	0.351	64.93	64.76	25.58	24.31	5.21	71.84	71.82
CO-B4-MH8A	B4-MH-8A	B4-MH-29	65.1	Circle	1	30			0.013	0.67	62.87	62.45	7.83	33.56	4.69	68.12	68.1
CO-B4-OS-12STRT	B4-OS-12	B4-OS-15	272.9	Circle	1	30			0.013	0.121	66.99	66.66	21.18	14.26	4.32	74.55	74.26
CO-B4-OS-15STRT	B4-OS-15	B4-OS-18	250.9	Circle	1	30			0.013	0.12	66.66	66.36	25.72	14.18	5.24	74.26	73.76
CO-B4-OS-16STRT	B4-OS-16	B4-OS-19	269.7	Circle	1	30			0.013	0.3	66.26	65.45	28.91	22.48	5.89	73.44	72.7
CO-B4-OS-17	B4-OS-17	B4-14	55.8	Circle	1	30			0.013	0.222	68.4	68.28	3.55	19.31	2.48	71.17	71.16
CO-B4-OS-20(1)	B4-OS-20	MH-37	40.9	Circle	1	30			0.013	0.293	68.04	67.92	4.56	22.22	6.93	70.14	70.14
B4-10C	B4-10	B4-11	29.3	Circle	1	24			0.013	1.568	68.89	68.43	2.64	28.33	2.17	71.61	71.6
B4-11(1)	B4-11	B4-MH-38	51.2	Circle	1	24			0.013	0.02	68.45	68.44	5.66	3.16	3.43	71.6	71.58
B4-MH27(2)(2)	MH-8	B4-MH-7	34.6	Circle	1	24			0.013	0.824	58.39	58.11	32.14	20.53	10.23	66.32	65.64
CO-5	B3-MH-15	B3-MH-8	49.4	Circle	1	24			0.013	0.06	60.68	60.65	4.65	5.54	1.67	62.86	62.85
CO-6	B3-MH-6	B3-MH-13	26.3	Circle	1	24			0.013	0	61.63	61.63	2.64	0.23	1.57	62.87	62.87
CO-9	B4-45	MH-1	40.7	Circle	1	24			0.013	0.496	65.9	65.7	4.12	15.93	4.25	66.59	61.32
CO-14B	B3-MH-3	B3-MH-12	35.2	Circle	1	24			0.013	0	62.78	62.78	0.11	0.23	0.86	62.93	62.97
CO-21	MH-31	B4-MH-2	37	Circle	1	24			0.013	-0.663	54.21	54.45	0.03	18.42	0.47	60.11	60.11
CO-24	B4-MH-12	B4-MH-30	34.8	Circle	1	24			0.013	-0.242	60.51	60.6	41.27	11.13	13.14	69.23	68.12
CO-25	BASIN-B-2	BASIN-B-3	71.9	Circle	1	24			0.013	0.139	62.3	62.2	0.08	8.43	0.25	62.57	62.57
CO-26	BASIN-B-3	BASIN-B-1	71.5	Circle	1	24			0.013	0.14	62.2	62.1	0.68	8.46	1.89	62.57	62.42
CO-27	BASIN-B-1	O-9	31.3	Circle	1	24			0.013	0.319	62.1	62	0.76	12.78	2.47	62.42	62.3
CO-28	B4-23	MH-39	50	Circle	1	24			0.013	0.18	66.89	66.8	1.02	9.6	2.5	69.64	69.64
CO-42	B4-MH-28	B4-MH-8	34.1	Circle	1	24			0.013	0.141	59.1	59.05	9.82	8.5	3.13	66.63	66.63
CO-42B	B3-MH-14	B3-MH-15	38.3	Circle	1	24			0.013	0.391	60.83	60.68	4.26	14.15	1.61	62.87	62.86
CO-43	B4-MH-29	MH-28	91.2	Circle	1	24			0.013	0.216	60	59.8	28.91	10.52	10.78	68.1	66.63
CO-44	MH-37	B4-18	16.4	Circle	1	24			0.013	26.077	67.96	62.38	3.98	115.52	2.18	70.14	70.14
CO-46	B3-18	B3-MH-10	57.1	Circle	1	24			0.013	10.234	60.11	54.27	1.54	72.37	1.04	60.31	55.99
CO-47	B4-08	B4-MH-37	32.6	Circle	1	24			0.013	-0.138	63.85	63.9	42.58	8.4	13.55	71.42	71.56
CO-48	B4-MH-17	B4-MH-16	59.2	Circle	1	24			0.013	0.596	64.59	64.24	0.09	17.47	0.03	71.42	71.42
CO-53	B3-MH-7	B3-MH-14	43.1	Circle	1	24			0.013	0	60.83	60.83	2.44	0.23	0.79	62.87	62.87
CO-58	B4-58	B4-MH-1	82.6	Circle	1	24			0.013	8.926	61.42	54.04	6.44	67.58	3.24	61.84	58.9
CO-B2-01	B2-01	B2-MH-1	63.4	Circle	1	24			0.013	0.016	62.81	62.8	1.68	2.84	0.78	65.4	65.4
CO-B2-02	B2-02	B2-OS-05	315.7	Circle	1	24			0.013	0.301	62.52	61.57	15.24	12.41	5.25	65.13	64.13
CO-B2-03	B2-03	B2-OS-06	515.3	Circle	1	24			0.013	0.64	61.12	57.82	16.4	18.1	5.91	62.61	59.73
CO-B2-04	B2-04	B2-OS-07	221	Circle	1	24			0.013	2.335	55.31	50.15	12.88	34.57	5.39	56.16	53.77
CO-B2-MH1	B2-MH-1	B2-02	177.4	Circle	1	24			0.013	0.158	62.8	62.52	11.62	8.99	3.7	65.4	65.13
CO-B2-OS-01	B2-OS-01	B2-OS-02	166.4	Circle	1	24			0.013	0.901	61.87	60.37	20.9	21.47	6.65	66.9	65.49
CO-B2-OS-04	B2-OS-04	B2-MH-1	236.9	Circle	1	24			0.013	0.084	63	62.8	10.91	6.57	3.47	65.74	65.4
CO-B2-OS-05	B2-OS-05	B2-OS-03	236.8	Circle	1	24			0.013	1.28	61.57	58.54	21.08	25.59	7.05	64.13	62.5
CO-B3--10	B3-10	B3-11	31.5	Circle	1	24			0.013	0.222	61.8	61.73	2	10.66	3.71	62.88	62.88
CO-B3--11	B3-11	B3-MH-13	41	Circle	1	24			0.013	0.244	61.73	61.63	5.92	11.16	5.61	62.88	62.87
CO-B3-01	B3-01	B3-02	31.3	Circle	1	24			0.013	0.128	63.55	63.51	2.59	8.08	2.21	64.37	64.34
CO-B3-02(1)	B3-02	MH-47	22.9	Circle	1	24			0.013	0.122	63.51	63.48	3.51	7.9	3	64.34	64.3
CO-B3-02(2)	MH-47	B3-MH-2	37.8	Circle	1	24			0.013	0.058	63.48	63.46	5.01	5.47	8.72	64.3	63.63
CO-B3-03	B3-03	B3-MH-3	28	Circle	1	24			0.013	-224.529	0	62.78	1.21	338.96	0.7	62.94	62.93
CO-B3-04	B3-04	B3-MH-4	26.8	Circle	1	24			0.013	0.485	62.6	62.47	0.84	15.76	3.07	62.92	62.88
CO-B3-05	B3-05	B3-MH-12	40.4	Circle	1	24			0.013	0.248	62.88	62.78	1.74	11.25	5.32	63.34	62.97
CO-B3-06	B3-06	B3-05	31.1	Circle	1	24			0.013	0.321	62.98	62.88	0.31	12.82	0.92	63.34	63.34
CO-B3-07	B3-07	B3-MH-5	27.9	Circle	1	24			0.013	0.358	62.31	62.21	0.8	13.54	2.65	62.88	62.88
CO-B3-08	B3-08	B3-09	31.9	Circle	1	24			0.013	1.722	64.81	64.26	2.93	29.69	5.97	65.23	64.69
CO-B3-09	B3-09	B3-MH-6	42	Circle	1	24			0.013	2.192	64.21	63.29	4.29	33.49	7.33	64.69	62.87
CO-B3-12	B3-12	B3-MH-7	24.8	Circle	1	24			0.013	0.283	60.9	60.83	1.51	12.03	1.05	62.87	62.87
CO-B3-13	B3-13	B3-14	31.2	Circle	1	24			0.013	2.75	62.87	61.99	2.58	37.51	1.72	63.39	63.41
CO-B3-14	B3-13	B3-MH-8	42.3	Circle	1	24			0.013	1.302	61.99	61.43	6.16	25.82	7.31	63.39	62.85
CO-B3-16	B3-15	B3-MH-15	42.5	Circle	1	24			0.013	0.235	60.75	60.65	2.04	10.97	0.86	62.86	62.86
CO-B3-MH4(2)	B3-MH-10	B3-OUT	43.8	Circle	1	24			0.013	0.022	54.27	54.26	16.79	3.34	6.24	55.99	55.74
CO-B3A	MH-46	MH-47	54.2	Circle	1	24			0.013	0.217	63.6	63.48	0.14	10.55	0.26	64.3	64.3
CO-B4-01	B4-01	B4-MH-40	49.5	Circle	1	24			0.013	1.231	69.8	69.19	10.64	25.1	7.65	71.89	71.89
CO-B4-02	B4-02	B4-03	34.3	Circle	1	24			0.013	0.35	69.83	69.71	8.83	13.39	4.92	71.92	71.92
CO-B4-03(1)	B4-03	B4-MH-40	54.5	Circle	1	24			0.013	0.788	66.85	66.42	16.68	20.09	5.31	71.92	71.89
CO-B4-04	B4-04	B4-07	40.1	Circle	1	24			0.013	-9.184	66.33	70.01	21.84	68.55	8.06	74.42	74.4
CO-B4-05	B4-05	B4-06	28.5	Circle	1	24			0.013	3.233	71.55	70.63	3.27	40.67	4.45	71.93	71.84
CO-B4-06(1)	B4-06	B4-MH-39	98.5	Circle	1	24			0.013	0.396	70.64	70.25	4.38	14.24	4.11	71.84	71.82
CO-B4-07	B4-07	B4-MH-15A	7.1	Circle	1	24			0.013	2.813	70.01	69.81	21.93	37.94	12.44	74.4	74.4

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SHEET 2 OF 11

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Design Filename: $FILEL$

BRICKHOUSE GULLY

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
CO-B4-09	B4-09	B4-08	60.4	Circle	1	24			0.013	0.939	69.13	68.55	5.13	21.91	5.69	71.43	71.42
CO-B4-12	B4-12	B4-MH-36	32.5	Circle	1	24			0.013	0.353	63.5	63.4	1.51	13.43	1	71.55	71.55
CO-B4-13	B4-13	B4-15	30.6	Circle	1	24			0.013	0.823	68.84	68.6	3.19	20.52	4.2	71.39	71.39
CO-B4-14(2)	B4-MH-35	B4-MH-15	37.9	Circle	1	24			0.013	2.068	68.52	67.75	23.77	32.53	11.23	71.37	71.26
CO-B4-15	B4-15	B4-MH-35	43.8	Circle	1	24			0.013	1.844	68.52	67.75	5.81	30.72	6.27	71.39	71.37
CO-B4-17	B4-17	B4-MH-34	26.8	Circle	1	24			0.013	0.432	62.95	62.85	1.33	14.86	1.17	71.33	71.32
CO-B4-18(2)	B4-MH-33	B4-MH-11A	35.1	Circle	1	24			0.013	3.411	68.65	67.36	38.26	41.78	14.89	71.32	70.54
CO-B4-19	B4-19	B4-20	30.3	Circle	1	24			0.013	0.078	68.67	68.65	2.76	6.32	3.21	71.34	71.34
CO-B4-20	B4-20	B4-MH-33	43.4	Circle	1	24			0.013	3.701	68.65	67.36	5.86	43.52	7.7	71.34	71.32
CO-B4-22	B4-22	B4-MH-32	31.2	Circle	1	24			0.013	0.337	62.2	62.1	1.25	13.13	1.25	69.73	69.73
CO-B4-23	B4-27	B4-25	34.9	Circle	1	24			0.013	-9.391	63.52	66.8	1.91	69.32	1.08	69.57	69.57
CO-B4-24	B4-24	B4-26	29.6	Circle	1	24			0.013	1.692	68.64	68.18	3.1	29.43	6.09	69.74	69.74
CO-B4-26	B4-26	B4-MH-31	41.5	Circle	1	24			0.013	3.03	68.09	66.92	6.13	39.38	9.02	69.74	69.73
CO-B4-28	B4-28	B4-MH-8A	44.5	Circle	1	24			0.013	0.023	65.16	65.15	2.47	3.42	3.12	68.13	68.12
CO-B4-30	B4-30	B4-JCT101	29.6	Circle	1	24			0.013	0.101	66.27	66.24	3.17	7.2	3.54	68.14	68.14
CO-B4-31	B4-31	B4-JCT101	51.2	Circle	1	24			0.013	1.485	67.1	66.34	2.61	27.57	5.53	68.15	68.14
CO-B4-32	B4-32	B4-MH-8A	42	Circle	1	24			0.013	0.854	65.41	65.07	1.32	20.91	3.6	68.12	68.12
CO-B4-34	B4-34	B4-39	29.8	Circle	1	24			0.013	1.504	66.29	65.88	1.77	27.74	2.88	66.54	66.63
CO-B4-35A	B4-35	B4-37	30.9	Circle	1	24			0.013	4.98	68.05	66.58	3.6	50.48	5.9	68.41	67.22
CO-B4-36	B4-36	B4-MH9	58.3	Circle	1	24			0.013	0.166	59.25	59.15	0.42	9.21	0.29	66.81	66.81
CO-B4-37	B4-37	B4-MH-8	84.1	Circle	1	24			0.013	2.043	66.6	64.87	6.77	32.34	8.01	67.22	66.63
CO-B4-38	B4-38	B4-MH-7	57.9	Circle	1	24			0.013	0.179	58.4	58.3	1.35	9.58	0.89	65.64	65.64
CO-B4-41	B4-41	B4-43	30.8	Circle	1	24			0.013	4.795	66.82	65.48	3.68	49.53	9.25	67.19	65.75
CO-B4-42	B4-42	B4-45	30.5	Circle	1	24			0.013	2.89	65.9	65.1	2.2	38.46	1.25	66.6	66.59
CO-B4-43	B4-43	B4-MH-6	84.4	Circle	1	24			0.013	1.965	65.11	63.45	7.12	31.71	8.07	65.75	65.34
CO-B4-44	B4-44	B4-MH-5	56.1	Circle	1	24			0.013	0.196	57.32	57.21	1.26	10.01	0.45	63.77	63.77
CO-B4-46	B4-56	MH-18	20.6	Circle	1	24			0.013	0.969	60.78	60.58	2.53	22.27	4.71	61.24	58.9
CO-B4-46A	B4-46	B4-48	30.8	Circle	1	24			0.013	2.779	65.15	64.36	4.18	37.71	5.83	65.6	65.03
CO-B4-47	B4-47	B4-MH-22	17.8	Circle	1	24			0.013	1.047	56.1	55.92	1.2	23.14	1.46	61.32	61.32
CO-B4-48	B4-48	B4-JCT4	84.7	Circle	1	24			0.013	1.544	64.3	62.99	8.04	28.11	7.72	65.03	63.47
CO-B4-49	B4-49	B4-MH-4	57.5	Circle	1	24			0.013	0.177	56.24	56.14	1.43	9.52	0.89	61.86	61.86
CO-B4-51	B4-51	B4-53	31.7	Circle	1	24			0.013	0.662	63.18	62.97	2.98	18.41	3.05	63.82	63.73
CO-B4-52	B4-52	B4-MH-20	18.6	Circle	1	24			0.013	2.983	62.25	61.68	0.84	39.07	5.07	62.45	61.32
CO-B4-53	B4-53	B5-JCT2	82.8	Circle	1	24			0.013	1.715	63.1	61.68	6.43	29.63	7.53	63.73	61.45
CO-B4-54	B4-54	B4-MH-2	61.8	Circle	1	24			0.013	0.241	54.6	54.45	1.19	11.1	0.38	60.11	60.11
CO-B4-55	B4-55	B4-MH-20A	36.3	Circle	1	24			0.013	-1.02	54.96	55.33	28.86	22.84	9.19	60.73	61.32
CO-B4-57	B4-57	B4-58	30.7	Circle	1	24			0.013	1.967	61.42	60.83	5.09	31.73	6.3	62.42	61.84
CO-B4-MH15A	B4-MH-15A	B4-MH-39	117.4	Circle	1	24			0.013	1.269	66.25	64.76	39.53	25.49	12.58	74.4	71.82
CO-B4-MH18	MH-18	B4-MH-1	56.5	Circle	1	24			0.013	0.142	54.12	54.04	2.51	8.51	0.8	58.9	58.9
CO-B4-OS-02	B4-OS-02	B4-02	11.8	Circle	1	24			0.013	0.253	70.82	70.79	6.51	11.39	4.65	71.93	71.92
CO-B4-OS-03	B4-OS-03	B4-03	49.2	Circle	1	24			0.013	0.203	71.05	70.95	0.93	10.2	2.45	71.92	71.92
CO-B4-OS-04	B4-OS-04	B4-03	16.4	Circle	1	24			0.013	0.244	70.71	70.67	6.59	11.18	4.65	71.92	71.92
CO-B4-OS-05	B4-OS-05	B4-MH-15A	8.8	Circle	1	24			0.013	0.226	70.7	70.68	10.95	10.76	5.28	74.4	74.4
CO-B4-OS-06	B4-OS-06	B4-01	41.1	Circle	1	24			0.013	2.75	71.51	70.38	9.11	37.51	9.85	72.18	71.89
CO-B4-OS-07	B4-OS-07	B4-05	60.5	Circle	1	24			0.013	2.725	73.2	71.55	2.05	37.34	5.6	73.52	71.93
CO-B4-OS-14	B4-OS-14	B4-09	52.3	Circle	1	24			0.013	1.04	69.73	69.2	3.59	23.07	4.33	71.44	71.43
CO-B4-OS-23	B4-OS-23	B4-OS-24	226.6	Circle	1	24			0.013	0.26	68.34	67.75	5.02	11.54	3.48	69.27	68.77
CO-B4-OS-24	B4-OS-24	B4-OS-25	227.4	Circle	1	24			0.013	0.167	67.39	67.01	10.58	9.25	6.7	68.77	68.2
CO-B4-OS-26	B4-OS-26	B4-MH-8A	203.3	Circle	1	24			0.013	0.005	65.04	65.03	4.57	1.59	3	68.2	68.12
CO-B4-OS-27(1)	B4-OS-27	B4-MH-23	44.2	Circle	1	24			0.013	0.498	57.1	56.88	7.1	15.96	6.99	61.32	61.32
CO-b4mh28	B4-MH-28	B4-MH-27	18.3	Circle	1	24			0.013	2.736	59.1	58.6	29.27	37.41	9.32	66.63	66.33
co-B4-OS-09STRT	B4-OS-09	B4-OS-12	273.6	Circle	1	24			0.013	0.121	67.32	66.99	13.38	7.86	4.26	74.59	74.55
B4-OS-01C	B4-OS-01	B4-04	21.3	Circle	1	18			0.013	0.187	71.68	71.64	21.44	4.55	12.13	74.44	74.42
CO-B3-15	B3-15	B3-16	34.1	Circle	1	18			0.013	0.143	60.8	60.75	0.38	3.97	0.26	62.86	62.86
CO-B3-17	B3-17	B3-MH-9	20.8	Circle	1	18			0.013	2.409	60.1	59.6	2.32	16.3	1.31	61.72	61.72
CO-B4-21	B4-25	B4-27	34.9	Circle	1	18			0.013	1.661	68.34	67.76	0.72	13.54	3.74	69.57	69.57
CO-B4-OS-08STRT	B4-OS-08	B4-OS-09	538.4	Circle	1	18			0.013	0.312	69	67.32	4.63	5.87	2.62	75.33	74.59
CO-B4-OS-11STRT	B4-OS-11	B4-OS-18	820.6	Circle	1	18			0.013	0.117	67.32	66.36	5.82	3.59	3.29	74.37	73.76
CO-10STRT	MH-90L1STRT	B4-OS-21	141.7	Circle	1	12			0.013	4.602	72.6	66.08	2.74	7.64	4.39	73.24	73.28
CO-B3-MH2(2)	B3-MH-7	B3-MH-8	35.9	Circle	1	24			0.013	0.502	60.83	60.65	6.9	16.03	2.5	62.87	62.85
CO-B3-MH3(2)	MH-40	B3-MH-9	61.7	Circle	1	24			0.013	0.229	59.74	59.6	14.3	10.84	4.55	61.95	61.72
CO-B4-MH36	B4-MH-36	B4-MH-35	56.4	Circle	1	36			0.013	0.153	63.4	63.3	44.21	26.1	6.25	71.55	71.37
CO-B3-MH4(1)	B3-MH-9	B3-MH-10	38.1	Circle	1	18			0.013	0.256	59.6	59.5	15.4	5.32	8.8	61.72	55.99
CO-37B	B1-MH1	B1-JCT1	97.3	Circle	1	30			0.013	1.779	57.26	55.53	4.48	54.7	3.56	57.74	56.88
CO-B1-04	B1-04	B1-MH1	39.9	Circle	1	30			0.013	0.426	61.36	61.19	2.66	26.77	3.49	61.89	57.74
CO-B1-03(1)	B1-03	B1-MH1	47.3	Circle	1	24			0.013	0.126	61.28	61.21	2.93	8.04	3.36	61.97	57.74
CO-B4-MH35(1)	B4-MH-35	MH-7	69.1	Circle	1	42			0.013	0.198	63.3	63.18	34.74	44.78	3.61	71.37	71.33
CO-B4-MH2	B4-MH-2	B4-MH-1	92.4	Circle	1	54			0.013	0.561	54.56	54.04	225.31	147.33	14.17	60.11	58.9
CO-B3-MH3(1)	B3-MH-8	MH-40	226.6	Circle	1	24			0.013	0.401	60.65	59.74	14.29	14.32	4.55	62.85	61.95
CO-B4-MH33(1)	B4-21	MH-32	35.5	Circle	1	24			0.013	0.343	62.75	62.62	29.65	13.24	9.44	70.13	69.73

APP: | REVISIONS | DATE | No.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 3 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 385 ;D$ 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBL$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

COLE CREEK

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft	DS Invert ft	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
C2-MH9(2)(1)(1)(1)(2)(1)	C2-MH7	C2-MH4	105	Box	1		10	5	0.013	0.002	59.32	59.12	118.98	350.71	2.38	70.15	70.12
C2-MH9(2)(1)(2)	C2-MH4	MH-STA91+47	203.4	Box	1		10	5	0.013	0.002	59.12	58.72	121.74	356.29	2.43	70.12	70.07
C2-MH9(2)(2)(2)(2)	MH-83n	MH-STA88+93	208.9	Box	1		10	5	0.013	0.002	58.64	58.26	138.64	344.28	2.77	68.01	67.95
CO-1631(2)(1)(2)(1)(1)	MH-3131	C2-12	308.7	Box	1		10	5	0.013	0.002	59.42	58.8	122.09	360.02	2.44	70.17	70.1
CO-1631(2)(2)(2)	MH-82n	C2-14	216.6	Box	1		10	5	0.013	0.002	58.74	58.3	108.23	361.03	2.16	69.07	69.02
CO-1EE	MH-8E	MH-4E	159.4	Box	1		10	5	0.013	0.001	65.14	64.93	30.98	291.59	2.48	73.39	73.39
CO-2(1)(1)	MH-4E	MH-16E	150.3	Box	1		10	5	0.013	0.002	64.93	64.68	41.87	327.66	3.88	73.39	73.38
CO-8(1)	MH-16E	MH-17E	129.6	Box	1		10	5	0.013	0.003	64.68	64.26	43.48	457.29	3.27	73.38	73.38
CO-8(2)	MH-17E	MH-5E	197.8	Box	1		10	5	0.013	0.003	64.26	63.73	74.35	415.87	2.88	73.38	73.36
CO-38N	MH-STA88+93	C2-MH2	35.9	Box	1		10	4	0.013	0.003	65.7	65.6	190.42	306.18	8.48	67.95	64.79
C2-MH9(2)(1)(1)(1)(1)(2)(2)	MH-3131	C2-MH7	45.1	Box	1		6	5	0.013	0.002	59.42	59.32	106.14	198.45	3.54	70.17	70.15
CO-18E	MH-23	MH-26	216.3	Box	1		6	5	0.013	0.002	63.56	63.21	85.51	169.61	4.5	73.34	73.26
CO-19E	MH-26	MH-27	222.9	Box	1		6	5	0.013	0.003	63.21	62.57	95.76	225.96	4.43	73.26	73.17
CO-21	MH-27	MH-28	216.6	Box	1		6	5	0.013	0.002	62.57	62.24	96.33	164.61	4.05	73.17	73.03
CO-23E	MH-28	MH-30	77.1	Box	1		6	5	0.013	0.002	62.24	62.08	78.12	192.15	3.28	73.03	73
CO-29P	MH-31E	MH-36E	163	Box	1		6	5	0.013	0.001	62.04	61.83	99.78	151.36	4.04	72.59	72.49
CO-35	MH-38E	MH-42	80.4	Box	1		6	5	0.013	0.002	61.66	61.46	110.87	210.36	4.21	72.44	72.38
CO-37	MH-42	MH-44E	119.4	Box	1		6	5	0.013	0.003	61.46	61.16	111.07	211.33	3.79	72.38	72.3
CO-38E	MH-44E	MH-45E	60	Box	1		6	5	0.013	0.002	61.16	61.06	99.3	172.07	3.31	72.3	72.27
CO-41E	MH-45E	MH-46E	306.1	Box	1		6	5	0.013	0.002	61.06	60.42	81.29	192.81	2.71	72.27	72.15
CO-3257	MH-36E	MH-S75+05	67.9	Box	1		6	5	0.013	0.001	61.83	61.73	100.46	161.85	4.07	72.49	72.46
CO-REDUCED1	MH-S75+05	MH-38E	29	Box	1		6	5	0.013	0.002	61.73	61.66	107.79	207.21	4.32	72.46	72.44
CO-36a	MH-23	MH-5E	59.8	Box	1		6	5	0.013	-0.003	63.56	63.73	85.62	224.83	5.03	73.34	73.36
CO-1631(1)(1)	MH-3331	MH-87	57	Box	1		5	10	0.013	0.001	60.2	60.14	212.84	260.56	4.72	70.51	70.47
CO-1631(1)(2)	MH-87	C2-04E	189.5	Box	1		5	10	0.013	0.002	60.14	59.8	213.64	340.26	4.62	70.47	70.34
CO-1631(2)(1)(1)(1)	C2-04E	MH-91	167.2	Box	1		5	10	0.013	0.001	59.8	59.6	216.8	277.81	4.8	70.34	70.22
CO-1631(2)(1)(1)(2)	MH-91	MH-3131	68.6	Box	1		5	10	0.013	0.003	59.6	59.42	216.79	411.47	5.92	70.22	70.17
CO-REDUCED0	MH-48E	C1-MH14	38.8	Box	1		3	2	0.013	0.003	60.12	60.02	166.36	24.65	27.73	70.82	66.33
CO-39n	MH-48E	C1-MH14	37.6	Box	1		3	2	0.013	0.003	68.9	68.8	41.7	25.14	7.44	70.82	66.33
C1-33	C1-OS-52	C1-OS-47	140.7	Circle	1	72			0.013	0.002	67.19	66.91	11.18	188.94	4.12	73.49	73.49
C1-67(1)	C1-OS-43	MH-30	62.1	Circle	1	72			0.013	0.156	71.66	61.95	2.77	1674.32	1.94	73	73
C2-MH1	C2-MH1	C2-OUT	91.9	Circle	1	66			0.024	0.004	57.8	57.42	256.28	116.95	11.33	63.89	61.88
C2-MH10(1)	C2-MH10	MH-3331	223.2	Circle	1	66			0.013	0.001	60.54	60.41	211.58	81.04	8.91	71.4	70.51
C2-MH11	C2-OS-13	C2-MH10	30.4	Circle	1	66			0.013	0.001	60.58	60.54	202.16	121.85	8.51	71.51	71.4
C2-MH2	C2-MH2	C2-MH1	155.6	Circle	1	66			0.013	0.003	58.22	57.8	256.27	174.47	10.79	64.79	63.89
C2-MH9(2)(1)(1)(1)(2)(2)(2)(1)(1)	C2-OS-18	C2-09	35.6	Circle	1	66			0.013	0.001	70.36	70.32	2.82	112.57	2.81	70.87	70.37
C1-36(2)	C1-MH5	MH-23	15	Circle	1	60			0.013	0.001	63.57	63.56	21.19	67.27	2.14	73.34	73.34
C1-JCT105	C1-JCT105	C1-MH9	223.8	Circle	1	60			0.013	0.002	62.98	62.49	62.76	121.87	3.92	73.25	73.12
C1-JCT106	C1-JCT106	C1-JCT107	195.4	Circle	1	60			0.013	0.001	62.46	62.2	84.11	94.99	4.28	73.1	72.89
C1-JCT107	C1-JCT107	C1-JCT108	77.5	Circle	1	60			0.013	0.001	62.2	62.09	104.21	98.11	5.75	72.89	72.77
C1-JCT108(1)	C1-JCT108	MH-33E	29.4	Circle	1	60			0.013	0.003	62.09	62.01	104.21	135.78	6.22	72.77	72.72
C1-JCT108(2)	MH-33E	C1-JCT204	31	Circle	1	60			0.013	0.003	62.09	62.01	84.46	132.36	4.39	72.72	72.69
C1-JCT109	C1-JCT109	C1-JCTT207	47.6	Circle	1	60			0.013	0.002	61.26	61.16	83.44	119.37	4.25	72.29	72.25
C1-JCT204(1)	C1-JCT204	C1-MH11	175.2	Circle	1	60			0.013	0.002	62.01	61.73	86.73	104.12	4.42	72.69	72.5
C1-JCT207	C1-JCTT207	C1-MH12	60.5	Circle	1	60			0.013	0.003	61.16	60.96	96.32	149.68	4.91	72.25	72.16
C1-MH11(1)(1)	C1-MH11	MH-6165	25.3	Circle	1	60			0.013	0.005	61.73	61.61	88.26	179.18	4.5	72.5	72.47
C1-MH11(1)(2)	MH-6165	MH-39E	28.9	Circle	1	60			0.013	0.001	61.61	61.59	82.55	68.48	4.2	72.47	72.44
C1-MH11(2)(1)	MH-39E	MH-40E	79.2	Circle	1	60			0.013	0.001	61.59	61.48	80.38	94.94	4.09	72.44	72.36
C1-MH11(2)(2)	MH-40E	C1-JCT109	72.6	Circle	1	60			0.013	0.003	61.48	61.26	80.38	144.91	4.09	72.36	72.29
C1-MH12	C1-MH12	C1-MH13	305.5	Circle	1	60			0.013	0.002	60.98	60.47	118.6	106.4	6.04	72.16	71.53
C1-MH13(1)	C1-MH13	MH-48E	179.3	Circle	1	60			0.013	0.002	60.4	60.06	163.52	113.4	8.33	71.53	70.82
C1-MH4	C1-MH4	C1-MH5	61.9	Circle	1	60			0.013	0	63.64	63.63	49.63	33.1	3.52	73.36	73.34
C1-MH5	C1-MH5	C1-MH6	166.3	Circle	1	60			0.013	0.002	63.45	63.09	53.66	121.16	4.61	73.34	73.27
C1-MH6	C1-MH6	C1-JCT105	49	Circle	1	60			0.013	0.002	63.09	62.98	57.22	123.4	4.44	73.27	73.25
C1-MH9	C1-MH9	C1-JCT106	20.3	Circle	1	60			0.013	0.001	62.49	62.46	77.61	100.07	3.95	73.12	73.1
C2-20	C2-OS-12	C2-MH15	280	Circle	1	60			0.013	0.001	61.33	60.93	183.8	98.43	9.36	73.12	71.87
C2-22	C2-OS-11	C2-OS-12	336.4	Circle	1	60			0.013	0.002	61.94	61.33	180.49	110.9	9.19	74.39	73.12
C2-23	C2-OS-10	C2-OS-11	418.2	Circle	1	60			0.013	0	62.13	61.94	171.06	55.51	8.71	75.66	74.39
C2-24	C2-OS-09	C2-OS-10	536.5	Circle	1	60			0.013	0.001	62.93	62.13	151.44	100.57	7.71	77.13	75.66
C2-25	C2-OS-08	C2-OS-09	554.8	Circle	1	60			0.013	0.001	63.65	62.93	116.92	93.82	5.95	77.89	77.13
C2-26	C2-OS-06	C2-OS-08	861.2	Circle	1	60			0.013	0.001	64.77	63.65	113.83	93.92	5.8	78.24	77.89
C2-27	C2-OS-05	C2-OS-06	619.8	Circle	1	60			0.013	0.001	65.58	64.77	89.77	94.15	4.57	78.44	78.24
C2-MH14	C2-MH14	C2-OS-13	18.8	Circle	1	60			0.013	0.001	60.69	60.68	183.83	60.04	9.36	71.59	71.51
C2-MH15	C2-MH15	C2-MH14	62.5	Circle	1	60			0.013	0.011	60.93	60.25	183.8	271.54	9.36	71.87	71.59
CO-15E	MH-5E	C1-MH4	16.1	Circle	1	60			0.013	0.02	63.73	63.4	19.57	372.41	1.16	73.36	73.36
C1-MH14	C1-MH14	C1-OUT	236	Circle	1	54			0.013	0.002	60.02	59.5	212.46	92.31	13.57	66.33	63.61
C2-MH9(2)(1)(1)(1)(1)(2)(1)	MH-3031	C2-MH7	56.3	Circle	1	48			0.013	0.002	59.42	59.32	20.14	60.55	2.08	70.16	70.15
C1-15(2)	MH-20E	C1-MH3	150.4	Circle	1	48			0.013	0.001	64.9	64.68	32.8	55.24	4.04	73.47	73.42
C1-17c	MH-435	C1-JCT102	161	Circle	1	48			0.013	0.004	66.5	65.89	58.83	88.41	6.69	73.86	73.73
C1-JCT1	C1-JCT1	C1-MH4	196.1	Circle	1	48			0.013	0.003	64.25	63.63	16.88	80.77	2.99	73.38	73.36
C1-MH3	C1-MH3	C1-JCT1	129.7	Circle	1	48			0.013	0.003	64.68	64.25	32.61	82.7	4.78	73.42	73.38
C2-28	C2-OS-04	C2-OS-05	860.5	Circle	1	48			0.013	0.001	66.7	65.58	57.41	51.82	4.57	78.85	78.44
C2-29	C2-OS-03	C2-OS-04	744.5	Circle	1	48			0.013	0.001	67.44	66.7	53.34	45.28	4.24	78.95	78.85
CO-14E	C1-JCT1	MH-17E	15.8	Circle	1	48			0.013	-0.001	64.25	64.26	38.93	36.09	4.18	73.38	73.38
C1-18c	C1-JCT10	MH-5E	59.5	Circle	1	42			0.013	0.024	65.13	63.73	35.77	154.27	5.35	73.41	73.36
C1-23c	C1-OS-47	MH-982	245.7	Circle	1	42			0.013	0.001	65.05	64.84	24.63	29.41	4.8	73.49	73.38
C1-25c	MH-982	C1-MH4	71	Circle	1	42			0.013	0.005	63.73	63.4	23.09	68.61	2.42	73.38	73.36
C1-JCT101	C1-JCT101	MH-435	211.7	Circle	1	42			0.013	0.004	67.3	66.5	58.83	61.84	7.38	74.22	73.86
C1-JCT102	C1-JCT102	MH*267	98.9	Circle	1	42			0.013	0.004	65.89	65.51	59.48	62.36	7.65	73.73	73.54
C2-21	C2-OS-07	C2-MH12	34.6	Circle	1	42			0.013	0.006	72.98	72.78	11.42	76.49	5.71	73.89	71.7
C2-30	C2-OS-02	C2-OS-03	343.2	Circle	1	42			0.013	0.001	67.79	67.44	12.18	32.13	1.35	78.98	78.95
C2-MH12	C2-MH12	C2-MH13	55.4	Circle	1	42			0.013	0	70.52	70.51	11.42	13.52	4.41	71.7	71.43
C2-MH13	C2-MH13	C2-MH10	55.6	Circle	1	42			0.013	0	69.56	69.55	11.5	13.49	4	71.43	71.4
C2-MH9(2)(1)(1)(1)(2)(2)(1)(1)	C2-OS-16	C2-MH5	193.2	Circle	1	42			0.013	0.001	65.97	65.74	3.63	34.71	0.85	70.39	70.39
C2-02c	C2-14	MH-STA88+93	36.5	Circle	1	36			0.013	0.001	58.3	58.26	114.46	22.09	16.19	69.02	67.95
CO-1631(2)(1)(2)(1)(2)	MH-STA91+47	C2-12	41	Circle	1	36			0.013	0.001	58.74	58.7	17.01	20.82	2.41	70.07	70.1
CO-42E	MH-46E	MH-47E	179.5	Circle	1	36			0.013	0.002	60.42	60.15	41.22	25.86	5.83	72.15	71.46

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 4 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 386 :DB$ 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Tables:$PENTBLS$
Plot Drivers:$PLTDRVL$
Design Filename: $FILEL$

COLE CREEK

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft	DS Invert ft	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
CO-12345	MH-30	MH-31E	29.5	Circle	1	36			0.013	0.001	62.08	62.04	79.22	24.55	11.21	73	72.59
C2-MH9(2)(2)(2)(1)	MH-STA91+47	MH-83n	47.6	Circle	1	36			0.013	0.002	58.72	58.64	138.64	26.7	19.61	70.07	68.01
CO-1631(2)(2)(1)	C2-12	MH-82n	39.2	Circle	1	36			0.013	0.002	58.8	58.74	108.23	26.65	15.31	70.1	69.07
C1-08c	C1-OS-14	C1-JCT101	307.4	Circle	1	36			0.013	0.002	67.83	67.3	37.05	27.69	5.64	74.74	74.22
C1-15(1)	MH*267	MH-20E	18.6	Circle	1	36			0.013	0.001	64.93	64.9	51.83	25.65	9.14	73.54	73.47
C1-21c	MH-547	C1-OS-47	398.6	Circle	1	36			0.013	0.002	66.01	65.21	15.3	29.88	2.72	73.65	73.49
C1-37	C1-OS-29	C1-JCT10	548.9	Circle	1	36			0.013	0.002	66.45	65.33	26.82	30.13	5.34	74.18	73.41
C2-31	C2-OS-01	C2-OS-02	479.7	Circle	1	36			0.013	0.001	68.27	67.79	8.65	21.1	1.22	78.98	78.98
C1-06c	C1-OS-12	C1-JCT101	216.9	Circle	1	30			0.013	0.004	68.13	67.3	25.9	25.37	5.28	74.54	74.22
C1-07c	C1-OS-15	C1-OS-14	859.6	Circle	1	30			0.013	0.002	69.89	67.83	29.57	20.08	6.02	75.71	74.74
C1-38	C1-OS-28	C1-OS-29	427.2	Circle	1	30			0.013	0.002	67.31	66.45	21.21	18.4	4.46	74.79	74.18
CO-1E	MH-3	MH-8E	75.8	Circle	1	24			0.013	0.001	65.22	65.14	1.48	7.35	0.63	73.4	73.39
CO-23(1)(2)(1)(2)(2)	C2-08	MH-3031	33.3	Circle	1	24			0.013	0.053	70.89	69.11	5.27	52.32	10.67	71.32	70.16
CO-23(1)(2)(1)(1)	C2-05	MH-3031	249.6	Circle	1	24			0.013	0.002	68	67.5	12.05	10.13	4.84	70.44	70.16
C2-MH3(2)	MH-STA88+93	C2-MH2	37.3	Circle	1	24			0.013	0.001	58.26	58.22	81.73	7.41	26.02	67.95	64.79
C1-01c	C1-OS-11	C1-OS-13	269	Circle	1	24			0.013	0.002	70.84	70.3	7.06	10.13	2.25	75.72	75.72
C1-03c	C1-OS-09	C1-JCT100	36.6	Circle	1	24			0.013	0.004	69.31	69.17	12.35	14	4.91	74.78	74.79
C1-04c	C1-OS-16	C1-OS-15	502.6	Circle	1	24			0.013	0.002	70.89	69.89	9.57	10.09	3.05	75.97	75.71
C1-05c	C1-OS-13	C1-OS-15	207.4	Circle	1	24			0.013	0.002	70.3	69.89	14.34	10.06	4.56	75.72	75.71
C1-10A(1)	C1-OS-18	C1-05	27.7	Circle	1	24			0.013	0.056	73.22	71.67	2.11	53.58	3.75	73.49	73.48
C1-10A(2)	C1-05	MH-20E	29.9	Circle	1	24			0.013	0.006	71.67	71.5	4.07	16.89	4.43	73.48	73.47
C1-10c	C1-02E	C1-JCT201	19.1	Circle	1	24			0.013	0.001	70.43	70.42	0.41	5.17	1.35	73.41	73.41
C1-11c	C1-01	C1-03	38.4	Circle	1	24			0.013	0.017	70.81	70.15	2.41	29.64	2.66	73.57	73.56
C1-12B	C1-OS-05	C1-MH1	452.8	Circle	1	24			0.013	0.002	70.89	69.98	9.99	10.14	4.38	73.94	73.56
C1-12C	C1-OS-02	C1-OS-05	39	Circle	1	24			0.013	0.036	73.65	72.24	4.69	43.04	8.99	74.1	73.94
C1-13c	C1-03	C1-MH1	6.6	Circle	1	24			0.013	0.035	70.15	69.92	12.51	42.33	10.57	73.56	73.56
C1-14c	C1-04E	MH*267	42.3	Circle	1	24			0.013	0.072	71.36	68.33	4.48	60.57	10.47	73.55	73.54
C1-16c	C1-OS-20	C1-OS-14	211	Circle	1	24			0.013	0.002	68.25	67.83	13.9	10.09	4.42	74.87	74.74
C1-19c	C1-06	C1-08	28.3	Circle	1	24			0.013	0.016	69.05	68.61	7.05	28.19	7.34	73.43	73.42
C1-20A	C1-09	C1-07	41.5	Circle	1	24			0.013	0.012	70.43	69.93	5.34	24.82	6.3	73.56	73.56
C1-20E	C1-07	C1-JCT1	67.1	Circle	1	24			0.013	0.078	69.48	64.26	27.03	63.08	10.68	73.56	73.38
C1-22c	C1-OS-49	MH-547	17	Circle	1	24			0.013	0.002	67.23	67.19	4.57	10.97	3.96	73.66	73.65
C1-25A(2)	C1-11	MH-982	5.1	Circle	1	24			0.013	0.01	70.7	70.65	2.26	22.98	4.66	73.39	73.38
C1-26c	C1-08	MH-17E	53.8	Circle	1	24			0.013	0.079	68.5	64.26	8.67	63.5	4.21	73.42	73.38
C1-30c	MH-786	C1-OS-29	43.3	Circle	1	24			0.013	0.002	66.54	66.45	2.85	10.31	0.91	74.19	74.18
C1-31	C1-OS-22	C1-OS-27	105.1	Circle	1	24			0.013	0.002	68.09	67.9	5.02	9.62	1.6	75.31	75.27
C1-32	C1-OS-21	C1-OS-26	201.1	Circle	1	24			0.013	0.002	68.8	68.37	2.78	10.46	1.21	75.39	75.37
C1-35	C1-13	C1-MH5	75.3	Circle	1	24			0.013	0.001	63.64	63.57	7.32	6.9	2.49	73.37	73.34
C1-36(1)	C1-12	MH-23	60.2	Circle	1	24			0.013	0.045	72.69	70	3.53	47.83	8.91	73.33	73.34
C1-39	C1-OS-27	C1-OS-28	296.2	Circle	1	24			0.013	0.002	67.9	67.31	14.45	10.1	4.6	75.27	74.79
C1-40	C1-OS-26	C1-OS-27	234.9	Circle	1	24			0.013	0.002	68.37	67.9	10.74	10.12	3.42	75.37	75.27
C1-41	MH-546	C1-OS-26	162.6	Circle	1	24			0.013	0.003	68.93	68.37	10.47	13.28	3.33	75.39	75.37
C1-43	C1-14E	C1-MH6	34.5	Circle	1	24			0.013	0.073	70.94	68.41	7.89	61.24	13.43	73.28	73.27
C1-46	C1-14	C1-MH7	21.6	Circle	1	24			0.013	0.051	69.51	68.42	1.9	50.85	7.33	73.51	73.51
C1-47	C1-OS-33	C1-MH7	193.3	Circle	1	24			0.013	0.004	66.47	65.74	15.35	13.9	5.29	74.17	73.51
C1-48	C1-OS-32	C1-OS-33	679.9	Circle	1	24			0.013	0.002	67.5	66.47	12.81	8.8	4.08	75.27	74.17
C1-49	C1-OS-31	C1-OS-32	574.4	Circle	1	24			0.013	0.002	68.65	67.5	4.86	10.12	1.64	75.39	75.27
C1-50	MH-763	C1-OS-31	137.2	Circle	1	24			0.013	0.002	68.92	68.65	5.9	10.04	1.88	75.39	75.39
C1-52	C1-18	C1-MH9	29.7	Circle	1	24			0.013	0.004	70.1	69.97	13.77	14.96	6.08	73.14	73.12
C1-53	C1-16	C1-MH7	6.5	Circle	1	24			0.013	0.008	70.21	70.16	5.63	19.79	5.43	73.51	73.51
C1-66	C1-23	C1-MH11	28	Circle	1	24			0.013	0.078	70.18	67.98	2.72	63.38	9.84	72.5	72.5
C1-69	C1-OS-55	C1-JCT204	53.4	Circle	1	24			0.013	0.005	69.09	68.8	5.76	16.67	4.82	72.7	72.69
C1-72	C1-25	C1-MH12	30.5	Circle	1	24			0.013	0.029	69.12	68.24	5.37	38.41	8.59	72.17	72.16
C1-73	C1-24MHOS	MH-38E	18.8	Circle	1	24			0.013	0.06	69.91	68.79	1.95	55.27	8.27	72.44	72.44
C1-74A(1)	C1-OS-46	MH-44E	62.2	Circle	1	24			0.013	0.122	70.81	63.19	2.91	79.12	7.38	72.3	72.3
C1-74A(2)	MH-44E	C1-JCTT207	16.6	Circle	1	24			0.013	0	61.16	61.16	12.87	0.23	4.1	72.3	72.25
C1-76	C1-27	C1-MH13	28.6	Circle	1	24			0.013	0.025	68.22	67.49	7.38	36.12	9.03	71.53	71.53
C1-77(1)	C1-26	MH-46E	19.1	Circle	1	24			0.013	0.093	70.06	68.29	4.26	68.8	12.18	72.15	72.15
C1-77(2)	MH-46E	C1-MH13	18.2	Circle	1	24			0.013	0.001	60.42	60.4	41.8	7.49	13.3	72.15	71.53
C1-79	C1-27E	C1-MH14	34	Circle	1	24			0.013	0.026	69.18	68.31	11.52	36.18	10.23	69.96	66.33
C1-80	C1-28	MH-47E	19	Circle	1	24			0.013	0.003	70	69.95	4.27	11.61	4.05	71.47	71.46
C1-JCT100	C1-JCT100	C1-OS-12	259.7	Circle	1	24			0.013	0.004	69.17	68.13	16.05	14.31	5.11	74.79	74.54
C1-JCT110	C1-10	C1-JCT10	5.1	Circle	1	24			0.013	0.006	71.33	71.3	7.44	17.29	5.3	73.41	73.41
C1-JCT201	C1-JCT201	C1-MH2	36.4	Circle	1	24			0.013	0.041	70.42	68.94	0.81	45.6	0.44	73.41	73.41
C1-JCT206(2)	MH-28	C1-JCT107	18	Circle	1	24			0.013	0.002	62.24	62.2	19.59	10.67	6.24	73.03	72.89
C1-MH1	C1-MH1	MH-8E	49.8	Circle	1	24			0.013	0.095	69.87	65.14	25.44	69.71	13.75	73.56	73.39
C1-MH10	C1-19	C1-JCT106	54.1	Circle	1	24			0.013	0.062	65.84	62.46	11.19	56.54	4.59	73.16	73.1
C1-MH2	C1-MH2	MH*267	135.6	Circle	1	24			0.013	0.002	65.16	64.93	12.55	9.32	4.49	73.41	73.54
C1-MH7(1)	C1-MH7	MH-26	49.5	Circle	1	24			0.013	0.049	65.62	63.21	17.95	49.93	6.17	73.51	73.26
C1-MH7(2)	MH-26	C1-JCT105	16.7	Circle	1	24			0.013	0.014	63.21	62.98	7.58	26.58	2.75	73.26	73.25
C1-MH8(1)	C1-MH8	MH-27	32.2	Circle	1	24			0.013	0.045	71.05	69.61	6.89	47.87	6.38	73.69	73.17
C1-MH8(2)	MH-27	C1-MH9	17.5	Circle	1	24			0.013	0.005	62.57	62.49	9.36	15.28	2.98	73.17	73.12
C2-01c	C2-13	MH-STA88+93	32.3	Circle	1	24			0.013	0.001	68.29	68.26	4.93	6.89	4.02	69.16	67.95
C2-14c	C2-OS-14	C2-05	23.7	Circle	1	24			0.013	0	72.89	72.88	11.29	4.65	5.41	74.21	70.44
C2-19	MH-768	C2-OS-13	52	Circle	1	24			0.013	0.009	71.5	71.01	0.01	21.95	0.02	71.51	71.51
C2-MH9(2)(1)(1)(1)(2)(2)(1)(2)	C2-11	C2-MH5	72.3	Circle	1	24			0.013	0.025	67.42	65.62	4.69	35.69	2.4	70.41	70.39
C2-MH9(2)(1)(1)(1)(2)(2)(2)(1)(2)	C2-09	C2-MH5	39.8	Circle	1	24			0.013	0.009	69.29	68.92	5.48	21.8	5.77	70.37	70.39
C2-MH9(2)(1)(1)(1)(2)(2)(2)(2)	C2-MH5	MH-3131	114.8	Circle	1	24			0.013	0.001	65.62	65.48	12.59	7.9	4.05	70.39	70.17
C2-MH9(2)(1)(1)(2)(2)(2)	C2-10	C2-MH4	80	Circle	1	24			0.013	0.031	70.64	68.17	6.12	39.75	9.16	71.17	70.12
C2-MH9(2)(2)(1)(2)(2)	C2-07E	MH-STA91+47	53.1	Circle	1	24			0.013	0.196	69.12	58.72	1.18	100.14	3.98	70.09	70.07
CO-3E	C1-02	MH-3	44.9	Circle	1	24			0.013	0.002	65.32	65.22	1.23	10.68	0.8	73.4	73.4
CO-5	C1-MH2	MH-8E	18.1	Circle	1	24			0.013	0.001	65.16	65.14	14.88	7.51	7.98	73.41	73.39
CO-10E	MH-20E	MH-4E	16.8	Circle	1	24			0.013	-0.002	64.9	64.93	21.18	9.15	9.33	73.47	73.39
CO-11E	C1-04	MH-4E	19.7	Circle	1	24			0.013	0.003	70	69.95	1.96	11.4	3.2	73.39	73.39
CO-16E	MH-982	C1-13	55	Circle	1	24			0.013	0.002	63.73	63.64	5.86	9.15	2.14	73.38	73.37
CO-17E	C1-15	C1-JCT105	34.7	Circle	1	24			0.013	0.003	69.99	69.89	1.59	12.15	3	73.25	73.25
CO-18	BASIN-2	BASIN-3	46.8	Circle	1	24			0.013	0	73.5	73.5	0.1	0.23	0.26	74.06	74.06

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 5 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 387 :to$ 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

COLE CREEK

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
CO-19	BASIN-3	BASIN-1	58.6	Circle	1	24			0.013	0	73.5	73.5	0.49	0.23	0.69	74.06	74.05
CO-20E	C1-19	MH-27	42.3	Circle	1	24			0.013	0.077	65.84	62.57	13.69	62.93	5.15	73.16	73.17
CO-25E	C1-20P	MH-31E	18.8	Circle	1	24			0.013	0.002	70.04	70	0.76	10.43	1.17	72.59	72.59
CO-26E	MH-31E	MH-33E	16.9	Circle	1	24			0.013	-0.001	62.04	62.05	20.43	5.77	6.5	72.59	72.72
CO-27E	C1-22	MH-33E	28.4	Circle	1	24			0.013	0.003	70.09	70	1.68	12.74	3.09	72.72	72.72
CO-28E	C1-21	C1-JCT107	58	Circle	1	24			0.013	0.003	70	69.8	1.13	13.29	2.75	72.9	72.89
CO-31	C1-20MH	MH-36E	18.9	Circle	1	24			0.013	0.003	69.19	69.14	1.97	11.62	3.09	72.5	72.49
CO-33	MH-38E	MH-39E	17	Circle	1	24			0.013	0.004	61.66	61.59	4.86	14.5	1.55	72.44	72.44
CO-36	MH-42	MH-43E	17.3	Circle	1	24			0.013	-0.003	69.67	69.72	0.79	12.15	1.22	72.38	72.38
CO-43	MH-47E	MH-48E	17.7	Circle	1	24			0.013	0.002	60.15	60.12	43.14	9.46	13.73	71.46	70.82
CO-43	MH-47E	MH-48E	17.7	Circle	1	24			0.013	0.002	60.15	60.12	43.14	9.46	13.73	71.46	70.82
CO-44E	C1-29	MH-48E	29.7	Circle	1	24			0.013	0.003	67.9	67.8	2.13	13.13	3.32	70.82	70.82
CO-46E	C2-01	MH-3331	50.9	Circle	1	24			0.013	0.001	71.55	71.5	1.71	7.09	2.76	72.1	70.51
CO-48E	C2-02	MH-87	76.3	Circle	1	24			0.013	0.144	71.1	60.14	1.37	85.75	3.22	71.28	70.47
CO-193	C1-OS-01	C1-OS-02	129.2	Circle	1	24			0.013	0	73.64	73.65	0.8	1.99	1.3	74.2	74.1
CO-1234	MH-45E	C1-MH12	16.3	Circle	1	24			0.013	0.006	61.06	60.96	18.01	17.73	5.73	72.27	72.16
CO-1431	C2-04	C2-04E	17.6	Circle	1	24			0.013	0.003	70.05	70	1.77	12.06	3.14	70.53	70.34
CO-2531	C2-06	C2-07	72.1	Circle	1	24			0.013	0.001	69.89	69.85	1.43	5.33	0.46	75.39	75.39
CO-4943	C1-24MH	C1-20	32.1	Circle	1	24			0.013	-0.004	69.77	69.9	2	14.39	2.56	72.46	72.46
CO-5112	C1-24MH	MH-S75+05	55	Circle	1	24			0.013	0.005	69.77	69.5	3.47	15.85	4.04	72.46	72.46
CO-REDUCED2	MH-S75+05	MH-6165	18.2	Circle	1	24			0.013	0.007	61.73	61.61	6.86	18.38	2.18	72.46	72.47
C1-02c	C1-OS-10	C1-OS-09	304.6	Circle	1	18			0.013	0.004	70.53	69.31	5.81	6.65	3.51	74.9	74.78
C1-09c	C1-OS-17	C1-JCT102	41.8	Circle	1	18			0.013	0.002	65.94	65.86	5.72	4.6	3.23	73.75	73.73
C1-12A	C1-OS-04	C1-06	21.5	Circle	1	18			0.013	0	75.48	75.47	6.68	2.26	5	76.6	73.43
C1-29c	C1-OS-24	C1-JCT2	122.4	Circle	1	18			0.013	0	74.07	74.04	0.87	1.64	1.92	74.63	74.24
C1-55	C1-OS-36	C1-17	49.4	Circle	1	18			0.013	0.002	72.61	72.51	11.17	4.73	11.68	74.15	73.17
C1-56	C1-17	C1-MH8	12.3	Circle	1	18			0.013	0.065	72.55	71.75	6.44	26.82	8.02	73.17	73.69
C1-57	MH-192	C1-19	24.5	Circle	1	18			0.013	0.049	73.21	72.02	1.97	23.14	7.99	73.51	73.16
C1-58	C1-OS-40	C1-19	321.6	Circle	1	18			0.013	0.002	66.93	66.29	7.55	4.69	4.27	74.28	73.16
C1-59	C1-OS-39	C1-OS-40	389.4	Circle	1	18			0.013	0.002	67.71	66.93	6.95	4.7	3.94	75.48	74.28
C1-60	C1-OS-38	C1-OS-39	216.9	Circle	1	18			0.013	0.002	68.15	67.71	5.19	4.73	2.93	75.79	75.48
C1-61	C1-OS-37	C1-OS-38	459	Circle	1	18			0.013	0.002	69.07	68.15	4.54	4.7	2.88	76.25	75.79
C1-62	C1-OS-35	C1-OS-37	408.9	Circle	1	18			0.013	0.002	69.9	69.07	4.57	4.73	3.03	76.56	76.25
C1-75A	C1-OS-60	C1-27	27.2	Circle	1	18			0.013	0.002	69.01	68.96	6.15	4.5	4.86	71.55	71.53
C1-JCT2	C1-JCT2	C1-JCT3	45.2	Circle	1	18			0.013	0.02	73.99	73.09	0.87	14.83	4.6	74.24	73.42
C1-JCT205	C1-JCT205	C1-JCT206	12	Circle	1	18			0.013	0.004	70.05	70	2.91	6.79	3.52	73.05	73.04
C1-JCT206(1)	C1-JCT206	MH-28	31.9	Circle	1	18			0.013	0.003	70	69.9	2.92	5.88	3.66	73.04	73.03
C1-JCT3	C1-JCT3	C1-08	33.4	Circle	1	18			0.013	0.043	72.68	71.24	0.92	21.82	5.77	73.42	73.42
C2-MH9(2)(1)(1)(2)(2)(1)	C2-OS-19	C2-10	38.8	Circle	1	18			0.013	0.003	71.61	71.48	2.98	6.08	3.85	72.31	71.17
CO-16	C1-OS-19	C1-07	50.3	Circle	1	18			0.013	0.01	70	69.48	19.47	10.68	12.41	73.95	73.56
CO-17	C1-OS-48	MH-547	137.3	Circle	1	18			0.013	0.009	67.23	66.01	12.49	9.9	7.07	75.31	73.65
CO-25	C1-OS-03	C1-03	166.4	Circle	1	18			0.013	0.001	70.35	70.15	8.62	3.64	6.04	73.77	73.56
C1-68	C1-OS-44	C1-20MH	64.1	Circle	1	15			0.013	0.034	74.27	72.06	1.7	11.99	6.91	74.59	72.5
CO-1631(2)(1)(2)(2)	C2-OS-21	C2-12	74.1	Circle	1	12			0.013	0.007	70.84	70.33	3.06	2.96	4.63	71.66	70.1
CO-23(1)(2)(1)(2)(1)	C2-OS-15	C2-08	51.3	Circle	1	12			0.013	0.008	71.28	70.89	2.31	3.11	5.39	71.92	71.32
C1-13A	C1-OS-06	C1-MH1	18.5	Circle	1	12			0.013	0.001	71.24	71.23	4.45	0.83	5.81	73.61	73.56
C1-14A	C1-OS-07	C1-04E	18.8	Circle	1	12			0.013	0.046	72.22	71.36	4.43	7.62	12.54	73.77	73.55
C1-19A	C1-OS-08	MH-16E	57.2	Circle	1	12			0.013	0	69.92	69.91	2.55	0.47	3.31	73.64	73.38
C1-2476	C1-24	C1-24MH	9.4	Circle	1	12			0.013	0.005	69.82	69.77	1.47	2.6	2.86	72.46	72.46
C1-25A(1)	C1-10E	C1-11	18.3	Circle	1	12			0.013	0.001	70.71	70.7	0.19	0.83	0.36	73.39	73.39
C1-28c	C1-OS-25	C1-10	21.1	Circle	1	12			0.013	0	72.9	72.89	6.73	0.78	8.57	74.64	73.41
C1-34	C1-OS-51	C1-OS-47	98.2	Circle	1	12			0.013	0.073	74.04	66.91	2.91	9.6	10.44	74.42	73.49
C1-42	C1-OS-53	C1-14E	123.9	Circle	1	12			0.013	0.002	71.51	71.25	7.89	1.63	10.05	78.34	73.28
C1-42A	C1-OS-50	C1-13	29.9	Circle	1	12			0.013	0.044	73.02	71.69	2.64	7.51	8.73	73.43	73.37
C1-45	C1-OS-30	C1-12	48.1	Circle	1	12			0.013	0.002	72.79	72.69	2.8	1.62	6.15	73.55	73.33
C1-51	C1-OS-54	C1-18	104.4	Circle	1	12			0.013	0.002	70.85	70.65	12.08	1.56	15.39	83.67	73.14
C1-54	C1-OS-34	C1-16	60.7	Circle	1	12			0.013	0.008	71.53	71.03	4.65	3.23	6.04	73.7	73.51
C1-63	C1-OS-42	MH-192	11.5	Circle	1	12			0.013	0.045	74.27	73.75	1.97	7.57	8.1	74.62	73.51
C1-64	C1-OS-41	C1-JCT205	29.9	Circle	1	12			0.013	0.008	74.14	73.89	2.53	3.26	4.58	74.8	73.05
C1-70	C1-OS-56	C1-23	42.1	Circle	1	12			0.013	0	70.93	70.92	1.55	0.55	3.04	72.53	72.5
C1-71	C1-OS-57	C1-JCT109	57.4	Circle	1	12			0.013	0.168	70.89	61.26	5.15	14.59	7.88	73.06	72.29
C1-71A	C1-OS-58	C1-25	38.2	Circle	1	12			0.013	0	69.41	69.4	0.98	0.58	2.44	72.2	72.17
C1-74	C1-OS-45	C1-24MHOS	73.4	Circle	1	12			0.013	0.003	71.25	71.04	1.95	1.91	3.49	72.47	72.44
C1-75	C1-OS-59	C1-25	83.7	Circle	1	12			0.013	0.028	72.12	69.78	1.83	5.96	6.2	72.5	72.17
C1-75B	C1-OS-61	C1-27E	38.9	Circle	1	12			0.013	0.002	69.51	69.43	2.43	1.62	3.85	70.34	69.96
C1-81	C1-OS-62	C1-27E	127.7	Circle	1	12			0.013	0.007	70.45	69.51	9.09	3.06	11.58	78.84	69.96
C1-JCT200	C1-JCT200	C1-01	34.1	Circle	1	12			0.013	0.051	73	71.26	0.25	8.05	0.44	73.56	73.57
C2-04c	C2-OS-22	C2-JCT200	69.5	Circle	1	12			0.013	0.001	70.79	70.73	3.6	1.05	4.58	72.85	72.14
C2-JCT200(1)	C2-JCT200	C2-OS-23	72.5	Circle	1	12			0.013	0.006	70.82	70.42	3.6	2.65	4.69	72.14	71.44
C2-JCT200(2)	C2-OS-23	C2-14	14.6	Circle	1	12			0.013	0.027	70.82	70.42	4.14	5.9	8.13	71.44	69.02
CO-20	BASIN-1	Bridge*Out	50.2	Circle	1	12			0.013	0	73.5	73.5	0.85	0.04	2.34	74.05	57.42
CO-23	C1-OS-23	MH-786	75.9	Circle	1	12			0.013	0.002	66.7	66.54	2.85	1.64	3.62	74.67	74.19
C1-11A	MH-543	C1-JCT200	99.7	Circle	1	8			0.013	0.001	73.11	73	0.14	0.41	0.83	73.58	73.56
C1-24c	MH-295	C1-09	31.2	Circle	1	8			0.013	0.072	74.8	72.56	0	3.28	0	74.8	73.56
C2-15B	C2-OS-17	C2-04E	44.9	Circle	1	8			0.013	0.027	72.91	71.69	3.1	2.02	8.8	75.24	70.34
C2-MH9(2)(2)(1)(2)(1)	C2-OS-20	C2-07E	30.8	Circle	1	8			0.013	0.083	71.67	69.12	0.98	3.48	11.02	71.93	70.09
C1	C1-MH7	MH-26	49.5	Circle	1	24	0	0	0.013	0.049	65.62	63.21	10.35	49.93	0	73.51	73.26
C2	C2-01	MH-3331	50.9	Circle	1	24	0	0	0.013	0.001	71.55	71.5	2.19	7.09	0	72.1	70.51
C27	C2-OS-04	C2-OS-05	860.5	Circle	1	48	0	0	0.013	0.001	66.7	65.58	24.17	51.82	0.24	78.85	78.44
C3	C2-05	MH-3031	249.6	Circle	1	24	0	0	0.013	0.002	68	67.5	2.38	10.13	0	70.44	70.16
C31	C1-OS-16	C1-OS-15	502.6	Circle	1	24	0	0	0.013	0.002	70.89	69.89	0.09	10.09	0	75.97	75.71
C32	C1-OS-13	C1-OS-15	207.4	Circle	1	24	0	0	0.013	0.002	70.3	69.89	0.19	10.06	0	75.72	75.71
C33	C1-02E	C1-JCT201	19.1	Circle	1	24	0	0	0.013	0.001	70.43	70.42	10.76	5.17	0	73.41	73.41
C36	C1-01	C1-03	38.4	Circle	1	24	0	0	0.013	0.017	70.81	70.15	2.84	29.64	0	73.57	73.56
C37	C2-08	MH-3031	33.3	Circle	1	24	0	0	0.013	0.053	70.89	69.11	10.18	52.32	0	71.32	70.16
C39	C2-OS-08	C2-OS-09	554.8	Circle	1	60	0	0	0.013	0.001	63.65	62.93	88.24	93.82	0	77.89	77.13
C40	C1-OS-05	C1-MH1	452.8	Circle	1	24	0	0	0.013	0.002	70.89	69.98	11.77	10.14	0	73.94	73.56

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 6 OF 11

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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 388 TO$ 1067	

REVISIONS

No.	DATE	APP.

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$

COLE CREEK

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
C41	C1-OS-02	C1-OS-05	39	Circle	1	24	0	0	0.013	0.036	73.65	72.24	0.35	43.04	0	74.1	73.94
C42	C1-03	C1-MH1	6.6	Circle	1	24	0	0	0.013	0.035	70.15	69.92	0.26	42.33	0	73.56	73.56
C43	C2-OS-06	C2-OS-08	861.2	Circle	1	60	0	0	0.013	0.001	64.77	63.65	92.48	93.92	0.32	78.24	77.89
C45	C2-OS-05	C2-OS-06	619.8	Circle	1	60	0	0	0.013	0.001	65.58	64.77	107.75	94.15	0.17	78.44	78.24
C47	C1-MH12	C1-MH13	305.5	Circle	1	60	0	0	0.013	0.002	60.98	60.47	113.59	106.4	0	72.16	71.53
C48	C1-MH4	C1-MH5	61.9	Circle	1	60	0	0	0.013	0	63.64	63.63	114.46	33.1	0	73.36	73.34
C5	C2-10	C2-MH4	80	Circle	1	24	0	0	0.013	0.031	70.64	68.17	1.17	39.75	0	71.17	70.12
C50	C1-MH5	C1-MH6	166.3	Circle	1	60	0	0	0.013	0.002	63.45	63.09	114.56	121.16	0	73.34	73.27
C51	C1-04E	MH*267	42.3	Circle	1	24	0	0	0.013	0.072	71.36	68.33	0	60.57	0	73.55	73.54
C52	C2-MH10	MH-3331	223.2	Circle	1	66	0	0	0.013	0.001	60.54	60.41	122.66	81.04	0	71.4	70.51
C54	C1-JCT108	MH-33E	29.4	Circle	1	60	0	0	0.013	0.003	62.09	62.01	9.37	135.78	0	72.77	72.72
C55	MH-33E	C1-JCT204	31	Circle	1	60	0	0	0.013	0.003	62.09	62.01	47.86	132.36	0	72.72	72.69
C56	MH-31E	MH-36E	163	Box	1	0	6	5	0.013	0.001	62.04	61.83	33.13	151.36	0	72.59	72.49
C57	C2-MH4	MH-STA91+47	203.4	Box	1	0	10	5	0.013	0.002	59.12	58.72	155.55	356.29	0	70.12	70.07
C59	C1-MH6	C1-JCT105	49	Circle	1	60	0	0	0.013	0.002	63.09	62.98	203.8	123.4	0	73.27	73.25
W1-2	C1-OS-20	C1-OS-14	211	Circle	1	24	0	0	0.013	0.002	68.25	67.83	3	10.09	0.33	74.87	74.74
W1-MH1	C1-06	C1-08	28.3	Circle	1	24	0	0	0.013	0.016	69.05	68.61	0	28.19	0	73.43	73.42
W2-1	C1-07	C1-JCT1	67.1	Circle	1	24	0	0	0.013	0.078	69.48	64.26	2.74	63.08	2.21	73.56	73.38
W2-1A	C1-09	C1-07	41.5	Circle	1	24	0	0	0.013	0.012	70.43	69.93	1.51	24.82	1.03	73.56	73.56
W2-2	C1-OS-49	MH-547	17	Circle	1	24	0	0	0.013	0.002	67.23	67.19	3.68	10.97	0	73.66	73.65
W2-3	C1-08	MH-17E	53.8	Circle	1	24	0	0	0.013	0.079	68.5	64.26	3.77	63.5	0	73.42	73.38
W3-1	C2-OS-03	C2-OS-04	744.5	Circle	1	48	0	0	0.013	0.001	67.44	66.7	32.79	45.28	0.29	78.95	78.85
W3-2	MH-20E	C1-MH3	150.4	Circle	1	48	0	0	0.013	0.001	64.9	64.68	19.55	55.24	0	73.47	73.42
W3-3	C1-JCT101	MH-435	211.7	Circle	1	42	0	0	0.013	0.004	67.3	66.5	14.51	61.84	0	74.22	73.86
W3-4	MH-786	C1-OS-29	43.3	Circle	1	24	0	0	0.013	0.002	66.54	66.45	5.26	10.31	0	74.19	74.18
W3-5	C1-OS-22	C1-OS-27	105.1	Circle	1	24	0	0	0.013	0.002	68.09	67.9	6.84	9.62	0	75.31	75.27
W3-6	C1-OS-21	C1-OS-26	201.1	Circle	1	24	0	0	0.013	0.002	68.8	68.37	0.87	10.46	0	75.39	75.37
W3-JCT1	C1-13	C1-MH5	75.3	Circle	1	24	0	0	0.013	0.001	63.64	63.57	4.83	6.9	0	73.37	73.34
W3-MH2	MH-STA91+47	MH-83n	47.6	Circle	1	36	0	0	0.013	0.002	58.72	58.64	12.85	26.7	0	70.07	68.01
W3-MH3	C1-OS-14	C1-JCT101	307.4	Circle	1	36	0	0	0.013	0.002	67.83	67.3	12.82	27.69	0	74.74	74.22
W4-01C	MH-3331	MH-87	57	Box	1	0	5	10	0.013	0.001	60.2	60.14	11.02	260.56	0	70.51	70.47
W4-02C	C1-OS-27	C1-OS-28	296.2	Circle	1	24	0	0	0.013	0.002	67.9	67.31	0	10.1	0.21	75.27	74.79
W4-03C	MH-87	C2-04E	189.5	Box	1	0	5	10	0.013	0.002	60.14	59.8	29.99	340.26	0	70.47	70.34
W4-04C	MH-26	C1-JCT105	16.7	Circle	1	24	0	0	0.013	0.014	63.21	62.98	2.53	26.58	0	73.26	73.25
W4-04A	C1-MH8	MH-27	32.2	Circle	1	24	0	0	0.013	0.045	71.05	69.61	5.3	47.87	0	73.69	73.17
W4-05C	MH-547	C1-OS-47	398.6	Circle	1	36	0	0	0.013	0.002	66.01	65.21	6.59	29.88	0	73.65	73.49
W4-07C	C1-OS-26	C1-OS-27	234.9	Circle	1	24	0	0	0.013	0.002	68.37	67.9	6.63	10.12	0	75.37	75.27
W4-08C	MH-546	C1-OS-26	162.6	Circle	1	24	0	0	0.013	0.003	68.93	68.37	8.53	13.28	0	75.39	75.37
W4-09C	MH-27	C1-MH9	17.5	Circle	1	24	0	0	0.013	0.005	62.57	62.49	6	15.28	0	73.17	73.12
W4-09A	C1-OS-29	C1-JCT10	548.9	Circle	1	36	0	0	0.013	0.002	66.45	65.33	39.16	30.13	0	74.18	73.41
W4-10C	C2-OS-01	C2-OS-02	479.7	Circle	1	36	0	0	0.013	0.001	68.27	67.79	28.99	21.1	0.08	78.98	78.98
W4-11C	C1-OS-12	C1-JCT101	216.9	Circle	1	30	0	0	0.013	0.004	68.13	67.3	31.79	25.37	0	74.54	74.22
W4-12C	C1-14E	C1-MH6	34.5	Circle	1	24	0	0	0.013	0.073	70.94	68.41	10.8	61.24	0	73.28	73.27
W4-13C	C1-OS-60	C1-27	27.2	Circle	1	18	0	0	0.013	0.002	69.01	68.96	4.05	4.5	0.32	71.55	71.53
W4-14C	C1-OS-15	C1-OS-14	859.6	Circle	1	30	0	0	0.013	0.002	69.89	67.83	24.22	20.08	0	75.71	74.74
W4-14A	C1-19	MH-27	42.3	Circle	1	24	0	0	0.013	0.077	65.84	62.57	14.89	62.93	0	73.16	73.17
W4-15C	C2-04E	MH-91	167.2	Box	1	0	5	10	0.013	0.001	59.8	59.6	4.73	277.81	0	70.34	70.22
W4-16C	C1-14	C1-MH7	21.6	Circle	1	24	0	0	0.013	0.051	69.51	68.42	7.08	50.85	0	73.51	73.51
W4-17C	MH-28	C1-JCT107	18	Circle	1	24	0	0	0.013	0.002	62.24	62.2	20.46	10.67	0	73.03	72.89
W4-18C	C1-OS-33	C1-MH7	193.3	Circle	1	24	0	0	0.013	0.004	66.47	65.74	6.54	13.9	0	74.17	73.51
W4-19C	C1-OS-32	C1-OS-33	679.9	Circle	1	24	0	0	0.013	0.002	67.5	66.47	0.74	8.8	0	75.27	74.17
W4-20C	C1-20P	MH-31E	18.8	Circle	1	24	0	0	0.013	0.002	70.04	70	5.64	10.43	0	72.59	72.59
W4-21C	MH-31E	MH-33E	16.9	Circle	1	24	0	0	0.013	-0.001	62.04	62.05	3.18	5.77	0	72.59	72.72
W4-22C	C1-OS-31	C1-OS-32	574.4	Circle	1	24	0	0	0.013	0.002	68.65	67.5	21.53	10.12	0	75.39	75.27
W4-23C	MH-763	C1-OS-31	137.2	Circle	1	24	0	0	0.013	0.002	68.92	68.65	2.14	10.04	0	75.39	75.39
W4-24C	C1-18	C1-MH9	29.7	Circle	1	24	0	0	0.013	0.004	70.1	69.97	0	14.96	0	73.14	73.12
W4-25C	C1-OS-19	C1-07	50.3	Circle	1	18	0	0	0.013	0.01	70	69.48	5.51	10.68	1.48	73.95	73.56
W4-25A	C1-JCT102	MH*267	98.9	Circle	1	42	0	0	0.013	0.004	65.89	65.51	32.68	62.36	0	73.73	73.54
W4-25B	C2-OS-07	C2-MH12	34.6	Circle	1	42	0	0	0.013	0.006	72.98	72.78	33.74	76.49	0	73.89	71.7
W4-26C	C1-16	C1-MH7	6.5	Circle	1	24	0	0	0.013	0.008	70.21	70.16	14.83	19.79	0	73.51	73.51
W4-27C	C1-23	C1-MH11	28	Circle	1	24	0	0	0.013	0.078	70.18	67.98	16.86	63.38	0	72.5	72.5
W4-29C	C2-MH7	C2-MH4	105	Box	1	0	10	5	0.013	0.002	59.32	59.12	121.85	350.71	0	70.15	70.12
W4-30C	C1-OS-55	C1-JCT204	53.4	Circle	1	24	0	0	0.013	0.005	69.09	68.8	7.56	16.67	0.84	72.7	72.69
W4-31C	C2-OS-18	C2-09	35.6	Circle	1	66	0	0	0.013	0.001	70.36	70.32	162.25	112.57	0	70.87	70.37
W4-32C	C1-25	C1-MH12	30.5	Circle	1	24	0	0	0.013	0.029	69.12	68.24	6.69	38.41	0	72.17	72.16
W4-33c	C1-24MHOS	MH-38E	18.8	Circle	1	24	0	0	0.013	0.06	69.91	68.79	3.94	55.27	0	72.44	72.44
W4-34c	C1-22	MH-33E	28.4	Circle	1	24	0	0	0.013	0.003	70.09	70	17.99	12.74	0	72.72	72.72
W4-35c	C1-OS-44	C1-20MH	64.1	Circle	1	15	0	0	0.013	0.034	74.27	72.06	1.96	11.99	0	74.59	72.5
W4-36c	C1-27	C1-MH13	28.6	Circle	1	24	0	0	0.013	0.025	68.22	67.49	5.65	36.12	0	71.53	71.53
W4-37	C2-OS-02	C2-OS-03	343.2	Circle	1	42	0	0	0.013	0.001	67.79	67.44	73.43	32.13	0.14	78.98	78.95
W4-38	C2-MH12	C2-MH13	55.4	Circle	1	42	0	0	0.013	0	70.52	70.51	66.66	13.52	0	71.7	71.43
W4-39	C2-MH13	C2-MH10	55.6	Circle	1	42	0	0	0.013	0	69.56	69.55	41.09	13.49	0	71.43	71.4
W4-40	C2-14	MH-STA88+93	36.5	Circle	1	36	0	0	0.013	0.001	58.3	58.26	19.27	22.09	0	69.02	67.95
W4-41	MH*267	MH-20E	18.6	Circle	1	36	0	0	0.013	0.001	64.93	64.9	16.02	25.65	0	73.54	73.47
W4-42	MH-30	MH-31E	29.5	Circle	1	36	0	0	0.013	0.001	62.08	62.04	7.19	24.55	0	73	72.59
W4-43	C1-27E	C1-MH14	34	Circle	1	24	0	0	0.013	0.026	69.18	68.31	8.19	36.18	0	69.96	66.33
W4-43A	C1-28	MH-47E	19	Circle	1	24	0	0	0.013	0.003	70	69.95	7.46	11.61	0	71.47	71.46
W4-44	C1-JCT100	C1-OS-12	259.7	Circle	1	24	0	0	0.013	0.004	69.17	68.13	3.94	14.31	0	74.79	74.54
W4-45	C1-10	C1-JCT10	5.1	Circle	1	24	0	0	0.013	0.006	71.33	71.3	2.96	17.29	0	73.41	73.41
W4-45A	C1-21	C1-JCT107	58	Circle	1	24	0	0	0.013	0.003	70	69.8	6.74	13.29	0	72.9	72.89
W4-46	C1-20MH	MH-36E	18.9	Circle	1	24	0	0	0.013	0.003	69.19	69.14	16.76	11.62	0	72.5	72.49
W4-47	MH-38E	MH-39E	17	Circle	1	24	0	0	0.013	0.004	61.66	61.59	4.27	14.5	0	72.44	72.44
W4-48	MH-46E	MH-47E	179.5	Circle	1	36	0	0	0.013	0.002	60.42	60.15	4.55	25.86	0	72.15	71.46
W4-JCT1	C1-JCT204	C1-MH11	175.2	Circle	1	60	0	0	0.013	0.002	62.01	61.73	89.09	104.12	0	72.69	72.5
W4-MH1	MH-91	MH-3131	68.6	Box	1	0	5	10	0.013	0.003	59.6	59.42	20.71	411.47	0	70.22	70.17
W4-MH10	C2-MH14	C2-OS-13	18.8	Circle	1	60	0	0	0.013	0.001	60.69	60.68	103.48	60.04	0	71.59	71.51
W4-MH11	C1-MH9	C1-JCT106	20.3	Circle	1	60	0	0	0.013	0.001	62.49	62.46	101.8	100.07	0	73.12	73.1

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 7 OF 11

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
AS NOTED
CITY OF HOUSTON PM
ROWAIDAH AYOUB
FOR CITY OF HOUSTON USE ONLY

Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

COLE CREEK

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
W4-MH13	MH-3131	C2-MH7	45.1	Box	1	0	6	5	0.013	0.002	59.42	59.32	122.31	198.45	0	70.17	70.15
W4-MH14	MH-39E	MH-40E	79.2	Circle	1	60	0	0	0.013	0.001	61.59	61.48	3.27	94.94	0	72.44	72.36
W4-MH15	MH-83n	MH-STA88+93	208.9	Box	1	0	10	5	0.013	0.002	58.64	58.26	161.31	344.28	0	68.01	67.95
W4-MH16	MH-42	MH-43E	17.3	Circle	1	24	0	0	0.013	-0.003	69.67	69.72	18.03	12.15	0	72.38	72.38
W4-MH17	MH-40E	C1-JCT109	72.6	Circle	1	60	0	0	0.013	0.003	61.48	61.26	0	144.91	0	72.36	72.29
W4-MH19	C1-JCT1	C1-MH4	196.1	Circle	1	48	0	0	0.013	0.003	64.25	63.63	164.16	80.77	0.47	73.38	73.36
W4-MH20	MH-38E	MH-42	80.4	Box	1	0	6	5	0.013	0.002	61.66	61.46	164.17	210.36	0	72.44	72.38
W4-MH21	C1-JCT105	C1-MH9	223.8	Circle	1	60	0	0	0.013	0.002	62.98	62.49	210.95	121.87	0	73.25	73.12
W4-MH22	C1-OS-43	MH-30	62.1	Circle	1	72	0	0	0.013	0.156	71.66	61.95	221.45	1674.32	0	73	73
W4-MH23	C2-MH1	C2-OUT	91.9	Circle	1	66	0	0	0.024	0.004	57.8	57.42	193.98	116.95	0	63.89	61.88
W4-MH24	MH-48E	C1-MH14	38.8	Box	1	0	3	2	0.013	0.003	60.12	60.02	77.5	24.65	0	70.82	66.33
W4-MH25	C1-JCT201	C1-MH2	36.4	Circle	1	24	0	0	0.013	0.041	70.42	68.94	0.41	45.6	0	73.41	73.41
W4-MH26	C2-OS-12	C2-MH15	280	Circle	1	60	0	0	0.013	0.001	61.33	60.93	371.1	98.43	0.33	73.12	71.87
W4-MH27	C1-OS-52	C1-OS-47	140.7	Circle	1	72	0	0	0.013	0.002	67.19	66.91	386.26	188.94	0.41	73.49	73.49
W4-MH4	MH-STA91+47	C2-12	41	Circle	1	36	0	0	0.013	0.001	58.74	58.7	22	20.82	0	70.07	70.1
W4-MH5	C2-12	MH-82n	39.2	Circle	1	36	0	0	0.013	0.002	58.8	58.74	20.47	26.65	0	70.1	69.07
W4-MH6	C1-JCT1	MH-17E	15.8	Circle	1	48	0	0	0.013	-0.001	64.25	64.26	33	36.09	0.2	73.38	73.38
W4-MH7	MH-3131	C2-12	308.7	Box	1	0	10	5	0.013	0.002	59.42	58.8	56.77	360.02	0	70.17	70.1
W4-MH8	MH-42	MH-44E	119.4	Box	1	0	6	5	0.013	0.003	61.46	61.16	69.79	211.33	0	72.38	72.3
W4-MH9	C2-MH15	C2-MH14	62.5	Circle	1	60	0	0	0.013	0.011	60.93	60.25	91.22	271.54	0.33	71.87	71.59
W5-4	C1-OS-28	C1-OS-29	427.2	Circle	1	30	0	0	0.013	0.002	67.31	66.45	1.52	18.4	0.27	74.79	74.18
W5-MH3	MH-3031	C2-MH7	56.3	Circle	1	48	0	0	0.013	0.002	59.42	59.32	9.72	60.55	0	70.16	70.15
W5-MH4	MH-82n	C2-14	216.6	Box	1	0	10	5	0.013	0.002	58.74	58.3	9.72	361.03	0	69.07	69.02
C34(1)	MH-44E	MH-45E	60	Box	1	0	6	5	0.013	0.002	61.16	61.06	42.71	172.07	0	72.3	72.27
C34(2)	MH-45E	MH-46E	306.1	Box	1	0	6	5	0.013	0.002	61.06	60.42	43.48	192.81	0	72.27	72.15
W4-13*0	C1-MH1	MH-8E	49.8	Circle	1	24	0	0	0.013	0.095	69.87	65.14	1.4	69.71	0	73.56	73.39
W4-12*0	C1-19	C1-JCT106	54.1	Circle	1	24	0	0	0.013	0.062	65.84	62.46	1.03	56.54	0	73.16	73.1
W4-07-0	C1-MH2	MH*267	135.6	Circle	1	24	0	0	0.013	0.002	65.16	64.93	1.27	9.32	0	73.41	73.54
W4-07-02	C2-13	MH-STA88+93	32.3	Circle	1	24	0	0	0.013	0.001	68.29	68.26	3.87	6.89	0.26	69.16	67.95
W4-03-0	C2-OS-14	C2-05	23.7	Circle	1	24	0	0	0.013	0	72.89	72.88	1.35	4.65	0.46	74.21	70.44
W4-03-02	MH-768	C2-OS-13	52	Circle	1	24	0	0	0.013	0.009	71.5	71.01	2.81	21.95	0	71.51	71.51
W4-18-0	BASIN-2	BASIN-3	46.8	Circle	1	24	0	0	0.013	0	73.5	73.5	1.9	0.23	0	74.06	74.06
CO-10	BASIN-3	BASIN-1	58.6	Circle	1	24	0	0	0.013	0	73.5	73.5	0.17	0.23	0	74.06	74.05
CO-11	C1-OS-01	C1-OS-02	129.2	Circle	1	24	0	0	0.013	0	73.64	73.65	0.74	1.99	0	74.2	74.1
W5-MH1	C1-OS-11	C1-OS-13	269	Circle	1	24	0	0	0.013	0.002	70.84	70.3	9.73	10.13	0	75.72	75.72
C30(1)	C1-JCT10	MH-5E	59.5	Circle	1	42	0	0	0.013	0.024	65.13	63.73	23.53	154.27	0	73.41	73.36
C30(2)	C1-MH13	MH-48E	179.3	Circle	1	60	0	0	0.013	0.002	60.4	60.06	27.89	113.4	0	71.53	70.82
C29(1)	MH-S75+05	MH-38E	29	Box	1	0	6	5	0.013	0.002	61.73	61.66	13.23	207.21	0	72.46	72.44
C29(2)	C2-OS-16	C2-MH5	193.2	Circle	1	42	0	0	0.013	0.001	65.97	65.74	15.66	34.71	0	70.39	70.39
CO-32	C1-02	MH-3	44.9	Circle	1	24	0	0	0.013	0.002	65.32	65.22	7.17	10.68	0	73.4	73.4
W4-MH12(2)	C2-OS-11	C2-OS-12	336.4	Circle	1	60	0	0	0.013	0.002	61.94	61.33	94.89	110.9	0.12	74.39	73.12
C58(1)	C1-JCT106	C1-JCT107	195.4	Circle	1	60	0	0	0.013	0.001	62.46	62.2	171.51	94.99	0	73.1	72.89
C58(2)	C2-OS-10	C2-OS-11	418.2	Circle	1	60	0	0	0.013	0	62.13	61.94	171.61	55.51	0	75.66	74.39
C38(1)	MH-36E	MH-S75+05	67.9	Box	1	0	6	5	0.013	0.001	61.83	61.73	79.07	161.85	0	72.49	72.46
C38(2)	C1-MH11	MH-6165	25.3	Circle	1	60	0	0	0.013	0.005	61.73	61.61	80.35	179.18	0	72.5	72.47
W4-MH3(1)	C1-OS-47	MH-982	245.7	Circle	1	42	0	0	0.013	0.001	65.05	64.84	22.41	29.41	0.21	73.49	73.38
W4-MH3(2)	MH-982	C1-MH4	71	Circle	1	42	0	0	0.013	0.005	63.73	63.4	21.63	68.61	0.17	73.38	73.36
CO-69	MH-3	MH-8E	75.8	Circle	1	24	0	0	0.013	0.001	65.22	65.14	0.9	7.35	0	73.4	73.39
CO-74	C1-OS-09	C1-JCT100	36.6	Circle	1	24	0	0	0.013	0.004	69.31	69.17	7.19	14	0	74.78	74.79
CO-71(1)	C1-MH2	MH-8E	18.1	Circle	1	24	0	0	0.013	0.001	65.16	65.14	6.34	7.51	0	73.41	73.39
CO-71(2)	C1-OS-18	C1-05	27.7	Circle	1	24	0	0	0.013	0.056	73.22	71.67	3.63	53.58	0.51	73.49	73.48
C35(2)	MH-6165	MH-39E	28.9	Circle	1	60	0	0	0.013	0.001	61.61	61.59	72.4	68.48	0	72.47	72.44
CO-77	C1-05	MH-20E	29.9	Circle	1	24	0	0	0.013	0.006	71.67	71.5	1.24	16.89	0.73	73.48	73.47
C35(1)(1)	C1-MH14	C1-OUT	236	Circle	1	54	0	0	0.013	0.002	60.02	59.5	72.56	92.31	0	66.33	63.61
C35(1)(2)	MH-435	C1-JCT102	161	Circle	1	48	0	0	0.013	0.004	66.5	65.89	71.95	88.41	0	73.86	73.73
CO-78	MH-20E	MH-4E	16.8	Circle	1	24	0	0	0.013	-0.002	64.9	64.93	1.61	9.15	0	73.47	73.39
C44(2)	MH-5E	C1-MH4	16.1	Circle	1	60	0	0	0.013	0.02	63.73	63.4	92.03	372.41	0	73.36	73.36
CO-79	C1-04	MH-4E	19.7	Circle	1	24	0	0	0.013	0.003	70	69.95	1.27	11.4	0	73.39	73.39
C44(1)(1)	C1-MH5	MH-23	15	Circle	1	60	0	0	0.013	0.001	63.57	63.56	91.98	67.27	0	73.34	73.34
C44(1)(2)	MH-23	MH-26	216.3	Box	1	0	6	5	0.013	0.002	63.56	63.21	91.93	169.61	0	73.34	73.26
CO-80	C1-11	MH-982	5.1	Circle	1	24	0	0	0.013	0.01	70.7	70.65	1.45	22.98	0	73.39	73.38
W4-MH18(1)	C1-JCT107	C1-JCT108	77.5	Circle	1	60	0	0	0.013	0.001	62.2	62.09	169.43	98.11	0	72.89	72.77
W4-MH18(2)	C1-JCT109	C1-JCTT207	47.6	Circle	1	60	0	0	0.013	0.002	61.26	61.16	164.14	119.37	0	72.29	72.25
CO-81	MH-982	C1-13	55	Circle	1	24	0	0	0.013	0.002	63.73	63.64	0.96	9.15	0.13	73.38	73.37
W4-MH31(1)	C2-OS-09	C2-OS-10	536.5	Circle	1	60	0	0	0.013	0.001	62.93	62.13	385.46	100.57	0	77.13	75.66
W4-MH30(1)	MH-26	MH-27	222.9	Box	1	0	6	5	0.013	0.003	63.21	62.57	112.98	225.96	0	73.26	73.17
W4-MH30(2)(1)	MH-27	MH-28	216.6	Box	1	0	6	5	0.013	0.002	62.57	62.24	99.32	164.61	0	73.17	73.03
W4-MH30(2)(2)	MH-28	MH-30	77.1	Box	1	0	6	5	0.013	0.002	62.24	62.08	100.36	192.15	0	73.03	73
CO-84	C1-12	MH-23	60.2	Circle	1	24	0	0	0.013	0.045	72.69	70	1.86	47.83	0	73.33	73.34
C53(1)	C1-JCTT207	C1-MH12	60.5	Circle	1	60	0	0	0.013	0.003	61.16	60.96	126.82	149.68	0	72.25	72.16
C53(2)	C1-MH3	C1-JCT1	129.7	Circle	1	48	0	0	0.013	0.003	64.68	64.25	126.69	82.7	0.02	73.42	73.38
CO-86	C1-15	C1-JCT105	34.7	Circle	1	24	0	0	0.013	0.003	69.99	69.89	0.81	12.15	0	73.25	73.25
W4-MH28(1)	C2-OS-13	C2-MH10	30.4	Circle	1	66	0	0	0.013	0.001	60.58	60.54	194.14	121.85	0.34	71.51	71.4
W4-MH28(2)	C2-MH2	C2-MH1	155.6	Circle	1	66	0	0	0.013	0.003	58.22	57.8	213.86	174.47	0	64.79	63.89

APP:
REVISIONS
DATE
No.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 8 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 390 OF$ 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$

WHITE OAK BAYOU

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
C1	W4-OS-13	MH-26	49.5	Circle	1	24	0	0	0.013	0.049	65.62	63.21	10.35	49.93	0	*N/A	73.26
C2	C2-01	MH-3331	50.9	Circle	1	24	0	0	0.013	0.001	71.55	71.5	2.19	7.09	0	72.1	70.51
C27	C2-OS-04	C2-OS-05	860.5	Circle	1	48	0	0	0.013	0.001	66.7	65.58	24.17	51.82	0.24	78.85	78.44
C3	C2-05	MH-3031	249.6	Circle	1	24	0	0	0.013	0.002	68	67.5	2.38	10.13	0	70.44	70.16
C31	C1-OS-16	C1-OS-15	502.6	Circle	1	24	0	0	0.013	0.002	70.89	69.89	0.09	10.09	0	75.97	75.71
C32	C1-OS-13	C1-OS-15	207.4	Circle	1	24	0	0	0.013	0.002	70.3	69.89	0.19	10.06	0	75.72	75.71
C33	C1-02E	C1-JCT201	19.1	Circle	1	24	0	0	0.013	0.001	70.43	70.42	10.76	5.17	0	73.41	73.41
C36	C1-01	C1-03	38.4	Circle	1	24	0	0	0.013	0.017	70.81	70.15	2.84	29.64	0	73.57	73.56
C37	C2-08	MH-3031	33.3	Circle	1	24	0	0	0.013	0.053	70.89	69.11	10.18	52.32	0	71.32	70.16
C39	C2-OS-08	C2-OS-09	554.8	Circle	1	60	0	0	0.013	0.001	63.65	62.93	88.24	93.82	0	77.89	77.13
C40	C1-OS-05	C1-MH1	452.8	Circle	1	24	0	0	0.013	0.002	70.89	69.98	11.77	10.14	0	73.94	73.56
C41	C1-OS-02	C1-OS-05	39	Circle	1	24	0	0	0.013	0.036	73.65	72.24	0.35	43.04	0	74.1	73.94
C42	C1-03	C1-MH1	6.6	Circle	1	24	0	0	0.013	0.035	70.15	69.92	0.26	42.33	0	73.56	73.56
C43	C2-OS-06	C2-OS-08	861.2	Circle	1	60	0	0	0.013	0.001	64.77	63.65	92.48	93.92	0.32	78.24	77.89
C45	C2-OS-05	C2-OS-06	619.8	Circle	1	60	0	0	0.013	0.001	65.58	64.77	107.75	94.15	0.17	78.44	78.24
C47	C1-MH12	C1-MH13	305.5	Circle	1	60	0	0	0.013	0.002	60.98	60.47	113.59	106.4	0	72.16	71.53
C48	C1-MH4	C1-MH5	61.9	Circle	1	60	0	0	0.013	0	63.64	63.63	114.46	33.1	0	73.36	73.34
C5	C2-10	C2-MH4	80	Circle	1	24	0	0	0.013	0.031	70.64	68.17	1.17	39.75	0	71.17	70.12
C50	C1-MH5	C1-MH6	166.3	Circle	1	60	0	0	0.013	0.002	63.45	63.09	114.56	121.16	0	73.34	73.27
C51	C1-04E	MH*267	42.3	Circle	1	24	0	0	0.013	0.072	71.36	68.33	0	60.57	0	73.55	73.54
C52	C2-MH10	MH-3331	223.2	Circle	1	66	0	0	0.013	0.001	60.54	60.41	122.66	81.04	0	71.4	70.51
C54	C1-JCT108	MH-33E	29.4	Circle	1	60	0	0	0.013	0.003	62.09	62.01	9.37	135.78	0	72.77	72.72
C55	MH-33E	C1-JCT204	31	Circle	1	60	0	0	0.013	0.003	62.09	62.01	47.86	132.36	0	72.72	72.69
C56	MH-31E	MH-36E	163	Box	1	0	6	5	0.013	0.001	62.04	61.83	33.13	151.36	0	72.59	72.49
C57	C2-MH4	MH-STA91+47	203.4	Box	1	0	10	5	0.013	0.002	59.12	58.72	155.55	356.29	0	70.12	70.07
C59	C1-MH6	C1-JCT105	49	Circle	1	60	0	0	0.013	0.002	63.09	62.98	203.8	123.4	0	73.27	73.25
W1-2	C1-OS-20	C1-OS-14	211	Circle	1	24	0	0	0.013	0.002	68.25	67.83	3	10.09	0.33	74.87	74.74
W1-MH1	C1-06	C1-08	28.3	Circle	1	24	0	0	0.013	0.016	69.05	68.61	0	28.19	0	73.43	73.42
W2-1	C1-07	C1-JCT1	67.1	Circle	1	24	0	0	0.013	0.078	69.48	64.26	2.74	63.08	2.21	73.56	73.38
W2-1A	C1-09	C1-07	41.5	Circle	1	24	0	0	0.013	0.012	70.43	69.93	1.51	24.82	1.03	73.56	73.56
W2-2	C1-OS-49	MH-547	17	Circle	1	24	0	0	0.013	0.002	67.23	67.19	3.68	10.97	0	73.66	73.65
W2-3	C1-08	MH-17E	53.8	Circle	1	24	0	0	0.013	0.079	68.5	64.26	3.77	63.5	0	73.42	73.38
W3-1	C2-OS-03	C2-OS-04	744.5	Circle	1	48	0	0	0.013	0.001	67.44	66.7	32.79	45.28	0.29	78.95	78.85
W3-2	MH-20E	C1-MH3	150.4	Circle	1	48	0	0	0.013	0.001	64.9	64.68	19.55	55.24	0	73.47	73.42
W3-3	C1-JCT101	MH-435	211.7	Circle	1	42	0	0	0.013	0.004	67.3	66.5	14.51	61.84	0	74.22	73.86
W3-4	MH-786	C1-OS-29	43.3	Circle	1	24	0	0	0.013	0.002	66.54	66.45	5.26	10.31	0	74.19	74.18
W3-5	C1-OS-22	C1-OS-27	105.1	Circle	1	24	0	0	0.013	0.002	68.09	67.9	6.84	9.62	0	75.31	75.27
W3-6	C1-OS-21	C1-OS-26	201.1	Circle	1	24	0	0	0.013	0.002	68.8	68.37	0.87	10.46	0	75.39	75.37
W3-JCT1	C1-13	C1-MH5	75.3	Circle	1	24	0	0	0.013	0.001	63.64	63.57	4.83	6.9	0	73.37	73.34
W3-MH2	MH-STA91+47	MH-83n	47.6	Circle	1	36	0	0	0.013	0.002	58.72	58.64	12.85	26.7	0	70.07	68.01
W3-MH3	C1-OS-14	C1-JCT101	307.4	Circle	1	36	0	0	0.013	0.002	67.83	67.3	12.82	27.69	0	74.74	74.22
W4-01C	MH-3331	MH-87	57	Box	1	0	5	10	0.013	0.001	60.2	60.14	11.02	260.56	0	70.51	70.47
W4-02C	C1-OS-27	C1-OS-28	296.2	Circle	1	24	0	0	0.013	0.002	67.9	67.31	0	10.1	0.21	75.27	74.79
W4-03C	MH-87	C2-04E	189.5	Box	1	0	5	10	0.013	0.002	60.14	59.8	29.99	340.26	0	70.47	70.34
W4-04C	MH-26	C1-JCT105	16.7	Circle	1	24	0	0	0.013	0.014	63.21	62.98	2.53	26.58	0	73.26	73.25
W4-04A	C1-MH8	MH-27	32.2	Circle	1	24	0	0	0.013	0.045	71.05	69.61	5.3	47.87	0	73.69	73.17
W4-05C	MH-547	C1-OS-47	398.6	Circle	1	36	0	0	0.013	0.002	66.01	65.21	6.59	29.88	0	73.65	73.49
W4-07C	C1-OS-26	C1-OS-27	234.9	Circle	1	24	0	0	0.013	0.002	68.37	67.9	6.63	10.12	0	75.37	75.27
W4-08C	MH-546	C1-OS-26	162.6	Circle	1	24	0	0	0.013	0.003	68.93	68.37	8.53	13.28	0	75.39	75.37
W4-09C	MH-27	C1-MH9	17.5	Circle	1	24	0	0	0.013	0.005	62.57	62.49	6	15.28	0	73.17	73.12
W4-09A	C1-OS-29	C1-JCT10	548.9	Circle	1	36	0	0	0.013	0.002	66.45	65.33	39.16	30.13	0	74.18	73.41
W4-10C	C2-OS-01	C2-OS-02	479.7	Circle	1	36	0	0	0.013	0.001	68.27	67.79	28.99	21.1	0.08	78.98	78.98
W4-11C	C1-OS-12	C1-JCT101	216.9	Circle	1	30	0	0	0.013	0.004	68.13	67.3	31.79	25.37	0	74.54	74.22
W4-12C	C1-14E	C1-MH6	34.5	Circle	1	24	0	0	0.013	0.073	70.94	68.41	10.8	61.24	0	73.28	73.27
W4-13C	C1-OS-60	C1-27	27.2	Circle	1	18	0	0	0.013	0.002	69.01	68.96	4.05	4.5	0.32	71.55	71.53
W4-14C	C1-OS-15	C1-OS-14	859.6	Circle	1	30	0	0	0.013	0.002	69.89	67.83	24.22	20.08	0	75.71	74.74
W4-14A	C1-19	MH-27	42.3	Circle	1	24	0	0	0.013	0.077	65.84	62.57	14.89	62.93	0	73.16	73.17
W4-15C	C2-04E	MH-91	167.2	Box	1	0	5	10	0.013	0.001	59.8	59.6	4.73	277.81	0	70.34	70.22
W4-16C	C1-14	C1-MH7	21.6	Circle	1	24	0	0	0.013	0.051	69.51	68.42	7.08	50.85	0	73.51	73.51
W4-17C	MH-28	C1-JCT107	18	Circle	1	24	0	0	0.013	0.002	62.24	62.2	20.46	10.67	0	73.03	72.89
W4-18C	C1-OS-33	C1-MH7	193.3	Circle	1	24	0	0	0.013	0.004	66.47	65.74	6.54	13.9	0	74.17	73.51
W4-19C	C1-OS-32	C1-OS-33	679.9	Circle	1	24	0	0	0.013	0.002	67.5	66.47	0.74	8.8	0	75.27	74.17
W4-20C	C1-20P	MH-31E	18.8	Circle	1	24	0	0	0.013	0.002	70.04	70	5.64	10.43	0	72.59	72.59
W4-21C	MH-31E	MH-33E	16.9	Circle	1	24	0	0	0.013	-0.001	62.04	62.05	3.18	5.77	0	72.59	72.72
W4-22C	C1-OS-31	C1-OS-32	574.4	Circle	1	24	0	0	0.013	0.002	68.65	67.5	21.53	10.12	0	75.39	75.27
W4-23C	MH-763	C1-OS-31	137.2	Circle	1	24	0	0	0.013	0.002	68.92	68.65	2.14	10.04	0	75.39	75.39
W4-24C	C1-18	C1-MH9	29.7	Circle	1	24	0	0	0.013	0.004	70.1	69.97	0	14.96	0	73.14	73.12
W4-25C	C1-OS-19	C1-07	50.3	Circle	1	18	0	0	0.013	0.01	70	69.48	5.51	10.68	1.48	73.95	73.56
W4-25A	C1-JCT102	MH*267	98.9	Circle	1	42	0	0	0.013	0.004	65.89	65.51	32.68	62.36	0	73.73	73.54
W4-25B	C2-OS-07	C2-MH12	34.6	Circle	1	42	0	0	0.013	0.006	72.98	72.78	33.74	76.49	0	73.89	71.7
W4-26C	C1-16	C1-MH7	6.5	Circle	1	24	0	0	0.013	0.008	70.21	70.16	14.83	19.79	0	73.51	73.51
W4-27C	C1-23	C1-MH11	28	Circle	1	24	0	0	0.013	0.078	70.18	67.98	16.86	63.38	0	72.5	72.5

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 9 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 391 :D$ 1067	

Pen Table:$PENTBL$$
Plot Driver:$PLTDRVL$

Design Filename: $FILEL$

WHITE OAK BAYOU

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
W4-29C	C2-MH7	C2-MH4	105	Box	1	0	10	5	0.013	0.002	59.32	59.12	121.85	350.71	0	70.15	70.12
W4-30C	C1-OS-55	C1-JCT204	53.4	Circle	1	24	0	0	0.013	0.005	69.09	68.8	7.56	16.67	0.84	72.7	72.69
W4-31C	C2-OS-18	C2-09	35.6	Circle	1	66	0	0	0.013	0.001	70.36	70.32	162.25	112.57	0	70.87	70.37
W4-32C	C1-25	C1-MH12	30.5	Circle	1	24	0	0	0.013	0.029	69.12	68.24	6.69	38.41	0	72.17	72.16
W4-33c	C1-24MHOS	MH-38E	18.8	Circle	1	24	0	0	0.013	0.06	69.91	68.79	3.94	55.27	0	72.44	72.44
W4-34c	C1-22	MH-33E	28.4	Circle	1	24	0	0	0.013	0.003	70.09	70	17.99	12.74	0	72.72	72.72
W4-35c	C1-OS-44	C1-20MH	64.1	Circle	1	15	0	0	0.013	0.034	74.27	72.06	1.96	11.99	0	74.59	72.5
W4-36c	C1-27	C1-MH13	28.6	Circle	1	24	0	0	0.013	0.025	68.22	67.49	5.65	36.12	0	71.53	71.53
W4-37	C2-OS-02	C2-OS-03	343.2	Circle	1	42	0	0	0.013	0.001	67.79	67.44	73.43	32.13	0.14	78.98	78.95
W4-38	C2-MH12	C2-MH13	55.4	Circle	1	42	0	0	0.013	0	70.52	70.51	66.66	13.52	0	71.7	71.43
W4-39	C2-MH13	C2-MH10	55.6	Circle	1	42	0	0	0.013	0	69.56	69.55	41.09	13.49	0	71.43	71.4
W4-40	C2-14	MH-STA88+93	36.5	Circle	1	36	0	0	0.013	0.001	58.3	58.26	19.27	22.09	0	69.02	67.95
W4-41	MH*267	MH-20E	18.6	Circle	1	36	0	0	0.013	0.001	64.93	64.9	16.02	25.65	0	73.54	73.47
W4-42	MH-30	MH-31E	29.5	Circle	1	36	0	0	0.013	0.001	62.08	62.04	7.19	24.55	0	73	72.59
W4-43	C1-27E	C1-MH14	34	Circle	1	24	0	0	0.013	0.026	69.18	68.31	8.19	36.18	0	69.96	66.33
W4-43A	C1-28	MH-47E	19	Circle	1	24	0	0	0.013	0.003	70	69.95	7.46	11.61	0	71.47	71.46
W4-44	C1-JCT100	C1-OS-12	259.7	Circle	1	24	0	0	0.013	0.004	69.17	68.13	3.94	14.31	0	74.79	74.54
W4-45	C1-10	C1-JCT10	5.1	Circle	1	24	0	0	0.013	0.006	71.33	71.3	2.96	17.29	0	73.41	73.41
W4-45A	C1-21	C1-JCT107	58	Circle	1	24	0	0	0.013	0.003	70	69.8	6.74	13.29	0	72.9	72.89
W4-46	C1-20MH	MH-36E	18.9	Circle	1	24	0	0	0.013	0.003	69.19	69.14	16.76	11.62	0	72.5	72.49
W4-47	MH-38E	MH-39E	17	Circle	1	24	0	0	0.013	0.004	61.66	61.59	4.27	14.5	0	72.44	72.44
W4-48	MH-46E	MH-47E	179.5	Circle	1	36	0	0	0.013	0.002	60.42	60.15	4.55	25.86	0	72.15	71.46
W4-JCT1	C1-JCT204	C1-MH11	175.2	Circle	1	60	0	0	0.013	0.002	62.01	61.73	89.09	104.12	0	72.69	72.5
W4-MH1	MH-91	MH-3131	68.6	Box	1	0	5	10	0.013	0.003	59.6	59.42	20.71	411.47	0	70.22	70.17
W4-MH10	C2-MH14	C2-OS-13	18.8	Circle	1	60	0	0	0.013	0.001	60.69	60.68	103.48	60.04	0	71.59	71.51
W4-MH11	C1-MH9	C1-JCT106	20.3	Circle	1	60	0	0	0.013	0.001	62.49	62.46	101.8	100.07	0	73.12	73.1
W4-MH13	MH-3131	C2-MH7	45.1	Box	1	0	6	5	0.013	0.002	59.42	59.32	122.31	198.45	0	70.17	70.15
W4-MH14	MH-39E	MH-40E	79.2	Circle	1	60	0	0	0.013	0.001	61.59	61.48	3.27	94.94	0	72.44	72.36
W4-MH15	MH-83n	MH-STA88+93	208.9	Box	1	0	10	5	0.013	0.002	58.64	58.26	161.31	344.28	0	68.01	67.95
W4-MH16	MH-42	MH-43E	17.3	Circle	1	24	0	0	0.013	-0.003	69.67	69.72	18.03	12.15	0	72.38	72.38
W4-MH17	MH-40E	C1-JCT109	72.6	Circle	1	60	0	0	0.013	0.003	61.48	61.26	0	144.91	0	72.36	72.29
W4-MH19	C1-JCT1	C1-MH4	196.1	Circle	1	48	0	0	0.013	0.003	64.25	63.63	164.16	80.77	0.47	73.38	73.36
W4-MH20	MH-38E	MH-42	80.4	Box	1	0	6	5	0.013	0.002	61.66	61.46	164.17	210.36	0	72.44	72.38
W4-MH21	C1-JCT105	C1-MH9	223.8	Circle	1	60	0	0	0.013	0.002	62.98	62.49	210.95	121.87	0	73.25	73.12
W4-MH22	C1-OS-43	MH-30	62.1	Circle	1	72	0	0	0.013	0.156	71.66	61.95	221.45	1674.32	0	73	73
W4-MH23	C2-MH1	C2-OUT	91.9	Circle	1	66	0	0	0.024	0.004	57.8	57.42	193.98	116.95	0	63.89	61.88
W4-MH24	MH-48E	C1-MH14	38.8	Box	1	0	3	2	0.013	0.003	60.12	60.02	77.5	24.65	0	70.82	66.33
W4-MH25	C1-JCT201	C1-MH2	36.4	Circle	1	24	0	0	0.013	0.041	70.42	68.94	0.41	45.6	0	73.41	73.41
W4-MH26	C2-OS-12	C2-MH15	280	Circle	1	60	0	0	0.013	0.001	61.33	60.93	371.1	98.43	0.33	73.12	71.87
W4-MH27	C1-OS-52	C1-OS-47	140.7	Circle	1	72	0	0	0.013	0.002	67.19	66.91	386.26	188.94	0.41	73.49	73.49
W4-MH4	MH-STA91+47	C2-12	41	Circle	1	36	0	0	0.013	0.001	58.74	58.7	22	20.82	0	70.07	70.1
W4-MH5	C2-12	MH-82n	39.2	Circle	1	36	0	0	0.013	0.002	58.8	58.74	20.47	26.65	0	70.1	69.07
W4-MH6	C1-JCT1	MH-17E	15.8	Circle	1	48	0	0	0.013	-0.001	64.25	64.26	33	36.09	0.2	73.38	73.38
W4-MH7	MH-3131	C2-12	308.7	Box	1	0	10	5	0.013	0.002	59.42	58.8	56.77	360.02	0	70.17	70.1
W4-MH8	MH-42	MH-44E	119.4	Box	1	0	6	5	0.013	0.003	61.46	61.16	69.79	211.33	0	72.38	72.3
W4-MH9	C2-MH15	C2-MH14	62.5	Circle	1	60	0	0	0.013	0.011	60.93	60.25	91.22	271.54	0.33	71.87	71.59
W5-4	C1-OS-28	C1-OS-29	427.2	Circle	1	30	0	0	0.013	0.002	67.31	66.45	1.52	18.4	0.27	74.79	74.18
W5-MH3	MH-3031	C2-MH7	56.3	Circle	1	48	0	0	0.013	0.002	59.42	59.32	9.72	60.55	0	70.16	70.15
W5-MH4	MH-82n	C2-14	216.6	Box	1	0	10	5	0.013	0.002	58.74	58.3	9.72	361.03	0	69.07	69.02
C34(1)	MH-44E	MH-45E	60	Box	1	0	6	5	0.013	0.002	61.16	61.06	42.71	172.07	0	72.3	72.27
C34(2)	MH-45E	MH-46E	306.1	Box	1	0	6	5	0.013	0.002	61.06	60.42	43.48	192.81	0	72.27	72.15
W4-13*0	C1-MH1	MH-8E	49.8	Circle	1	24	0	0	0.013	0.095	69.87	65.14	1.4	69.71	0	73.56	73.39
W4-12*0	C1-19	C1-JCT106	54.1	Circle	1	24	0	0	0.013	0.062	65.84	62.46	1.03	56.54	0	73.16	73.1
W4-07-0	C1-MH2	MH*267	135.6	Circle	1	24	0	0	0.013	0.002	65.16	64.93	1.27	9.32	0	73.41	73.54
W4-07-02	C2-13	MH-STA88+93	32.3	Circle	1	24	0	0	0.013	0.001	68.29	68.26	3.87	6.89	0.26	69.16	67.95
W4-03-0	C2-OS-14	C2-05	23.7	Circle	1	24	0	0	0.013	0	72.89	72.88	1.35	4.65	0.46	74.21	70.44
W4-03-02	MH-768	C2-OS-13	52	Circle	1	24	0	0	0.013	0.009	71.5	71.01	2.81	21.95	0	71.51	71.51
W4-18-0	BASIN-2	BASIN-3	46.8	Circle	1	24	0	0	0.013	0	73.5	73.5	1.9	0.23	0	74.06	74.06
CO-10	BASIN-3	BASIN-1	58.6	Circle	1	24	0	0	0.013	0	73.5	73.5	0.17	0.23	0	74.06	74.05
CO-11	C1-OS-01	C1-OS-02	129.2	Circle	1	24	0	0	0.013	0	73.64	73.65	0.74	1.99	0	74.2	74.1
W5-MH1	C1-OS-11	C1-OS-13	269	Circle	1	24	0	0	0.013	0.002	70.84	70.3	9.73	10.13	0	75.72	75.72
C30(1)	C1-JCT10	MH-5E	59.5	Circle	1	42	0	0	0.013	0.024	65.13	63.73	23.53	154.27	0	73.41	73.36
C30(2)	C1-MH13	MH-48E	179.3	Circle	1	60	0	0	0.013	0.002	60.4	60.06	27.89	113.4	0	71.53	70.82
C29(1)	MH-S75+05	MH-38E	29	Box	1	0	6	5	0.013	0.002	61.73	61.66	13.23	207.21	0	72.46	72.44
C29(2)	C2-OS-16	C2-MH5	193.2	Circle	1	42	0	0	0.013	0.001	65.97	65.74	15.66	34.71	0	70.39	70.39
CO-32	C1-02	MH-3	44.9	Circle	1	24	0	0	0.013	0.002	65.32	65.22	7.17	10.68	0	73.4	73.4
W4-MH12(2)	C2-OS-11	C2-OS-12	336.4	Circle	1	60	0	0	0.013	0.002	61.94	61.33	94.89	110.9	0.12	74.39	73.12
C58(1)	C1-JCT106	C1-JCT107	195.4	Circle	1	60	0	0	0.013	0.001	62.46	62.2	171.51	94.99	0	73.1	72.89
C58(2)	C2-OS-10	C2-OS-11	418.2	Circle	1	60	0	0	0.013	0	62.13	61.94	171.61	55.51	0	75.66	74.39
C38(1)	MH-36E	MH-S75+05	67.9	Box	1	0	6	5	0.013	0.001	61.83	61.73	79.07	161.85	0	72.49	72.46
C38(2)	C1-MH11	MH-6165	25.3	Circle	1	60	0	0	0.013	0.005	61.73	61.61	80.35	179.18	0	72.5	72.47
W4-MH3(1)	C1-OS-47	MH-982	245.7	Circle	1	42	0	0	0.013	0.001	65.05	64.84	22.41	29.41	0.21	73.49	73.38

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED
HYDRAULIC DATA SHEET

SHEET 10 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 392 .D$ 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBL$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$

WHITE OAK BAYOU

Label	US Node	DS Node	Length (ft)	Section Type	Number of Barrels	Diameter (in)	Span (ft)	Rise (ft)	Manning's n	Slope (%)	US Invert ft)	DS Invert ft)	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	US HGL (ft)	DS HGL (ft)
W4-MH3(2)	MH-982	C1-MH4	71	Circle	1	42	0	0	0.013	0.005	63.73	63.4	21.63	68.61	0.17	73.38	73.36
CO-69	MH-3	MH-8E	75.8	Circle	1	24	0	0	0.013	0.001	65.22	65.14	0.9	7.35	0	73.4	73.39
CO-74	C1-OS-09	C1-JCT100	36.6	Circle	1	24	0	0	0.013	0.004	69.31	69.17	7.19	14	0	74.78	74.79
CO-71(1)	C1-MH2	MH-8E	18.1	Circle	1	24	0	0	0.013	0.001	65.16	65.14	6.34	7.51	0	73.41	73.39
CO-71(2)	C1-OS-18	C1-05	27.7	Circle	1	24	0	0	0.013	0.056	73.22	71.67	3.63	53.58	0.51	73.49	73.48
C35(2)	MH-6165	MH-39E	28.9	Circle	1	60	0	0	0.013	0.001	61.61	61.59	72.4	68.48	0	72.47	72.44
CO-77	C1-05	MH-20E	29.9	Circle	1	24	0	0	0.013	0.006	71.67	71.5	1.24	16.89	0.73	73.48	73.47
C35(1)(1)	C1-MH14	C1-OUT	236	Circle	1	54	0	0	0.013	0.002	60.02	59.5	72.56	92.31	0	66.33	63.61
C35(1)(2)	MH-435	C1-JCT102	161	Circle	1	48	0	0	0.013	0.004	66.5	65.89	71.95	88.41	0	73.86	73.73
CO-78	MH-20E	MH-4E	16.8	Circle	1	24	0	0	0.013	-0.002	64.9	64.93	1.61	9.15	0	73.47	73.39
C44(2)	MH-5E	C1-MH4	16.1	Circle	1	60	0	0	0.013	0.02	63.73	63.4	92.03	372.41	0	73.36	73.36
CO-79	C1-04	MH-4E	19.7	Circle	1	24	0	0	0.013	0.003	70	69.95	1.27	11.4	0	73.39	73.39
C44(1)(1)	C1-MH5	MH-23	15	Circle	1	60	0	0	0.013	0.001	63.57	63.56	91.98	67.27	0	73.34	73.34
C44(1)(2)	MH-23	MH-26	216.3	Box	1	0	6	5	0.013	0.002	63.56	63.21	91.93	169.61	0	73.34	73.26
CO-80	C1-11	MH-982	5.1	Circle	1	24	0	0	0.013	0.01	70.7	70.65	1.45	22.98	0	73.39	73.38
W4-MH18(1)	C1-JCT107	C1-JCT108	77.5	Circle	1	60	0	0	0.013	0.001	62.2	62.09	169.43	98.11	0	72.89	72.77
W4-MH18(2)	C1-JCT109	C1-JCTT207	47.6	Circle	1	60	0	0	0.013	0.002	61.26	61.16	164.14	119.37	0	72.29	72.25
CO-81	MH-982	C1-13	55	Circle	1	24	0	0	0.013	0.002	63.73	63.64	0.96	9.15	0.13	73.38	73.37
W4-MH31(1)	C2-OS-09	C2-OS-10	536.5	Circle	1	60	0	0	0.013	0.001	62.93	62.13	385.46	100.57	0	77.13	75.66
W4-MH30(1)	MH-26	MH-27	222.9	Box	1	0	6	5	0.013	0.003	63.21	62.57	112.98	225.96	0	73.26	73.17
W4-MH30(2)(1)	MH-27	MH-28	216.6	Box	1	0	6	5	0.013	0.002	62.57	62.24	99.32	164.61	0	73.17	73.03
W4-MH30(2)(2)	MH-28	MH-30	77.1	Box	1	0	6	5	0.013	0.002	62.24	62.08	100.36	192.15	0	73.03	73
CO-84	C1-12	MH-23	60.2	Circle	1	24	0	0	0.013	0.045	72.69	70	1.86	47.83	0	73.33	73.34
C53(1)	C1-JCTT207	C1-MH12	60.5	Circle	1	60	0	0	0.013	0.003	61.16	60.96	126.82	149.68	0	72.25	72.16
C53(2)	C1-MH3	C1-JCT1	129.7	Circle	1	48	0	0	0.013	0.003	64.68	64.25	126.69	82.7	0.02	73.42	73.38
CO-86	C1-15	C1-JCT105	34.7	Circle	1	24	0	0	0.013	0.003	69.99	69.89	0.81	12.15	0	73.25	73.25
W4-MH28(1)	C2-OS-13	C2-MH10	30.4	Circle	1	66	0	0	0.013	0.001	60.58	60.54	194.14	121.85	0.34	71.51	71.4
W4-MH28(2)	C2-MH2	C2-MH1	155.6	Circle	1	66	0	0	0.013	0.003	58.22	57.8	213.86	174.47	0	64.79	63.89
W4-MH28(2)	C2-MH2	C2-MH1	155.6	Circle	1	66	0	0	0.013	0.003	58.22	57.8	213.86	174.47	0	64.79	63.89

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KUO & ASSOCIATES, INC.

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PATRICK W. PHILLIPS
92917
$DATE$
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

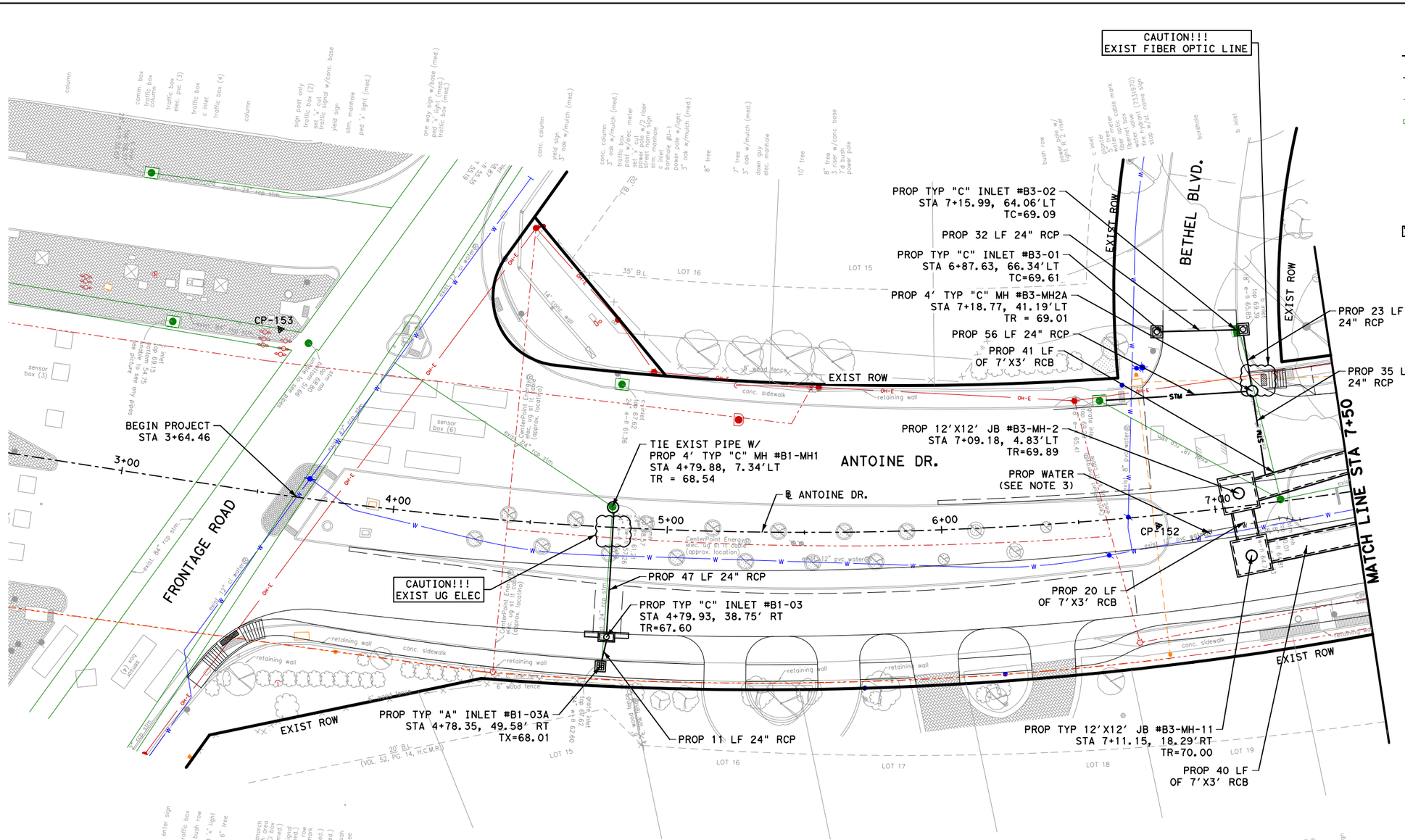
PROPOSED
HYDRAULIC DATA SHEET

SHEET 11 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO$ 393 :D$ 1067	

Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$

Design Filename: $FILEL$



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

0' 20' 40'
SCALE IN FEET

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS.
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
5. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES.

IBM INFO

CP-153, ELEV=69.44'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND US 290 FEEDER RD (NORTHBOUND)

CP-152, ELEV=70.06'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF BETHEL BLVD AND ANTOINE DR

No.	DATE	REVISIONS	APP.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY.
(This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Date
Signature valid for one year.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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License
90169
MARCH 2026
Date
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
BEGIN PROJECT TO STA 7+50

SHEET 1 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 394 OF 1067	

Plotted on: 3/9/2026 6:35:41 PM
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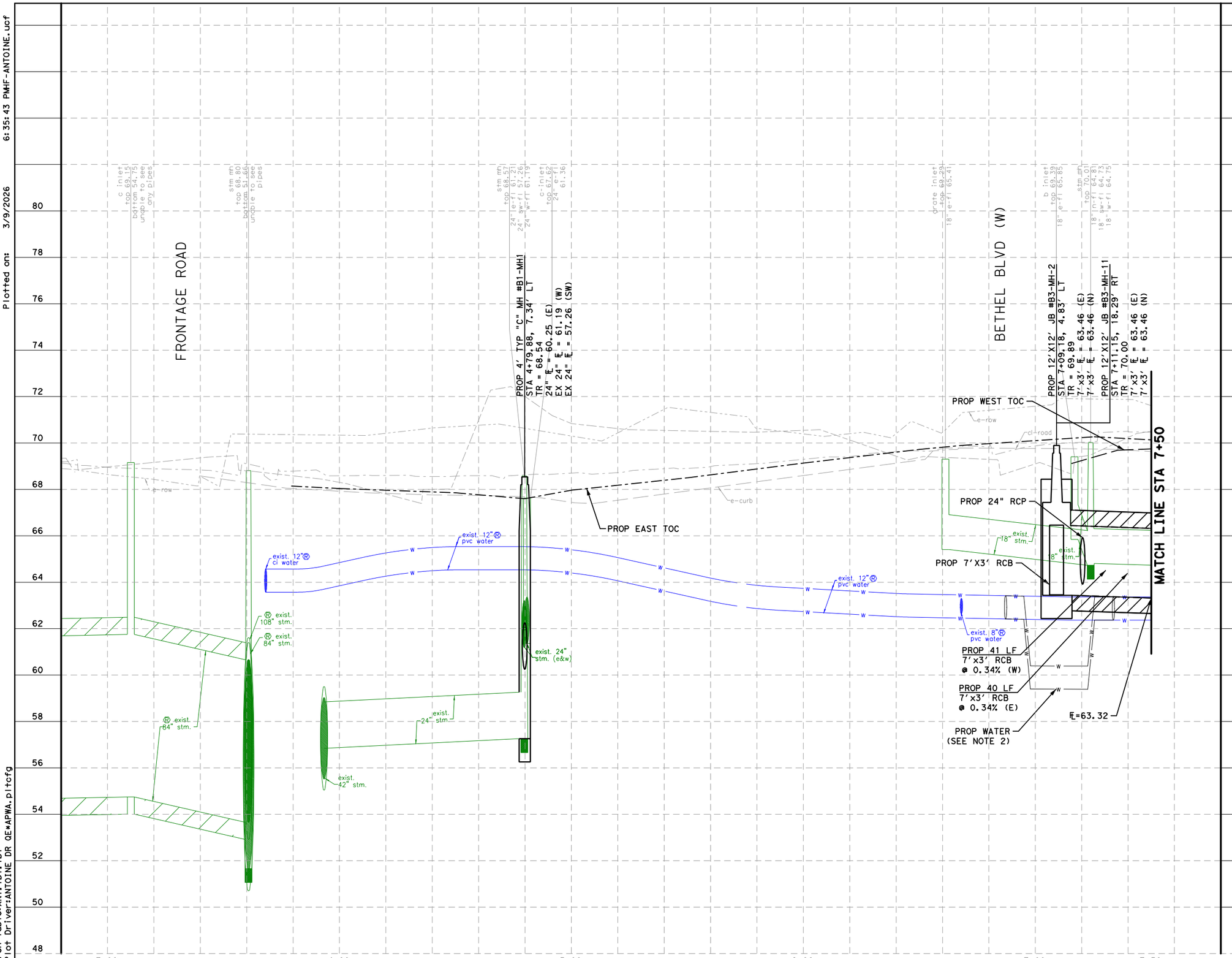
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 01.dgn

Plotted on: 3/9/2026 6:35:43 PMIF-ANTOINE.ucf



NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN &PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

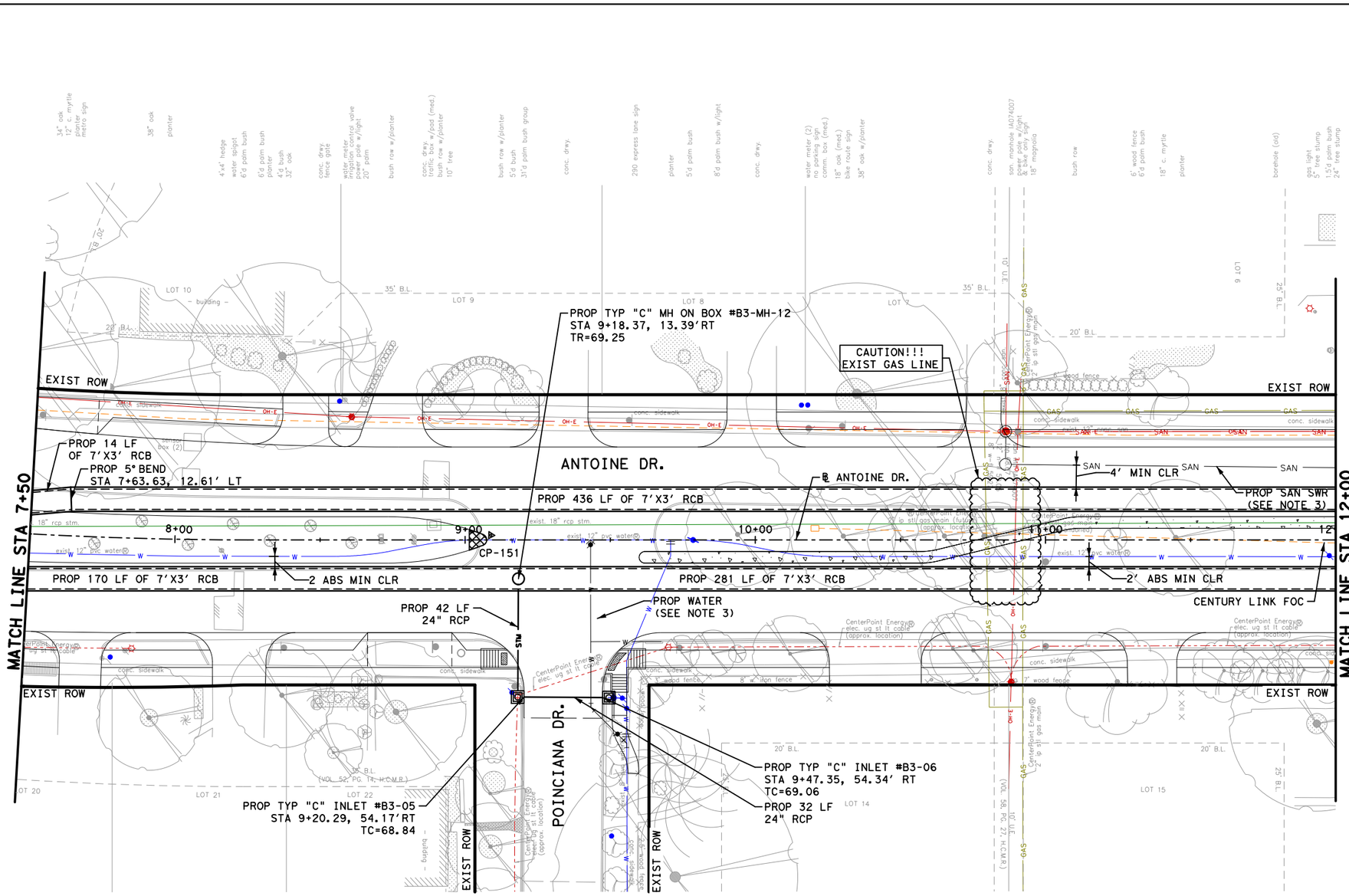
DRAINAGE PROFILE
BEGIN PROJECT TO STA 7+50

SHEET 2 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 395 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 02.dgn



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 7+50 TO STA 12+00

SHEET 3 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 396 OF 1067	

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TBM INFO

CP-151, ELEV=69.28'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND POINCIANA DR

Plotted on: 3/9/2026 6:35:46 PM
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
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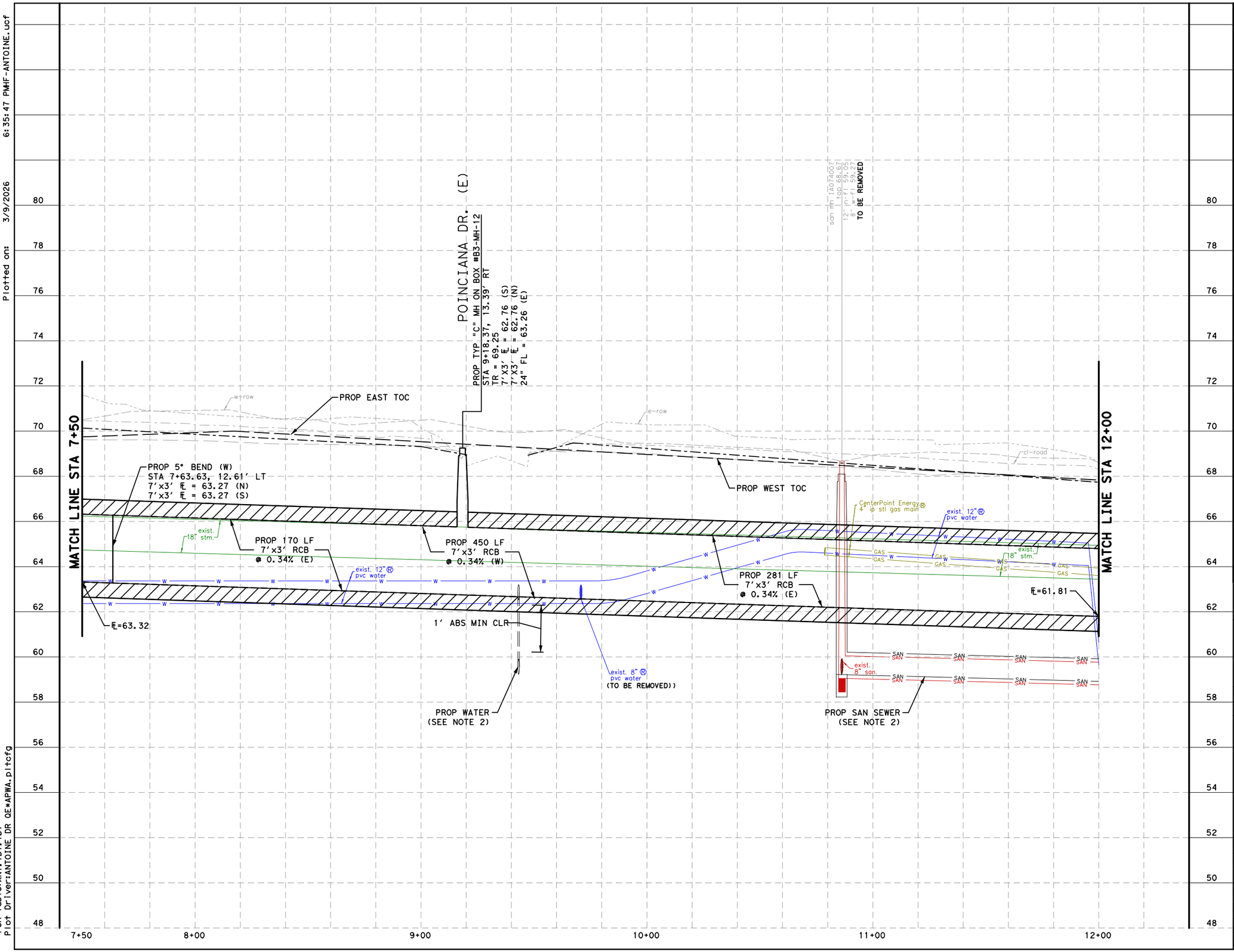

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 7+50 TO STA 12+00

SHEET 4 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 397 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
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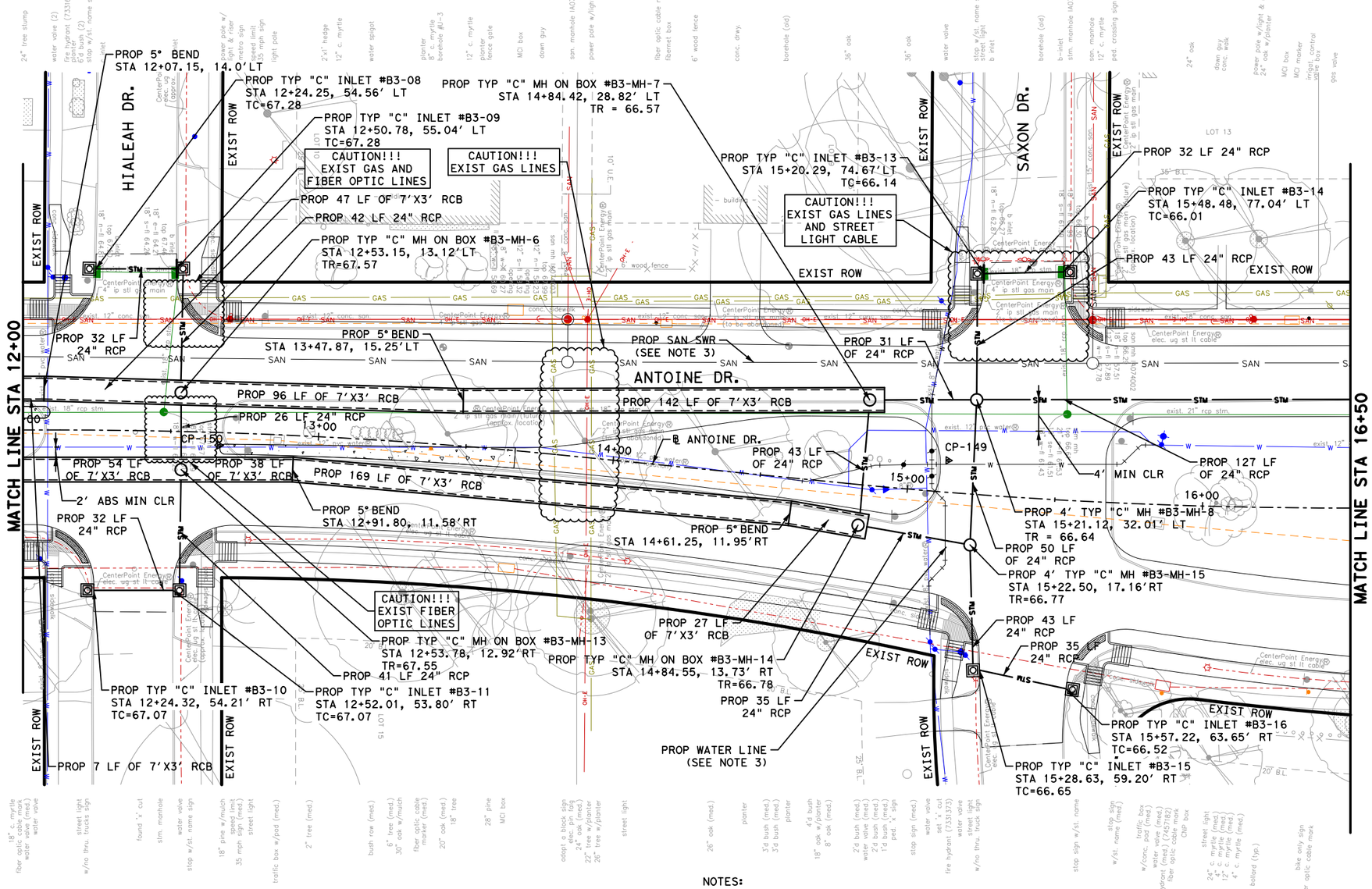

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TBM INFO

CP-150, ELEV=67.41'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HIALEAH DR

CP-149, ELEV=66.72'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT ANTOINE DR AND SAXON DR

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

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Signature valid for one year.

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713 777 5337

SURVEYED BY:
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MARCH 2026
60% SUBMITTAL
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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 12+00 TO STA 16+50

SHEET 5 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 398 OF 1067	

Plotted on: 3/9/2026 6:35:49 PM
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Plotted on: 3/9/2026 6:35:51 PMIF-ANTOINE.ucf

MATCH LINE STA 12+00

MATCH LINE STA 16+50

HIALEAH DR.

SAXON DR.

PROP TYP "C" MH ON BOX #B3-MH-6
STA 12+53.15, 13.12' LT
TR = 67.57
7'X3' RCB = 61.63 (S)
7'X3' RCB = 61.63 (N)
24" FL = 62.13 (W)
24" FL = 61.63 (E)

PROP TYP "C" MH ON BOX #B3-MH-13
STA 12+53.78, 12.92' RT
TR = 67.55
7'X3' RCB = 61.63 (S)
7'X3' RCB = 61.63 (N)
24" FL = 61.63 (W)
24" FL = 62.13 (E)

PROP 5° BEND (W)
STA 13+47.87, 15.25' LT
7'x3' RCB = 61.30 (S)
7'x3' RCB = 61.30 (N)

PROP 53 LF
7'x3' RCB
@ 0.34% (E)

PROP 39 LF
7'x3' RCB
@ 0.34% (E)

PROP 54 LF
7'x3' RCB
@ 0.34% (W)

PROP 96 LF
7'x3' RCB
@ 0.34% (W)

PROP 169 LF
7'x3' RCB
@ 0.34% (E)

PROP 142 LF
7'x3' RCB
@ 0.34% (W)

PROP 5° BEND (E)
STA 14+61.25, 11.95' RT
7'x3' RCB = 60.92 (S)
7'x3' RCB = 60.92 (N)

PROP 27 LF
7'x3' RCB
@ 0.34% (E)

PROP TYP "C" MH ON BOX #B3-MH-14
STA 14+84.55, 13.73' RT
TR = 66.78
7'X3' RCB = 60.84 (S)
7'X3' RCB = 60.84 (N)
24' = 60.84 (E)

PROP TYP "C" MH ON BOX #B3-MH-7
STA 14+84.42, 28.82' LT
TR = 66.57
7'X3' RCB = 60.83 (S)
7'X3' RCB = 60.83 (N)
24' = 60.83 (E)

PROP 4' TYP "C" MH #B3-MH-8
STA 15+21.12, 32.01' LT
TR = 66.64
24' = 60.70 (S)
24' = 60.65 (E)
24' = 61.16 (W)
24' = 60.65 (N)

PROP 4' TYP "C" MH #B3-MH-15
STA 15+22.50, 17.16' RT
TR = 66.77
24" = 60.71 (S)
24" = 61.49 (E)
24" = 60.71 (W)

PROP 5° BEND (W)
STA 12+07.15, 14.00' LT
7'x3' = 61.78 (S)
7'x3' = 61.78 (N)

PROP 5° BEND (E)
STA 12+91.80, 11.58' RT
7'x3' = 61.50 (S)
7'x3' = 61.50 (N)

PROP 35 LF
24" RCP
@ 0.33% (E)

PROP 31 LF
24" RCP
@ 0.34% (W)

PROP 127 LF
24" RCP
@ 0.36%

PROP EAST TOC

PROP WEST TOC

PROP 24" RCP

PROP SAN SEWER
(SEE NOTE 2)

PROP WATER
(SEE NOTE 2)

2' MIN CLR

F=61.81

F=60.18

TO BE REMOVED

exist. 12" san.

exist. 15" san.

exist. 12" dip water

exist. 8" dip water

exist. 12" pvc water

exist. 8" pvc water

exist. 6" fh lead

exist. 8" drop

CenterPoint Energy 4" ip stl gas main

exist. 18" strm

exist. 18" strm

exist. 18" strm

exist. 10" strm

exist. 8" pvc water

exist. 8" pvc water

exist. 8" pvc water

exist. 8" dip water

exist. 12" pvc water

exist. 12" pvc water

exist. 6" fh lead

exist. 12" pvc water

b inlet
top 67.56
18" n-fl 64.81

strm mh
top 67.67
18" n-fl 63.37
18" s-fl 63.33
18" w-fl 63.29

b inlet
top 67.46
18" e-fl 64.21
18" s-fl 64.26

san mh IA074003
top 67.99
n-fl 58.23
opening
12" s-fl 58.32
opening
8" w-fl 60.27
8" w-fl 58.69

b inlet
top 66.27
18" n-fl 62.87

b inlet
top 66.30
18" e-fl 61.98
18" s-fl 61.99

strm mh
top 66.61
21" n-fl 61.53
18" se-fl 61.51
18" w-fl 61.43

san mh IA074002
top 66.29
18" n-fl 57.51
12" s-fl 57.99
8" w-fl 58.28

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:
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on
90169
MARCH 2026
on
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 12+00 TO STA 16+50

SHEET 6 OF 71

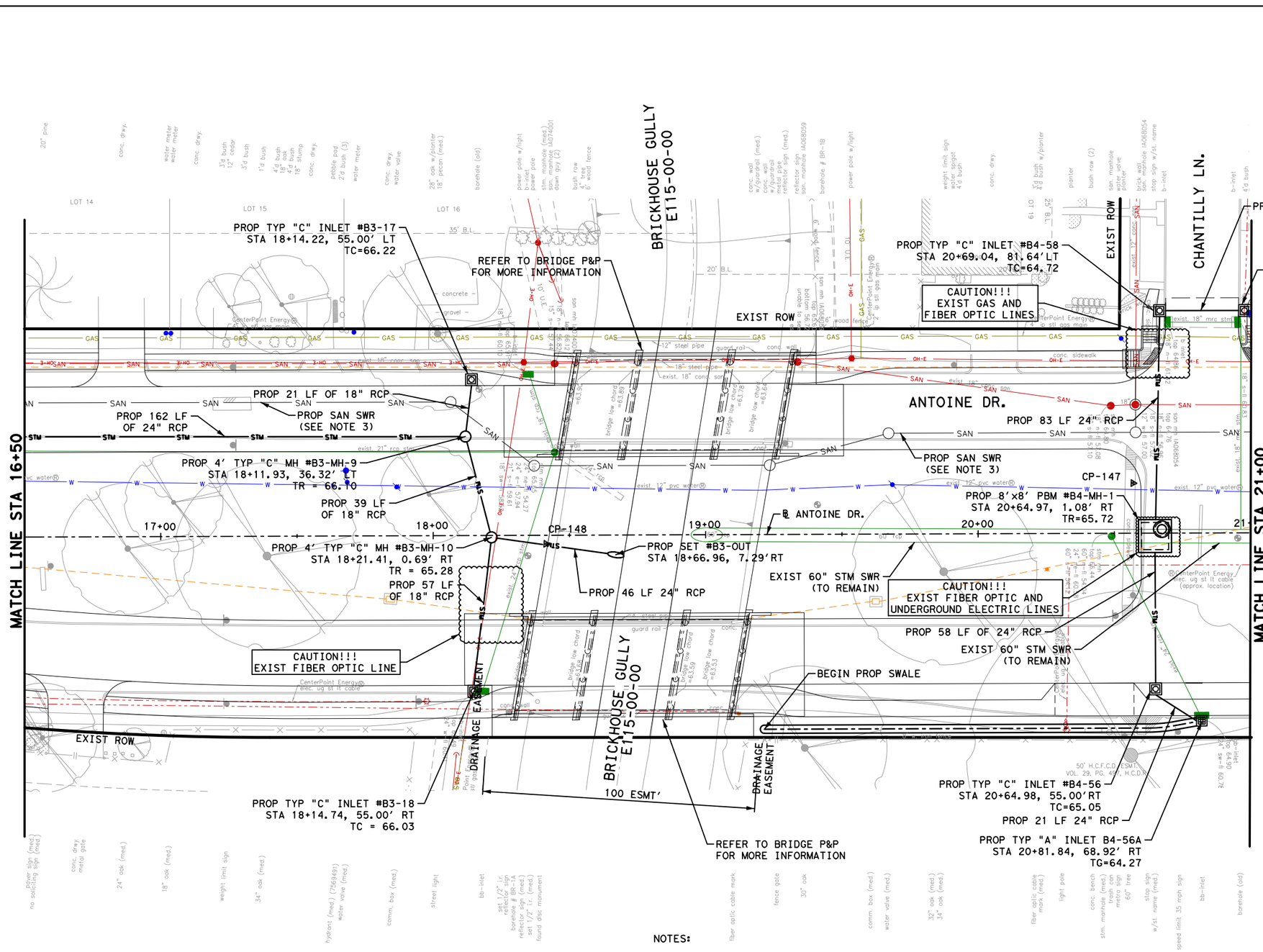
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 399 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 06.dgn

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Plotted on: 3/9/2026 6:35:53 PM
F-ANTOINE.ucf



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

SURVEYED BY:
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KRISTEN J. HENNINGS, P.E.
License 90169
MARCH 2026
Date
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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 16+50 TO STA 21+00

SHEET 7 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 400 OF 1067	

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS.
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
5. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES.

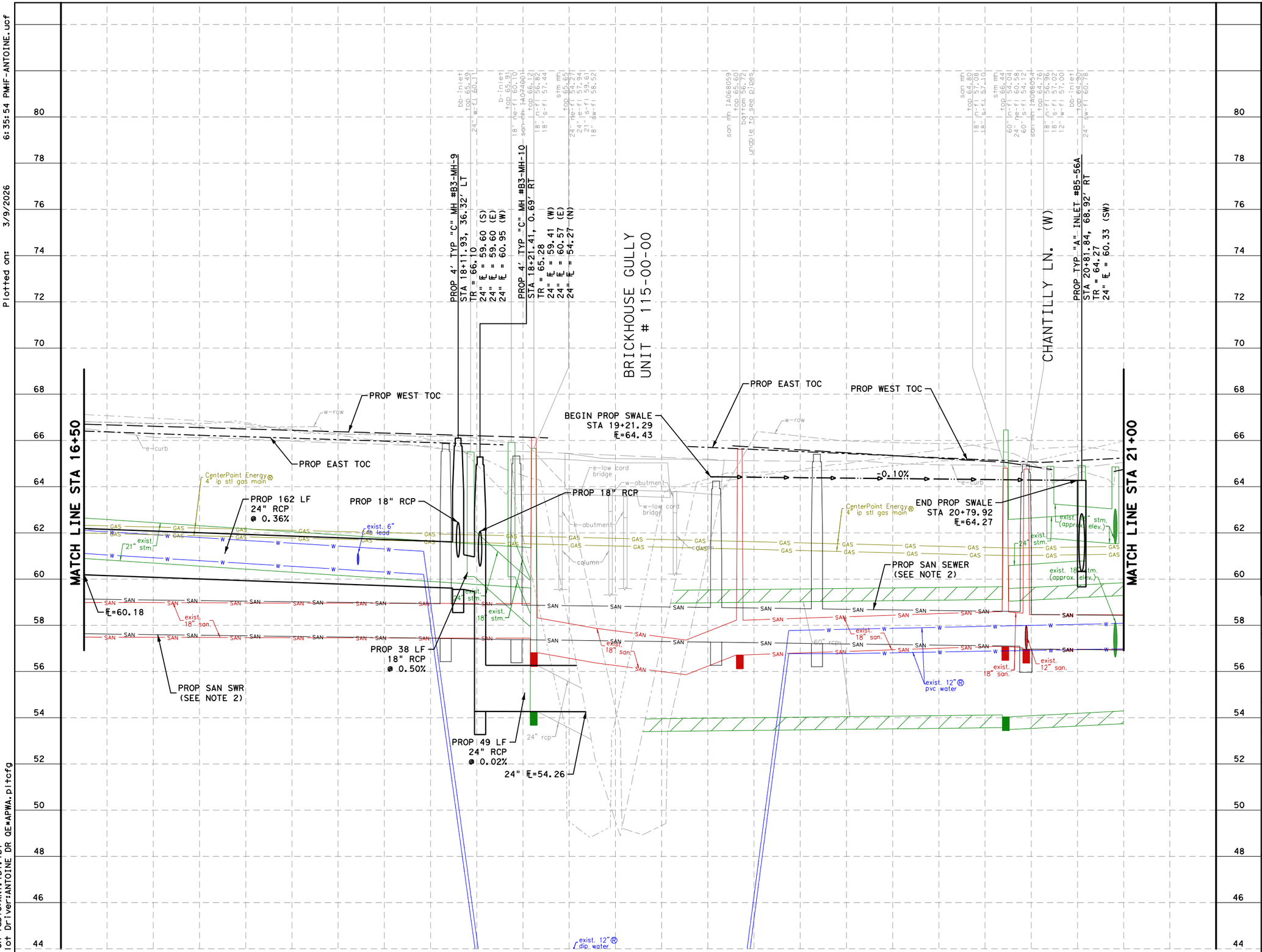
TBM INFO

CP-148, ELEV=64.55'
SET ½" IRON ROD WITH CAP
LOCATED APPROX 240' SOUTH OF THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

CP-147, ELEV=66.09'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

Pen Table:ANT.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 07.dgn

Plotted on: 3/9/2026 6:35:54 PMF-ANTOINE.ucf



NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN &PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 16+50 TO STA 21+00

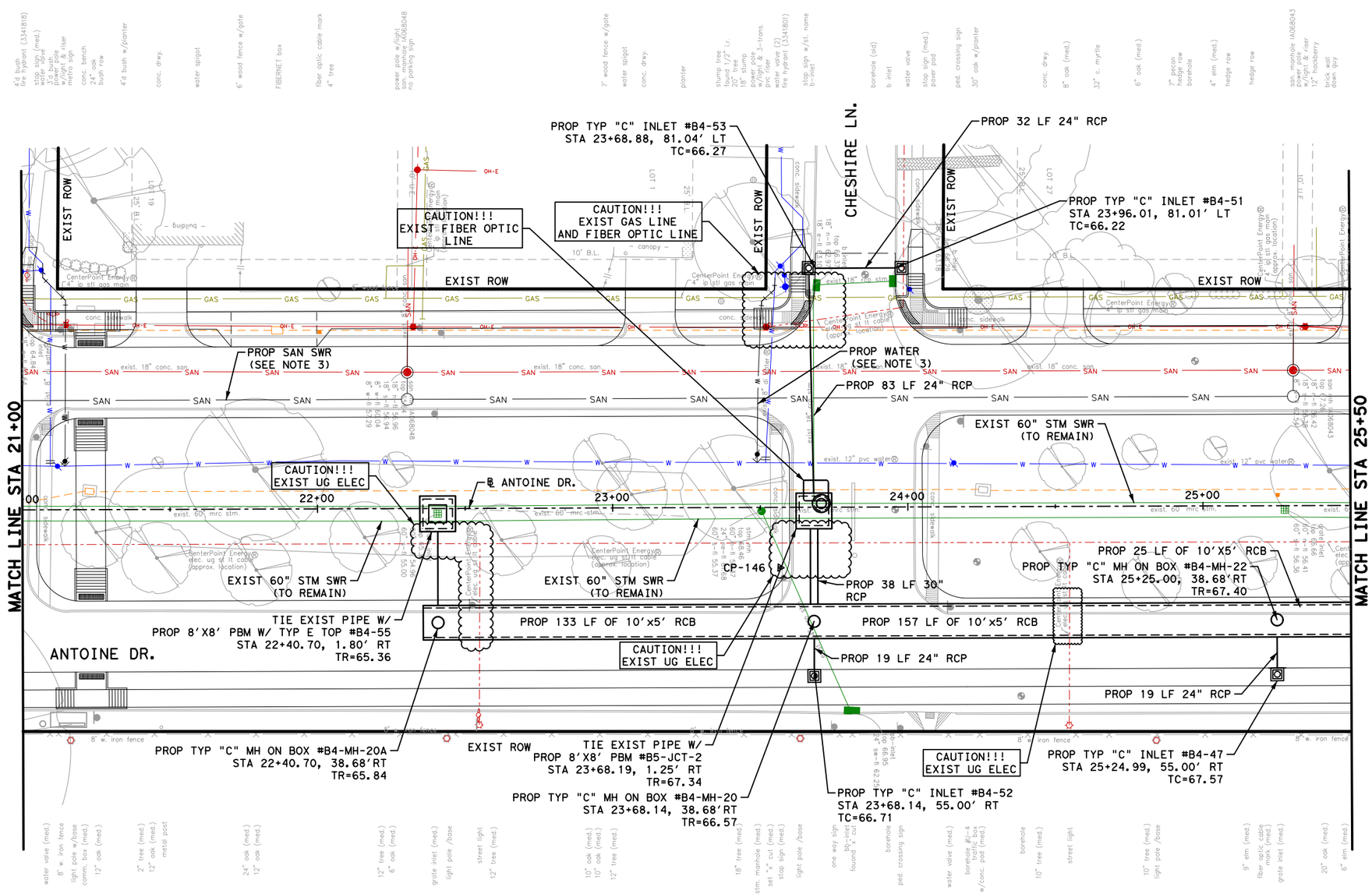
SHEET 8 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 401 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 08.dgn



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 21+00 TO STA 25+50

SHEET 9 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 402 OF 1067	

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS.
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
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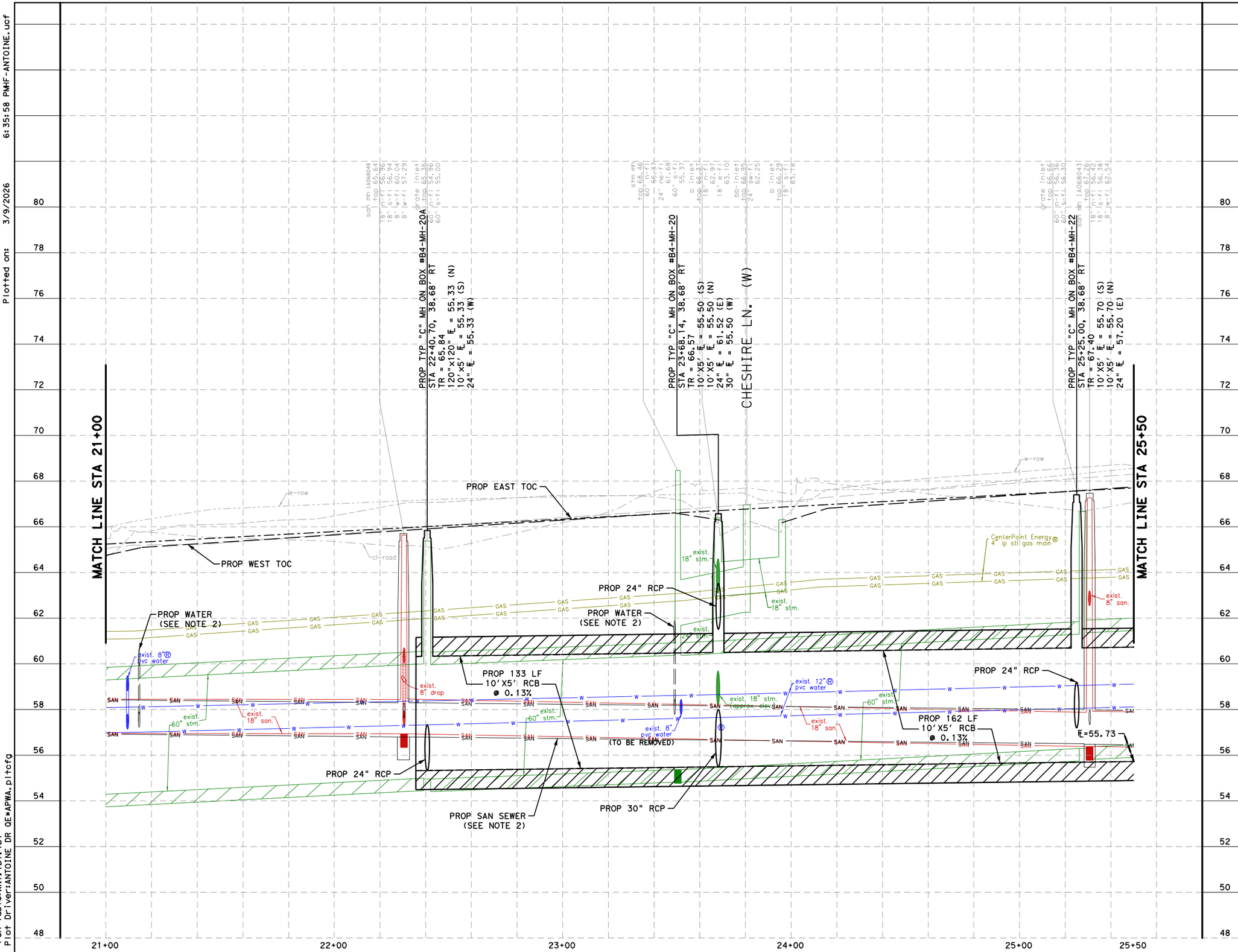
TBM INFO

CP-146, ELEV=62.28'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHESHIRE LN

Plotted on: 3/9/2026 6:35:57 PM\F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 09.dgn



NOTES:

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2. REFER TO WATER AND SANITARY SEWER PLAN &PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 21+00 TO STA 25+50

SHEET 10 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 403 OF 1067	

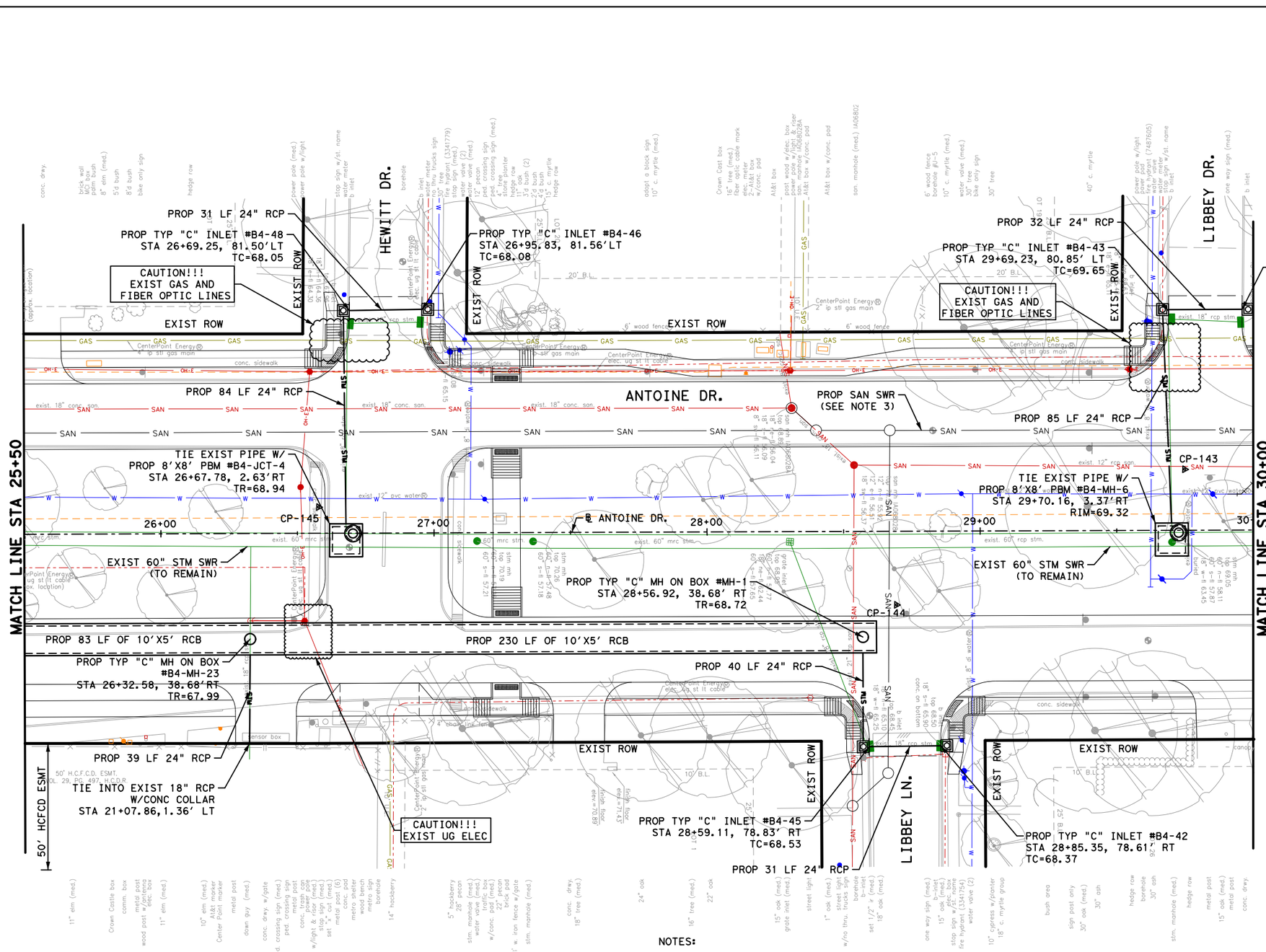
No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 10.dgn

Plotted on: 3/9/2026 6:35:58 PMHF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Plotted on: 3/9/2026 6:36:00 PM\F-ANTOINE.ucf



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

NOTES:

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TBM INFO

CP-145, ELEV=69.40'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HEWITT DR

CP-144, ELEV=69.39'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY LN

CP-143, ELEV=70.52'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY DR

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 25+50 TO STA 30+00

SHEET 11 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 404 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEETS\DRAINAGE\PR_DRN 11.dgn

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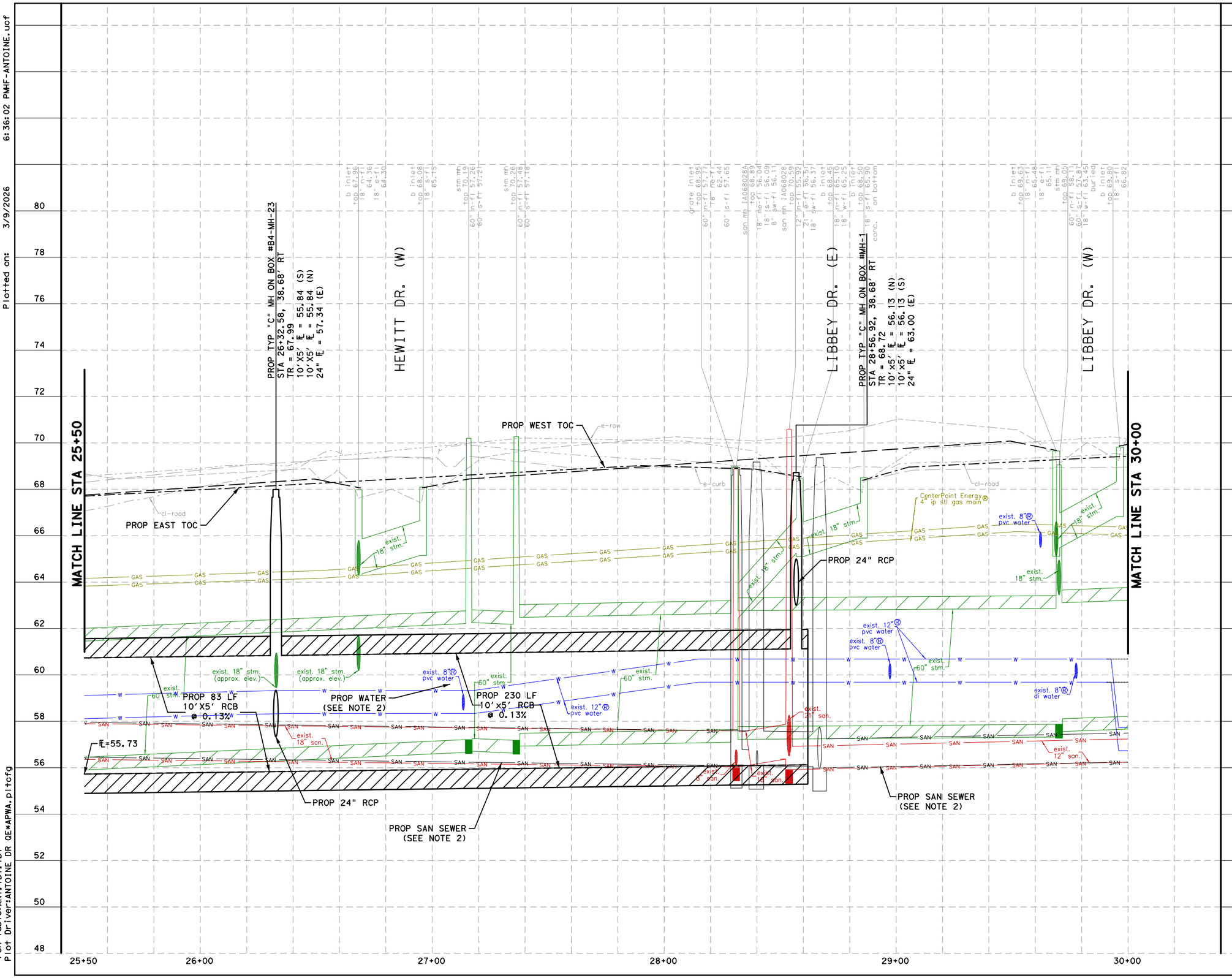
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Plotted on: 3/9/2026 6:36:02 PMF-ANTOINE.ucf



No.	DATE	REVISIONS	APP:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

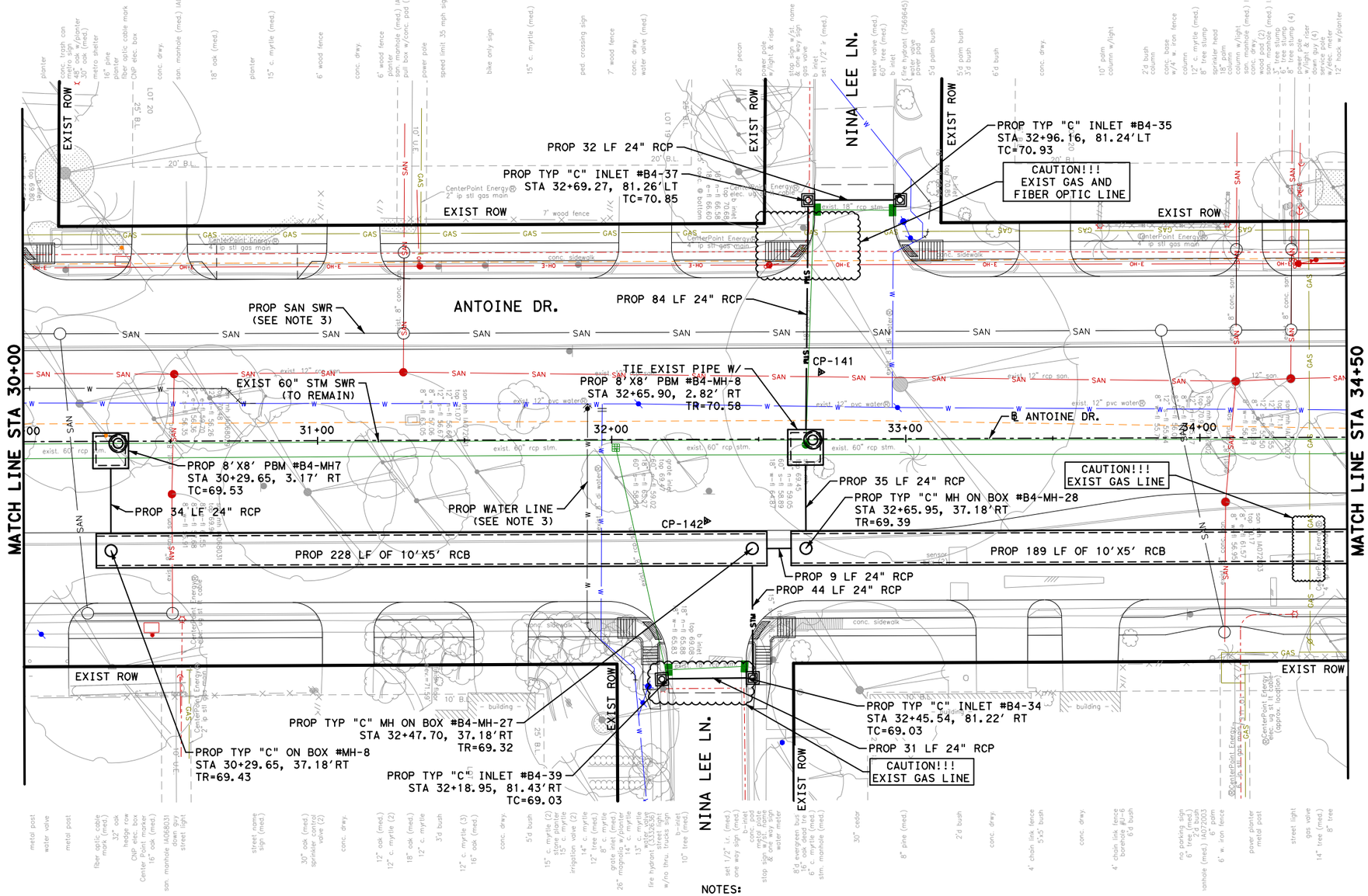
ANTOINE DRIVE

DRAINAGE PROFILE
STA 25+50 TO STA 30+00

SHEET 12 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 405 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 12.dgn



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 30+00 TO STA 34+50

SHEET 13 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 406 OF 1067	

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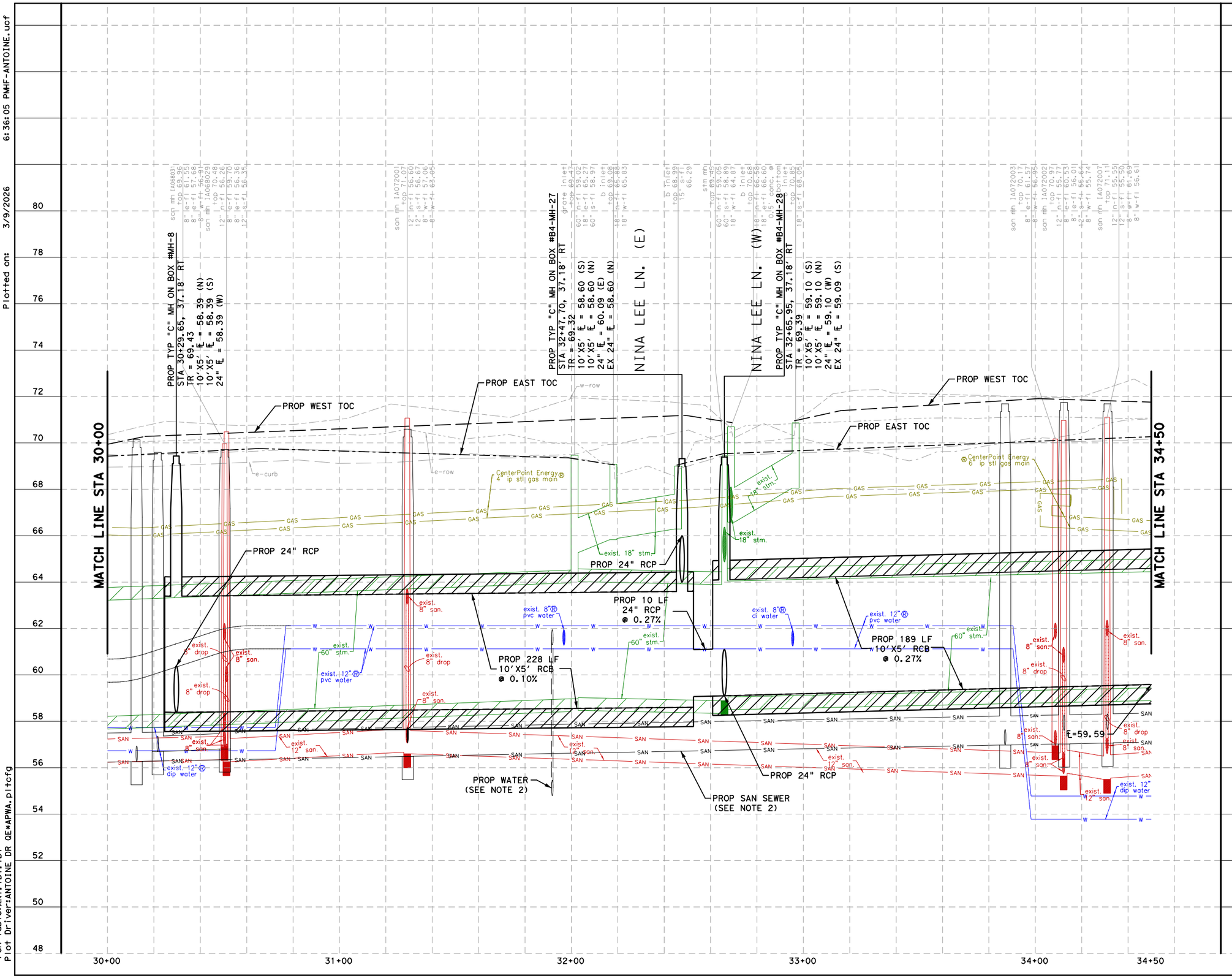
TBM INFO

CP-142, ELEV=70.12'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

CP-141, ELEV=70.96'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

Plotted on: 3/9/2026 6:36:04 PM
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 13.dgn

Plotted on: 3/9/2026 6:36:05 PM\F-ANTOINE.ucf



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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 30+00 TO STA 34+50

SHEET 14 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 407 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 14.dgn

PROP 5' TYP "C" MH #B4-JCT-101
STA 36+22.99, 99.03' LT
TR=71.94

PROP 53 LF 24" RCP

PROP 32 LF 24" RCP

PROP TYP "C" INLET #B4-30
STA 36+52.43, 100.85'LT
TC=71.00

PROP TYP "C" INLET #B4-31
STA 35+72.17, 99.29'LT
TC=70.97

CAUTION!!!
EXIST ATT CONDUIT

EXIST ROW

PROP ROW

EXIST 48" STM SWR
(TO REMAIN)

PROP 7 LF 24" RCP

PROP 6' TYP "C" MH #B4-MH-12A
STA 38+91.14, 85.90' RT
TR=72.60

PROP TYP "C" INLET B4-27
STA 38+98.42, 85.09' LT
TC=72.22

ANTOINE DR.

PROP SAN SWR
(SEE NOTE 3)

EXIST 60" STM SWR
(TO REMAIN)

EXIST 36" STORM SWR
TO REMAIN

TIE EXIST PIPE W/
PROP 6'X6' PBM #B4-MH-11B
STA 36+20.44, 2.44' RT
TR=72.13

TIE EXIST PIPE W/
PROP 6'X6' PBM #B4-MH-12
STA 38+89.94, 1.10' RT
TR=71.71

CP-140

CP-139

℄ ANTOINE DR.

35+00

36+00

37+00

38+00

39+00

MATCH LINE STA 34+50

MATCH LINE STA 39+00

PROP 36 LF 24" RCP

EXIST 48" STM SWR
(TO REMAIN)

PROP TYP "C" MH ON BOX #B4-MH-30
STA 38+89.99, 36.35' RT
TR=71.35

EXIST 24" STORM SWR
TO REMAIN

PROP 34 LF 54" RCP

PROP 282 LF OF 10'X5' RCB

PROP 85 LF OF 10'X5' RCB

PROP TYP "C" MH ON BOX #B4-MH-29
STA 36+20.44, 36.43' RT
TR=71.30

PROP 91 LF 24" RCP

WEST 43RD ST.

EXIST ROW

PROP ROW

EXIST ROW

PROP TYP "C" MH ON BOX #MH-28
STA 35+29.90, 37.18' RT
TR=70.46

CAUTION!!!
EXIST GAS LINE

PROP TYP "C" INLET #B4-32
STA 35+69.76, 112.68'RT
TC=70.08

PROP TYP "C" INLET B4-28
STA 36+49.67, 103.68'RT
TC=69.97

PROP 42 LF 24" RCP

PROP 45 LF 24" RCP

CAUTION!!!
EXIST ATT CONDUIT

TIE EXIST PIPE W/
PROP 4' TYP "C" MH #B4-MH-8A
STA 36+07.15, 100.17' RT
TR=71.00

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

0' 20' 40'
SCALE IN FEET

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS.
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
5. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES.

TBM INFO

CP-140, ELEV=71.43'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

CP-139, ELEV=71.48'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

No.	DATE	REVISIONS	APP.

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date
CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.
Signature valid for six months.

Date
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY.
(This signature verifies existing underground facilities - not to be used for conflict verification)
Signature valid for six months.

Approved for AT&T underground conduit facilities only. Date
Signature valid for one year.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-13290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713 777 5337

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KUO & ASSOCIATES, INC.

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 34+50 TO STA 39+00

SHEET 15 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 408 OF 1067	

Plotted on: 3/9/2026 6:36:08 PM
F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\DRAINAGE\PR_DRN 15.dgn

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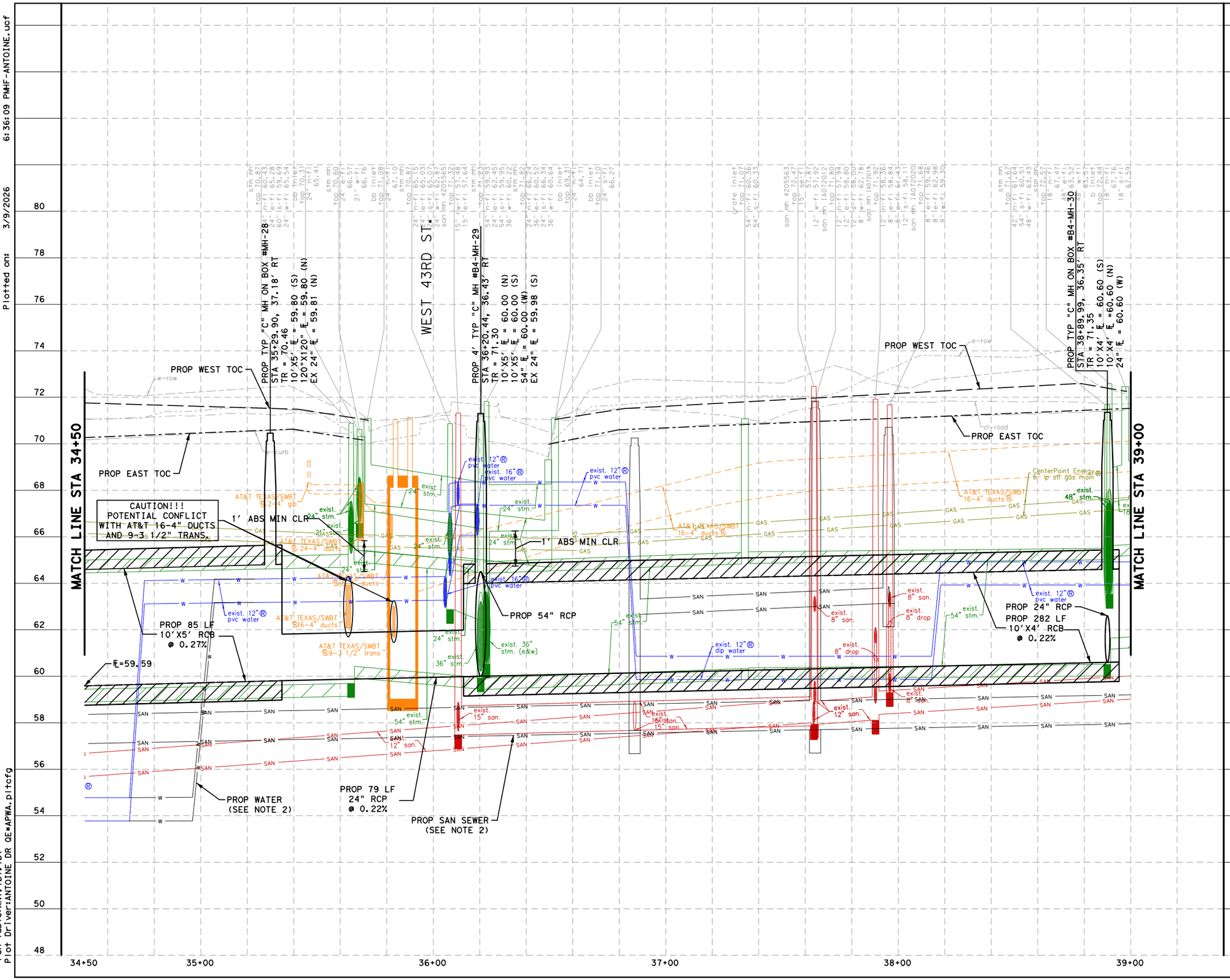

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN &PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

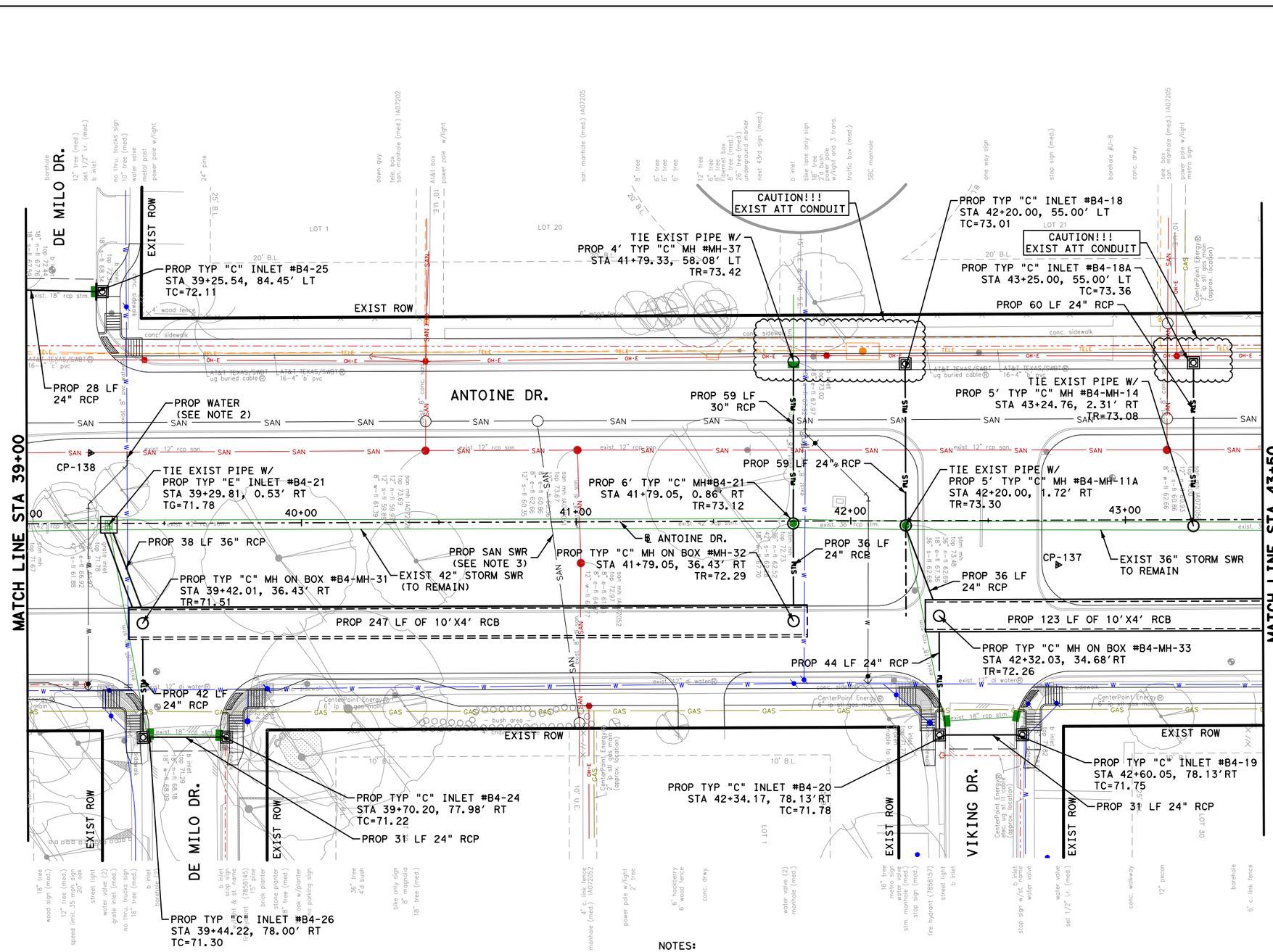
ANTOINE DRIVE

DRAINAGE PROFILE
STA 34+50 TO STA 39+00

SHEET 16 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 409 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 16.dgn



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS.
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TBM INFO

CP-138, ELEV=72.61'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE MILO DR

CP-137, ELEV=73.29'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VIKING DR

NOTICE:

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 39+00 TO STA 43+50

SHEET 17 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 410 OF 1067	

Plotted on: 3/9/2026 6:36:12 PM
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Plot Driver:ANTOINE DR QE*APWA.pltcfg

Plotted on: 3/9/2026 6:36:14 PM\F-ANTOINE.ucf

DE MILO DR. (W)

DE MILO DR. (E)

VIKING DR. (E)

MATCH LINE STA 39+00

MATCH LINE STA 43+50

PROP TYP "C" MH ON BOX #B4-MH-31
STA 39+42.01, 36.43' RT
TR = 71.51
10'X4', f/E = 61.92 (N)
10'X4', f/E = 61.92 (S)
36" f/E = 61.92 (W)
24" f/E = 67.09 (E)

PROP TYP "C" MH ON BOX #MH-32
STA 41+79.05, 36.43' RT
TR = 72.29
10'X4', f/E = 62.62 (S)
10'X4', f/E = 62.62 (N)
24" f/E = 62.62 (W)

PROP TYP "C" MH ON BOX #B4-MH-33
STA 42+32.03, 34.68' RT
TR = 72.26
10'X4', f/E = 62.75 (S)
10'X4', f/E = 62.75 (N)
24" f/E = 64.75 (E)
24" f/E = 62.75 (SW)

PROP WEST TOC

PROP EAST TOC

PROP WATER (SEE NOTE 2)

PROP 24" RCP

PROP 242 LF 10'X4' RCB @ 0.30%

PROP 123 LF 10'X4' RCB @ 0.20%

PROP SAN SEWER (SEE NOTE 2)

F= 62.98

CenterPoint Energy® 6" ip stl gas main

AT&T TEXAS/SWBT 16 GAS ducts ®

AT&T TEXAS/SWBT 10 GAS ducts ®

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN &PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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MARCH 2026
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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 39+00 TO STA 43+50

SHEET 18 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 411 OF 1067	

No.	DATE	REVISIONS	APP:

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5_PLAN SHEET\DRAINAGE\PR_DRN 18.dgn

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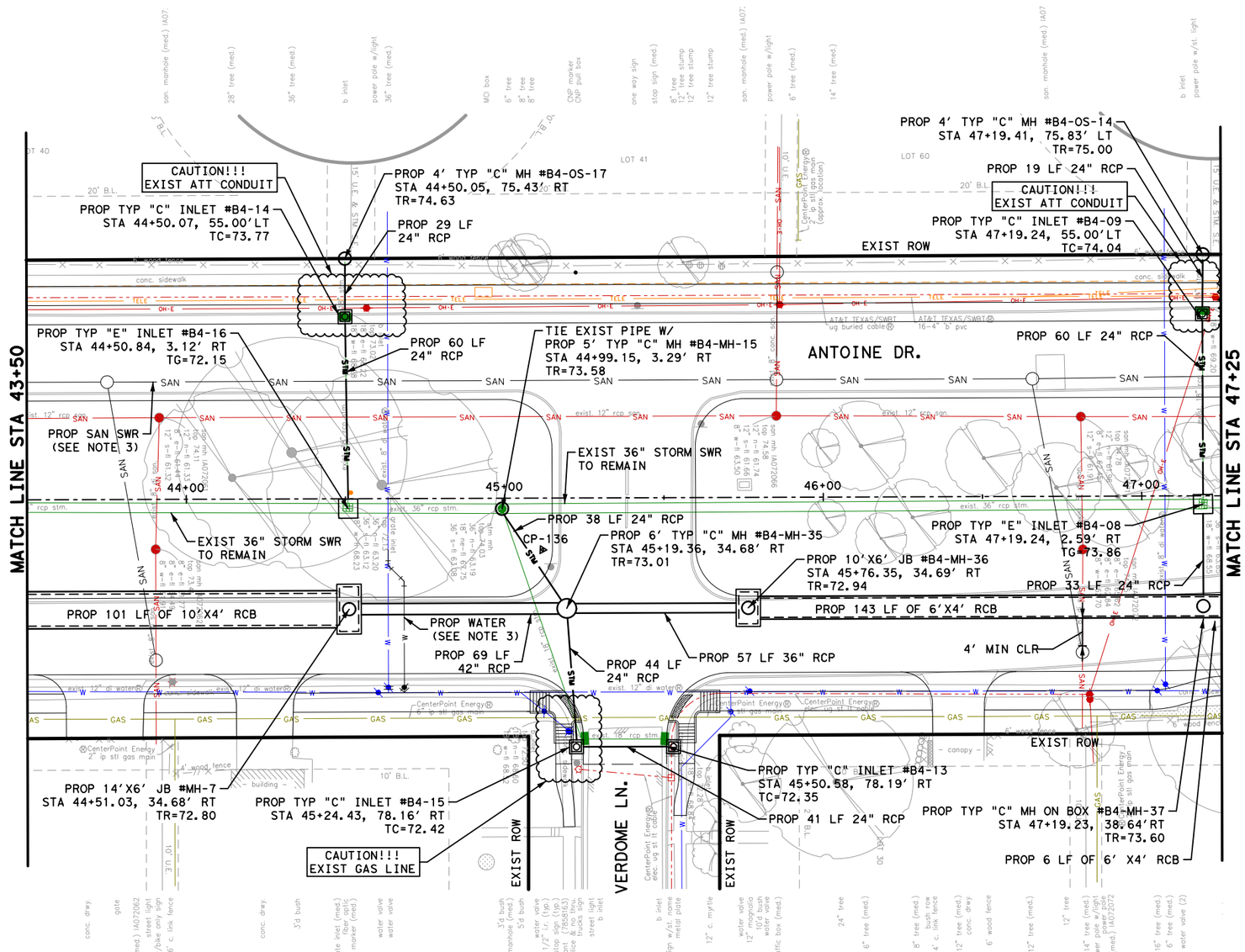

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 43+50 TO STA 47+25

SHEET 19 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 412 OF 1067	

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS.
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4. REFER TO DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
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6. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES.

TBM INFO

CP-136, ELEV=73.88'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VERDOME LN

Plotted on: 3/9/2026 6:36:16 PM
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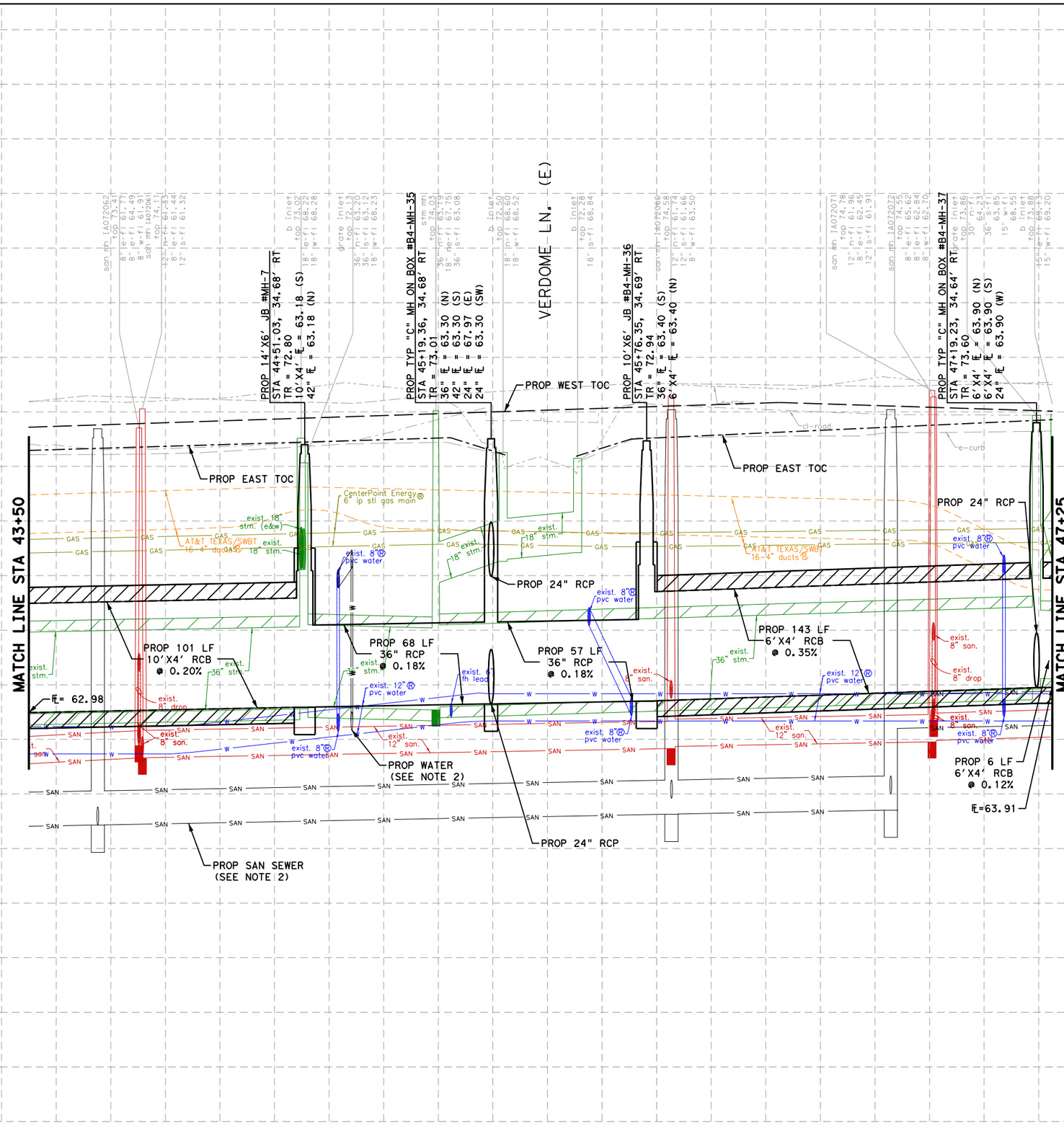
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE\PR_DRN 19.dgn


VERDOME LN. (E)
PROP WEST TOC
PROP EAST TOC
PROP EAST TOC
PROP 14'X6' JB #MH-7
STA 44+51.03, 34.68' RT
TR = 72.80
10'X4' FE = 63.18 (S)
42" FE = 63.18 (N)
PROP TYP "C" MH ON BOX #B4-MH-35
STA 45+19.36, 34.68' RT
TR = 73.01
36" FE = 63.30 (N)
42" FE = 63.30 (S)
24" FE = 67.97 (E)
24" FE = 63.30 (SW)
PROP 10'X6' JB #B4-MH-36
STA 45+76.35, 34.69' RT
TR = 72.94
36" FE = 63.40 (S)
6'X4' FE = 63.40 (N)
PROP TYP "C" MH ON BOX #B4-MH-37
STA 47+19.23, 34.64' RT
TR = 73.60
6'X4' FE = 63.90 (N)
6'X4' FE = 63.90 (S)
24" FE = 63.90 (W)
MATCH LINE STA 43+50
MATCH LINE STA 47+25
PROP 101 LF
10'X4' RCB
@ 0.20%
PROP 68 LF
36" RCP
@ 0.18%
PROP 57 LF
36" RCP
@ 0.18%
PROP 143 LF
6'X4' RCB
@ 0.35%
PROP 6 LF
6'X4' RCB
@ 0.12%
PROP 24" RCP
PROP 24" RCP
PROP WATER
(SEE NOTE 2)
PROP SAN SEWER
(SEE NOTE 2)
FE= 62.98
FE=63.91
CenterPoint Energy
6" ip stl gas main
AT&T TEXAS/SWBT exist.
16-4" ducts
exist. 18"
stm. (e&w)
exist. 8"
pvc water
exist. 12"
pvc water
exist. 8"
san.
exist. 12"
san.
exist. 8"
drop
exist. 6"
fh lead
exist. 15"
stm.
exist. 36"
stm.
exist. 30"
stm.
exist. 18"
stm.
exist. 8"
san.
exist. 8"
pvc water
exist. 12"
pvc water
exist. 8"
san.
exist. 8"
drop
exist. 8"
pvc water
exist. 8"
pvc water
exist. 8"
san.
exist. 8"
drop
exist. 8"
pvc water
exist. 12"
pvc water
exist. 8"
san.
exist. 8"
pvc water
exist. 8"
drop
exist. 8"
pvc water
exist. 8"
san.
exist. 8"
drop
exist. 8"
pvc water
exist. 12

Plotted on: 3/12/2026 4:09:25 AM anwanik

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Plot Driver:c:\pw*work\rsh*pw\pw*user\d0607461\ANTOINE DR.pltcfg

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Drainage\RSH

PROP TY "C" INLET B4-09
STA. 47+75.00, 55.00' LT
TC=73.86'

PROP 55' 24" RCP
STM SWR

PROP TY "C" MH NO. B4-1R
STA 47+75.17, 46.50' LT

PROP 10'X6' JB NO. B4-MH-39
STA 49+37.11, 12.88' RT
TR= 74.56'

PROP 80' 6'x4' RCB

PROP 133' 6'x4' RCB

PROP 36" RCP

PROP 30" RCP

PROP 36" RCP

PROP TY "C" MH NO. B4-MH-40
STA 49+73.11, 12.75' RT
TR=74.71'

PROP TY "C" MH NO. B4-MH-41
STA 50+23.20, 12.35' RT
TR= 74.92'

PROP TY "C" MH NO. B4-MH-38
STA 48+04.12, 25.92' RT
TR=73.73'

EXIST ROW

ANTOINE DR.

DE LANGE LN.

ACORN ST.

MATCH LINE STA 47+25

MATCH LINE STA 51+50

DE LANGE LN.
SEE SHEET XX OF XX

ACORN ST.
SEE SHEET XX OF XX

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTES:

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Date

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Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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RS&H®
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

SURVEYED BY:
KUO & ASSOCIATES, INC.

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60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

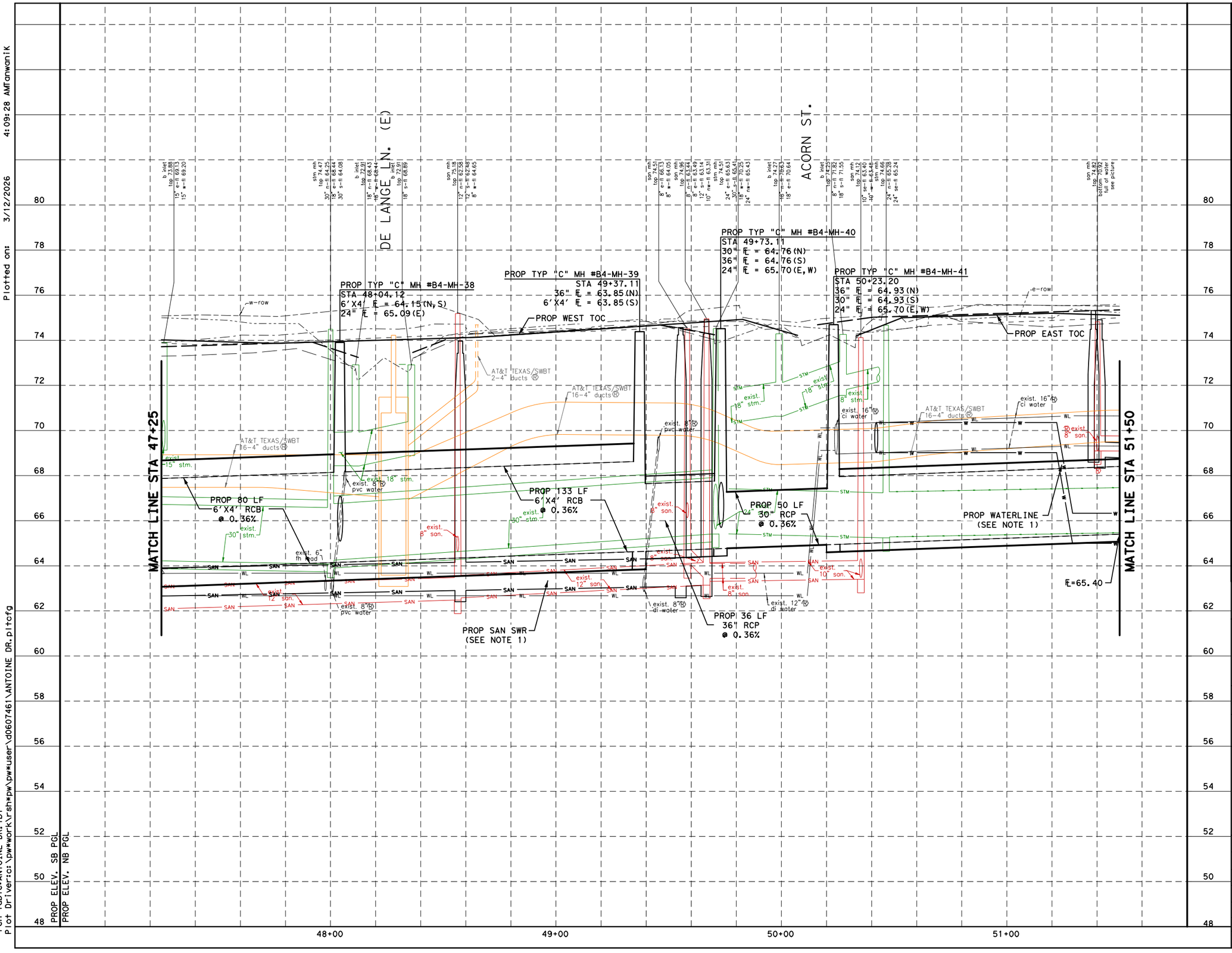
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 47+25 TO STA 51+50

SHEET 21 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 414 OF 1067	



NOTES:

1. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Note: The AT&T electronic Signature is valid for one year.

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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JEFFREY ROBERT LEUGERS
91874
3/12/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 47+25.00 TO STA 51+50.00

SHEET 22 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 415 OF 1067	

Plotted on: 3/12/2026 4:09:28 AMTanwanik
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PROP ELEV. NB PGL
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Plotted on: 3/12/2026 4:09:34 AM fanwanik

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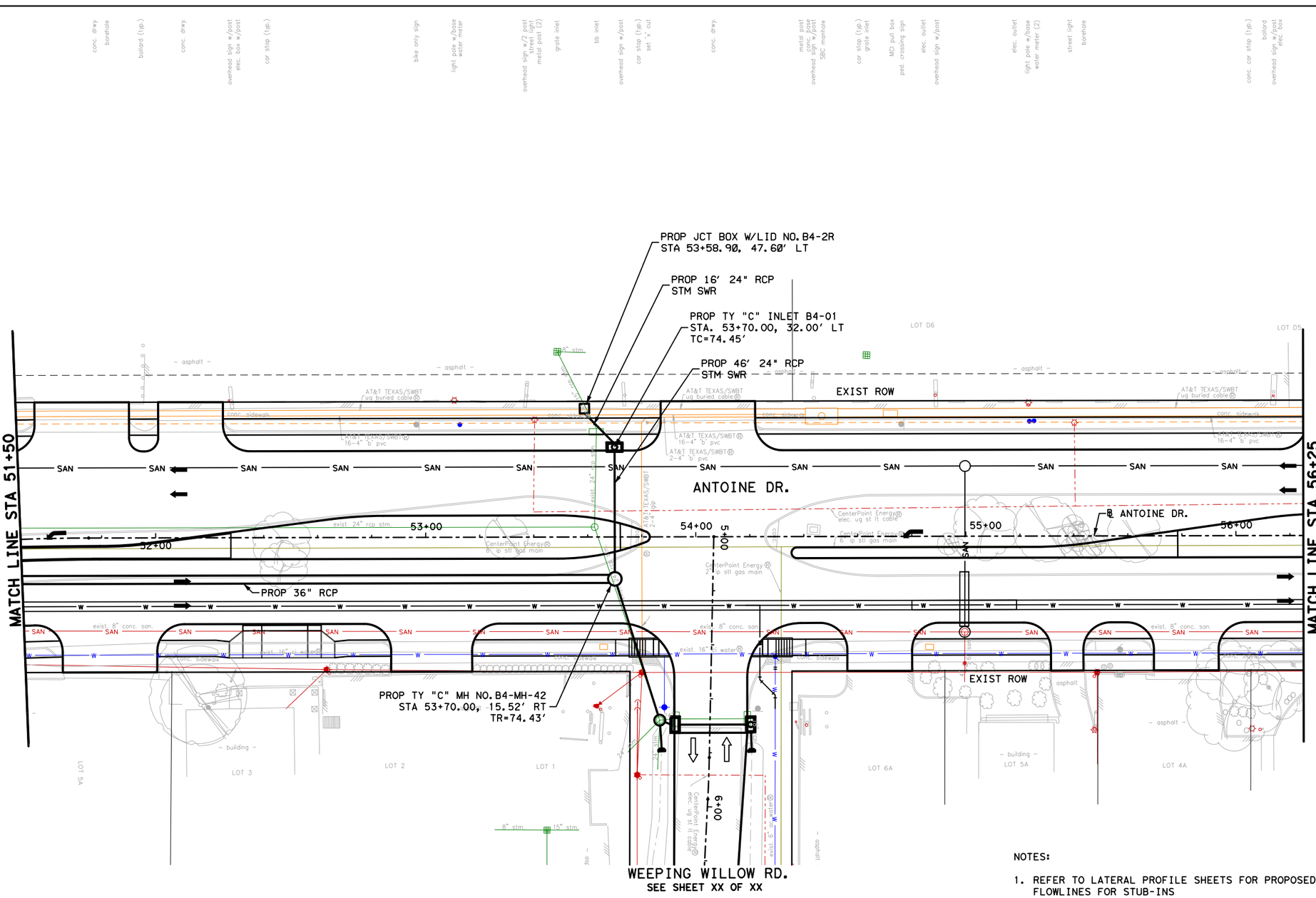

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
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power pole w/3 riser & light
conc. drwy.
metal post
18" tree
15" tree
backflow prevent
borehole #1-10
pressure release valve
stone deck (2)
sign w/2 wood post
sign w/2 wood post
brick column
18" c. myrtle (med.)
15" c. myrtle (med.)
conc. pad
brick column (3)
conc. car stop
power pole
w/light, riser and 2 trans.
bush row
conc. drwy.
8" oak (med.)
bush row
metal post (2)
stm. manhole
overhead sign w/post
wood rock w/post
MCI pull box
metal post (med.)
overhead sign
metal post (2)
base only (2)
sign w/2 post
overhead sign
down guy (2)
power pole
w/light, grd riser
tele. ped
stm. manhole
fire hydrant
bb inlet
bb inlet
stop sign w/st. name
water valve
found 5/8" i.r.
conc. pad
elec. box & pvc pipe
overhead sign
metal post
elec. outlet
bollard (2)
traffic pull box (med.)
conc. drwy.
MCI pull box
5'd bush (2)
8'd bush
4" tree (med./2)
conc. pad
sign monument
5'd bush (2)
6'd bush (3)
20" c. myrtle (med.)
6'd bush
5'd bush
bush row
12" oak (med.)
4" tree (7/med.)
8" teump
conc. drwy./base
light pole w/base
elec. outlet
elec. rock w/2 post
elec. box & pvc pipe
power pole
w/light and trans.
4" tree (med./2)
10" stump (2)
no parking sign
5" c. myrtle (2)
10" stump
10" cypress (med.)
conc. drwy.
2'd bush
30" c. myrtle
30" c. myrtle
bush row
2'd dead bush (2)
light pole w/base
electrical pedestal
2'd bush
4'd bush
irrigation control valve (2)
irrigation valve (2)
24" c. myrtle
bush row

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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Approved for AT&T Texas/SWBT underground conduit facilities only. Date
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RS&H, Inc.
Texas Registered Engineering Firm F-3401

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

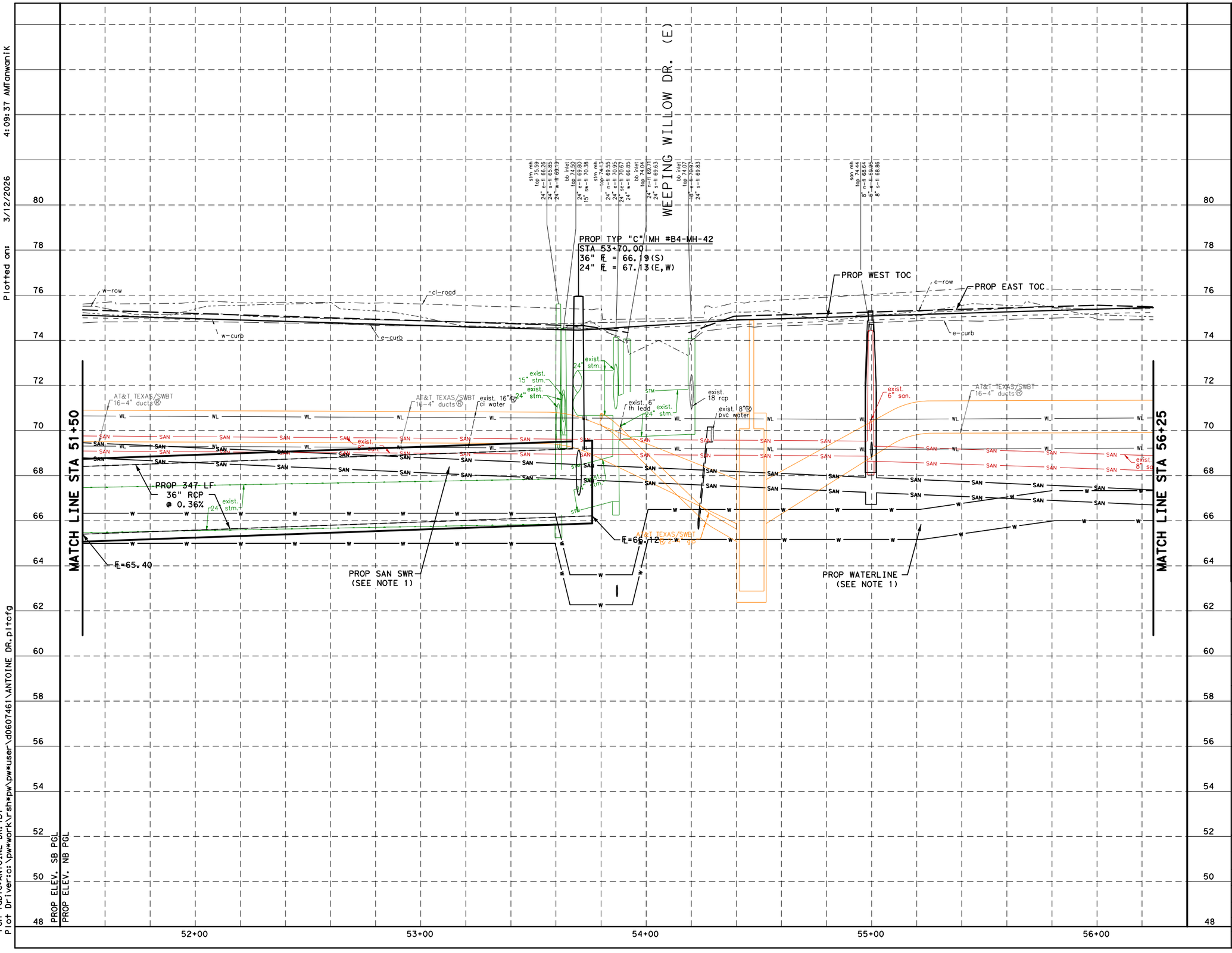
ANTOINE DRIVE

DRAINAGE PLAN
STA 51+50.00 TO STA 56+25.00

SHEET 23 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 416 OF 1067	

Plotted on: 3/12/2026 4:09:37 AM fanwanik



NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 51+50.00 TO STA 56+25.00

SHEET 24 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 417 OF 1067	

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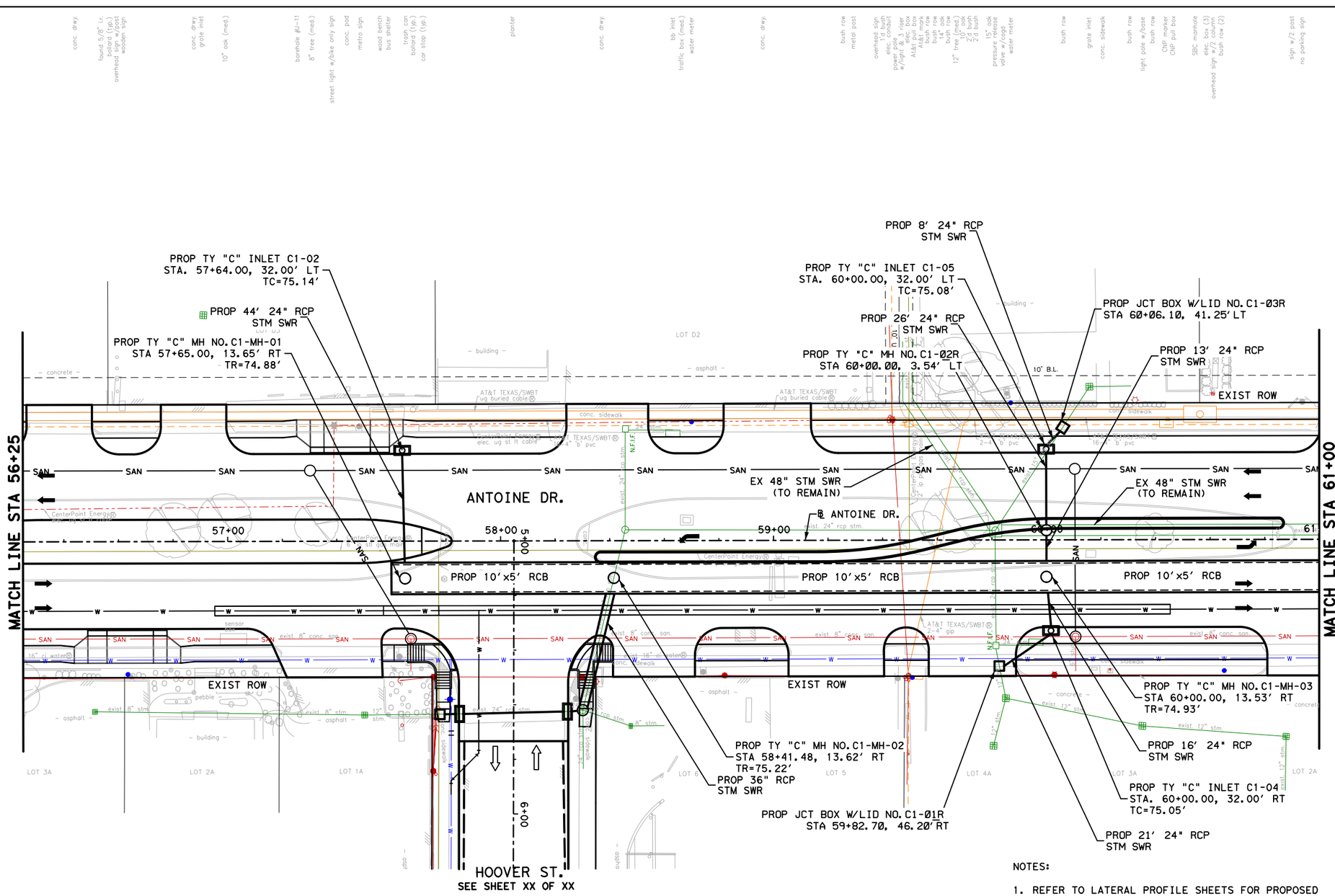

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 56+25 TO STA 61+00

SHEET 25 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 418 OF 1067	

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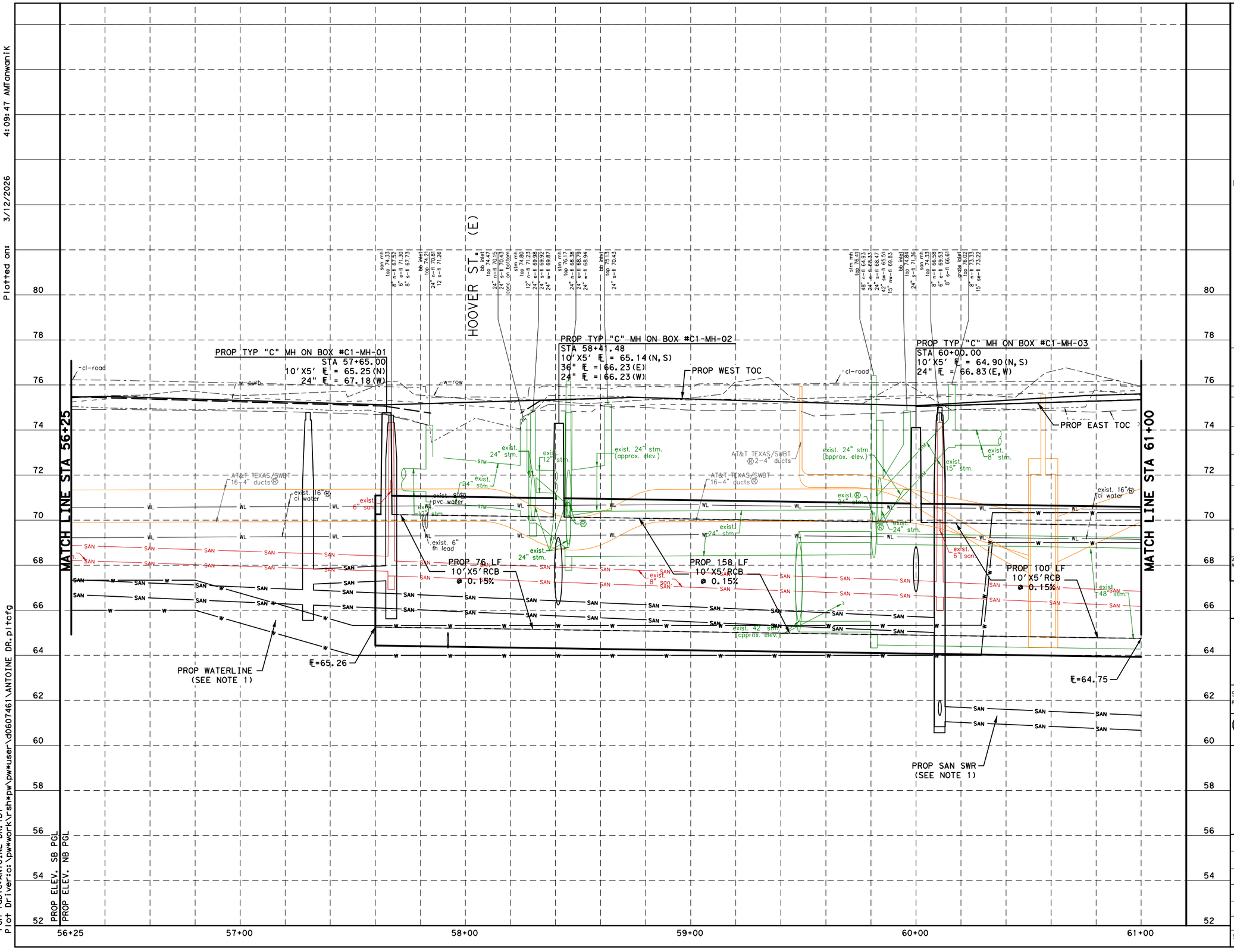

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 56+25.00 TO STA 61+00.00

SHEET 26 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 419 OF 1067	

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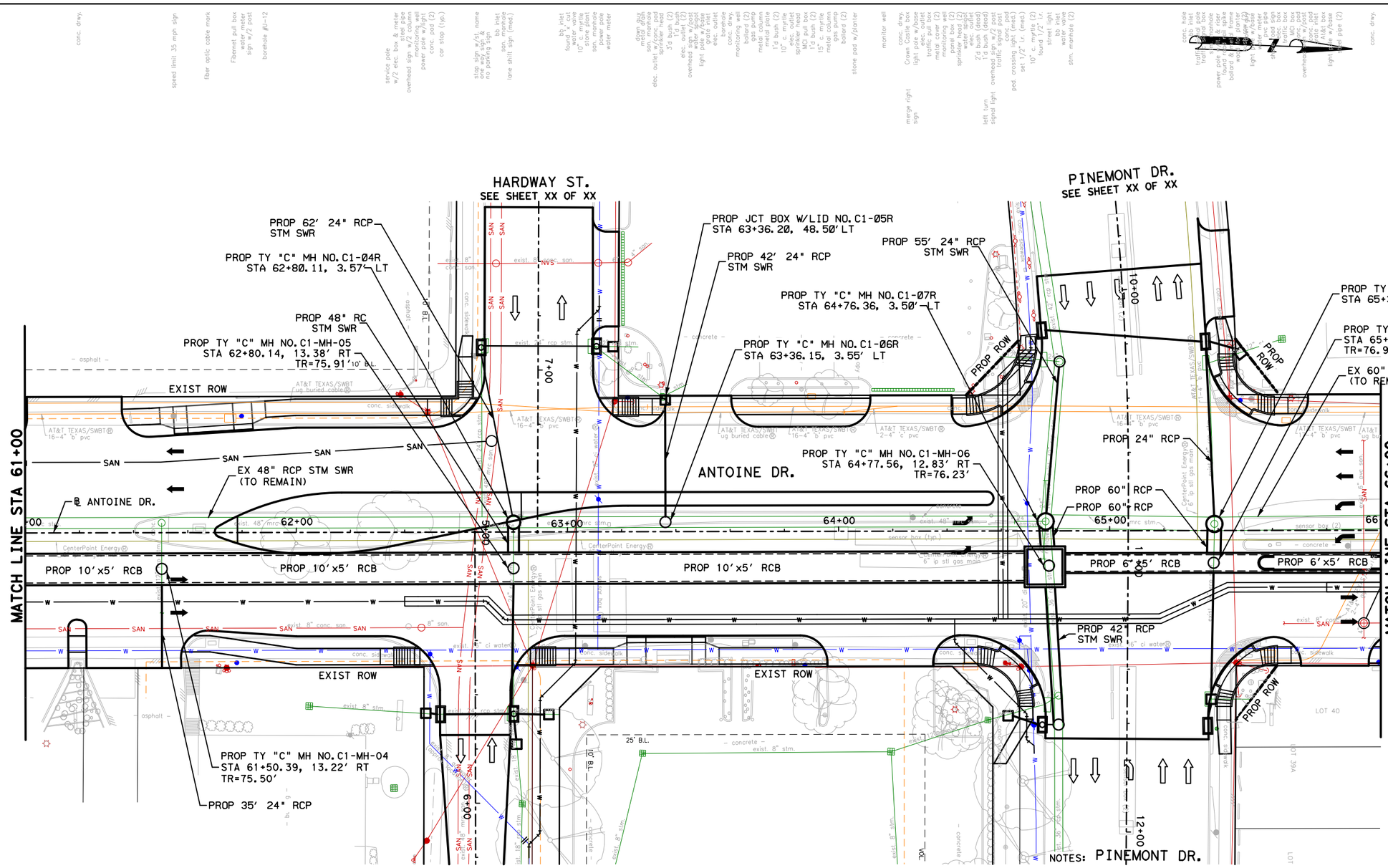

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTES:

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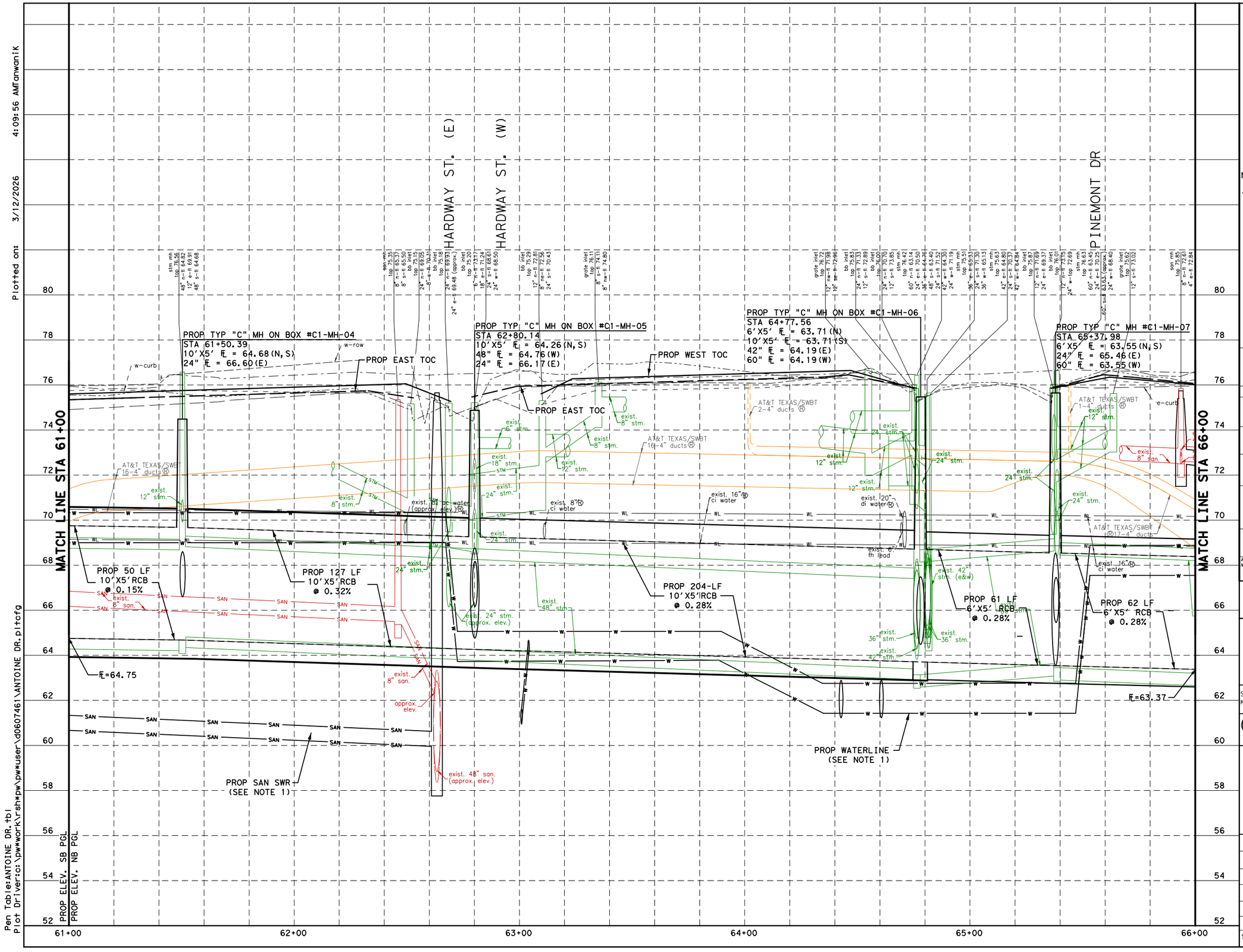
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 61+00.00 TO STA 66+00.00

SHEET 27 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 420 OF 1067	



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VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 61+00.00 TO STA 66+00.00

SHEET 28 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 421 OF 1067	

Plotted on: 3/12/2026 4:09:56 AM anwanik

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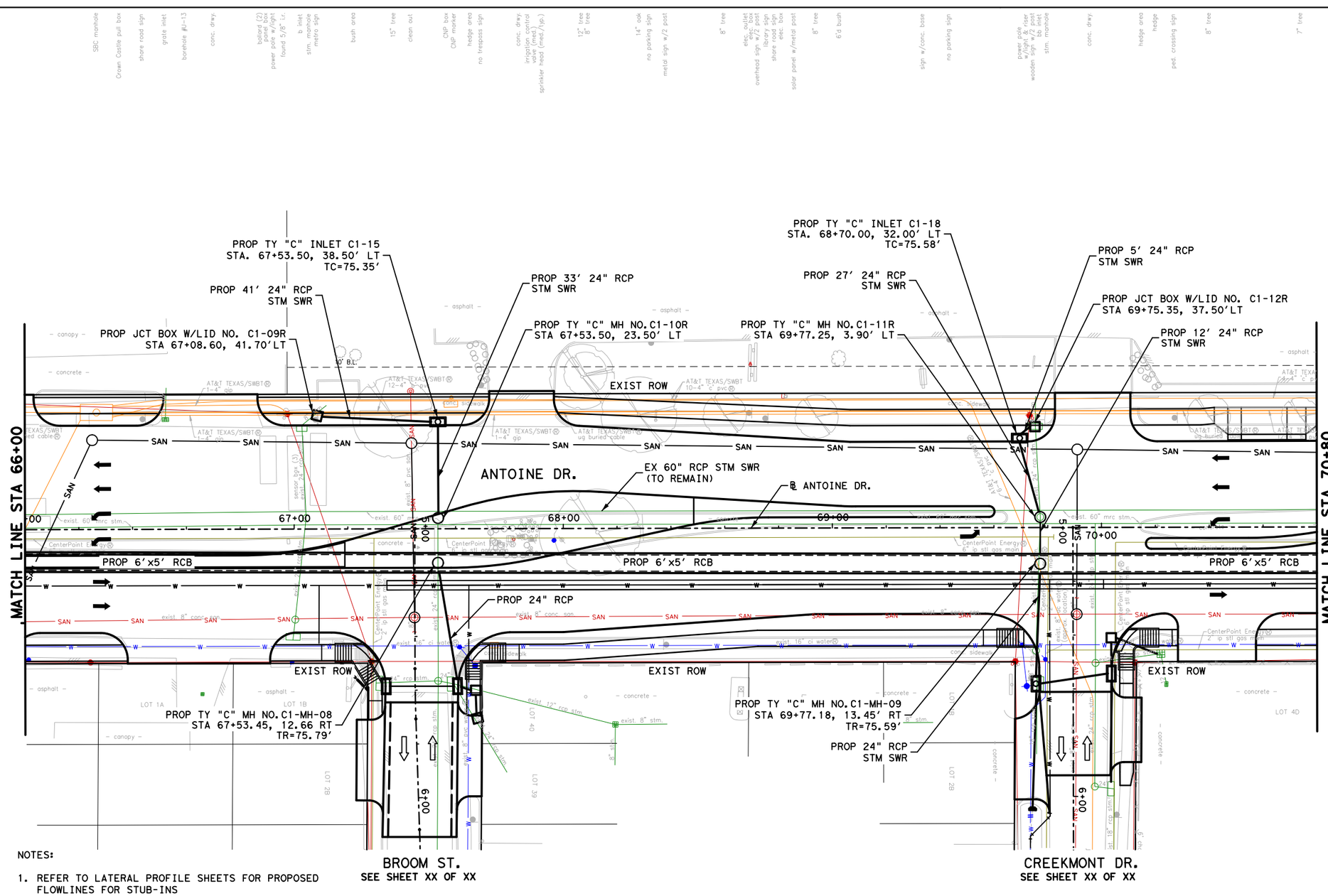

LEGEND:

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- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

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Texas Registered Engineering Firm F-3401

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 66+00.00 TO STA 70+80.00

SHEET 29 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 422 OF 1067	

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Plotted on: 3/12/2026 4:10:06 AM anwanik
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MATCH LINE STA 66+00

MATCH LINE STA 70+80

BROOM ST. (E)

CREEKMONT DR. (E)

PROP TYP "C" MH #C1-MH-08
STA 67+53.32
6'X5' FL = 62.98(N,S)
24" FL = 64.91(E)

PROP TYP "C" MH #C1-MH-09
STA 69+77.18
6'X5' FL = 62.57(N,S)
24" FL = 64.49(E,W)

PROP EAST TOC

PROP WEST TOC

PROP SAN SWR
(SEE NOTE 1)

PROP WATERLINE
(SEE NOTE 1)

PROP 153 LF
6'X5' RCB
@ 0.28%

PROP 224 LF
6'X5' RCB
@ 0.18%

PROP 103 LF
6'X5' RCB
@ 0.15%

FL=63.37

FL=62.41

w-row

cl-road

e-row

w-curb

AT&T TEXAS/SWBT 4" grp

AT&T TEXAS/SWBT 10-4" ducts

AT&T TEXAS/SWBT 12-4" ducts

AT&T TEXAS/SWBT 4-4" ducts

AT&T TEXAS/SWBT 6-4" ducts

PROP ELEV. SB PGL

PROP ELEV. NB PGL

66+00 67+00 68+00 69+00 70+00

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HORZ 0' 20' 40'
VERT 0' 2' 4'
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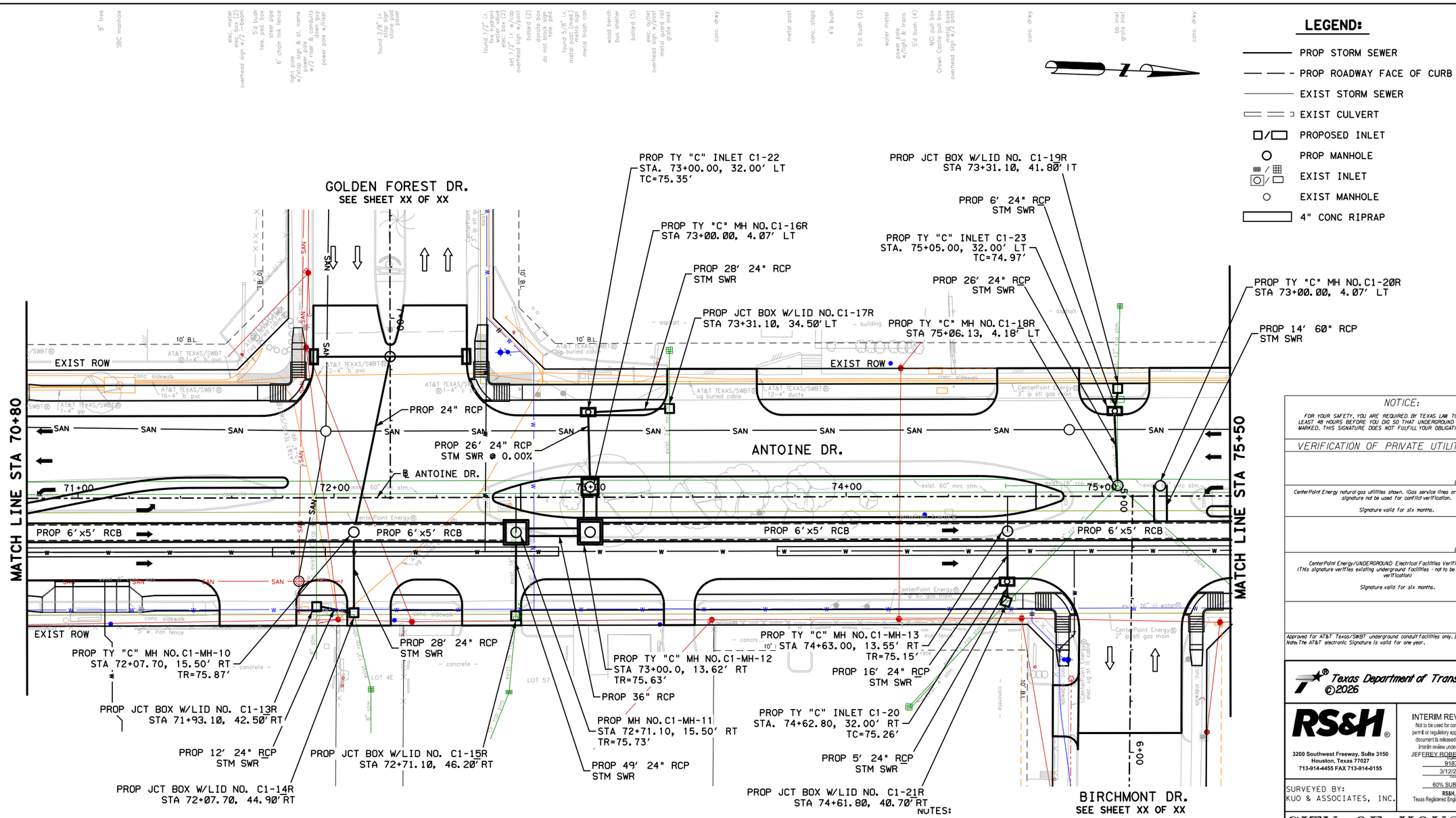
ANTOINE DRIVE

DRAINAGE PROFILE
STA 66+00.00 TO STA 70+80.00

SHEET 30 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 423 OF 1067	



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED
5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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3200 Southwest Freeway, Suite 3150
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713-914-4455 FAX 713-914-0155

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JEFFEREY ROBERT LEUGERS
91874
3/12/2026
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RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 70+80.00 TO STA 75+50.00

SHEET 31 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 424 OF 1067	

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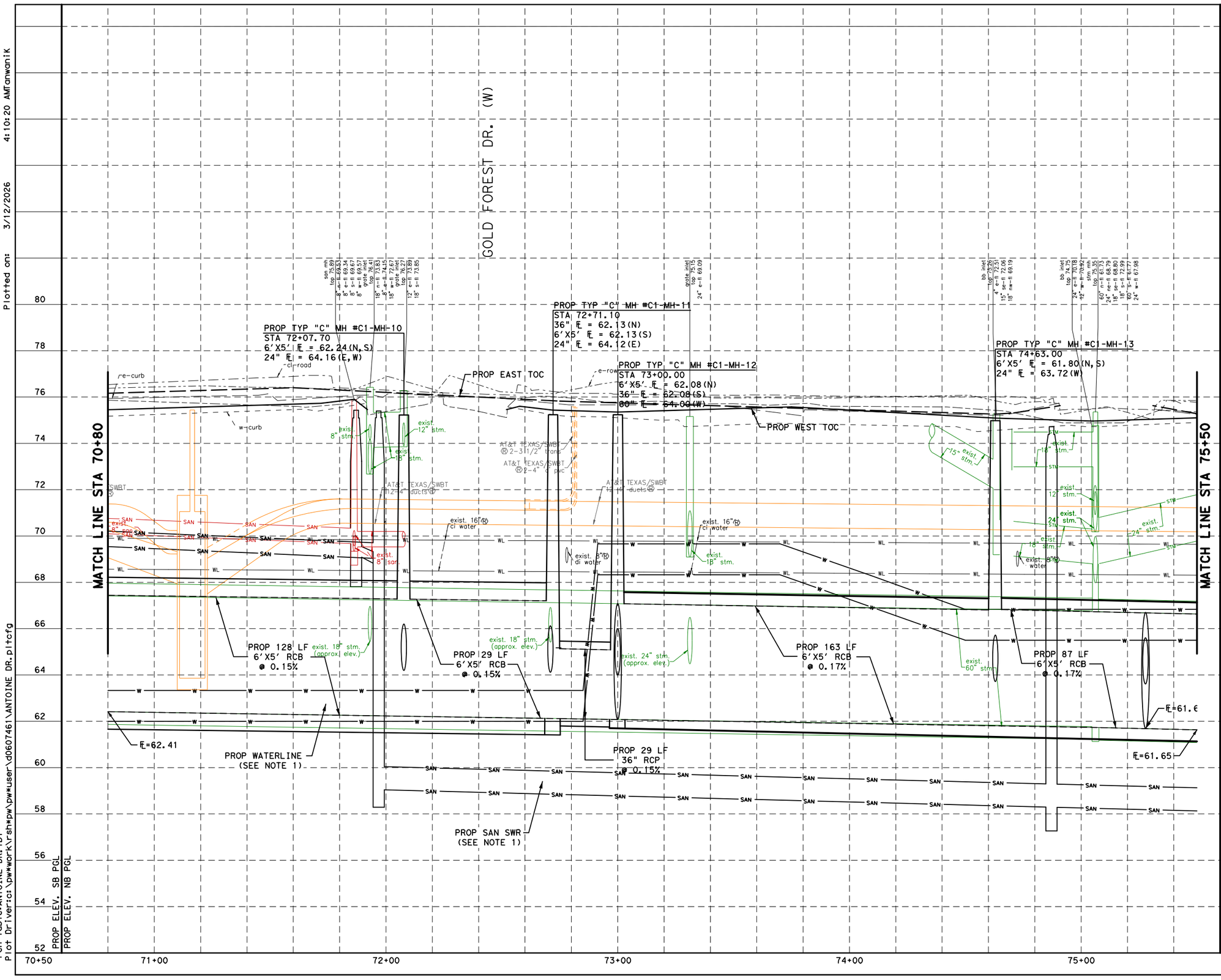

NOTES:

1. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 70+50.00 TO STA 75+50.00

SHEET 32 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHE 425 OF 1067	

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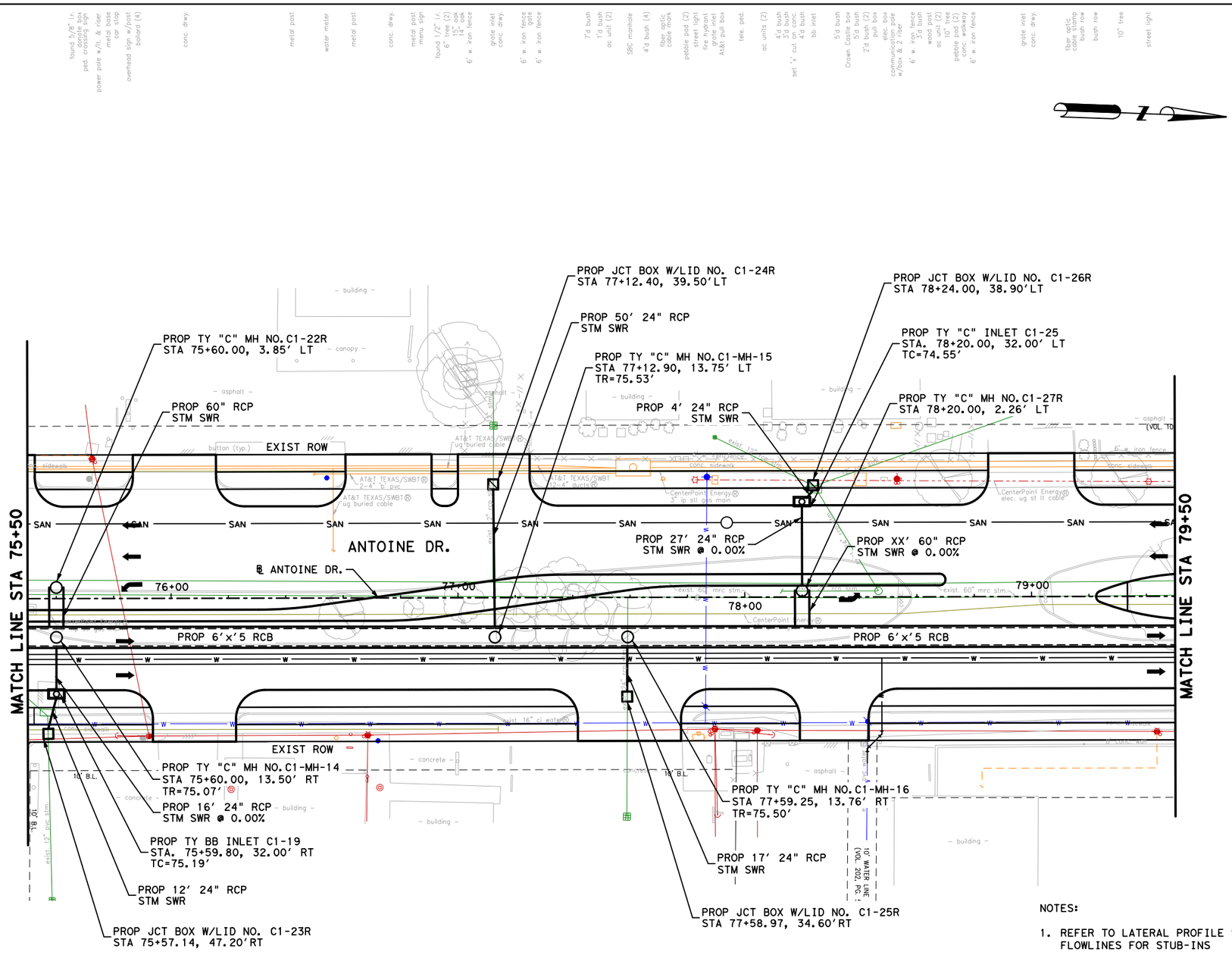

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 75+50.00 TO STA 79+50.00

SHEET 33 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 426 OF 1067	

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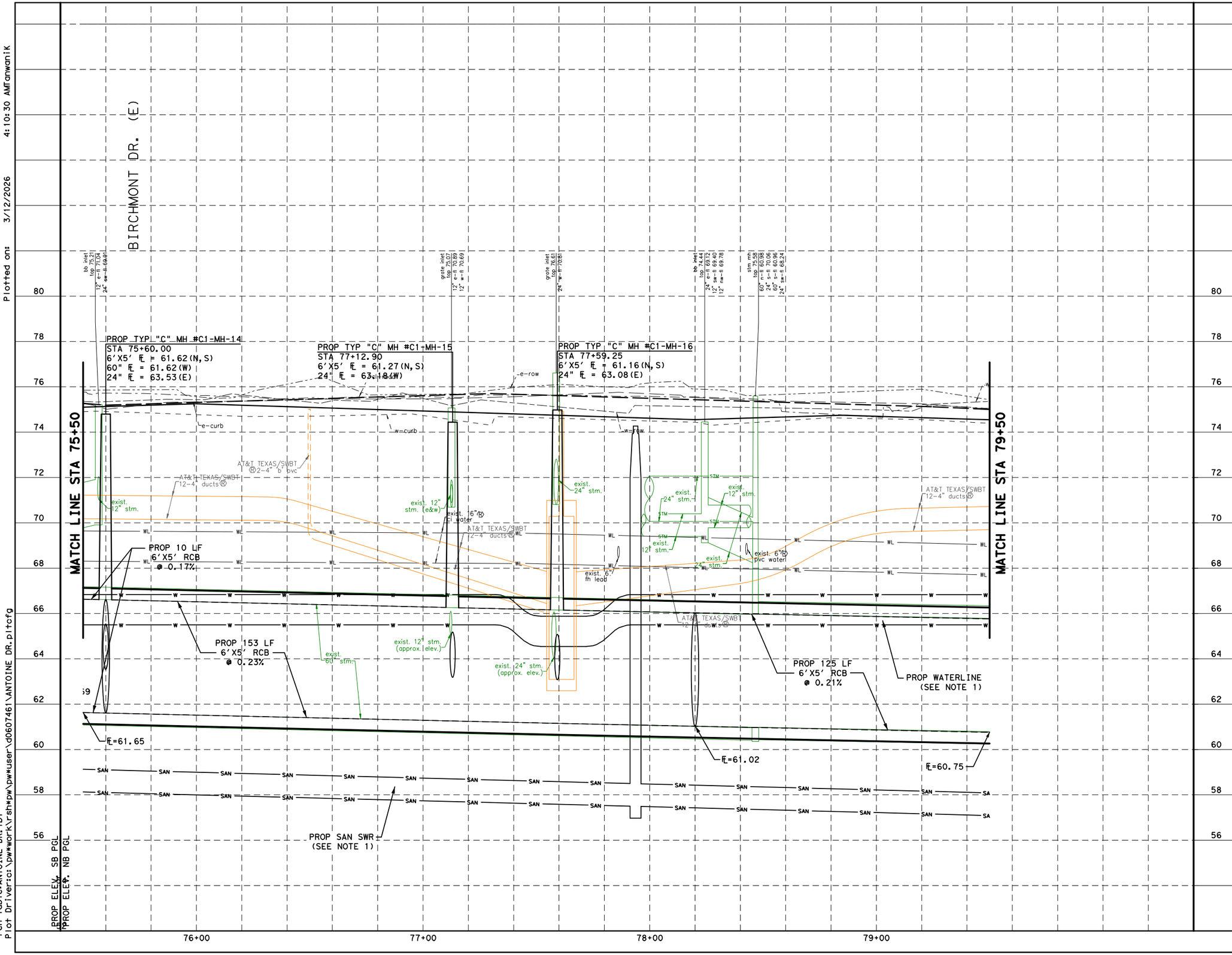

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VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 75+50.00 TO STA 79+50.00

SHEET 34 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 388 OF 427	

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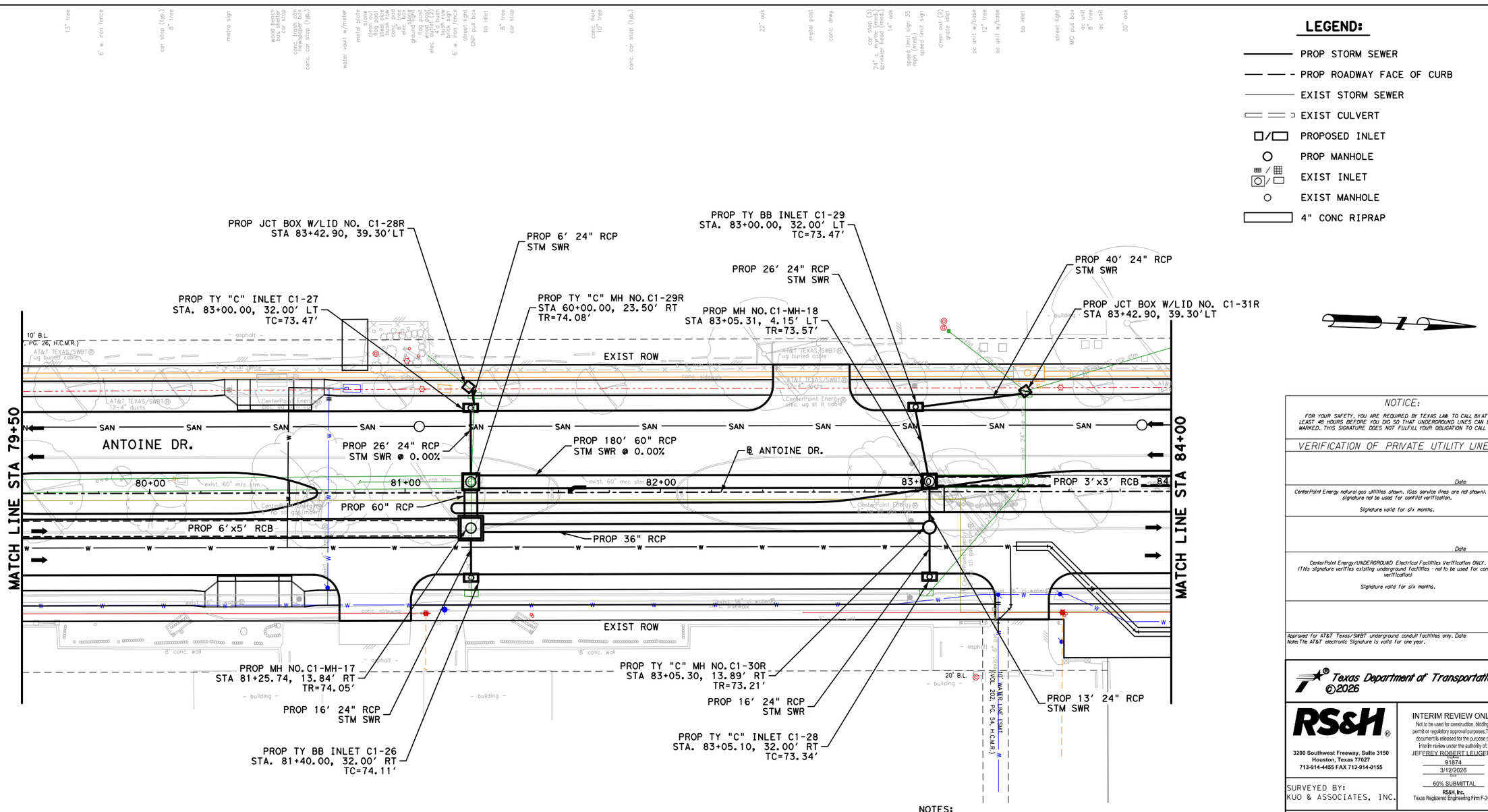

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTES:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

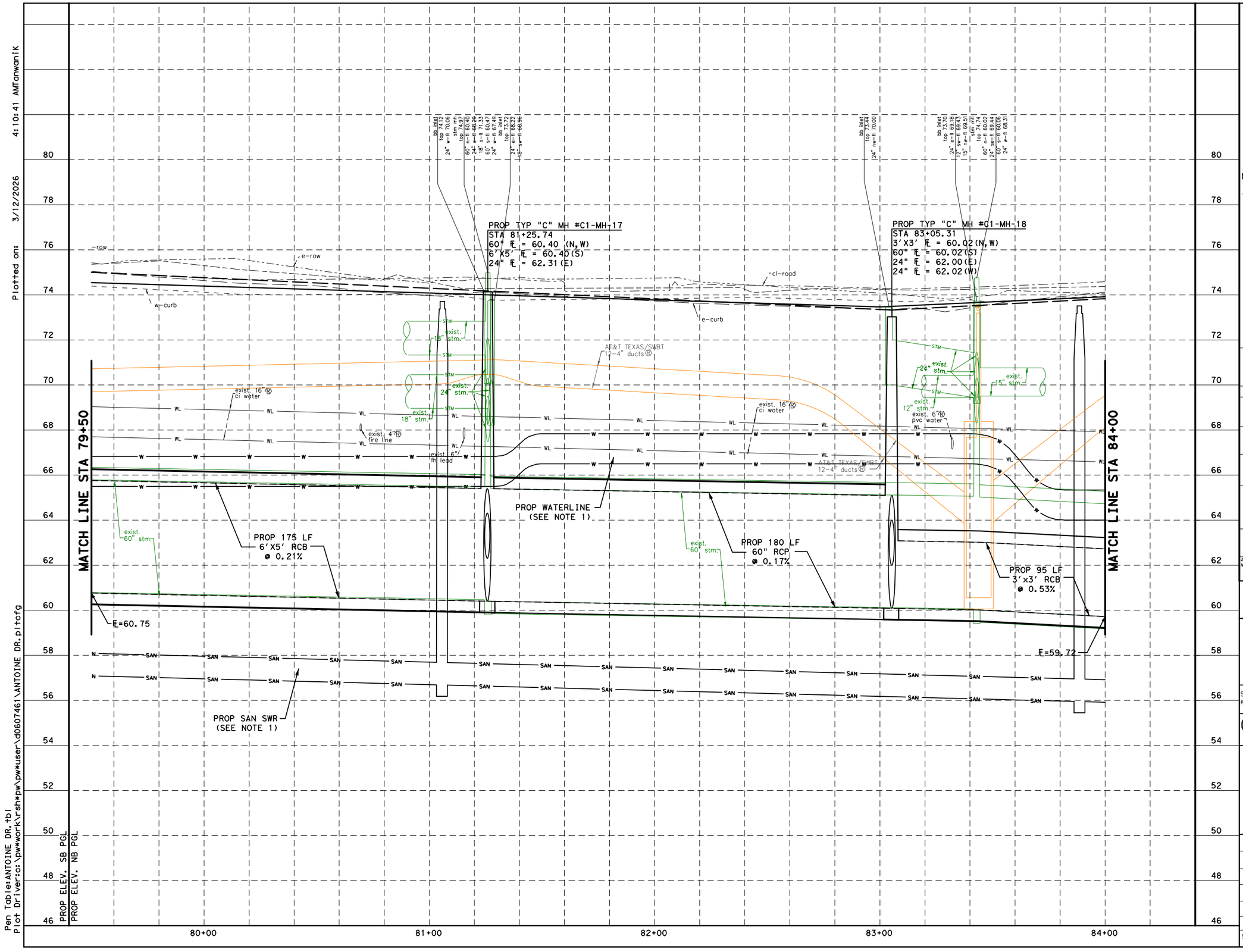
ANTOINE DRIVE

DRAINAGE PLAN
STA 79+50.00 TO STA 84+00.00

SHEET 35 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 428 OF 1067	

Plotted on: 3/12/2026 4:10:41 AM anwanik



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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 79+50.00 TO STA 84+00.00

SHEET 36 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 429 OF 1067	

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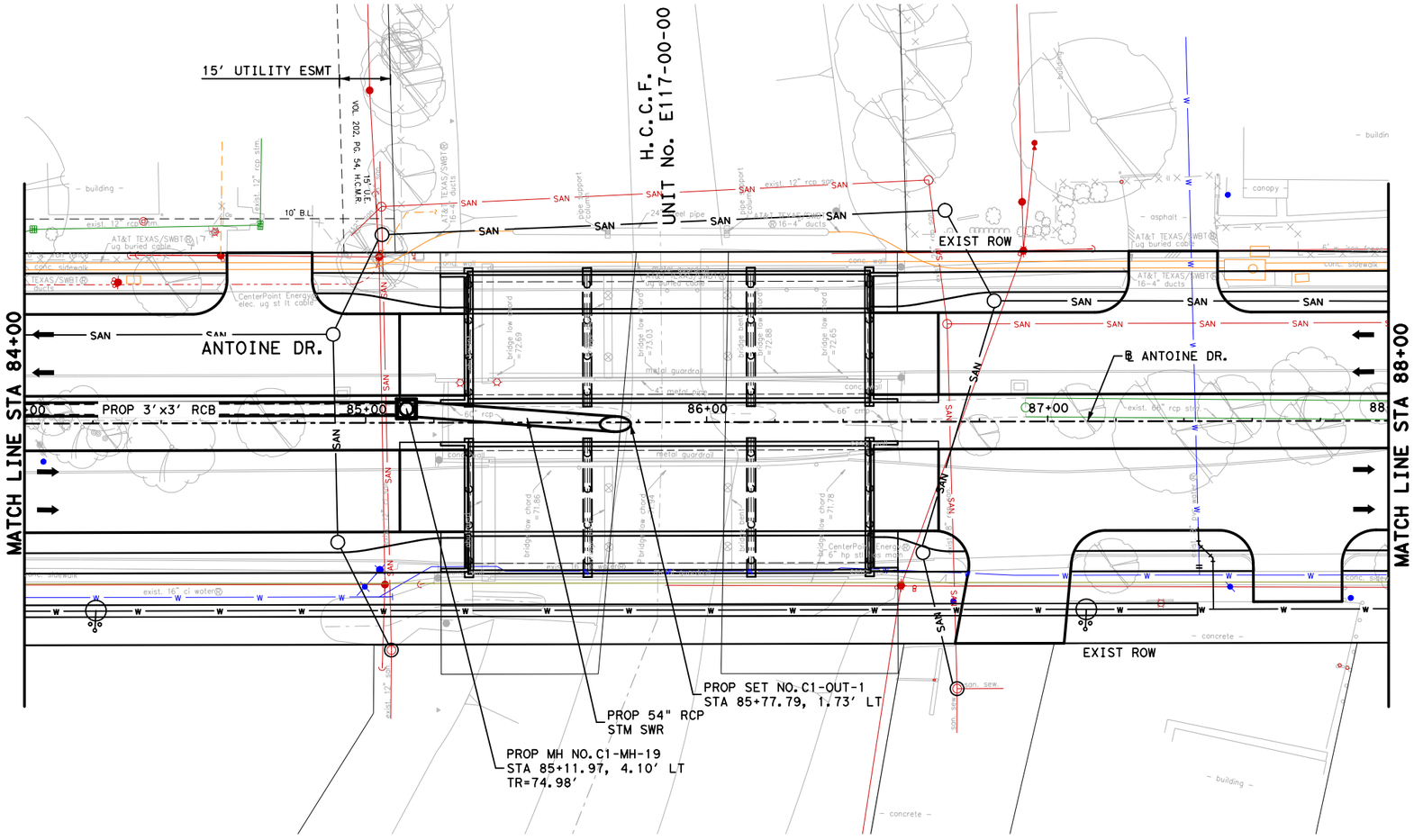

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LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

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Texas Registered Engineering Firm F-3401

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 84+00.00 TO STA 88+00.00

SHEET 37 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 430 OF 1067	

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PROP TYP "C" MH #C1-MH-19
STA 85+11.97
54" F = 59.15 (N)
3'X3' F = 59.15 (S)

WSEL 500 YR
EL=76.65

WSEL 100 YR
EL=74.96

PROP EAST & WEST TOC

MATCH LINE STA 84+00

MATCH LINE STA 88+00

H.C.C.F. UNIT # E117-00-00

PROP 112 LF
3'x3' RCB
@ 0.53%

PROP 66 LF
54" RCP
@ 0.53%

F=59.72

60" F = 58.82

PROP SAN SWR
(SEE NOTE 1)

PROP WATERLINE
(SEE NOTE 1)

PROP ELEV. SB PGL
PROP ELEV. NB PGL

84+00 85+00 86+00 87+00 88+00

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
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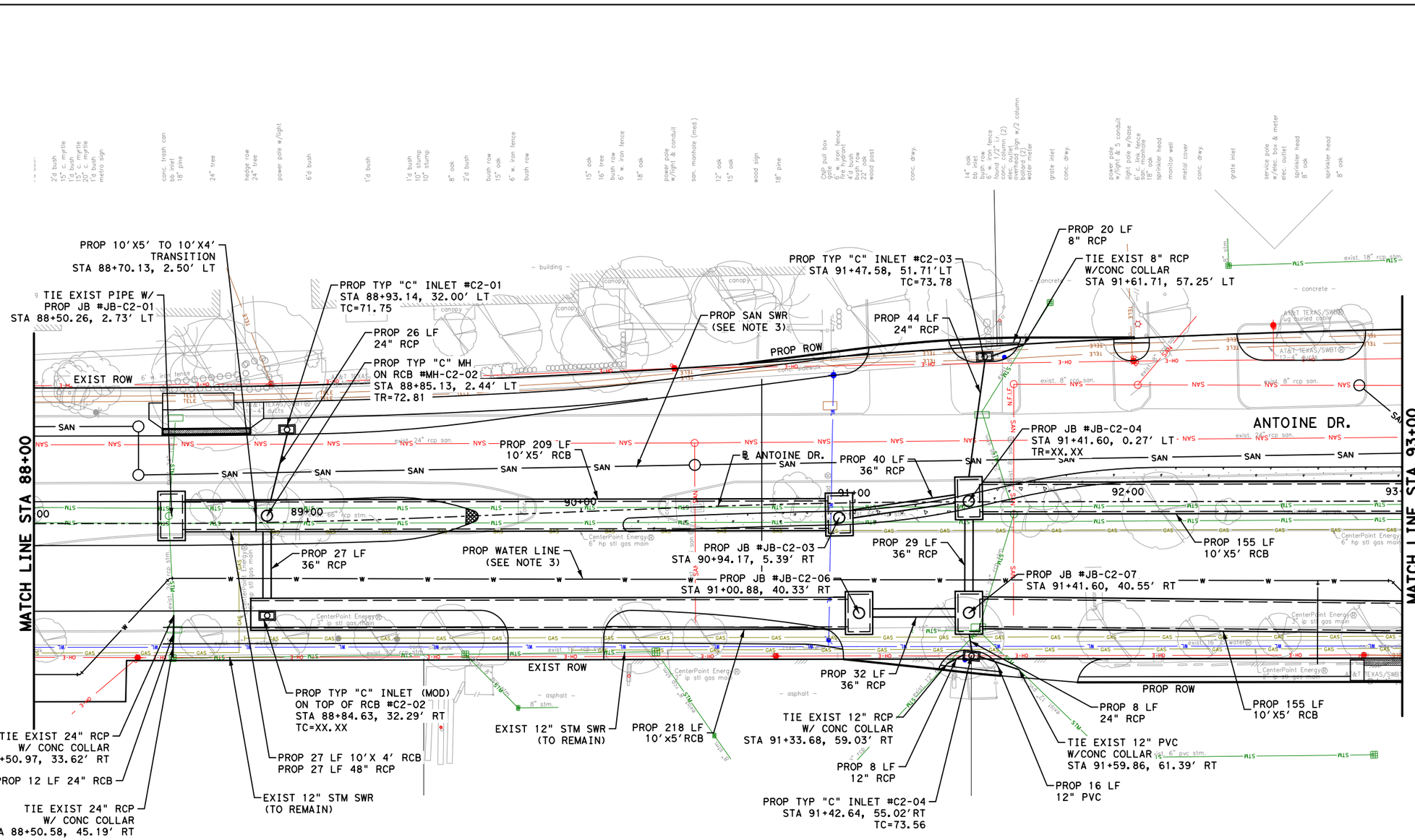
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 84+00.00 TO STA 88+00.00

SHEET 38 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 431 OF 1067	



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No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KUO & ASSOCIATES, INC.

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92917
3/20/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 88+00.00 TO STA 93+00.00

SHEET 39 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 432 of 1067	

Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:24:58 PM@USER$
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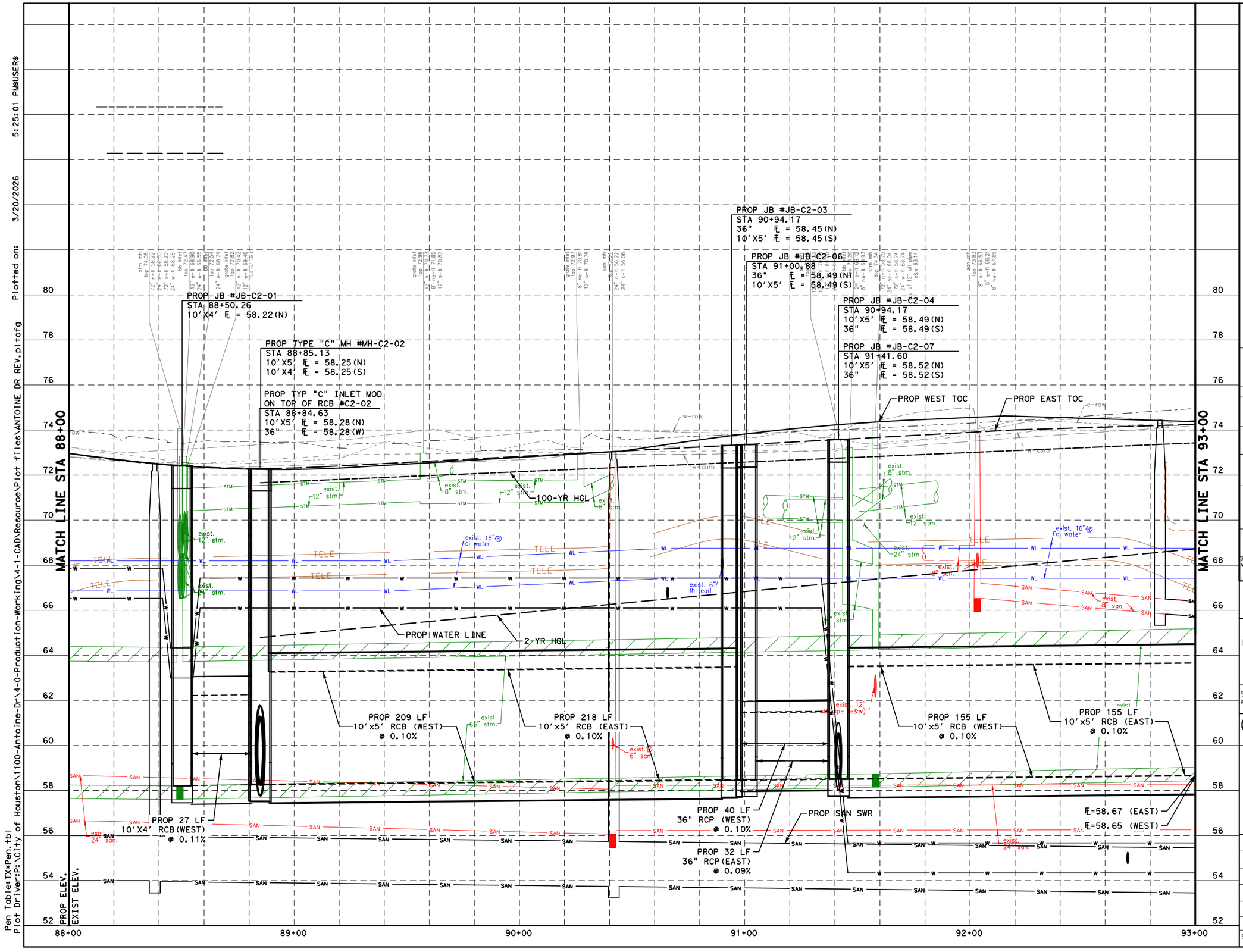

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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Approved for AT&T Texas/SWBT underground conduit facilities only. Date
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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 88+00.00 TO STA 93+00.00

SHEET 40 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 433 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 40.dgn

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TIE EXIST 18" RCP
W/CONC COLLAR
STA 93+42.94, 83.06' LT

PROP 8 LF 18" RCP

PROP TYP "C" INLET #C2-05
STA 93+53.38, 81.13'LT
TC=XX.XX

PROP WATER LINE
(SEE NOTE 3)

PROP TYP "C" INLET #C2-06
STA 94+31.89, 89.59' LT
TC=XX.XX

PROP 11 LF 12" RCP

TIE EXIST 12" RCP
W/CONC COLLAR
STA 94+42.18, 82.64' LT

PROP 32 LF 24" RCP

PROP TYP "PBM" MH (4'X5')#XX-XX
STA 94+40.58, 56.37' LT
TR=XX.XX

PROP TYP "BB" INLET #XX-XX
STA 94+59.91, 34.50' LT
TC=XX.XX

PROP 247 LF 36" RCP

TIE EXIST 24" RCP
W/CONC COLLAR
STA 96+85.86, 65.10' LT

PROP 7 LF 24" RCP

PROP TYP "C" INLET #C2-07
STA 96+90.00, 54.44' LT
TC=75.76

PROP 72 LF
24" RCP

PROP TYP "C" MH
ON RCB #C2-02
STA 93+44.68, 1.33' LT
TR=74.49

PROP 99 LF
10'X 5' RCB

PROP 49 LF
48" RCP

PROP 26 LF
24" RCP

PROP JB #C2-05
STA 94+49.76, 1.23' LT
TR=75.04

PROP 45 LF
10'X 5' RCB

PROP 32 LF
7'X 5' RCB

PROP TYP "AAD" INLET #XX-XX
STA 95+23.78, 42.79' RT
TC=XX.XX

PROP 68 LF
5'X 10' RCB

PROP 9 LF
24" RCP

PROP 167 LF
5'X 10' RCB

PROP TYP "C" MH
ON RCB #C2-05
STA 96+84.97, 51.79' RT
TR=75.27

PROP 3 LF 24" RCP

PROP 65 LF
5'X 10' RCB

PROP SAN SWR
(SEE NOTE 3)

PROP 145 LF
10'X 5' RCB

PROP JB #C2-08
STA 94+50.00, 49.98' RT
TR=73.99

PROP TYP "C" MH
ON RCB #XX-XX
STA 95+17.56, 53.78' RT
TR=XX.XX

PROP TYP "C" INLET #C2-08
STA 96+85.00, 55.07' RT
TC=75.22

EXIST 24" RCP

W TIDWELL RD.

ANTOINE DR.

℄ ANTOINE DR.

EXIST ROW

PROP ROW

MATCH LINE STA 93+00

MATCH LINE STA 97+50

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

0' 20' 40'
SCALE IN FEET

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NOTES:

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No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 93+00.00 TO STA 97+50.00

SHEET 41 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 434 OF 1067	

Pen Table:TX*Pen.tbl
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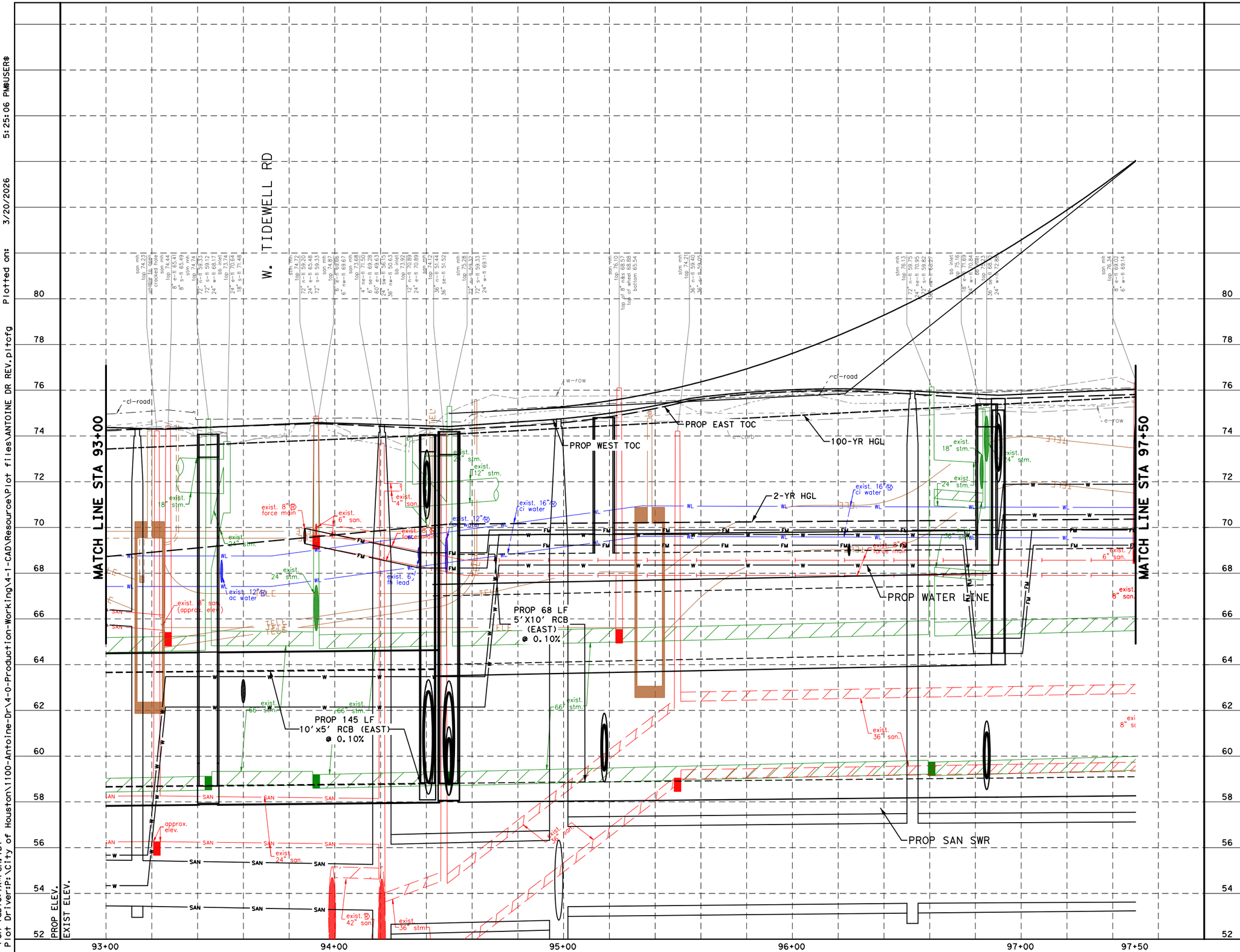

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 93+00.00 TO STA 97+50.00

SHEET 42 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 435 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 42.dgn

Pen Table: TX*Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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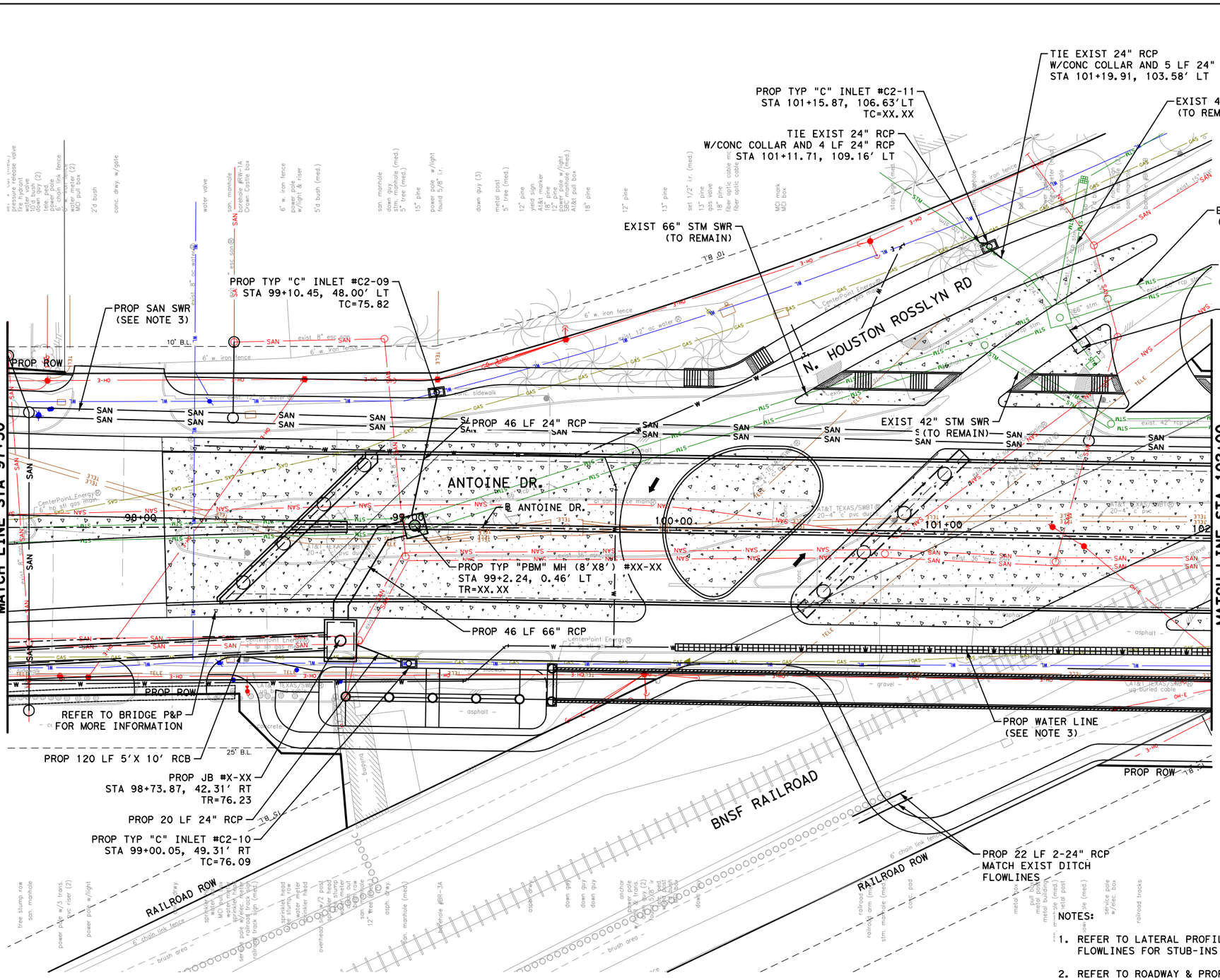

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

NOTES:

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Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 97+50.00 TO STA 102+00.00

SHEET 43 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 436 OF 1067	

Pen Table:TX*Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 43.dgn

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Pen Table:TX*Pen.tbl

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 44.dgn

MATCH LINE STA 97+50

MATCH LINE STA 102+00

N. HOUSTON-ROSSLYN DR. (W)

PROP EAST TOC

PROP WEST TOC

e-curb

cl-road

w-curb

100-YR HGL

2-YR HGL

PROP WATERLINE

PROP SAN SWR

PROP ELEV.

EXIST ELEV.

97+50 98+00 99+00 100+00 101+00 102+00

80 78 76 74 72 70 68 66 64 62 60 58 56 54 52

HORZ 0' 20' 40'

VERT 0' 2' 4'

SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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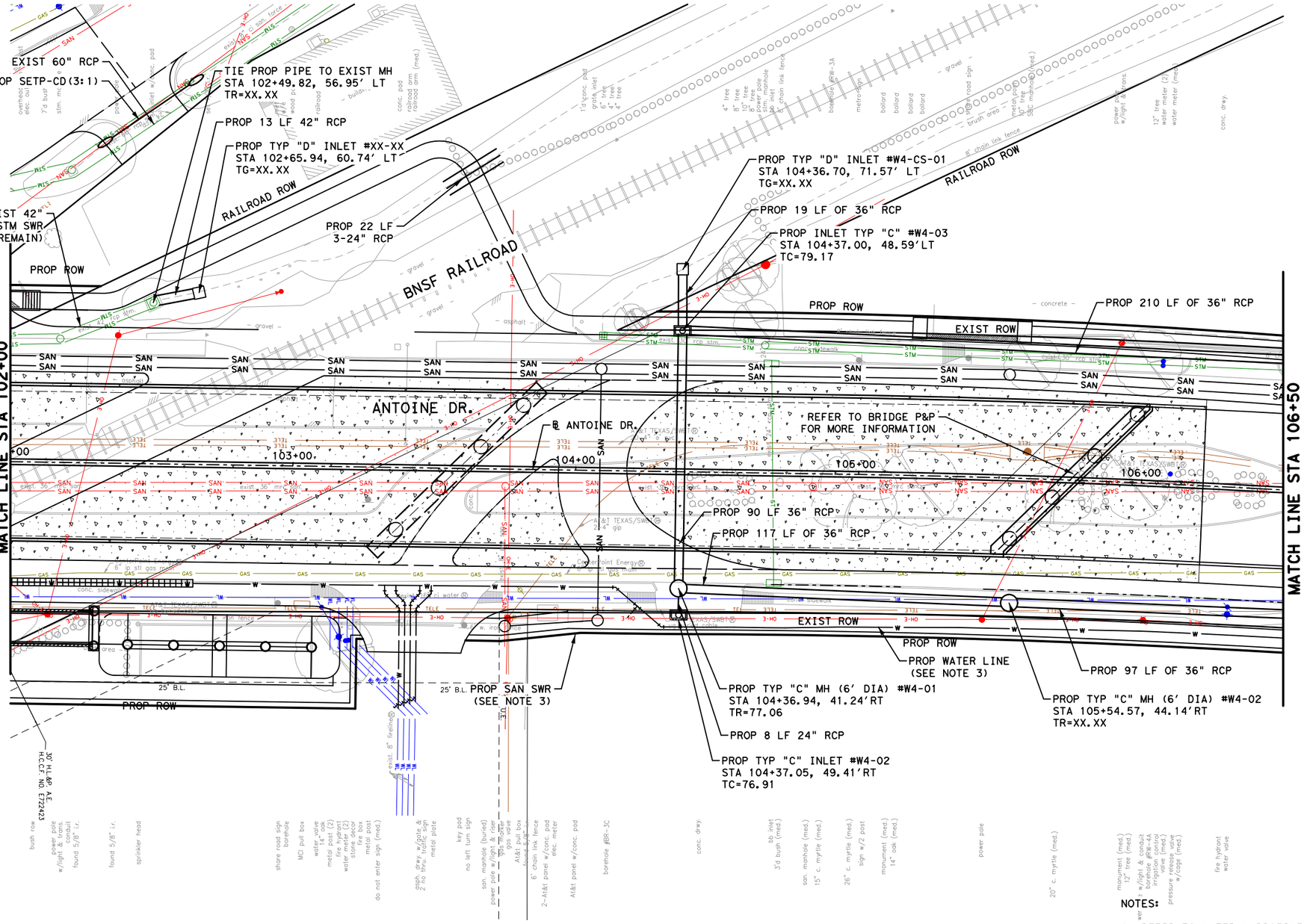
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 97+50.00 TO STA 102+00.00

SHEET 44 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 437 OF 1067	



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 102+00 TO STA 106+50

SHEET 45 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 438 OF 1067	

NOTES:

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Pen Table:TX*Pen.tbl
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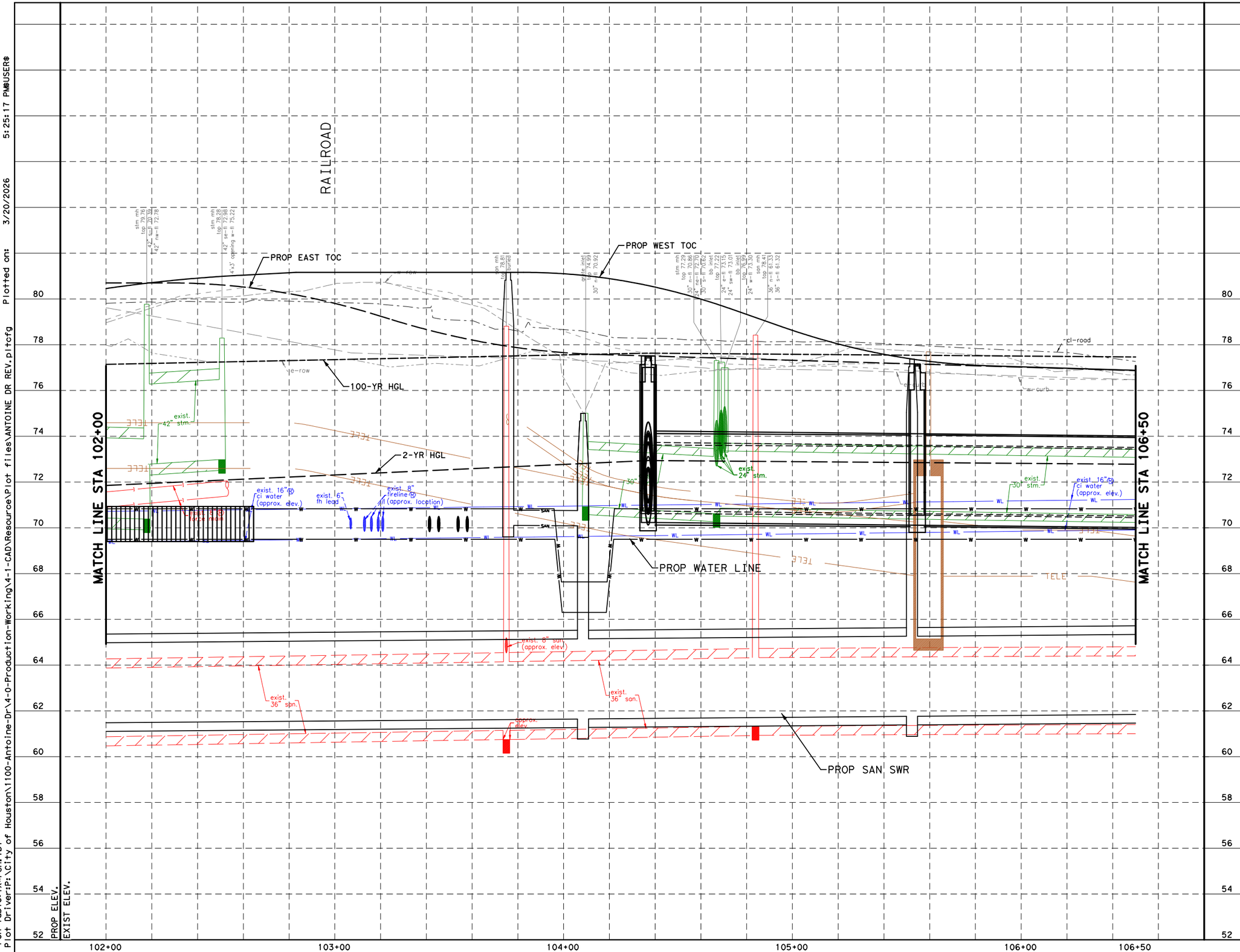
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 45.dgn



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 102+00 TO STA 106+50

SHEET 46 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 439 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 46.dgn

Pen Table:TX*Pen.tbl
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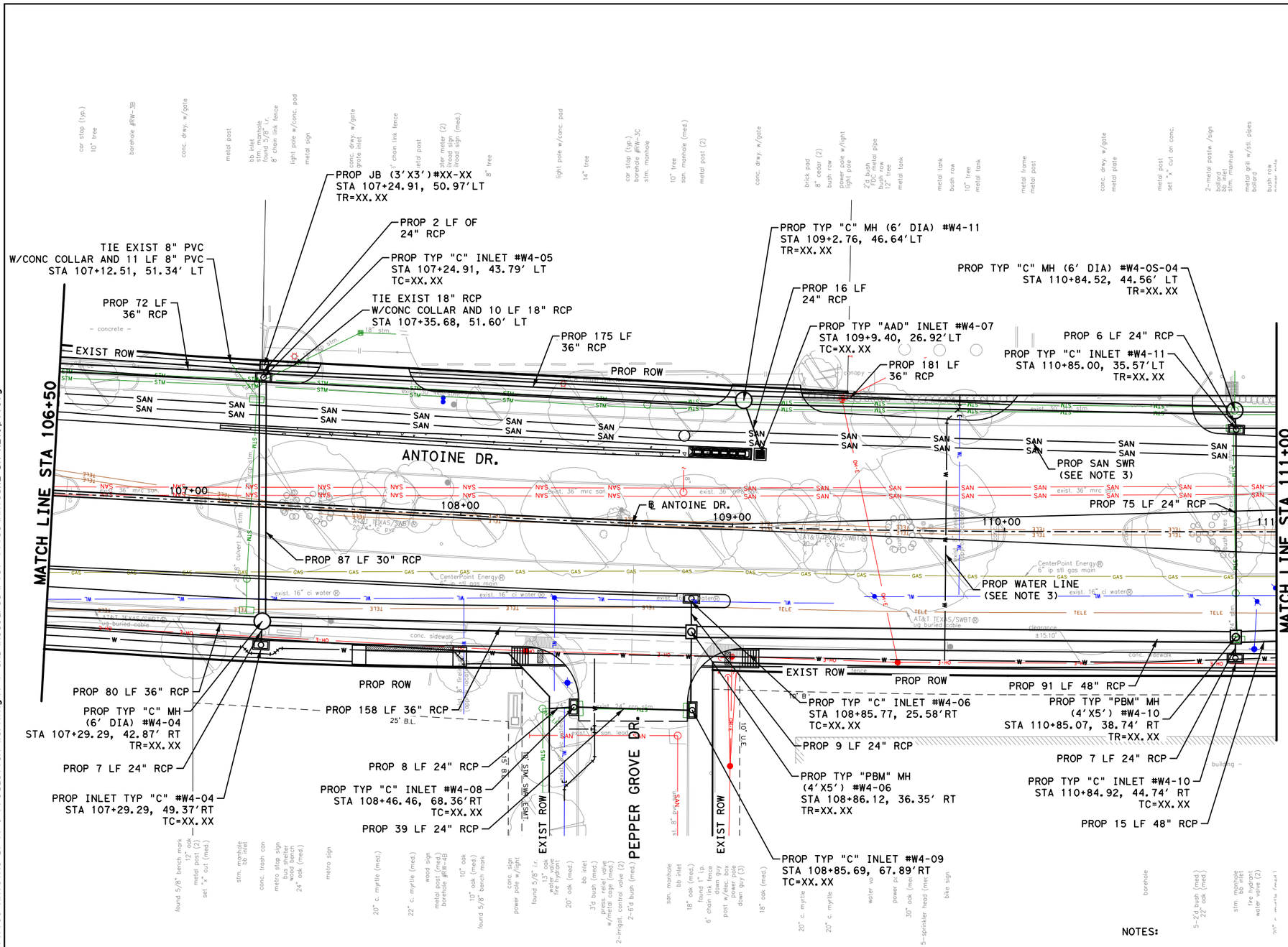
Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:25:20 PM@USER@



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LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 106+50 TO STA 111+00

SHEET 47 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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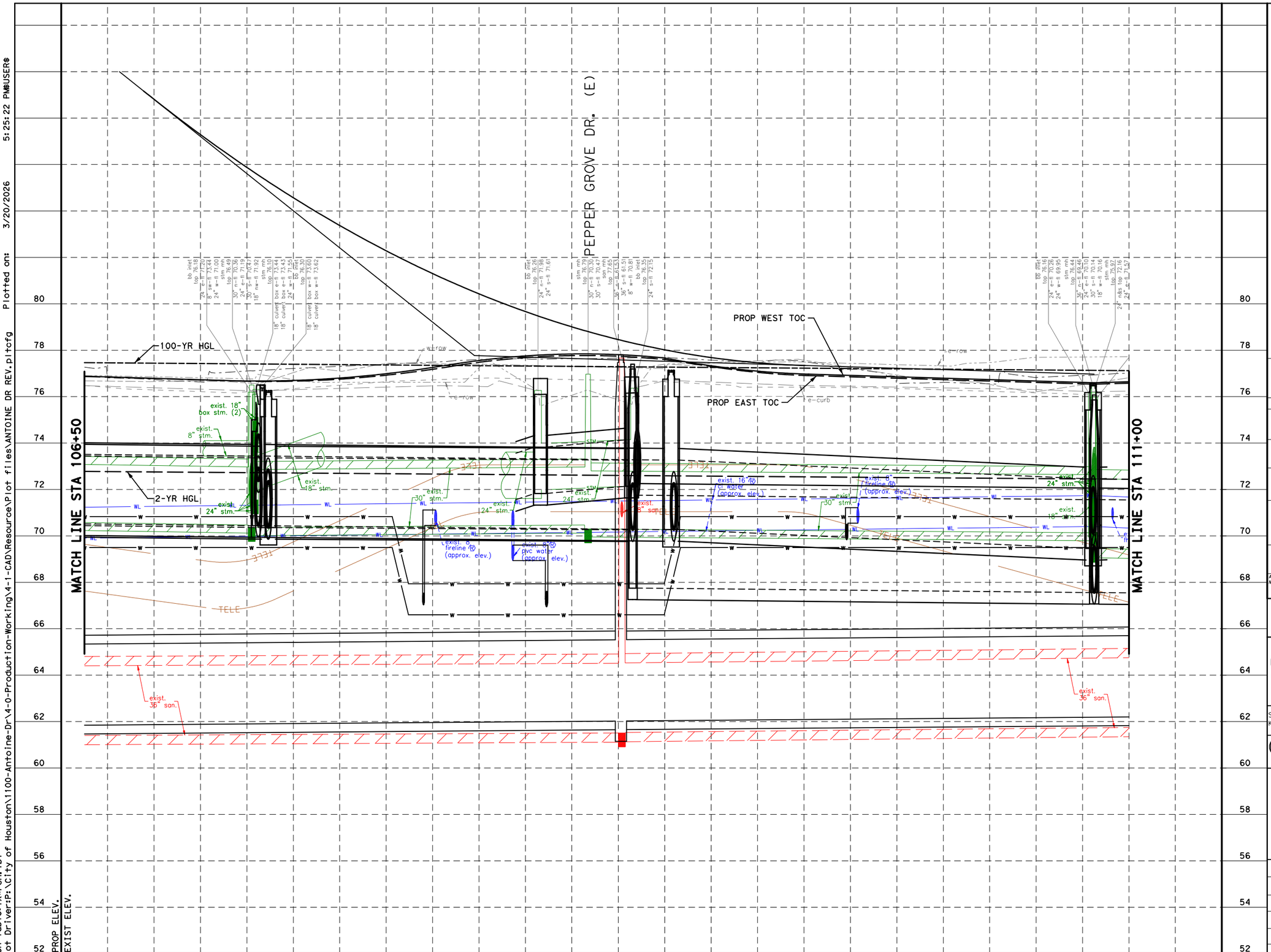
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 440 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 47.dgn



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

INTERIM REVIEW ONLY
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92917
3/20/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 106+50 TO STA 111+00

SHEET 48 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 441 OF 1067	

Pen Table:TX*Pen.tbl
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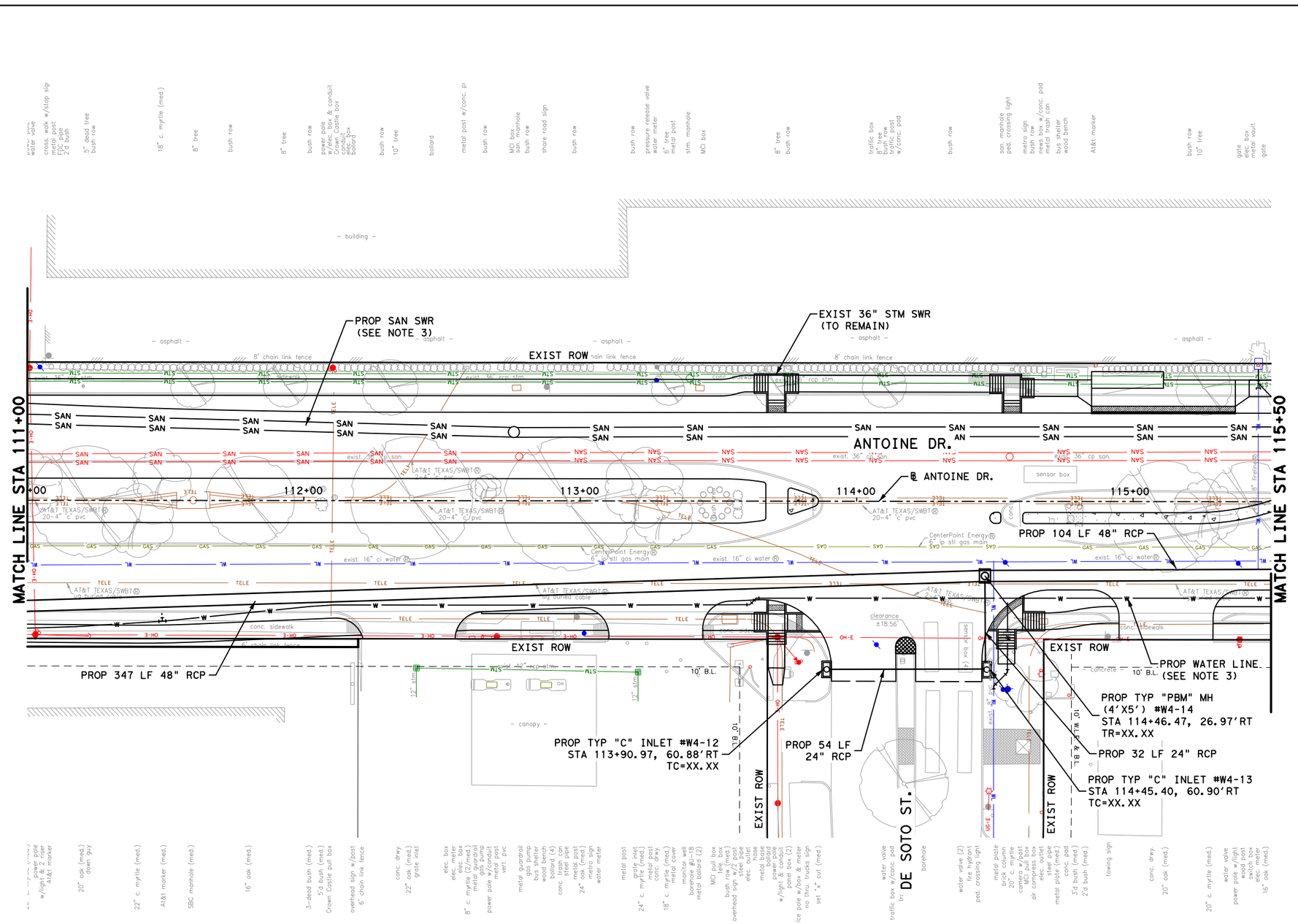
Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:25:25 PM@USER@



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

NOTICE:
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Texas Department of Transportation

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HOUSTON, TX 77079

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3/20/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 111+00 TO STA 115+50

SHEET 49 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 442 OF 1067	

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED
5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 49.dgn

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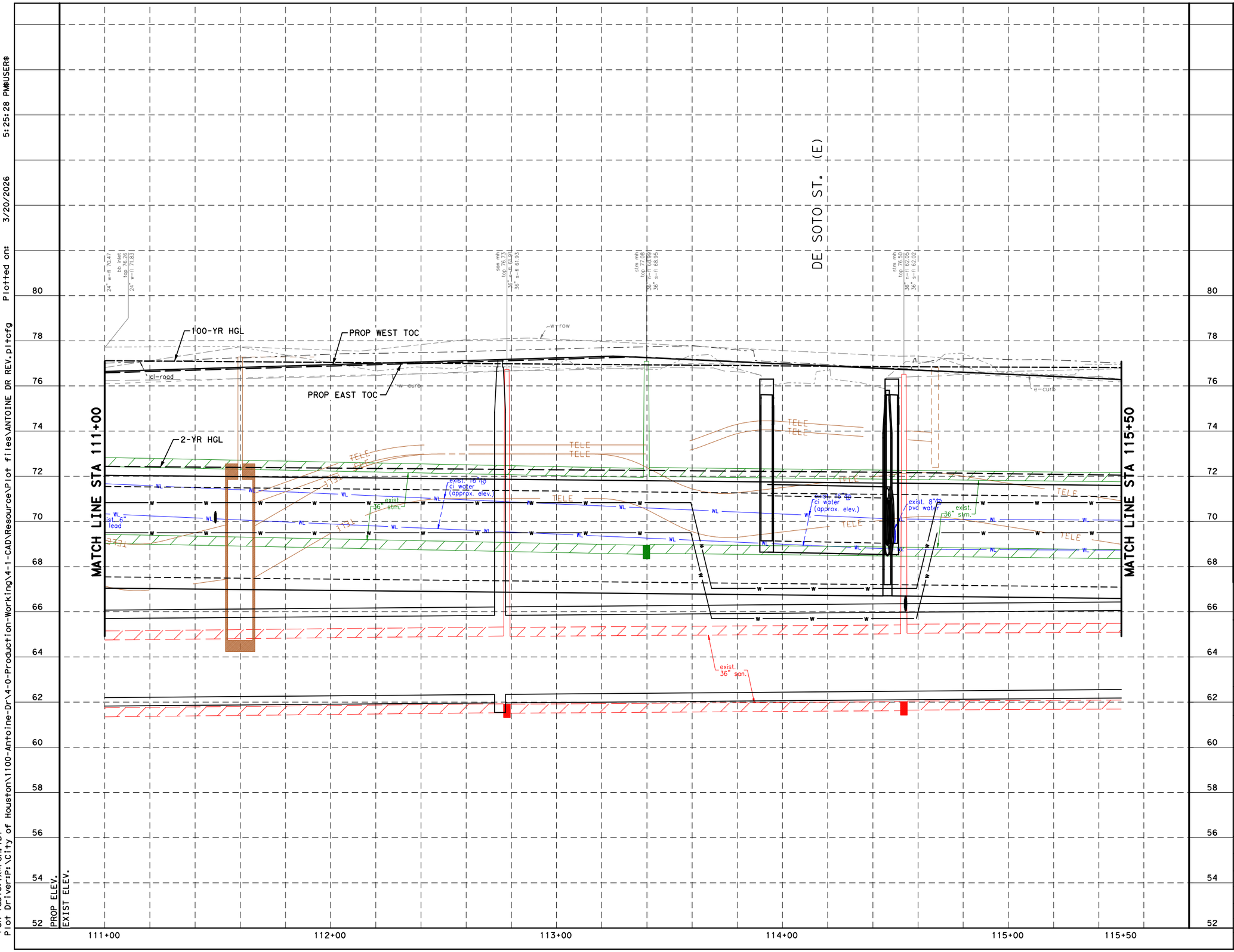

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

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Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

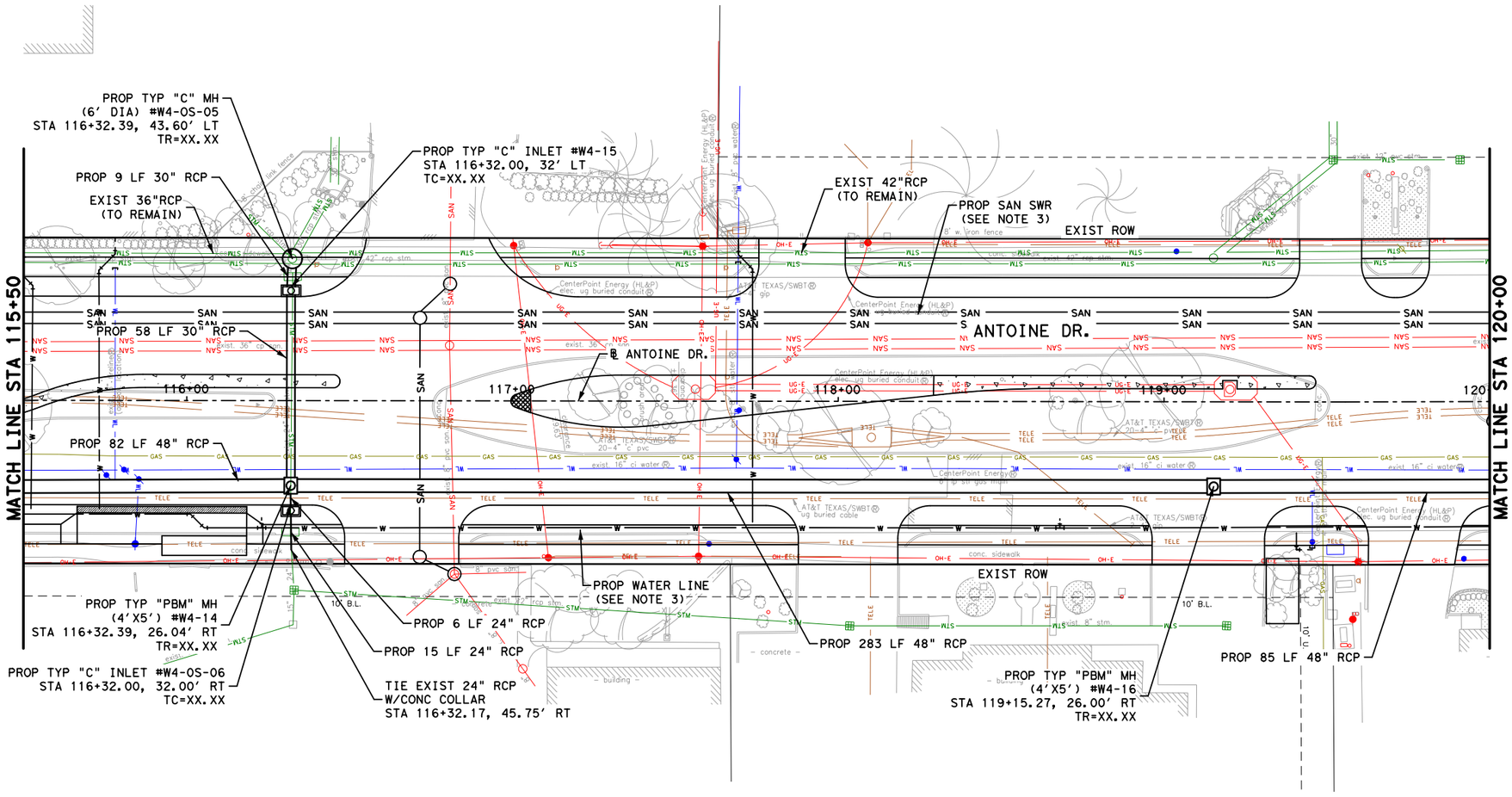
ANTOINE DRIVE

DRAINAGE PROFILE
STA 111+00 TO STA 115+50

SHEET 50 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 443 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 50.dgn



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 115+50 TO STA 120+00

SHEET 51 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 444 OF 1067	

NOTES:
1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
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5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

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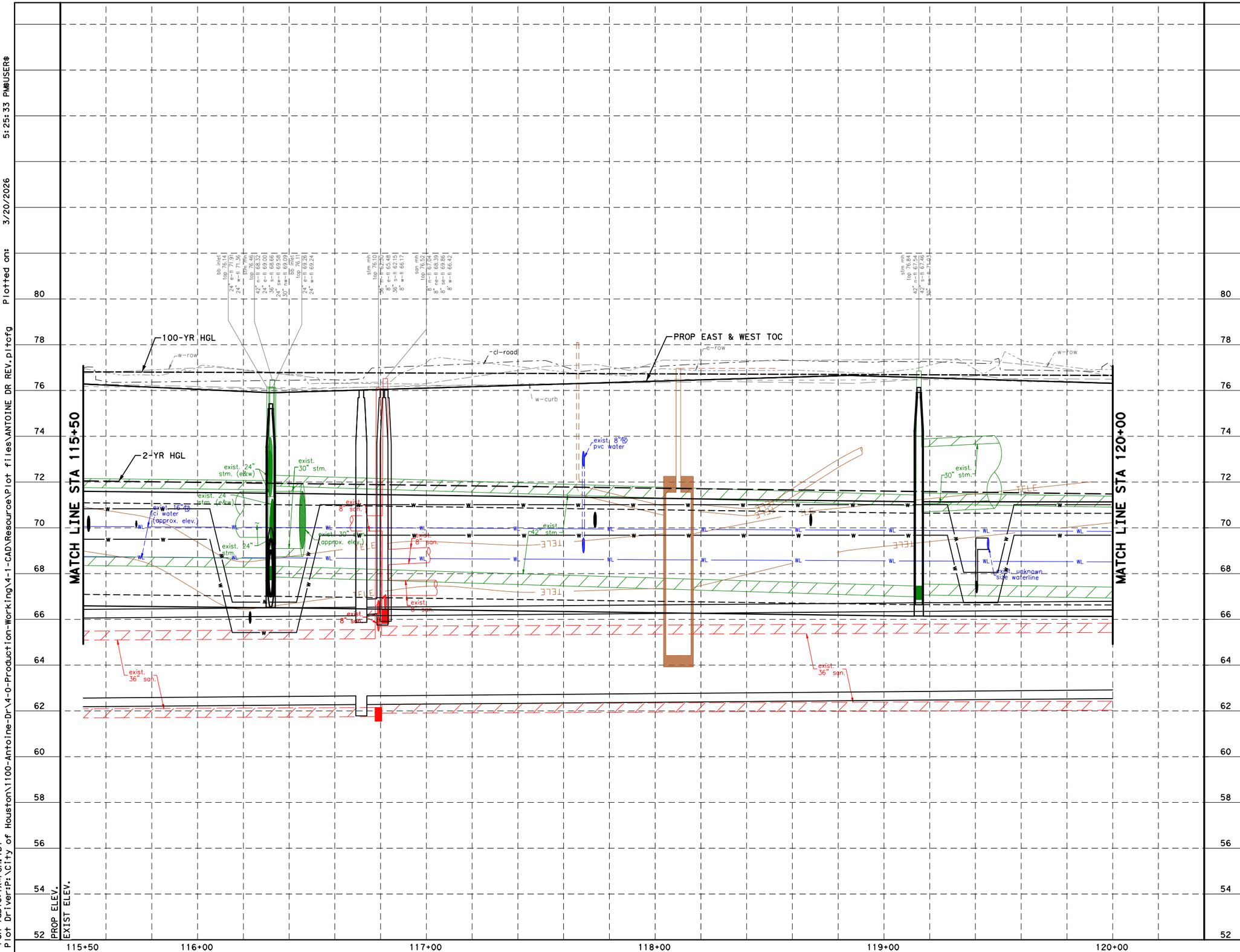

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 115+50 TO STA 120+00

SHEET 52 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 445 OF 1067	

No.	DATE	REVISIONS	APP.

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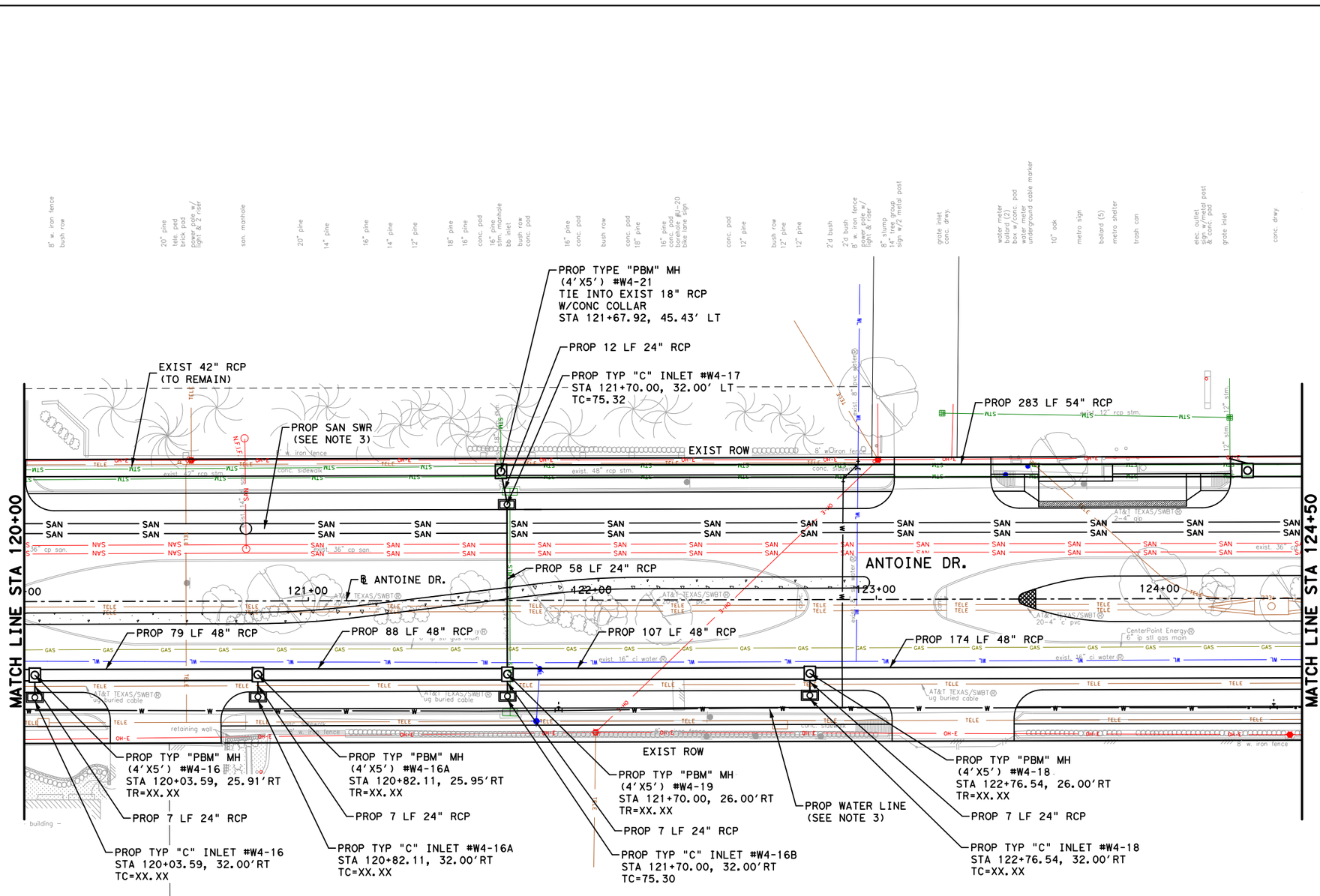

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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Texas Department of Transportation

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 120+00 TO STA 124+50

SHEET 53 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 446 OF 1067	

NOTES:
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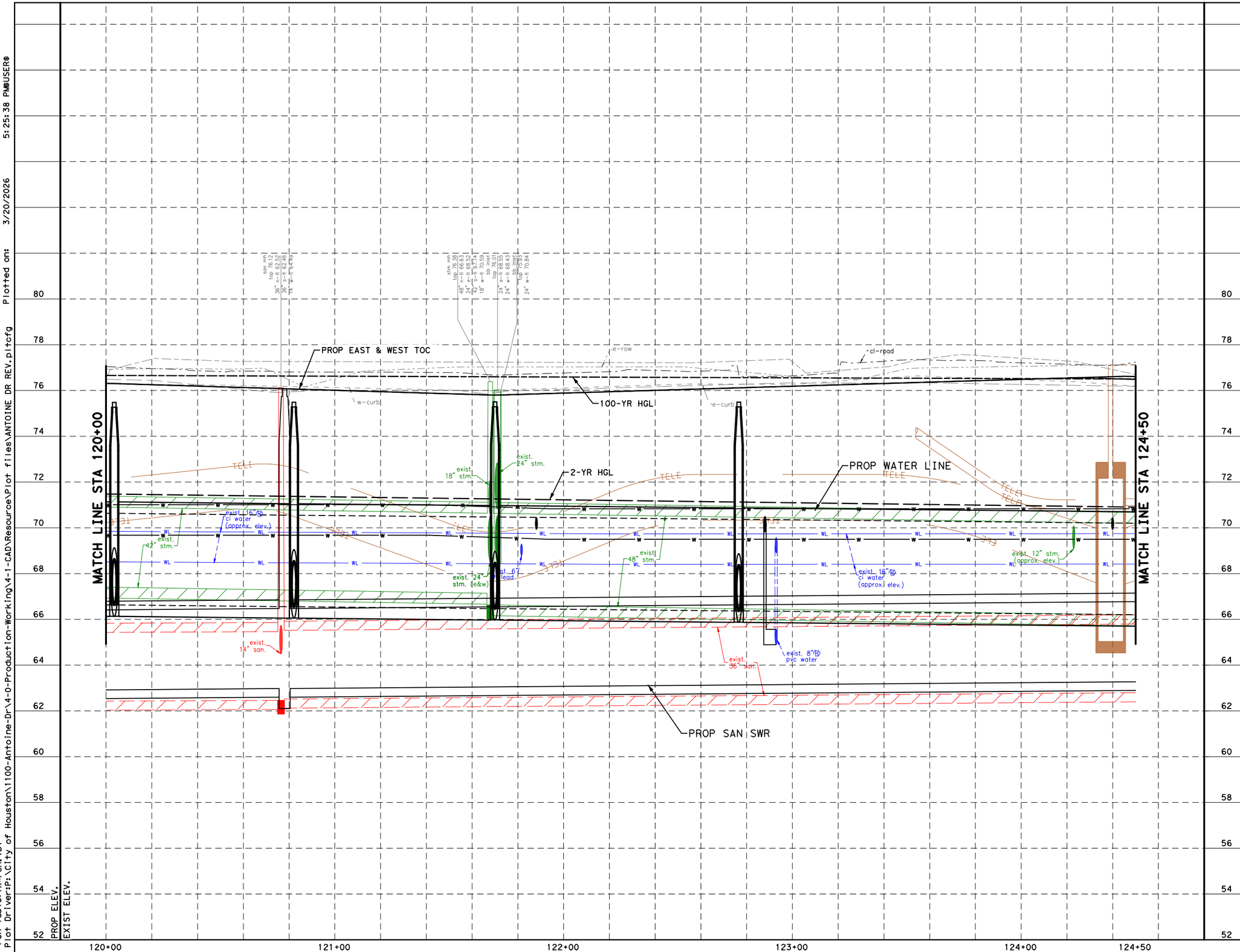
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 53.dgn



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 120+00 TO STA 124+50

SHEET 54 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 447 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 54.dgn

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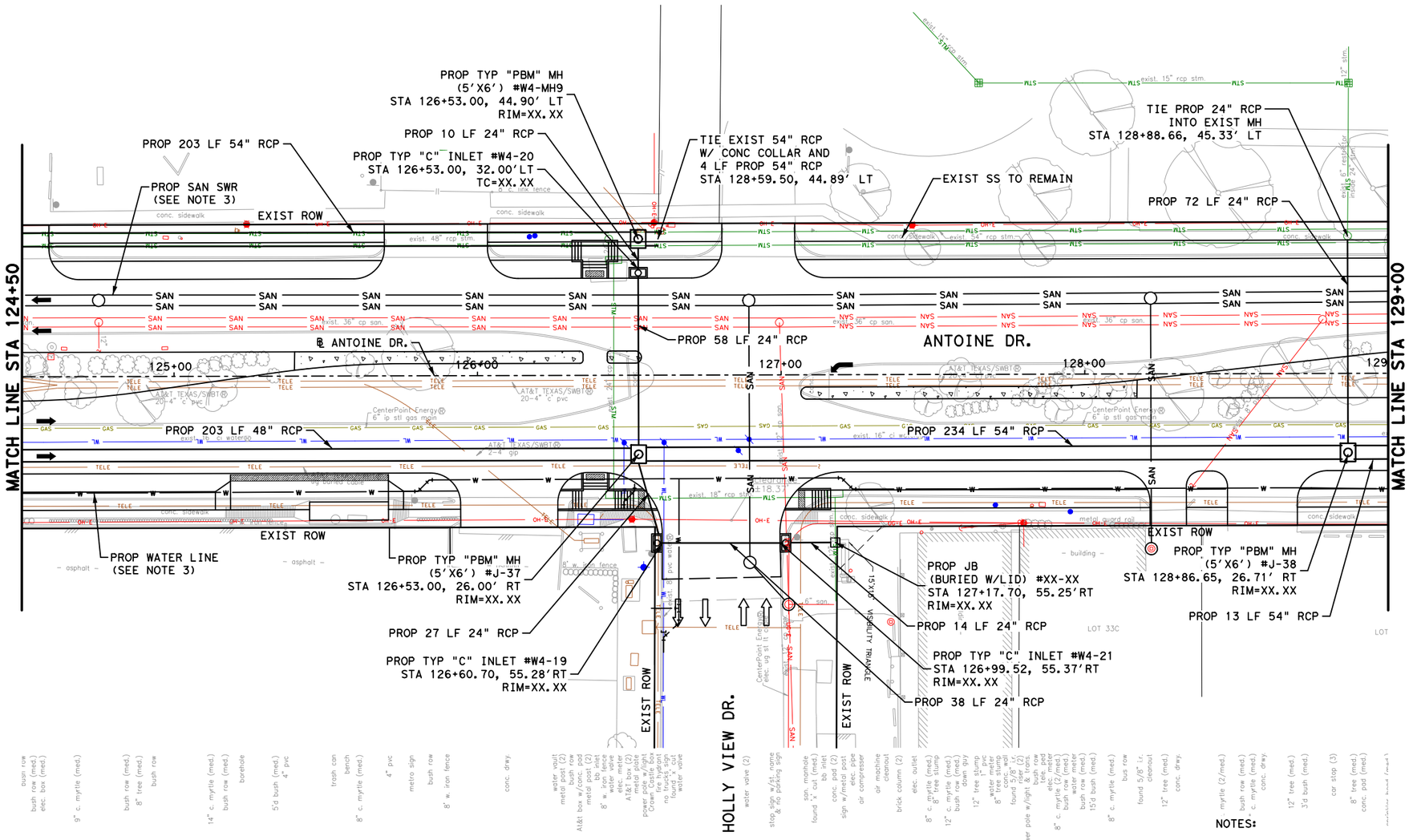

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LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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Texas Department of Transportation

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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3/20/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 124+50 TO STA 129+00

SHEET 55 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 448 OF 1067	

Pen Table:TX*Pen.tbl
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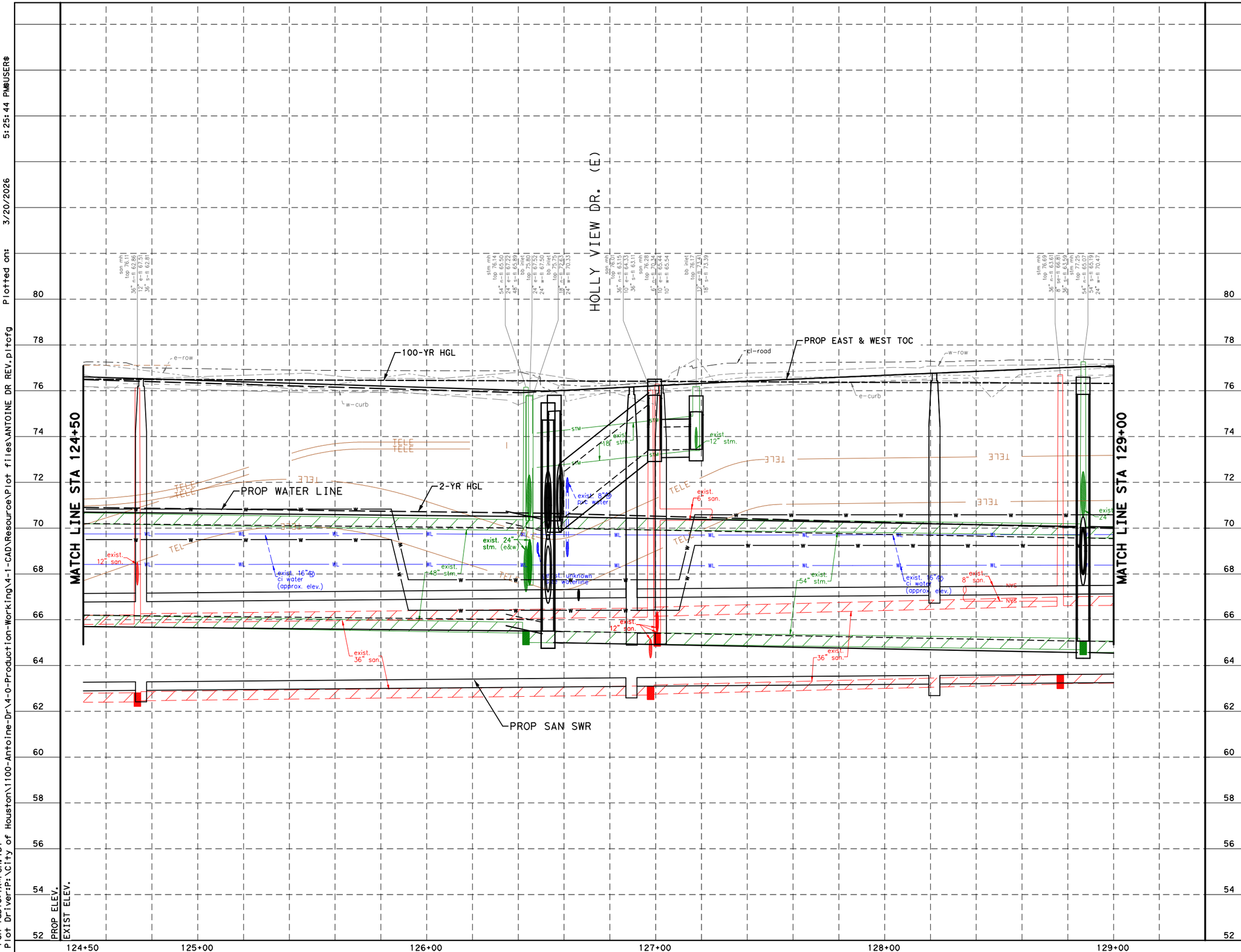

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 124+50 TO STA 129+00

SHEET 56 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 449 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:25:44 PM$USER$

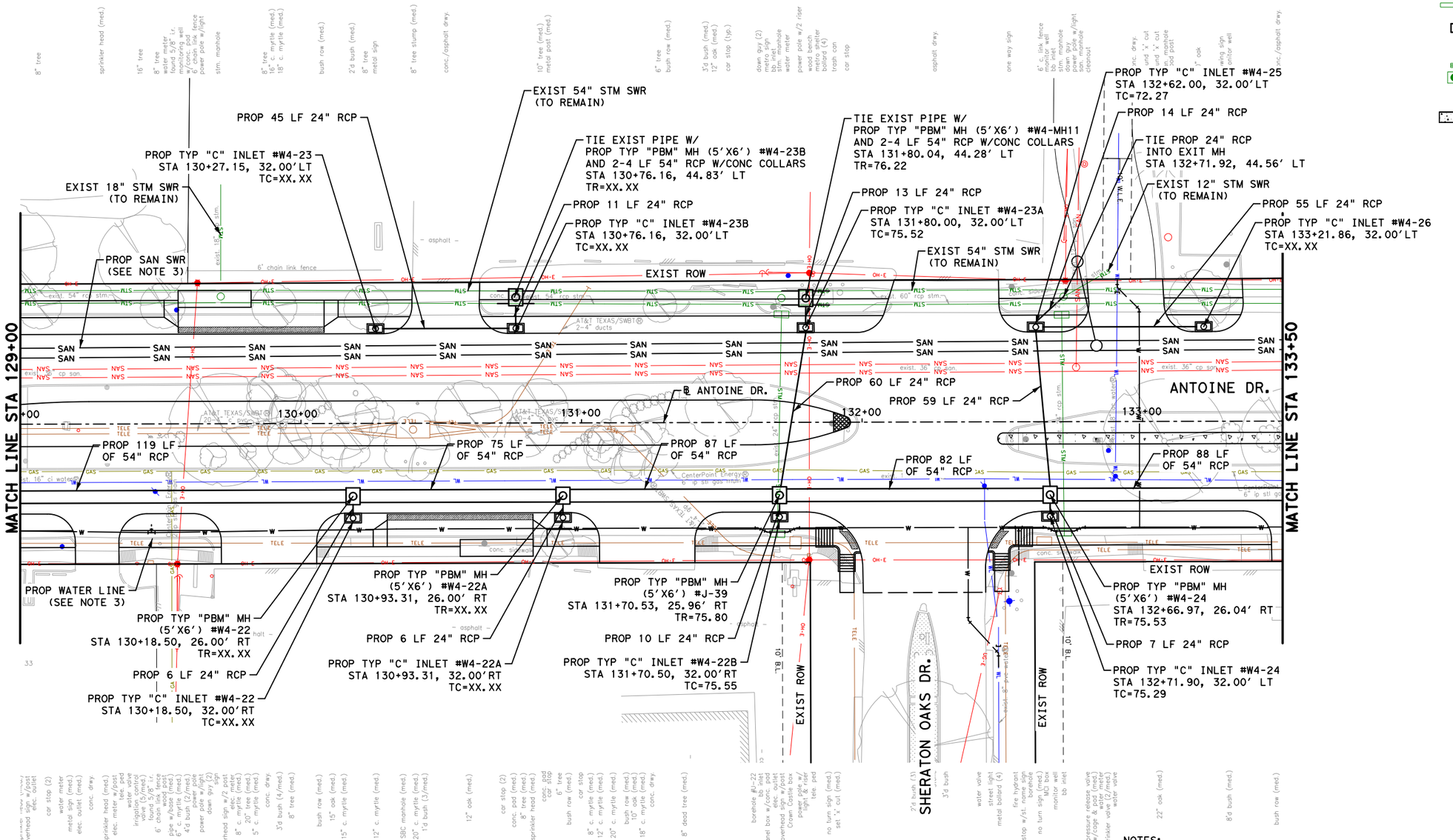
Design Filename:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 56.dgn

Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:25:46 PM@USER@

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP:



0' 20' 40'
SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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PATRICK W. PHILLIPS
92917
3/20/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 129+00 TO STA 133+50

SHEET 57 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 450 OF 1067	

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED
5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 57.dgn

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Plotted on: 3/20/2026 5:25:49 PM@USER$

SHERATON OAKS DR. (E)

MATCH LINE STA 129+50

MATCH LINE STA 133+50

PROP EAST TOC

PROP WEST TOC

100-YR HGL

2-YR HGL

PROP SAN SWR

PROP WATER LINE

PROP ELEV.
EXIST ELEV.

80 78 76 74 72 70 68 66 64 62 60 58 56 54 52

129+00 130+00 131+00 132+00 133+00 133+50

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

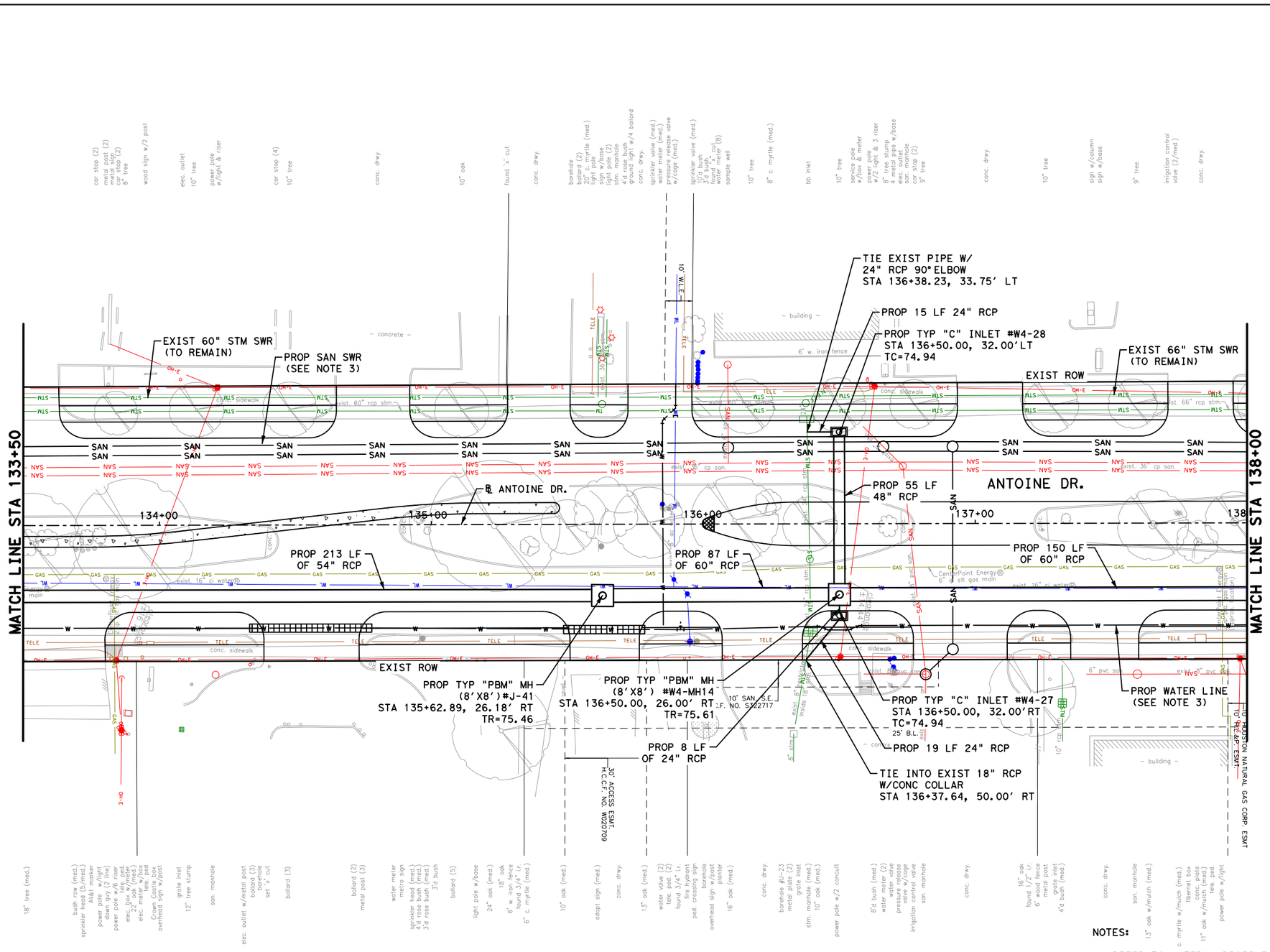
ANTOINE DRIVE

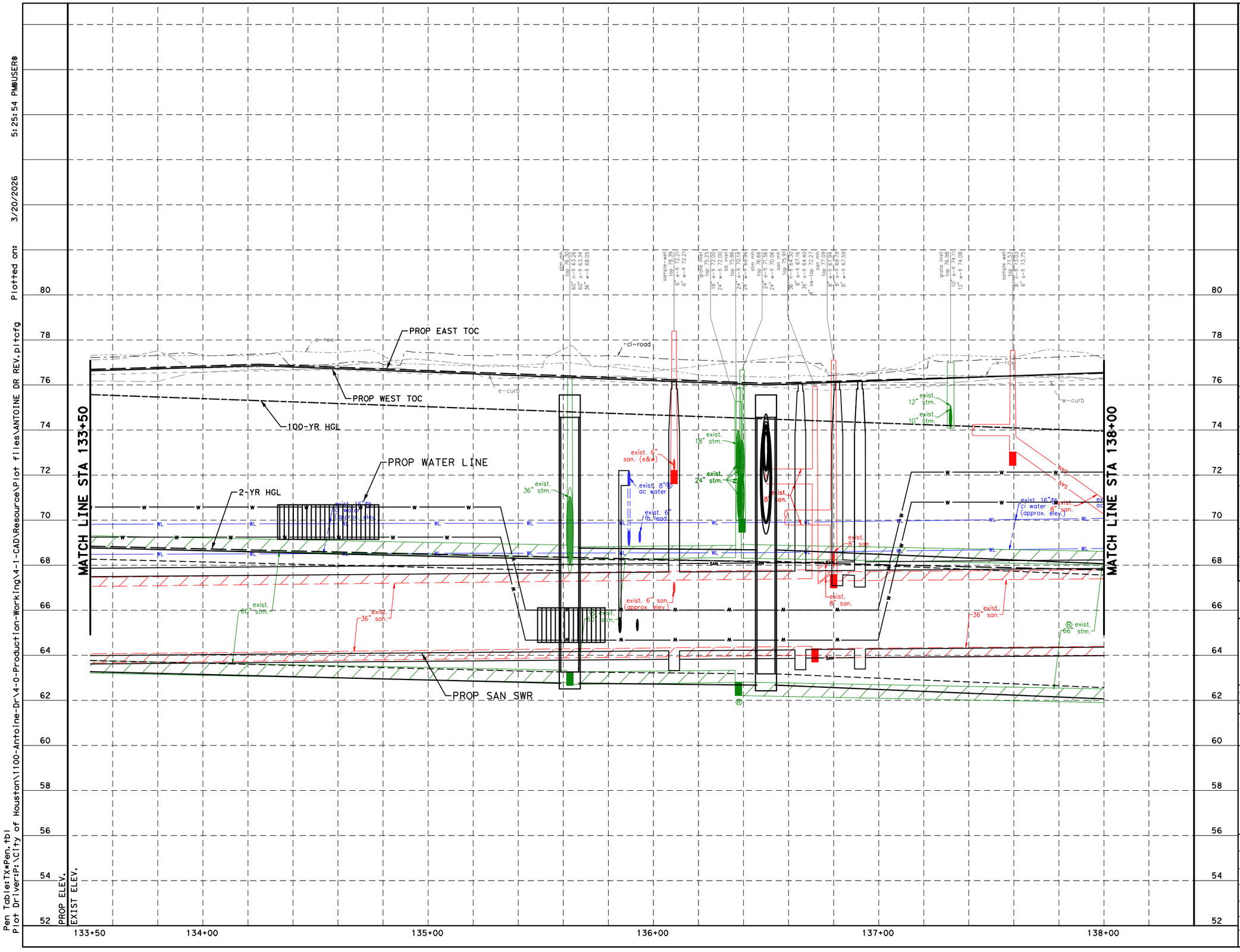
DRAINAGE PROFILE
STA 129+00 TO STA 133+50

SHEET 58 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 451 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 58.dgn


MATCH LINE STA 133+50
MATCH LINE STA 138+00
ANTOINE DR.
℄ ANTOINE DR.
EXIST 60" STM SWR (TO REMAIN)
PROP SAN SWR (SEE NOTE 3)
EXIST 66" STM SWR (TO REMAIN)
EXIST ROW
TIE EXIST PIPE W/ 24" RCP 90° ELBOW STA 136+38.23, 33.75' LT
PROP 15 LF 24" RCP
PROP TYP "C" INLET #W4-28 STA 136+50.00, 32.00'LT TC=74.94
PROP 55 LF 48" RCP
PROP 213 LF OF 54" RCP
PROP 87 LF OF 60" RCP
PROP 150 LF OF 60" RCP
PROP TYP "PBM" MH (8'X8') #J-41 STA 135+62.89, 26.18' RT TR=75.46
PROP TYP "PBM" MH (8'X8') #W4-MH14 STA 136+50.00, 26.00' RT TR=75.61
PROP 8 LF OF 24" RCP
PROP TYP "C" INLET #W4-27 STA 136+50.00, 32.00'RT TC=74.94
PROP 19 LF 24" RCP
TIE INTO EXIST 18" RCP W/CONC COLLAR STA 136+37.64, 50.00' RT
PROP WATER LINE (SEE NOTE 3)
134+00
135+00
136+00
137+00
138
30' ACCESS ESMT. H.C.C.F. NO. W020709
10' SAN. S.E. C.F. NO. S122717
10' W.L.E.
10' HOUSTON NATURAL GAS CORP. ESMT
concrete
building
6' w. iron fence
conc. sidewalk
exist. 60" rcp stm.
exist. 66" rcp stm.
exist. 36" cp san.
exist. 16" ci water
CenterPoint Energy 6" stl gas main
6" pvc san.
exist. 8" pvc san.
exist. 6" pvc san.
exist. 2" pvc gas main
exist. 2" pvc gas main inside 6" pvc san.
exist. 2" pvc gas main (encased in 6" pvc san.)
exist. 2" pvc gas main (encased in 8" pvc san.)
exist. 2" pvc gas main (encased in 10" pvc san.)
exist. 2" pvc gas main (encased in 12" pvc san.)
exist. 2" pvc gas main (encased in 15" pvc san.)
exist. 2" pvc gas main (encased in 18" pvc san.)
exist. 2" pvc gas main (encased in 24" pvc san.)
exist. 2" pvc gas main (encased in 30" pvc san.)
exist. 2" pvc gas main (encased in 36" pvc san.)
exist. 2" pvc gas main (encased in



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 133+50 TO STA 138+00

SHEET 60 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 453 OF 1067	

No.	DATE	REVISIONS	APP.

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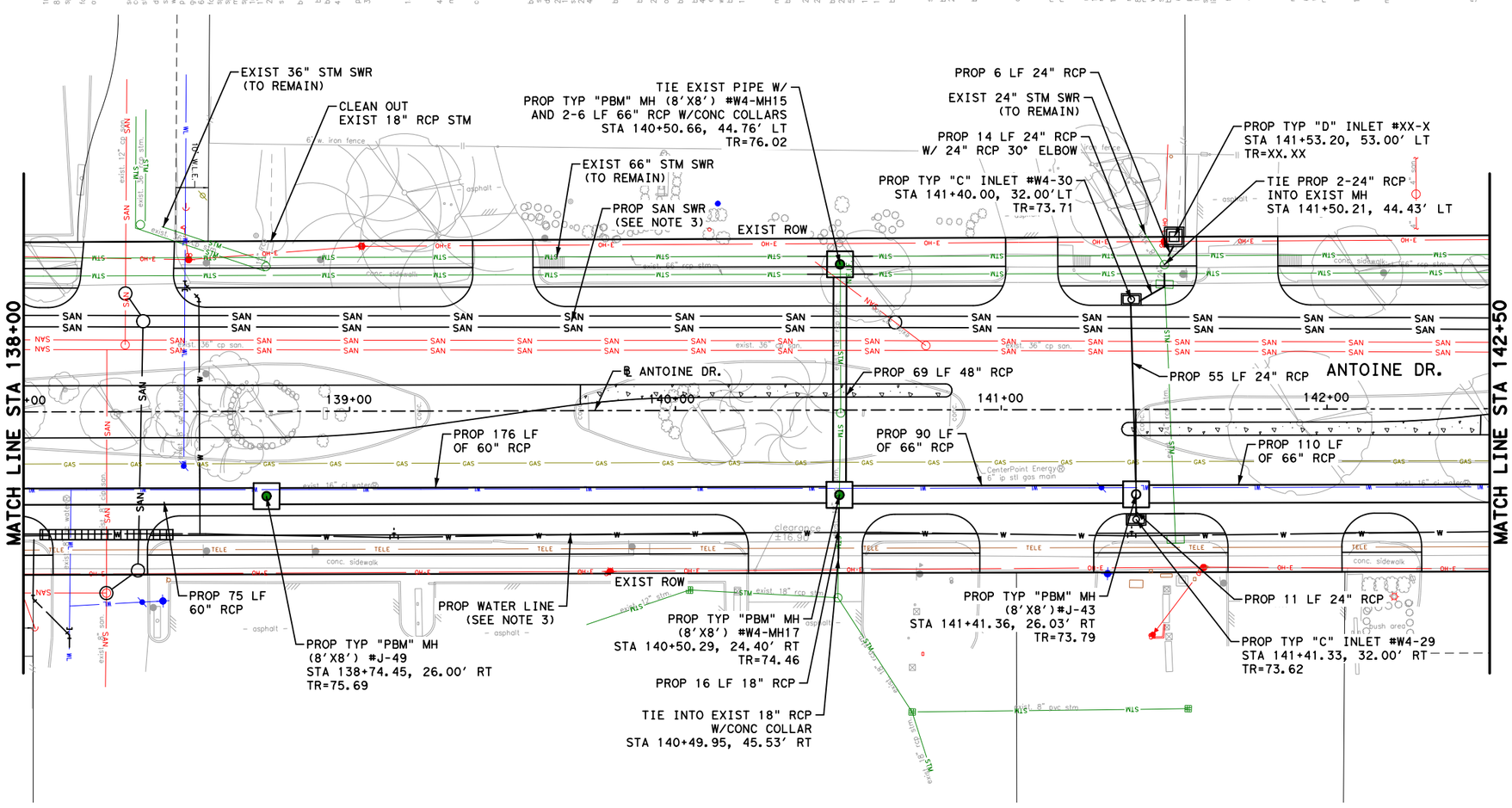
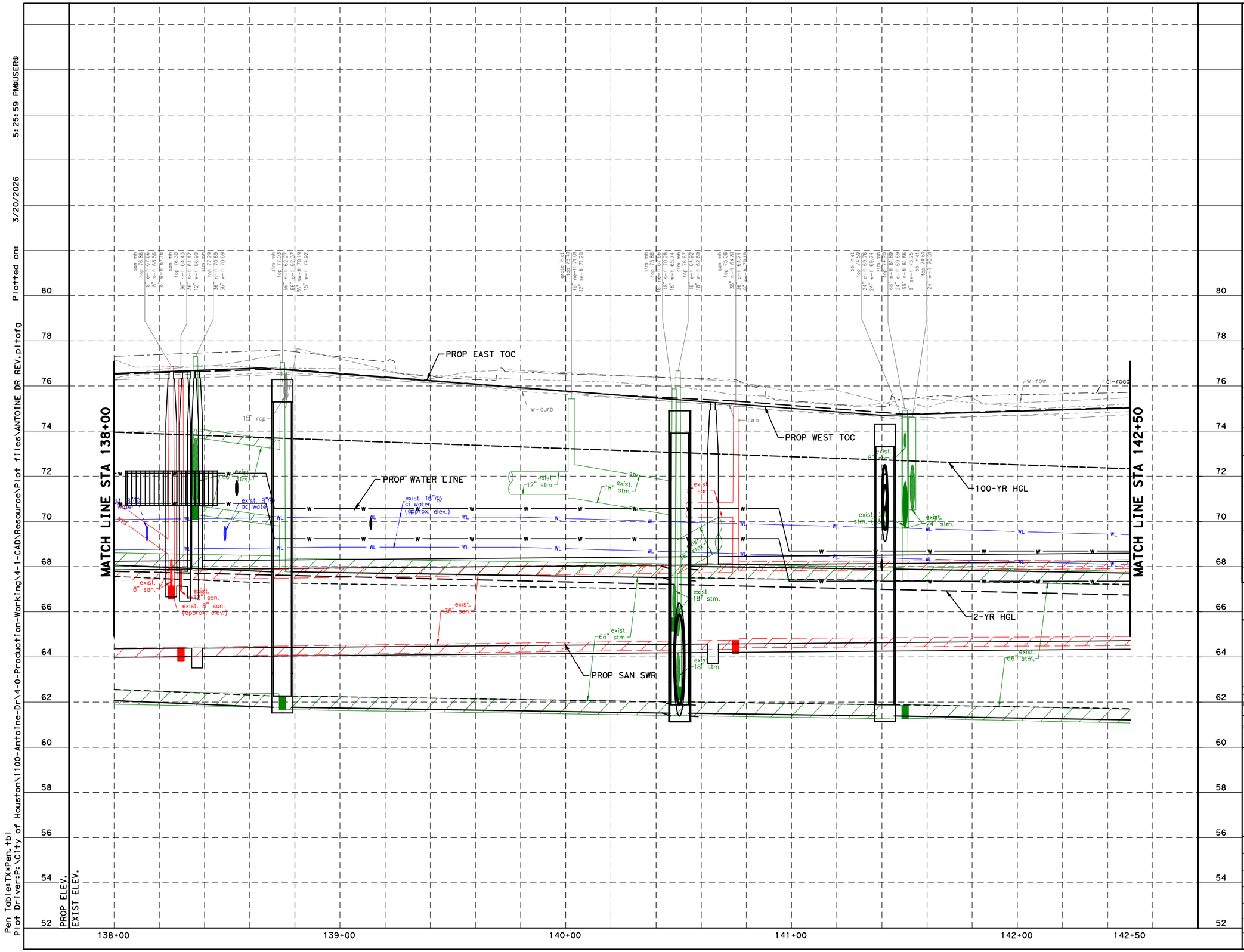

MATCH LINE STA 138+00
MATCH LINE STA 142+50
ANTOINE DR.
℄ ANTOINE DR.
EXIST 36" STM SWR (TO REMAIN)
CLEAN OUT EXIST 18" RCP STM
TIE EXIST PIPE W/ PROP TYP "PBM" MH (8'X8') #W4-MH15 AND 2-6 LF 66" RCP W/CONC COLLARS STA 140+50.66, 44.76' LT TR=76.02
EXIST 66" STM SWR (TO REMAIN)
PROP SAN SWR (SEE NOTE 3)
EXIST ROW
PROP 6 LF 24" RCP
EXIST 24" STM SWR (TO REMAIN)
PROP 14 LF 24" RCP W/ 24" RCP 30° ELBOW
PROP TYP "C" INLET #W4-30 STA 141+40.00, 32.00'LT TR=73.71
PROP TYP "D" INLET #XX-X STA 141+53.20, 53.00' LT TR=XX.XX
TIE PROP 2-24" RCP INTO EXIST MH STA 141+50.21, 44.43' LT
PROP 69 LF 48" RCP
PROP 55 LF 24" RCP
PROP 176 LF OF 60" RCP
PROP 90 LF OF 66" RCP
PROP 110 LF OF 66" RCP
PROP 75 LF 60" RCP
PROP TYP "PBM" MH (8'X8') #J-49 STA 138+74.45, 26.00' RT TR=75.69
PROP WATER LINE (SEE NOTE 3)
PROP TYP "PBM" MH (8'X8') #W4-MH17 STA 140+50.29, 24.40' RT TR=74.46
PROP 16 LF 18" RCP
TIE INTO EXIST 18" RCP W/CONC COLLAR STA 140+49.95, 45.53' RT
PROP TYP "PBM" MH (8'X8')#J-43 STA 141+41.36, 26.03' RT TR=73.79
PROP 11 LF 24" RCP
PROP TYP "C" INLET #W4-29 STA 141+41.33, 32.00' RT TR=73.62
138+00
139+00
140+00
141+00
142+00
conc. sidewalk
asphalt
6' w. iron fence
exist 36" cp san.
exist 66" rcp storm
exist 16" cl. water
exist 8" pvc strm
exist 18" rcp strm
exist 12" cp strm
exist 24" rcp strm
CenterPoint Energy 6" p stl gas main
clearance +16.8'
10' WIDE ESMT
10' WIDE ESMT
10' WIDE ESMT



NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 138+00 TO STA 142+50

SHEET 62 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 455 OF 1067	

No.	DATE	REVISIONS	APP.

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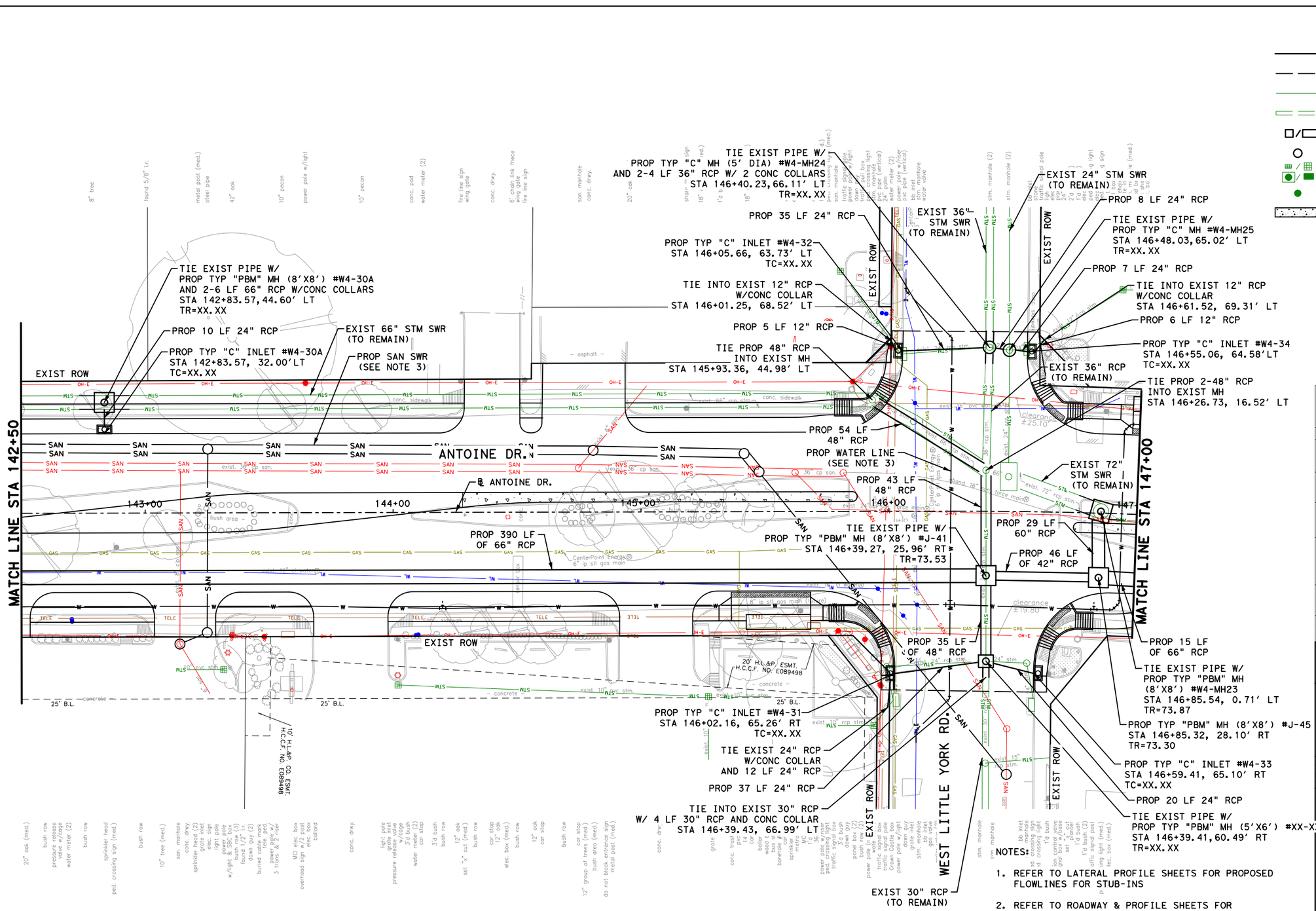

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

0' 20' 40'
SCALE IN FEET

NOTES:

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 142+50 TO STA 147+00

SHEET 63 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 456 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 63.dgn

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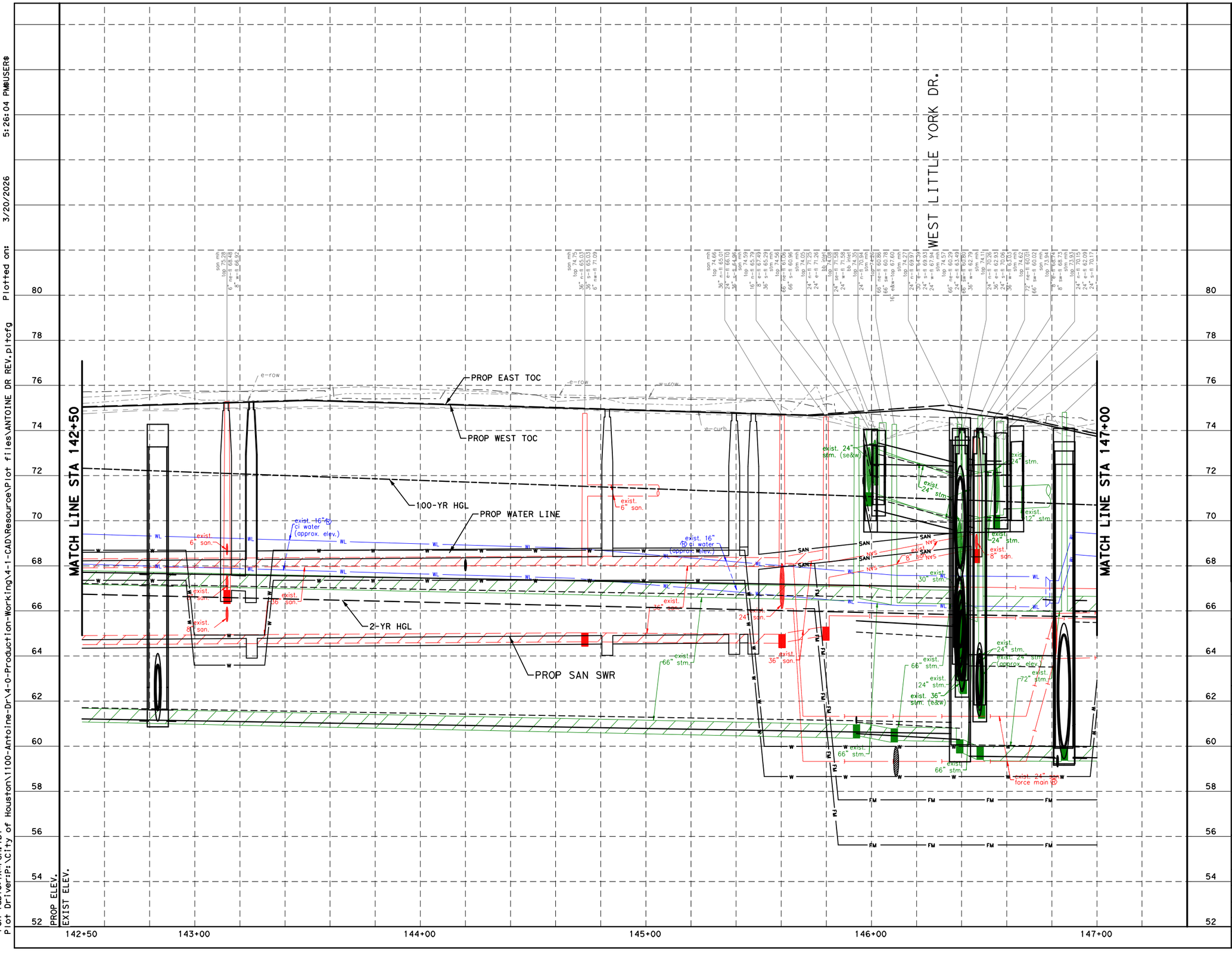

No.	DATE	REVISIONS	APP.

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 142+50 TO STA 147+00

SHEET 64 OF 71

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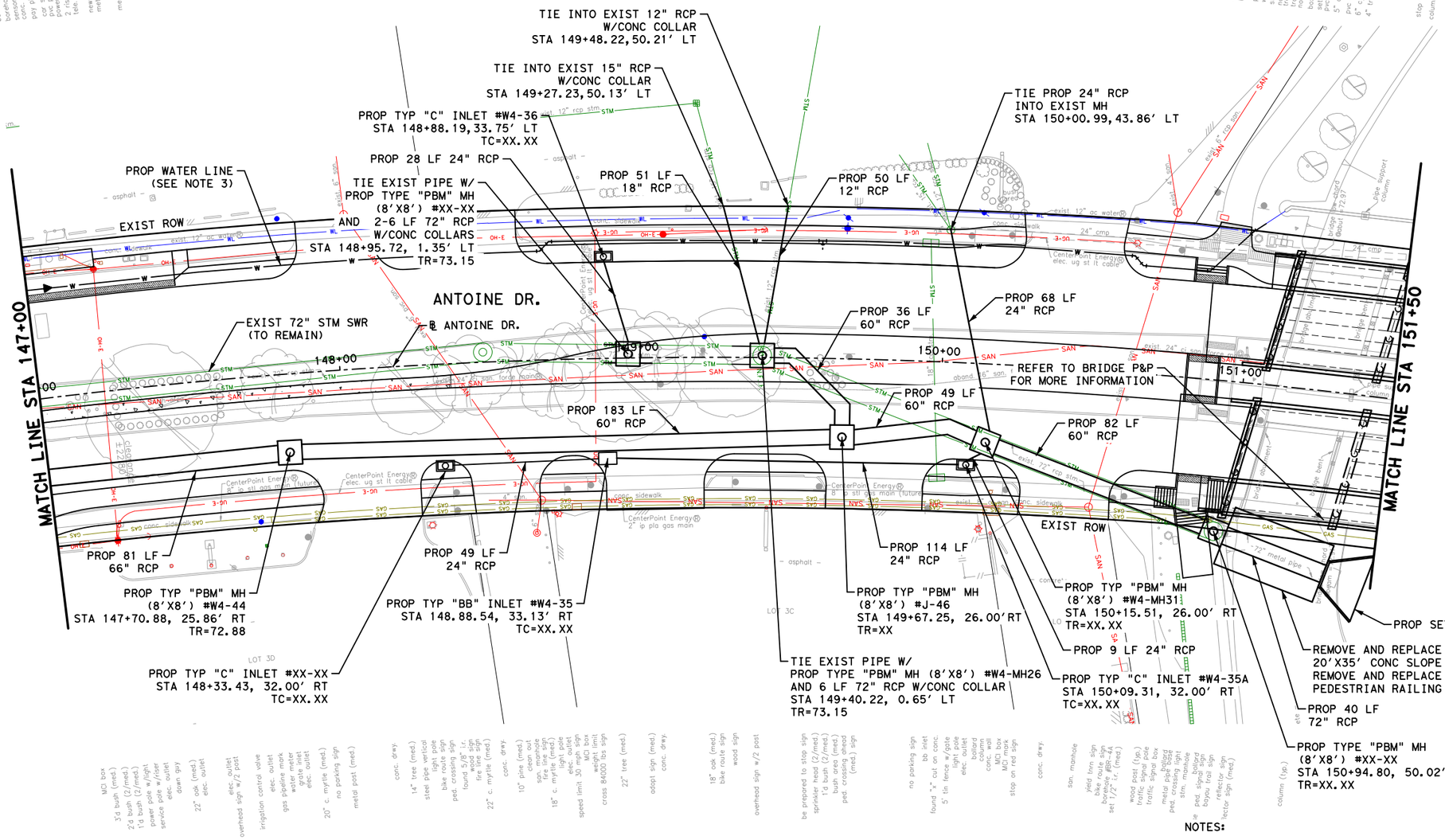
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 457 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 64.dgn



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 147+00 TO STA 151+50

SHEET 65 OF 71

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AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 458 OF 1067	

Pen Table:TX*Pen.tbl
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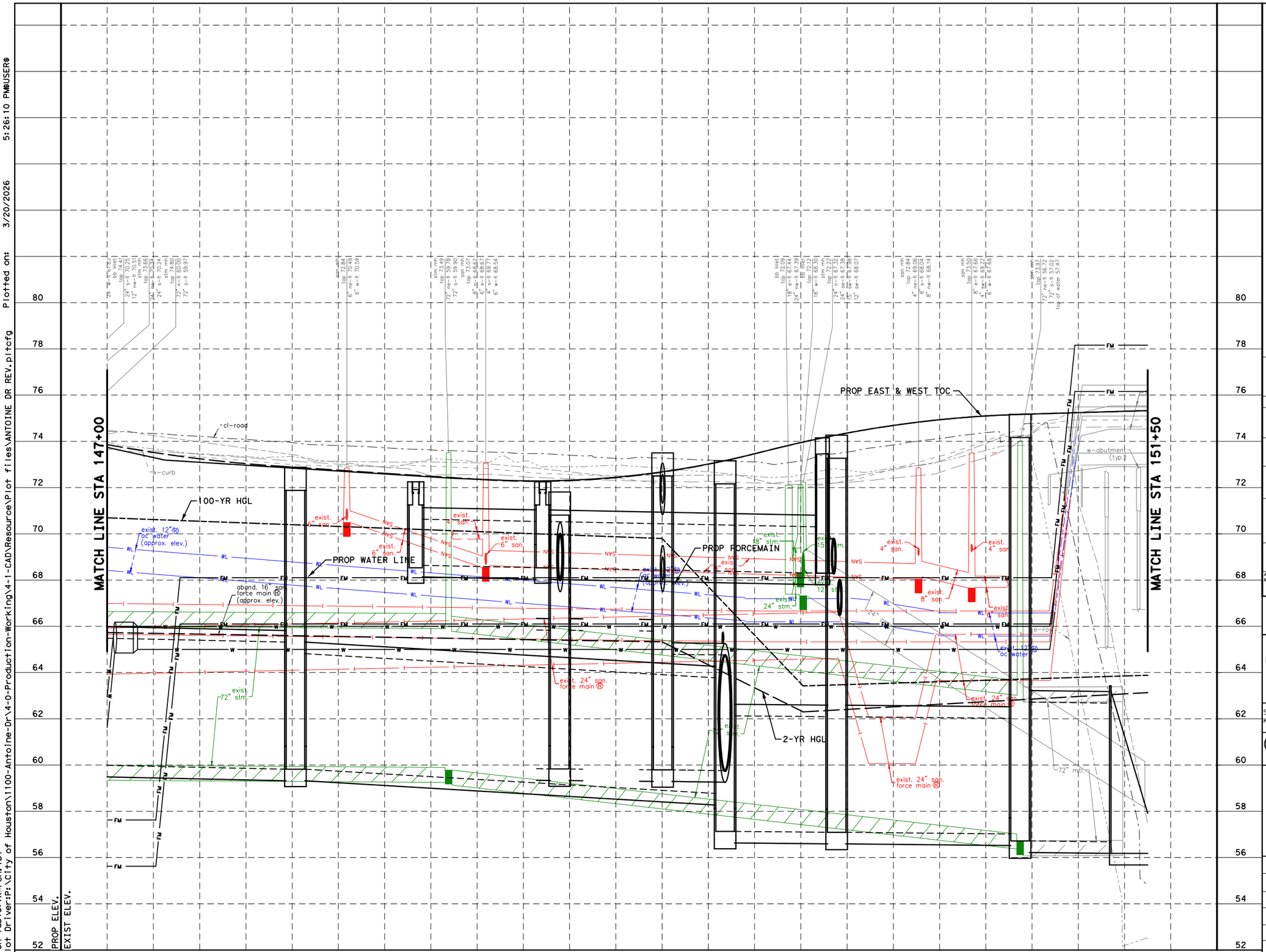
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 65.dgn



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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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92917
3/20/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 147+00 TO STA 151+50

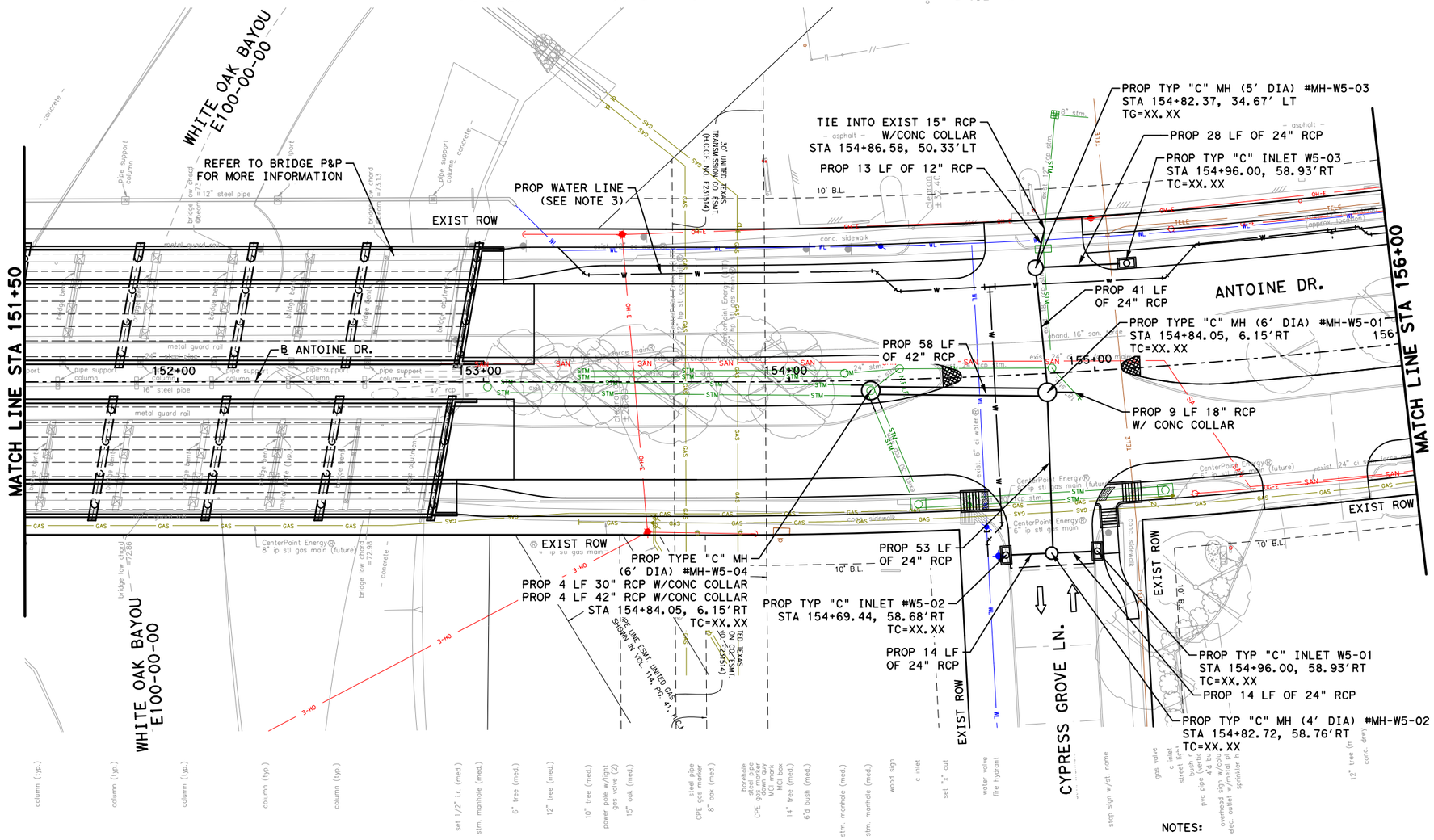
SHEET 66 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 459 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table:TX*Pen.tbl
Plot Driver:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg Plotted on: 3/20/2026 5:26:10 PM USER$

Design Filename:P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 66.dgn



NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED
5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 151+50 TO STA 156+00

SHEET 67 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 460 OF 1067	

Pen Table:TX#Pen.tbl
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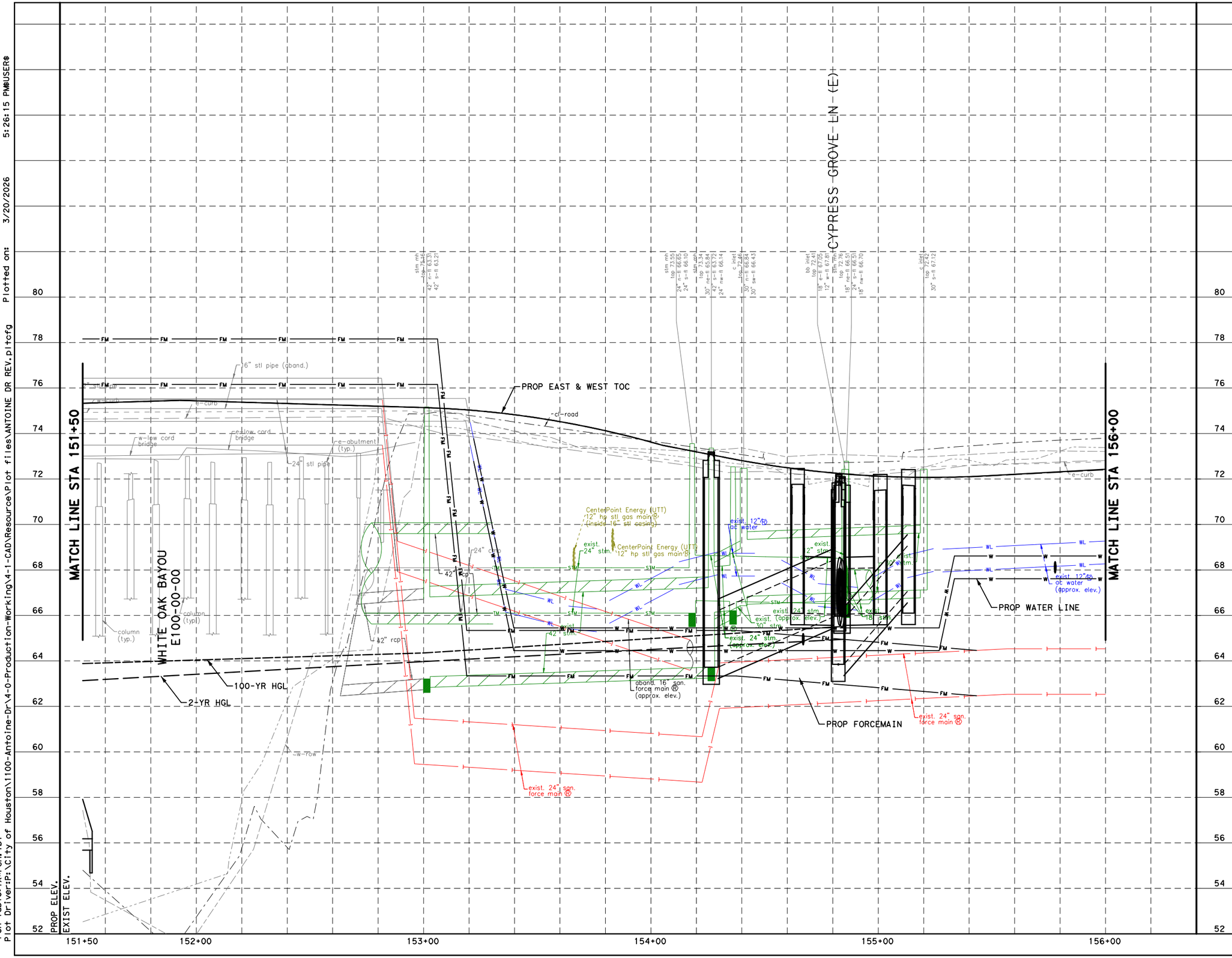

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 151+50 TO STA 156+00

SHEET 68 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 461 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 68.dgn

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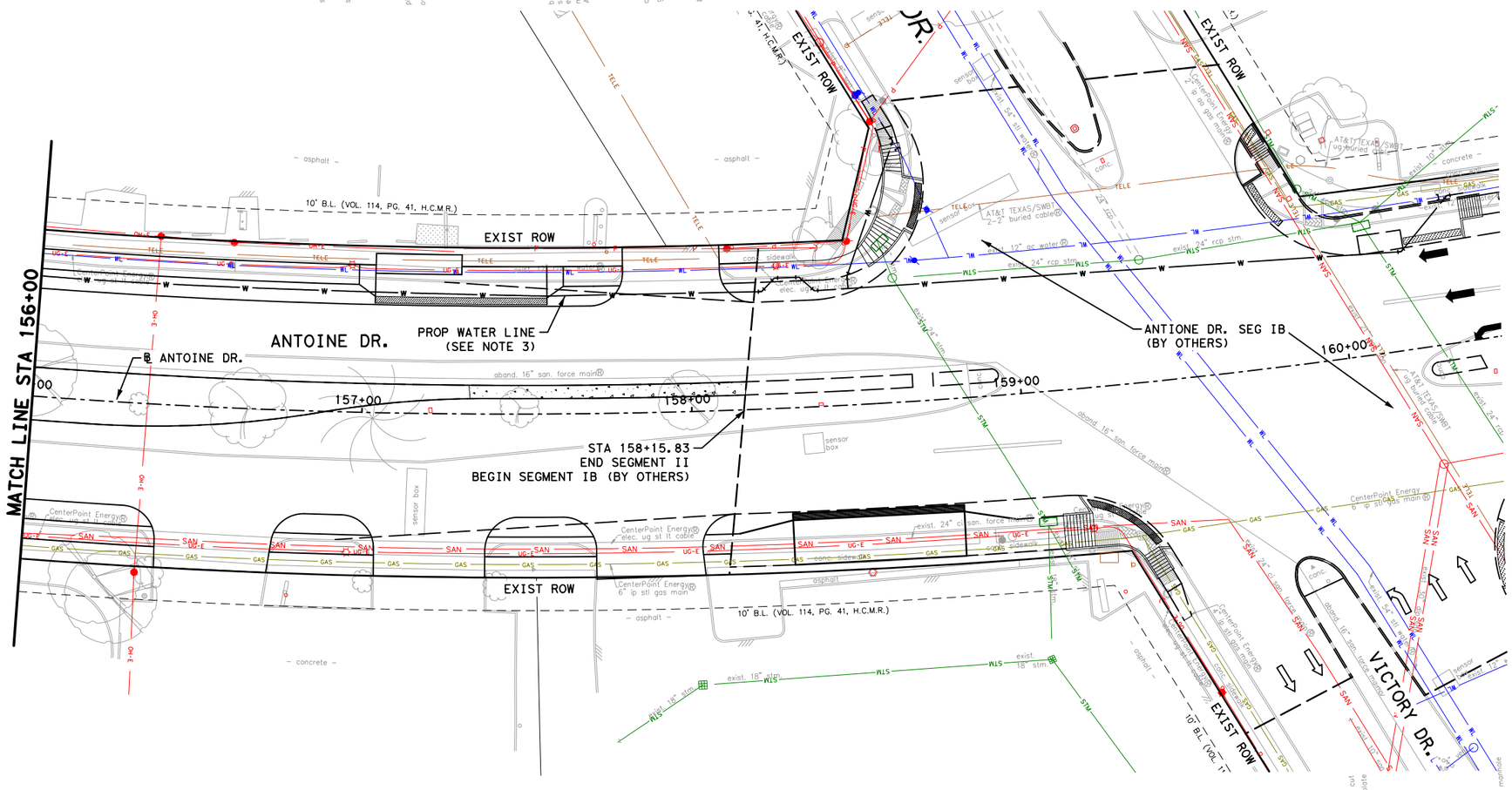

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
STA 156+00 TO END PROJECT

SHEET 69 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 462 OF 1067	

NOTES:

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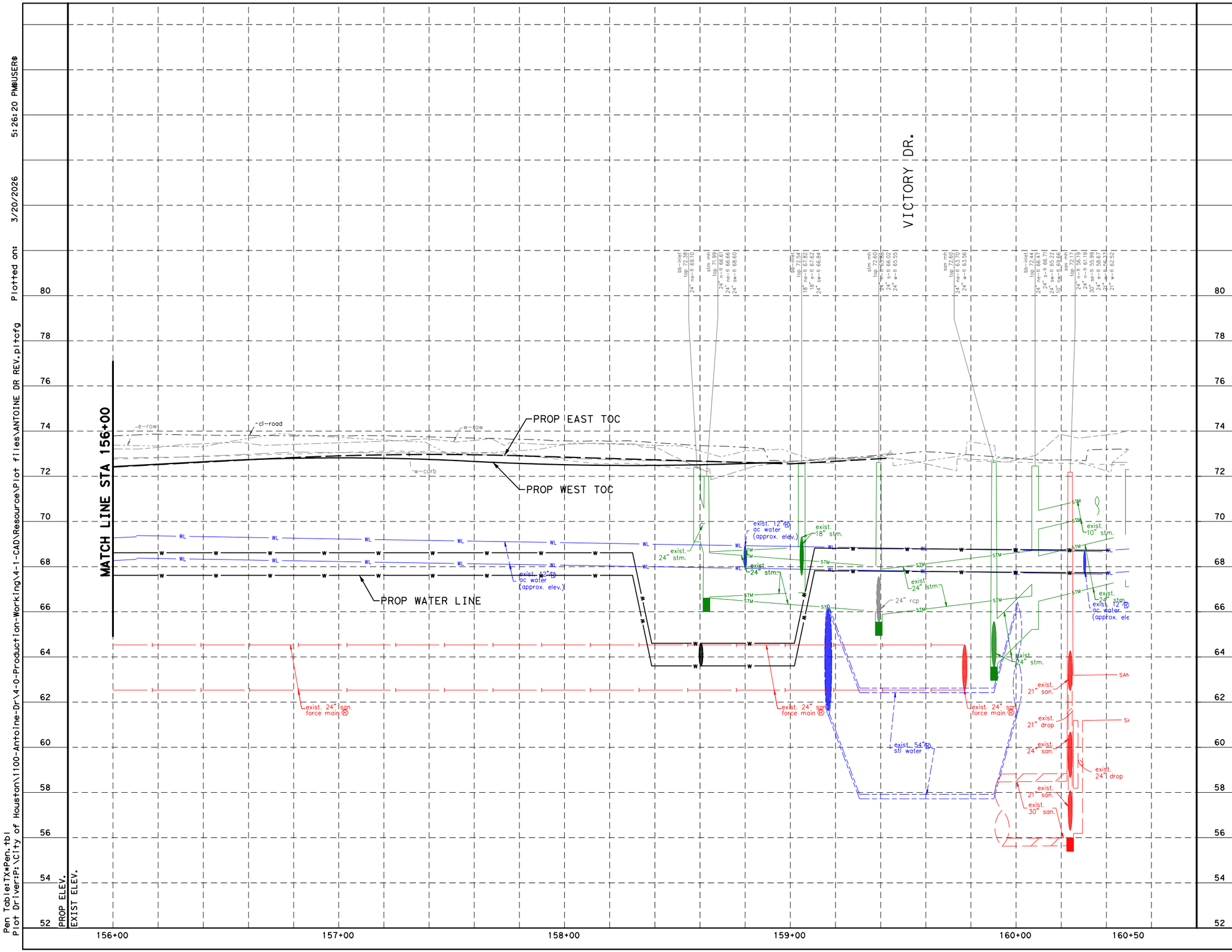

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Engineer
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3/20/2026
Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PROFILE
STA 156+00 TO END PROJECT

SHEET 70 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 463 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_DRN 70.dgn

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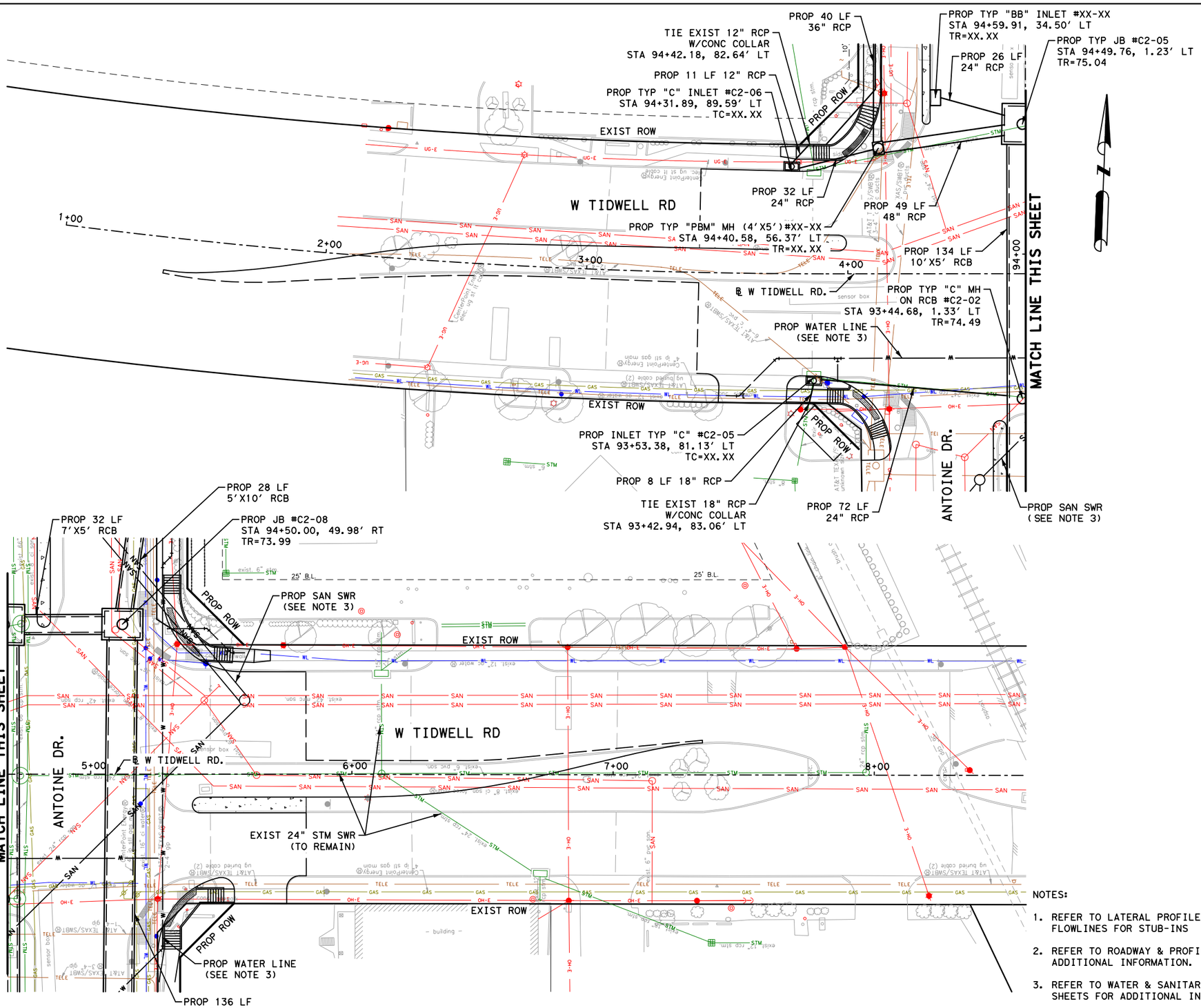

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

N

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE PLAN
W. TIDWELL RD

SHEET 71 OF 71

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 464 OF 1067	

Pen Table:TX*Pen.tbl
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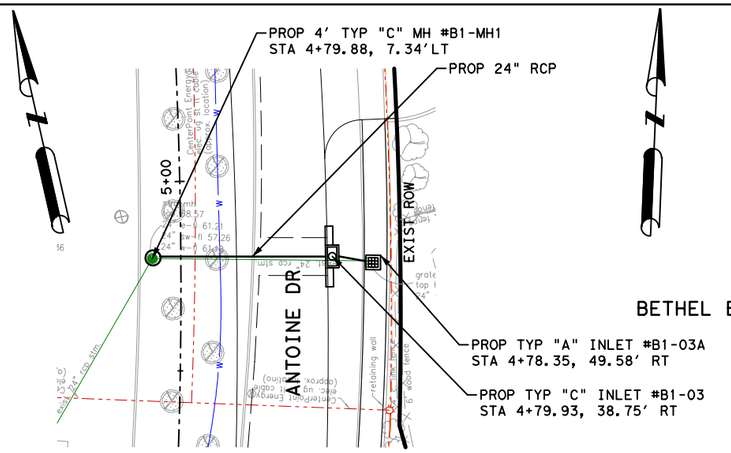
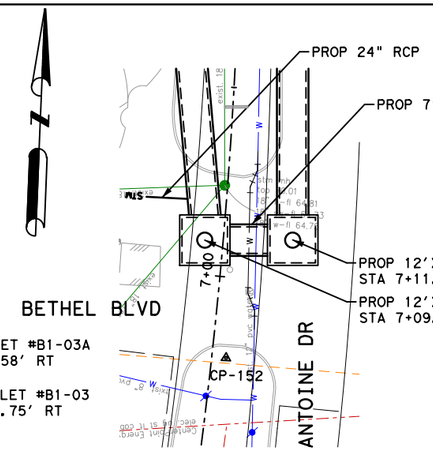


ANTOINE STA 4+80



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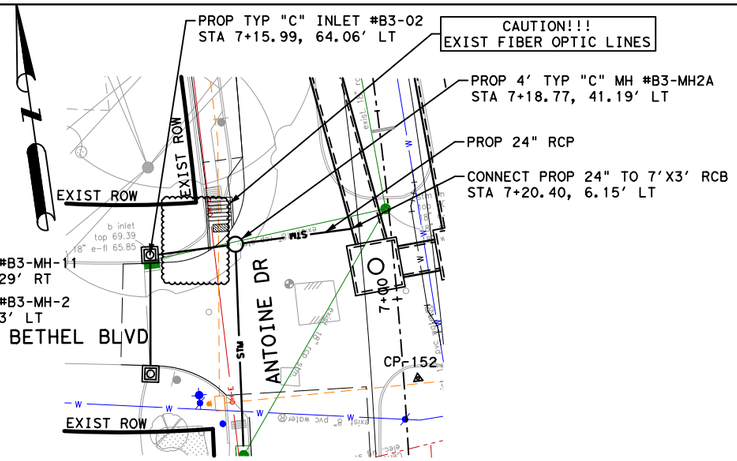
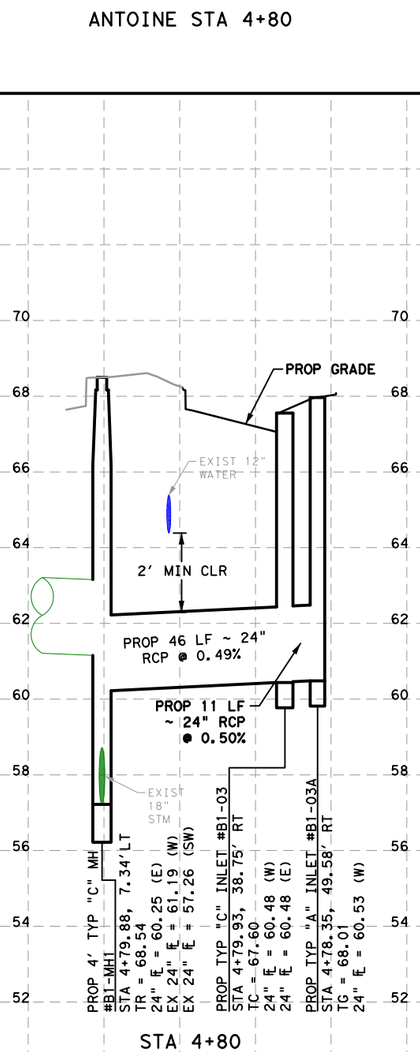
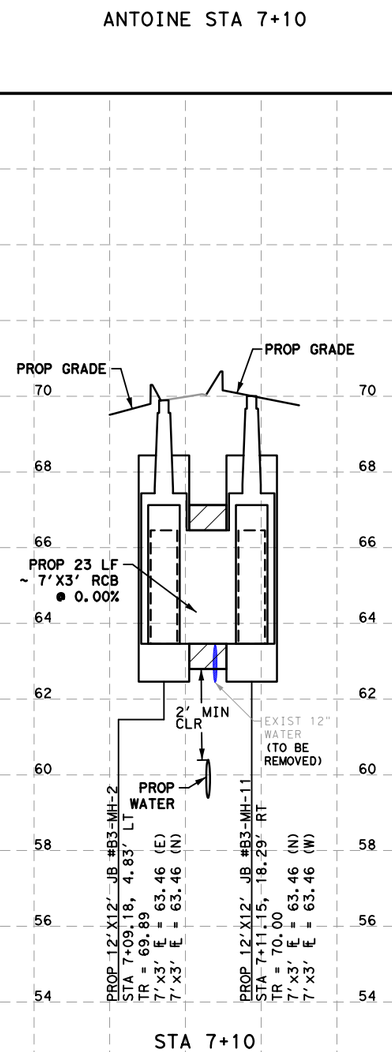


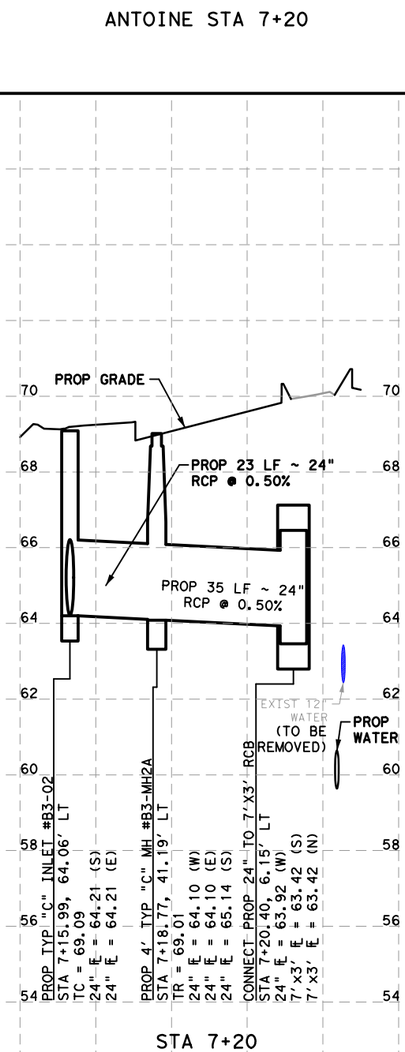
ANTOINE STA 7+20



STA 4+80



STA 7+10



STA 7+20

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 1 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 465 OF 1067	

Plotted on: 3/9/2026 6:54:54 PM\F-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
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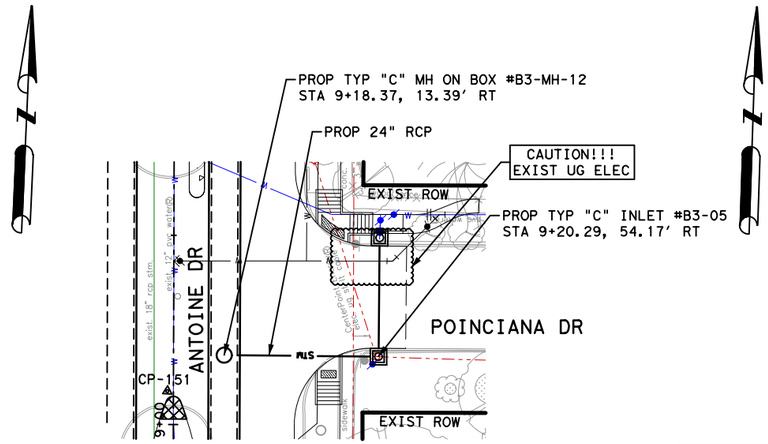
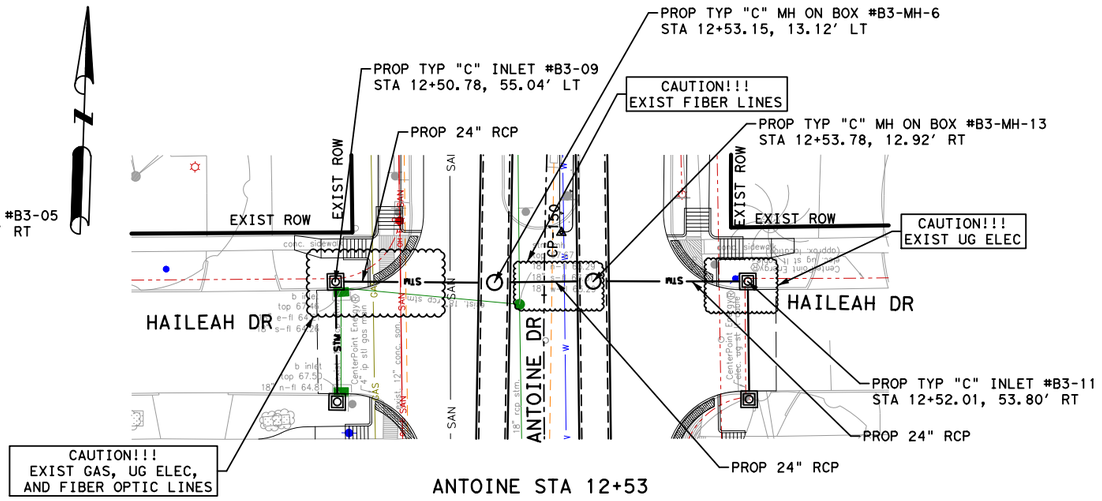
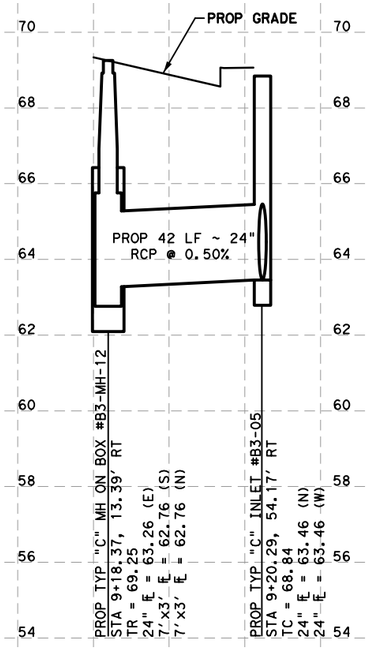


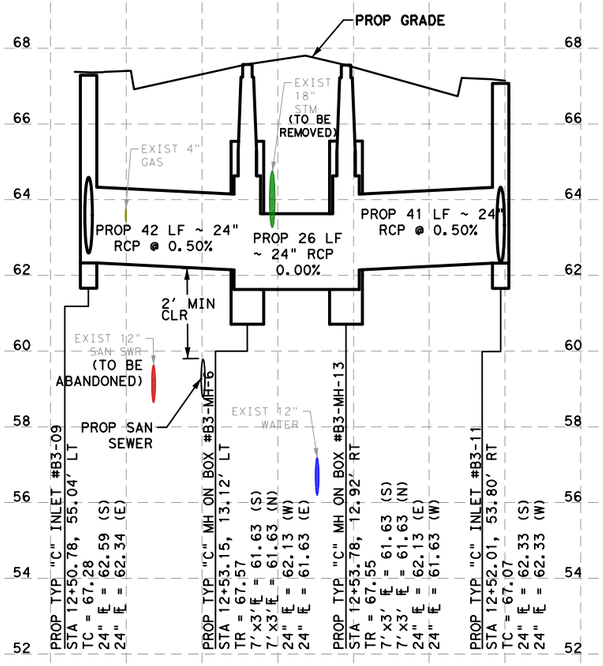
ANTOINE STA 9+18



ANTOINE STA 12+53



STA 9+18



STA 12+53

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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MARCH 2026
Date
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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 2 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 466 OF 1067	

No.	DATE	REVISIONS	APP:

Plotted on: 3/9/2026 6:54:54 PM
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Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE LATERALS\PR_STORM LATERAL_ANTOINE_01.dgn
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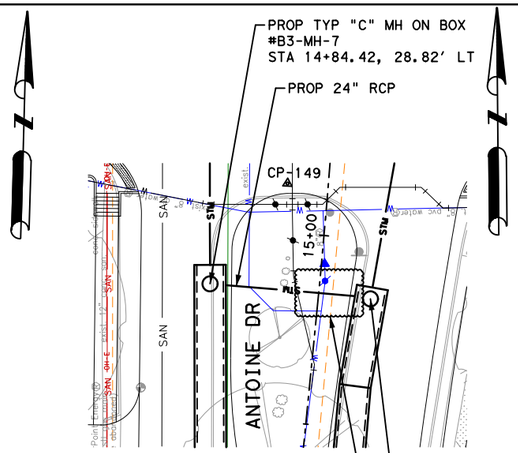
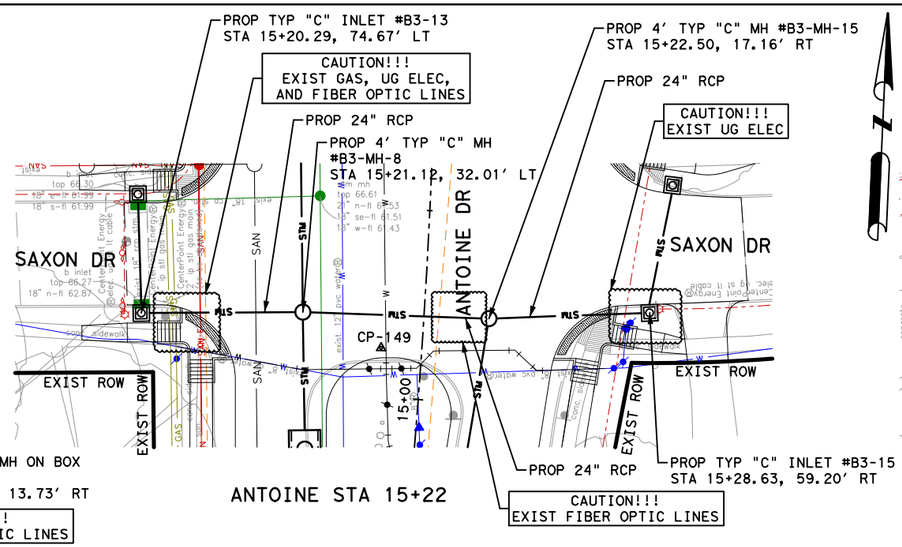
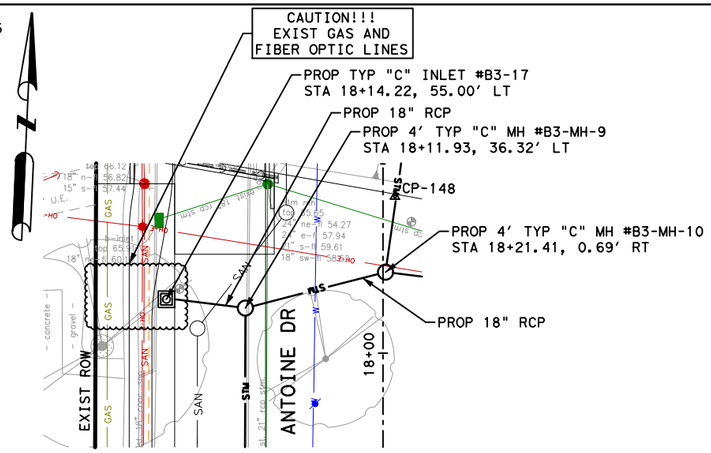


ANTOINE STA 14+84



ANTOINE STA 15+22



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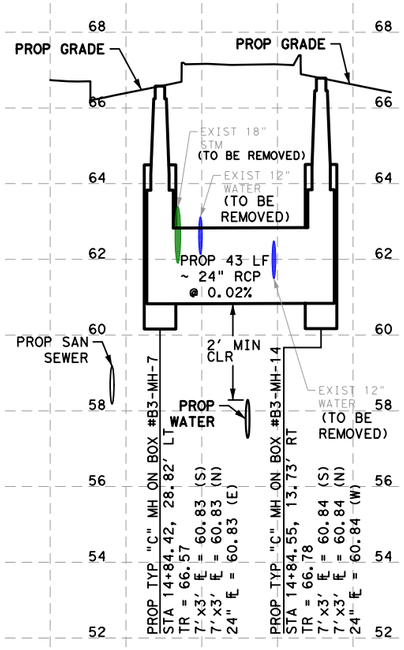
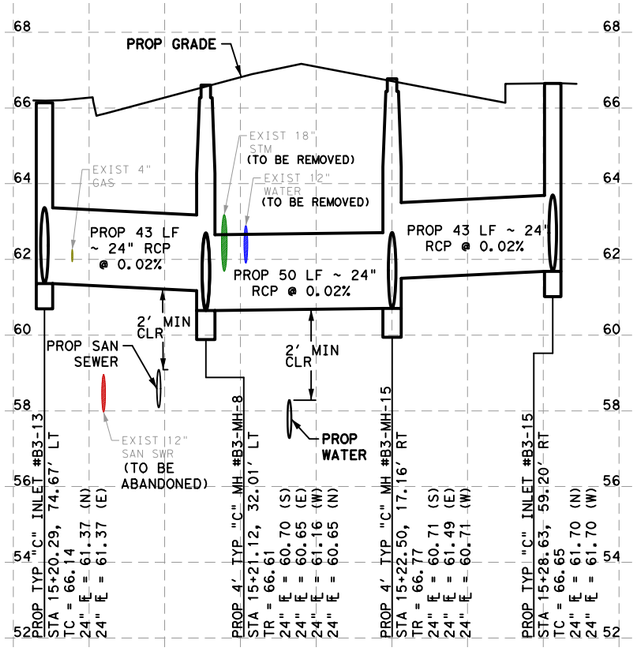
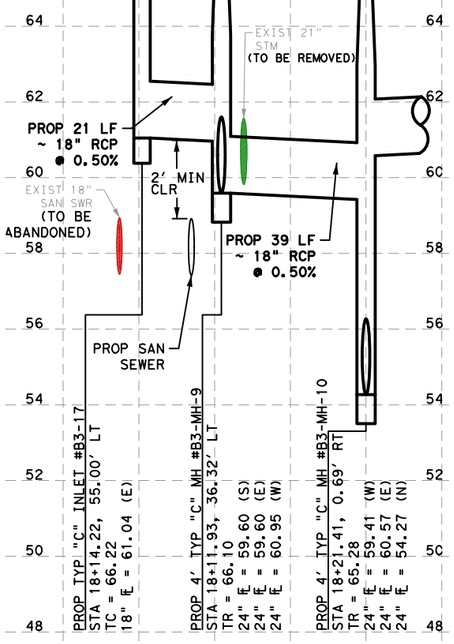


STA 14+84



STA 15+22



STA 18+12

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 3 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 467 OF 1067	

No.	DATE	REVISIONS	APP:

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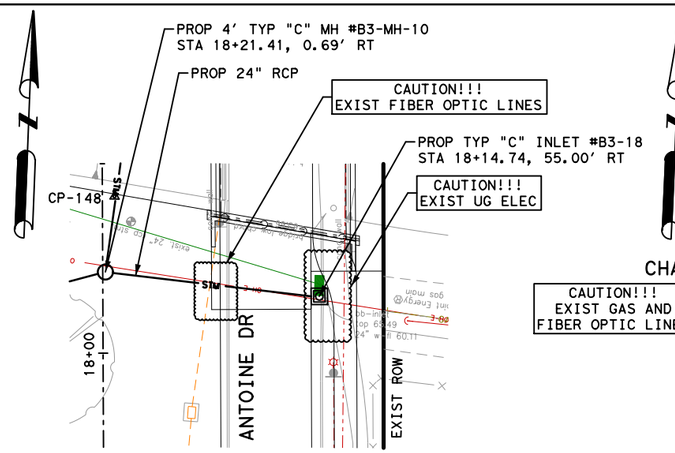

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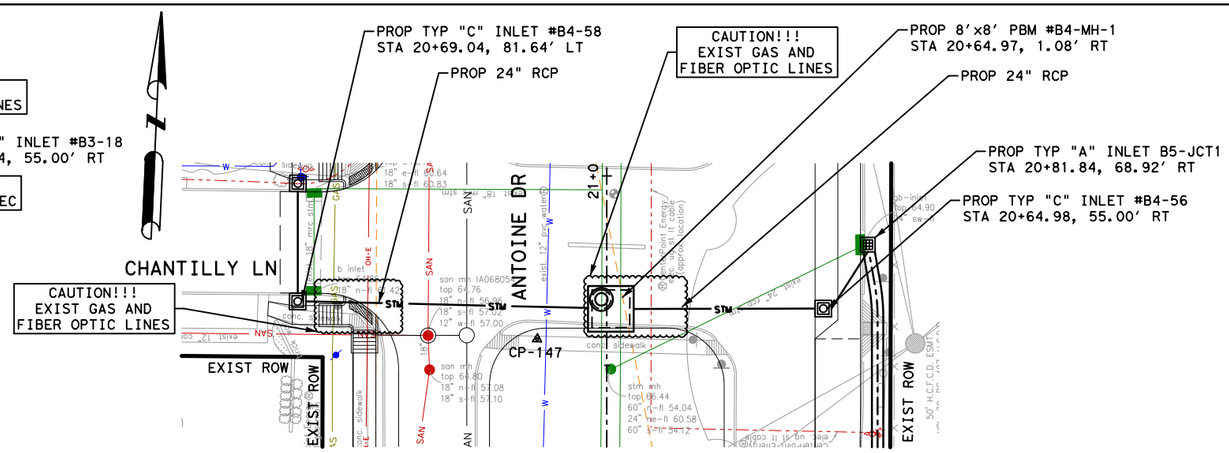

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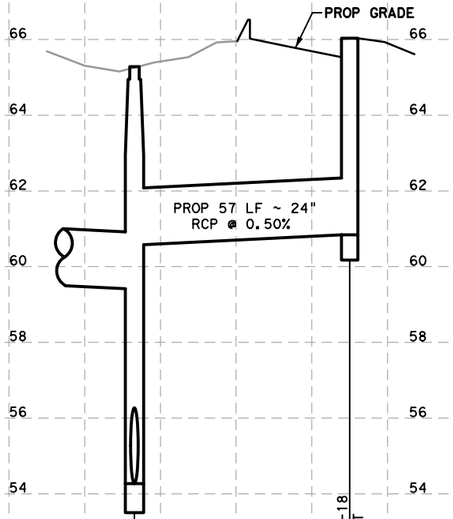
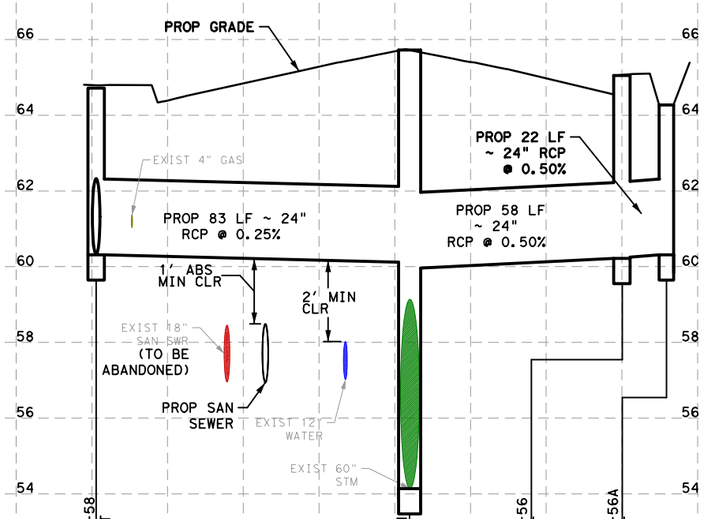


STA 18+14



STA 20+65

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VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 4 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 468 OF 1067	

No.	DATE	REVISIONS	APP.

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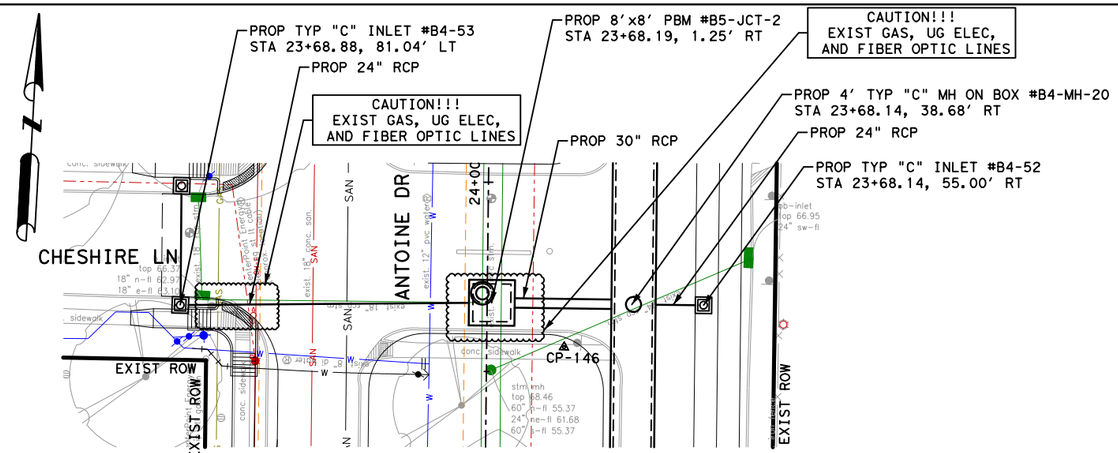

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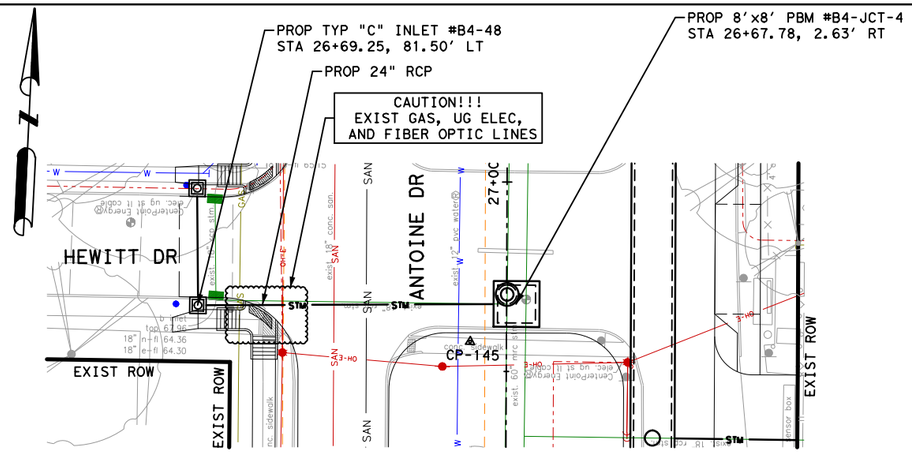

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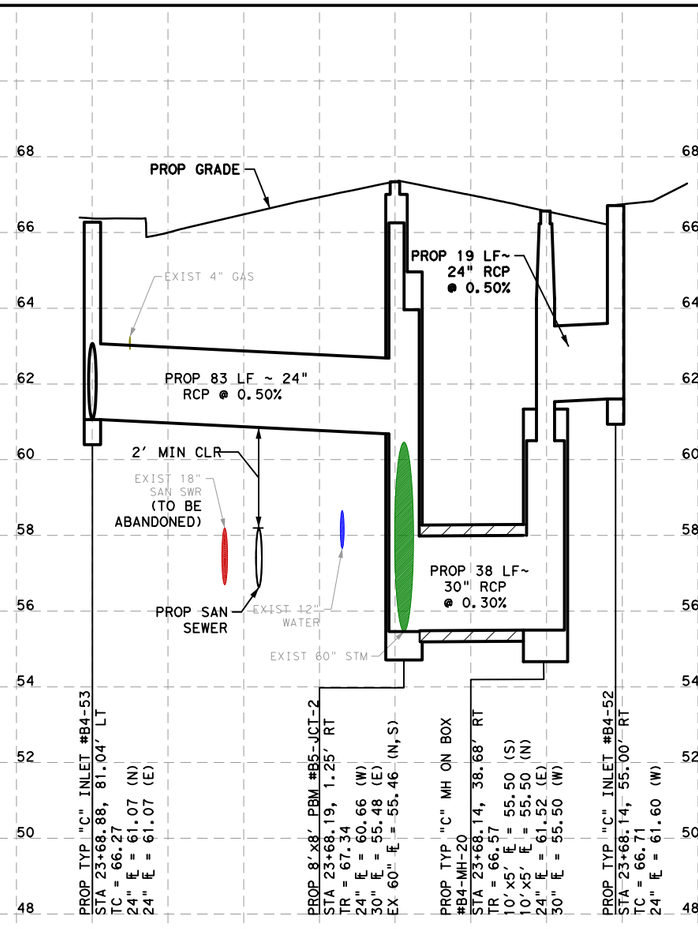
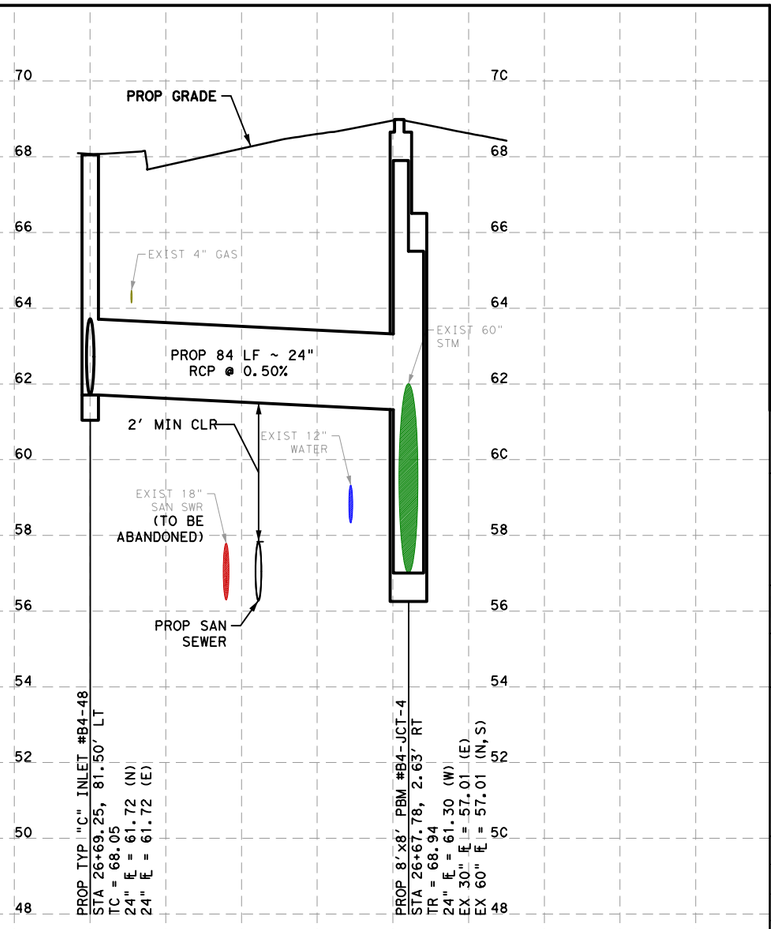


STA 23+68



STA 26+68

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 5 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 469 OF 1067	

No.	DATE	REVISIONS	APP.

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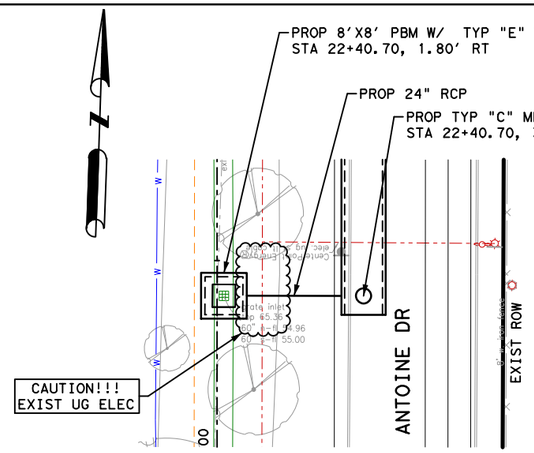

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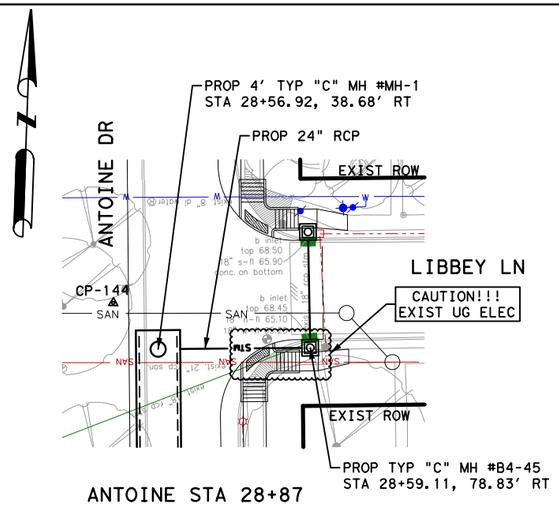

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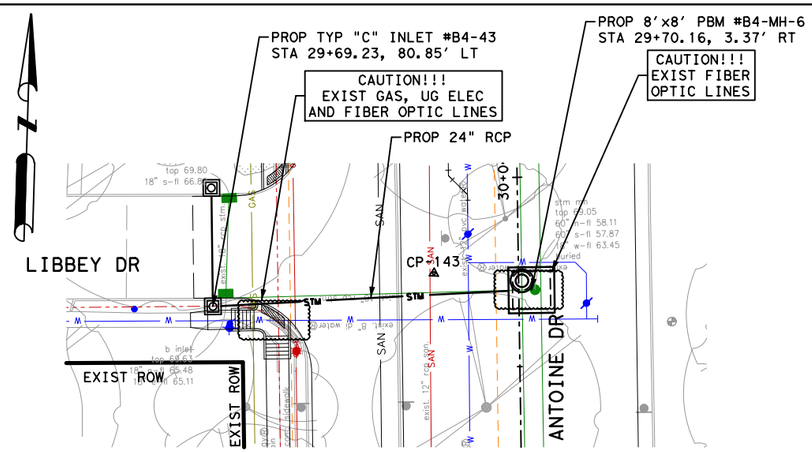

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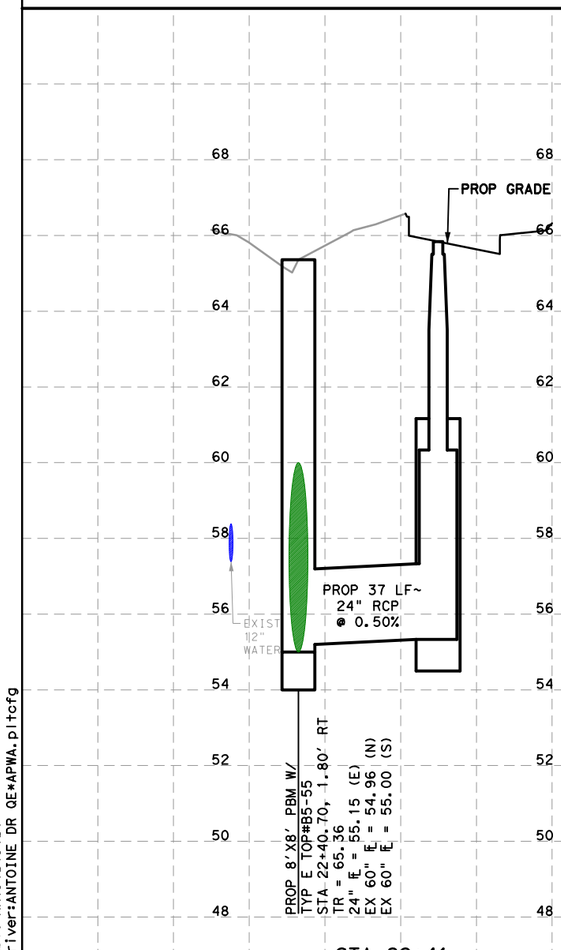

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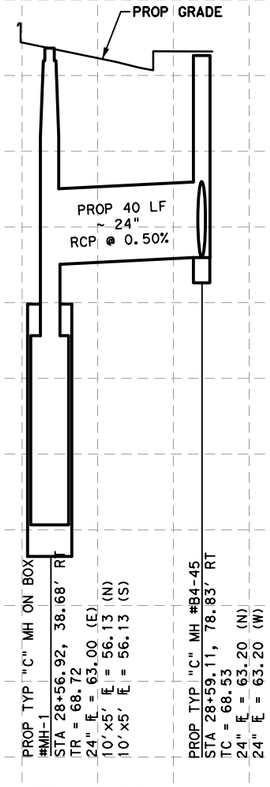

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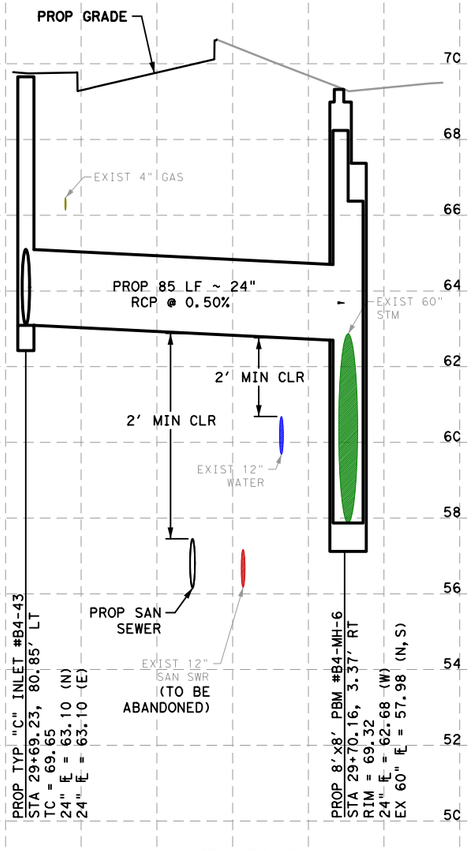

STA 29+70

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 6 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 470 OF 1067	

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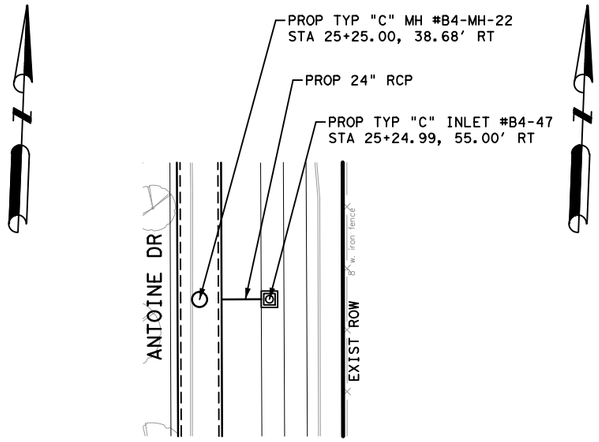
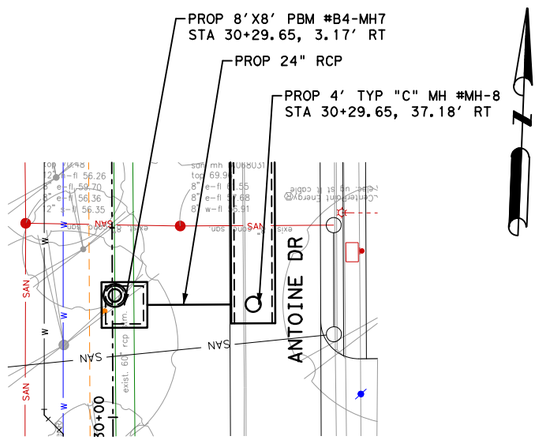
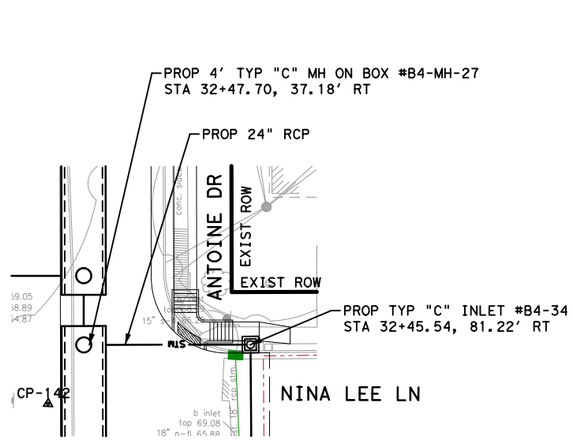


ANTOINE 25+25



ANTOINE 30+30



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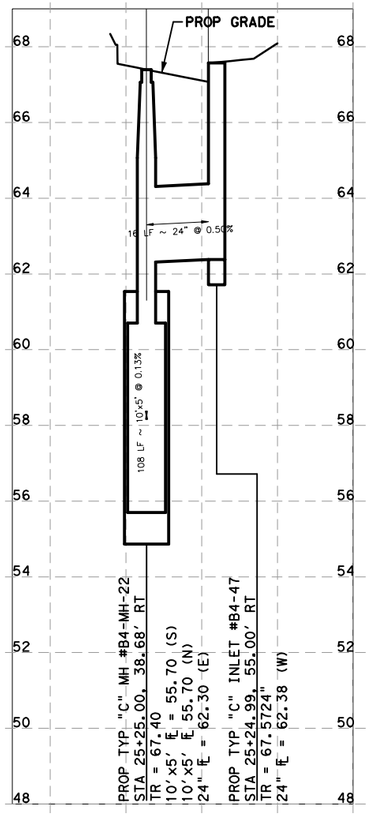
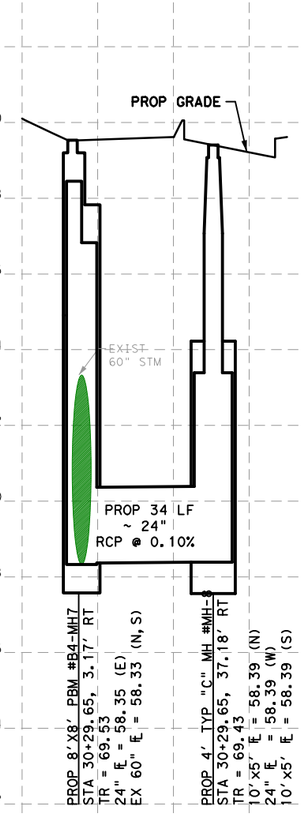


STA 25+25



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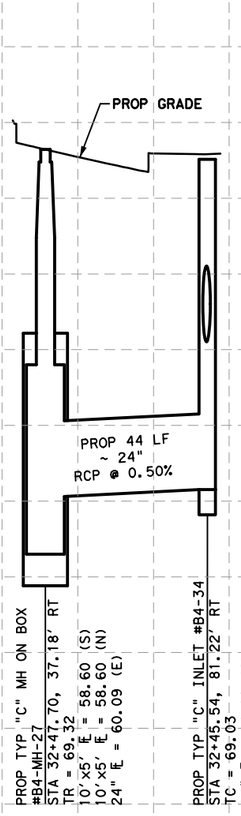

STA 32+47

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
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ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 7 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 471 OF 1067	

No.	DATE	REVISIONS	APP.

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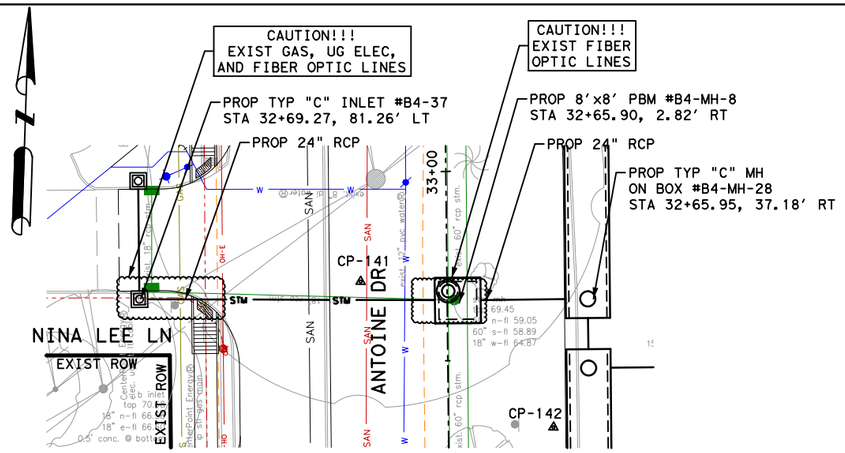
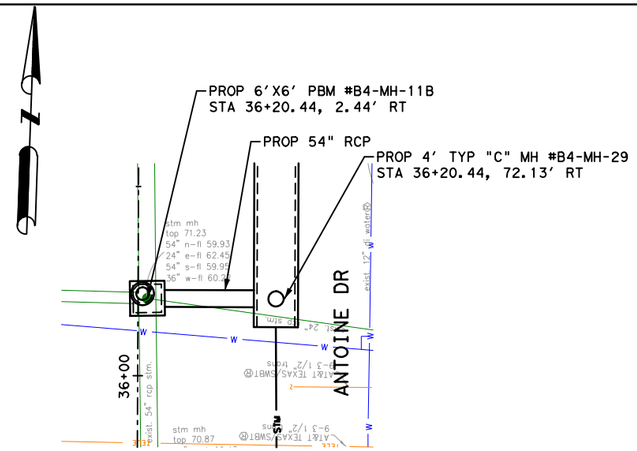
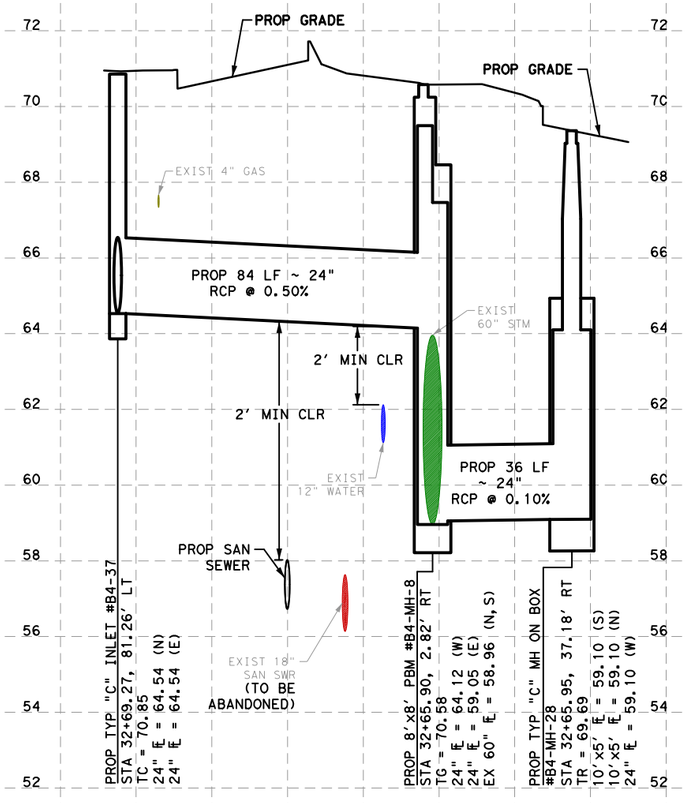


ANTOINE STA 32+66



ANTOINE STA 36+20



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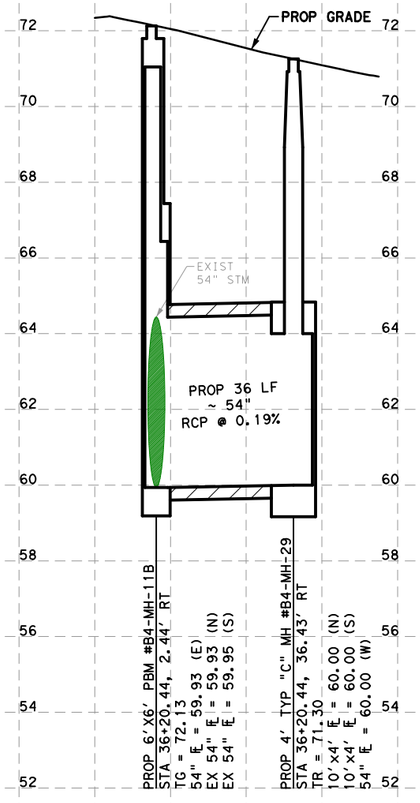

STA 36+20

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 8 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 472 OF 1067	

No.	DATE	REVISIONS	APP.

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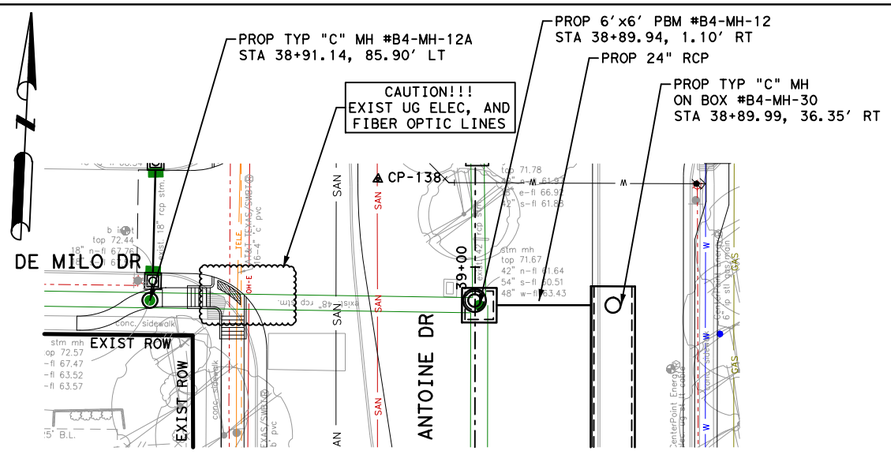
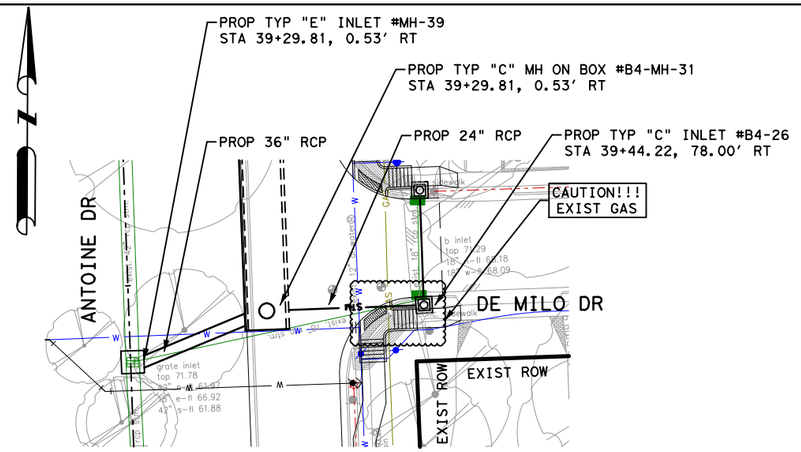


ANTOINE STA 38+90



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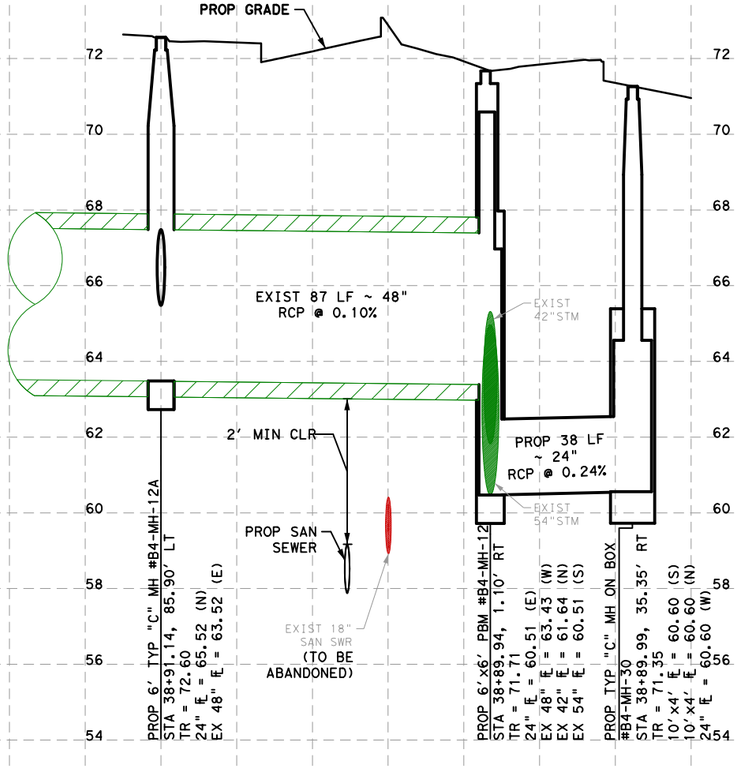

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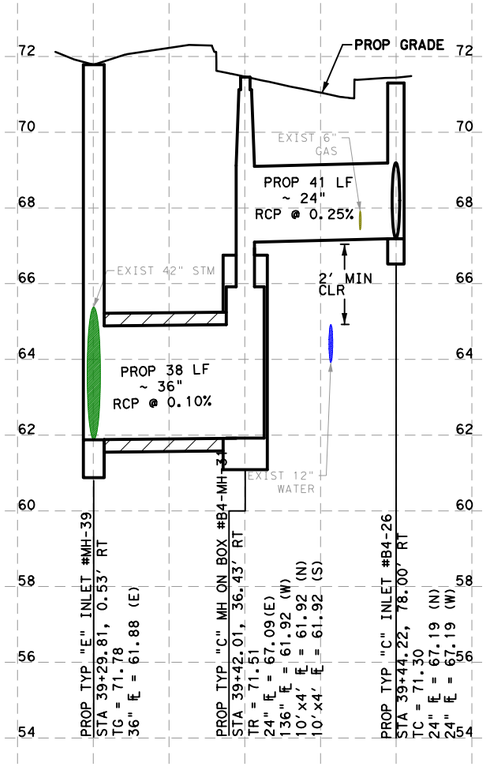

STA 39+44

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VERT 0' 2' 4'
SCALE IN FEET

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ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 9 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 473 OF 1067	

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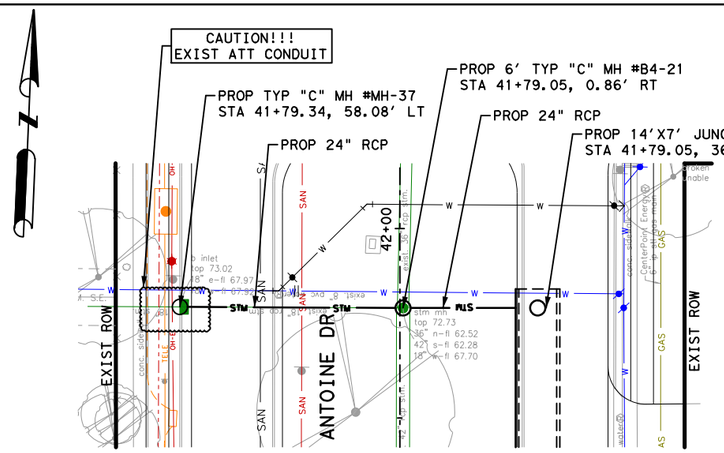
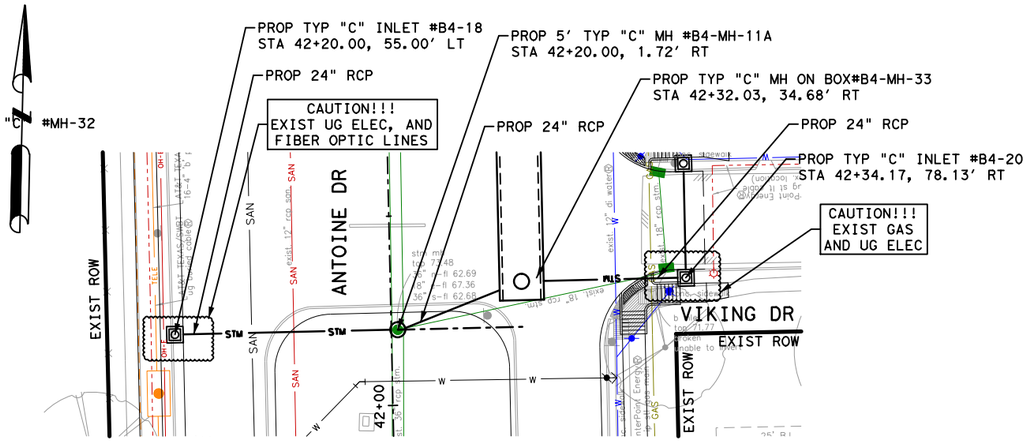
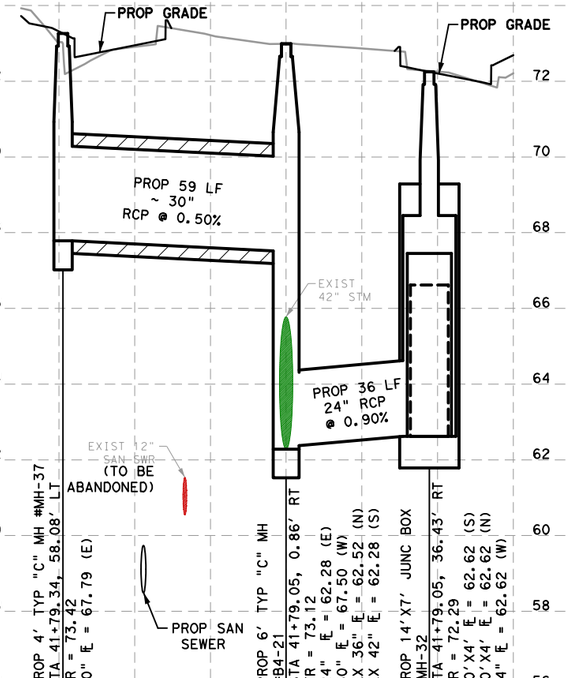
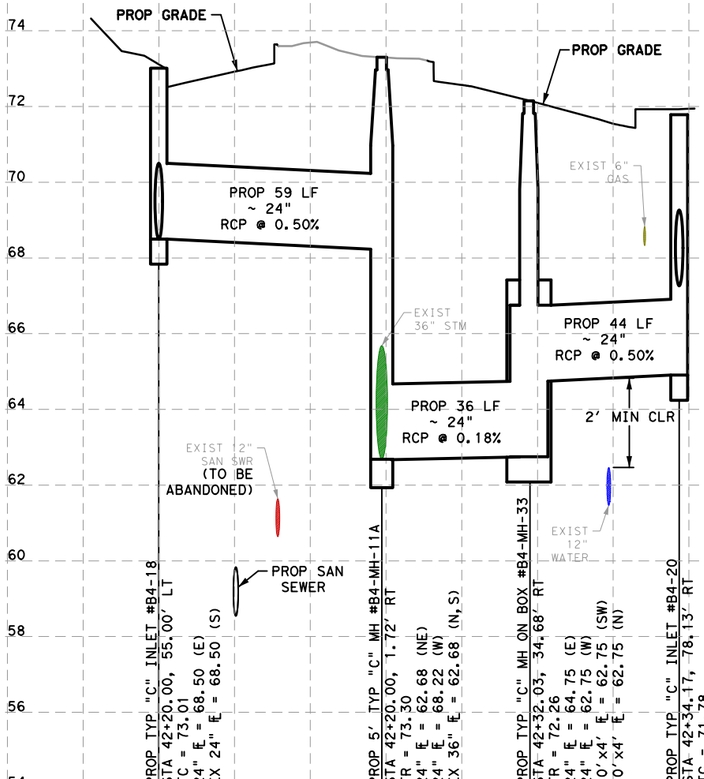


ANTOINE 41+79



ANTOINE 42+20





NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 10 OF 20

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 474 OF 1067	

No.	DATE	REVISIONS	APP:

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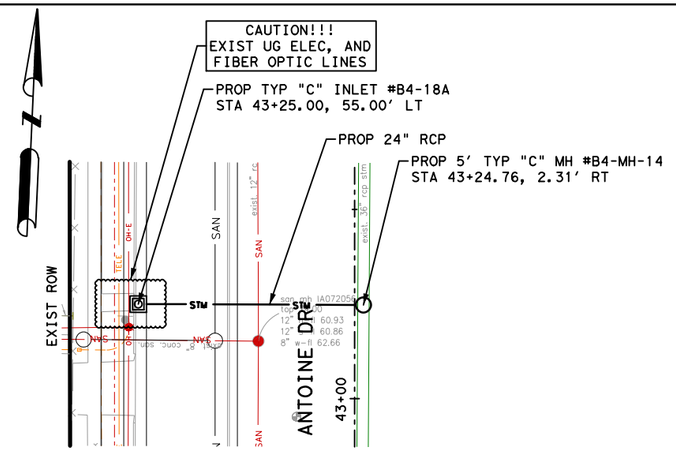
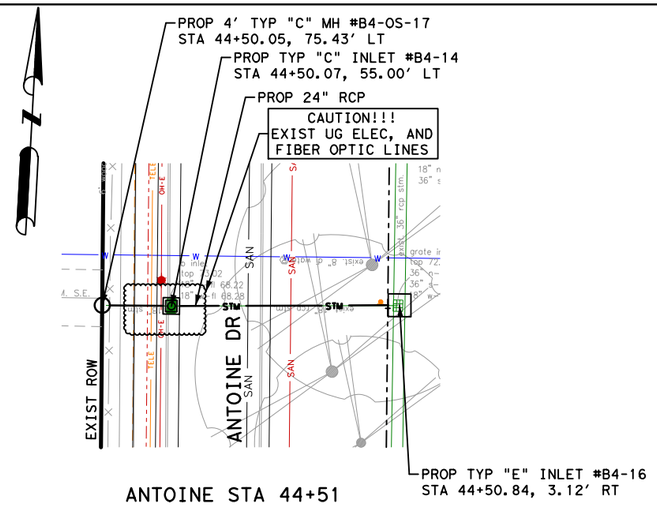
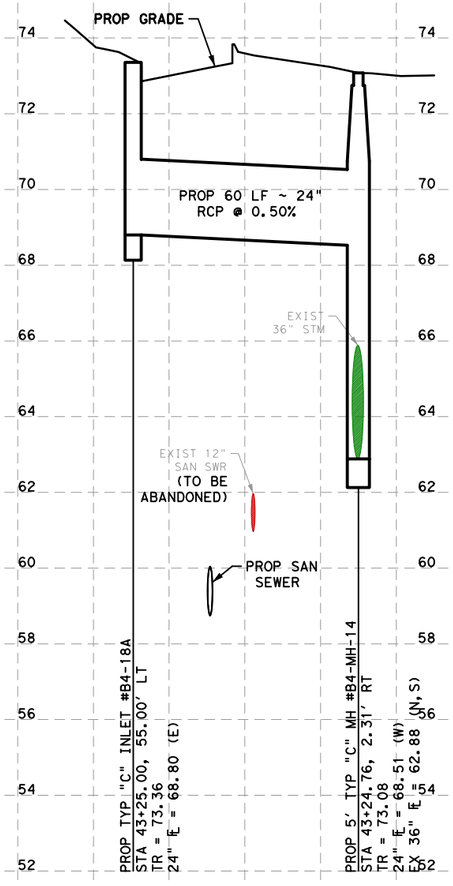


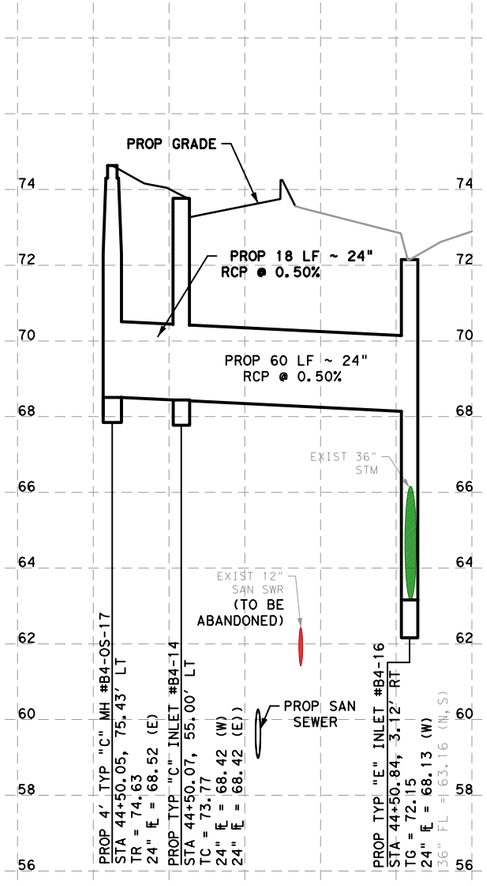
ANTOINE STA 43+25



ANTOINE STA 44+51



STA 43+25



STA 44+51

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 11 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 475 OF 1067	

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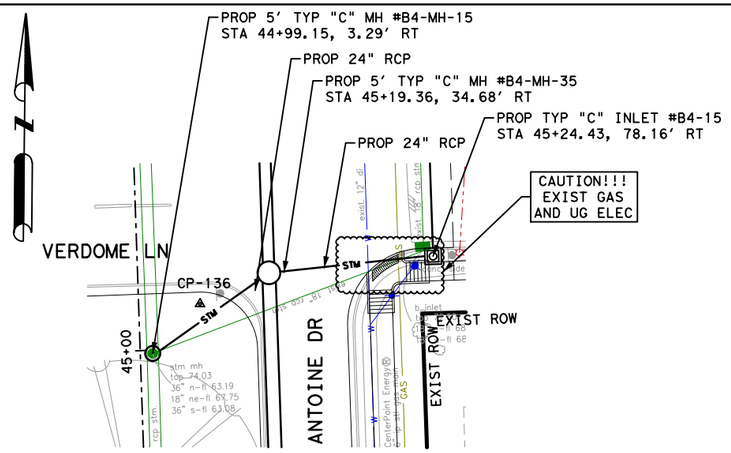
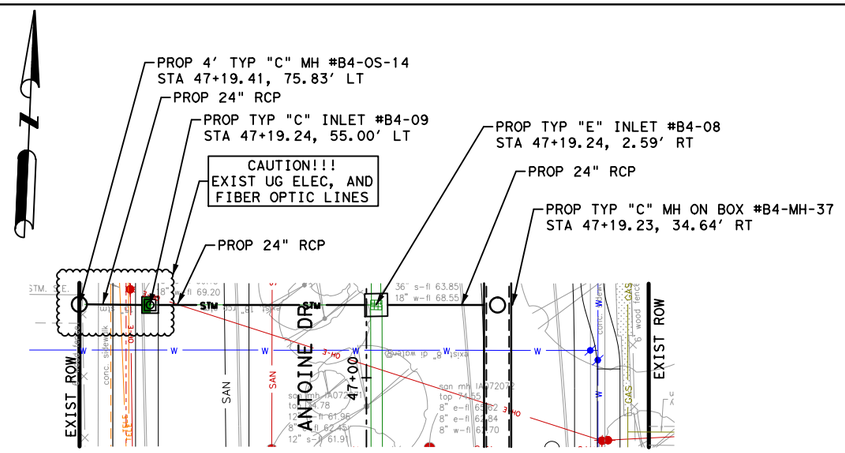
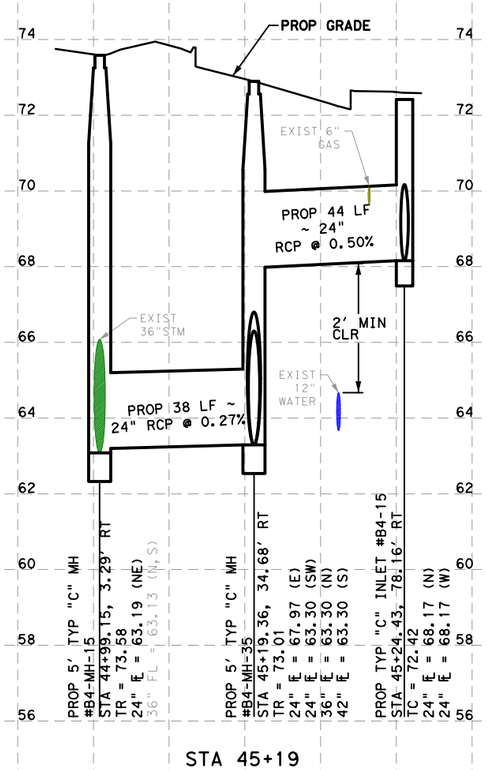


ANTOINE STA 45+19



ANTOINE STA 47+19



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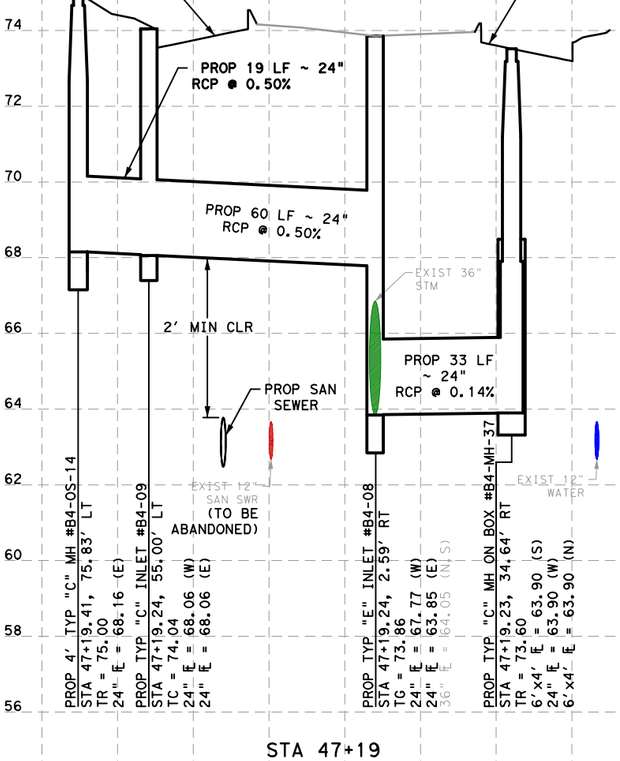

STA 47+19

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

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VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 12 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 476 OF 1067	

No.	DATE	REVISIONS	APP.

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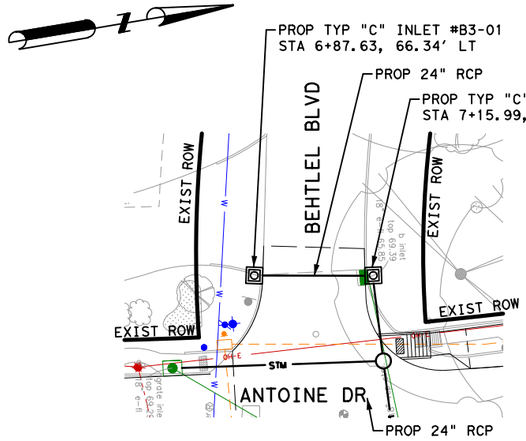
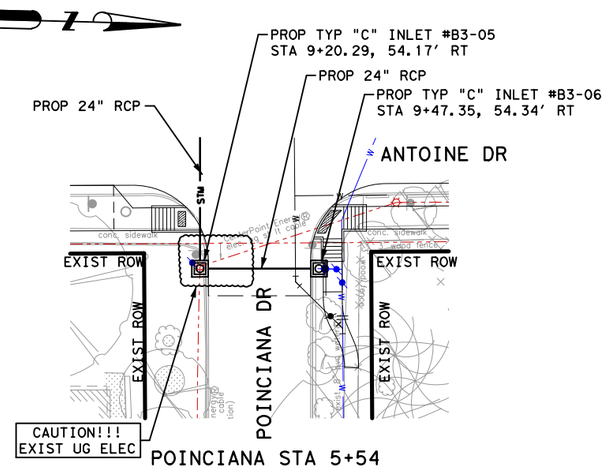


BETHEL STA 7+31



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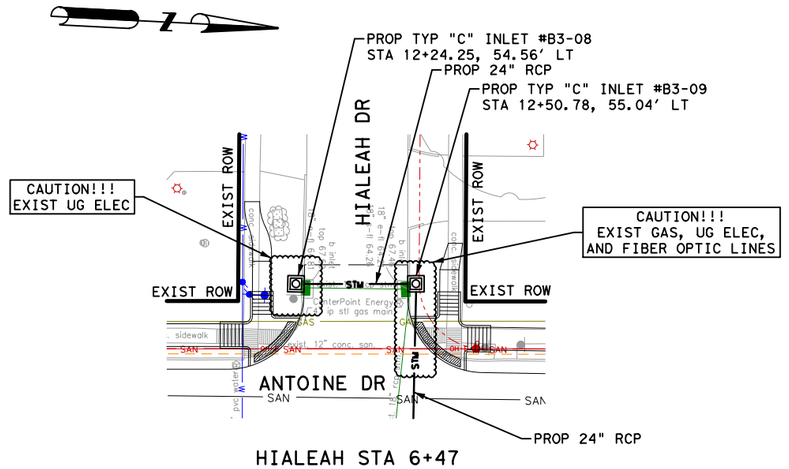


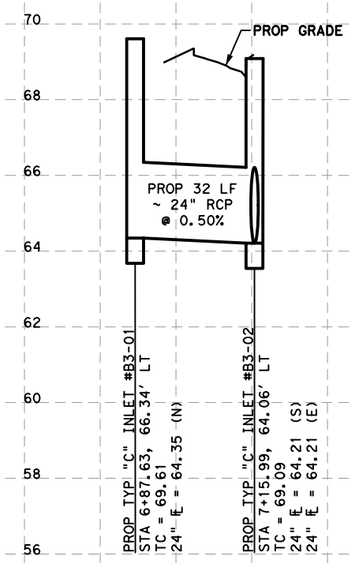
HIALEAH STA 6+47

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET



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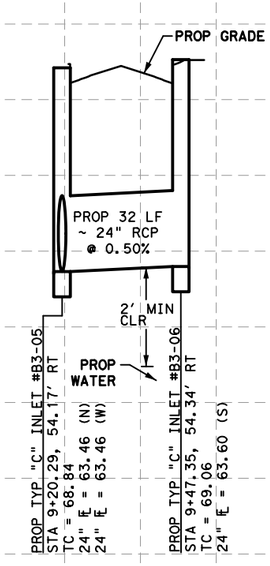

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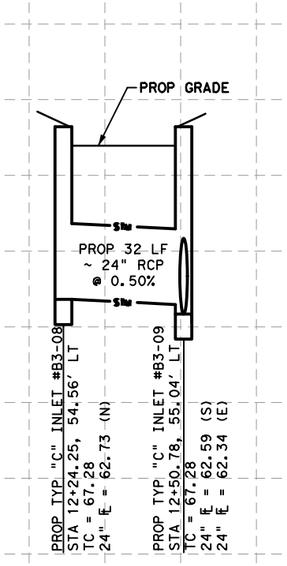

HIALEAH STA 6+47

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 13 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 477 OF 1067	

No.	DATE	REVISIONS	APP.

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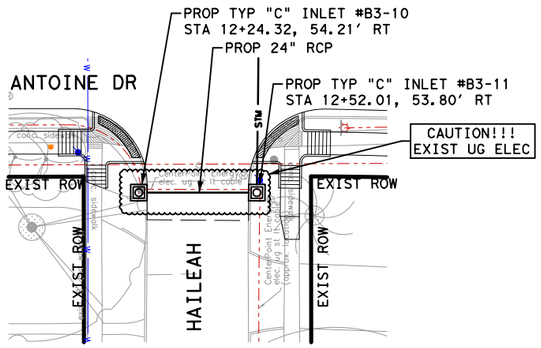
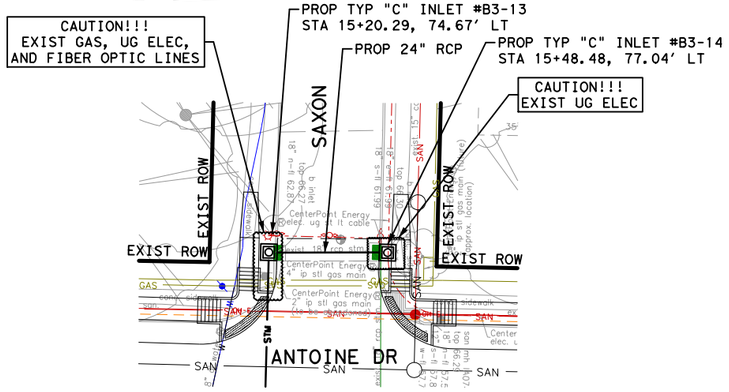
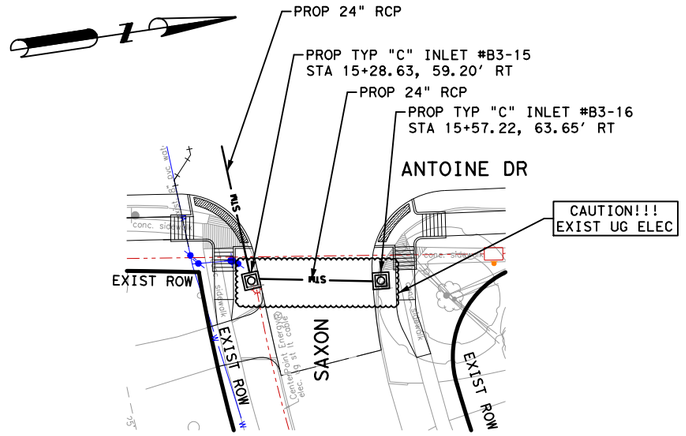


HIALEAH STA 7+55



SAXON STA 6+48



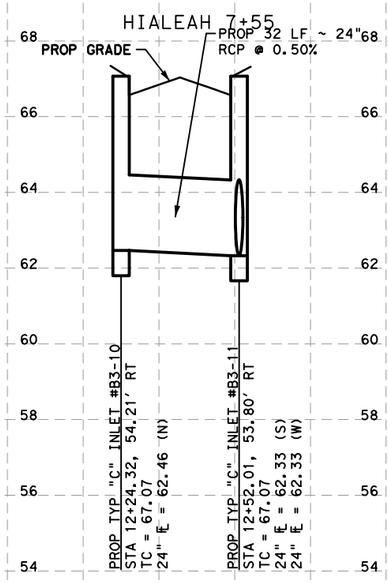
SAXON STA 7+85

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET



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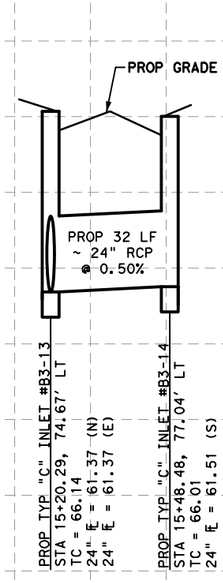

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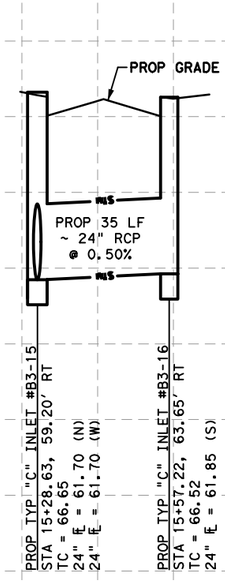

SAXON STA 7+85

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ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 14 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 478 OF 1067	

No.	DATE	REVISIONS	APP:

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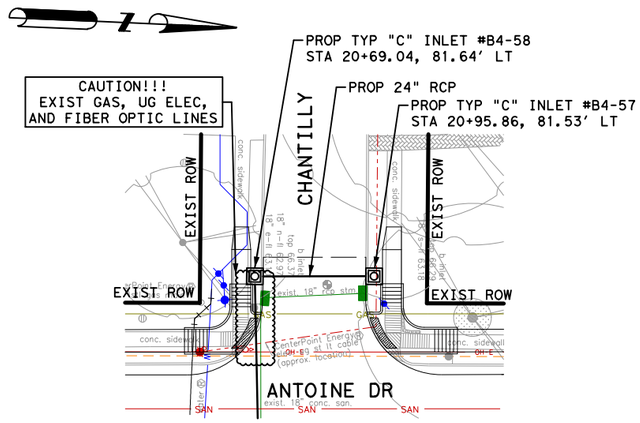
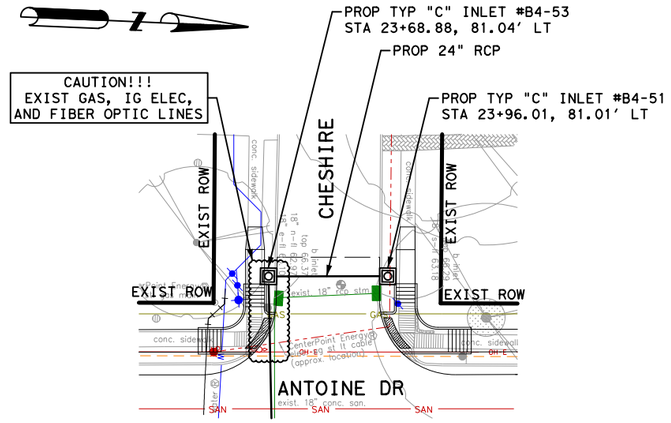


CHANTILLY STA 9+28



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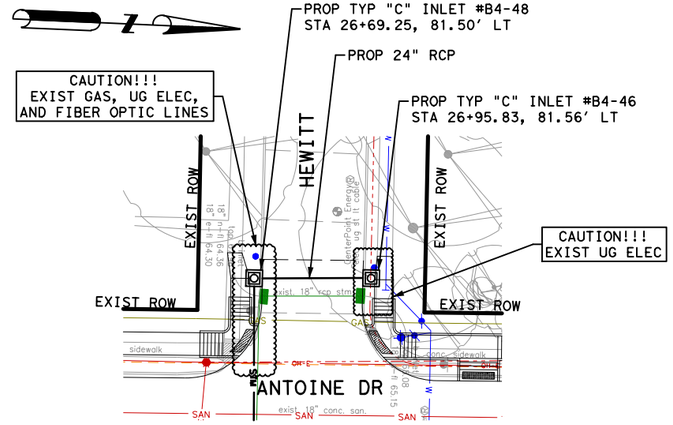

HEWITT STA 6+51

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

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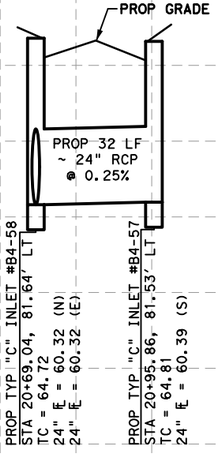
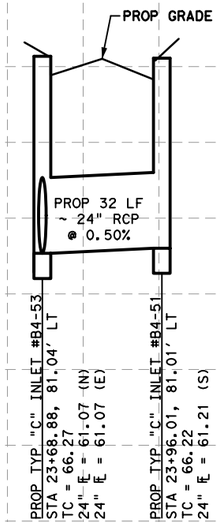
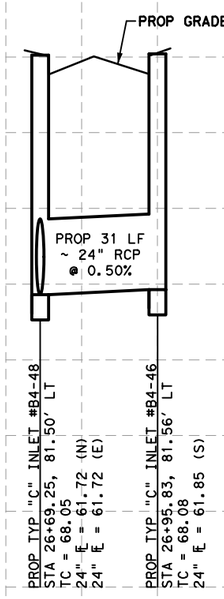
HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET



CHANTILLY STA 9+28



CHESHIRE STA 6+85



HEWITT STA 6+51

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ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 15 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 479 OF 1067	

No.	DATE	REVISIONS	APP:

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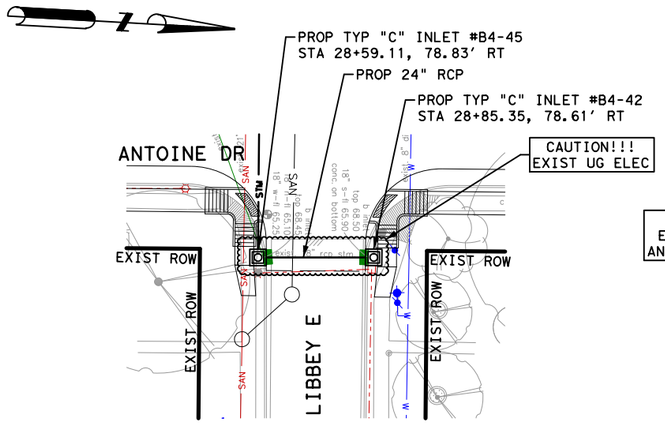
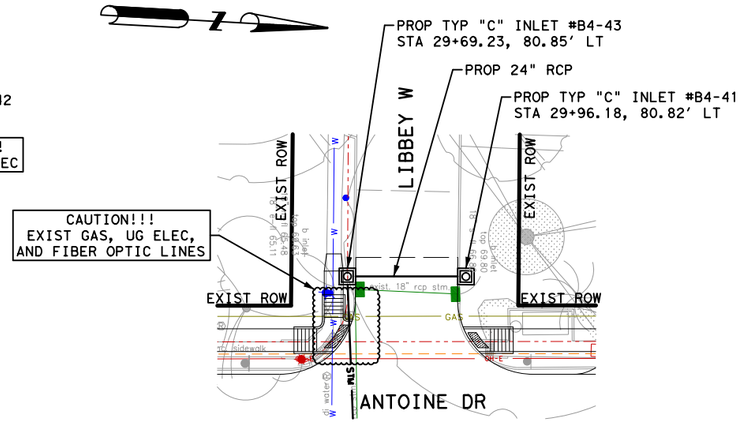
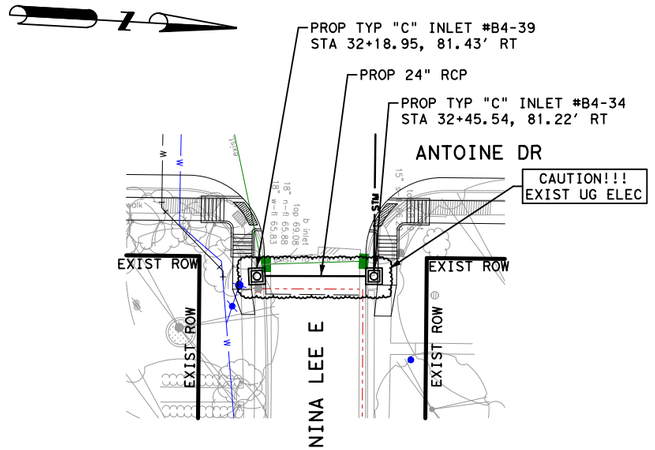


LIBBEY E STA 5+78



LIBBEY W STA 6+44



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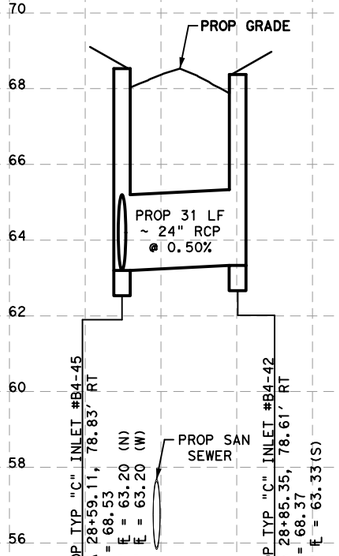
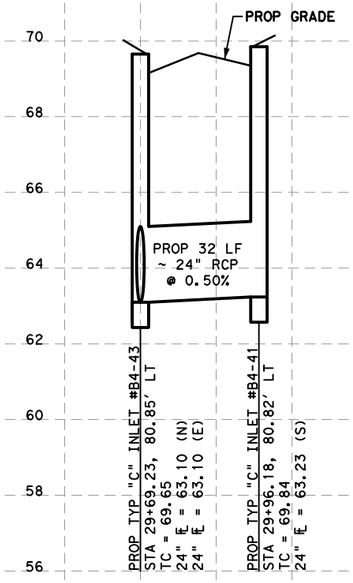


LIBBEY E STA 5+78



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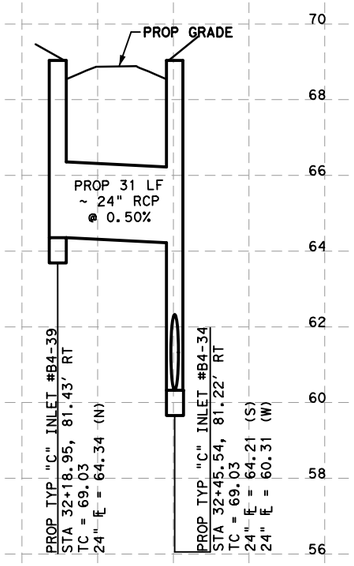

NINA LEE E STA 5+81

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Date
MARCH 2026
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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 16 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 480 OF 1067	

No.	DATE	REVISIONS	APP:

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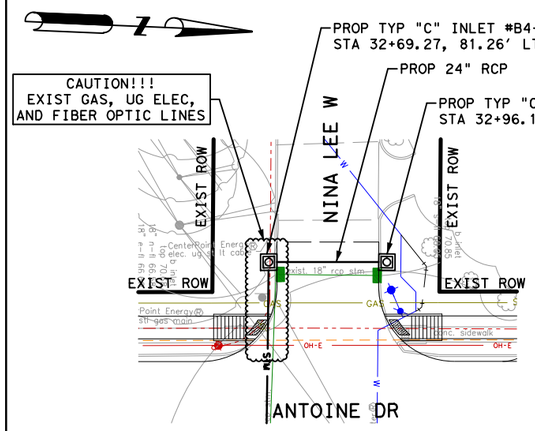

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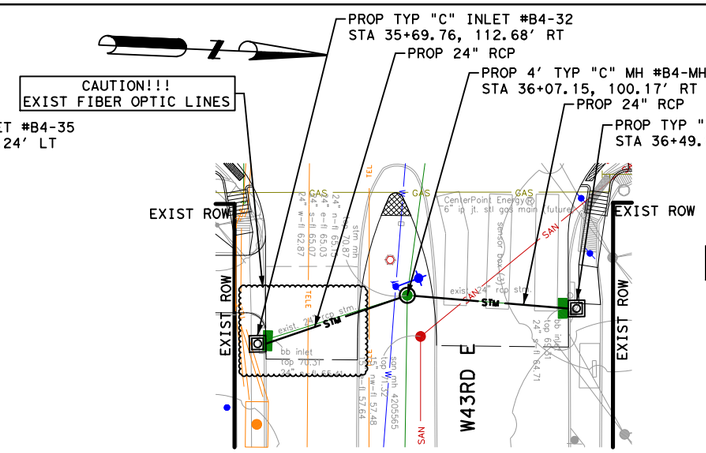
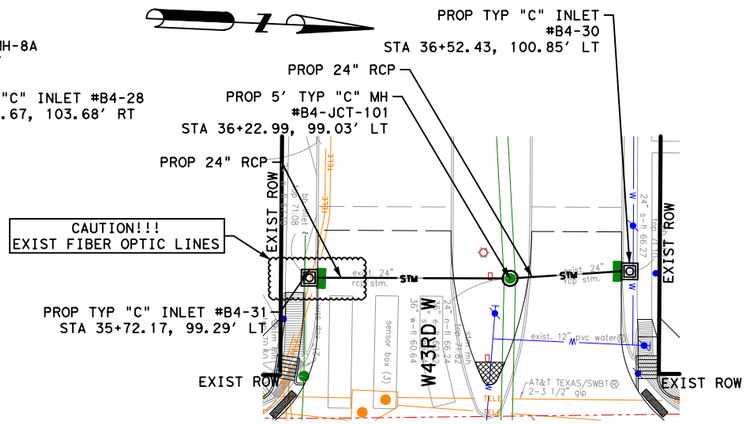


W43RD E STA 6+01



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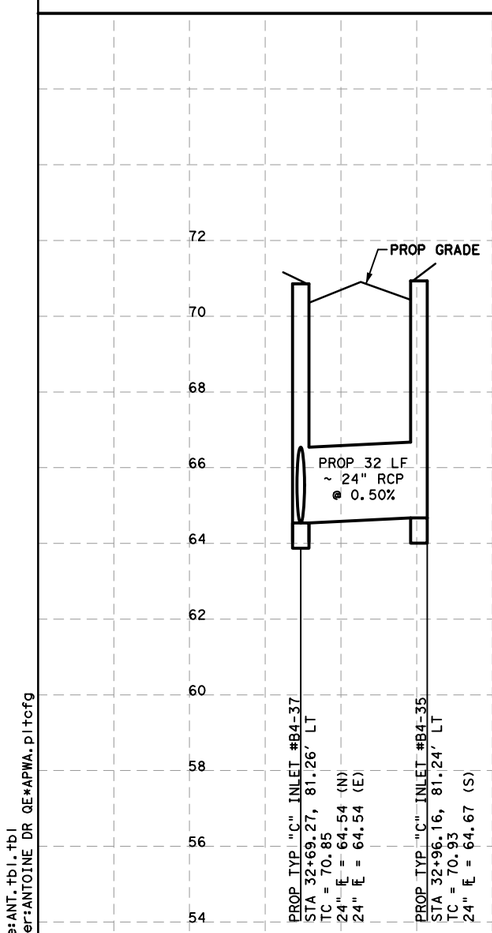

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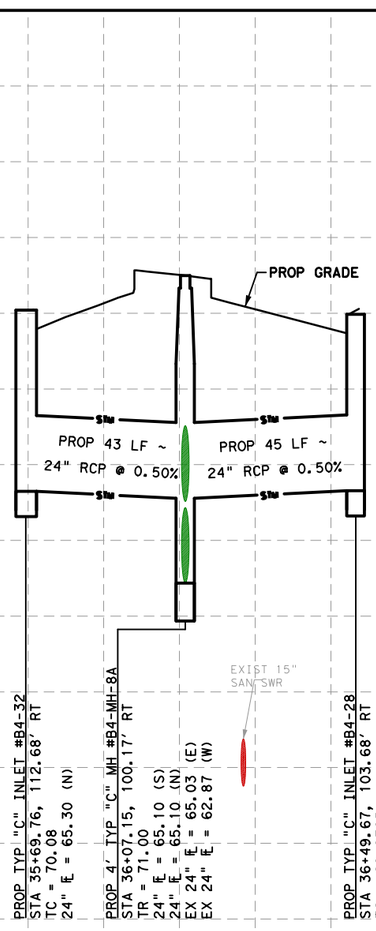

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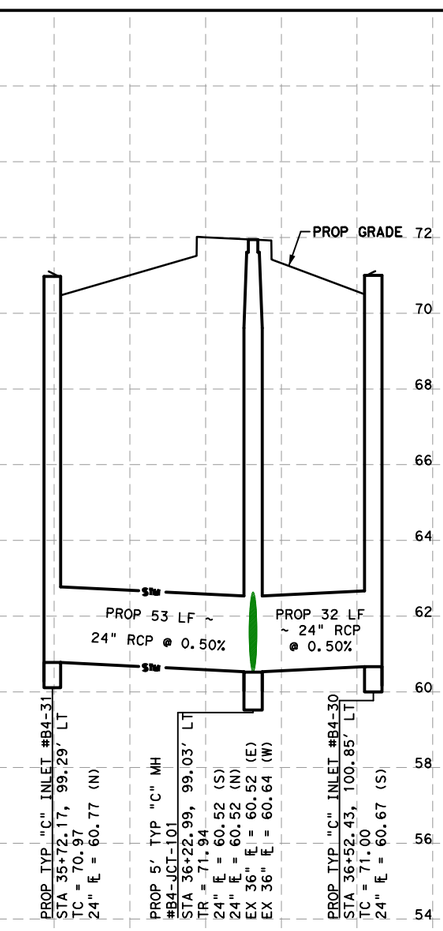

W43RD W STA 6+63

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 17 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 481 OF 1067	

Plotted on: 3/9/2026 6:55:00 PM
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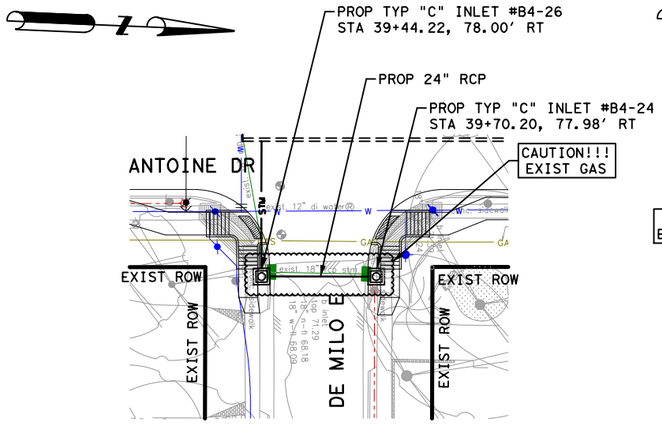
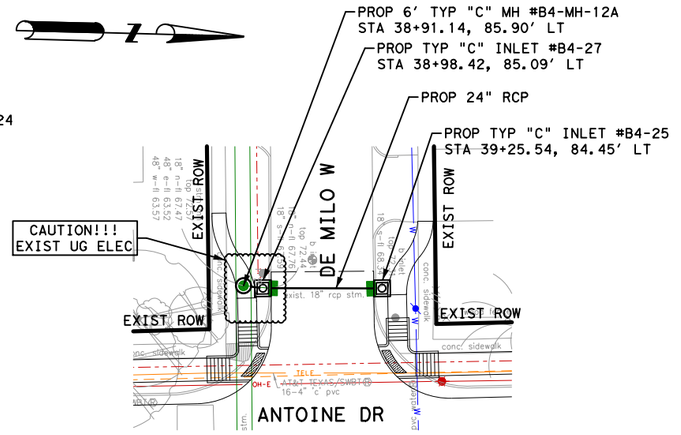
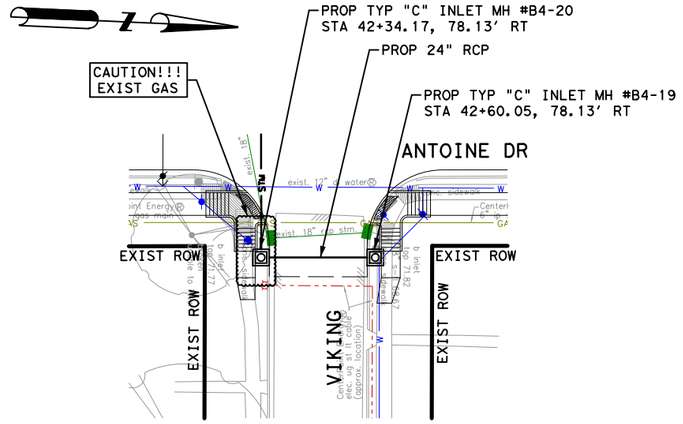
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\DRAINAGE LATERALS\PR_STORM LATERAL_SIDESTREET_01.dgn



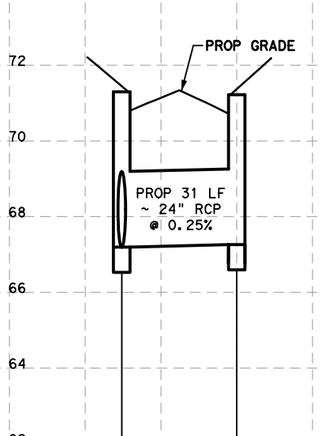
DE MILO E STA 5+78



DE MILO W STA 6+52



VIKING STA 5+78



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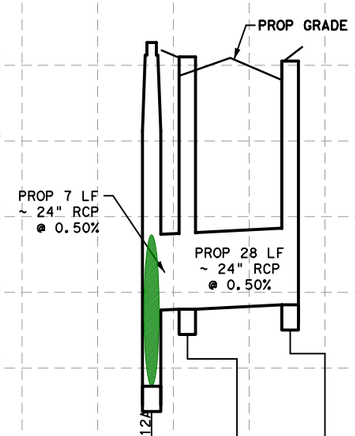

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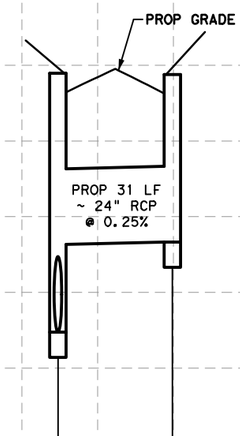

VIKING STA 5+78

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 18 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 482 OF 1067	

No.	DATE	REVISIONS	APP.

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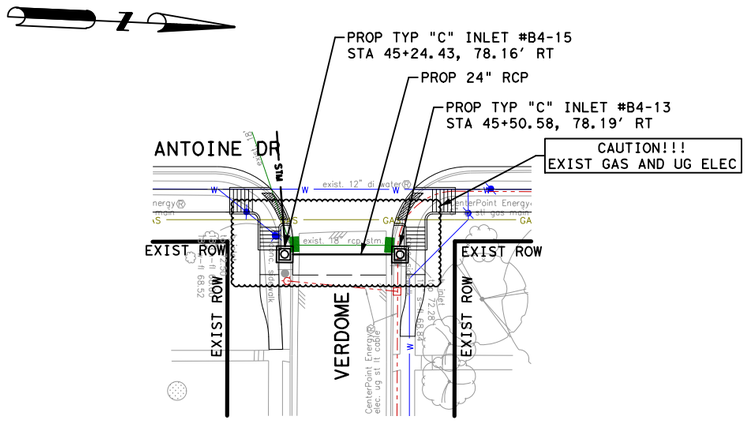

VERDOME STA 5+78

VERDOME STA 5+78

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRAINAGE LATERALS

SHEET 19 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 483 OF 1067	

No.	DATE	REVISIONS	APP.

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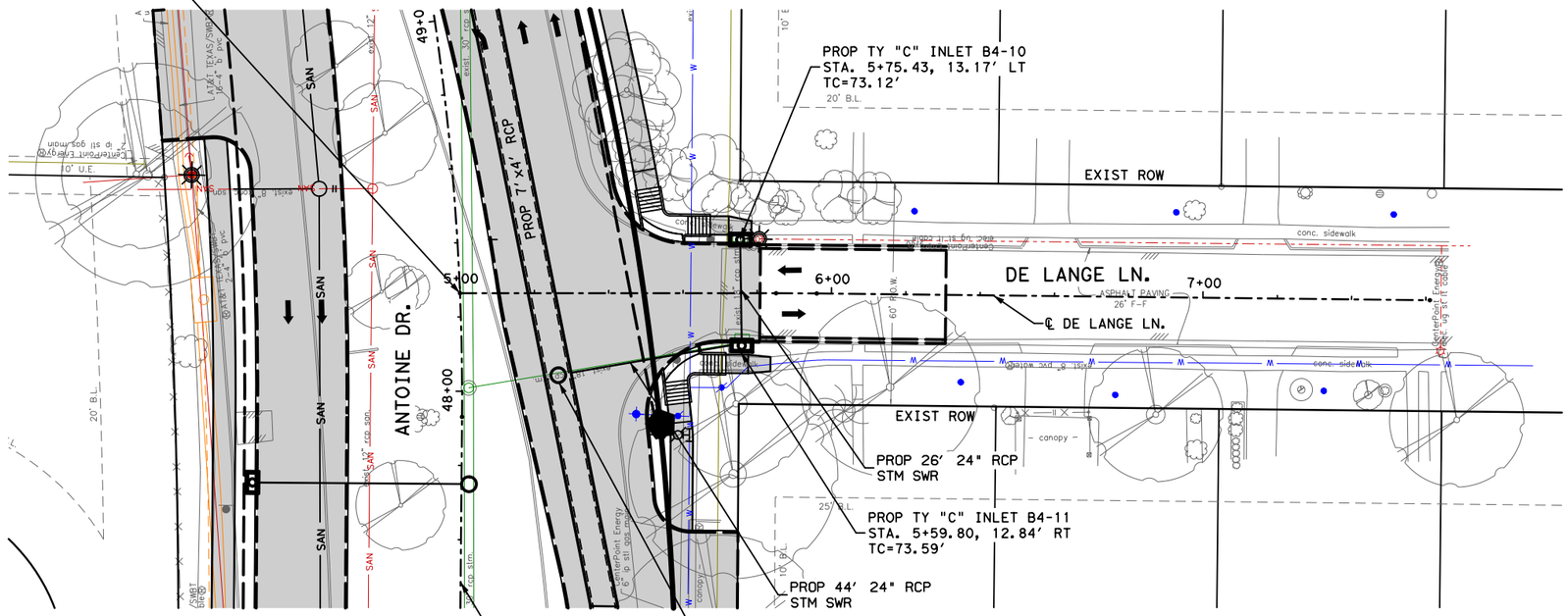
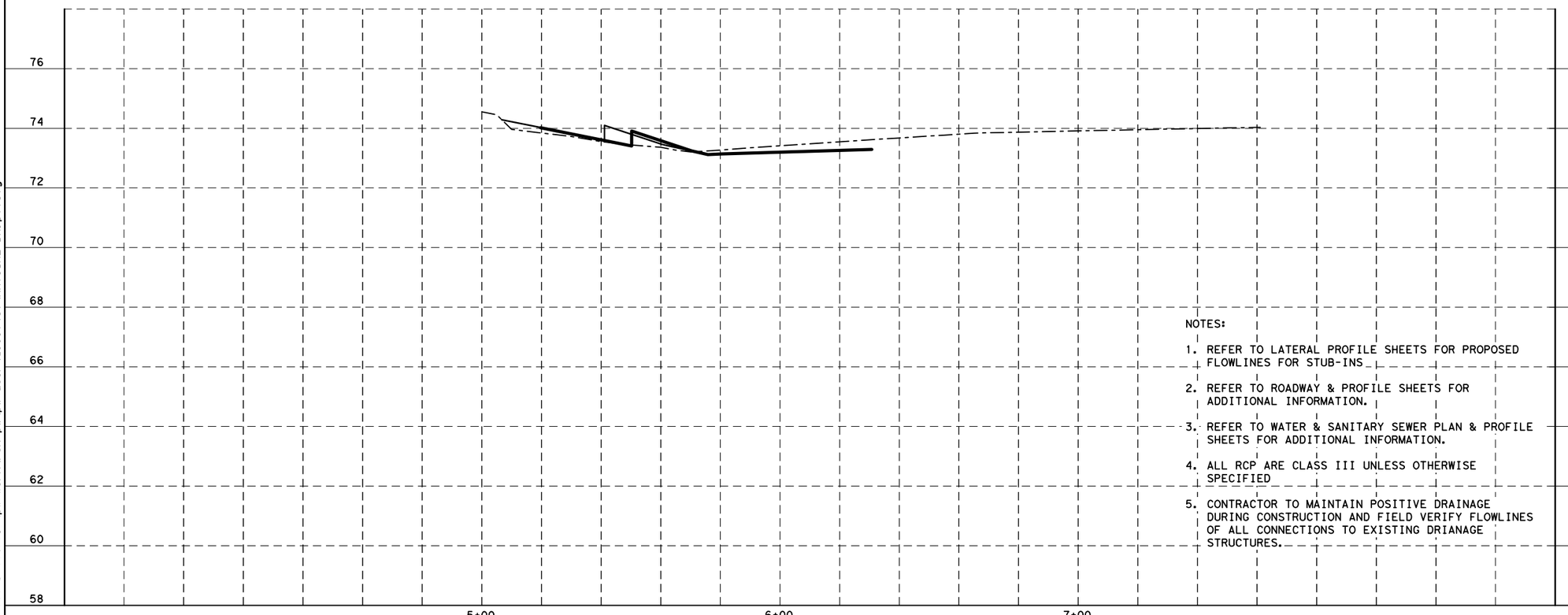
℄ ANTOINE DR. STA 50=05.30=
℄ DE LANCE LN. STA 48+26.39



LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP



NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED
5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DE LANGE LN.
DRAINAGE LATERALS

SHEET 20 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 484 OF 1067	

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℄ ANTOINE DR. STA 50=05.30=
℄ ACORN ST. STA 7+68.66

℄ ANTOINE DR.

PROP JCT BOX W/LID NO. B4-3R
STA 6+87.15, 25.10' LT

PROP 8' 24" RCP
STM SWR

PROP TY "C" INLET B4-05
STA. 6+89.40, 13.40' LT
TC=74.16'

EXIST ROW

PROP 26' 24" RCP
STM SWR

PROP TY "C" INLET B4-06
STA. 6+90.67, 12.50' RT
TC=74.16'

PROP 94' 24" RCP
STM SWR

PROP TY "C" MH NO.B4-MH-40
STA 49+73.11, 12.74' RT
TR=74.71'

ANTOINE DR.

ACORN ST.

PROP 16' 24" RCP
STM SWR

PROP TY "C" INLET B4-04
STA 9+05.57, 19.90' LT
TC=74.01'

PROP 18' 24" RCP
STM SWR

PROP CONC PIPE STUB
W/RING GRATE
STA 9+25.86, 23.40' LT

EXIST ROW

℄ ACORN ST.

PROP 38' 24" RCP
STM SWR

PROP 116' 24" RCP
STM SWR @ 0.00%

PROP CONC PIPE STUB
W/RING GRATE
STA 9+17.86, 25.00' RT

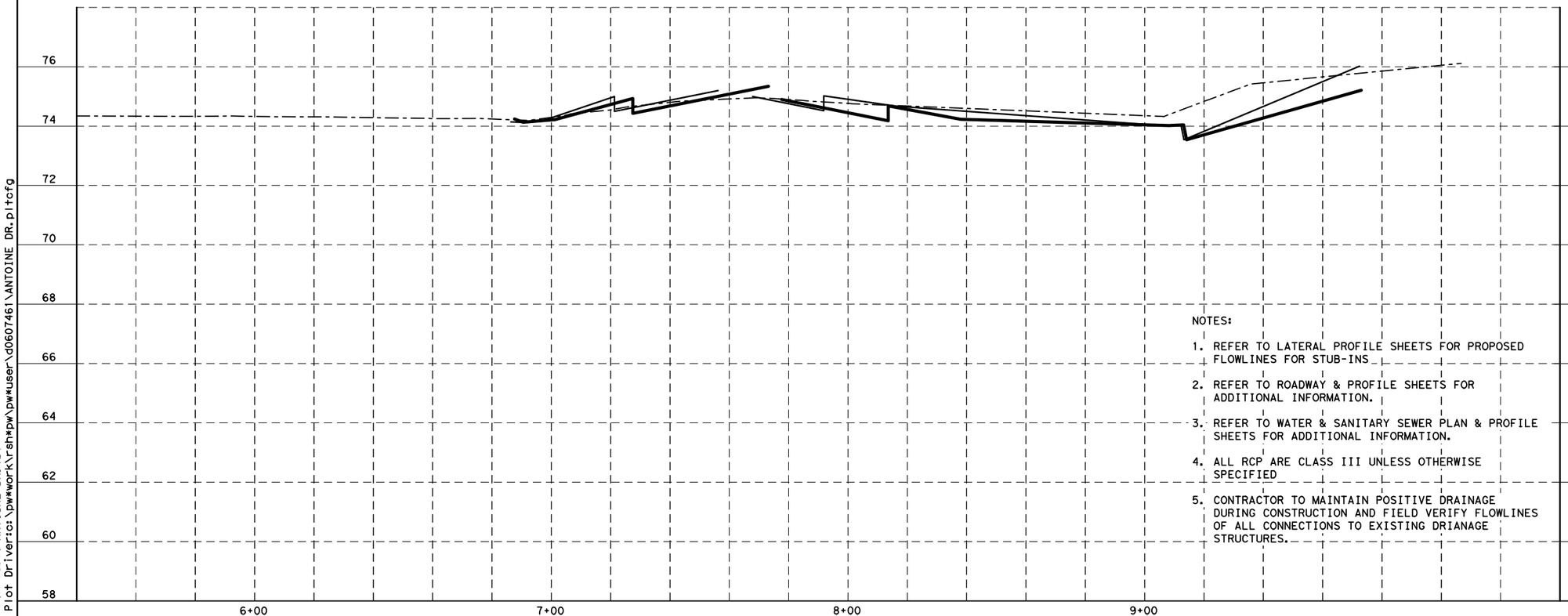
PROP 9' 24" RCP
STM SWR

PROP TY "C" INLET B4-07
STA 9+08.14, 20.50' RT
TC=74.01'

EXIST ROW

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP



NOTES:

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2. REFER TO ROADWAY & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. REFER TO WATER & SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL RCP ARE CLASS III UNLESS OTHERWISE SPECIFIED
5. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND FIELD VERIFY FLOWLINES OF ALL CONNECTIONS TO EXISTING DRIANAGE STRUCTURES.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note:The AT&T electronic Signature is valid for one year.

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
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3/12/2026
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RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ACORN ST.
DRAINAGE LATERALS

SHEET 21 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 485 OF 1067	

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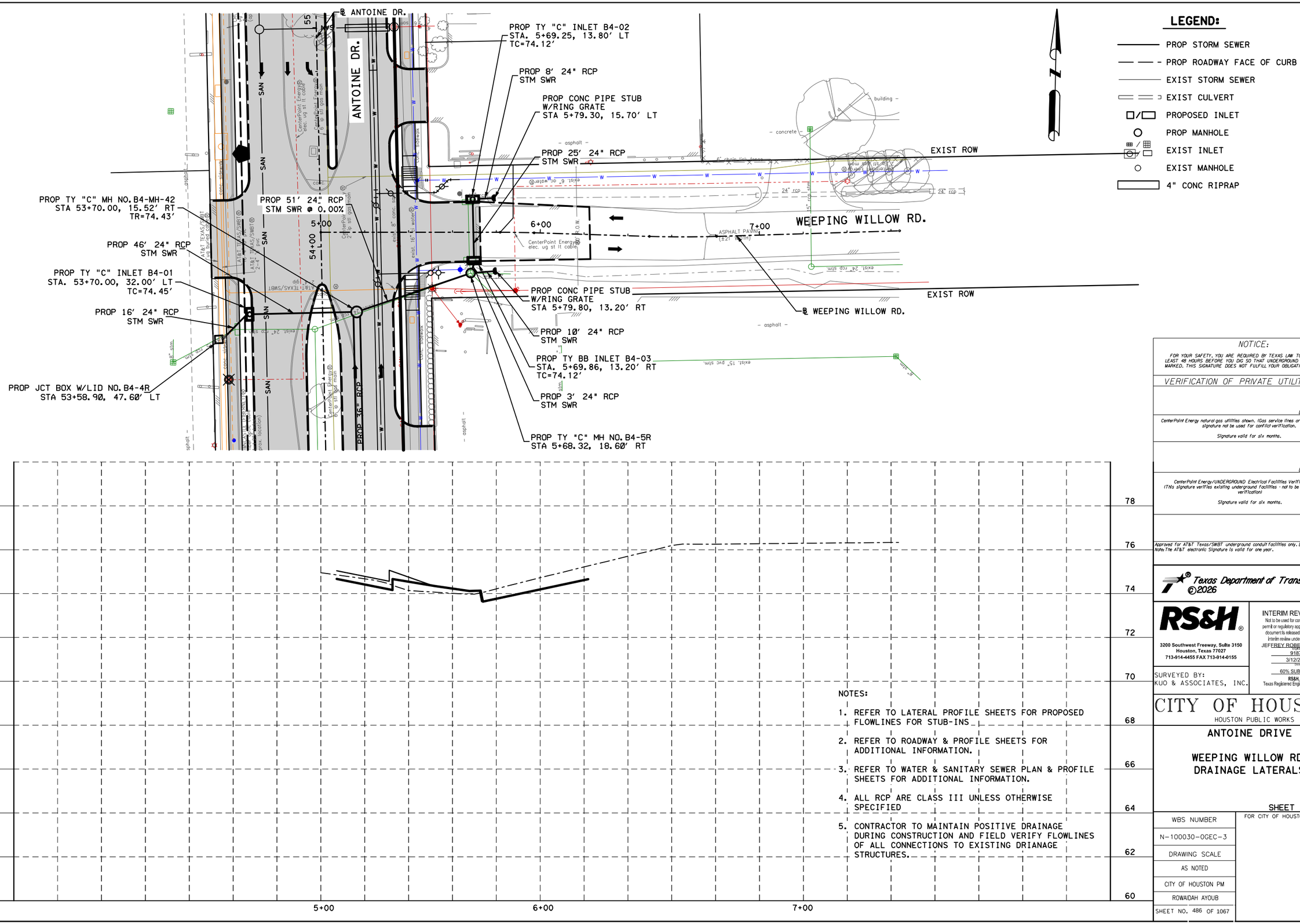

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Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note:The AT&T electronic Signature is valid for one year.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WEEPING WILLOW RD.
DRAINAGE LATERALS

SHEET 22 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 486 OF 1067	

Plotted on: 3/12/2026 4:11:13 AM anwanik
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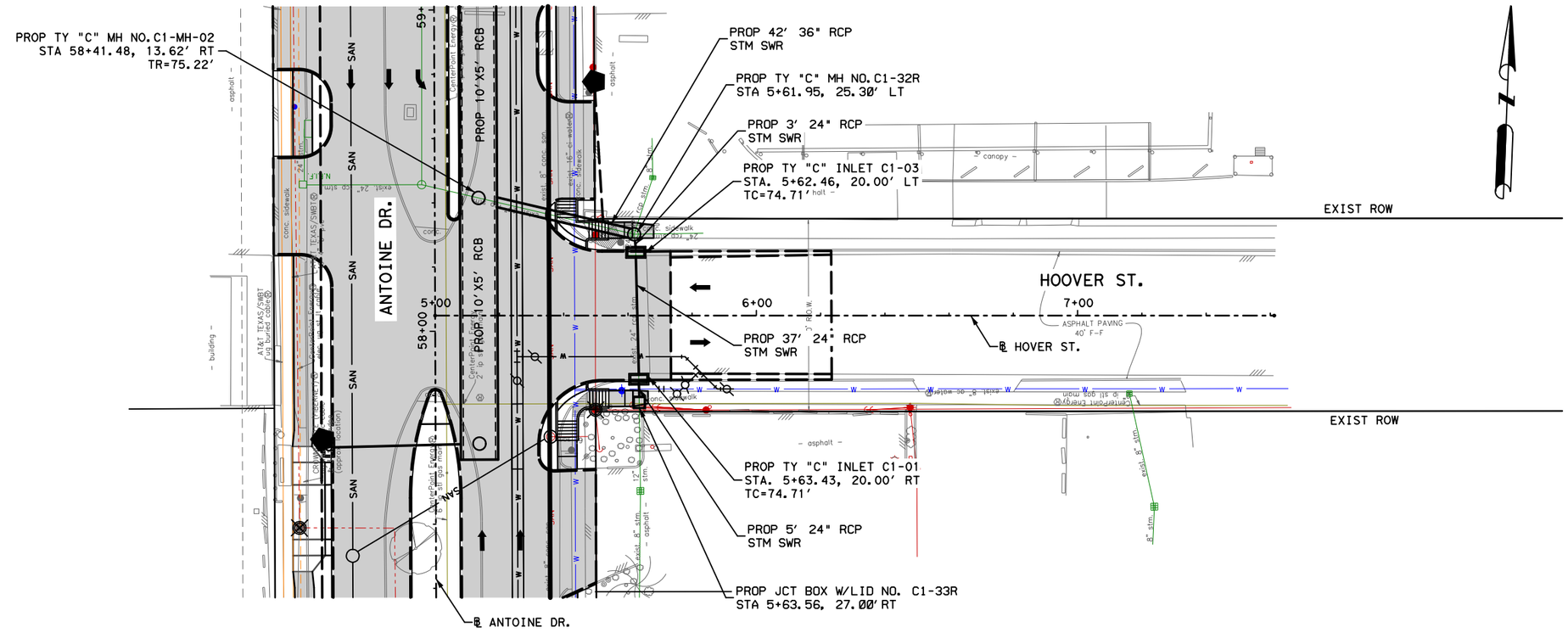

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTES:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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91874
3/12/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HOOVER ST.
DRAINAGE LATERALS

SHEET 23 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 487 OF 1067	

Plotted on: 3/12/2026 4:11:20 AM anwanik

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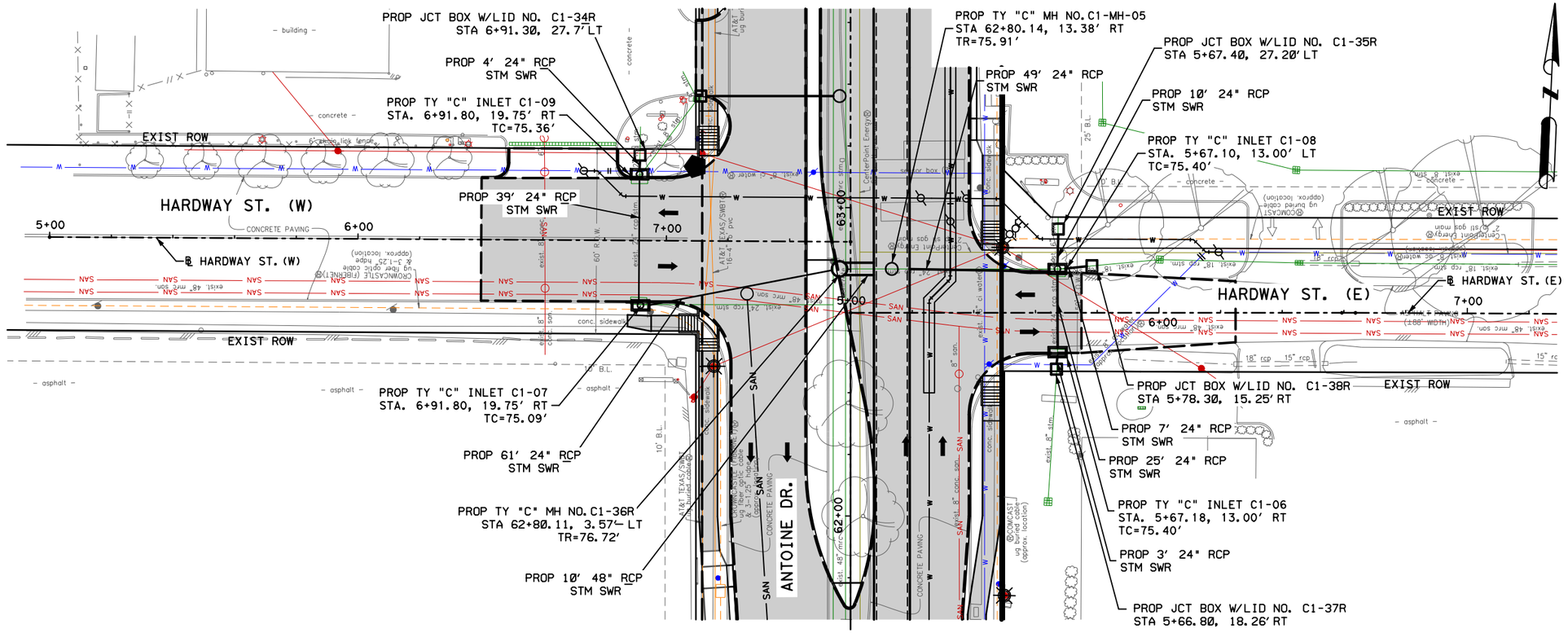

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Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HARDWAY ST. (E)&(W)
DRAINAGE LATERALS

SHEET 24 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 488 OF 1067	

Plotted on: 3/12/2026 4:11:27 AM anwanik

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PROP TY "C" MH NO. C1-40R
STA 65+38.60, 2.50' LT

PROP JCT BOX W/LID NO. C1-39R
STA 10+25.01, 42.30' LT

PROP 11' 24" RCP
STM SWR

PROP TY BB INLET C1-13
STA. 10+20.40, 29.80' LT
TC=75.84'

EXIST ROW

PROP 58' 24" RCP
STM SWR @ 0.00%

PINEMONT DR.

PROP 62' 24" RCP
STM SWR @ 0.00%

PROP 15' 60" RCP
STM SWR @ 0.00%

PROP 6'x5' RCB

PROP TY "C" MH NO. C1-MH-07
STA 65+37.98, 11.88' RT
TR=76.71'

PROP JCT BOX W/LID NO. C1-41R
STA 10+25.01, 42.30' LT

PROP 6' 24" RCP
STM SWR

PROP TY BB INLET C1-12
STA. 11+60.65, 30.0' LT
TC=75.85'

EXIST ROW

PROP 45' 24" RCP
STM SWR @ 0.00%

℄ PINEMONT DR.
N88°02'33.82"E

PINEMONT DR.

PROP 50' 42" RCP

PROP TY "C" MH NO. C1-MH-06
STA 64+77.56, 12.83' RT

PROP TY "C" INLET C1-11
STA. 10+13.50, 30.75' RT
TC=75.84'

EXIST ROW

PROP "C" MH NO. C1-42R
STA 10+25.52, 24.50' RT

PROP 55' 24" RCP
STM SWR

PROP 10'x5' RCB

ANTOINE DR.

℄ ANTOINE DR.

PROP TY "C" MH NO. C1-43R
STA 64+77.56, 12.83' RT

PROP 8' 60" RCP
STM SWR

PROP TY "C" MH NO. C1-44R
STA 11+60.55, 25.25' RT

PROP 3' 24" RCP
STM SWR

PROP TY "C" INLET C1-10
STA. 11+60.65, 30.00' RT
TC=75.85'

PROP 11' 24" RCP
STM SWR

PROP JCT BOX W/LID NO. C1-45R
STA 11+57.40, 43.90' RT

78 76 74 72 70 68 66 64 62 60

9+00 10+00 11+00 12+00

NOTES:

1. REFER TO LATERAL PROFILE SHEETS FOR PROPOSED FLOWLINES FOR STUB-INS
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LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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3/12/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PINEMONT DR.
DRAINAGE LATERALS

SHEET 25 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 489 OF 1067	

Plotted on: 3/12/2026 4:11:34 AM anwanik
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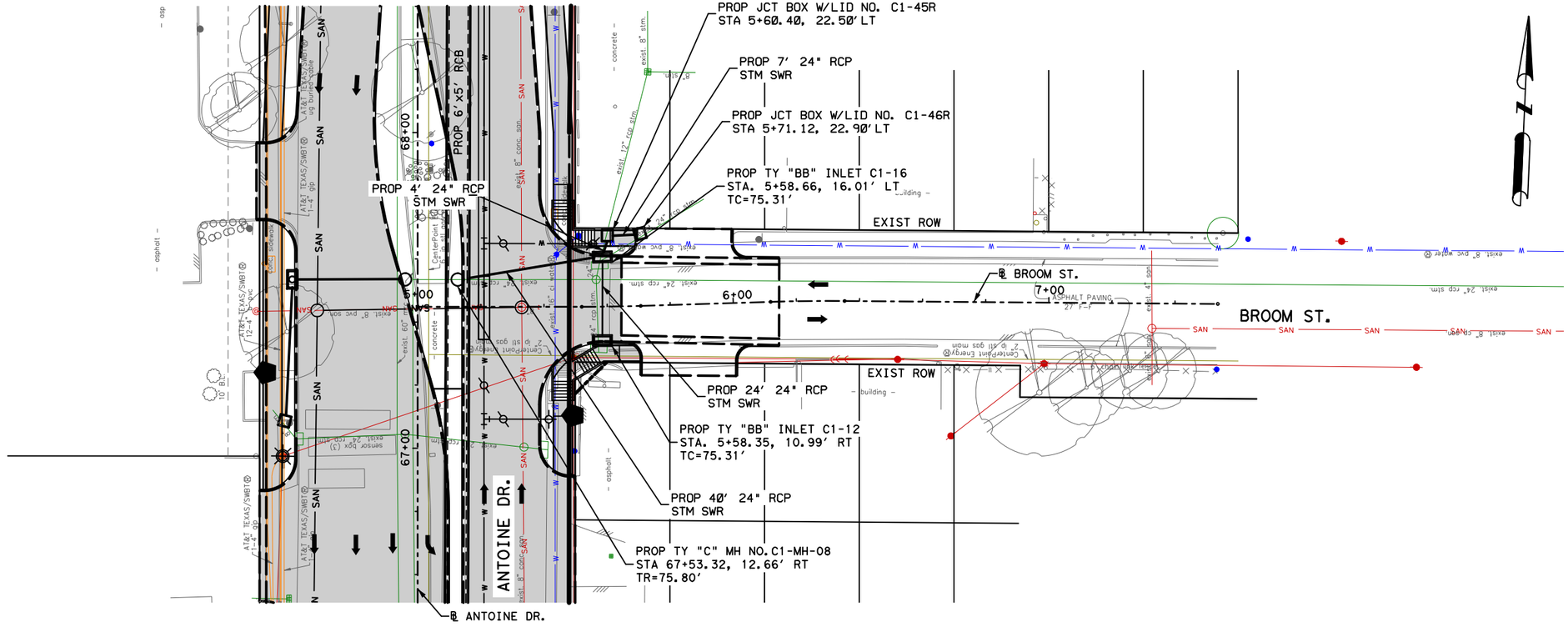

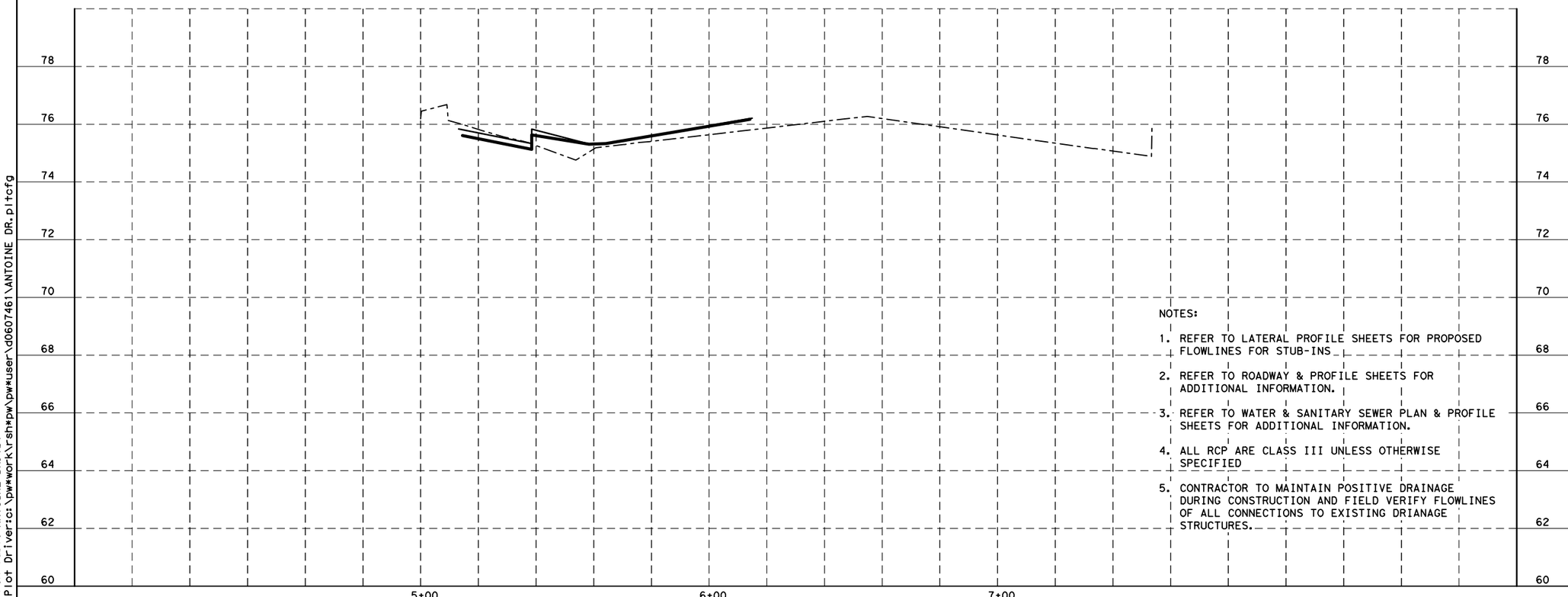

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3/12/2026
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RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BROOM ST.
DRAINAGE LATERALS

SHEET 26 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 490 OF 1067	

Plotted on: 3/12/2026 4:11:42 AM anwanik
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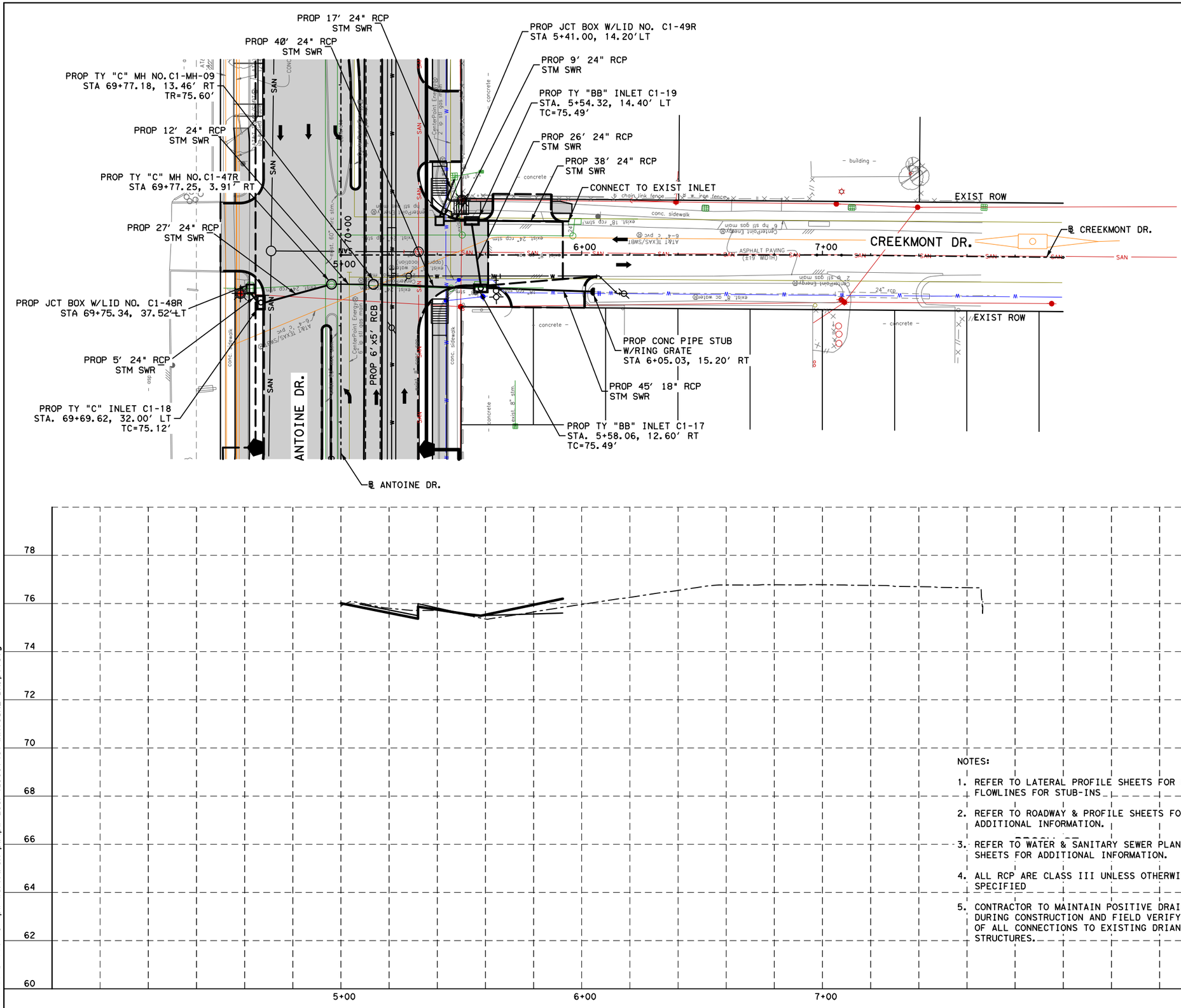

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

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RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CREEKMONT DR.
DRAINAGE LATERALS

SHEET 27 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 491 OF 1067	

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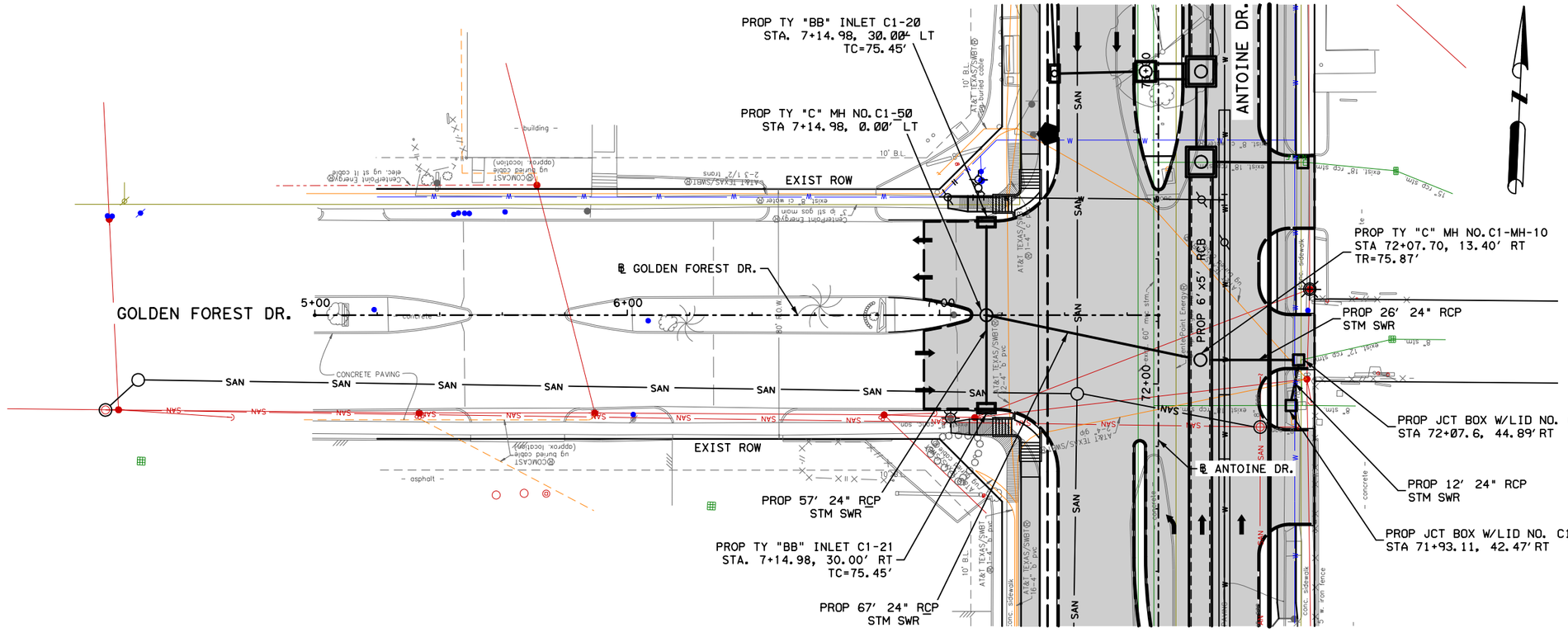

LEGEND:

- PROP STORM SEWER
- PROP ROADWAY FACE OF CURB
- EXIST STORM SEWER
- EXIST CULVERT
- PROPOSED INLET
- PROP MANHOLE
- EXIST INLET
- EXIST MANHOLE
- 4" CONC RIPRAP

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Texas Registered Engineering Firm F-3401

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

GOLDEN FOREST DR. DRAINAGE LATERALS

SHEET 28 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 492 OF 1067	

Plotted on: 3/12/2026 4:11:56 AM anwanik
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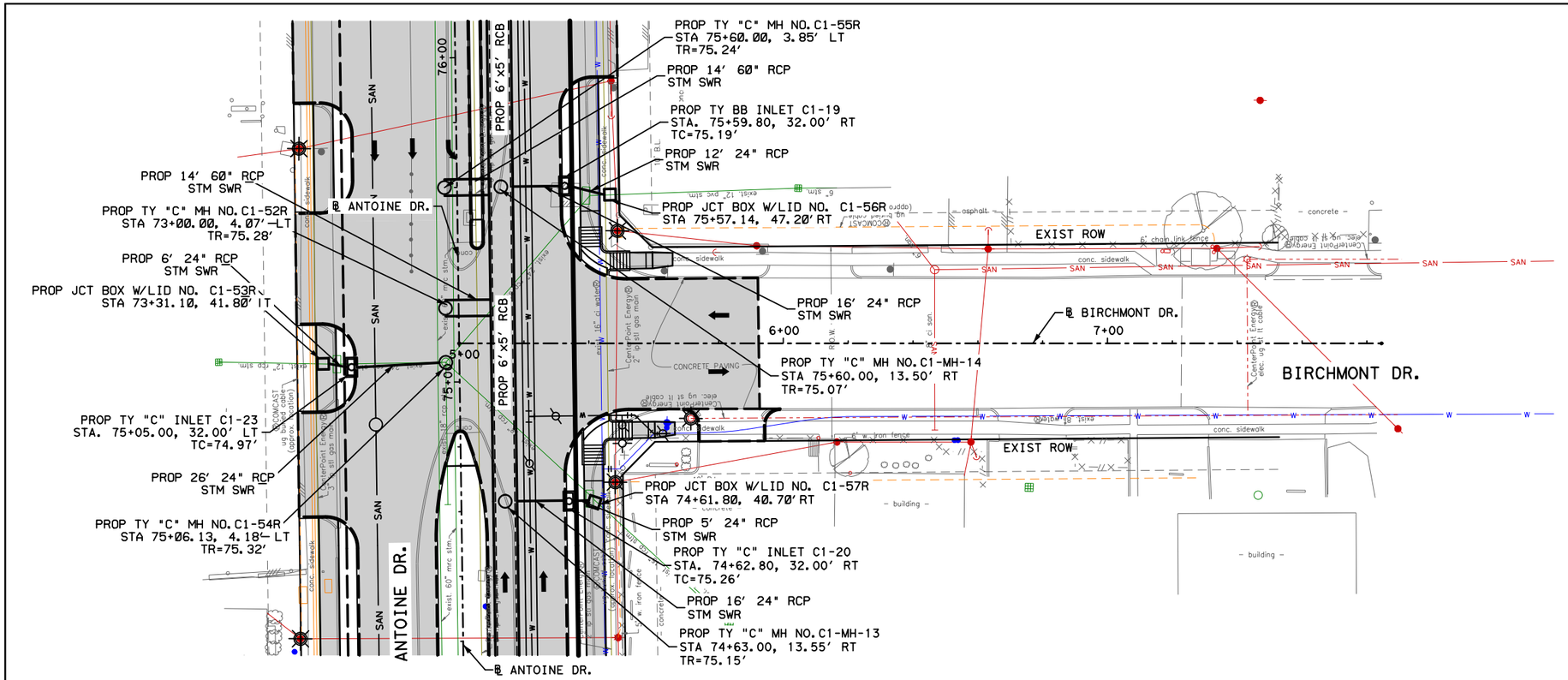
PROP TY "C" MH NO. C1-55R
STA 75+60.00, 3.85' LT
TR=75.24'
PROP 14' 60" RCP
STM SWR
PROP TY BB INLET C1-19
STA. 75+59.80, 32.00' RT
TC=75.19'
PROP 12' 24" RCP
STM SWR
PROP 14' 60" RCP
STM SWR
PROP TY "C" MH NO. C1-52R
STA 73+00.00, 4.07' LT
TR=75.28'
PROP 6' 24" RCP
STM SWR
PROP JCT BOX W/LID NO. C1-53R
STA 73+31.10, 41.80' LT
PROP JCT BOX W/LID NO. C1-56R
STA 75+57.14, 47.20' RT
PROP 16' 24" RCP
STM SWR
PROP TY "C" MH NO. C1-MH-14
STA 75+60.00, 13.50' RT
TR=75.07'
PROP TY "C" INLET C1-23
STA. 75+05.00, 32.00' LT
TC=74.97'
PROP 26' 24" RCP
STM SWR
PROP TY "C" MH NO. C1-54R
STA 75+06.13, 4.18' LT
TR=75.32'
PROP JCT BOX W/LID NO. C1-57R
STA 74+61.80, 40.70' RT
PROP 5' 24" RCP
STM SWR
PROP TY "C" INLET C1-20
STA. 74+62.80, 32.00' RT
TC=75.26'
PROP 16' 24" RCP
STM SWR
PROP TY "C" MH NO. C1-MH-13
STA 74+63.00, 13.55' RT
TR=75.15'
℄ ANTOINE DR.
ANTOINE DR.
BIRCHMONT DR.
EXIST ROW
EXIST ROW
℄ BIRCHMONT DR.
7+00
6+00
5+00
76+00
PROP 6'x5' RCB
PROP 6'x5' RCB
CONCRETE PAVING
conc. sidewalk
asphalt
concrete
6' chain link fence
6' w. iron fence
building
SAN
W
exist 60" rcp strm
exist 12" pvc strm
exist 18" rcp strm
exist 8" pvc strm
exist 12" rcp strm
exist 8" w.l.
exist 6" w.l.
exist 4" w.l.
exist 8" ci. water
exist 6" ci. water
exist 8" ci. san.
exist 6" ci. san.
exist 8" gas main
exist 4" gas main
exist 3" gas main
exist 2" gas main
exist 3" gas line
exist 2" gas line
exist 1" gas line
CenterPoint Energy
elec. ug lt cable
ug buried cable
(approx. location)
COMCAST
ug buried cable
(approx. location)
COMCAST
ug buried cable
(approx. location)
CenterPoint Energy
elec. ug lt cable
CenterPoint Energy
elec. ug lt cable
CenterPoint Energy
elec. ug lt cable
CenterPoint Energy
2" ug gas main
CenterPoint Energy
3" ug gas main
CenterPoint Energy
4" ug gas main
CenterPoint Energy
6" ug gas main
CenterPoint Energy
8" ug gas main
CenterPoint Energy
12" ug gas main
CenterPoint Energy
elec. ug lt cable
CenterPoint Energy
elec. ug lt cable
CenterPoint Energy
elec. ug lt cable

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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02081-05

COH IS PHASING OUT BRICK. NEW DETAILS TO BE PLOTTED END OF 2019

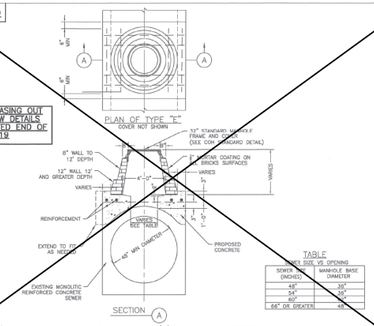
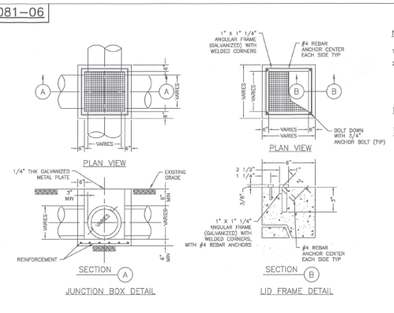


TABLE
WALL SIZE VS OPENING

SEWER DIA(INCH)	MANHOLE BASE DIAMETER
48"	72"
54"	78"
60"	84"
66" OR GREATER	96"

STORM SEWER MANHOLE TYPE 'E' FOR EXISTING MONOLITIC REINFORCED CONCRETE 48" DIAMETER AND GREATER
NTS

02081-06

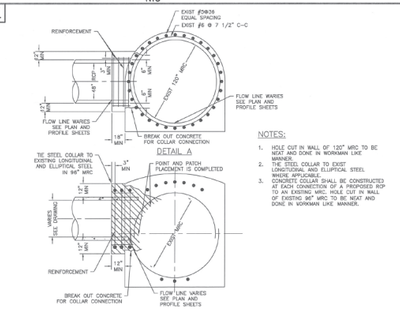


NOTES:
1. DETAIL TO BE USED WHERE STORM SEWER SIZE IS 24" DIA OR LESS.
2. FOR SEWER GREATER 24" DIA USE TYPE 'C' MANHOLE.

NOTES TO SPECIFIER:
1. WALL TO BE 6" CONCRETE.
2. NOT TO BE USED ON STREETS. FOR AREA BETWEEN CURB AND PROPERTY LINE ONLY.

STORM SEWER
JUNCTION BOX WITH LID OR GRATE TOP
FOR MAXIMUM OF 24" DIAMETER STORM SEWE4RS
NTS

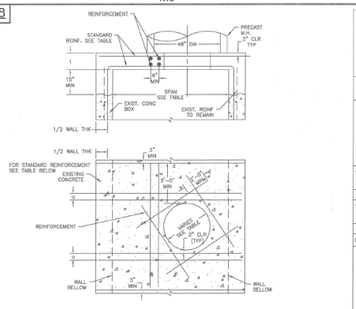
02081-07



NOTES:
1. HOLE CUT IN WALL OF 120° MRC TO BE NEAT AND DONE IN WORKMAN LIKE MANNER.
2. USE CONCRETE COLLAR TO EXIST CIRCULTIONAL AND ELLIPTICAL STEEL WHERE APPLICABLE. CONCRETE COLLAR SHALL BE CONSTRUCTED AT EACH CONNECTION OF A PROPOSED RCP TO AN EXISTING MRC. HOLE CUT IN WALL OF EXISTING 96" MRC TO BE NEAT AND DONE IN WORKMAN LIKE MANNER.

LATERAL CONNECTION TO EXISTING
MONOLITHIC REINFORCED CONCRETE STORM SEWER
NTS

02081-08



PROPOSED MANHOLE ON
EXISTING BOX STORM SEWER
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02081-05 THROUGH 08

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO.

DISCLAIMER:
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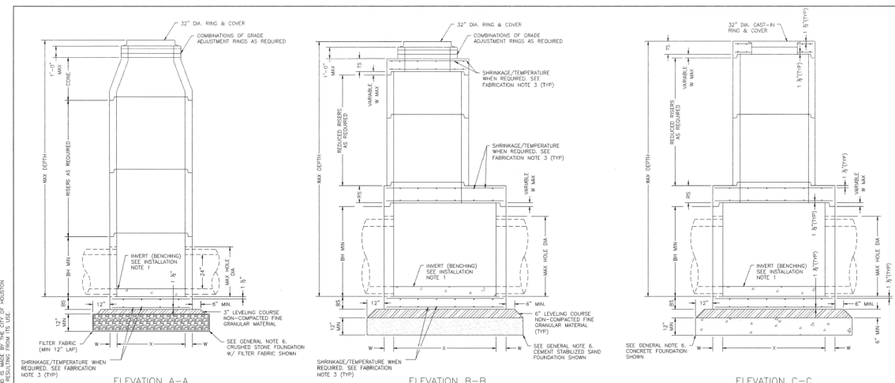

FABRICATION NOTES:
1. PROVIDE CLASS "A" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF BASE, RISER AND CONE IN ACCORDANCE WITH ASTM C478.
3. PROVIDE MIN. THICKNESS OF 8", OR GREATEST REQUIRED SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDED STEEL AREA = 0.11 IN²/FT EACH WAY.
4. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS 1".
6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE CAST-IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
8. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE SHOWN. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED.

INSTALLATION NOTES:
1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONCRETE, SHOTCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO THIS ITEM. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02065 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR ¼ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S APPROVAL.
4. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'-0" MAX AS SHOWN.
5. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'-6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'-6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'-0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:
1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
2. DESIGNED ACCORDING TO ASTM C478.
3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082 "PRECAST CONCRETE STRUCTURES".
4. PIPE OD = PLACEMENT TOLERANCE MUST BE EQUAL OR LESS THAN MAX HOLE DIA. FOR RGSD PIPE, PLACEMENT TOLERANCE IS 4" MAX, 2" MIN. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE.
5. STORM WATER SEWER PIPE INTERNAL DIA SHALL NOT BE LESS THAN 24".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET REQUIREMENTS OF SPECIFICATION SECTION 02065 "EARTHWORK".
7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE AND WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
9. CONES MAY BE CONCENTRIC OR ECCENTRIC. REDUCTION CONES ARE ACCEPTABLE. REFER TO MANUFACTURER FOR CONE DIMENSIONS.
10. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO ROUND MANHOLES LARGER THAN 6-FOOT DIA.

TABLE 1
PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES.

	SIZE	BASE SLAB THICKNESS	RISER UNIT OR RISER THICKNESS	REDUCED RISER OR CONE	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF TOP SLAB	MAX HEIGHT	MAX HOLE DIA
	X	B/S	R	IN.	IN.	IN.	MAX DEPTH	B/F WAT	MAX HOLE DIA
	FT	IN.	IN.	IN.	IN.	IN.	FT.	IN.	IN.
PRM	4	9	5	--	--	9	25	42	70
	5	9	5	48	9	9	25	42	66
	6	9	7	48/60*	12	9	25	42	56

(*) 60-IN REDUCED RISER IS TO BE USED WHEN DEEMED NECESSARY TO SATISFY WALL PENETRATION SPACING REQUIREMENTS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER TYPE 'C'
PRECAST ROUND MANHOLE

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER | APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021 | DWG NO: 02082-12

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Date
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3/13/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM SEWER STANDARDS

SHEET 1 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 494 OF 1067	

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DISCLAIMER:
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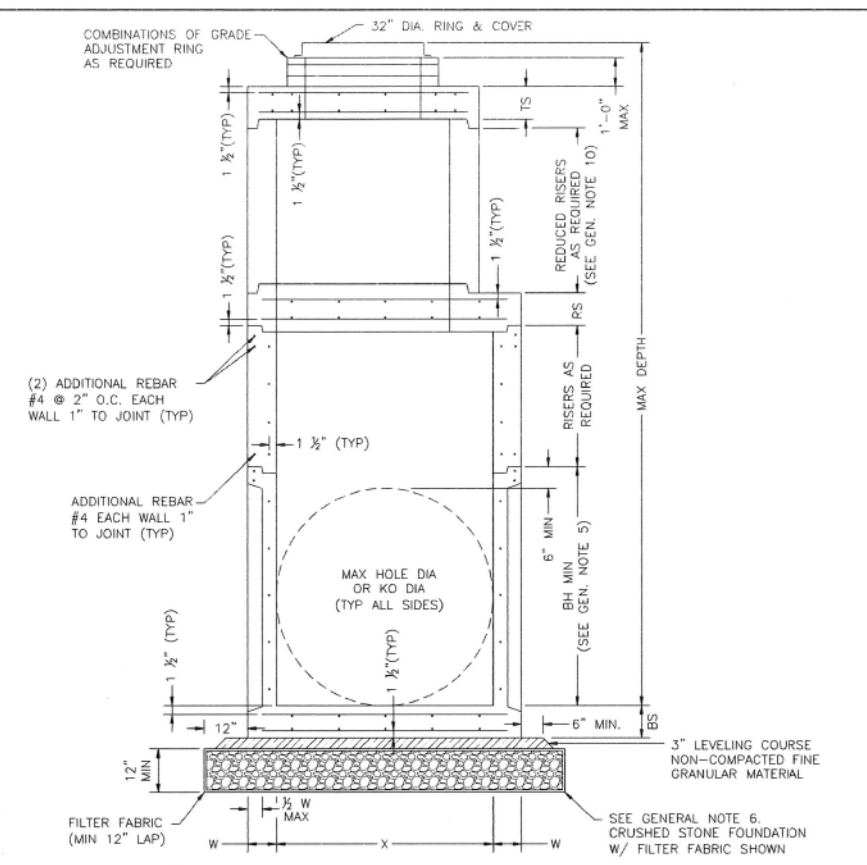
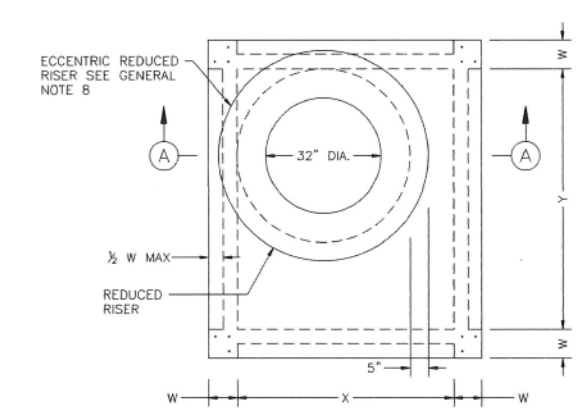
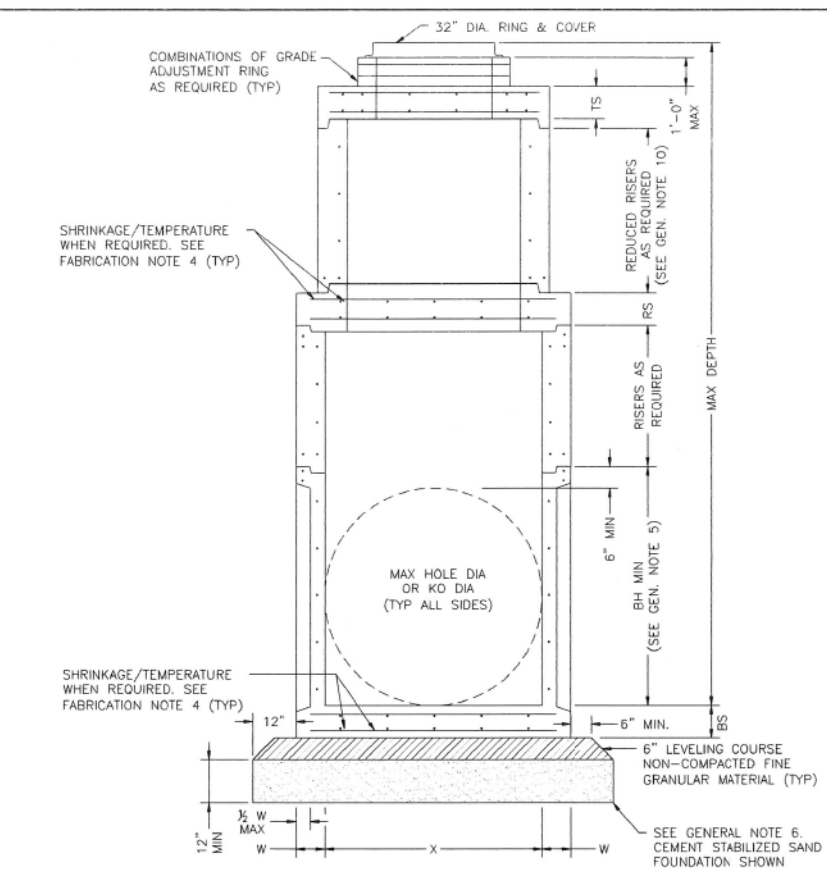


ELEVATION A–A
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION

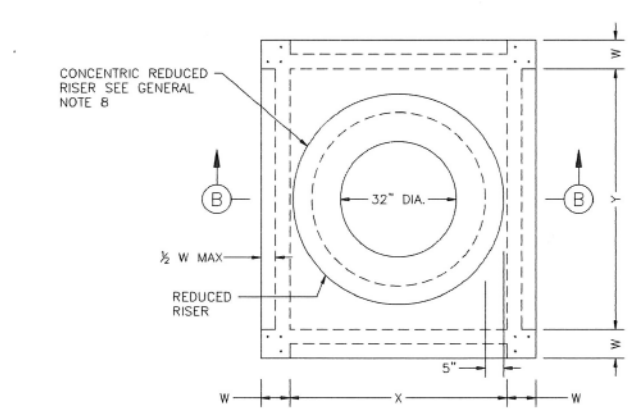


PLAN VIEW A
COVER NOT SHOWN

ECCENTRIC MANHOLE
(PREFERRED CONFIGURATION)

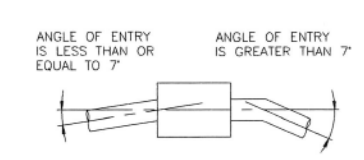


ELEVATION B–B
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



PLAN VIEW B
COVER NOT SHOWN

CONCENTRIC MANHOLE
(ALTERNATE CONFIGURATION)



PIPE CONNECTION DETAIL
CONNECT PIPES WITHIN 7° OF NORMAL TO PRECAST BASE WALL. IF NECESSARY, USE PIPE ELBOW OR CURVED APPROACH ALIGNMENT TO STAY WITHIN THIS LIMIT.

TABLE 1
PRECAST BOX MANHOLE (PBM) MINIMUM REQUIREMENTS FOR 24 IN. TO 78 IN. INTERNAL DIA STORM SEWER PIPES

	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF BASE SLAB	MIN HEIGHT (SEE GEN. NOTE 5)	MAX HOLE DIA (SEE FAB NOTE 11)	MAX KO DIA (SEE FAB. NOTE 11)
	X & Y	BS	W	ID	RS	TS	MAX DEPTH	BH MIN	MAX HOLE DIA	KO DIA
	FT.	IN.	IN.	FT.*	IN.	IN.	FT.	FT.	IN.	IN.
PBM	3X3'	6	6	N/A	N/A	9	25	3.50	36	36
	4X4'	6	6	N/A	N/A	9	25	4.50	48	48
	3X5'	6	6	N/A	N/A	9	25	3.50	36/60	36/60
	4X5'	6	6	48 IN.	9	9	25	4.50	48/60	48/60
	5X5'	6	6	48 IN.	9	9	25	5.50	60	60
	5X6	9	8	48 IN.	9	9	25	5.50	60/72	60/72
	6X6	9	8	48 IN.	9	9	25	6.50	72	72
	8X8	9	10	48 IN.	12	9	25	8.50	96	96

TABLE 1 NOTES:
1. (') ROUND MANHOLES ARE PREFERRED FOR THESE SIZES.
2. (*) UNLESS OTHERWISE INDICATED.
3. TABLE IS VALID FOR UP TO 25 FT OF INSTALLATION DEPTH.

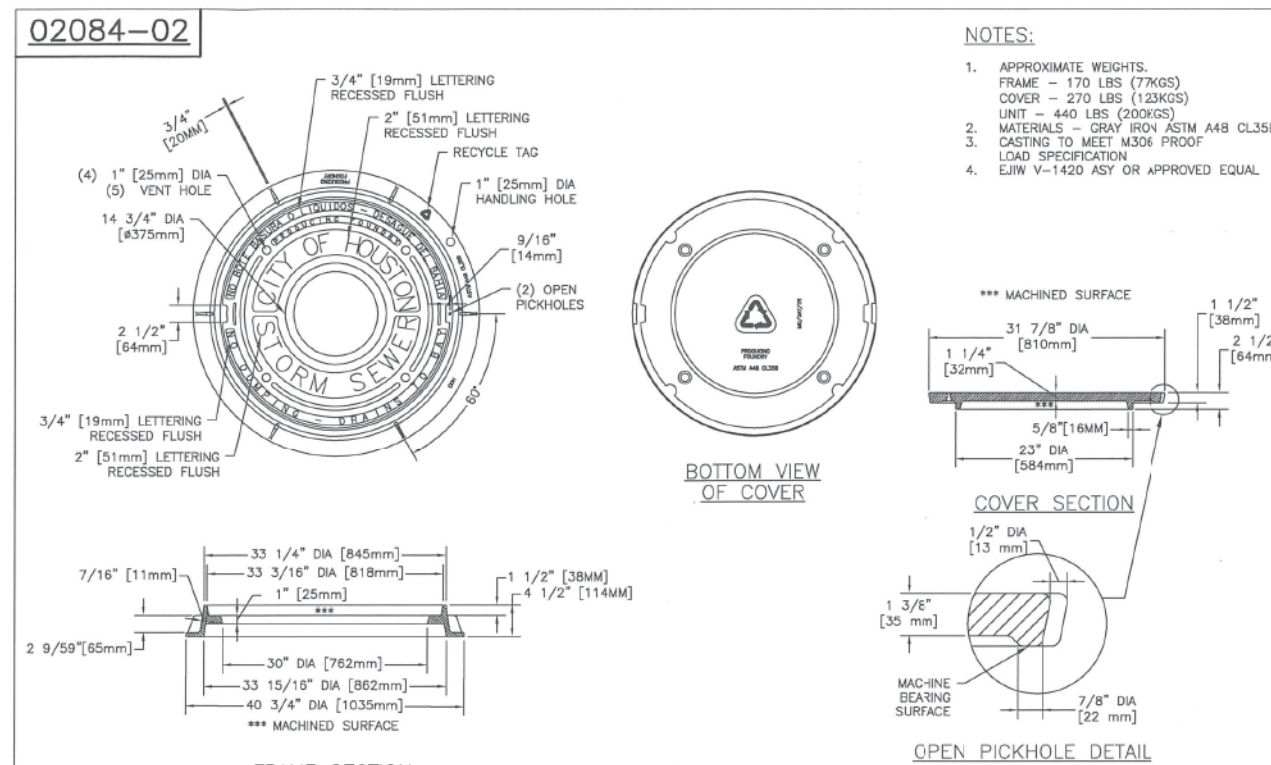
FABRICATION NOTES:
1. PROVIDE CLASS "H" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF RISER AND CONE IN ACCORDANCE WITH ASTM C478.
3. PROVIDE TYPICAL MINIMUM CONCRETE CLEAR COVER OF 1 ½" TO REINFORCING STEEL AT INTERIOR OR EXTERIOR WALLS.
4. SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN²/FT EACH WAY.
5. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
6. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
7. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
9. MAXIMUM SPACING OF REINFORCEMENT IS 8".
10. AT MANUFACTURERS OPTION, PROVIDE CAST OR CORED HOLES OR THIN WALL PANELS (KO) TO THE MAXIMUM DIA SHOWN FOR EACH. WHEN NO PENETRATION IS REQUIRED, IT IS ACCEPTABLE TO PROVIDE A WALL WITH NO SECTIONAL REDUCTION.
11. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE ALLOWED. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED. REFER TO 02082-12 FOR OPTIONS.
12. BASES AND RISERS MAY HAVE CAST, CUT OR THIN WALL PANEL (KO) THAT ARE ROUND AND DO NOT EXTEND INTO THE FLOOR, INTO WALLS, OR WITHIN 6" OF THE JOINT ABOVE OR BELOW.

INSTALLATION NOTES:
1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO MANHOLE. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. FOR RIGID PIPE, CUT HOLE IN THIN WALL PANEL (KO) 4" MAX, 2" MIN LARGER THAN PIPE OD.
5. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE AND HOLE SIZE. CENTER PIPE IN HOLE AND INSTALL BOOT/SEAL PER MANUFACTURER'S SPECIFICATION.
6. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'–0" MAX AS SHOWN.
7. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'–6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'–6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'–0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:
1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
2. DESIGNED ACCORDING TO ASTM C478 AND/OR ASTM C913.
3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082 "PRECAST CONCRETE MANHOLES.
4. PRECAST BASE CONSISTS OF BASE SLAB, BASE UNIT, RISERS (AS REQUIRED), REDUCING SLAB (AS REQUIRED), AND REDUCED RISERS (AS REQUIRED).
5. MIN HEIGHT SHOWN FOR STOCK BASE UNITS. USE STOCK BASE UNITS WHENEVER PRACTICAL. SMALLER HEIGHT BASE UNITS CAN BE USED IN SPECIAL INSTALLATION CIRCUMSTANCES, WHEN NOTED ELSEWHERE IN THE PLANS. ABSOLUTE MINIMUM HEIGHT OF BASE UNITS IS 2'–6".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
9. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO BOX MANHOLES LARGER THAN 8-FOOT BY 8-FOOT.
10. REFER TO STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE DETAIL (02082-12) FOR REDUCED RISER DESIGN REQUIREMENTS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS
STORM SEWER
PRECAST BOX MANHOLE
(NOT TO SCALE)
APPROVED BY: Suhail Kanwar — CITY ENGINEER
APPROVED BY: Carol Haddock — DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021 | DWG NO: 02082-13

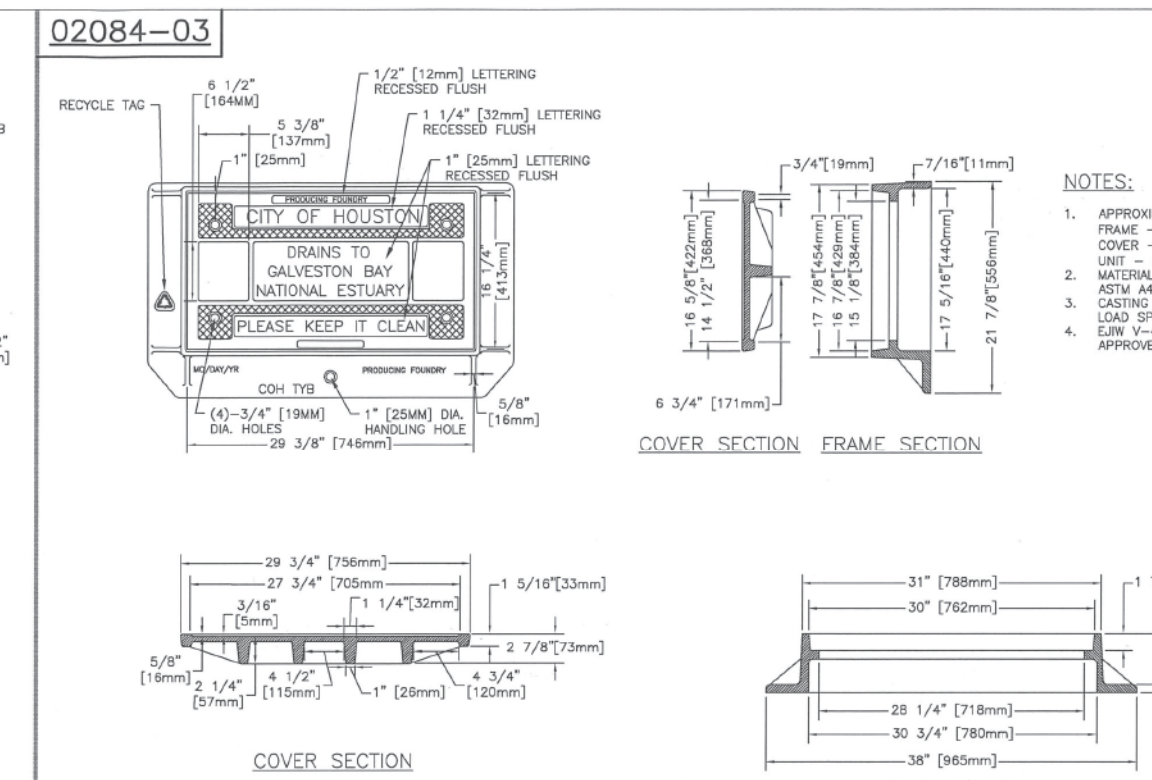
02084-02



NOTES:
1. APPROXIMATE WEIGHTS.
FRAME – 170 LBS (77KGS)
COVER – 270 LBS (123KGS)
UNIT – 440 LBS (200KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-1420 ASY OR APPROVED EQUAL

STORM SEWER MANHOLE FRAME AND COVER
NTS

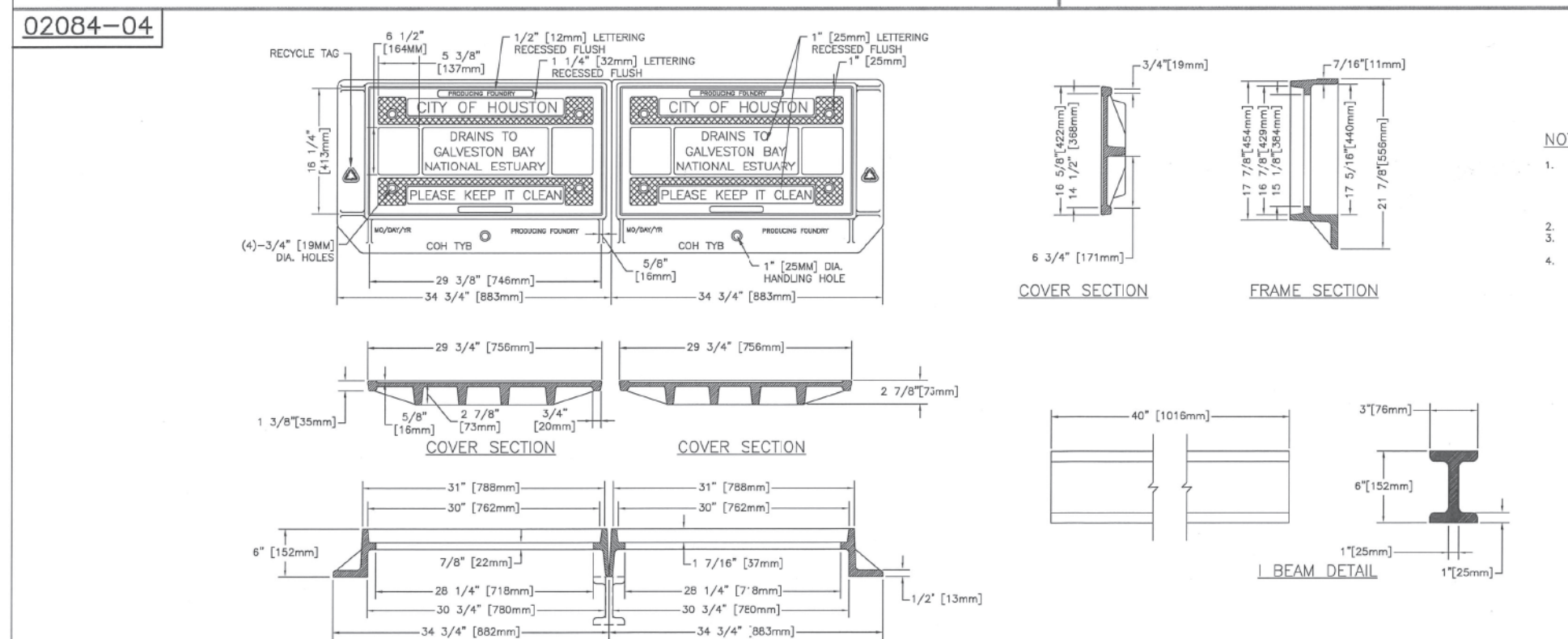
02084-03



NOTES:
1. APPROXIMATE WEIGHTS.
FRAME – 125 LBS (57KGS)
COVER – 130 LBS (59KGS)
UNIT – 225 LBS (116KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-4241 ASY OR APPROVED EQUAL

STORM SEWER TYPE "B" INLET ASSEMBLY
NTS

02084-04



NOTES:
1. APPROXIMATE WEIGHTS.
FRAME – 125 LBS (57KGS)
COVER – 120 LBS (55KGS)
I BEAM – 107 LBS (49KGS)
UNIT – 597 LBS (271KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-4243 ASY OR APPROVED EQUAL

STORM SEWER TYPE "BB" INLET DOUBLE ASSEMBLY
NTS

FIRM INFORMATION | ENGINEER'S SEAL
CITY OF HOUSTON
HOUSTON PUBLIC WORKS
STORM SEWER
02084-02 THROUGH 04
APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY
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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Engineer
125611
3/13/2026
Date
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Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM SEWER STANDARDS

SHEET 2 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 495 OF 1067	

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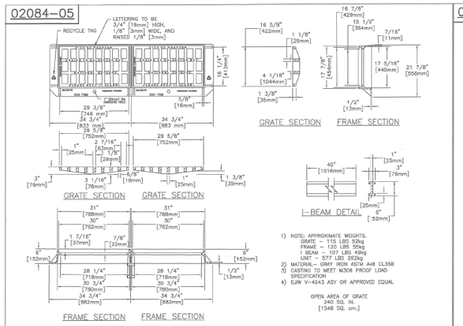
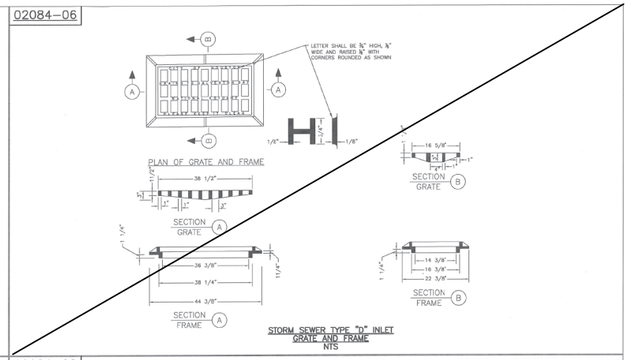
02084–05



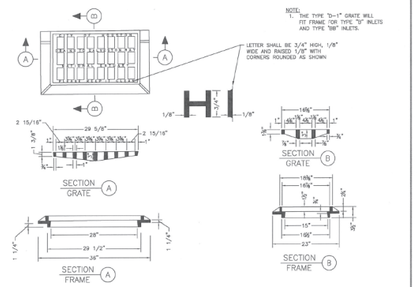
STORM SEWER FRAME AND GRATE
FOR TYPE B–B INLET DOUBLE ASSEMBLY
NTS

02084–06



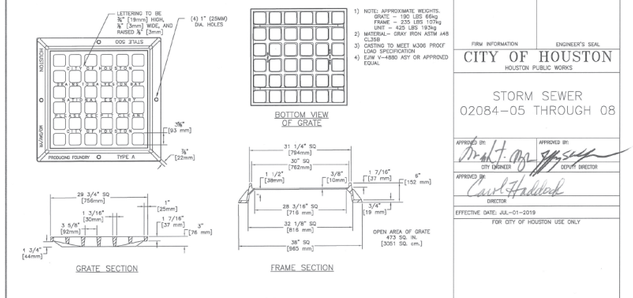
STORM SEWER TYPE "D" INLET
GRATE AND FRAME
NTS

02084–07



STORM SEWER TYPE "D–1" INLET
GRATE AND FRAME
NTS

02084–08



STORM SEWER TYPE "A"
INLET GRATE AND FRAME
NTS

FIRM INFORMATION	ENGINEER'S SEAL
CITY OF HOUSTON HOUSTON PUBLIC WORKS	

STORM SEWER
02084–05 THROUGH 08

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APPROVED BY:	
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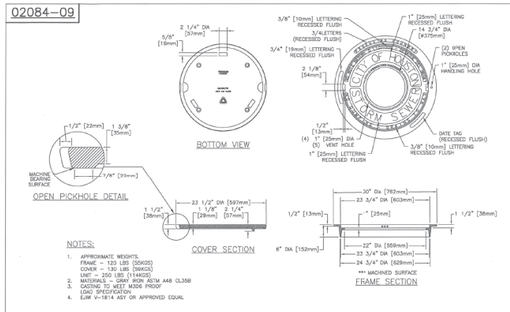
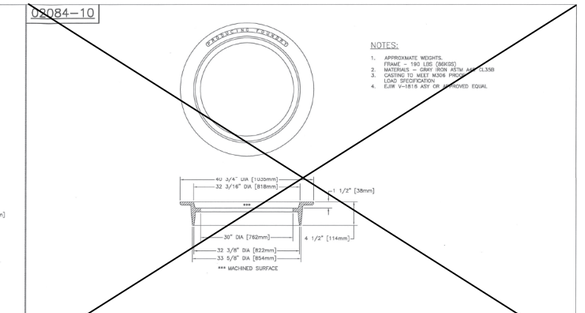
02084–09



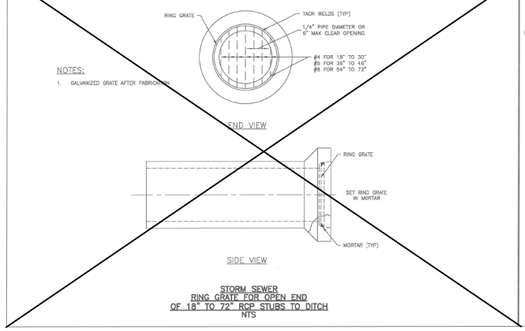
STORM SEWER TYPE "C–1, C–2, C–2A"
AND "H–2" INLET FRAME AND COVER
NTS

02084–10



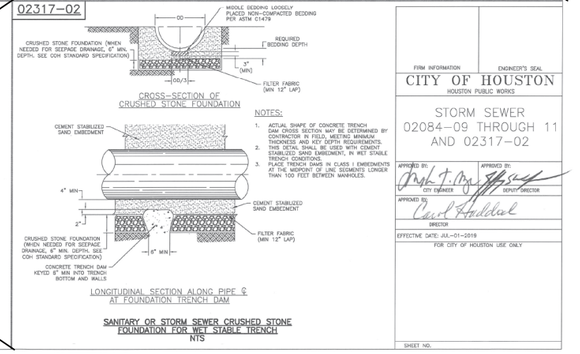
32" INVERTED MANHOLE FRAME
NTS

02084–11



STORM SEWER
RING GRATE FOR OPEN END
OF 18" TO 72" RCP STUBS TO DITCH
NTS

02317–02



SANITARY OR STORM SEWER CRUSHED STONE
FOUNDATION FOR WET STABLE TRENCH
NTS

FIRM INFORMATION	ENGINEER'S SEAL
CITY OF HOUSTON HOUSTON PUBLIC WORKS	

STORM SEWER
02084–09 THROUGH 11
AND 02317–02

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APPROVED BY:	
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Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM SEWER STANDARDS

SHEET 3 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 496 OF 1067	

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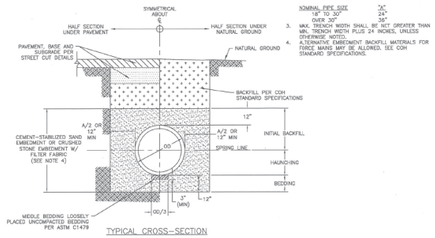
No.	DATE	REVISIONS	APP:

02317-03



TYPICAL CROSS-SECTION

NOTES:

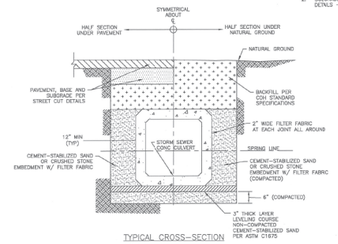
1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN. TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

3. MAX. TRENCH WIDTH SHALL BE NOT GREATER THAN MIN. TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE APPROVED.
4. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED, SEE COH STANDARD SPECIFICATIONS.

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317-05



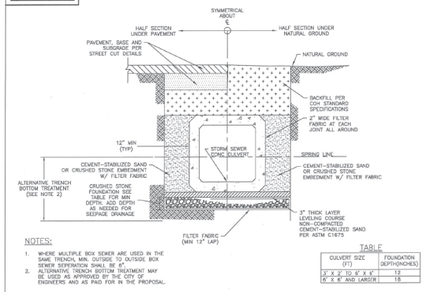
TYPICAL CROSS-SECTION

NOTES:

1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 2'.
2. SUBGRADE AND PAVEMENT FOR STREET CUT DETAILS — 02951.

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317-06



NOTES:

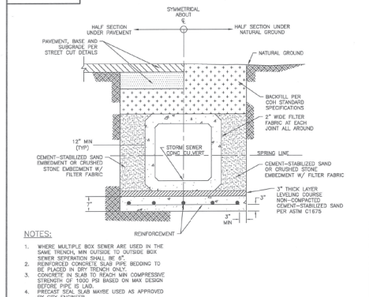
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 8".
2. ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY OF ENGINEERS AND AS PAID FOR IN THE PROPOSAL.

TABLE

CULVERT SIZE (FT)	FOUNDATION DEPTH (INCHES)
3' X 2' TO 8' X 8'	12
8' X 8' AND LARGER	18

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR WET STABLE TRENCH
NTS

02317-07



NOTES:

1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 8".
2. REINFORCED CONCRETE SLAB PIPE BEDDING TO BE PAID FOR AS PART OF THE BID ITEM.
3. CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
4. PRECAST SEAL SLAB MAYBE USED AS APPROVED BY CITY ENGINEER.

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL WITH SEAL SLAB
NTS

FIRM INFORMATION | ENGINEER'S SEAL

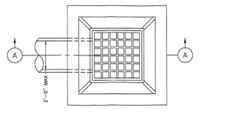
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02317-03 THROUGH 07

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO.

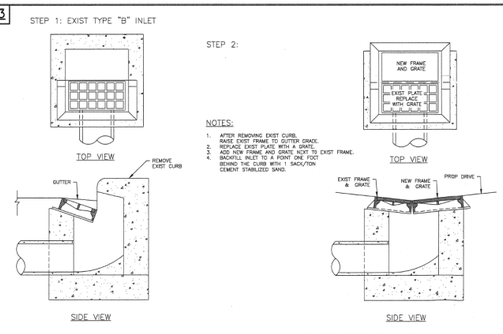
02632-01



COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019

STORM SEWER TYPE "A" GRATE INLET
NTS

02632-03



NOTES:

1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
2. REMOVE EXIST PLATE AND ADD A GRATE.
3. ADD NEW FRAME AND GRATE NEXT TO EXIST FRAME.
4. BACKFILL INLET TO A POINT ONE FOOT BEHIND THE CURB WITH 1 SACK/TON CEMENT STABILIZED SAND.

STORM SEWER TYPE "B" INLET RELOCATION
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-01 AND 03

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APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFFECTIVE DATE: JUL-01-2019
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Texas Department of Transportation

Gauge ENGINEERING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM SEWER STANDARDS

SHEET 4 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 497 OF 1067	

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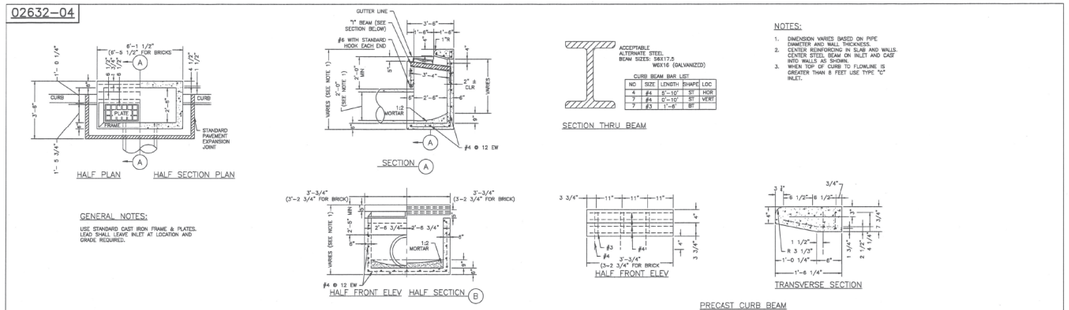
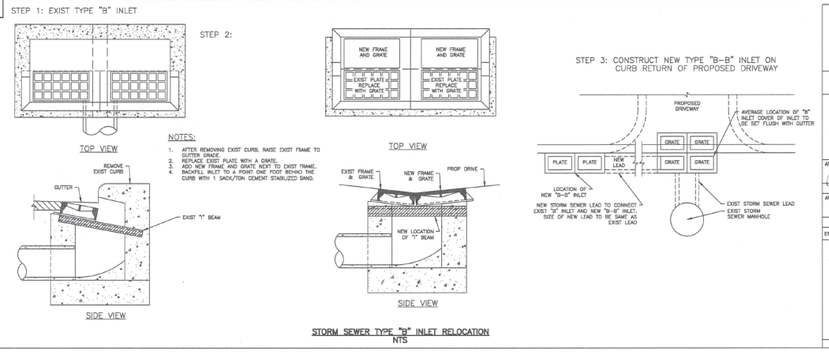


STORM SEWER TYPE "B-B" INLET
NTS

02632-05



STORM SEWER TYPE "B" INLET RELOCATION
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-04 THROUGH 05

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APPROVED BY: DIRECTOR
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FOR CITY OF HOUSTON USE ONLY

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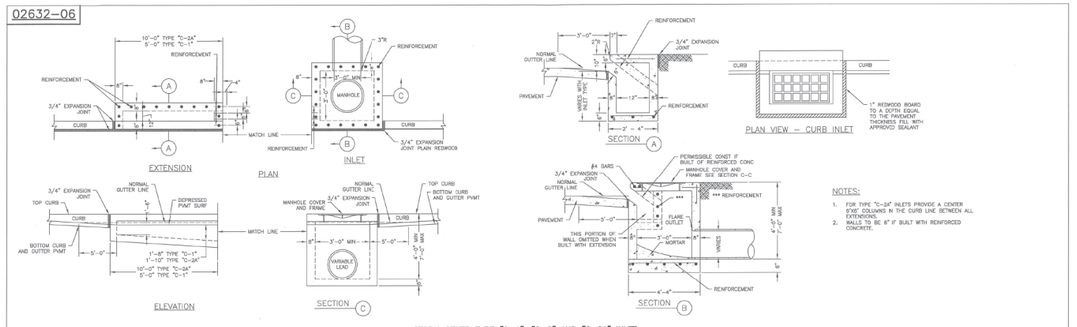
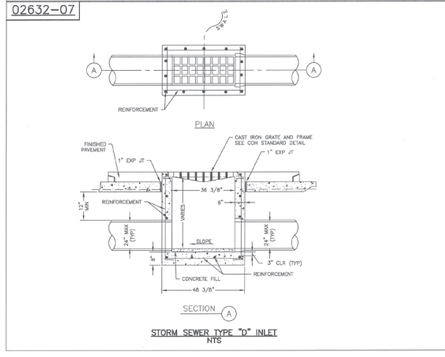


STORM SEWER TYPE "C-1", "C-2" AND "C-2A" INLET
NTS

02632-07



STORM SEWER TYPE "D" INLET
NTS

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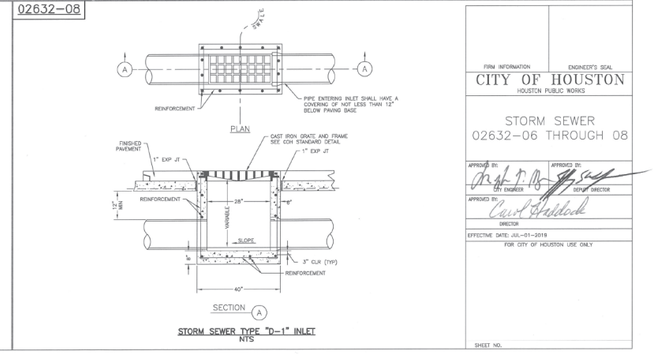

STORM SEWER TYPE "D-1" INLET
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-06 THROUGH 08

APPROVED BY: CITY ENGINEER
APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
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Texas Department of Transportation

Gauge ENGINEERING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM SEWER STANDARDS

SHEET 5 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
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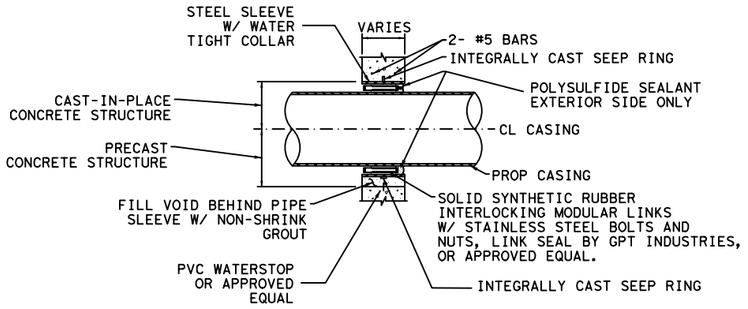
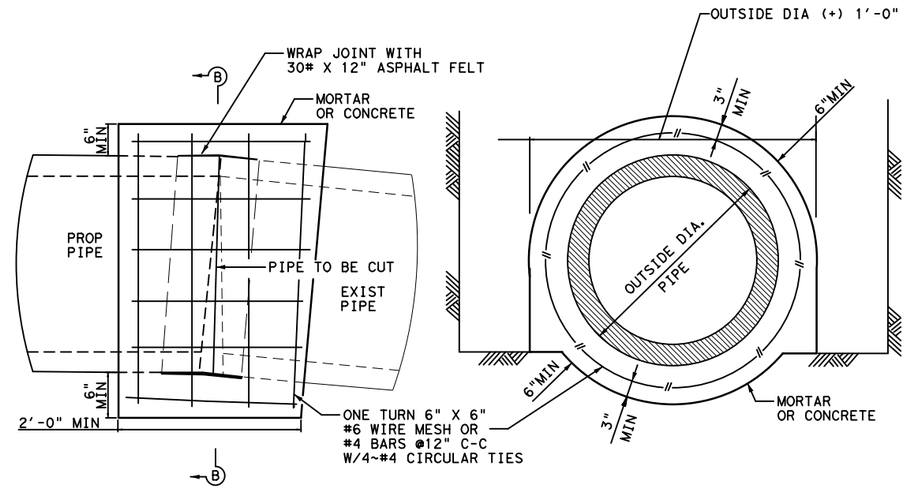


TYPICAL WALL PENETRATION DETAIL

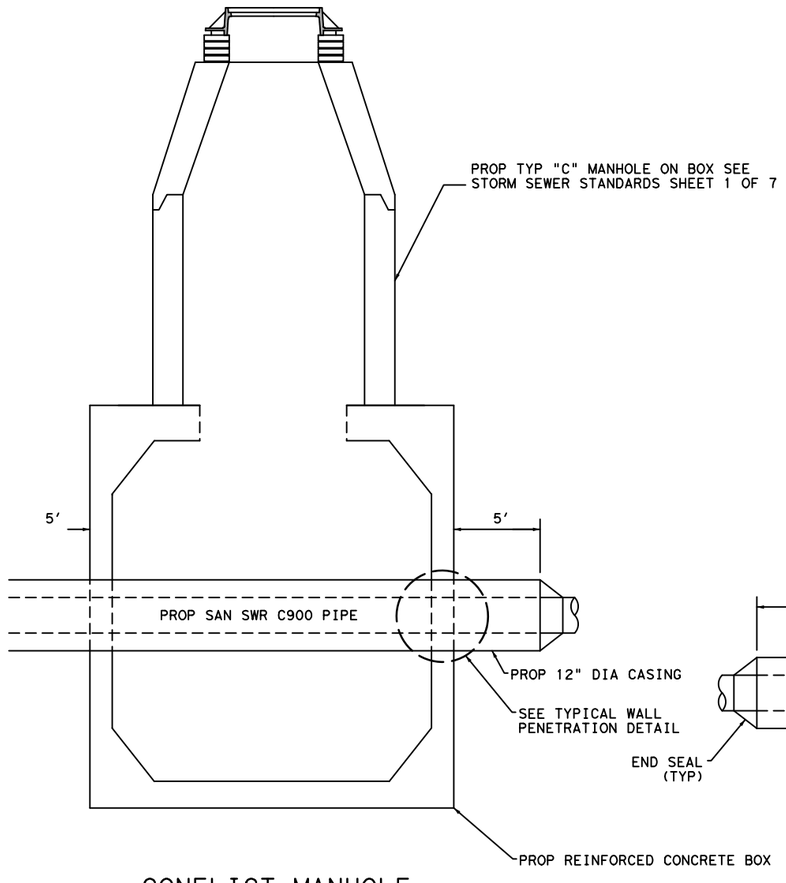
N.T.S



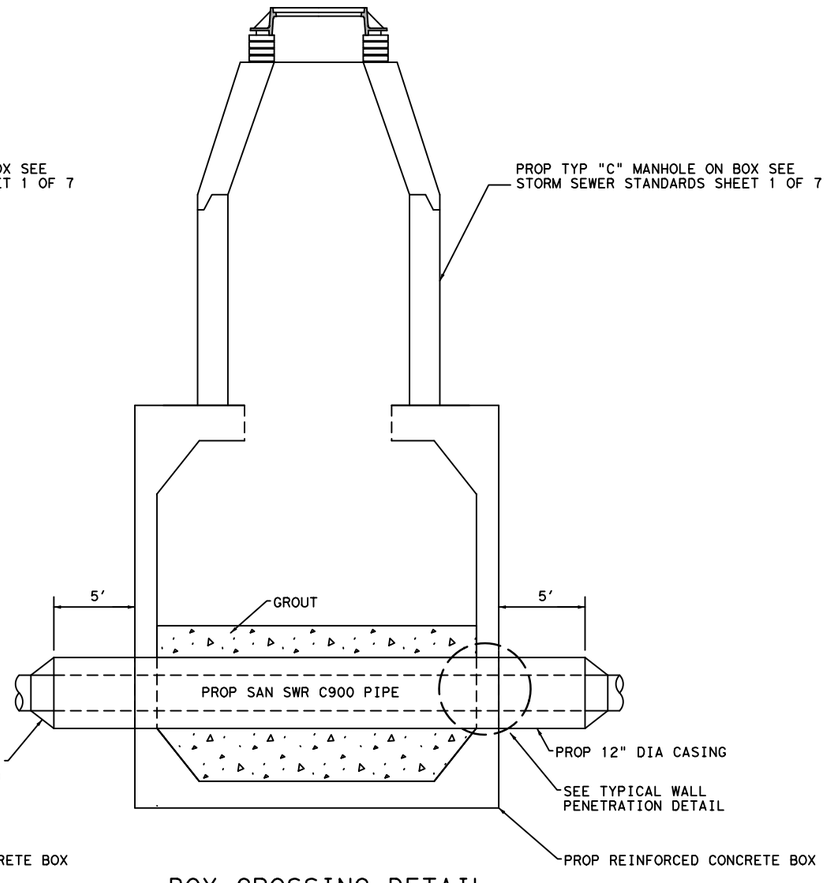
ELEVATION

SECTION B-B

PIPE COLLAR DETAIL
FOR HORIZONTAL OR VERTICAL PLACEMENT



CONFLICT MANHOLE
N.T.S



BOX CROSSING DETAIL
N.T.S

NOTES:

1. ALL OPENINGS AT PIPE SHALL BE SEALED WITH LINK SEAL WITH STAINLESS STEEL BOLTS AND NUTS, BY GPT INDUSTRIES OR APPROVED EQUAL. ANY REMAINING VOIDS MAY BE FILLED WITH ELASTOMETRIC GROUT (TYPE 3 CEMENT).
2. SPACERS SHALL BE USED BETWEEN MAIN PIPE AND CASING.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

MISCELLANEOUS DRAINAGE DETAILS

SHEET 1 OF 1

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DRAWING SCALE	
AS NOTED	
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SHEET NO. 499 OF 1067	

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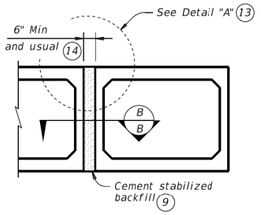
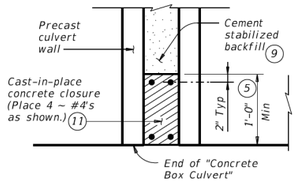
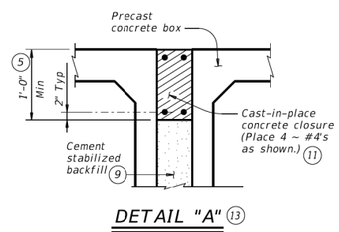


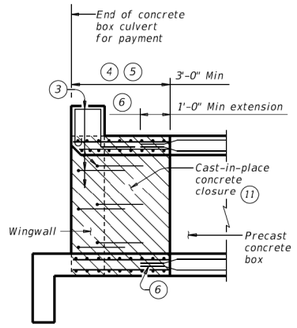
MULTIPLE UNIT PLACEMENT



SECTION B-B

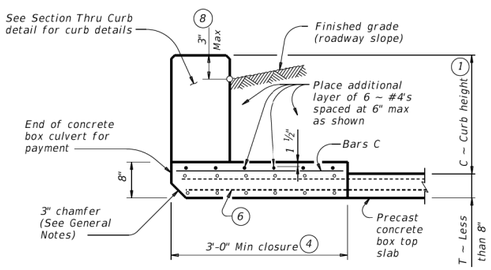


DETAIL "A" (13)

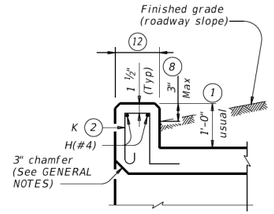


WINGWALL CONNECTION

(Also applies to safety end treatment.)

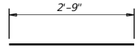


SECTION THRU TOP SLABS LESS THAN 8"

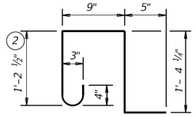


SECTION THRU CURB

QUANTITIES PER FOOT OF CURB (10)	
Reinforcing Steel	4.12 Lb
Concrete	0.037 CY



BARS C (#4)
(Spa = 1'-0" Max)



BARS K (#4)
(Spa = 1'-0" Max)
(Length = 4'-2")

1. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail, or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
2. For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.
3. Extend curb, wingwall, or safety end treatment reinforcing into concrete closure. Bend or trim, as necessary, any reinforcing that does not fit into closure area.
4. Provide a 3'-0" Min cast-in-place concrete closure. Break back boxes in the field or cast boxes short. Provide bands of reinforcing in the closure that are the same size and spacing as in the precast box section. Provide #4 longitudinal reinforcement spaced at 12 inches Max within the closure. Except where shown otherwise, construct the cast-in-place closure flush with the inside and outside faces of the precast box section.
5. For multiple unit placements, adjust the length of the closure for the interior walls as necessary. Provide a 3'-0" Min cast-in-place closure in the top slab, bottom slab, and exterior wall. See Section B-B detail when interior walls are cast full length.
6. Extend precast box reinforcing a minimum of 1'-0" into concrete closure (Typ).
7. Place bands of reinforcing matching the inside and outside face reinforcing in the gaps of the top and bottom slabs. Place a band matching the outside face reinforcing of the wall in the gaps of the walls (placed in the outside face only). Tack weld the bands to the exposed reinforcing at each point of contact.
8. For vehicle safety, the following requirements must be met:
   - For structures without bridge rail, construct curbs no more than 3" above finished grade.
   - For structures with bridge rail, construct curbs flush with finished grade.

   Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
9. Cement stabilized backfill between boxes is considered part of the box culvert for payment.
10. All curb concrete and reinforcing is considered part of the box culvert for payment.
11. Any additional concrete and reinforcing required for the closures will be considered subsidiary to the box culvert for payment.
12. 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.
13. For multiple unit placement with overlay, with 1 to 2 course surface treatment, or with the top slab as the final riding surface, provide wall closure as shown in Detail "A".
14. This dimension may be increased with approval of the Engineer to allow the precast boxes to be tunneled or jacked in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box." No payment will be made for any additional material in the gap between adjacent boxes.

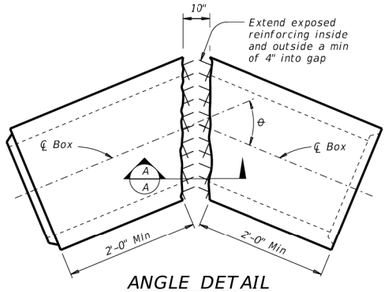
MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide ASTM A1064 welded wire reinforcement.
Provide Class C concrete (f'c = 3,600 psi) for the closures.
Provide cement stabilized backfill meeting the requirements of Item 400, "Excavation and Backfill for Structures."
Any additional concrete required for the closures will be considered subsidiary to the box culvert.

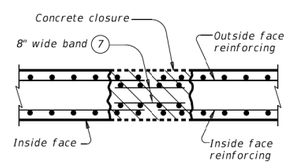
GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
Refer to the Single Box Culverts Precast (SCP) standard sheets for details and notes not shown.
Chamfer the bottom edge of the top slab closure 3 inches at culvert closure ends.

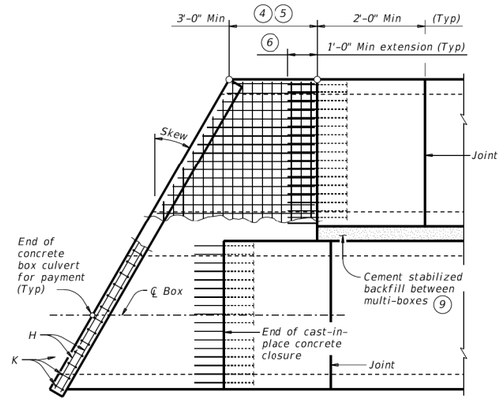
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bars dimensions are out-to-out of bars.



ANGLE DETAIL



SECTION A-A



PLAN OF SKEWED ENDS

(Showing multi-box placement.)

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Texas Department of Transportation — Bridge Division Standard

BOX CULVERTS PRECAST MISCELLANEOUS DETAILS

SCP-MD

FILE: CD-SCP-MD-20.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CK: GAF
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BOX CULVERTS PRECAST MISCELLANEOURS DETAILS (SCP-MD)

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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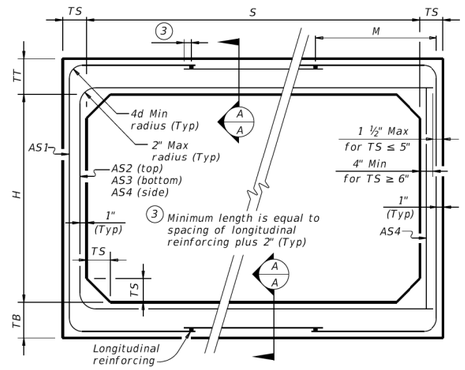
BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
4	2	7.5	6	5	< 2	–	0.18	0.27	0.15	0.12	0.18	0.18	0.14	4.5
4	2	5	5	5	2 < 3	38	0.18	0.19	0.17	0.12	–	–	–	3.6
4	2	5	5	5	3 – 5	38	0.13	0.13	0.13	0.12	–	–	–	3.6
4	2	5	5	5	10	38	0.12	0.12	0.12	0.12	–	–	–	3.6
4	2	5	5	5	15	38	0.14	0.16	0.16	0.12	–	–	–	3.6
4	2	5	5	5	20	38	0.18	0.20	0.21	0.12	–	–	–	3.6
4	2	5	5	5	25	38	0.23	0.25	0.25	0.12	–	–	–	3.6
4	2	5	5	5	30	38	0.28	0.30	0.30	0.12	–	–	–	3.6
4	3	7.5	6	5	< 2	–	0.18	0.31	0.18	0.12	0.18	0.18	0.14	5.0
4	3	5	5	5	2 < 3	38	0.15	0.23	0.20	0.12	–	–	–	4.1
4	3	5	5	5	3 – 5	38	0.12	0.16	0.16	0.12	–	–	–	4.1
4	3	5	5	5	10	38	0.12	0.14	0.14	0.12	–	–	–	4.1
4	3	5	5	5	15	38	0.12	0.18	0.18	0.12	–	–	–	4.1
4	3	5	5	5	20	38	0.14	0.23	0.24	0.12	–	–	–	4.1
4	3	5	5	5	25	38	0.17	0.29	0.29	0.12	–	–	–	4.1
4	3	5	5	5	30	38	0.21	0.35	0.35	0.12	–	–	–	4.1
4	4	7.5	6	5	< 2	–	0.18	0.33	0.20	0.12	0.18	0.18	0.14	5.5
4	4	5	5	5	2 < 3	38	0.12	0.26	0.23	0.12	–	–	–	4.6
4	4	5	5	5	3 – 5	38	0.12	0.18	0.18	0.12	–	–	–	4.6
4	4	5	5	5	10	38	0.12	0.15	0.15	0.12	–	–	–	4.6
4	4	5	5	5	15	38	0.12	0.19	0.20	0.12	–	–	–	4.6
4	4	5	5	5	20	38	0.12	0.25	0.25	0.12	–	–	–	4.6
4	4	5	5	5	25	38	0.14	0.31	0.31	0.12	–	–	–	4.6
4	4	5	5	5	30	38	0.17	0.37	0.37	0.12	–	–	–	4.6

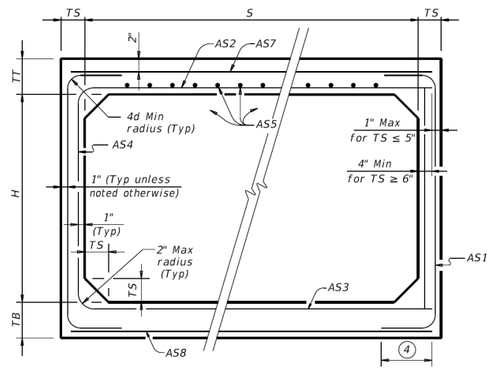
(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

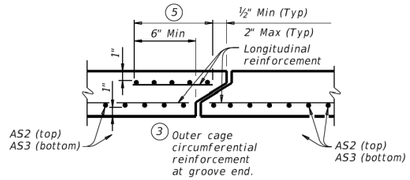
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete (f`c = 5,000 psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

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Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS PRECAST 4'-0" SPAN

SCP-4

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CITY OF HOUSTON
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SINGLE BOX CULVERTS
PRECAST 4'-0" SPAN
(SCP-4)

SHEET 1 OF 1

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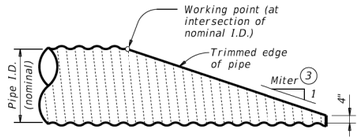
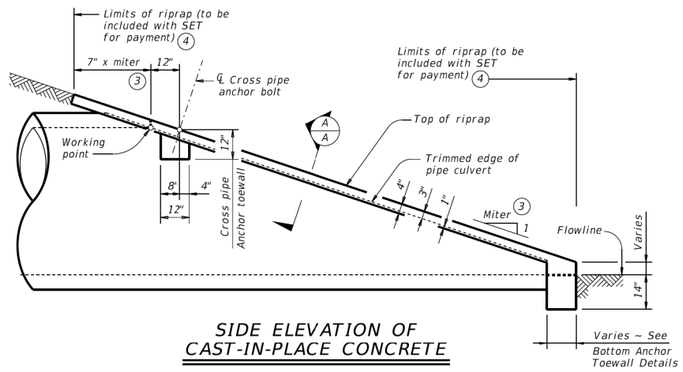


NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

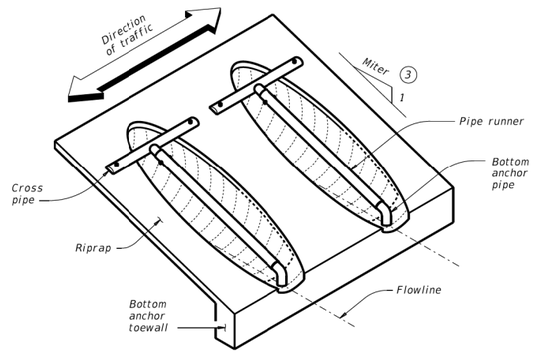
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. Pipe runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS (1) (2)

Nominal Culvert I.D.	Pipe Culvert Span ~ G	Cross Pipe Length	Pipe Runner Length											
			3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1' – 7"	3' – 5"	N/A	N/A	N/A	5' – 10"	N/A	N/A	N/A	8' – 1"	N/A	N/A	N/A	12' – 9"
27"	1' – 8"	3' – 8"	N/A	N/A	5' – 5"	6' – 11"	N/A	N/A	7' – 7"	9' – 7"	N/A	N/A	11' – 11"	14' – 11"
30"	1' – 10"	3' – 11"	N/A	N/A	6' – 4"	8' – 0"	N/A	N/A	8' – 9"	11' – 0"	N/A	N/A	13' – 8"	17' – 0"
33"	1' – 11"	4' – 2"	6' – 2"	6' – 5"	7' – 3"	9' – 1"	8' – 6"	8' – 10"	10' – 0"	12' – 5"	13' – 3"	13' – 9"	15' – 5"	19' – 2"
36"	2' – 1"	4' – 5"	6' – 11"	7' – 3"	8' – 2"	10' – 2"	9' – 6"	9' – 11"	11' – 2"	13' – 10"	14' – 9"	15' – 3"	17' – 2"	21' – 3"
42"	2' – 4"	4' – 11"	8' – 6"	8' – 10"	9' – 11"	12' – 4"	11' – 7"	12' – 0"	13' – 6"	16' – 8"	17' – 9"	18' – 5"	20' – 8"	25' – 7"
48"	2' – 7"	5' – 5"	10' – 1"	10' – 5"	11' – 9"	N/A	13' – 7"	14' – 2"	15' – 10"	N/A	20' – 9"	21' – 6"	24' – 2"	N/A
54"	3' – 0"	5' – 11"	11' – 8"	12' – 1"	N/A	N/A	15' – 8"	16' – 3"	N/A	N/A	23' – 10"	24' – 8"	N/A	N/A
60"	3' – 3"	6' – 5"	13' – 3"	N/A	N/A	N/A	17' – 9"	N/A	N/A	N/A	26' – 10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS (3)

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED (2)

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (no skew)	Always required
42" thru 60"	Always required	Always required

STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS (1)

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10' – 0"
4" STD	4.500"	4.026"	19' – 8"
5" STD	5.563"	5.047"	34' – 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) (5)

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A

(1) Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.

(2) This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°.
For 54" culvert pipes, the skew must not exceed 15°.
For 48" culvert pipes, the skew must not exceed 30°.
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.

(3) Miter = slope of mitered end of pipe culvert.

(4) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."

(5) Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

SAFETY END TREATMENT FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE

SETP-CD

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SAFETY END TREATMENT FOR 12" DIA TO 60" DIA PIPE CUVLERTS TYPE II - CROSS DRAINAGE (SETP-CD)

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 502 OF 1067	

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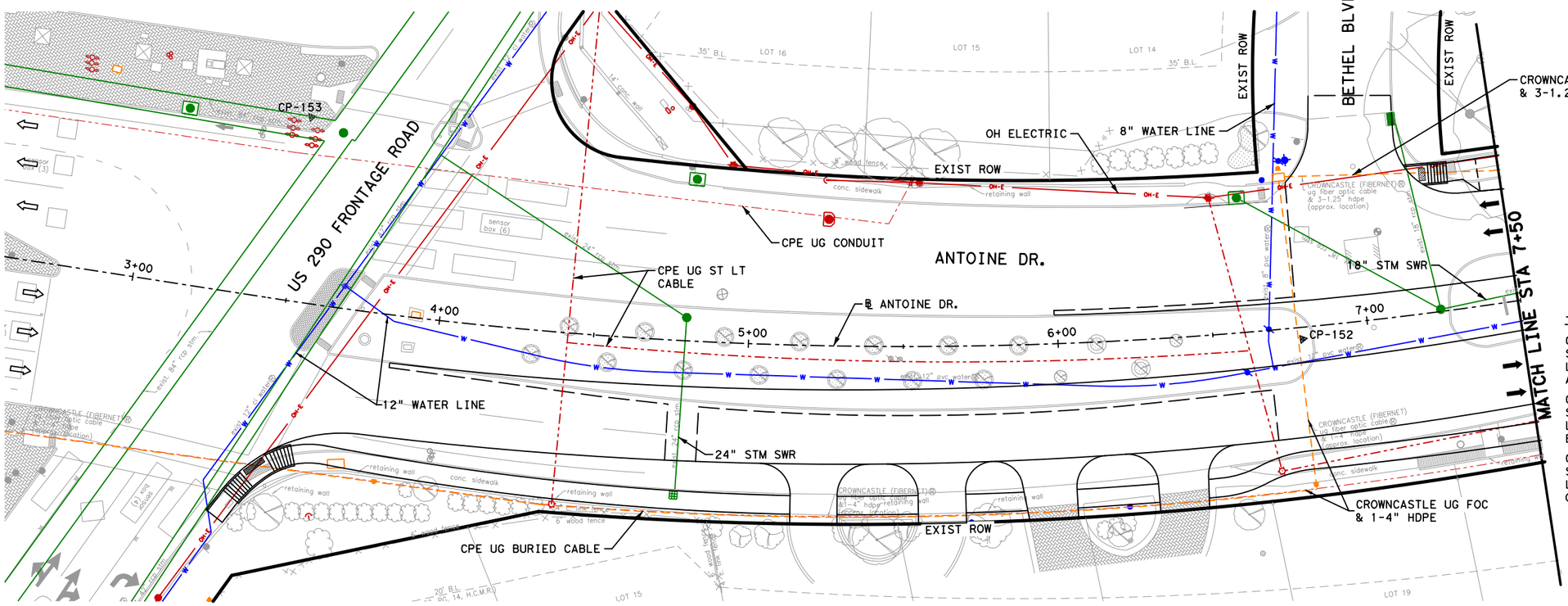

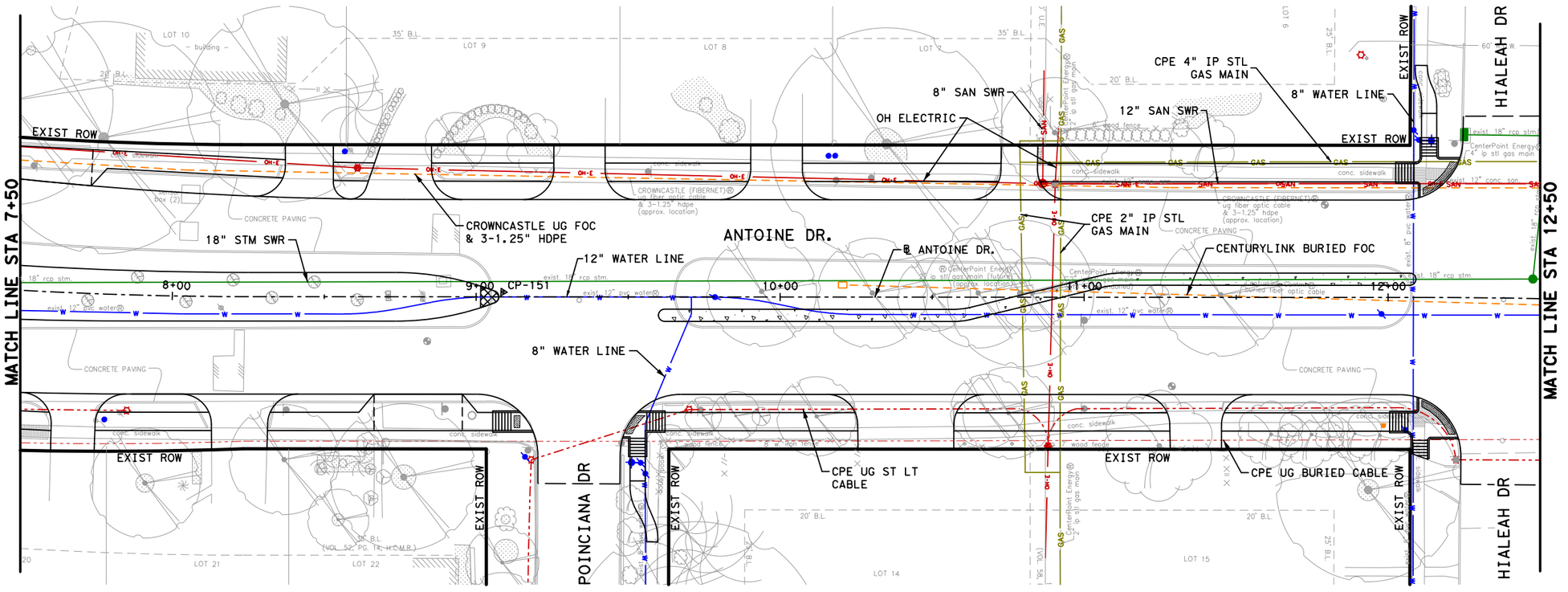

IBM INFO

CP-153, ELEV=69.44′
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND US 290 FEEDER RD (NORTHBOUND)

CP-152, ELEV=70.06′
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF BETHEL BLVD AND ANTOINE DR

CP-151, ELEV=69.28′
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND POINCIANA DR

No.	DATE	REVISIONS	APP.

0′ 20′ 40′
SCALE IN FEET

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713 777 5337

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITIES LAYOUT BEGIN PROJECT TO STA 12+50

SHEET 1 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 503 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\EX UTILITY\EX_UTILITY 01.dgn
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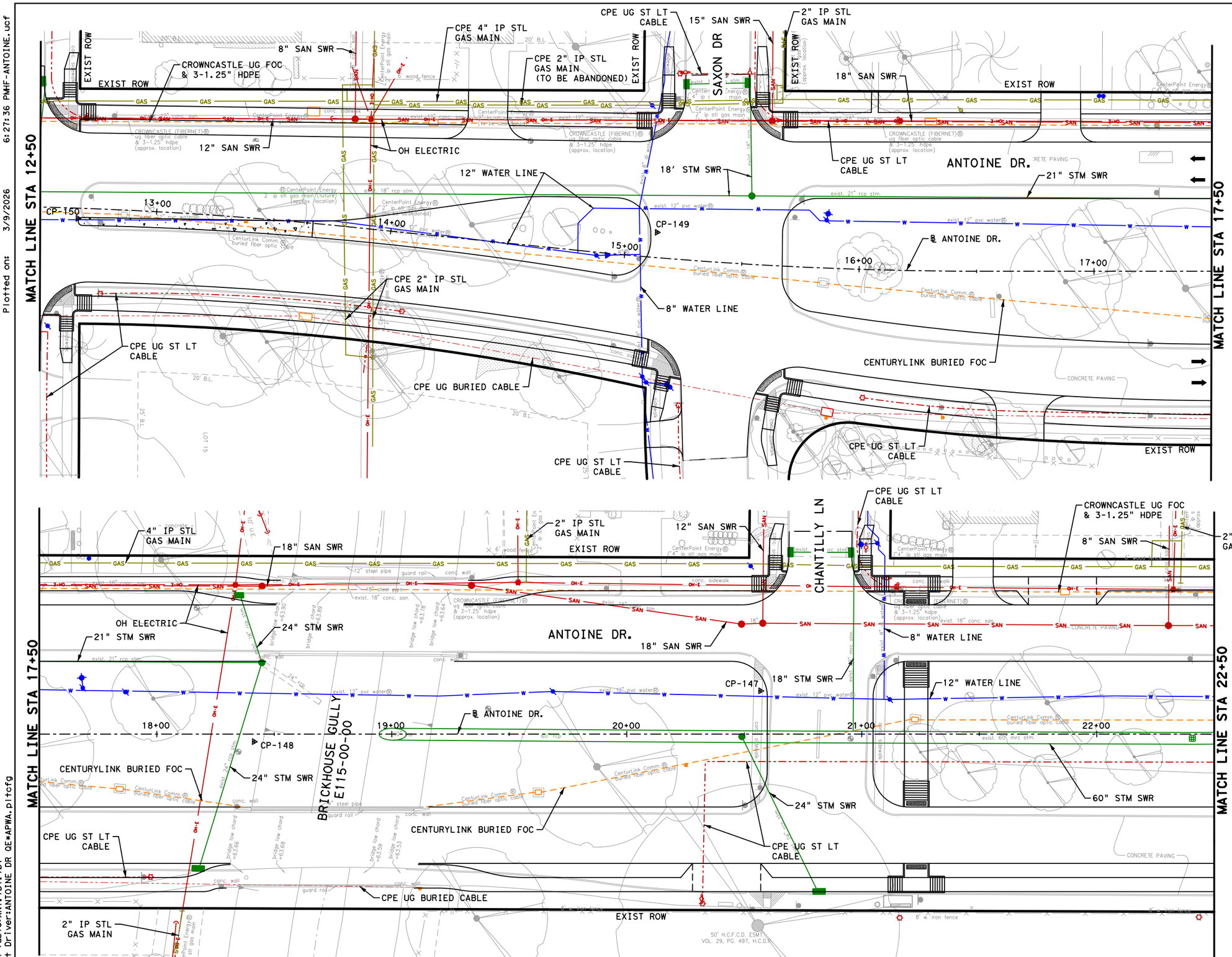
Plot Driver:ANTOINE DR QE*APWA.pltcfg



TBM INFO

CP-150, ELEV=67.41'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HIALEAH DR

CP-149, ELEV=66.72'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT ANTOINE DR AND SAXON DR

CP-148, ELEV=64.55'
SET ½" IRON ROD WITH CAP
LOCATED APPROX 240' SOUTH OF THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

CP-147, ELEV=66.09'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHANTILLY LN

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 12+50 TO STA 22+50

SHEET 2 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 504 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:27:36 PMHF-ANTOINE.ucf
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
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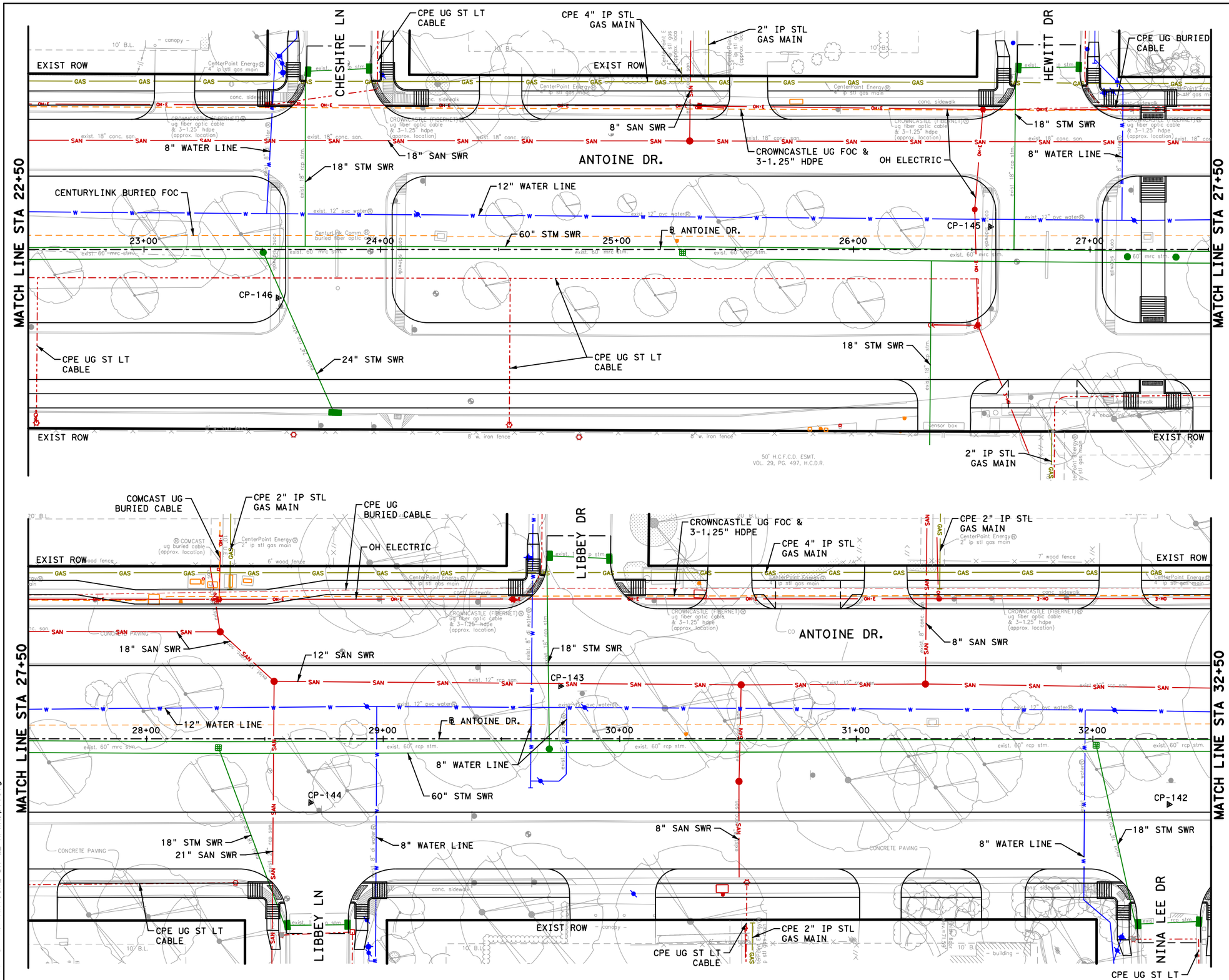

TBM INFO

CP-146, ELEV=62.28'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHESHIRE LN

CP-145, ELEV=69.40'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HEWITT DR

CP-144, ELEV=69.39'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY LN

CP-143, ELEV=70.52'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY DR

CP-142, ELEV=70.12'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

0' 20' 40'
SCALE IN FEET

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Engineer
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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 22+50 TO STA 32+50

SHEET 3 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 505 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\EX UTILITY\EX_UTILITY 03.dgn

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\EX UTILITY\EX_UTILITY 04.dgn

MATCH LINE STA 32+50

NINA LEE DR

8" WATER LINE

CROWNCASTLE UG FOC & 3-1.25" HDPE

EXIST ROW

OH ELECTRIC

CPE UG BURIED CABLE

ANTOINE DR.

18" STM SWR

8" SAN SWR

CPE 4" IP STL GAS MAIN

CP-141

12" SAN SWR

12" WATER LINE

33+00

34+00

℄ ANTOINE DR.

35+00

60" STM SWR

AT&T TEXAS/SWBT 8-4" PVC

CP-140

36+00

54" STM SWR

24" STM SWR

AT&T TEXAS/SWBT 24-4" PVC

CPE UG STL LT CABLE

6" IP JT. STL GAS MAIN (FUTURE)

6" IP STL GAS MAIN

W. 43RD ST

12" WATER LINE

CPE UG BURIED CABLE

EXIST ROW

AT&T TEXAS/SWBT 16-4" PVC

AT&T TEXAS/SWBT 2-3 1/2" GIP

36" STM SWR

16" WATER LINE

37+00

CP-139

15" SAN SWR

AT&T TEXAS/SWBT 9-3 ½" TRANS

24" STM SWR

6" IP STL GAS MAIN

24" STM SWR

MATCH LINE STA 37+50

IBM INFO

CP-141, ELEV=70.96'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

CP-140, ELEV=71.43'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

CP-139, ELEV=71.48'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

CP-138, ELEV=72.61'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE MILO DR

MATCH LINE STA 37+50

CROWNCASTLE UG FOC & 3-1.25" HDPE

EXIST ROW

DE MILO DR

18" STM SWR

AT&T/SWBT 16-4" PVC

OH ELECTRIC

COMCAST UG BURIED CABLE

CPE UG BURIED CABLE

EXIST ROW

AT&T/TEXAS/SWBT 16-4" PVC

8" SAN SWR

12" SAN SWR

8" WATER LINE

ANTOINE DR.

48" STM SWR

8" SAN SWR

18" STM SWR

8" WATER LINE

CP-138

38+00

54" STM SWR

42" STM SWR

℄ ANTOINE DR.

39+00

40+00

41+00

42+00

8" SAN SWR

36" STM SWR

OH ELECTRIC

12" WATER LINE

CPE 4" IP STL GAS MAIN

CPE UG ST LT CABLE

6" IP STL GAS MAIN

18" STM SWR

8" SAN SWR

18" STM SWR

2" CPE IP STL GAS MAIN

DE MILO DR

EXIST ROW

2" CPE IP STL GAS MAIN

VIKING DR

MATCH LINE STA 42+50

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP:

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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT STA 32+50 TO STA 42+50

SHEET 4 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 506 OF 1067	

Plotted on: 3/9/2026 6:27:38 PMF-ANTOINE.ucf

MATCH LINE STA 42+50

COMCAST UG BURIED CABLE

CPE 2" IP STL GAS MAIN

CROWNCASTLE UG FOC & 3-1.25" HDPE

CPE UG BURIED CABLE

8" WATER LINE

EXIST ROW

AT&T TEXAS/SWBT 16-4" PVC

15" STM SWR

OH ELECTRIC

8" SAN SWR

18" STM SWR

12" SAN SWR

ANTOINE DR.

43+00

44+00

45+00

46+00

47+00

℄ ANTOINE DR.

36" STM SWR

CP-137

CP-136

6" IP STL GAS MAIN

12" WATER LINE

CPE UG ST LT CABLE

VIKING DR

VERDOME DR

CPE 2" IP STL GAS MAIN

MATCH LINE STA 47+25

TBM INFO

CP-137, ELEV=73.29'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VIKING DR

CP-136, ELEV=73.88'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VERDOME LN

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 42+50 TO STA 47+25

SHEET 5 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 507 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\EX UTILITY\EX_UTILITY 05.dgn

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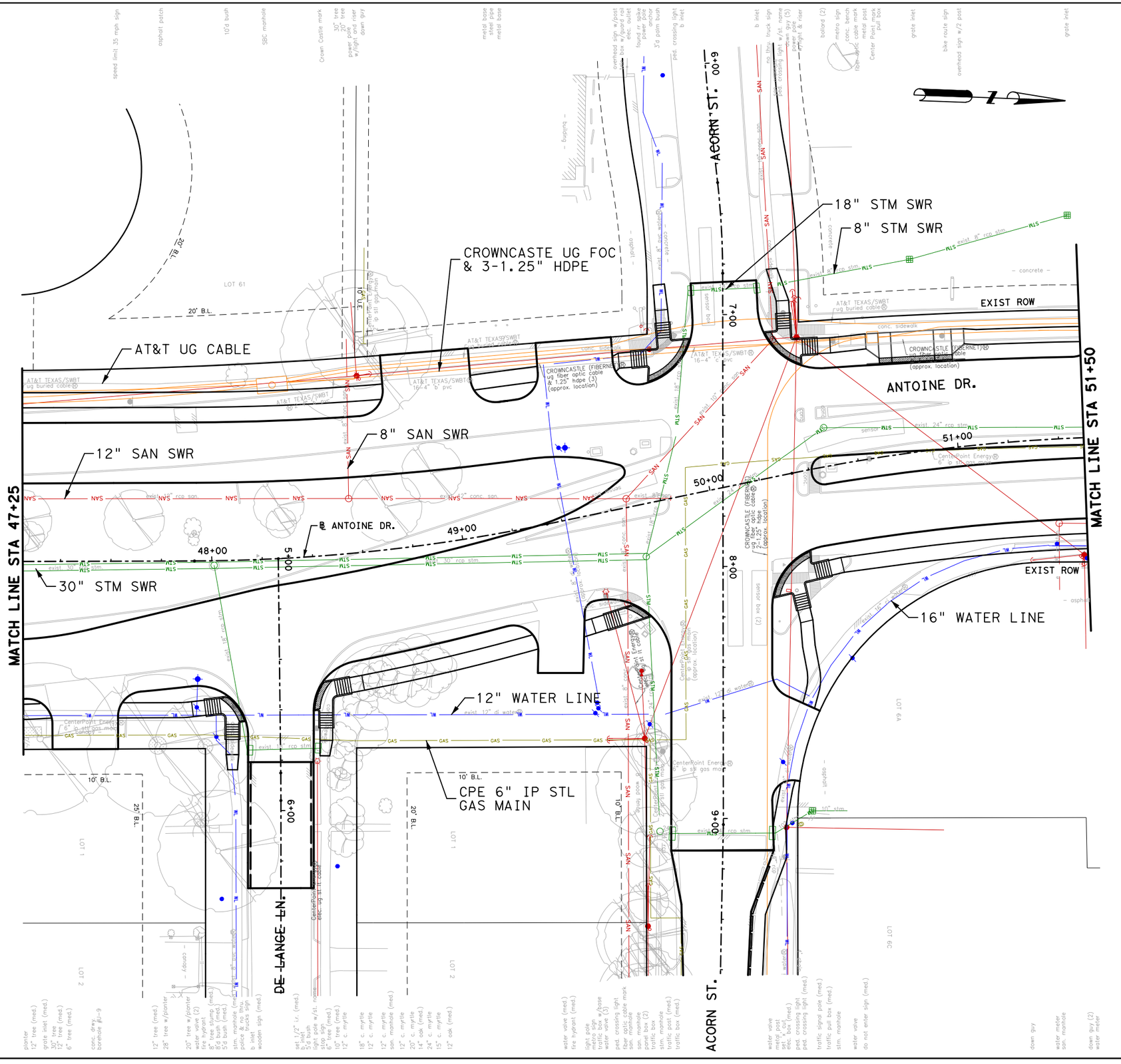

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITIES LAYOUT STA 47+25 TO STA 51+50

SHEET 06 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 508 OF 1067	

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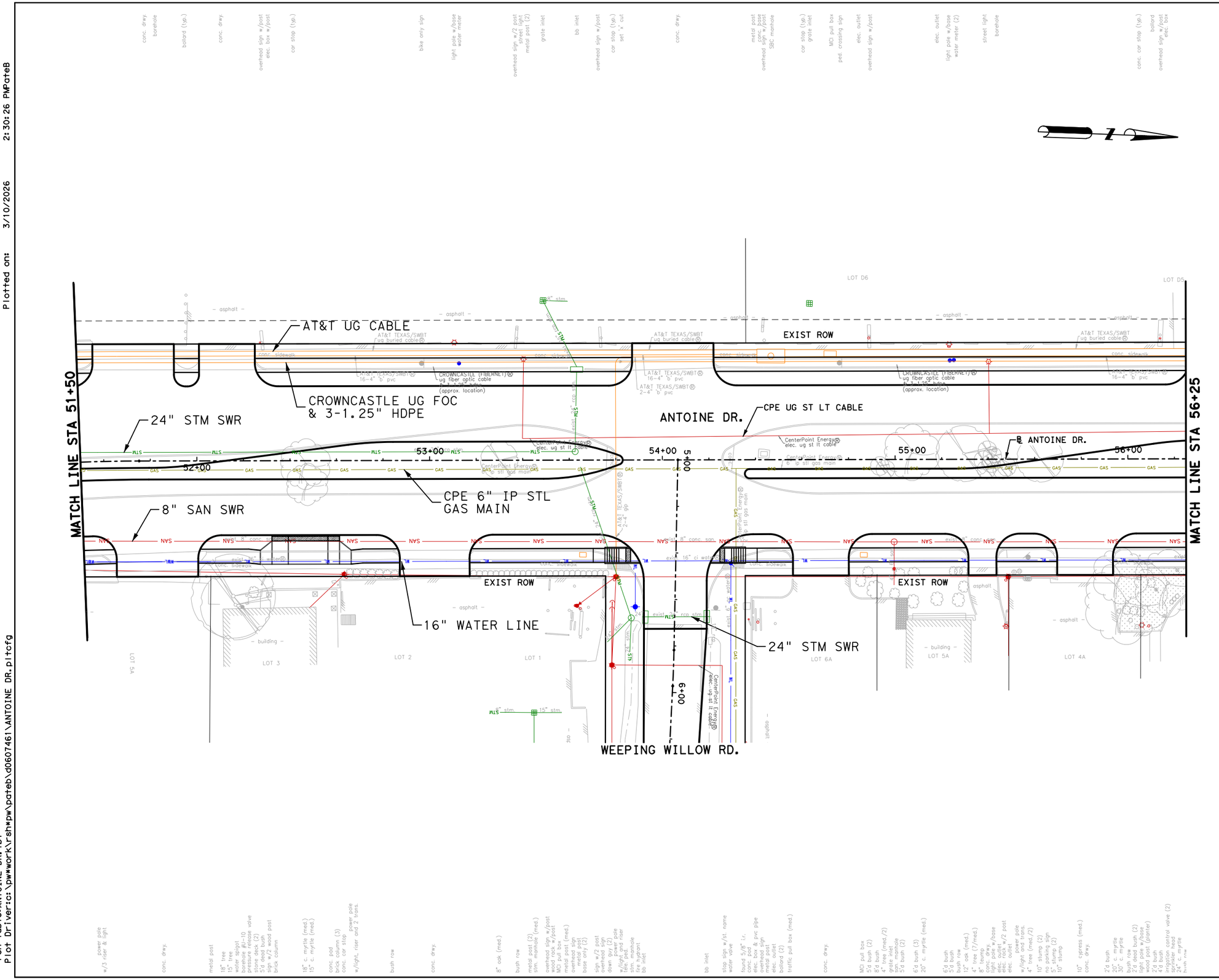

0' 20' 40'
SCALE IN FEET

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 51+50.00 TO STA 56+25.00

SHEET 07 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 509 OF 1067	

Plotted on: 3/10/2026 2:30:26 PMPateB

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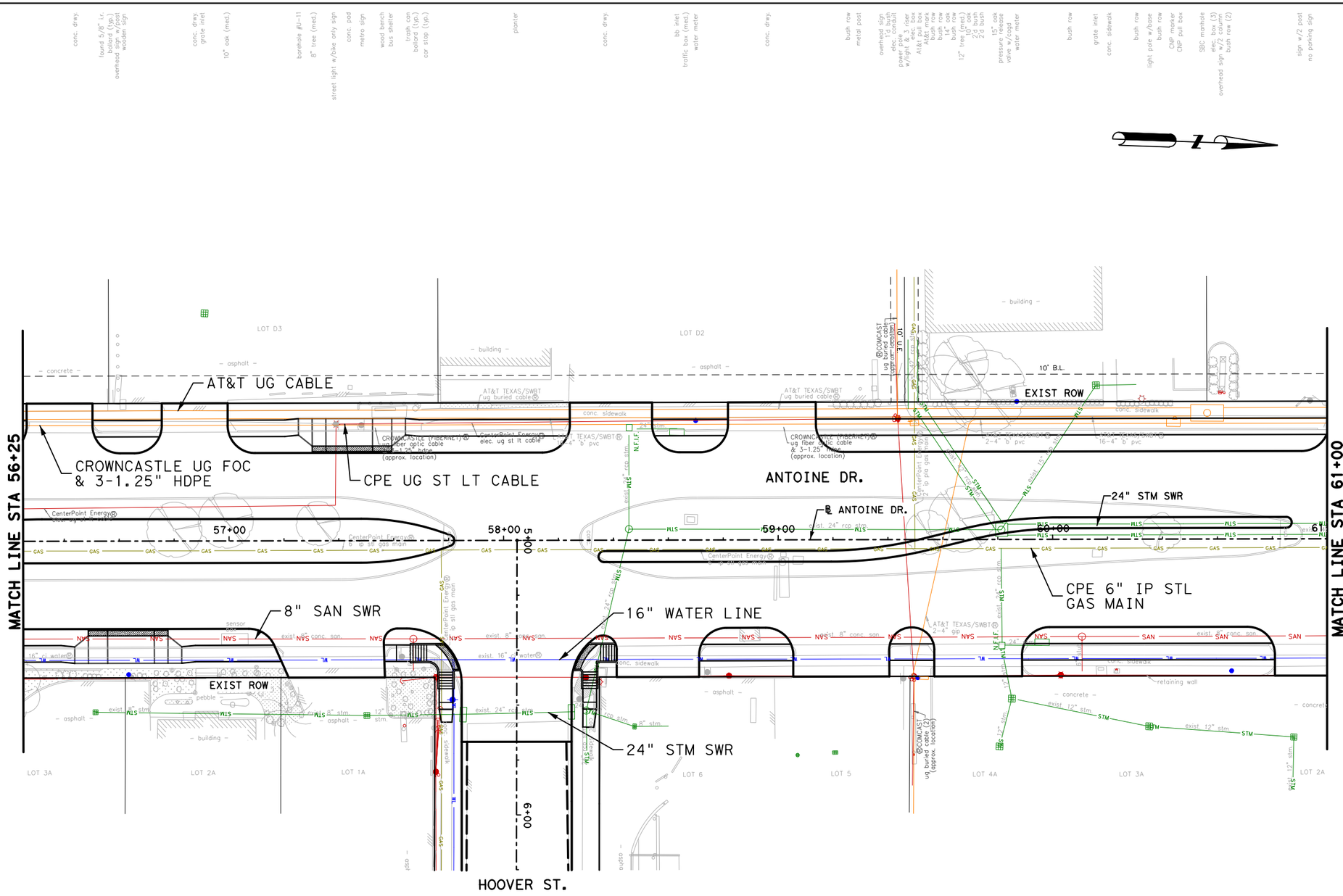

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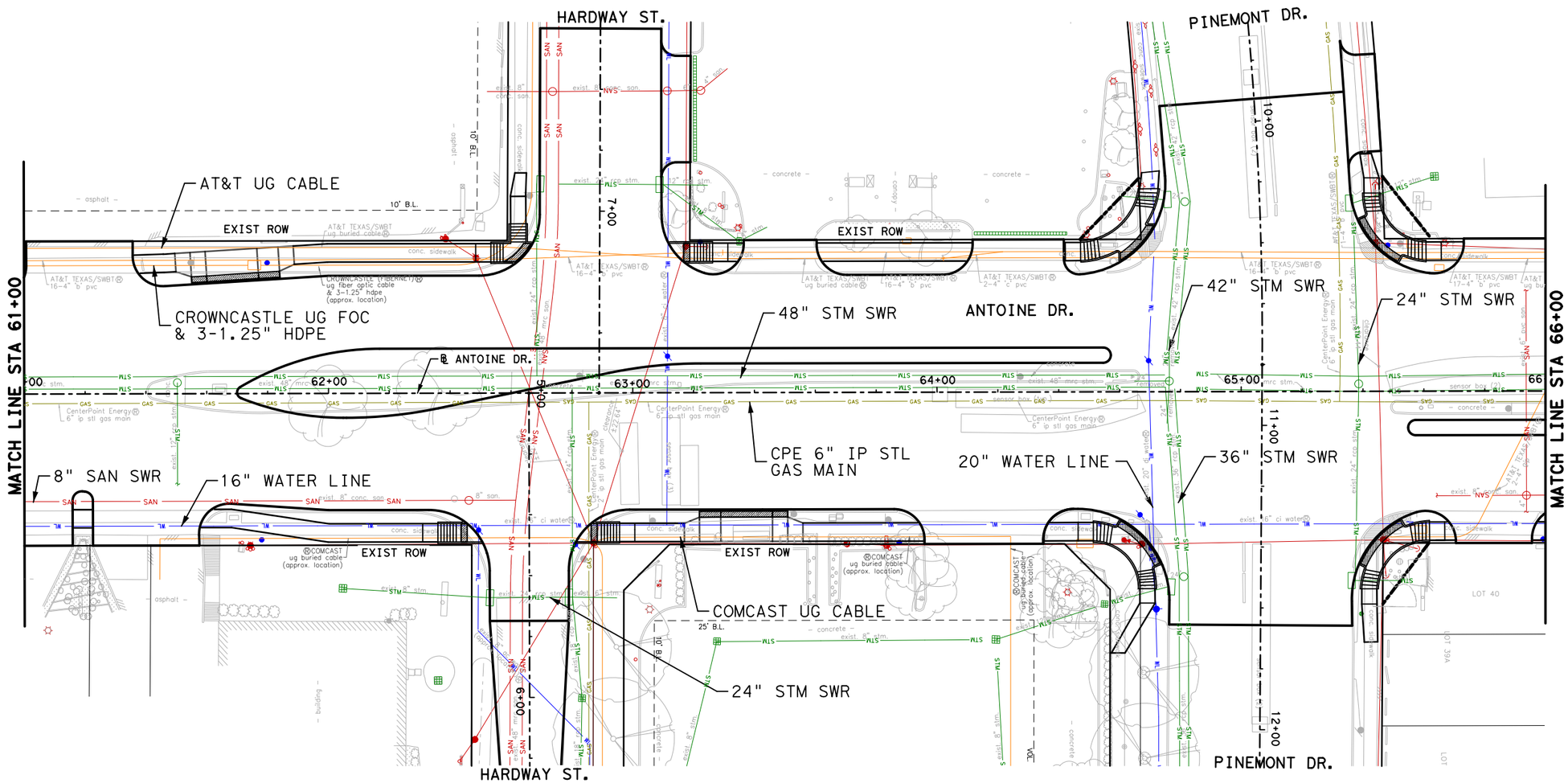
ANTOINE DRIVE

EXISTING UTILITIES LAYOUT STA 56+25 TO STA 61+00

SHEET 08 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 510 OF 1067	



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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 61+00.00 TO STA 66+00.00

SHEET 09 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 511 OF 1067	

Plotted on: 3/10/2026 2:30:46 PMPateB

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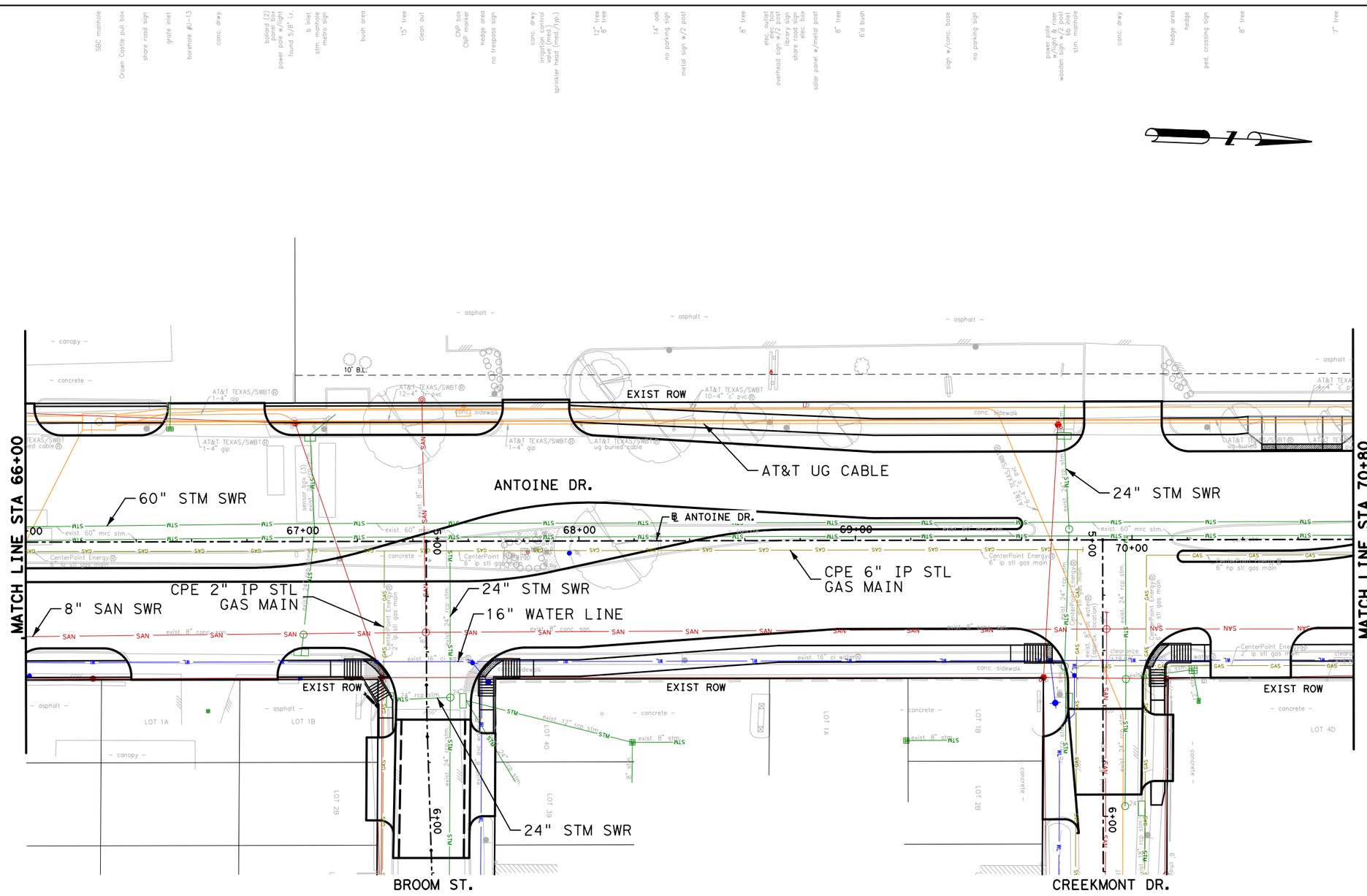
Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Roadway\RSH_

Plotted on: 3/10/2026 2:30:56 PM CDT



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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 66+00.00 TO STA 70+80.00

SHEET 10 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 512 OF 1067	

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GOLDEN FOREST DR.

MATCH LINE STA 70+80

MATCH LINE STA 75+50

EXIST ROW

EXIST ROW

AT&T UG CABLE

60" STM SWR

ANTOINE DR.

℄ ANTOINE DR.

CPE 3" IP STL GAS MAIN

24" STM SWR

6" CPE HP STL GAS MAIN

8" SAN SWR

18" STM SWR

8" WATER LINE

18" STM SWR

24" STM SWR

EXIST ROW

COMCAST UG CABLE

CPE UG ST LT CABLE

BIRCHMONT DR.

LOT 4E

LOT 57

0' 20' 40'
SCALE IN FEET

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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 70+80.00 TO STA 75+50.00

SHEET 11 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 513 OF 1067	

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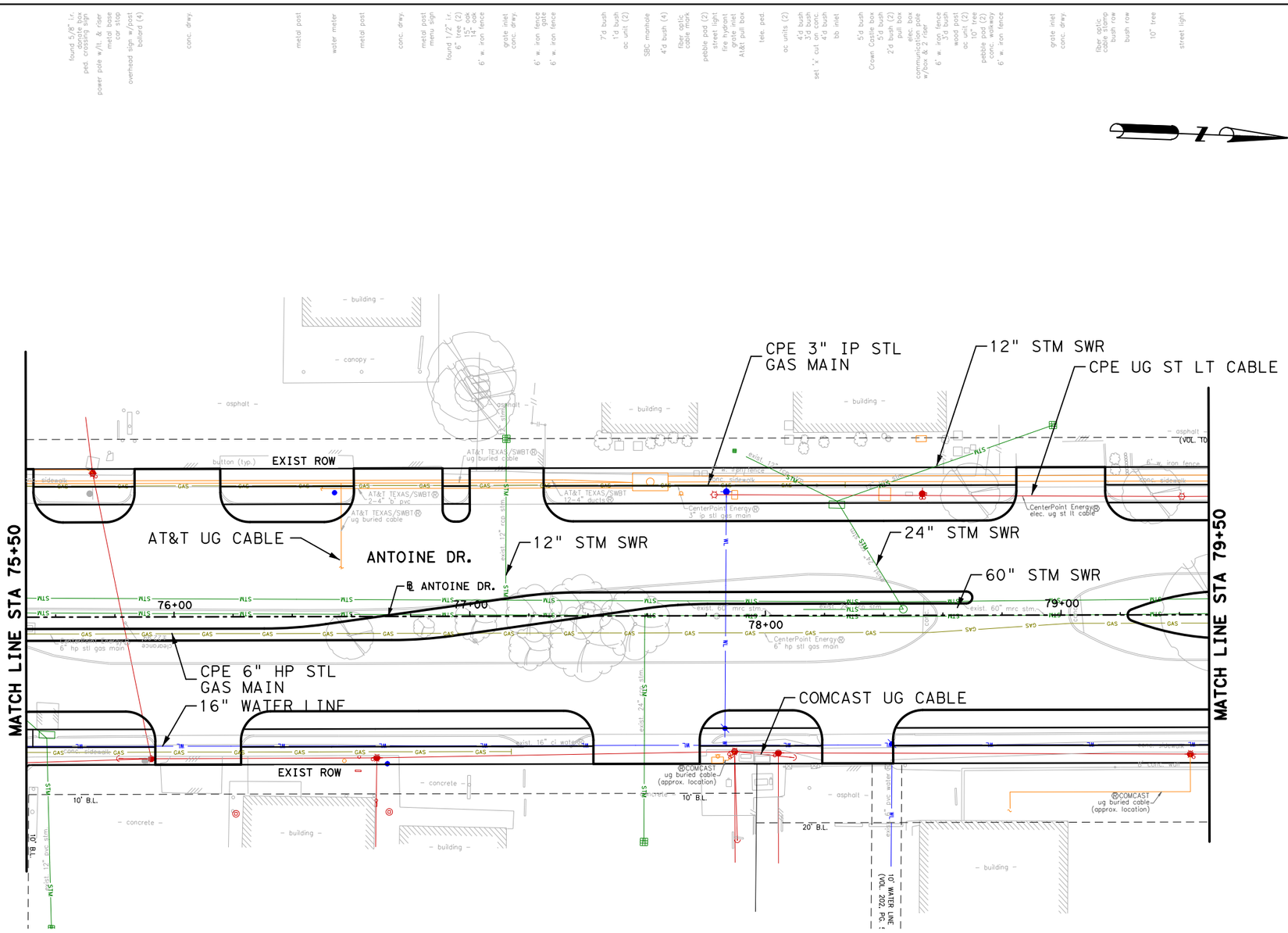

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SCALE IN FEET

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RS&H®
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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Date 91874
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for 60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITIES LAYOUT STA 75+50.00 TO STA 79+50.00

SHEET 12 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 514 OF 1067	

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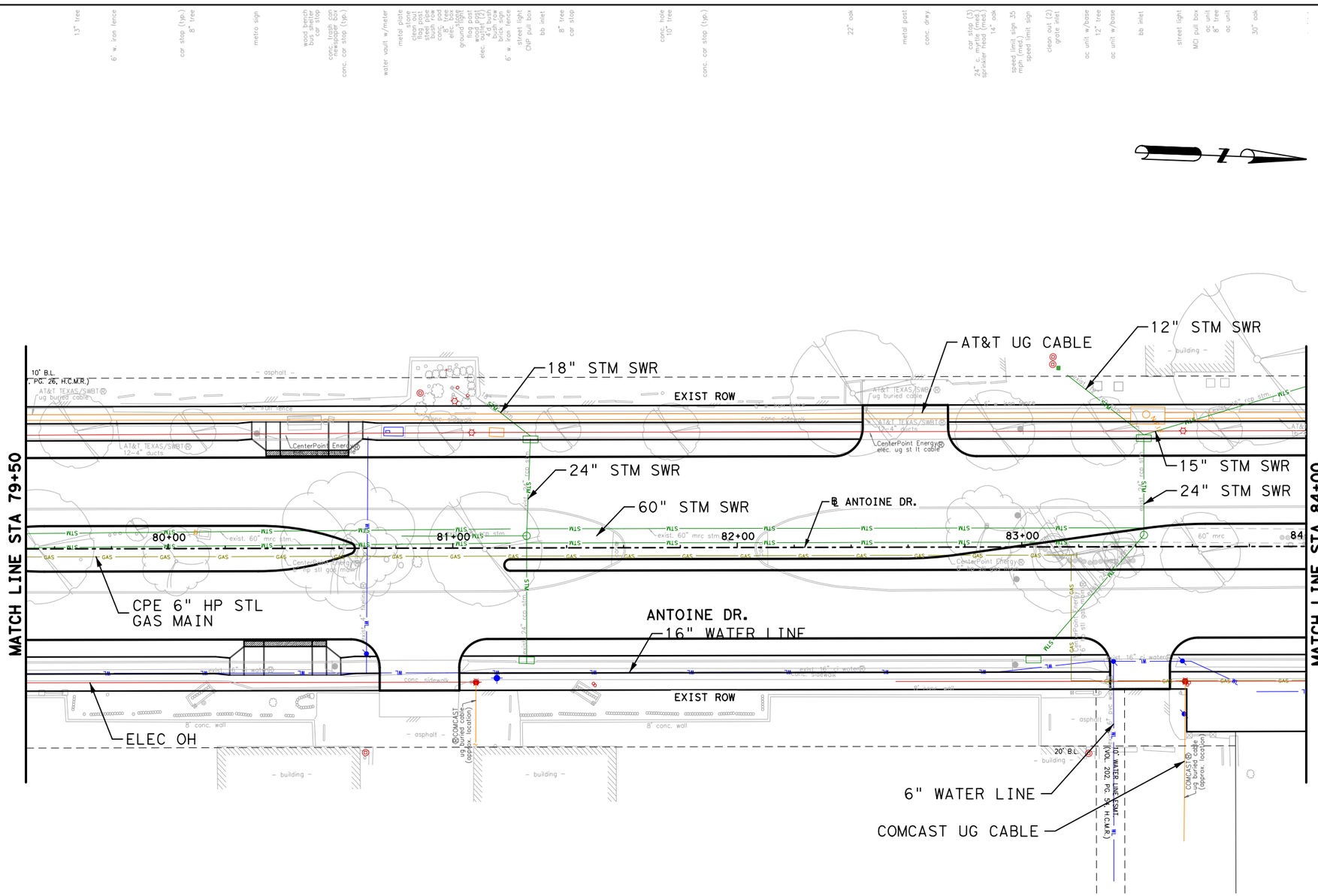

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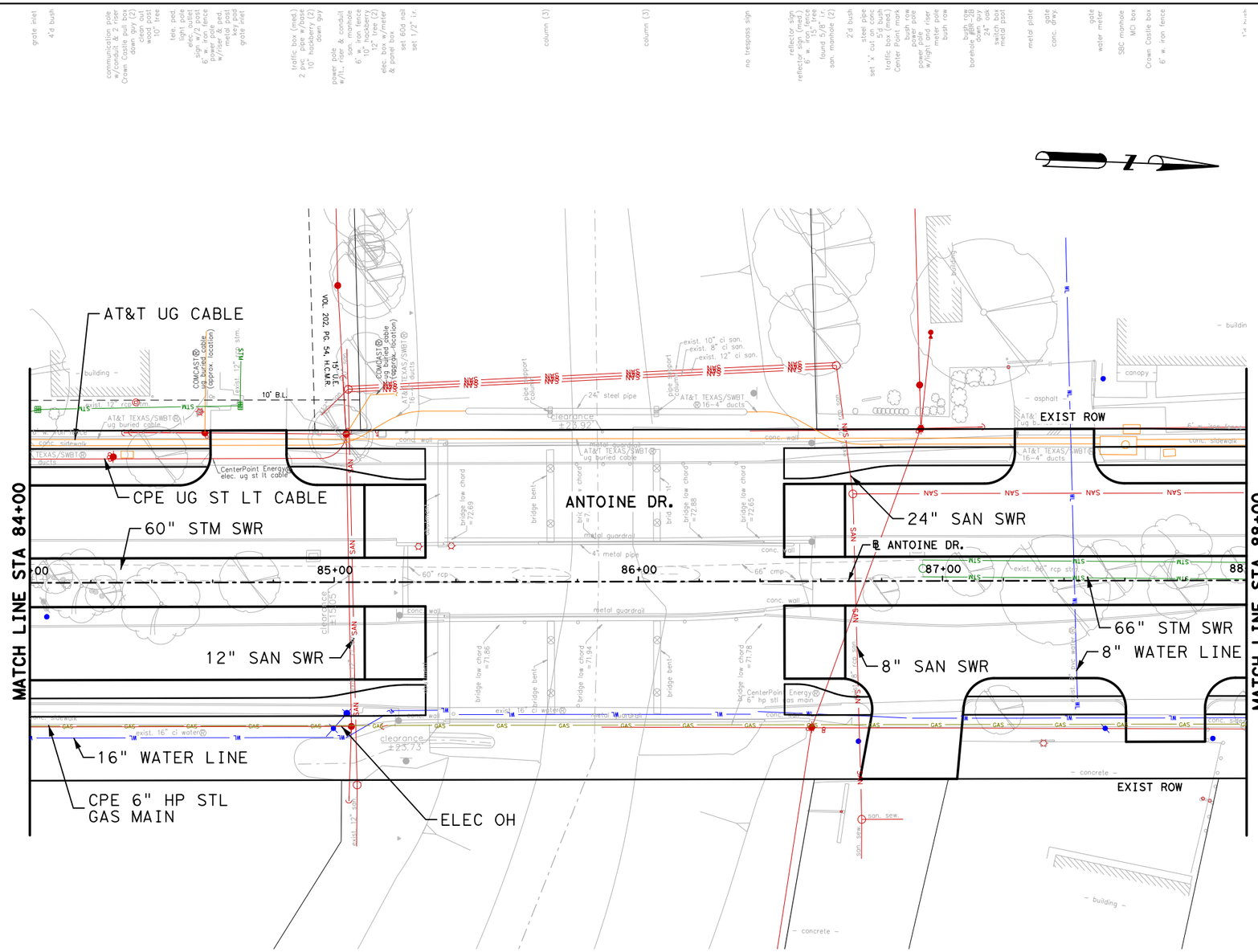
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 79+50.00 TO STA 84+00.00

SHEET 13 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 515 OF 1067	



0' 20' 40'
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ANTOINE DRIVE

EXISTING UTILITIES LAYOUT
STA 84+00.00 TO STA 88+00.00

SHEET 14 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 516 OF 1067	

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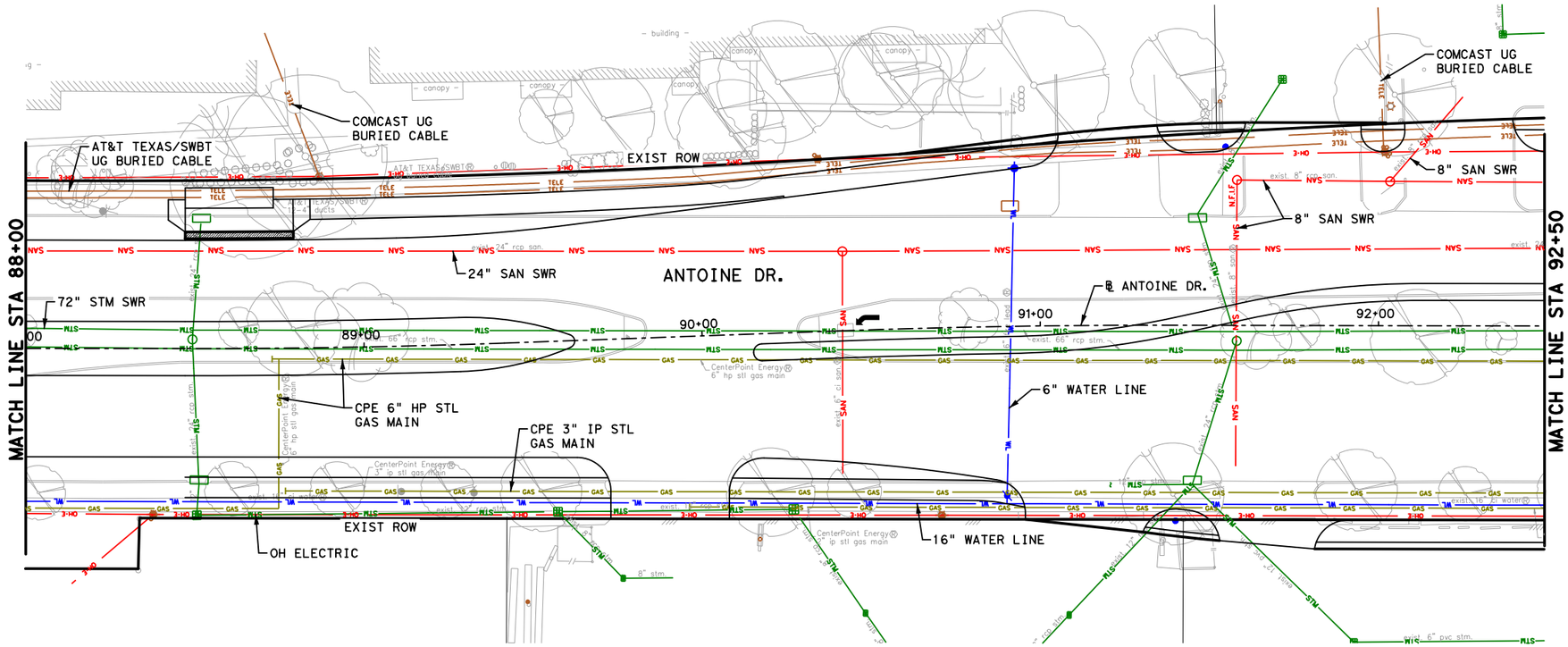

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SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
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HOUSTON, TX 77079

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CITY OF HOUSTON
SIGNUM
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT
STA 88+00 TO STA 92+50

SHEET 15 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 517 OF 1067	

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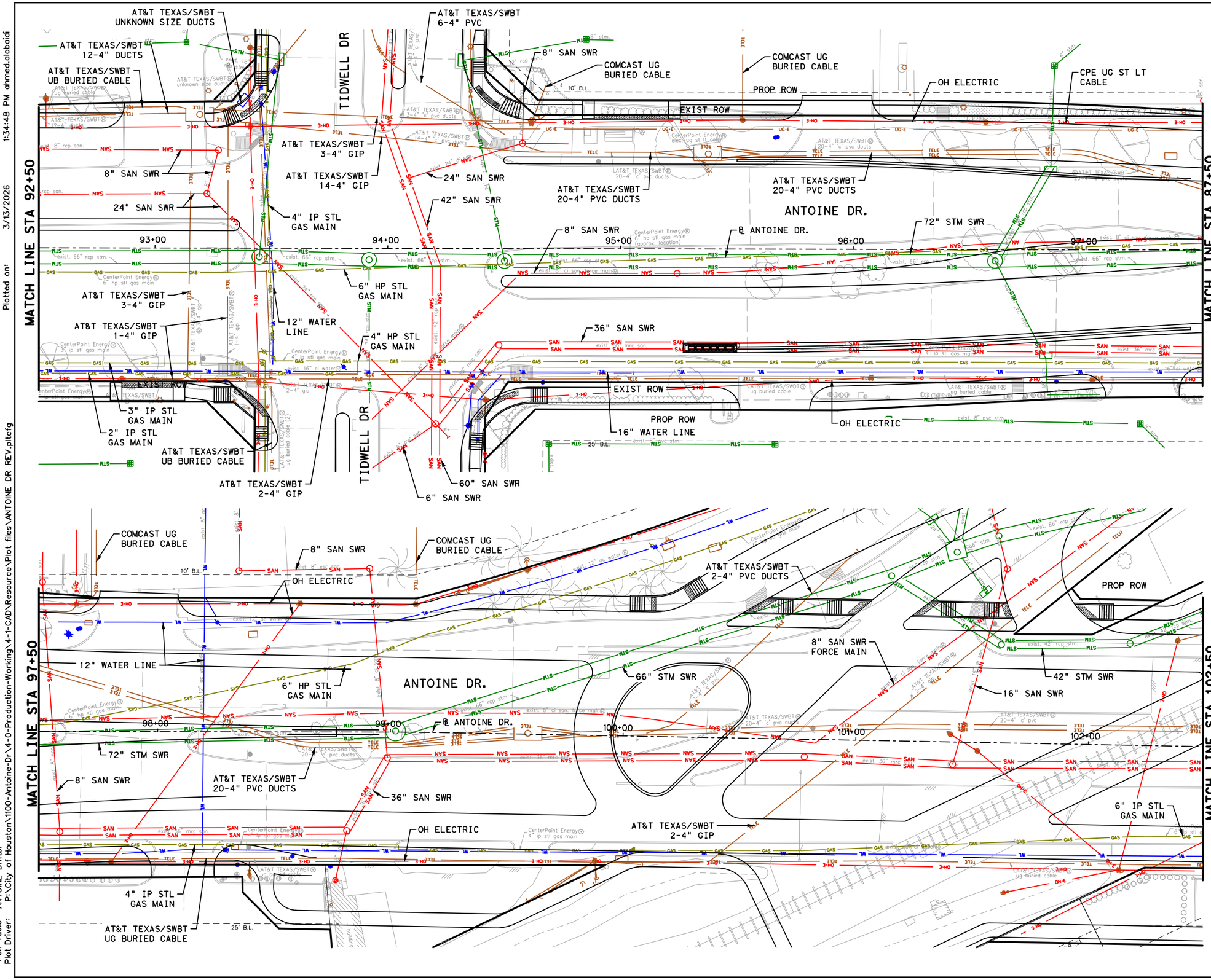

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SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT STA 92+50 TO STA 102+50

SHEET 16 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 518 OF 1067	

No.	DATE	REVISIONS	APP.

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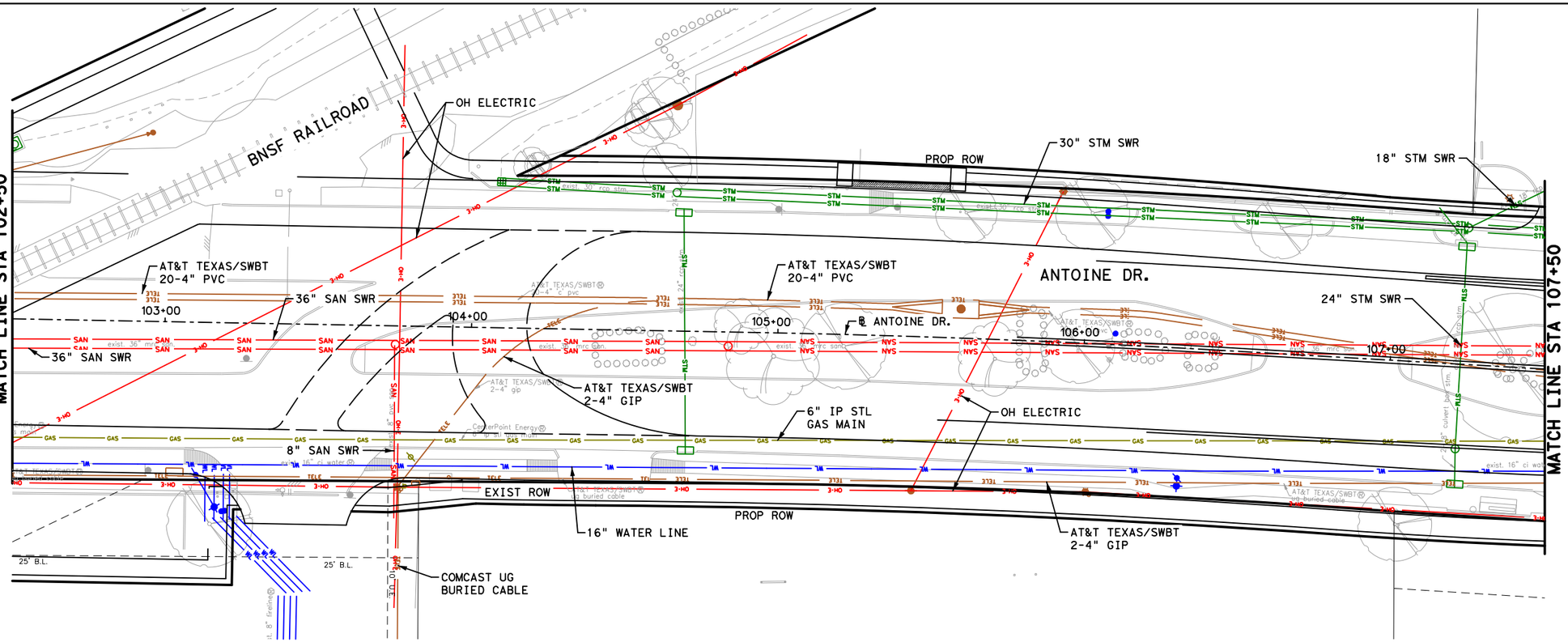

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT STA 102+50 TO STA 112+50

SHEET 17 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 519 OF 1067	

No.	DATE	REVISIONS	APP.

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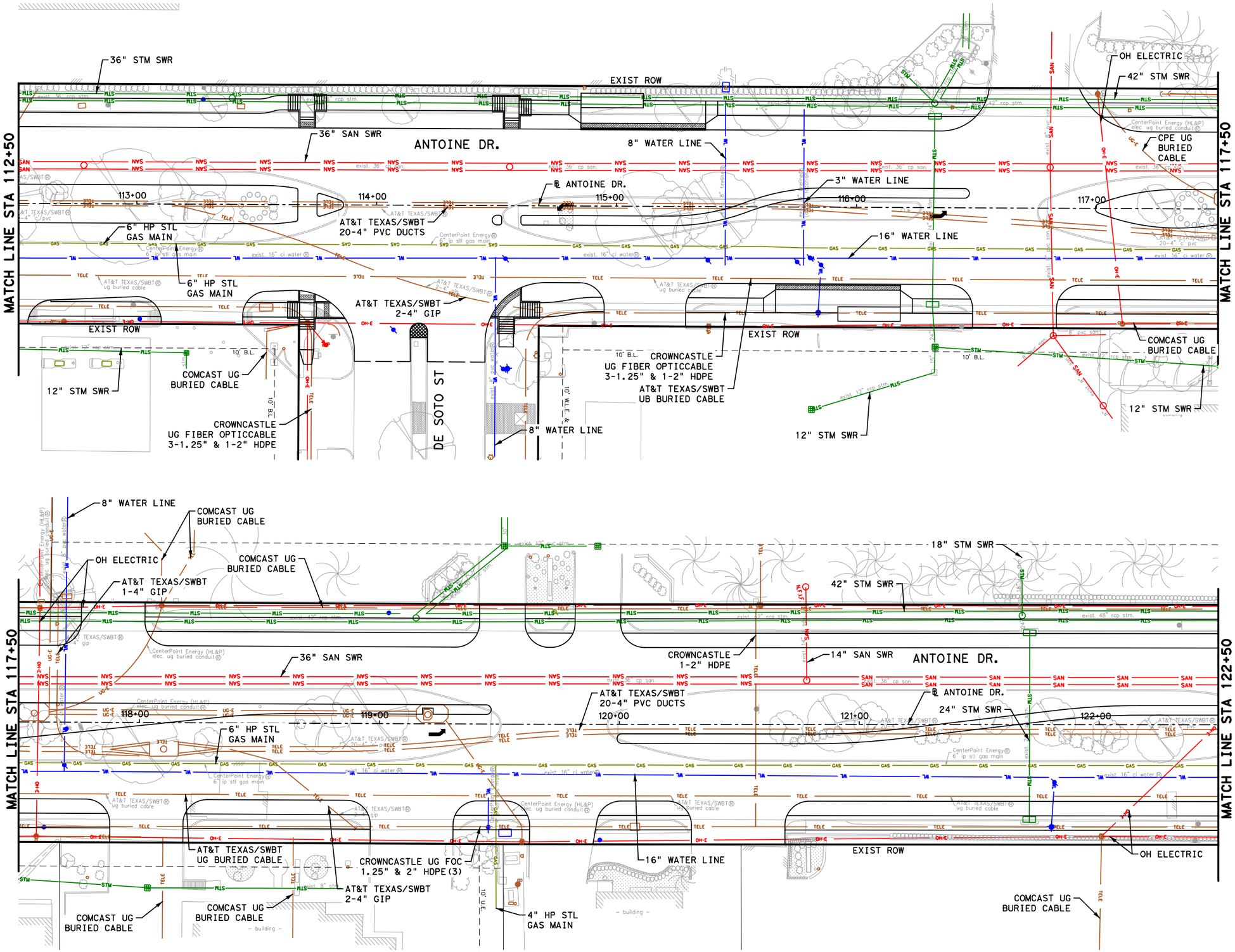

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT STA 102+50 TO STA 122+50

SHEET 18 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 520 OF 1067	

No.	DATE	REVISIONS	APP.

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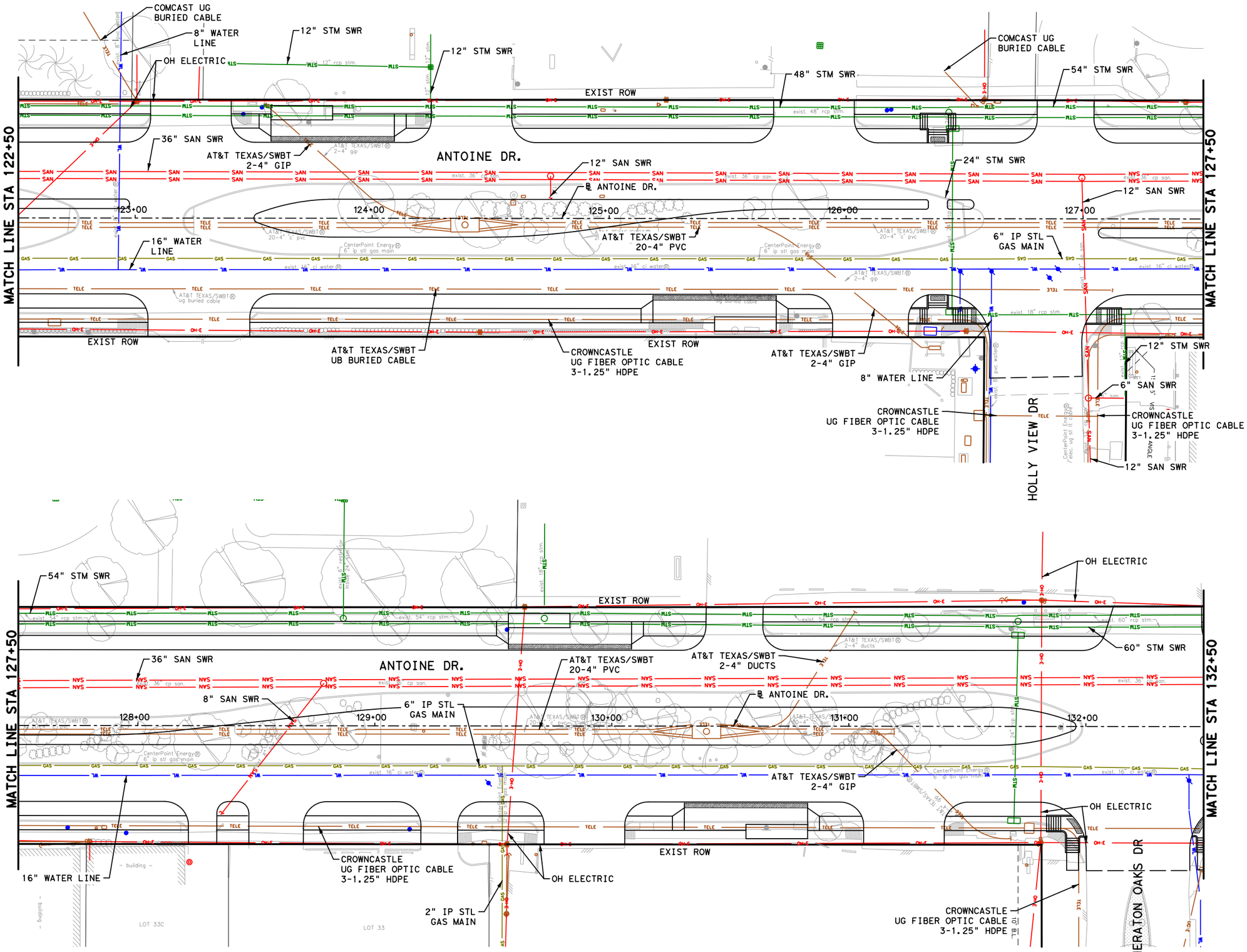

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISITING UTILITY LAYOUT STA 122+50 TO STA 132+50

SHEET 19 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 521 OF 1067	

No.	DATE	REVISIONS	APP.

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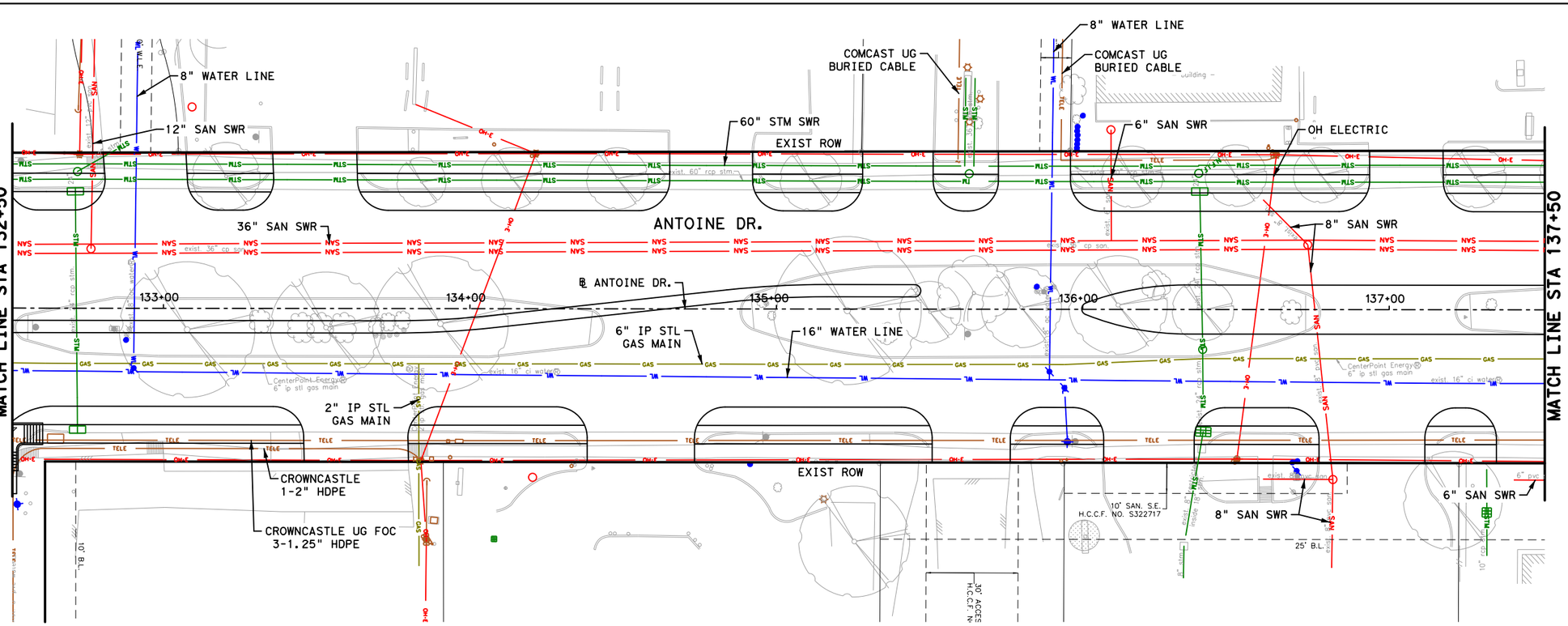

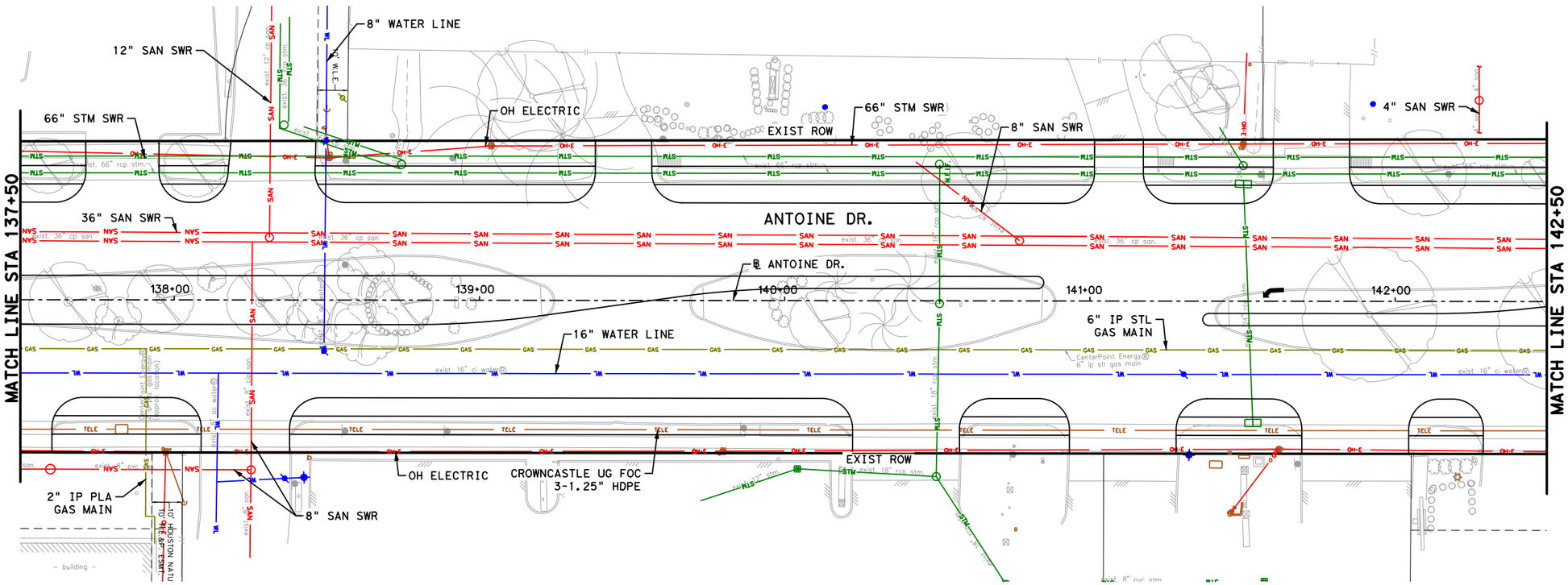

0′ 20′ 40′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT STA 132+50 TO STA 142+50

SHEET 20 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 522 OF 1067	

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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Utility\EX_UTILITY 16.dgn

MATCH LINE STA 142+50

66" STM SWR

EXIST ROW

36" STM SWR

W. LITTLE YORK

16" SAN SWR FORCE MAIN

OH ELECTRIC

36" SAN SWR

ANTOINE DR.

6" SAN SWR

72" STM SWR

8" SAN SWR

℄ ANTOINE DR.

143+00

144+00

145+00

146+00

147+00

24" SAN SWR FORCE MAIN

CPE 6" IP STL GAS MAIN

MATCH LINE STA 147+50

8" SAN SWR

6" SAN SWR

OH ELECTRIC

EXIST ROW

CPE 8" IP STL GAS MAIN

CROWNCASTLE UG FOC 3-1.25" HDPE

20' H.L.&P. ESMT. H.C.C.F. NO.

16" WATER LINE

25' B.L.

10' H.L.&P. H.C.C.F. NO.

8" SAN SWR

MATCH LINE STA 147+50

6" SAN SWR

OH ELECTRIC

EXIST ROW

6" SAN SWR

4" SAN SWR

CPE UG ST LT CABLE

ANTOINE DR.

16" SAN SWR FORCE MAIN (ABANDONED)

24" SAN SWR FORCE MAIN

72" STM SWR

℄ ANTOINE DR.

148+00

149+00

150+00

151+00

152+00

8" SAN SWR

MATCH LINE STA 152+50

CPE UG ST LT CABLE

4" SAN SWR

6" SAN SWR

2" IP PLA GAS MAIN

8" IP PLA GAS MAIN

EXIST ROW

4" SAN SWR

LOT 3F

LOT 3C

LOT 3E

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT STA 142+50 TO STA 152+50

SHEET 21 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 523 OF 1067	

MATCH LINE STA 152+50

12" HP STL GAS MAIN

12" WATER LINE

EXIST ROW

ANTOINE DR.

10' B.L.

COMCAST UG BURIED CABLE

CPE UG STL LT CABLE

10' B.L. (VOL. 114, PG. 41, H.C.M.R.)

OH ELECTRIC

16" SAN SWR FORCE MAIN (ABANDONED)

42" STM SWR

6" WATER LINE

℄ ANTOINE DR.

153+00

154+00

155+00

156+00

157+00

MATCH LINE STA 157+50

OH ELECTRIC

30" STM SWR

EXIST ROW

8" IP STL GAS MAIN

4" IP STL GAS MAIN

6" IP STL GAS MAIN

2" IP STL GAS MAIN

8" IP STL GAS MAIN

W. LITTLE YORK

24" SAN SWR FORCE MAIN

CPE UG STL LT CABLE

10' B.L.

54" WATER LINE

COMCAST UG BURIED CABLE

AT&T TEXAS/SWBT UG BURIED CABLE

VICTORY DR

2" IP STL GAS MAIN 114, PG. 41, H.C.M.R.)

4" SAN SWR

CPE UG ST LT CABLE

AT&T TEXAS/SWBT 2-2" BURIED CABLE

CPE UG ST LT CABLE

EXIST ROW

CROWNCASTLE UG FOC & 3-1.25" HDPE

12" WATER LINE

162+00

161+00

ANTOINE DR.

MATCH LINE STA 157+50

℄ ANTOINE DR.

158+00

159+00

160+00

21" SAN SWR

24" SAN SWR

16" SAN SWR FORCE MAIN (ABANDONED)

CPE UG ST LT CABLE

CPE 6" IP STL GAS MAIN

EXIST ROW

10' B.L. (VOL. 114, PG. 41, H.C

CPE UG ST LT CABLE

24" SAN SWR FORCE MAIN

CPE 4" IP STL GAS MAIN

24" SAN SWR

30" SAN SWR

0' 20' 40'

SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING UTILITY LAYOUT
STA 152+50 TO END PROJECT

SHEET 22 OF 22

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 524 OF 1067	

Pen Table: ANTOINE DR.tbl
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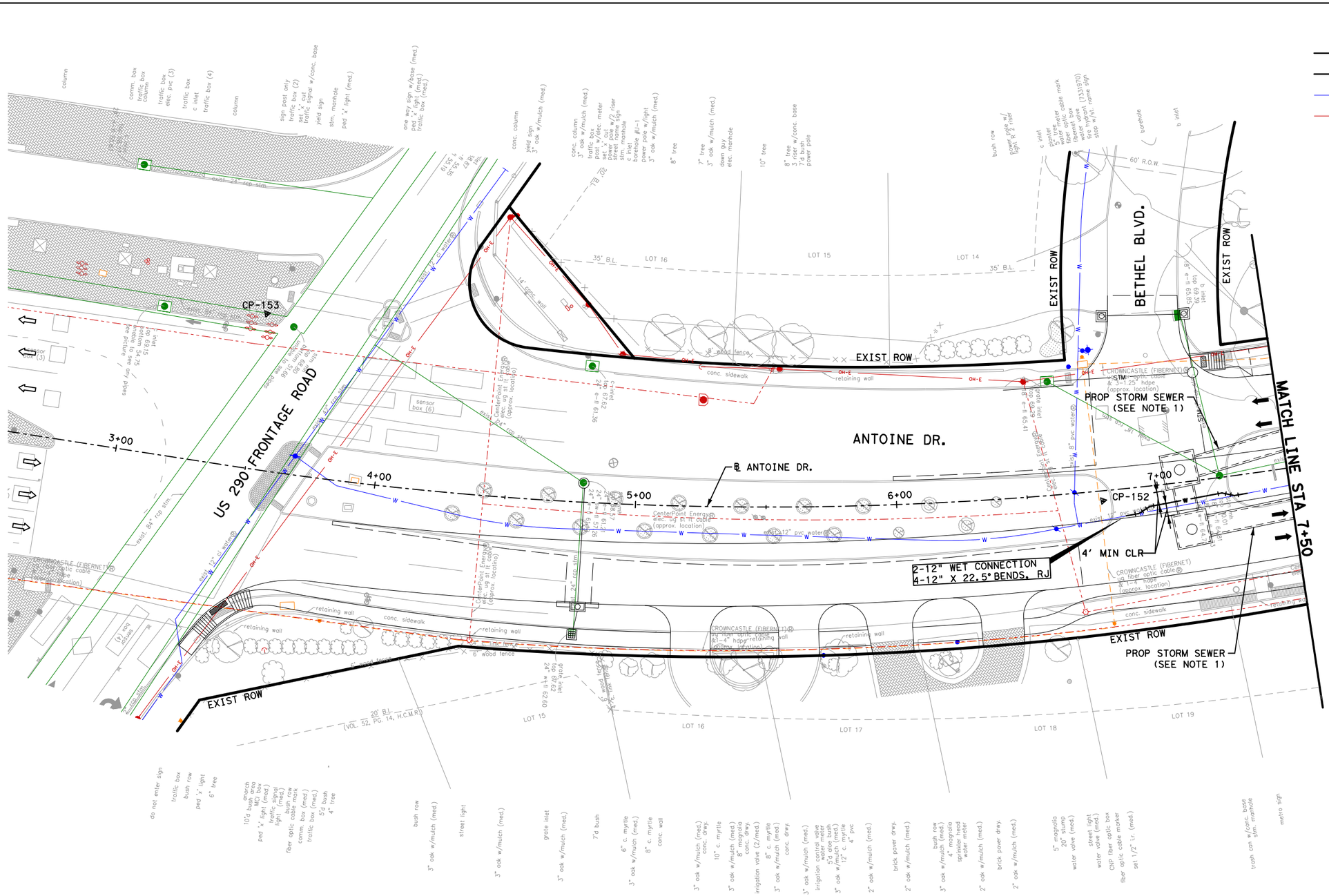

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-153, ELEV=69.44'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND US 290 FEEDER RD (NORTHBOUND)

CP-152, ELEV=70.06'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF BETHEL BLVD AND ANTOINE DR

No.	DATE	REVISIONS	APP.

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Signature valid for one year. Date

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713.777.5337

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MARCH 2026
date
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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
BEGIN PROJECT TO STA 7+50

SHEET 2 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 525 OF 1067	

Plotted on: 3/9/2026 6:39:40 PM
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\0050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 01.dgn

Plotted on: 3/9/2026 6:39:42 PMF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 02.dgn

88 86 84 82 80 78 76 74 72 70 68 66 64 62 60 58 56 54 52 50 48

3+00 4+00 5+00 6+00 7+00 7+50

c inlet
top 69.45
bottom 54.75
unable to see any pipes

stm mh
top 68.80
bottom 51.66
unable to see pipes

stm mh
top 68.57
24" e-fl 57.72
24" sw-fl 57.26
24" w-fl 61.19

c-inlet
top 67.42
24" s-fl 61.36

grate inlet
top 69.29
18" e-fl 65.41

b inlet
top 69.39
18" e-fl 65.65

stm mh
top 70.01
18" n-fl 64.81
18" sw-fl 64.73
18" w-fl 64.75

BETHEL BLVD (W)

PROP WEST TOC

PROP EAST TOC

MATCH LINE STA 7+50

4' MIN COVER

2' MIN CLR

2-8"x45° BEND

2-8"x45° BEND

PROP STORM SEWER
PROP 50 LF 8"(SEE NOTE 2)

PROP 47 LF 8"
PVC WATER LINE W/
W/ RESTRAINED JOINT

exist. 12" pvc water

exist. 12" cl water

exist. 8" pvc water

exist. 108" stm.

exist. 84" stm.

exist. 64" stm.

exist. 24" stm. (e&w)

exist. 24" stm.

exist. 42" stm.

exist. 18" stm.

exist. 18" stm.

e-row

e-curb

clroad

NOTES:

1. REFER TO ROADWAY PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Date
Signature valid for one year.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
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713.777.5337

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Texas Registered Engineering Firm F-23290

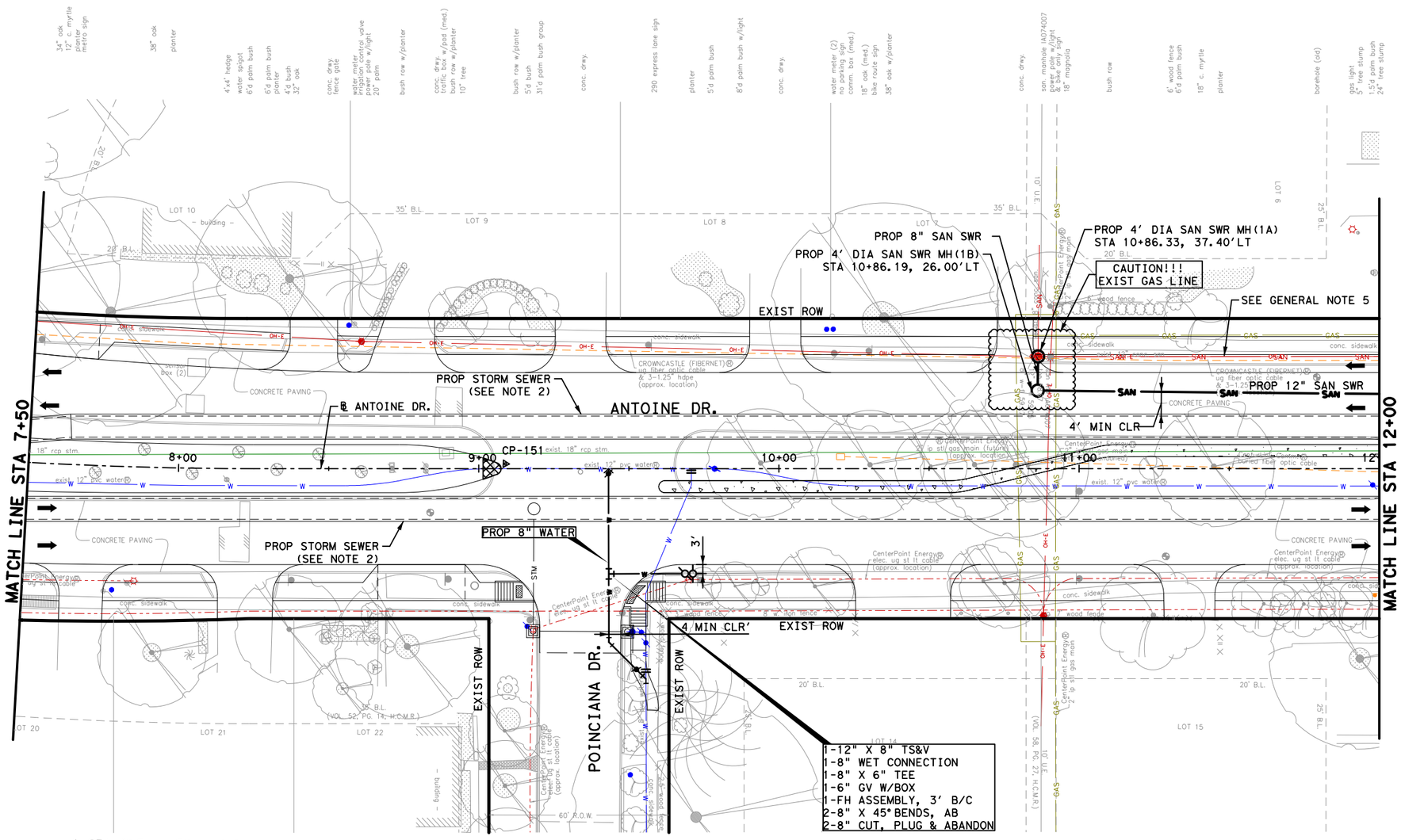
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
BEGIN PROJECT TO STA 7+50

SHEET 2 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 526 OF 1067	



LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
STA 7+50 TO STA 12+00

SHEET 3 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 527 OF 1067	

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

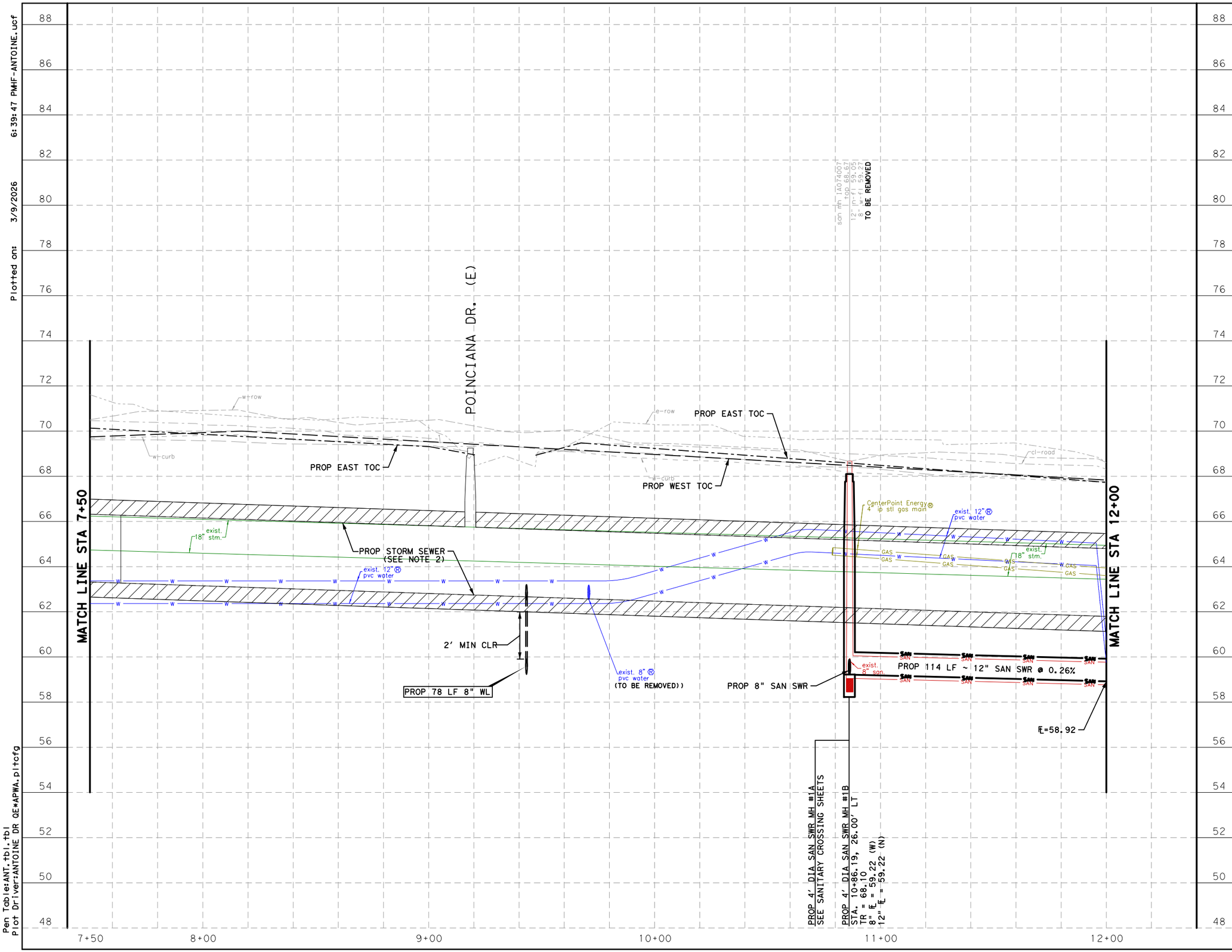
CP-151, ELEV=69.28'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND POINCIANA DR

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:39:46 PMHF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 03.dgn



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Engineer
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MARCH 2026
Date
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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 7+50 TO STA 12+00

SHEET 4 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 528 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:39:47 PMHF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
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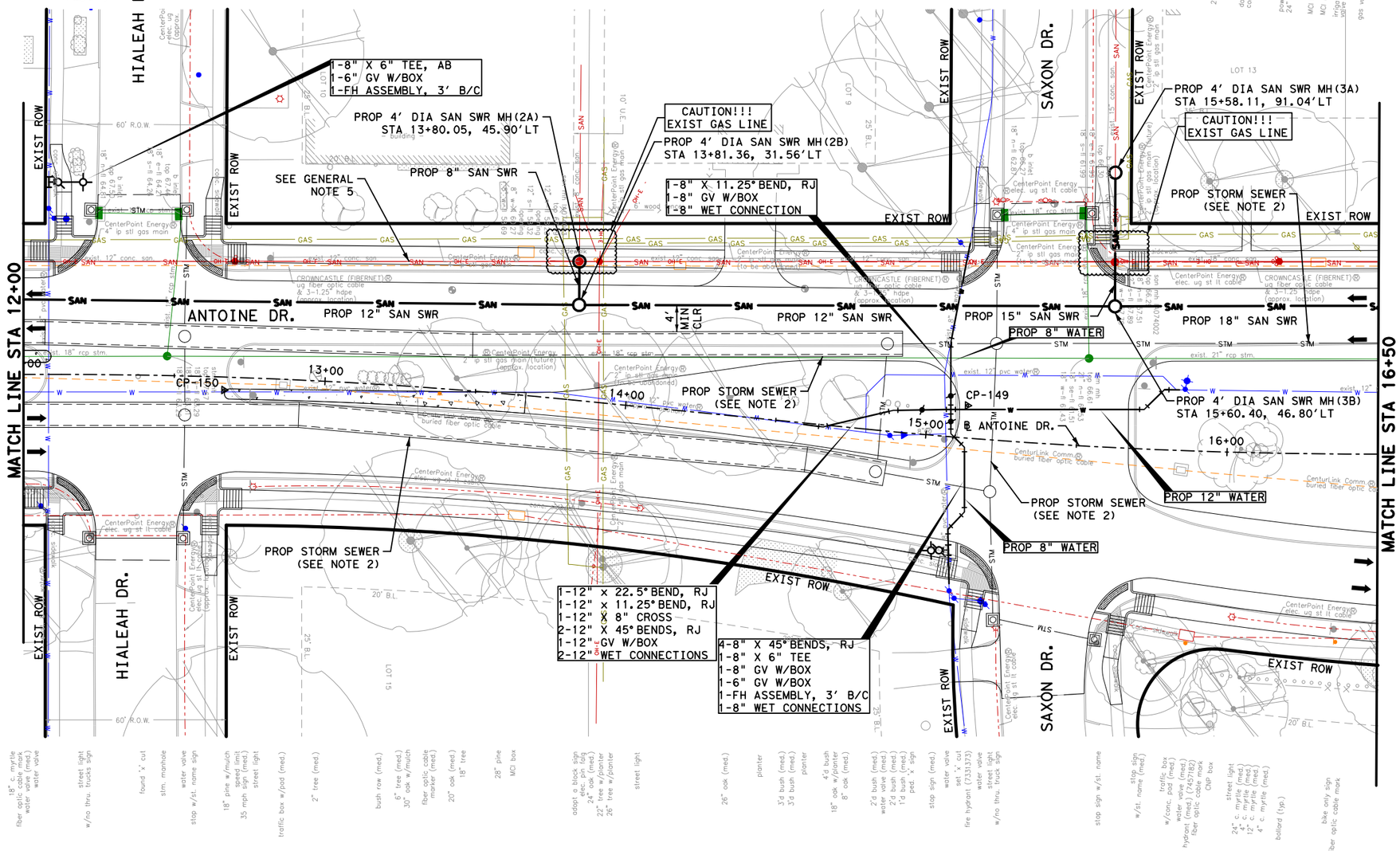
Plotted on: 3/9/2026 6:39:49 PM
F-ANTOINE.ucf



LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

0' 20' 40'
SCALE IN FEET

NOTICE:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 12+00 TO STA 16+50.00

SHEET 5 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 529 OF 1067	

No.	DATE	REVISIONS	APP:

GENERAL NOTES:

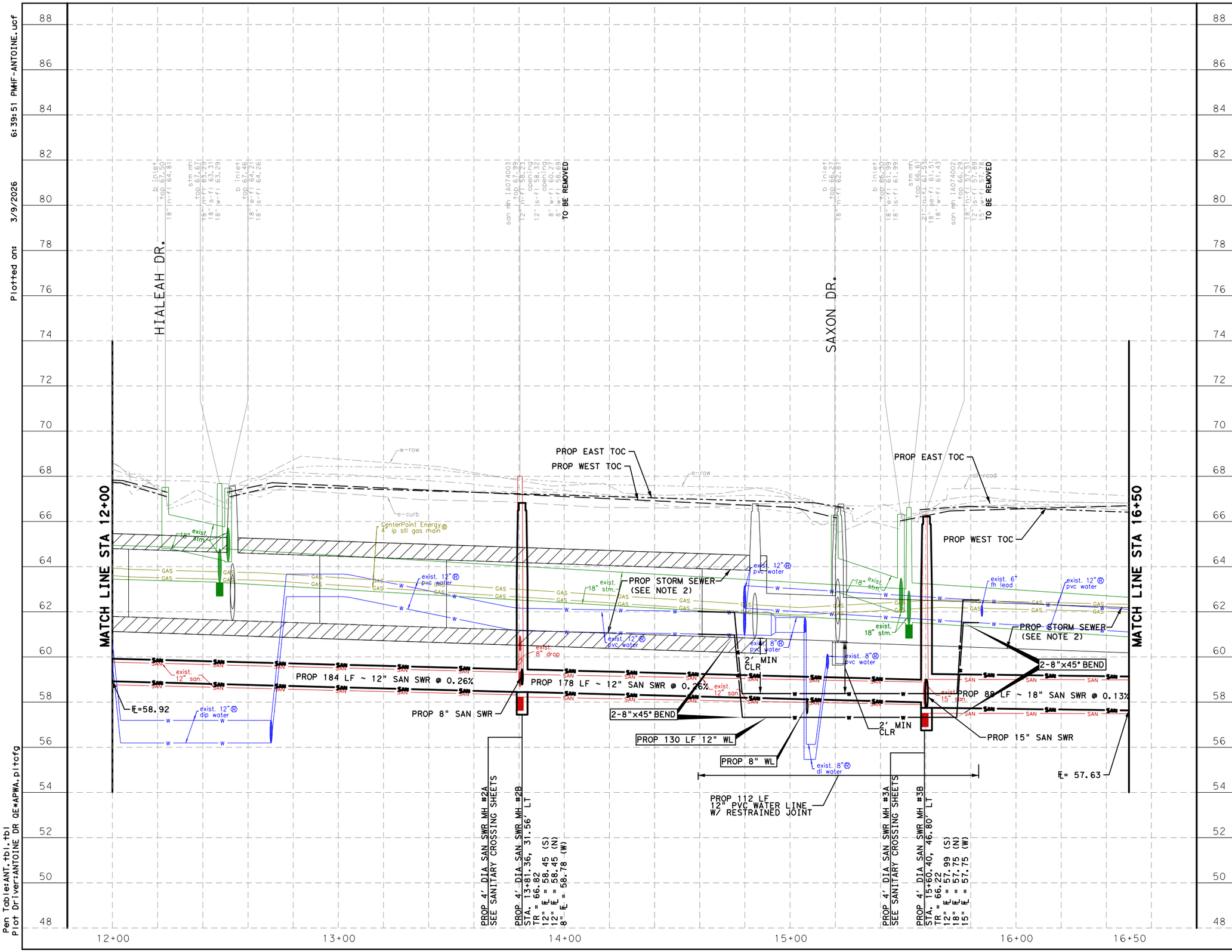
1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-150, ELEV=67.41'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HIALEAH DR

CP-149, ELEV=66.72'
SET "X" CUT ON CONC
LOCATED NEAR THE MEDIAN AT ANTOINE DR AND SAXON DR

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE#APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 05.dgn



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 12+00 TO STA 16+50

SHEET 6 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 530 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 06.dgn

Plotted on: 3/9/2026 6:39:51 PMHF-ANTOINE.ucf

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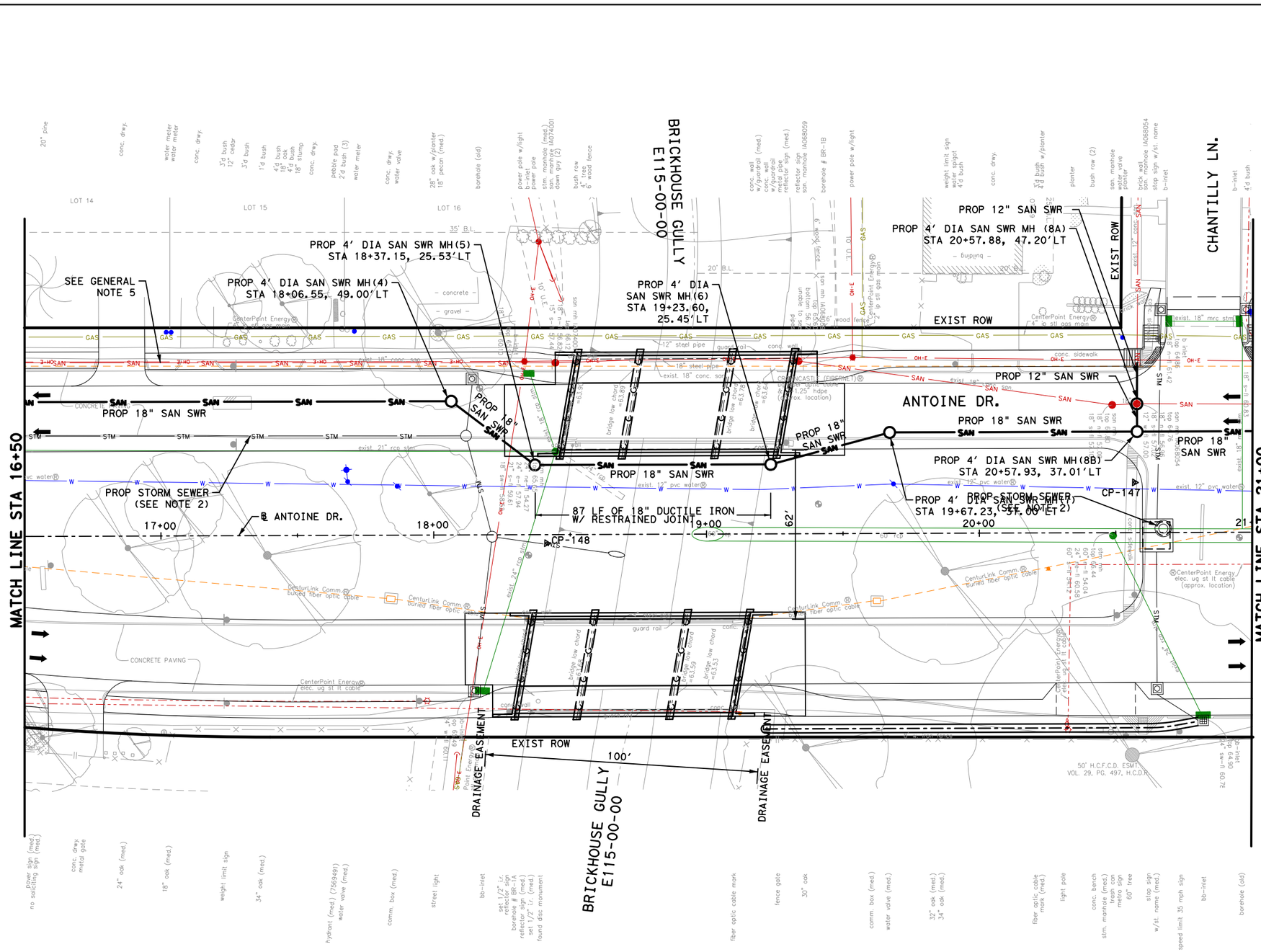
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Plotted on: 3/9/2026 6:39:53 PM\F-ANTOINE.ucf


MATCH LINE STA 16+50
MATCH LINE STA 21+00
BRICKHOUSE GULLY
E115-00-00
CHANTILLY LN.
ANTOINE DR.
EXIST ROW
EXIST ROW
DRAINAGE EASEMENT
DRAINAGE EASEMENT
100'
PROP 4' DIA SAN SWR MH(5)
STA 18+37.15, 25.53'LT
PROP 4' DIA SAN SWR MH(4)
STA 18+06.55, 49.00'LT
SEE GENERAL NOTE 5
PROP 4' DIA SAN SWR MH(6)
STA 19+23.60, 25.45'LT
PROP 12" SAN SWR
PROP 4' DIA SAN SWR MH (8A)
STA 20+57.88, 47.20'LT
PROP 18" SAN SWR
PROP STORM SEWER (SEE NOTE 2)
PROP 18" SAN SWR
PROP 18" SAN SWR
PROP 18" SAN SWR
PROP 4' DIA SAN SWR MH(8B)
STA 20+57.93, 37.01'LT
PROP 4' DIA SAN SWR MH(7)
STA 19+67.23, 37.00'LT
PROP STORM SEWER (SEE NOTE 2)
87 LF OF 18" DUCTILE IRON W/ RESTRAINED JOINT
CP-148
CP-147
℄ ANTOINE DR.
17+00
18+00
19+00
20+00
21
62'
CONCRETE PAVING
CONCRETE PAVING
CenturyLink Comm. buried fiber optic cable
CenturyLink Comm. buried fiber optic cable
CenturyLink Comm. buried fiber optic cable
CenturyLink Comm. fiber optic cable
CenterPoint Energy elec. ug st lt cable
CenterPoint Energy elec. ug st lt cable
CenterPoint Energy elec. ug st lt cable (approx. location)
CenterPoint Energy 4" ip stl gas main
CenterPoint Energy 2" ip stl gas main
50' H.C.F.C.D. ESMT. VOL. 29, PG. 497, H.C.D.R.
exist. 18" mrc storm
exist. 12" pvc water
exist. 21" rcp storm
exist. 24" rcp storm
exist. 18" conc. sanitary
exist. 12" conc. sanitary
exist. 8" pvc sanitary
exist. 12" steel pipe
exist. 18" steel pipe
exist. 18" conc. sanitary
exist. 8" pvc sanitary
exist. 12" conc. sanitary
exist. 12" conc. storm
exist. 8" pvc sanitary
exist. 18" rcp storm
exist. 8" pvc sanitary
exist. 18" rcp storm
exist. 8" pvc sanitary
exist. 18" rcp

Plotted on: 3/9/2026 6:39:54 PMIF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 08.dgn

MATCH LINE STA 16+50

MATCH LINE STA 21+00

BRICKHOUSE GULLY
UNIT # 115-00-00

CHANTILLY LN. (W)

PROP WEST TOC
PROP EAST TOC
w-row
e-curb
w-curb
PROP STORM SEWER
(SEE NOTE 2)
CenterPoint Energy
4" ip stl gas main
2' MIN CLR
exist. 6"
CATV lead
exist. 21" stm.
exist. 24" stm.
exist. 18" stm.
exist. 18" san.
PROP 157 LF ~ 18" SAN SWR @ 0.13%
PROP 87 LF ~ 18" SAN SWR @ 0.13%
PROP 39 LF ~ 18"
SAN SWR @ 0.13%
E= 57.63
e-low cord
bridge
w-abutment
e-abutment
column
24" rcp
PROP 46 LF ~ 18"
SAN SWR @ 0.13%
PROP 43 LF ~ 18"
SAN SWR @ 0.10%
PROP 91 LF ~ 18"
SAN SWR @ 0.13%
exist. 18" stm.
(approx. elev.)
exist. 12" san.
exist. 12"
pvc water
PROP 12" SAN SWR
E= 56.93

PROP 4' DIA SAN SWR MH #4
STA. 18+06.55, 49.00' LT
TR = 65.86
15" E = 57.43 (S)
18" E = 57.43 (NE)

PROP 4' DIA SAN SWR MH #5
STA. 18+37.15, 25.53' LT
TR = 65.33
18" E = 57.38 (SW)
18" E = 57.38 (N)

PROP 4' DIA SAN SWR MH #6
STA. 19+23.60, 25.45' LT
TR = 64.25
18" E = 57.27 (S)
18" E = 57.27 (N)

PROP 4' DIA SAN SWR MH #7
STA. 19+67.23, 37.00' LT
TR = 65.41
18" E = 57.21 (S)
18" E = 57.21 (N)

PROP 4' DIA SAN SWR MH #8A
SEE SANITARY CROSSING SHEETS

PROP 4' DIA SAN SWR MH #8B
STA. 20+57.93, 37.01' LT
TR = 64.95
18" E = 56.97 (S)
18" E = 56.97 (N)
12" E = 57.09 (W)

16+50 17+00 18+00 19+00 20+00 21+00

88 86 84 82 80 78 76 74 72 70 68 66 64 62 60 58 56 54 52 50 48

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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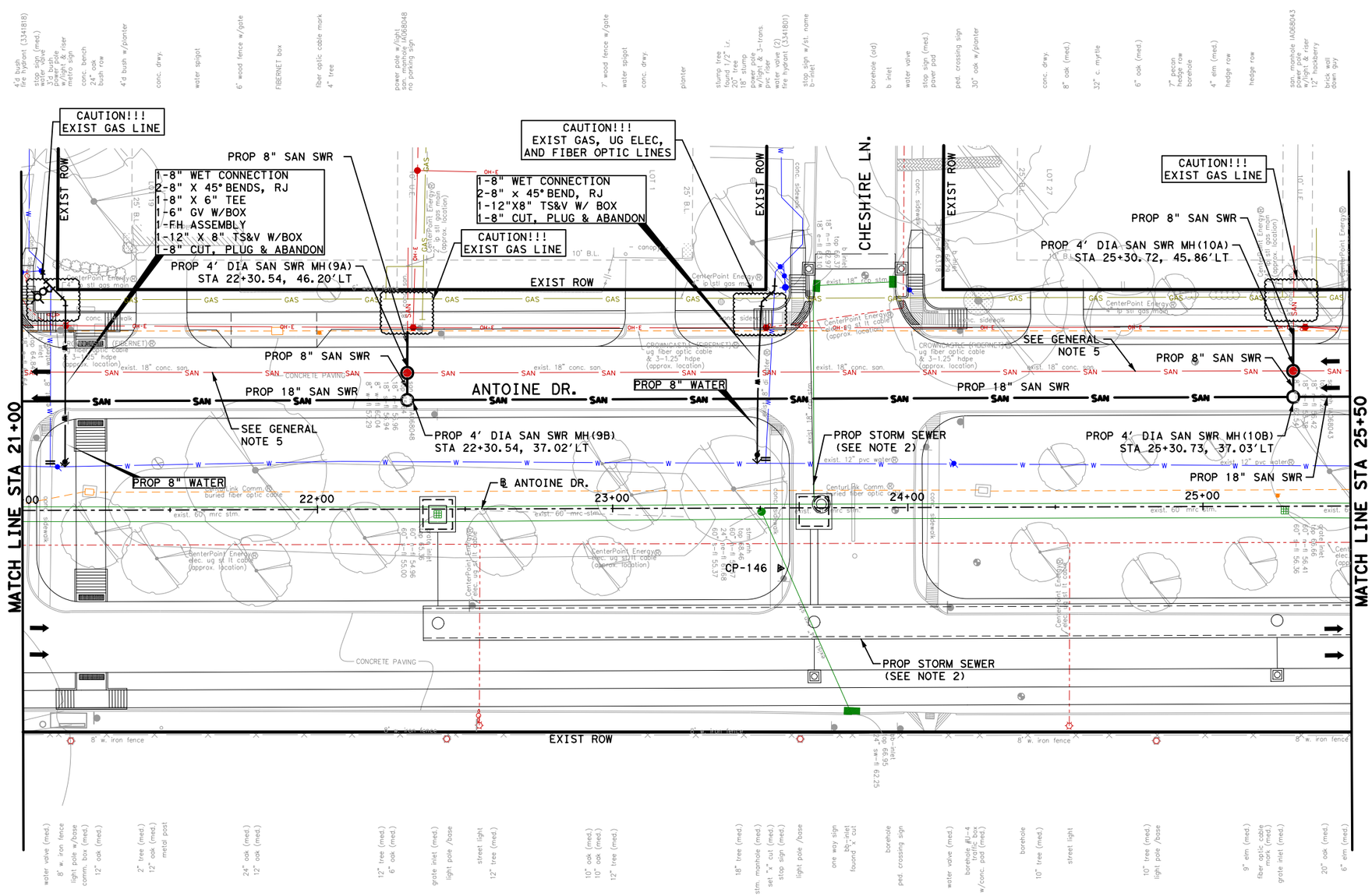
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 16+50 TO STA 21+00

SHEET 8 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 532 OF 1067	



GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
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5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-146, ELEV=62.28'
SET "X" CUT ON CONC
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND CHESHIRE LN

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Date
Signature valid for one year.

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Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713 777 5337

SURVEYED BY:
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License 90169
MARCH 2026
Date
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
STA 21+00 TO STA 25+50

SHEET 9 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 533 OF 1067	

No.	DATE	REVISIONS	APP:

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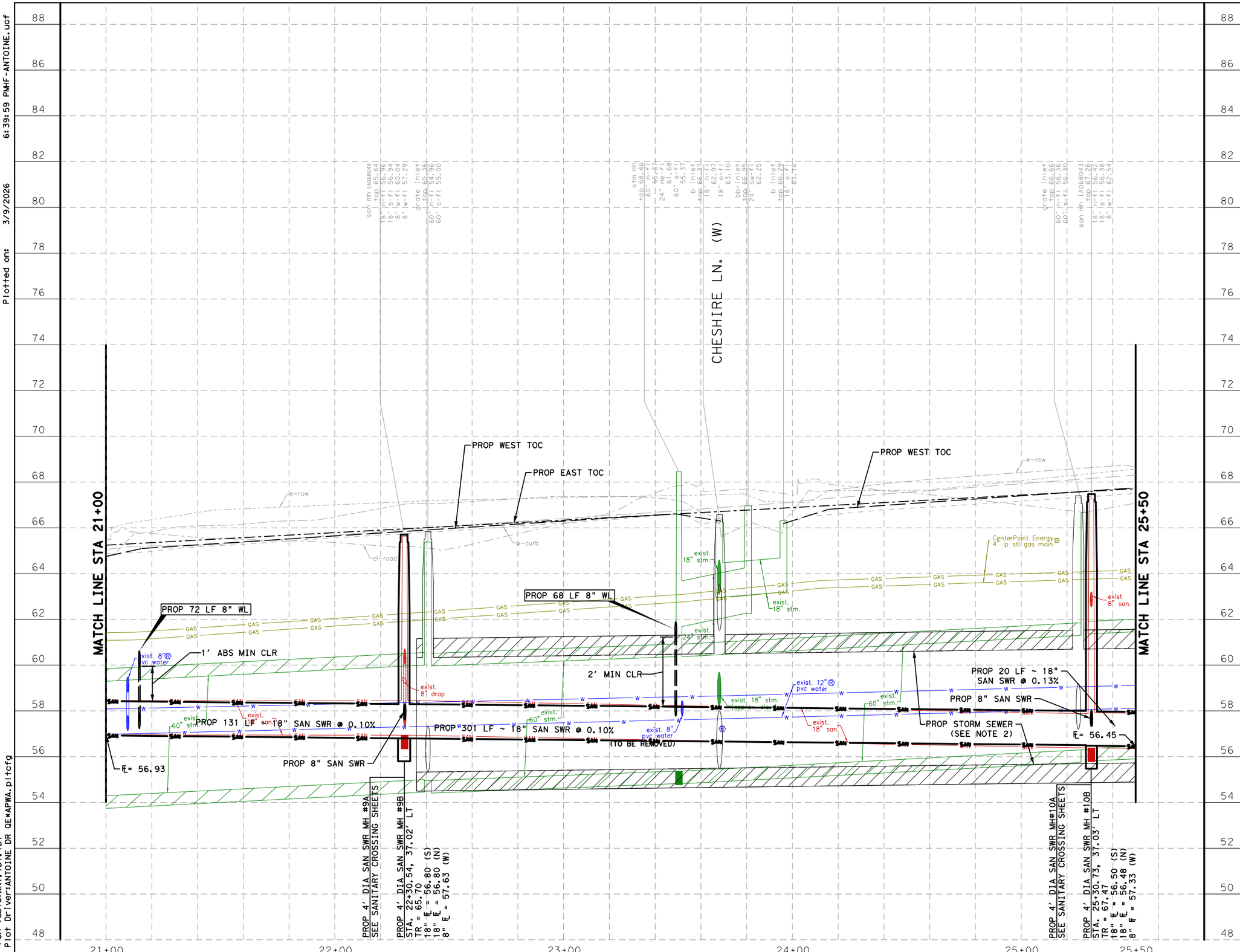

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 21+00 TO STA 25+50

SHEET 10 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 534 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 10.dgn

Plotted on: 3/9/2026 6:39:59 PMHF-ANTOINE.ucf

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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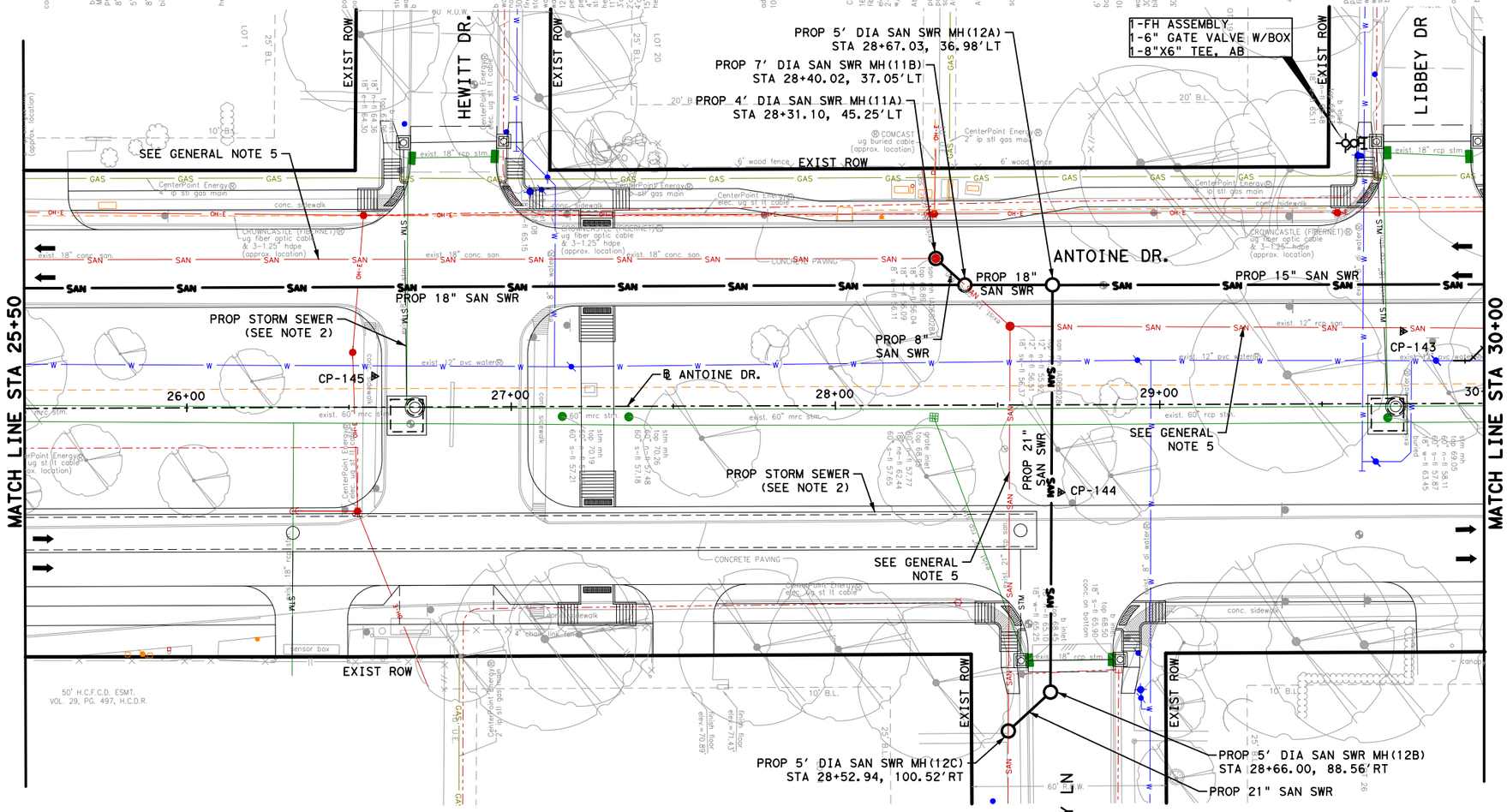

LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

0' 20' 40'
SCALE IN FEET

NOTICE:

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 25+50 TO STA 30+00

SHEET 11 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 535 OF 1067	

No.	DATE	REVISIONS	APP.

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-145, ELEV=69.40'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND HEWITT DR

CP-144, ELEV=69.39'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY LN

CP-143, ELEV=70.52'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND LIBBEY DR

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 11.dgn

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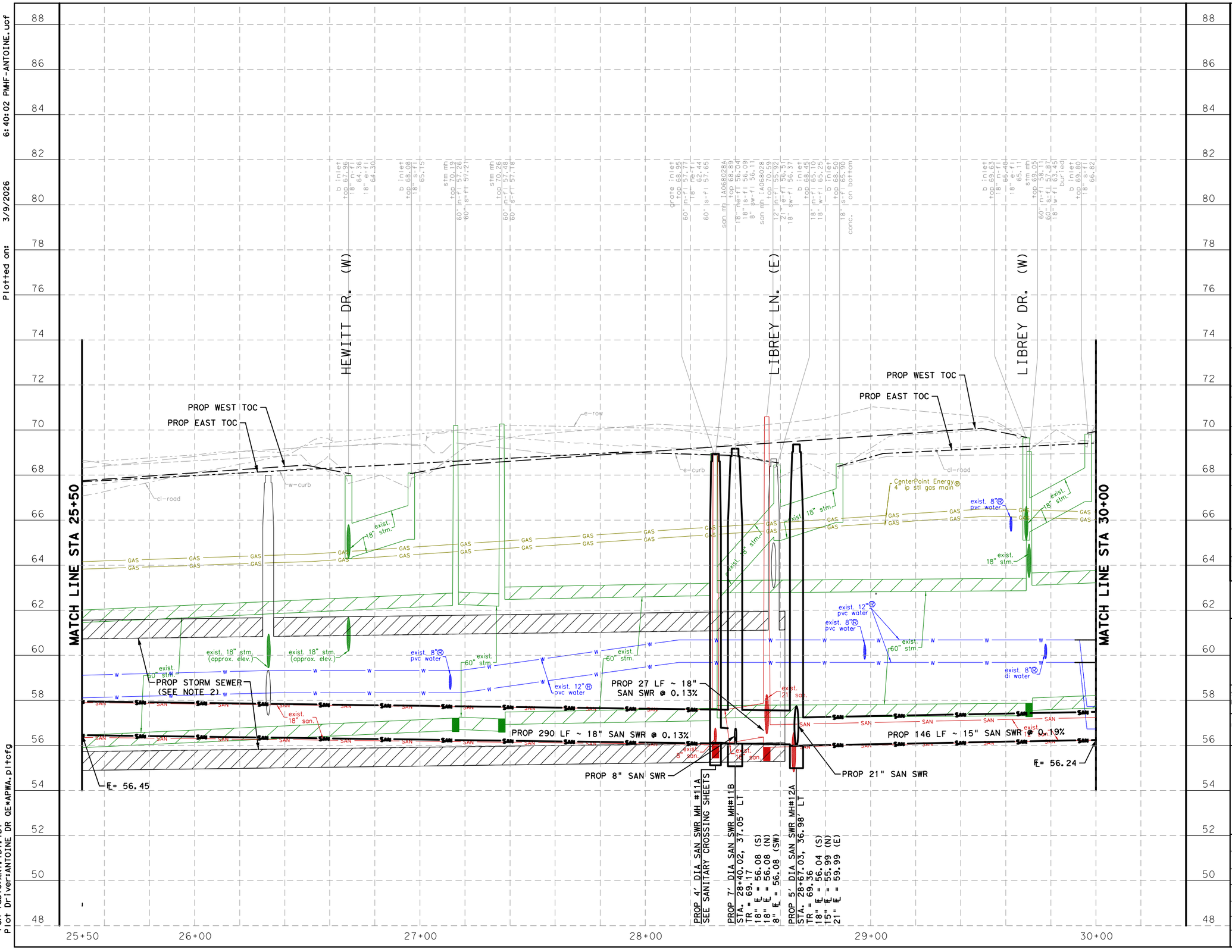

NOTES:

1. REFER TO ROADWAY PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

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Signature valid for one year.

Texas Department of Transportation ©2026

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713 777 5337

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

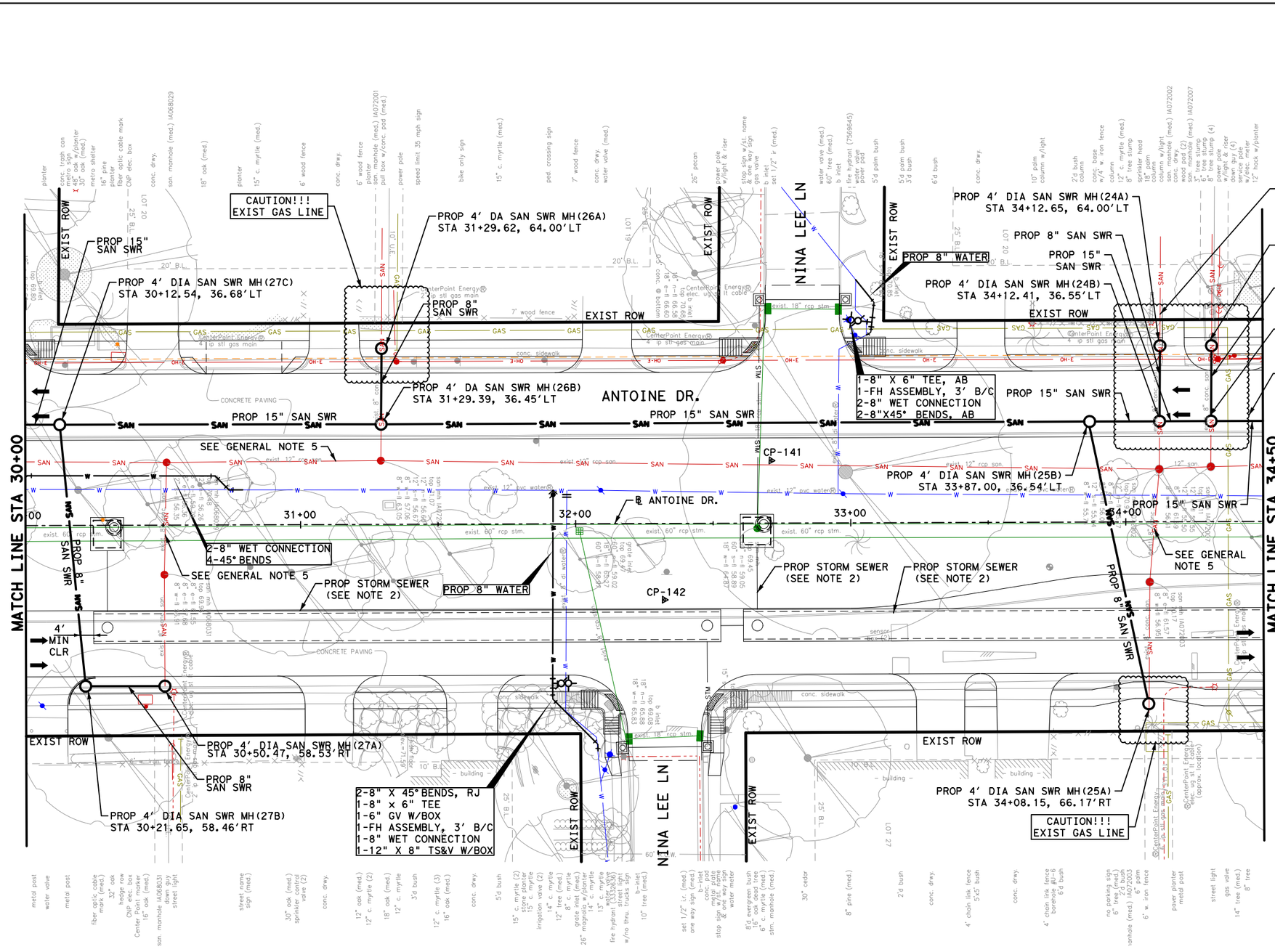
ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 25+50 TO STA 30+00

SHEET 12 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 536 OF 1067	

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 12.dgn



GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-141, ELEV=70.96'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

CP-142, ELEV=70.12'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND NINA LEE LN

No.	DATE	REVISIONS	APP.

NOTICE:
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Date
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Date
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 30+00 TO STA 34+50

SHEET 13 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 537 OF 1067	

Plotted on: 3/9/2026 6:40:04 PM
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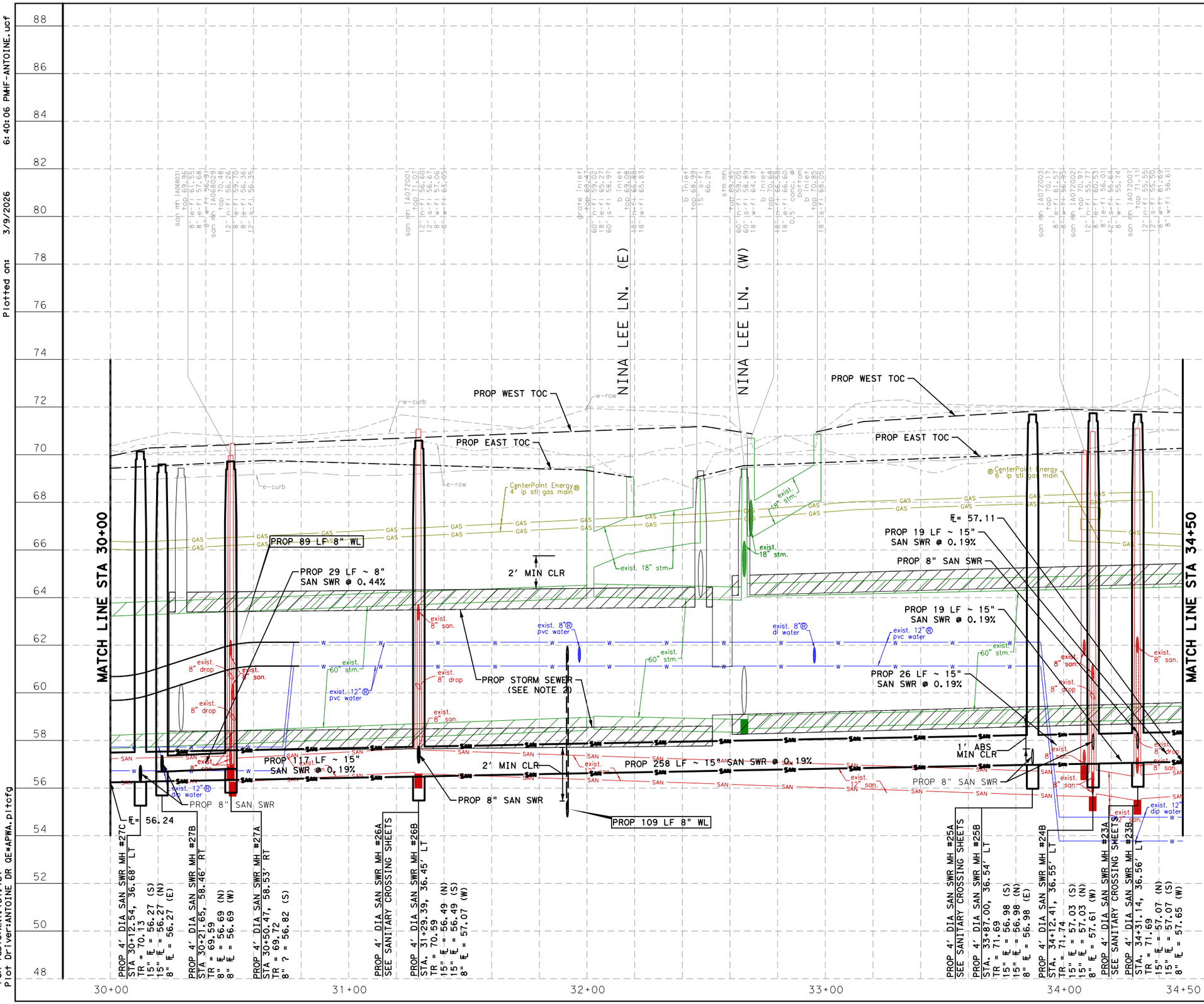

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Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 14.dgn

No.	DATE	REVISIONS	APP:

NOTES:

1. REFER TO ROADWAY PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

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Texas Registered Engineering Firm F-23290

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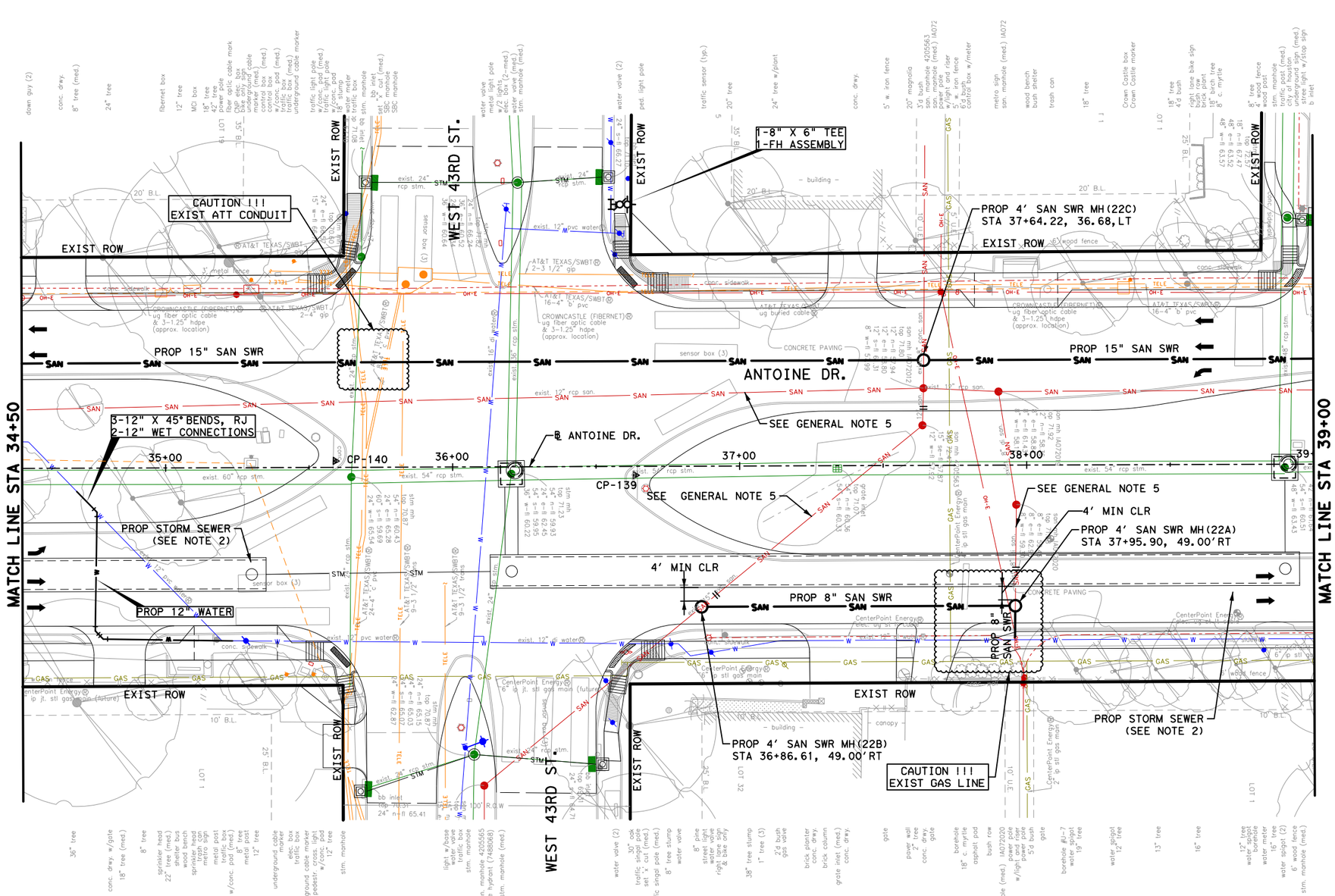
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 30+00 TO STA 34+50

SHEET 14 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 538 OF 1067	



LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

0' 20' 40'

SCALE IN FEET

NOTICE:

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Date

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 34+50 TO STA 39+00

SHEET 15 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 539 OF 1067	

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
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7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-140, ELEV=71.43'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

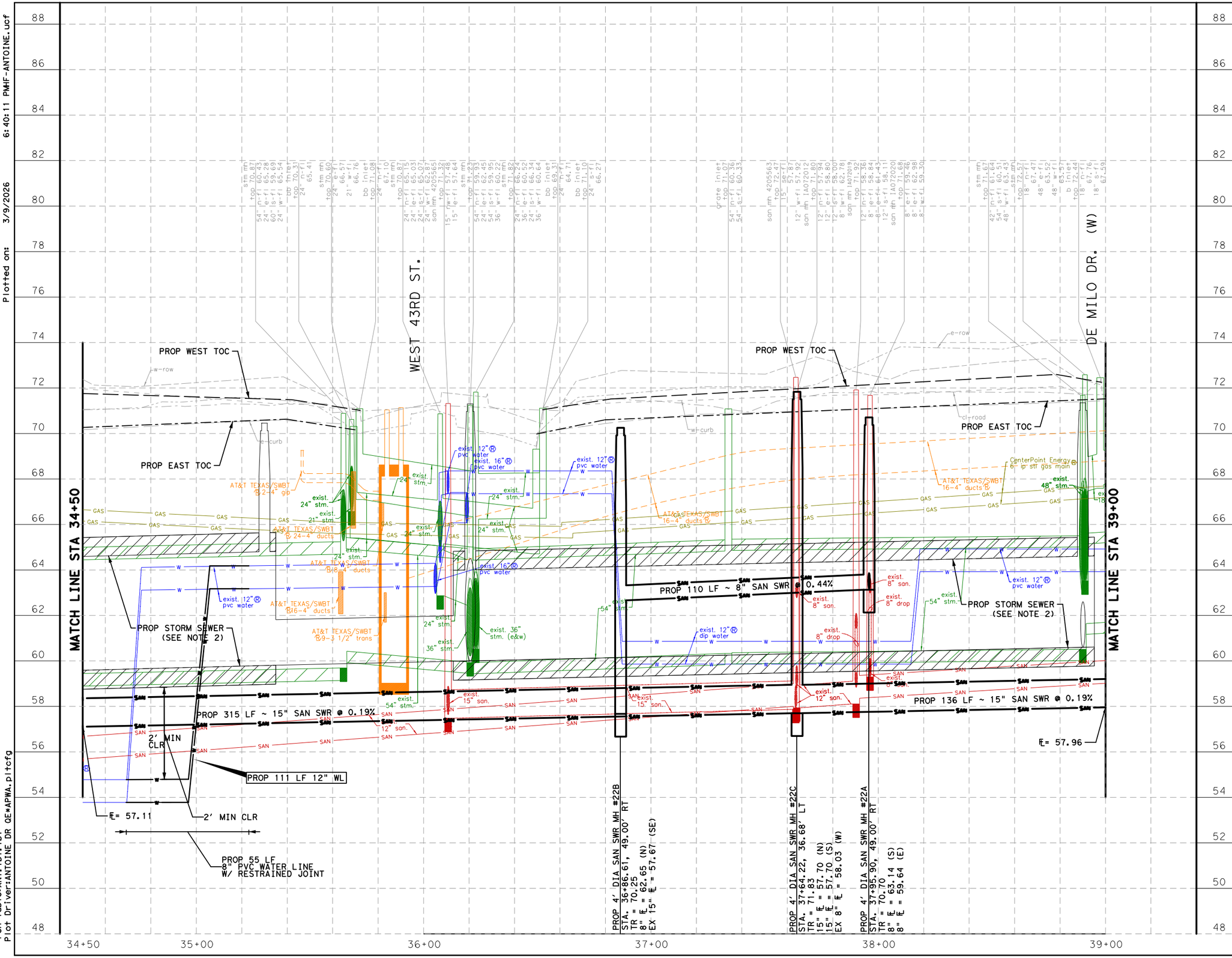
CP-139, ELEV=71.48'
SET "X" CUT ON CONC.
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND W 43RD ST

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:40:08 PM
F-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 15.dgn



HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Joint Land Surveyors Reg. No. F-23290
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Date
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MARCH 2026
Date
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Texas Registered Engineering Firm F-23290

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 34+50 TO STA 39+00

SHEET 16 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 540 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:40:11 PMHF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 16.dgn

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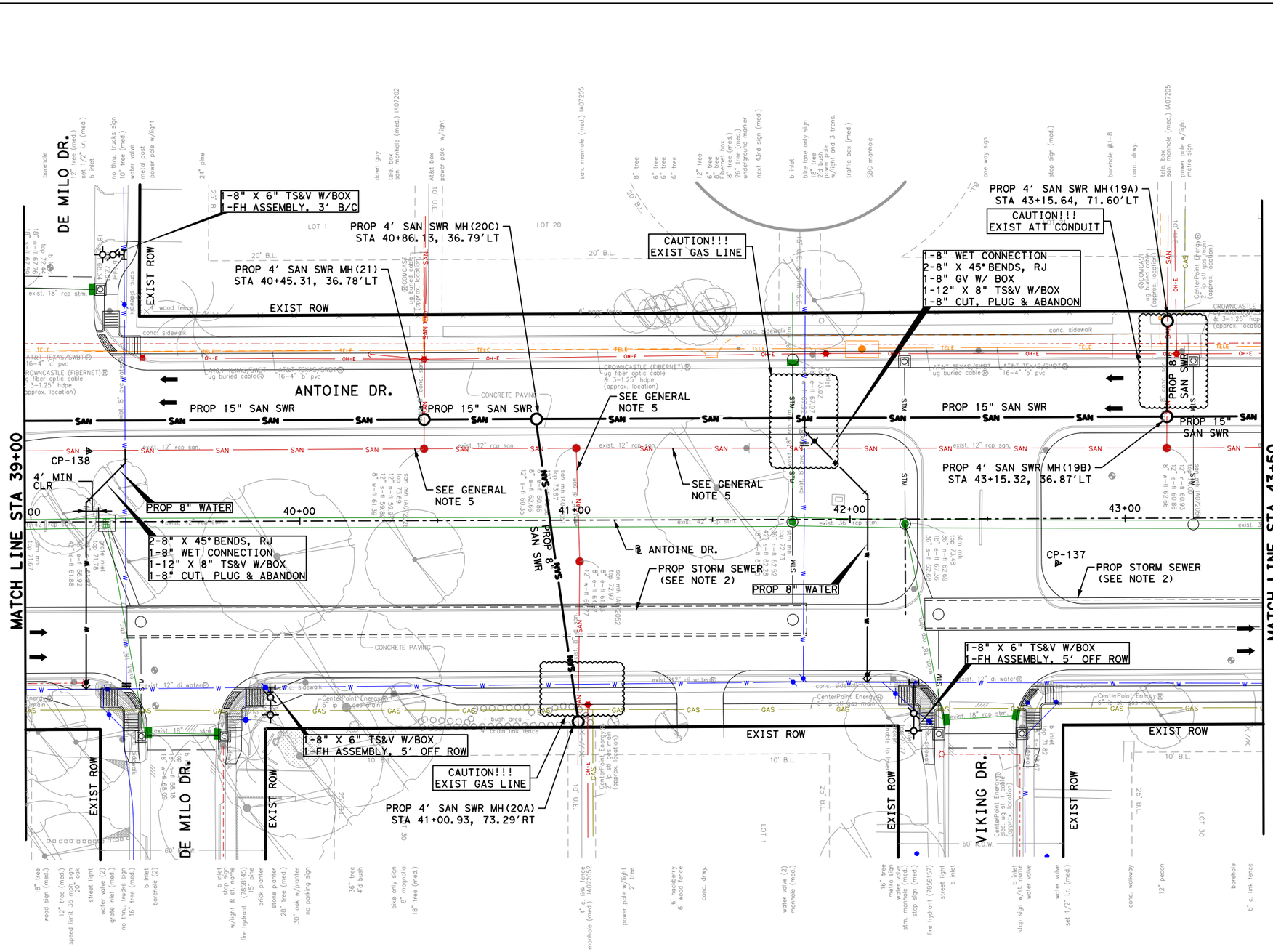

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3. PLACE 1 FULL SECTION (MIN 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
4. ADJUST ALL EXIST WATER METER VAULTS TO NEW GRADES.
5. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222
6. PLACE 1 FULL SECTION (MIN 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-138, ELEV=72.61'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND DE MILO DR

CP-137, ELEV=73.29'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VIKING DR

LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Signature valid for one year.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

SURVEYED BY:
KUO & ASSOCIATES, INC.

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90169
MARCH 2026
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 39+00 TO STA 43+50

SHEET 17 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 541 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEETS\W & WW SHTS\PR_WTR SAN 17.dgn

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CADD\5. PLAN SHEET\W & WW SHT\PR_WTR SAN 18.dgn

DE MILO DR. (W)

DE MILO DR. (E)

VIKING DR. (E)

MATCH LINE STA 39+00

MATCH LINE STA 43+50

PROP EAST TOC

PROP WEST TOC

PROP EAST TOC

PROP 146 LF ~ 15" SAN SWR @ 0.19%

PROP 230 LF ~ 15" SAN SWR @ 0.19%

PROP 109 LF 8" WL

PROP 6" FH LEAD

PROP STORM SEWER (SEE NOTE 2)

PROP STORM SEWER (SEE NOTE 2)

PROP 8" SAN SWR

PROP 8" SAN SWR

2' MIN CLR

2' MIN CLR

PROP 41 LF ~ 15" SAN SWR @ 0.19%

PROP 35 LF ~ 15" SAN SWR @ 0.19%

E= 57.96

E= 58.82

PROP 4' DIA SAN SWR MH #21
STA. 40+45.31, 36.78' LT
TR = 72.81
15" E = 58.23 (N)
15" E = 58.23 (S)
EX 8" E = 61.43 (W)

PROP 4' DIA SAN SWR MH #20C
STA. 40+86.13, 36.79' LT
TR = 73.03
15" E = 58.31 (N)
15" E = 58.31 (S)
8" E = 58.31 (E)

PROP 4' DIA SAN SWR MH #19A
SEE SANITARY CROSSING SHEETS

PROP 4' DIA SAN SWR MH #19B
STA. 43+15.32, 36.87' LT
TR = 73.19
15" E = 58.75 (N)
15" E = 58.75 (S)
8" E = 59.33 (W)

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

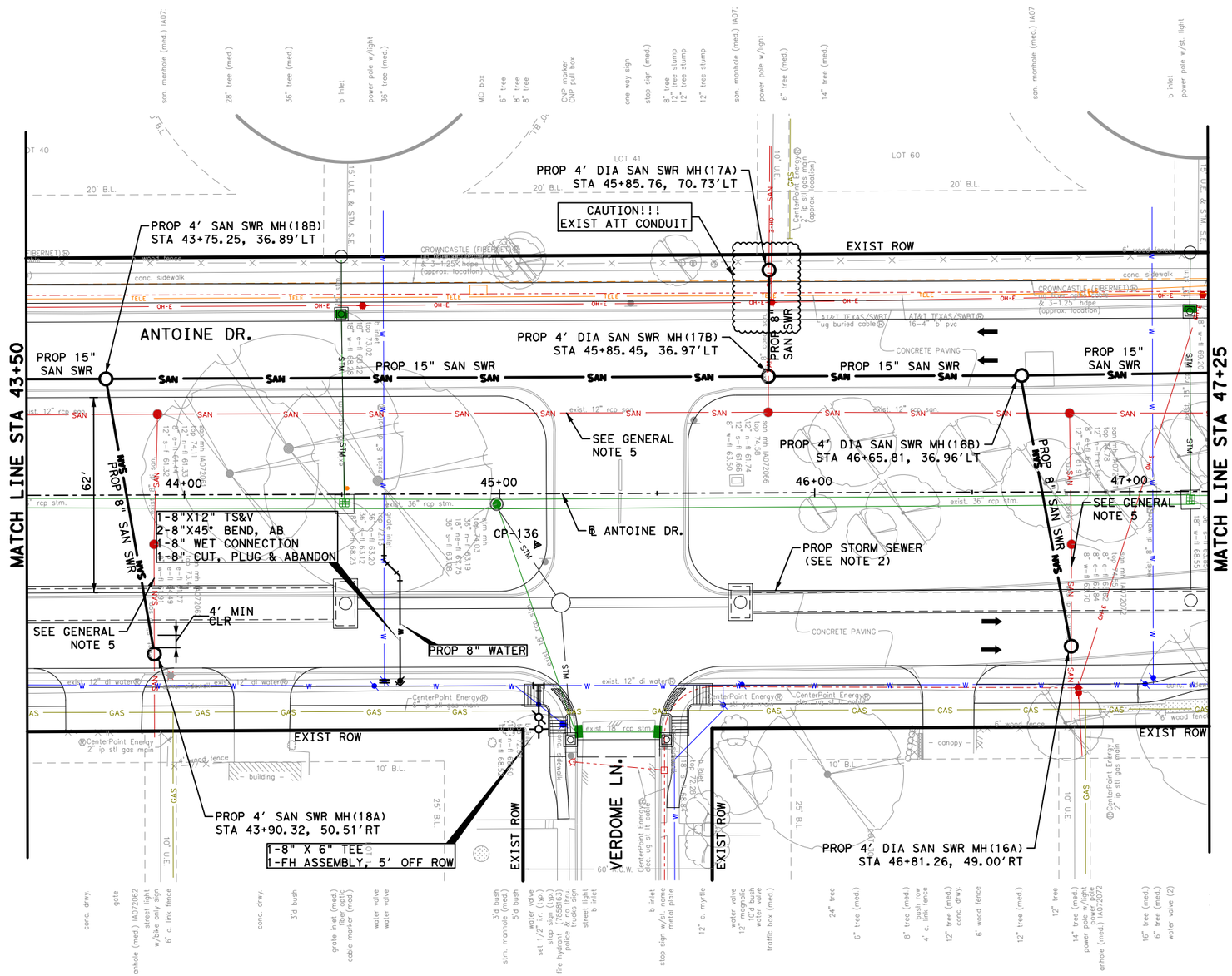
ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 39+00 TO STA 43+50

SHEET 18 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 542 OF 1067	

No.	DATE	REVISIONS	APP.



GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
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7. TRANSFER EXISTING SANITARY SEWER SERVICE LEADS TO NEW SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

TBM INFO

CP-136, ELEV=73.88'
SET ½" IRON ROD WITH CAP
LOCATED ON THE MEDIAN AT THE INTERSECTION OF ANTOINE DR AND VERDOME LN

LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
STA 43+50 TO STA 47+25

SHEET 19 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 543 OF 1067	

No.	DATE	REVISIONS	APP:

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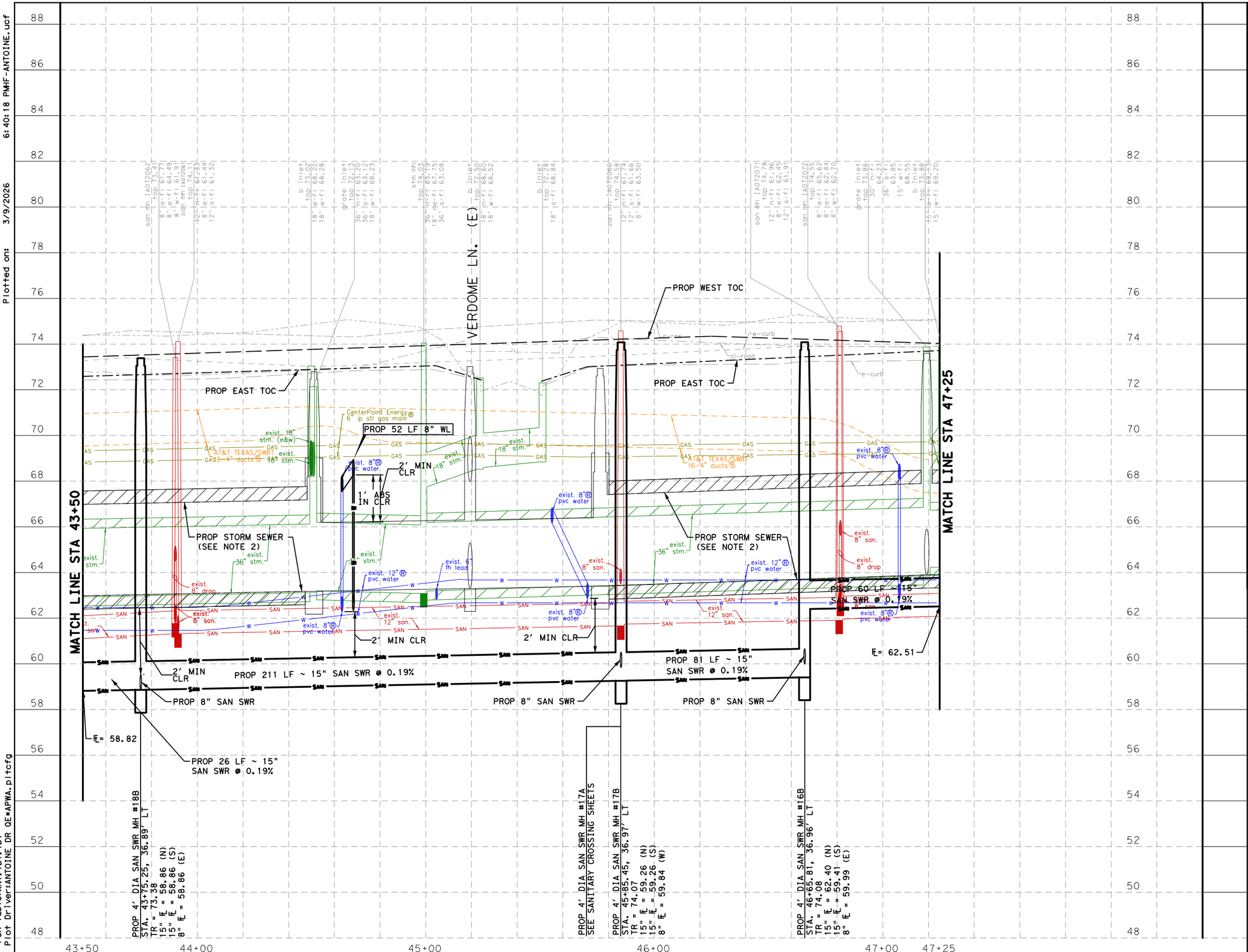

No.	DATE	REVISIONS	APP.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 43+50 TO STA 47+25

SHEET 20 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 544 OF 1067	

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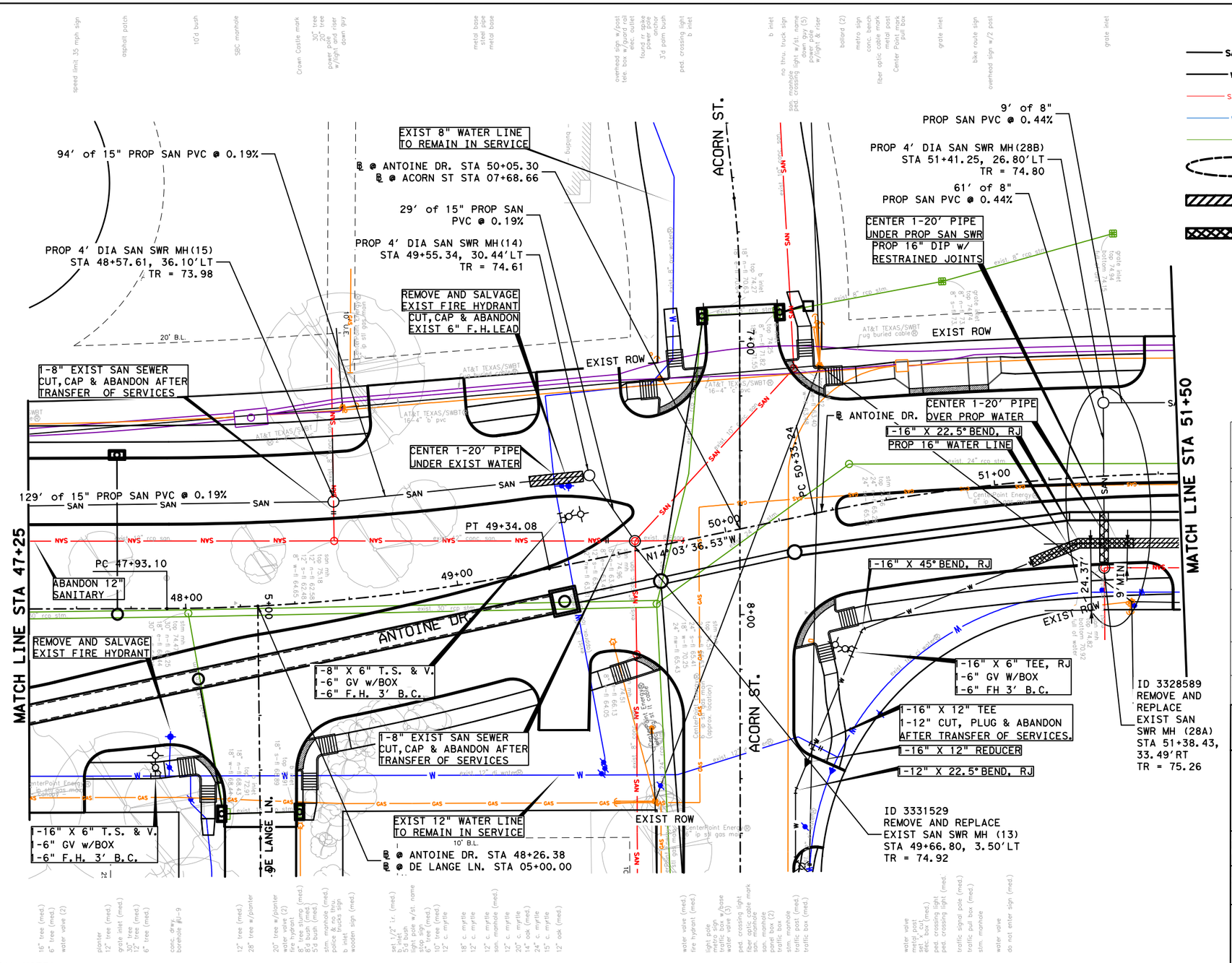

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

0' 40' 80'

SCALE IN FEET

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10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

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101094
3/9/2026

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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN
STA 47+25 TO STA 51+50

SHEET 21 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 545 OF 1067	

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN AND PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTIONS, PROVIDE TEMPORARY CONNECTIONS AS NECESSARY DURING CONSTRUCTION.

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4. ADJUST ALL EXISTING WATER METER VAULTS TO MATCH NEW GRADES.

5. ABANDON EXISTING SS IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

6. PLACE 1-FULL SECTION (MIN 18 FEET) OF 150-PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SS, SPACED AT LEAST 9 FEET HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FEET) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL).

7. TRANSFER EXISTING SS LEADS TO THE NEW SS IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

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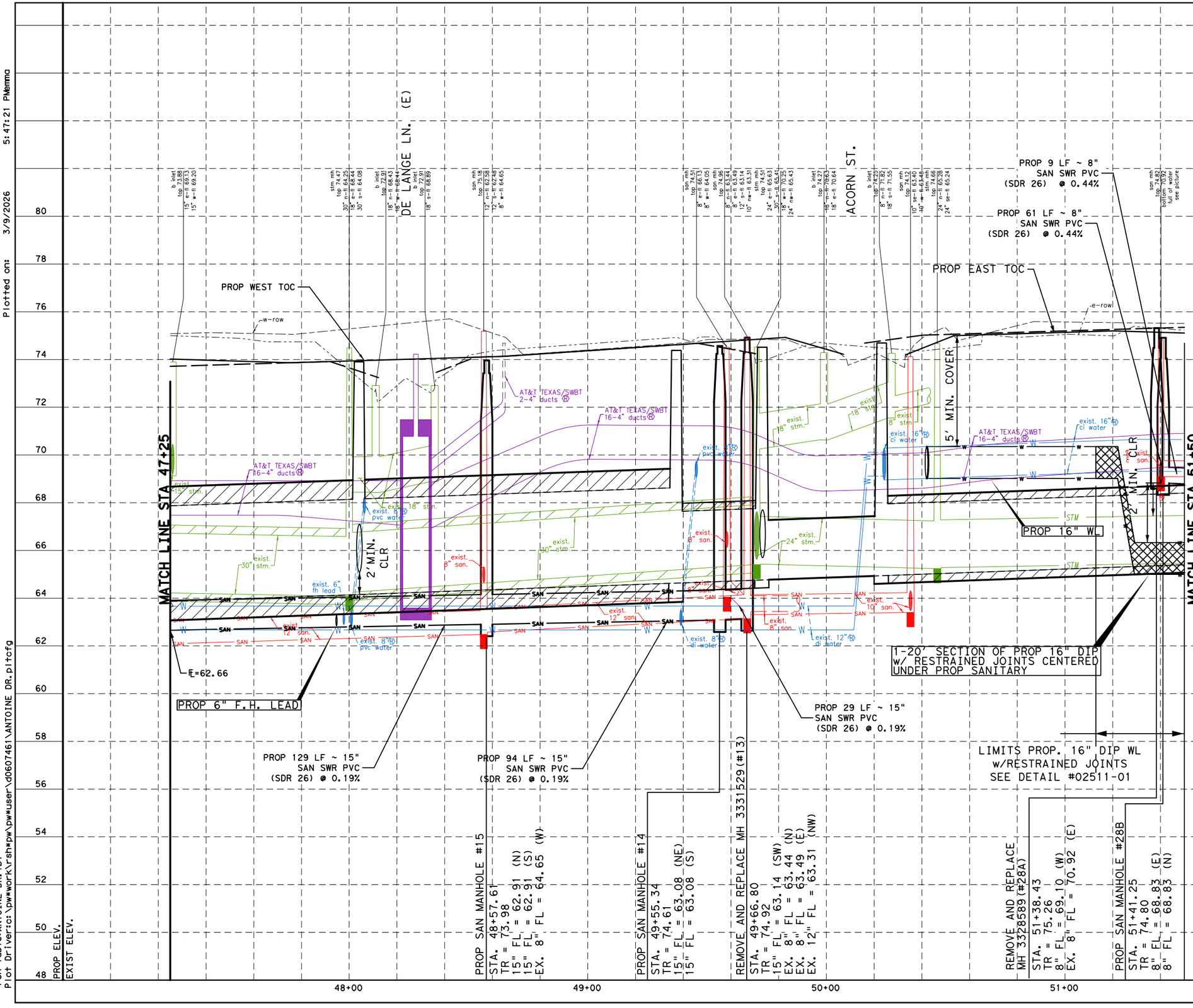
10. TREES ARE IN THE VICINITY OF THE PROPOSED WATER LINE ALIGNMENT AND ITS APPURTENANCES. REFER TO THE TREE PROTECTION PLANS FOR APPROPRIATE PROTECTION MEASURES.



LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

HORZ 0' 40' 80'

VERT 0' 4' 8'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PLAN
STA 47+25 TO STA 51+50

SHEET 22 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 546 OF 1067	

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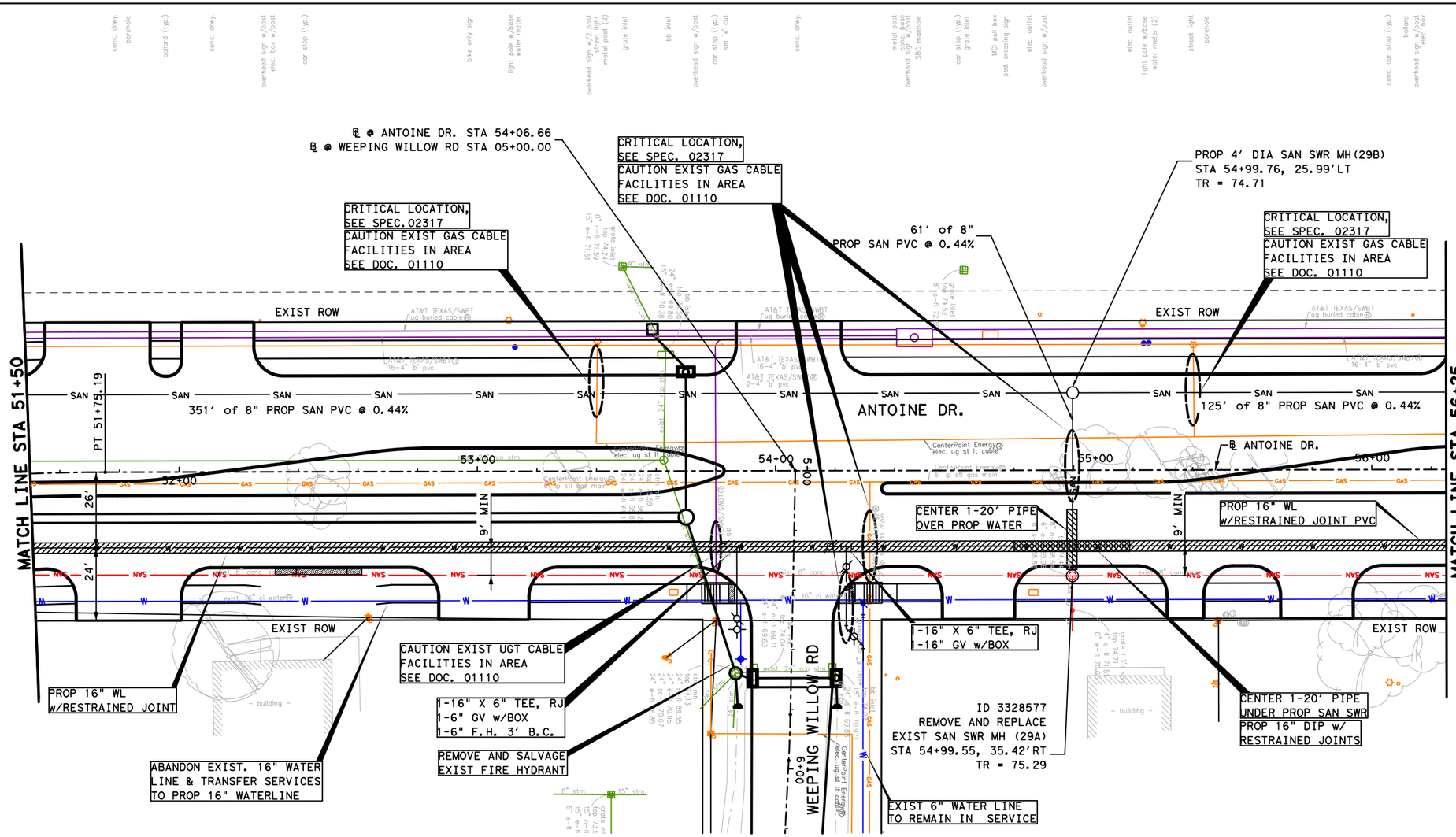

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

0' 40' 80'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN STA 51+50 TO STA 56+25

SHEET 23 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 547 OF 1067	

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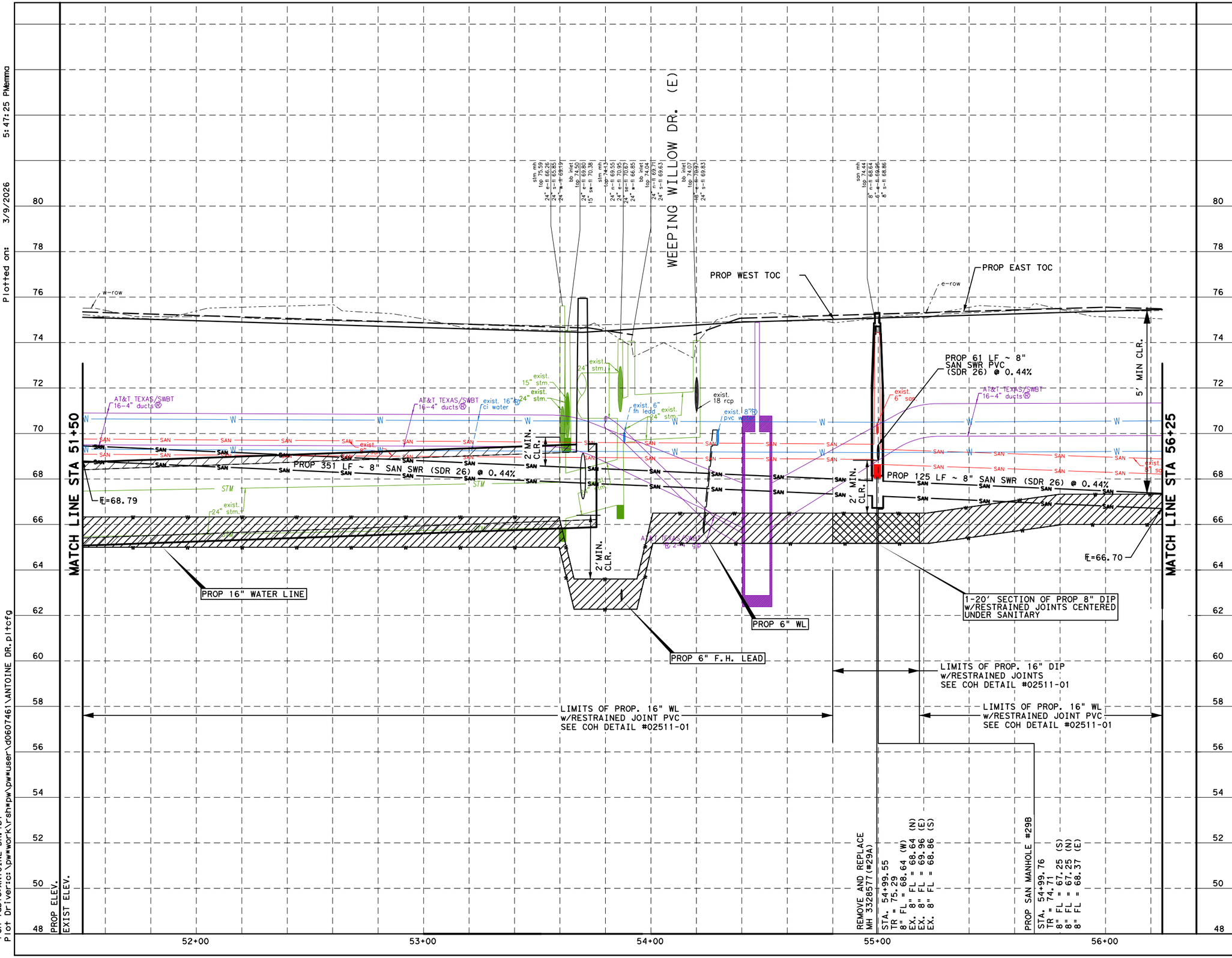

LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

HORZ 0' 40' 80'

VERT 0' 4' 8'

SCALE IN FEET

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TBPE Firm Registration #4575

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101094
3/9/2026
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Texas Registered Engineering Firm F-4575

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PROFILE STA 51+50 TO STA 56+25

SHEET 24 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 548 OF 1067	

No.	DATE	REVISIONS	APP.

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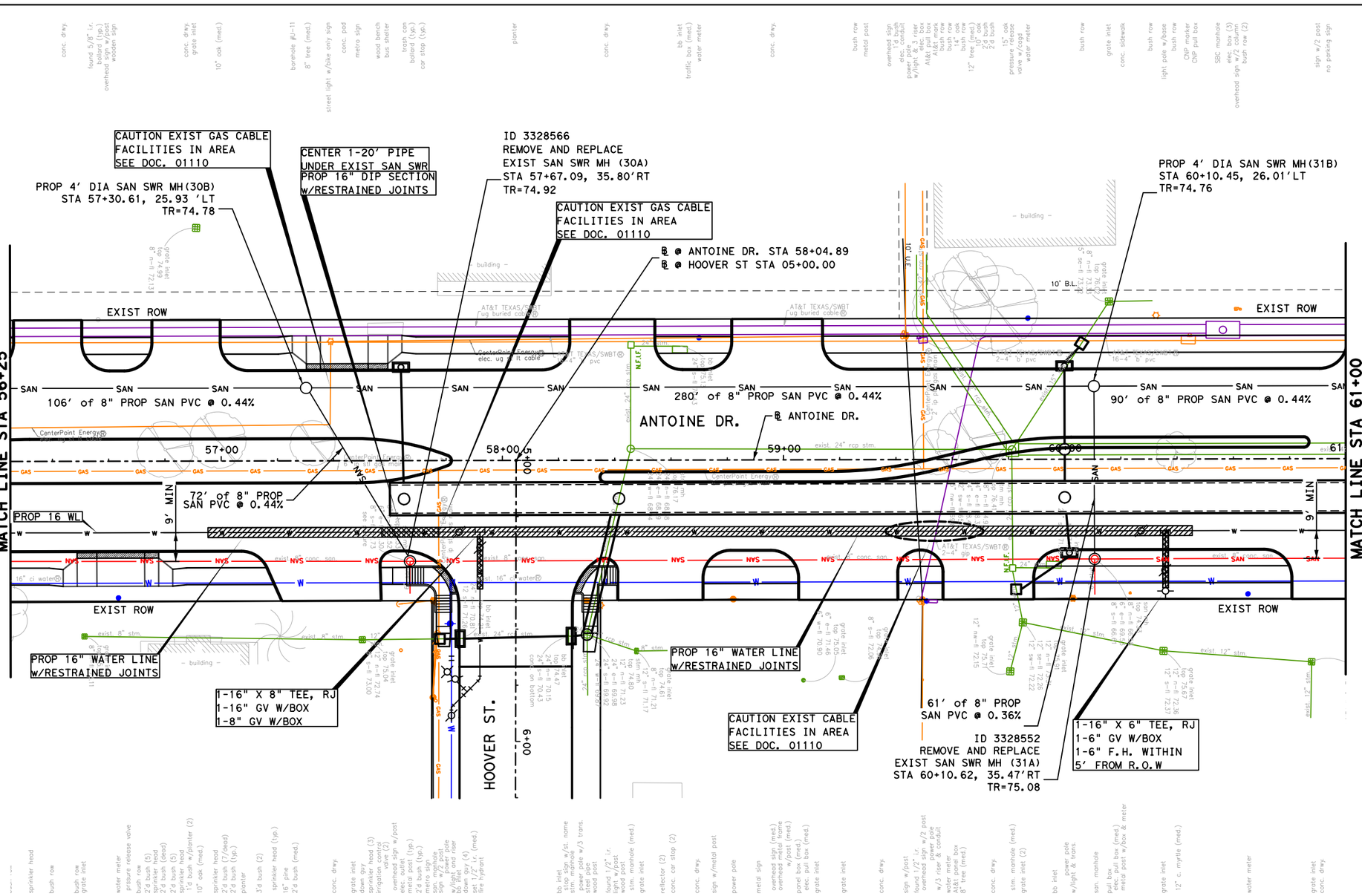
Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\UTI\ISA_PRF_WWW



LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

0' 40' 80'

SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

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P 713 747 2399 F 713 748 3748
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN STA 56+25 TO STA 61+00

SHEET 25 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 549 OF 1067	

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN AND PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTIONS, PROVIDE TEMPORARY CONNECTIONS AS NECESSARY DURING CONSTRUCTION.

3. PLACE 1-FULL SECTION (MIN 18 FEET) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION). PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

4. ADJUST ALL EXISTING WATER METER VAULTS TO MATCH NEW GRADES.

5. ABANDON EXISTING SS IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

6. PLACE 1-FULL SECTION (MIN 18 FEET) OF 150-PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SS, SPACED AT LEAST 9 FEET HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FEET) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL).

7. TRANSFER EXISTING SS LEADS TO THE NEW SS IN ACCORDANCE WITH SPECIFICATION SECTION 02534.

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HOOVER ST. (E)

MATCH LINE STA 56+25

MATCH LINE STA 61+00

PROP 72 LF ~ 8" SAN SWR PVC (SDR 26)@ 0.44%

PROP 106 LF ~ 8" SAN SWR PVC (SDR 26)@ 0.44%

PROP WEST TOC

PROP EAST TOC

w-row

e-row

sam mh top 73.13 8" n-fl 67.52 6" e-fl 71.30 8" s-fl 67.73

bb inlet top 74.21 24" n-fl 70.81 12" s-fl 71.26

bb inlet top 74.47 nan 70.15 24" s-fl 70.43 conc. on bottom

stm mh top 74.80 nan 71.23 12" n-fl 69.98 24" e-fl 69.92 24" s-fl 69.92 24" w-fl 69.87

stm mh top 76.17 24" n-fl 68.38 24" e-fl 68.38 24" w-fl 68.94

bb inlet top 75.13 24" s-fl 70.43

stm mh top 76.41 48" n-fl 64.93 24" e-fl 68.43 24" s-fl 68.47 42" sw-fl 65.51 15" nw-fl 69.83

bb inlet top 74.84 24" s-fl 71.36

stm mh top 74.33 8" n-fl 66.58 6" e-fl 69.53 8" s-fl 66.61

grate inlet top 76.02 8" n-fl 73.33 15" sw-fl 73.22

exist. 24" stm.

exist. 2" stm.

exist. 24" stm. (approx. elev.)

AT&T TEXAS/SWBT (R) 16-4" ducts (R)

AT&T TEXAS/SWBT (R) 2-4" ducts

exist. 24" stm. (bpprox. elev.)

exist. 15" stm.

exist. 8" stm.

5' MIN. CLR.

exist. 16" (R) ci water

exist. 6" san

exist. 8" pvc water

exist. 6" fh lead

exist. 6" san

exist. 48" stm.

2' MIN CLR

2' MIN. CLR.

FL=66.70

PROP 16" WATER LINE

PROP 8" WATER LINE

PROP 16" WATER LINE

PROP 6" F.H. LEAD

LIMITS OF PROP. 16" WL w/RESTRAINED JOINT PVC SEE COH DETAIL #02511-01

1-20 SECTION OF PROP 16" DIP w/RESTRAINED JOINTS CENTERED UNDER EXIST SANITARY

LIMITS OF PROP. 16" DIP w/RESTRAINED JOINTS SEE COH DETAIL #02511-01

LIMITS OF PROP. 16" WL w/RESTRAINED JOINT PVC SEE COH DETAIL #02511-01

PROP 280 LF ~ 8" SAN SWR PVC (SDR 26) @ 0.44%

PROP 90 LF ~ 8" SAN SWR PVC (SDR 26)@ 0.44%

PROP ELEV.
EXIST ELEV.

PROP SAN MANHOLE #30B
STA. 57+67.18
TR = 74.78
8" FL = 66.08 (S)
8" FL = 66.08 (N)
8" FL = 67.25 (E)

PROP SAN MANHOLE #31B
STA. 60+10.45
TR = 74.76
8" FL = 65.00 (S)
8" FL = 61.06 (N)
8" FL = 61.06 (E)

REMOVE AND REPLACE MH 3328552(#31A)
STA. 60+10.62
TR = 75.08
8" FL = 61.33 (W)
EX. 6" FL = 69.53' (E)
EX. 8" FL = 66.58' (N)
EX. 8" FL = 66.61' (S)

56+25 57+00 58+00 59+00 60+00 61+00

80 78 76 74 72 70 68 66 64 62 60 58 56 54 52

LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

HORZ 0' 40' 80'
VERT 0' 4' 8'
SCALE IN FEET

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Signature valid for six months.

Date

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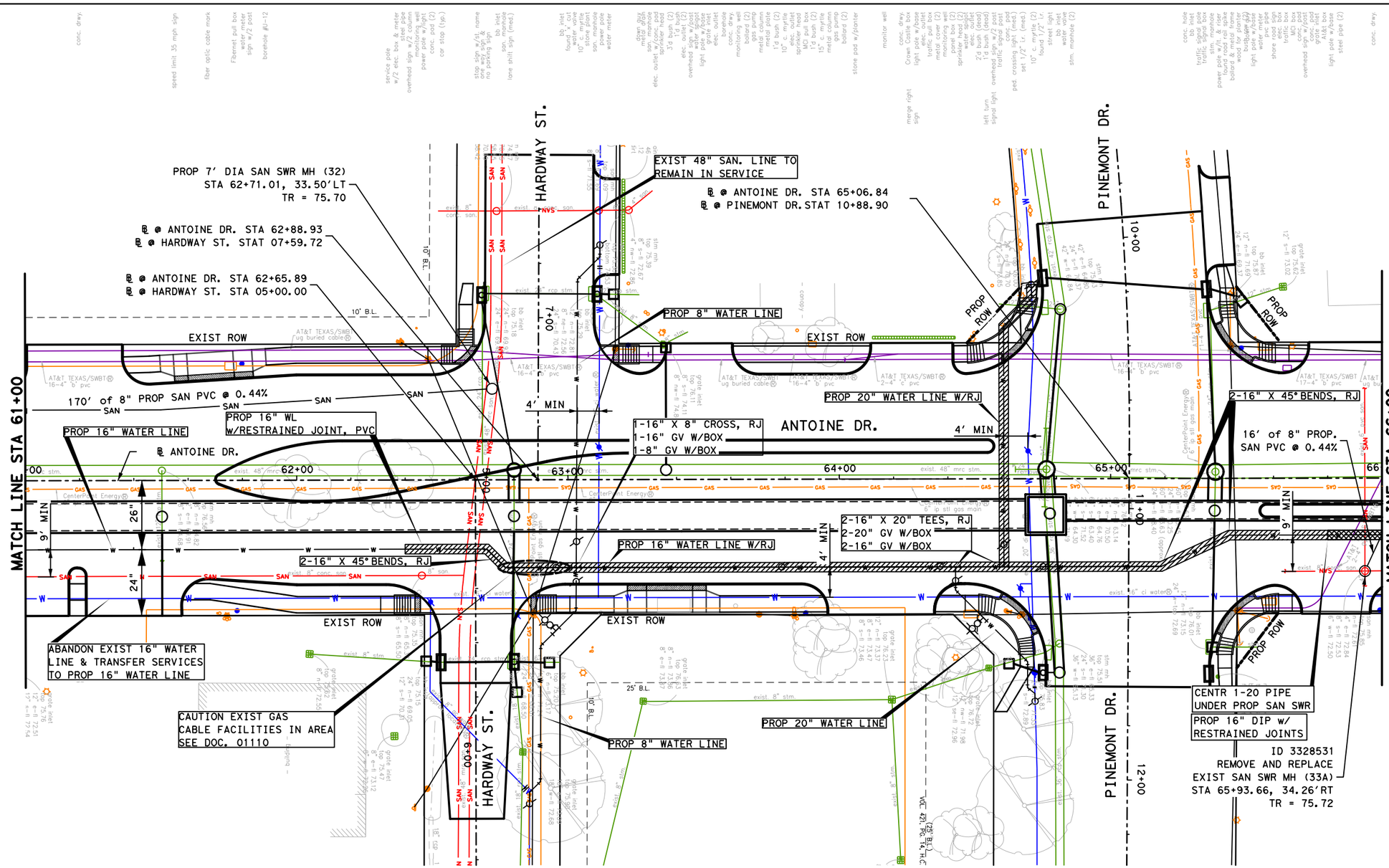
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PLAN STA 56+25 TO STA 61+00

SHEET 26 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 550 OF 1067	



LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

0' 40' 80'

SCALE IN FEET

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN STA 61+00 TO STA 66+00

SHEET 27 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 551 OF 1067	

GENERAL NOTES:

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4. ADJUST ALL EXISTING WATER METER VAULTS TO MATCH NEW GRADES.

5. ABANDON EXISTING SS IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

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No.	DATE	REVISIONS	APP.

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HARDWAY ST. (E)

HARDWAY ST. (W)

PINEMONT DR

PROP. 6 LF ~ 8" SAN SWR PVC (SDR 26) @ 0.44%

8" S-fl 72.53
6" W-fl 72.50

w-row

PROP EAST TOC

PROP WEST TOC

5' MIN. CLR.

MATCH LINE STA 61+00

MATCH LINE STA 66+00

2' MIN CLR

PROP 16" WL

PROP 170 LF ~ 8" SAN SWR PVC (SDR) @ 0.44%

FL=66.69

PROP 8" WATER LINE

PROP 16" WATER LINE

PROP 8" WATER LINE

PROP 20" WATER LINE

LIMITS OF PROP. 16" DIP w/RESTRAINED JOINTS SEE DETAIL #02511-01

1-20' SECTION OF PROP 8" DIP w/RESTRAINED JOINTS CENTERED UNDER SANITARY

LIMITS OF PROP. 16" WL w/RESTRAINED JOINT PVC SEE COH DETAIL #02511-01

PROP SAN MANHOLE #32
STA. 62+71.01
TR = 75.70
8" FL = 59.92 (S)

REMOVE AND REPLACE MH 3328531 (#33A)
STA. 65+93.66
TR = 75.72
8" FL = 72.50 (NW)
EX. 8" FL = 72.61 (N)
EX. 4" FL = 72.84 (E)
EX. 8" FL = 72.53 (S)

PROP ELEV.
EXIST ELEV.

61+00 62+00 63+00 64+00 65+00 66+00

80 78 76 74 72 70 68 66 64 62 60 58 56 54 52

LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

HORZ 0' 40' 80'
VERT 0' 4' 8'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
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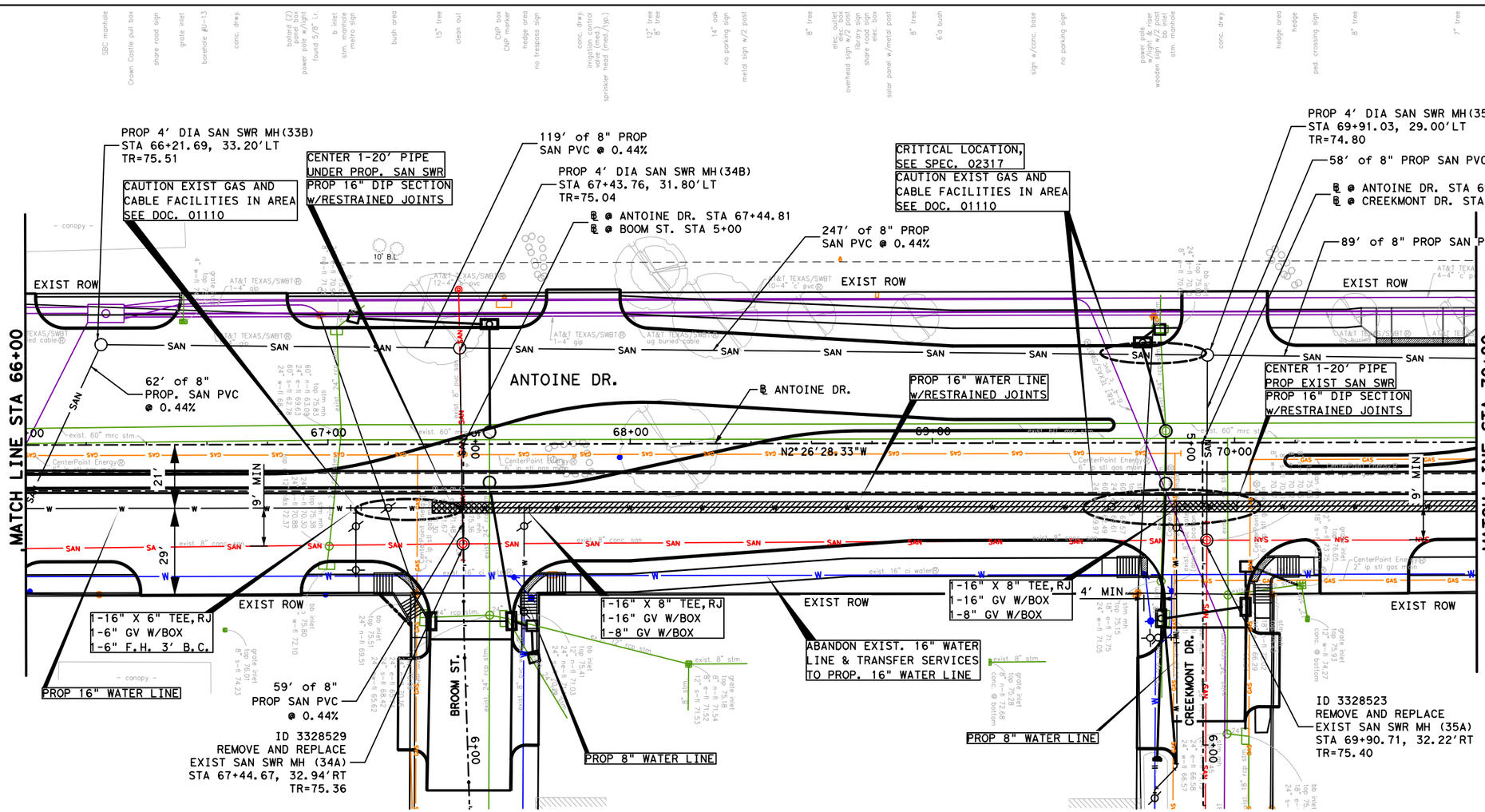
WATER & SANITARY PROFILE STA 61+00 TO STA 66+00

SHEET 28 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 552 OF 1067	



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN
STA 66+00 TO STA 70+80

SHEET 29 OF 70

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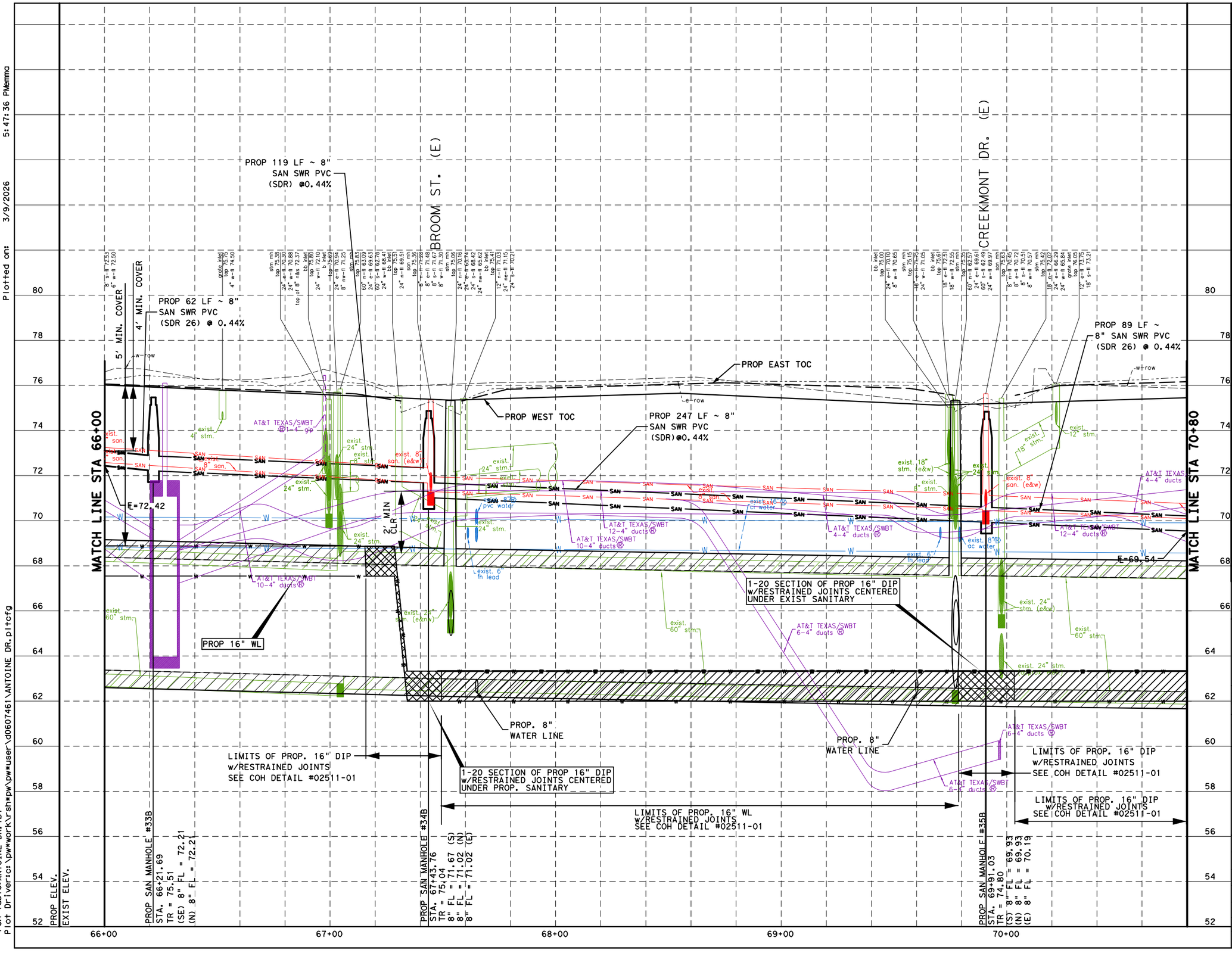

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LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

HORZ
0' 40' 80'
0' 4' 8'
VERT
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PLAN STA 66+00 TO STA 70+80

SHEET 30 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 554 OF 1067	

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@ ANTOINE DR. STA 72+22.00
℄ @ GOLDEN FOREST DR. STA 5+00.00

301′ of 8" PROP SAN PVC @ 0.44%

PROP 4′ DIA SAN SWR MH (37A)
STA 71+96.86, 26.01′LT
TR = 75.38

60′ of 8" PROP SAN PVC @ 0.44%

GOLDEN FOREST DR.

PROP 8" WATER LINE

EXIST ROW

115′ of 8" PROP SAN PVC @ 0.44%

290′ of 12" PROP SAN PVC @ 0.26%

℄ @ ANTOINE DR. STA 75+11.88.31
℄ @ GOLDEN FOREST DR. STA 5+00.00

PROP 4′ DIA SAN SWR MH (38)
STA 74+87.22, 26.01′LT
TR = 74.71

63′ of 12" PROP SAN PVC @ 0.26%

ANTOINE DR.

1-16" X 8" TEE,RJ
1-16" GV W/BOX
1-8" GV W/BOX

N2° 26′ 28.33"W

MATCH LINE STA 70+80

MATCH LINE STA 75+50

71+00 72+00 73+00 74+00 75+00

9′ MIN 21′ 29′ 4′ MIN

℄ ANTOINE DR.

PROP 16" WATER LINE

CENTER 1-20′ PIPE UNDER PROP SAN SWR

PROP 16" DIP SECTION w/RESTRAINED JOINTS

ID 3328513
REMOVE AND REPLACE
EXIST SAN SWR MH (36)
STA 71+86.23, 32.55′RT
TR = 76.10

CAUTION EXIST OHE AND CABLE FACILITIES IN AREA SEE DOC. 01110

1-16" X 8" TEE,RJ
1-16" GV W/BOX
1-8" GV W/BOX

PROP. 16" WATERLINE w/RESTRAINED JOINTS

EXIST ROW

PROP 16" WATER LINE w/RESTRAINED JOINTS

ABANDON EXIST. 16" WATER LINE AFTER TRANSFERING SERVICES TO PROP. 16" WATER LINE

PROP 8" WATER LINE

BIRCHMONT DR.

10′ B.L.

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

0′ 40′ 80′

SCALE IN FEET

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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P 713 747 2399 F 713 748 3748
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SURVEYED BY:
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101094
3/9/2026
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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN
STA 70+80 TO STA 75+50

SHEET 31 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 555 OF 1067	

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN AND PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTIONS, PROVIDE TEMPORARY CONNECTIONS AS NECESSARY DURING CONSTRUCTION.

3. PLACE 1-FULL SECTION (MIN 18 FEET) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION). PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

4. ADJUST ALL EXISTING WATER METER VAULTS TO MATCH NEW GRADES.

5. ABANDON EXISTING SS IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

6. PLACE 1-FULL SECTION (MIN 18 FEET) OF 150-PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SS, SPACED AT LEAST 9 FEET HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FEET) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL).

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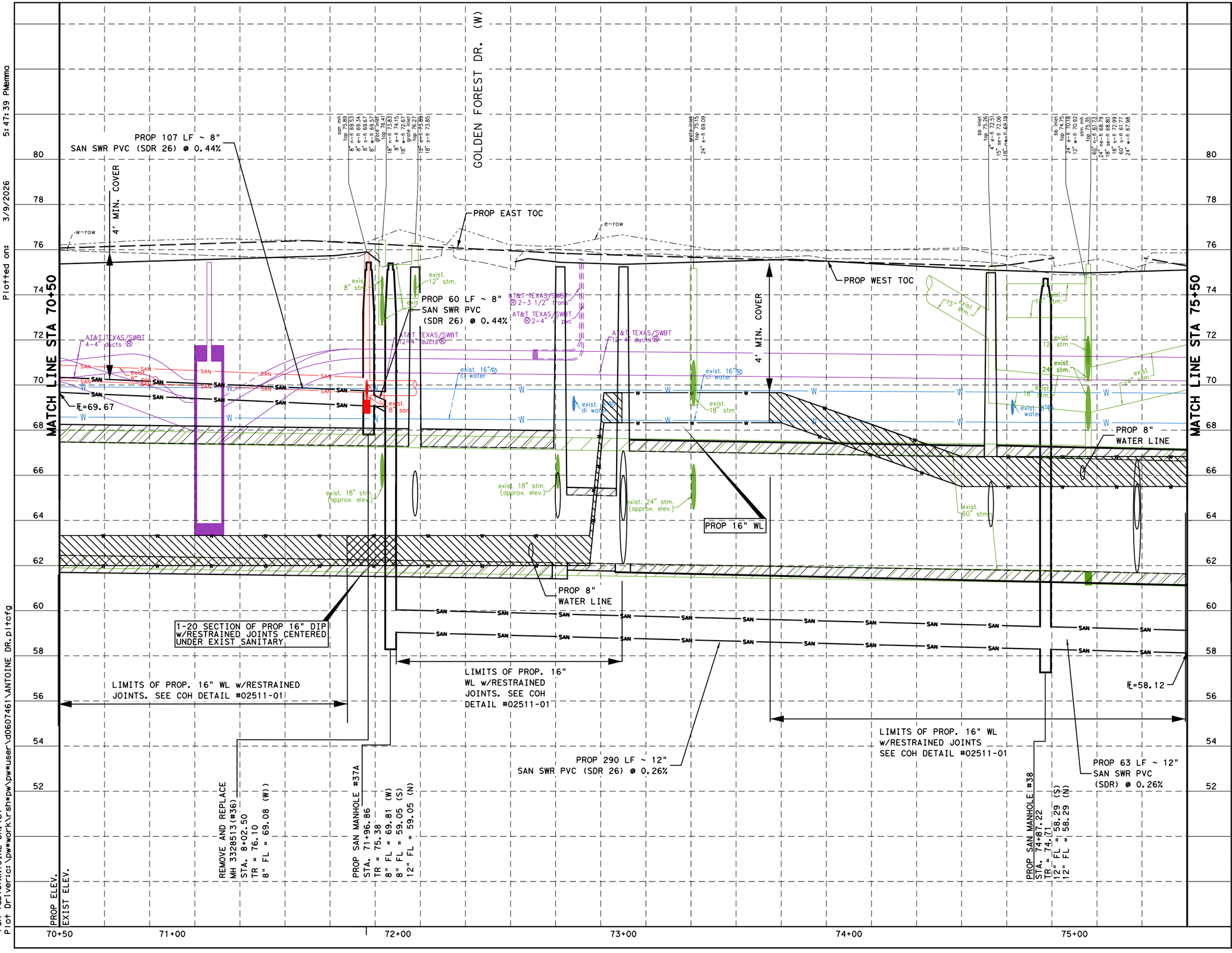

LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

HORZ 0' 40' 80'

VERT 0' 4' 8'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PROFILE STA 70+50 TO STA 75+50

SHEET 32 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 556 OF 1067	

No.	DATE	REVISIONS	APP.

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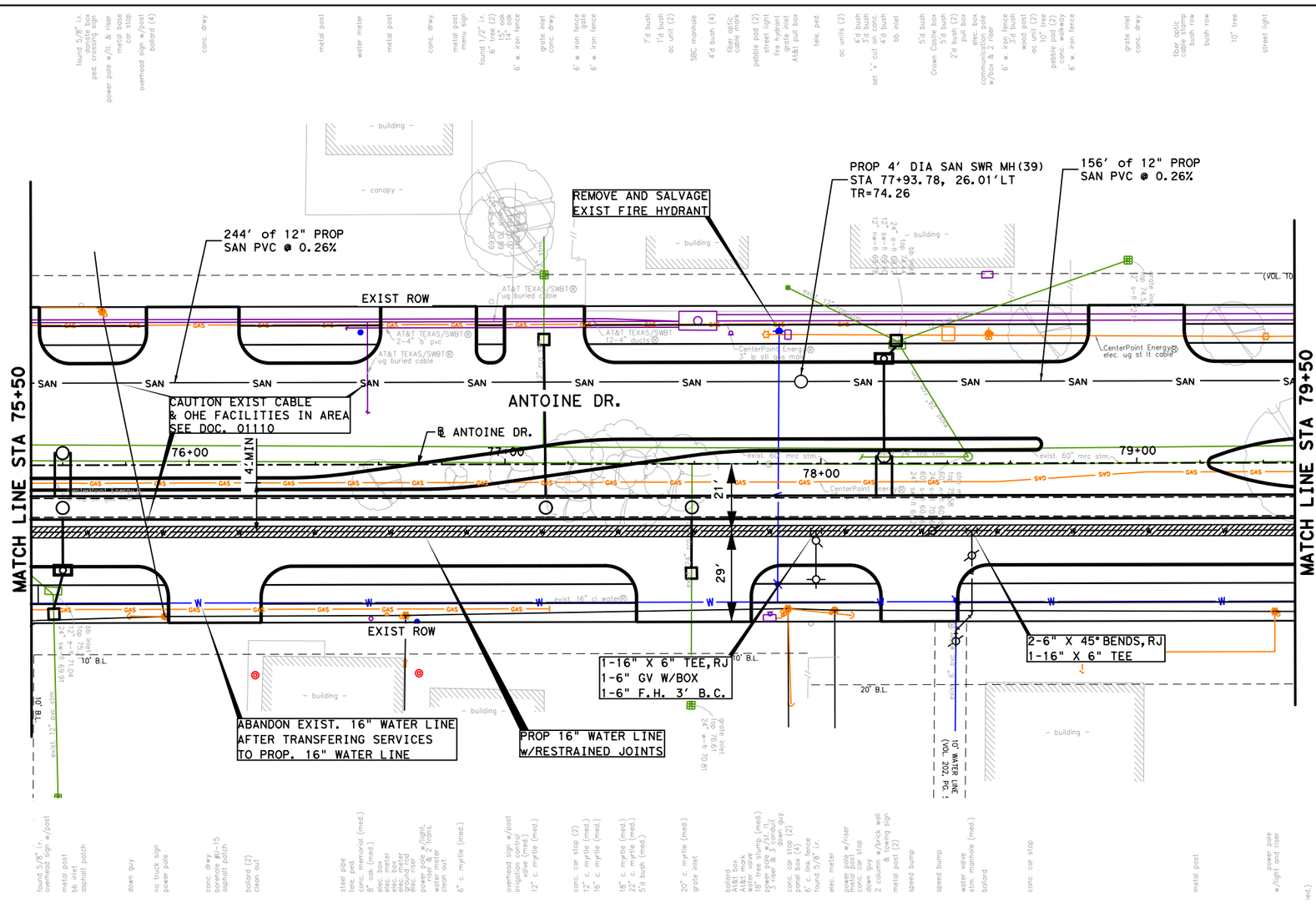

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP.

0' 40' 80'

SCALE IN FEET

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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN
STA 75+50 TO STA 79+50

SHEET 33 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 557 OF 1067	

GENERAL NOTES:

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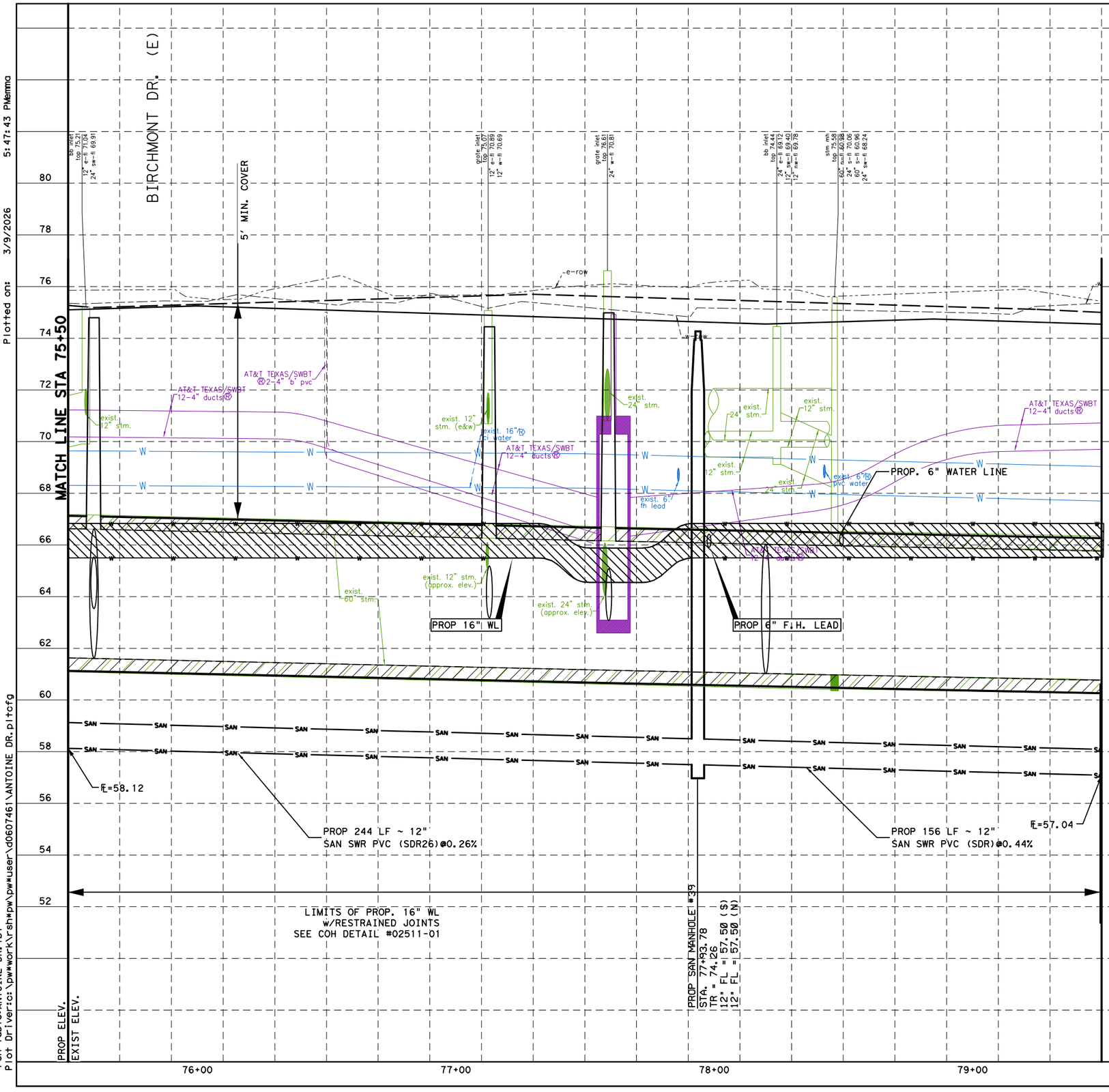

LEGEND

- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

HORZ
0' 40' 80'
0' 4' 8'
VERT
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PROFILE STA 75+50 TO STA 79+50

SHEET 34 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 558 OF 1067	

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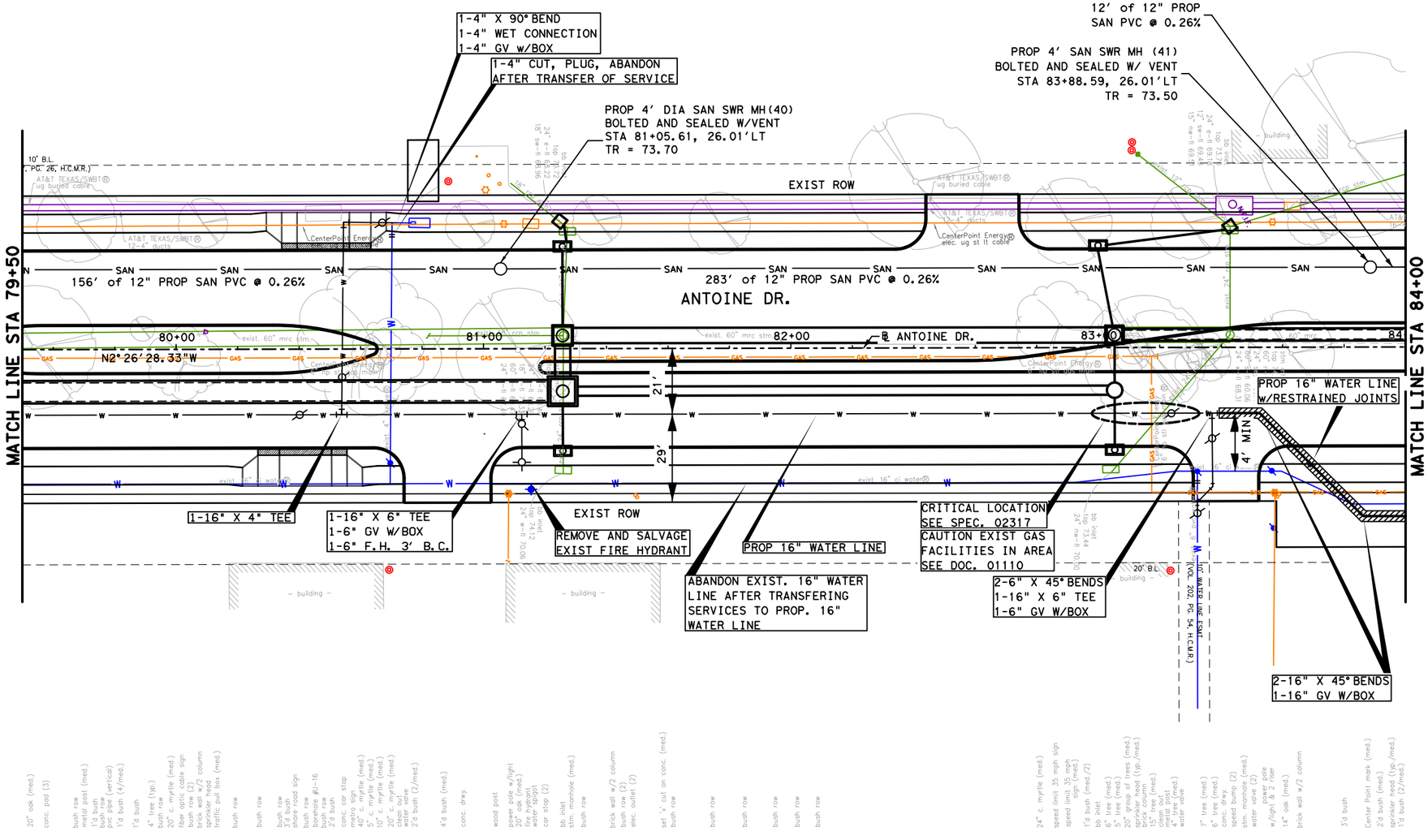

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LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

No.	DATE	REVISIONS	APP:

0' 40' 80'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN
STA 79+50 TO STA 84+00

SHEET 35 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 559 OF 1067	

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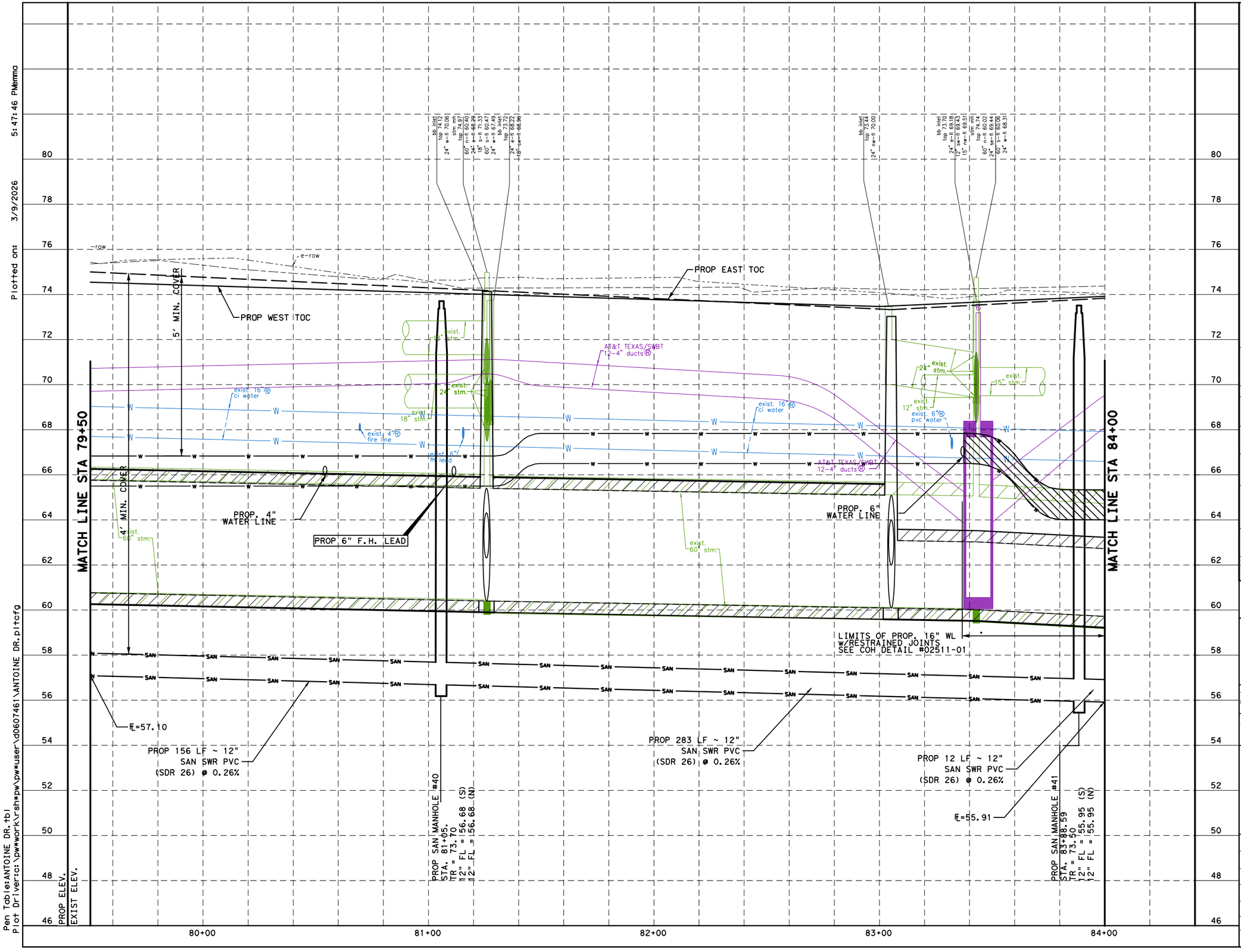

LEGEND

- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

HORZ
0′ 40′ 80′
0′ 4′ 8′
VERT
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PROFILE STA 79+50 TO STA 84+00

SHEET 36 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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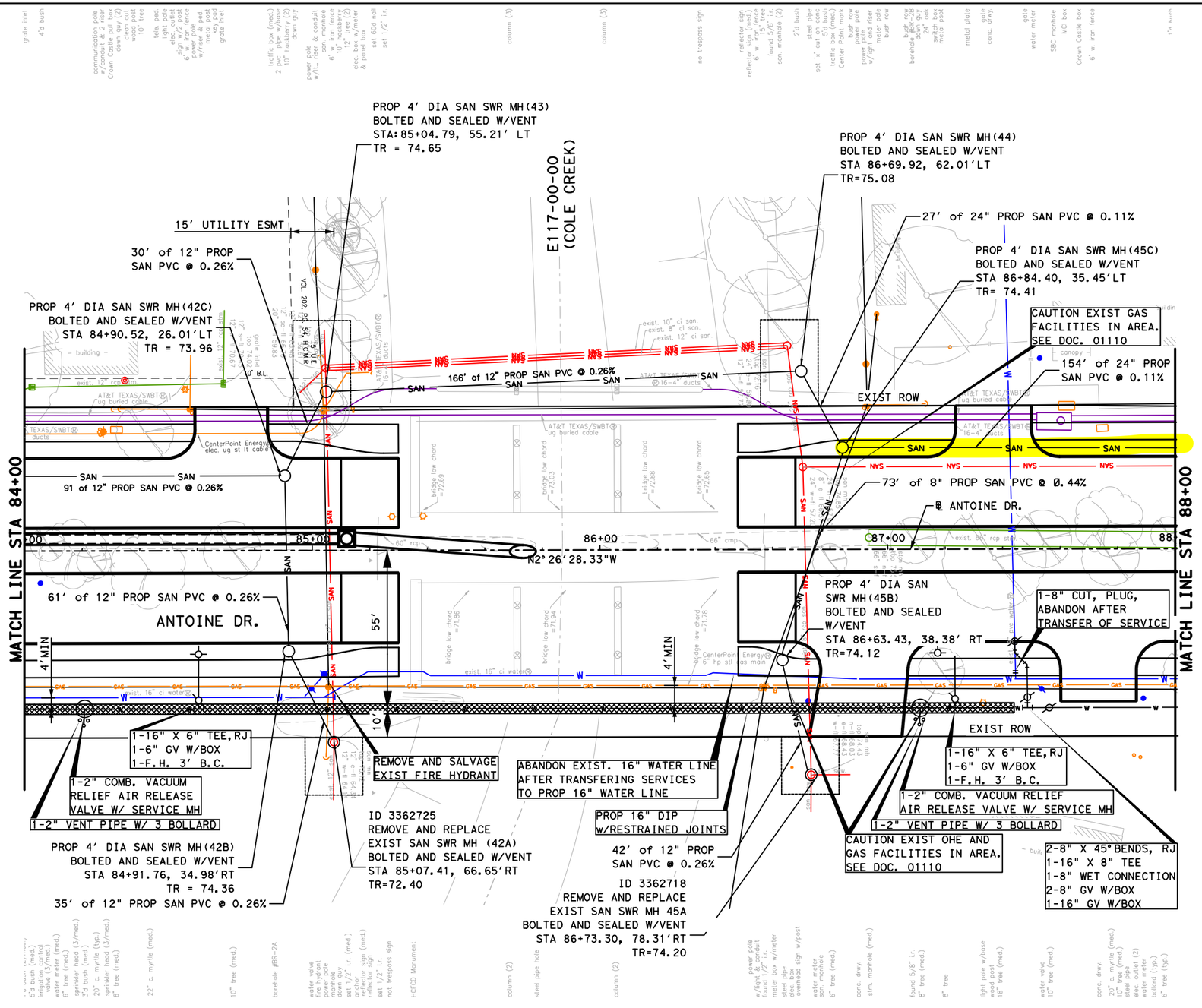
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 560 OF 1067	



GENERAL NOTES:

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LEGEND

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- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

NOTE:
IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND REPLACE THE FENCE

0' 40' 80'

SCALE IN FEET

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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Approved for AT&T Texas/SWBT underground conduit facilities only. Date Note: The AT&T electronic Signature is valid for one year.

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ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

SURVEYED BY:
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ISANI CONSULTANTS
Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY PLAN
STA 84+00 TO STA 88+00

SHEET 37 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 561 OF 1067	

No.	DATE	REVISIONS	APP.

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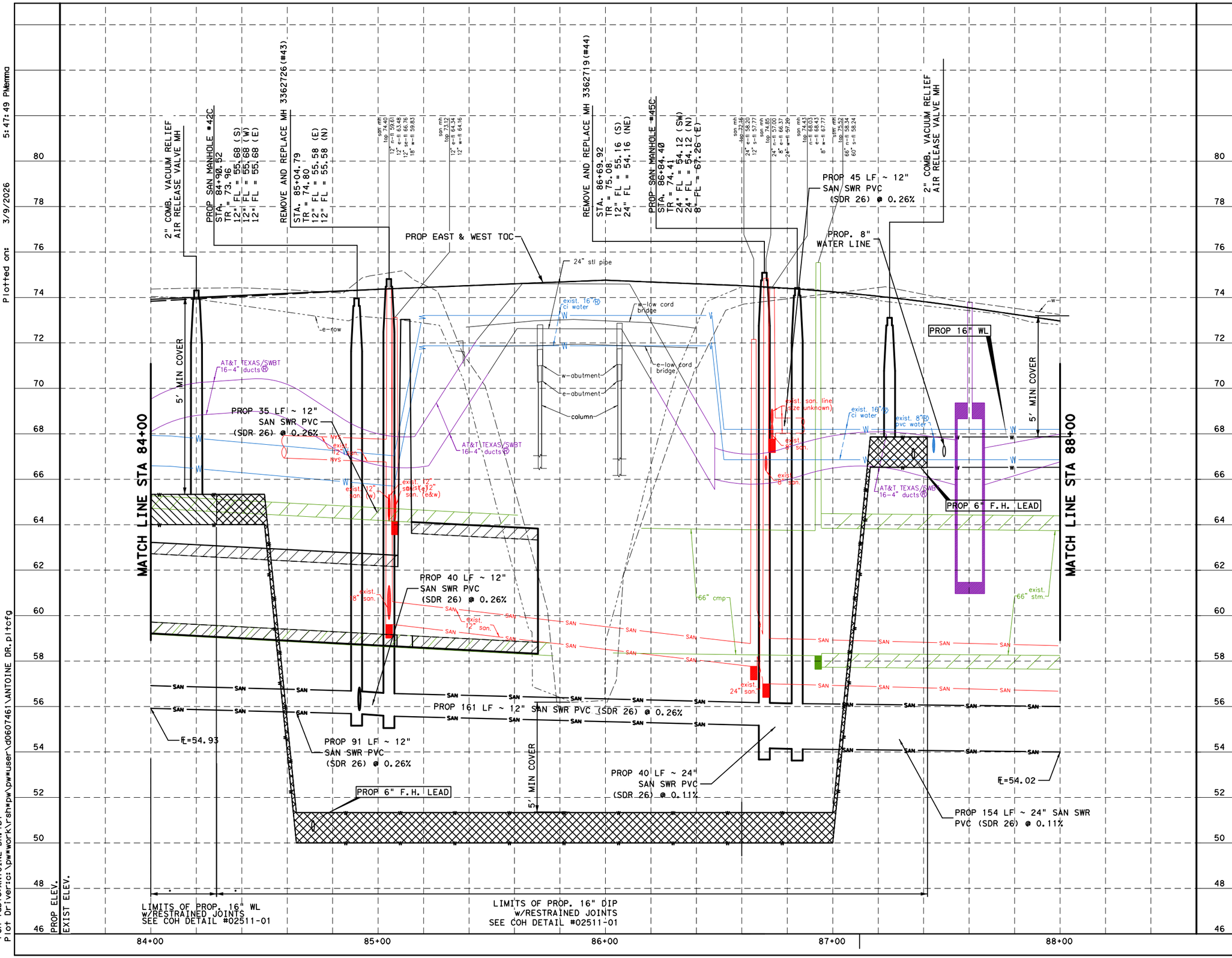

LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

HORZ 0' 40' 80'

VERT 0' 4' 8'

SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY PROFILE STA 84+00 TO STA 88+00

SHEET 38 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 562 OF 1067	

No. DATE REVISIONS APP.

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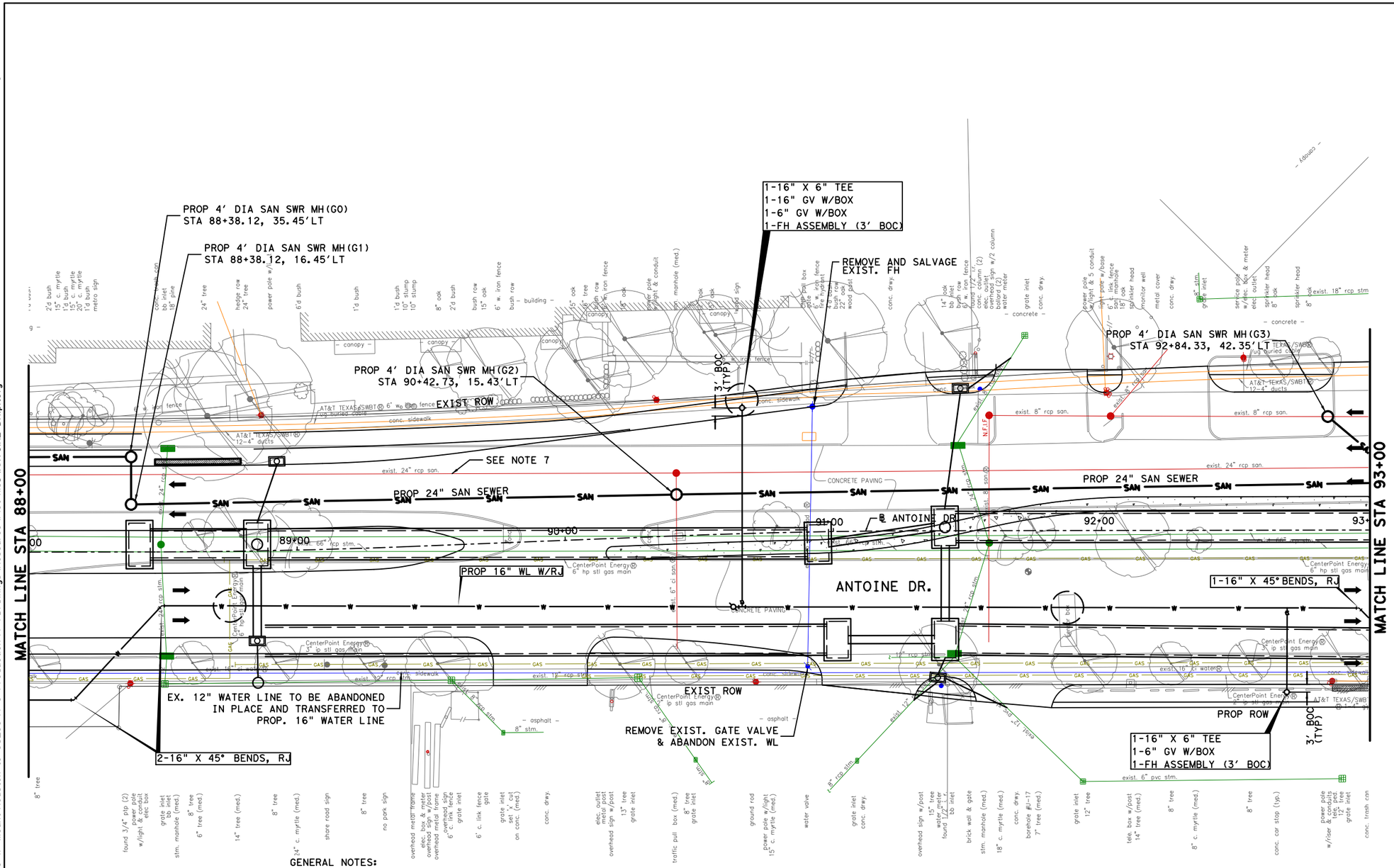

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20 40
SCALE IN FEET

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engineering - construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 88+00 TO STA 93+00

SHEET 1 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 563 OF 1067	

GENERAL NOTES:

1. REFER TO PAVING PLAN & PROFILE SHEETS FOR PROP ROADWAY IMPROVEMENTS.
2. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIREHYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECCESSARY DURING CONSTRUCTION.
3. WATER SERVICE CONNECTION ARE ONLY SHOWN FOR SOME LOCATIONS BUT NOT ALL. CONTRACTOR TO FIELD VERIFY AND RECONNECT ALL WATER SERVICES ALONG PROJECT. SEE WATER LINE DETAILS AND METER DETAILS.
4. CONTRACTOR TO MAINTAIN ACCESS THROUGH PRIVATE DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.
5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
6. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SS, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.
7. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATIONS SECTION 02222.
8. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR STORM IMPROVEMENTS.

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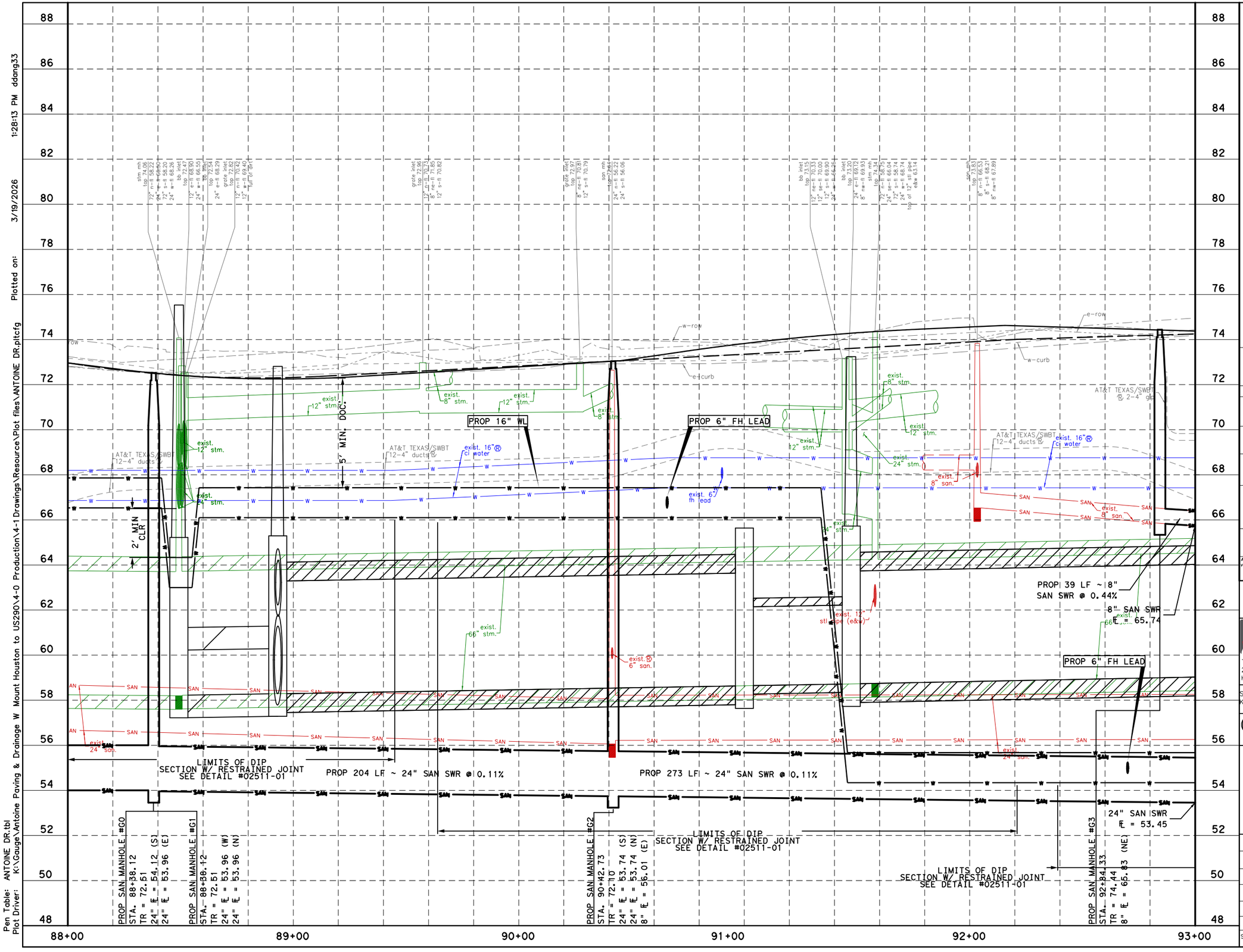

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 88+00 TO STA 93+00

SHEET 2 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 564 OF 1067	

No.	DATE	REVISIONS	APP.

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GENERAL NOTES:

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2. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECCESSARY DURING CONSTRUCTION.

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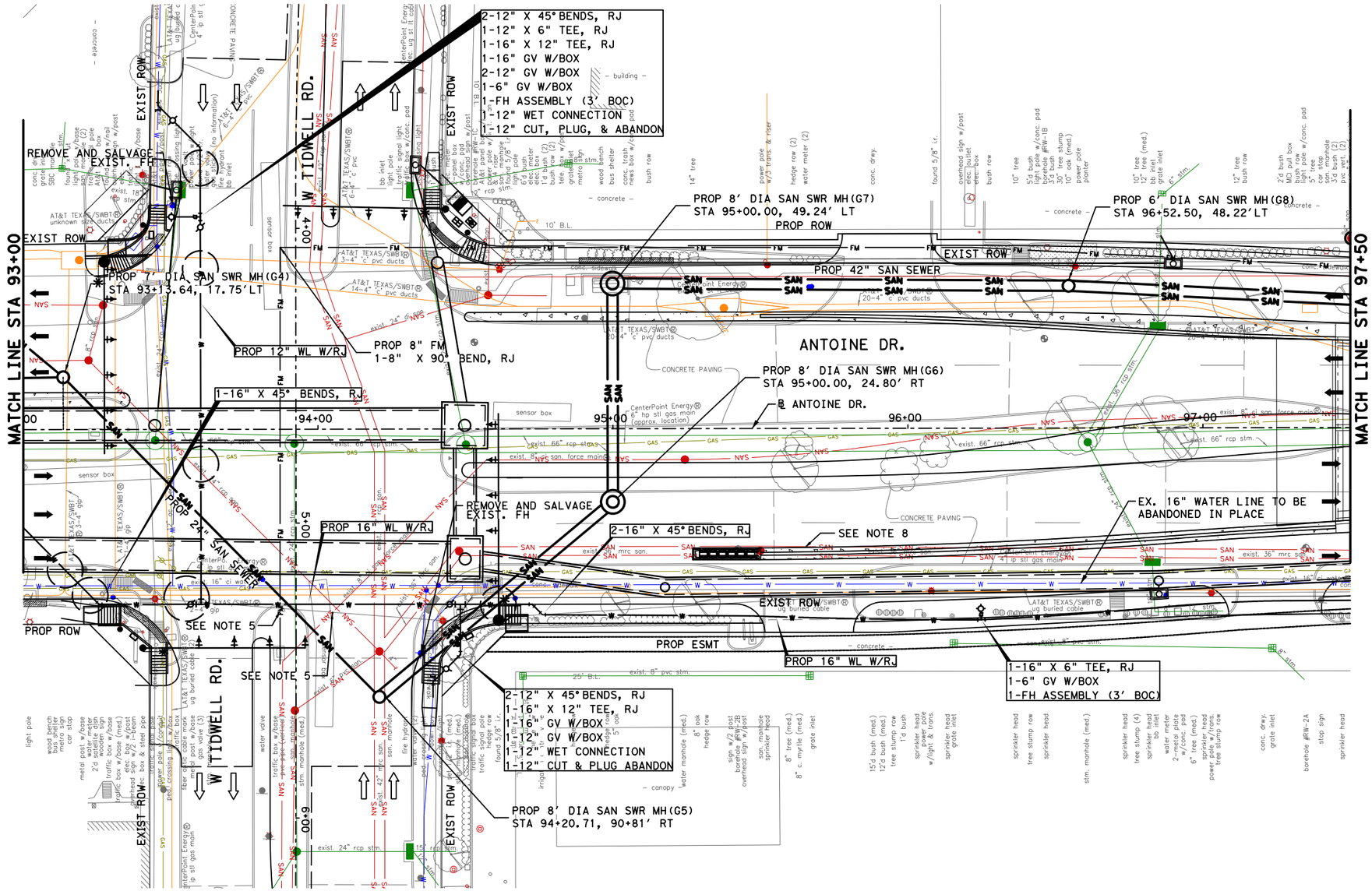
7. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.

8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

9. WHERE HORIZONTAL SEPARATION BETWEEN WL AND SS LINES IS LESS THAN 9 FT HORIZONTALLY, CONSTRUCT SS LINES USING AWWA C900 DR18 (150 PSI) OR DIP WITH WATERTIGHT JOINTS, TESTED FOR LEAKAGE IN ACCORDANCE WITH TAC 290.44 AND CITY OF HOUSTON IDM CHAPTER 10 AND PROVIDE STEEL CASING FOR WL.



LEGEND

—W— PROP WATER
—SAN— PROP SANITARY
— FM — PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

0' 20' 40'
SCALE IN FEET

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HOUSTON, TEXAS 77056

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
STA 93+00 TO STA 97+50

SHEET 3 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 565 OF 1067	

No.	DATE	REVISIONS	APP.

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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HOUSTON, TEXAS 77056

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 93+00 TO STA 97+50

SHEET 4 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 566 OF 1067	

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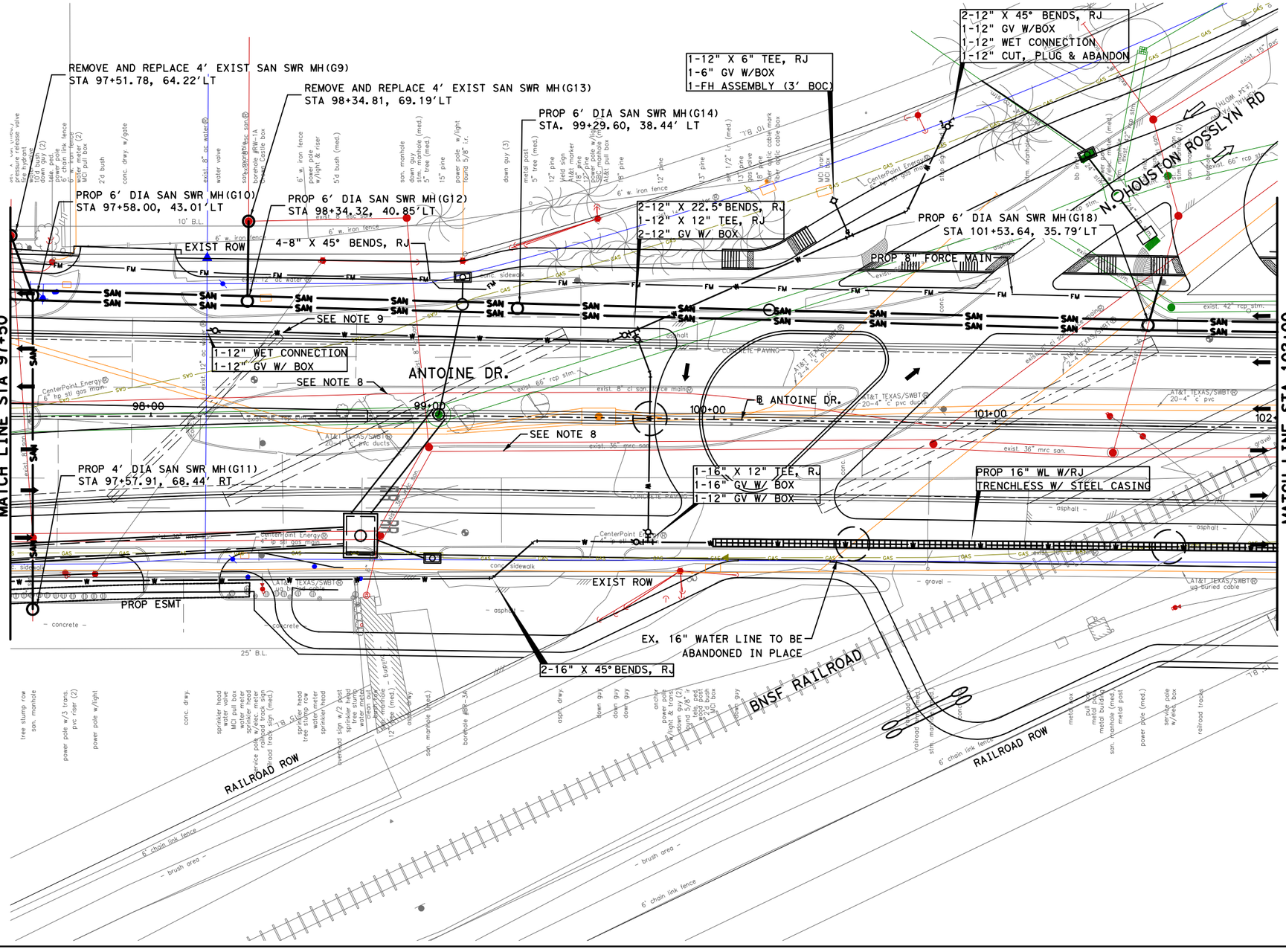

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 97+50 TO STA 102+00

SHEET 5 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 567 OF 1067	

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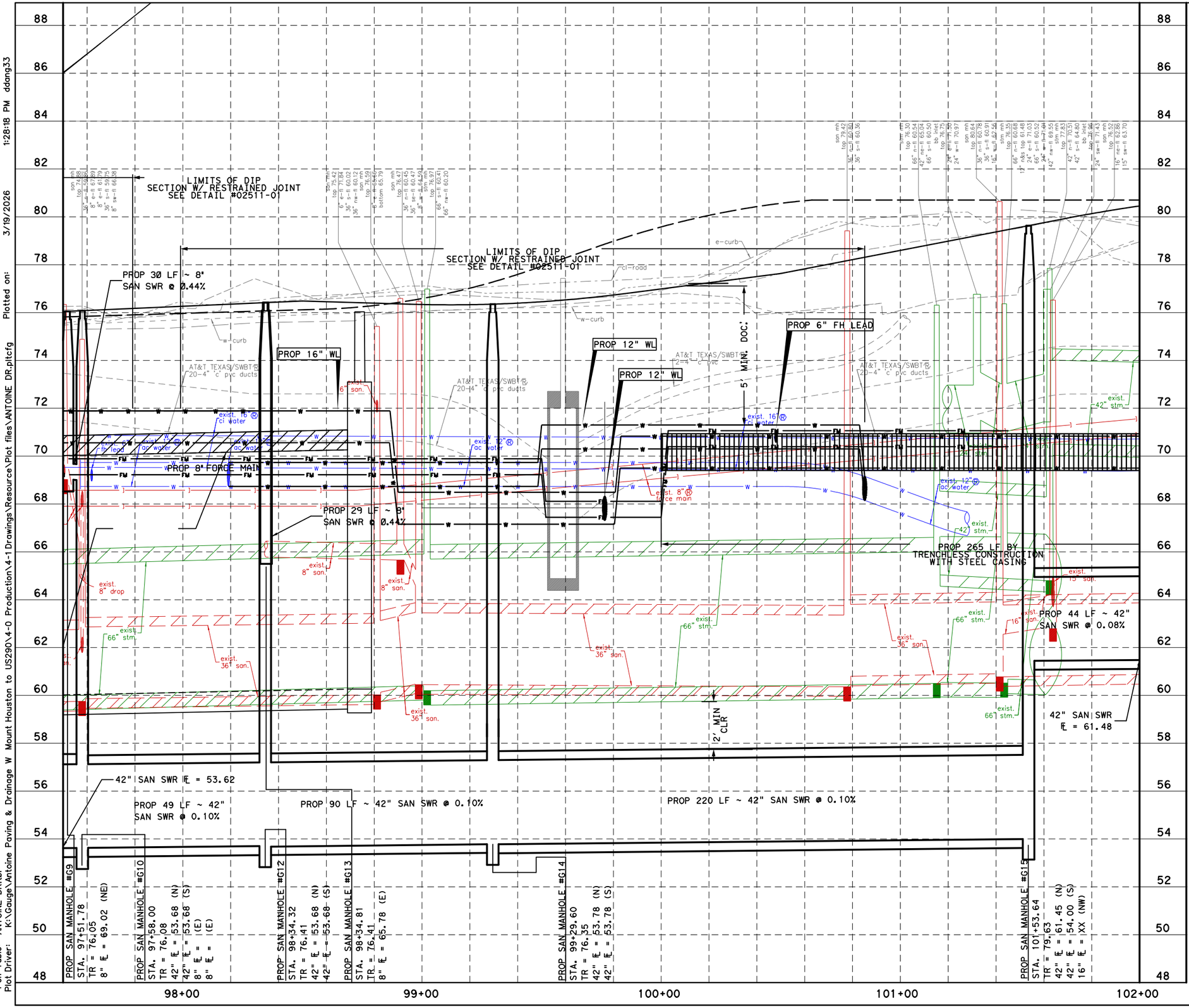

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 97+50 TO STA 102+00

SHEET 6 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 568 OF 1067	

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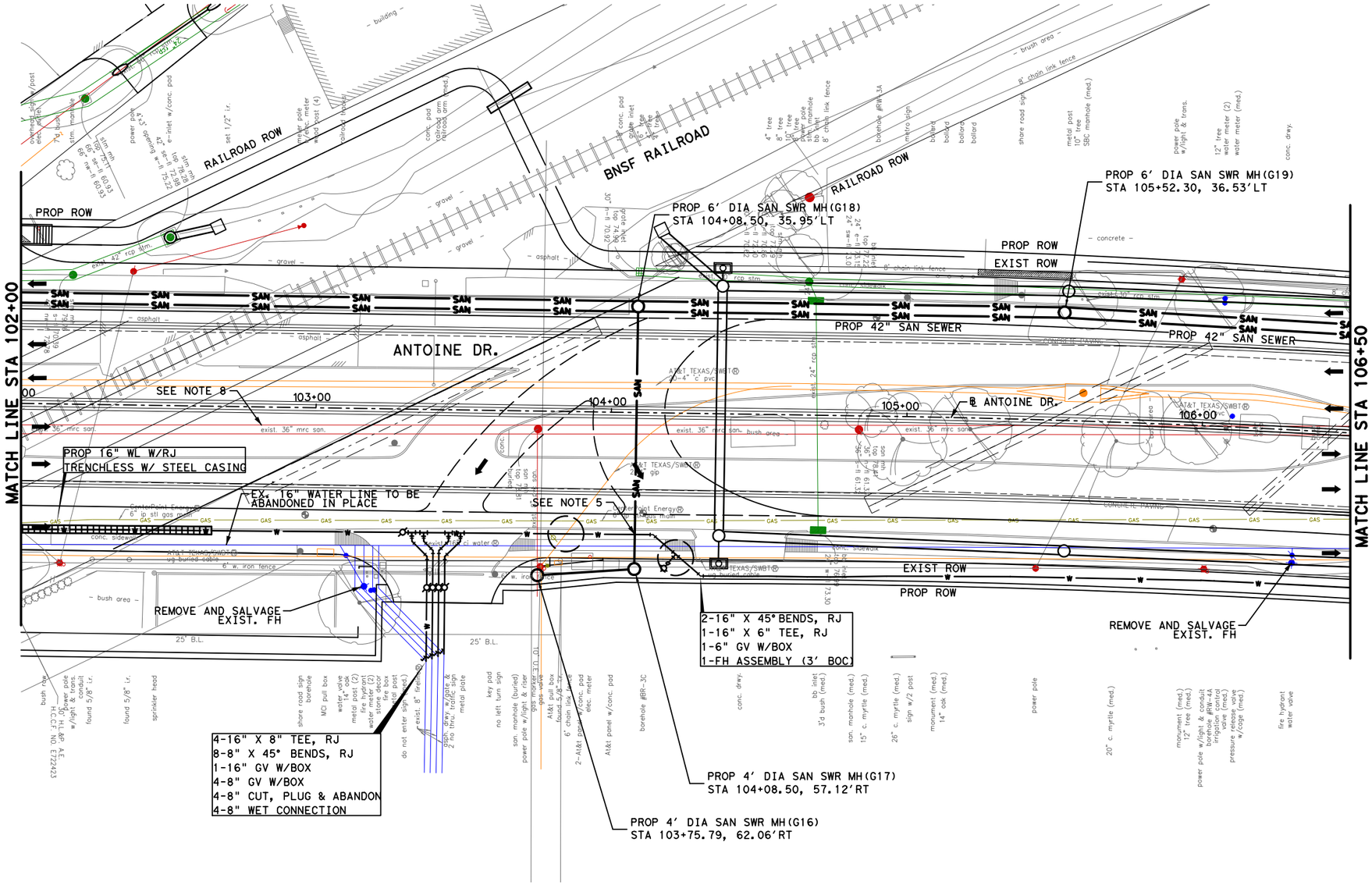

LEGEND

—W— PROP WATER
—SAN— PROP SANITARY
— FM — PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown.) This signature not be used for conflict verification.

Signature valid for six months.

Date

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Approved for AT&T underground conduit facilities only. Signature Date valid for one year.

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Aurora Technical Services, LLC
engineering - construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 102+00 TO STA 106+50

SHEET 7 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 569 OF 1067	

Pen Table: ANTOINE DR.tbl
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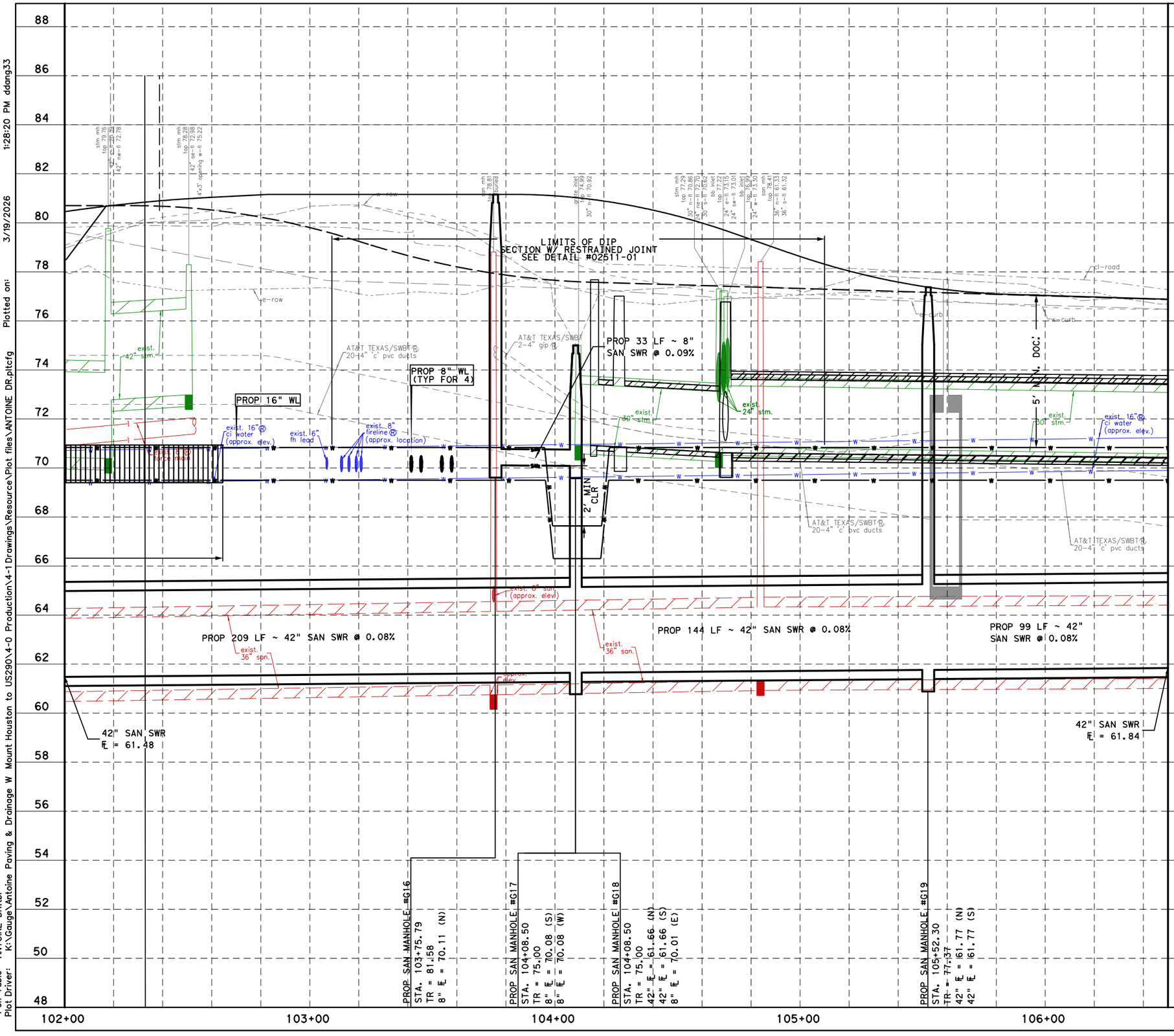

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 102+00 TO STA 106+50

SHEET 8 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 570 OF 1067	

Pen Table: ANTOINE DR.tbl
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GENERAL NOTES:

1. REFER TO PAVING PLAN & PROFILE SHEETS FOR PROP ROADWAY IMPROVEMENTS.

2. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECCESSARY DURING CONSTRUCTION.

3. WATER SERVICE CONNECTION ARE ONLY SHOWN FOR SOME LOCATIONS BUT NOT ALL. CONTRACTOR TO FIELD VERIFY AND RECONNECT ALL WATER SERVICES ALONG PROJECT. SEE WATER LINE DETAILS AND METER DETAILS.

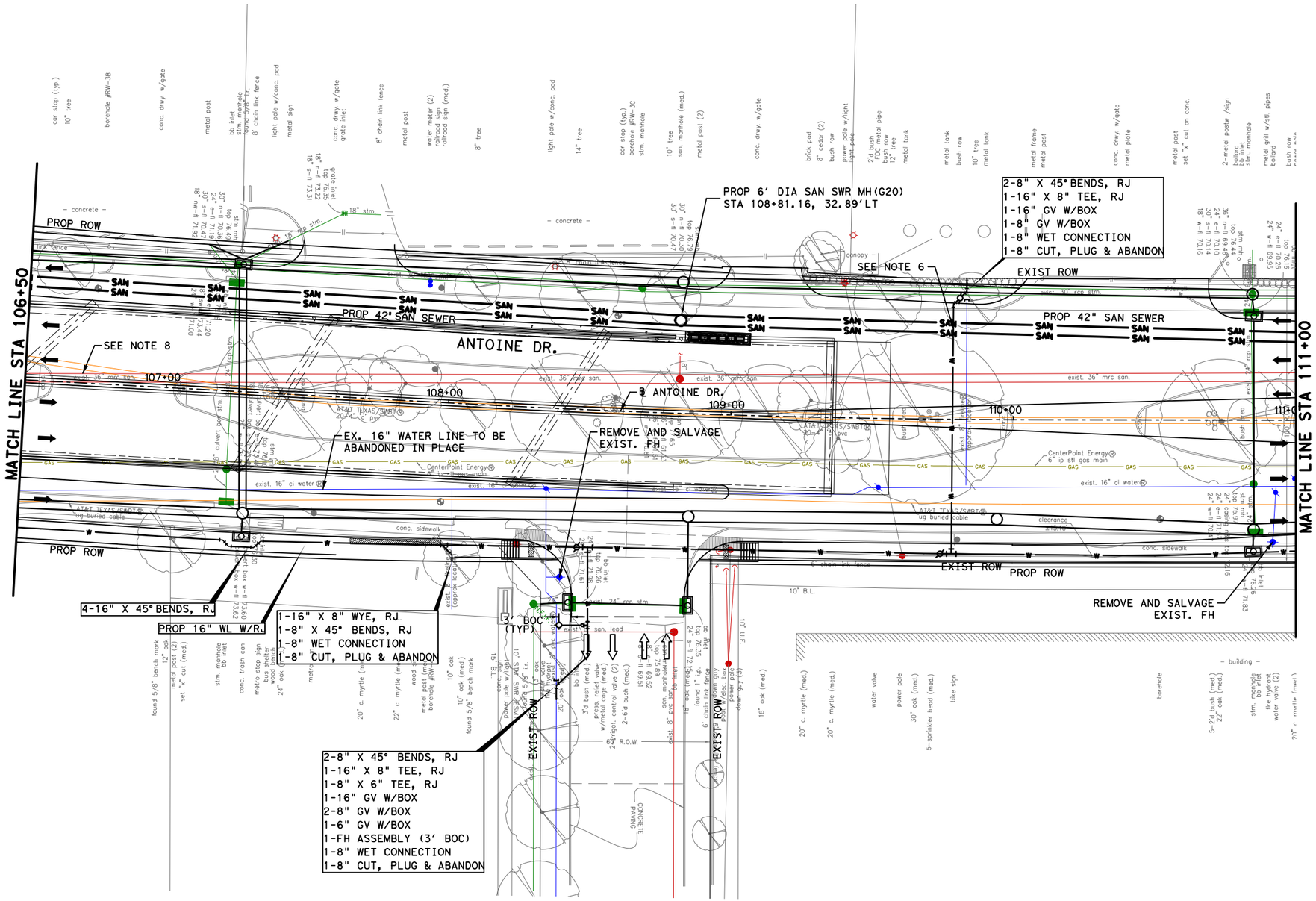
4. CONTRACTOR TO MAINTAIN ACCESS THROUGH PRIVATE DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

6. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR STORM IMPROVEMENTS.

7. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.

8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.



LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 106+50 TO STA 111+00

SHEET 9 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 571 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:21 PM ddang33

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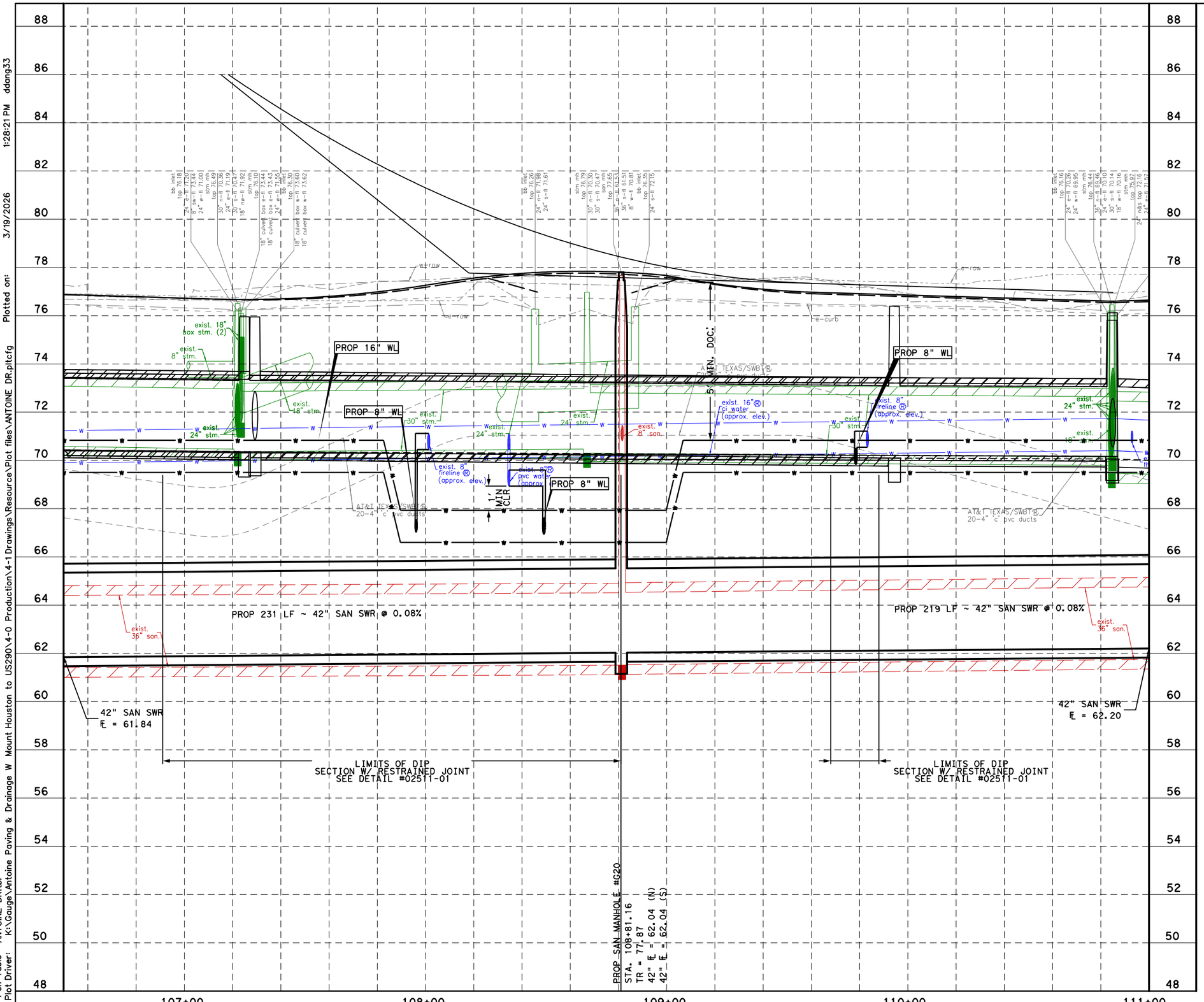

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 106+50 TO STA 111+00

SHEET 10 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 572 OF 1067	

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Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\10 PF_WTR SAN.dgn

GENERAL NOTES:

1. REFER TO PAVING PLAN & PROFILE SHEETS FOR PROP ROADWAY IMPROVEMENTS.

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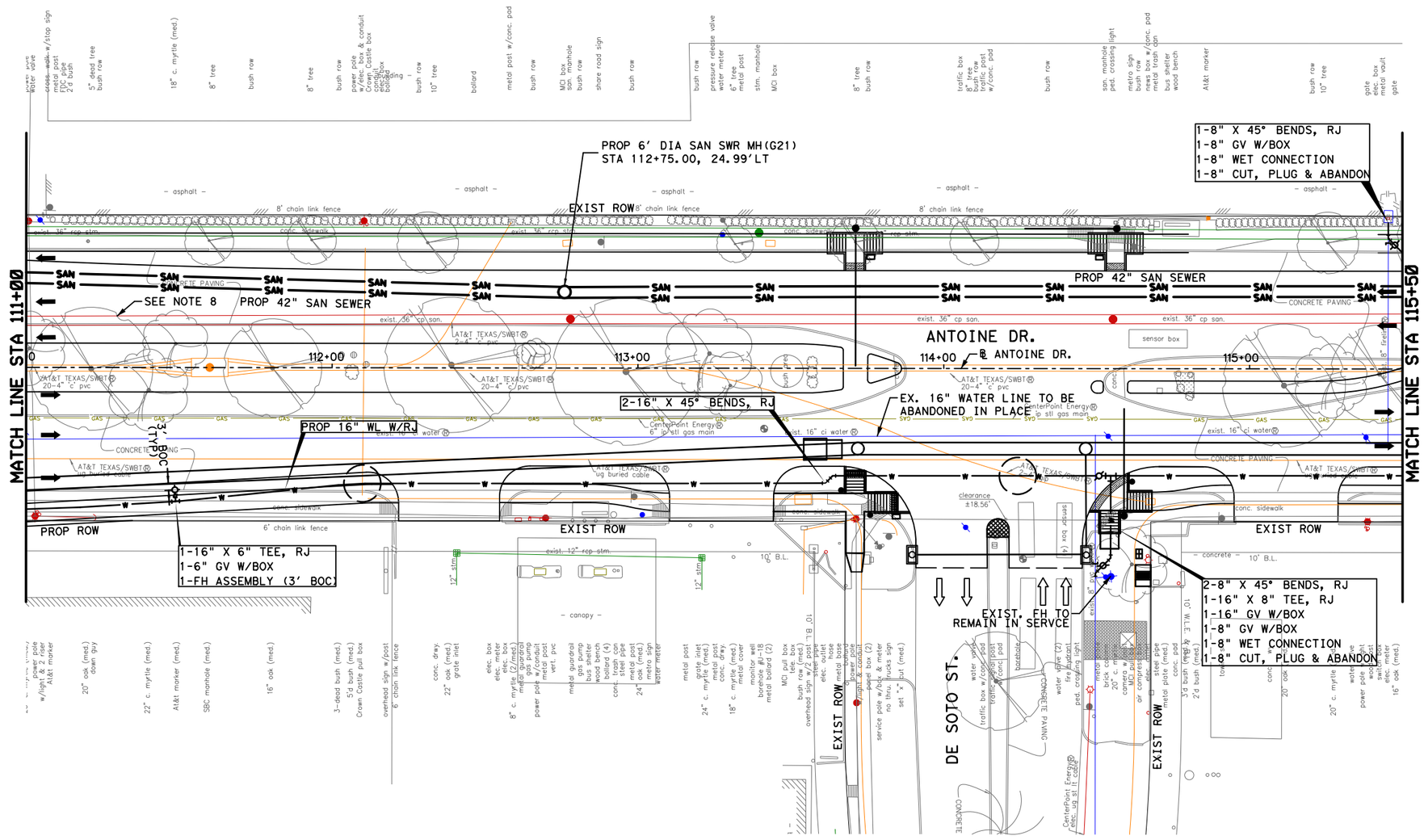
7. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.

8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.



LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 111+00 TO STA 115+50

SHEET 11 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 573 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:22 PM ddang33

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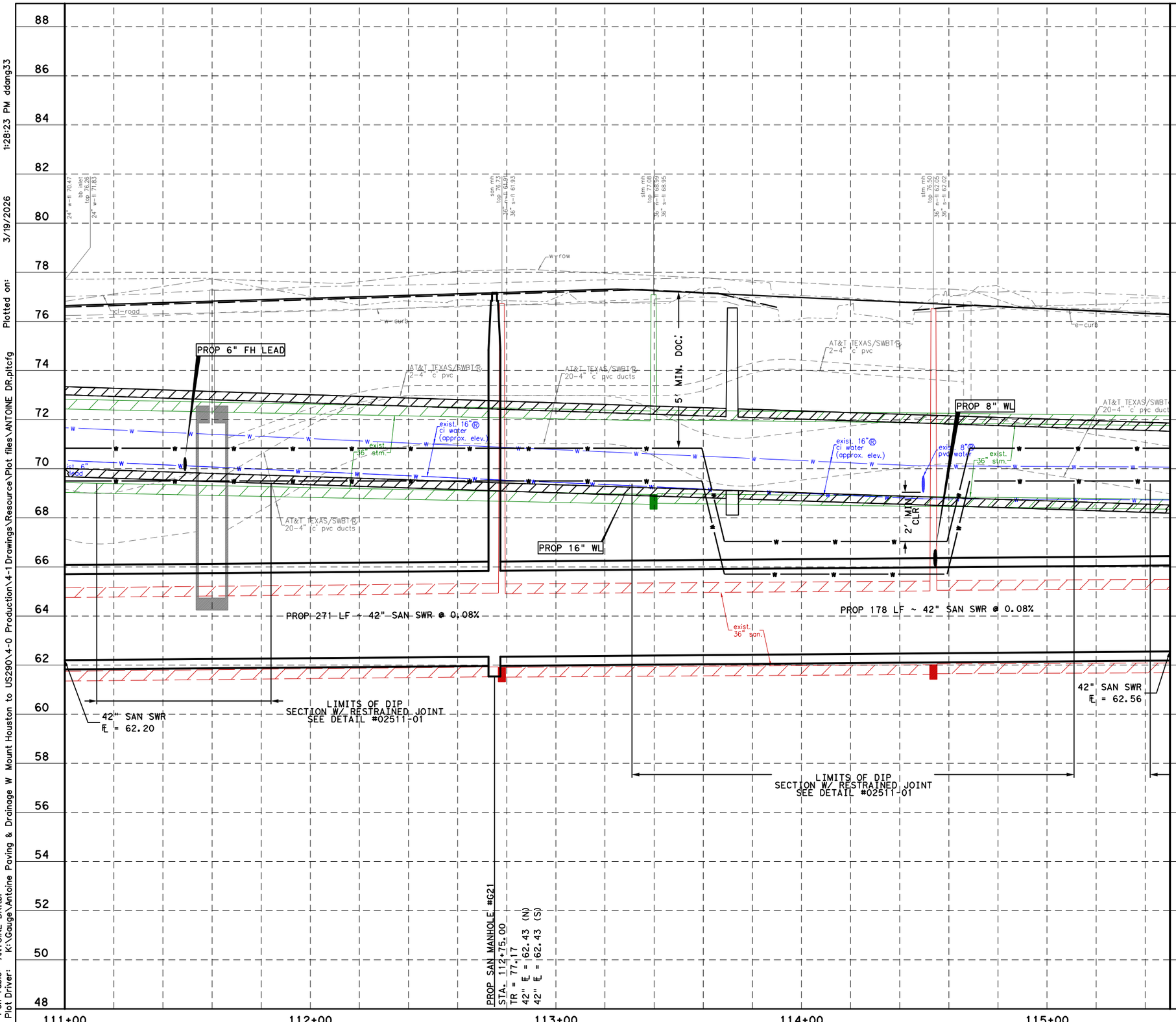

HORZ 0' 20' 40'
VERT 0' 2' 4'
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Engineer
60253
02/27/2026
Date
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 111+00 TO STA 115+50

SHEET 12 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 574 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\12 PF_WTR SAN.dgn

Plotted on: 3/19/2026 1:28:23 PM ddang33

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg

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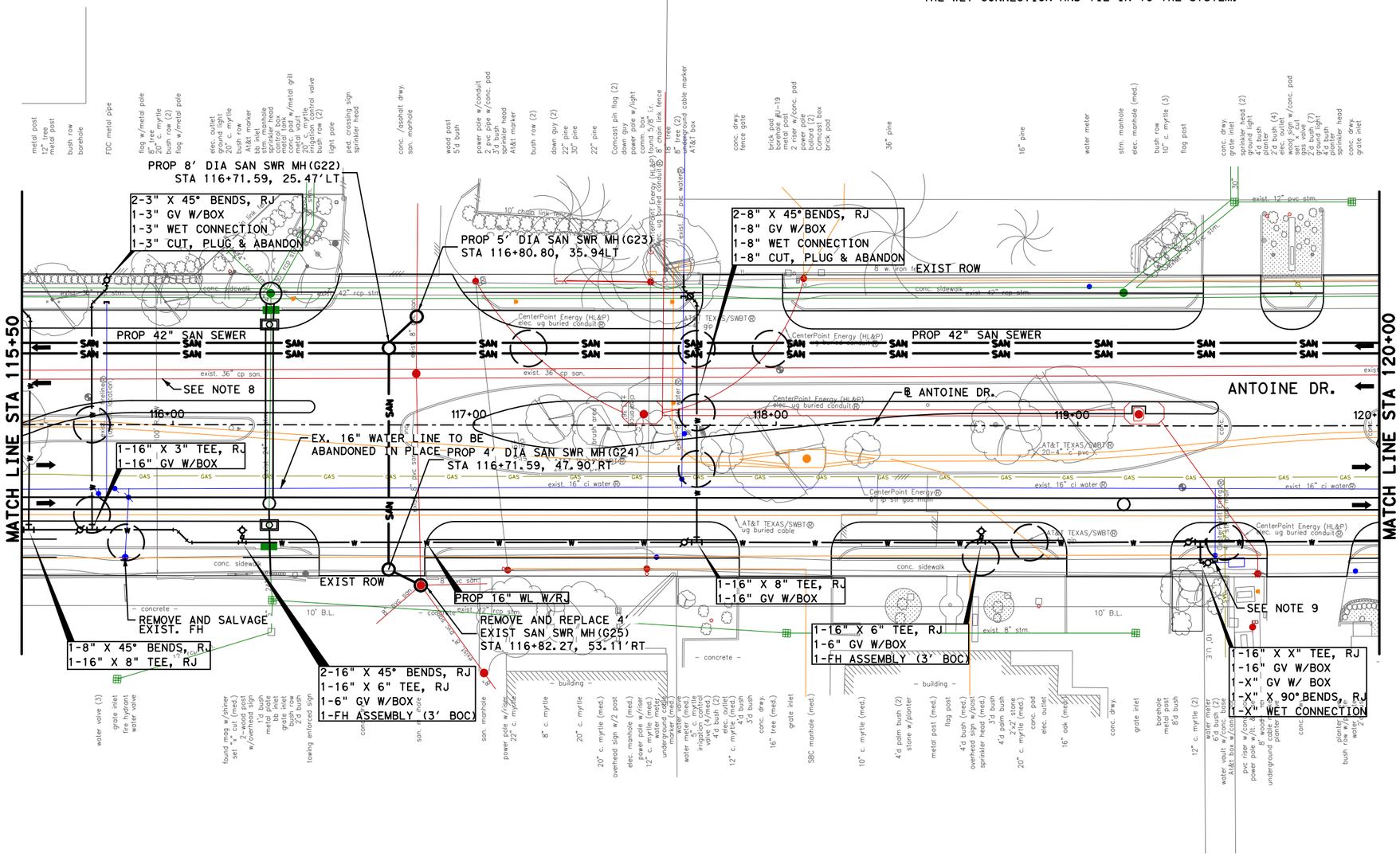
8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

9. CONTRACTOR SHALL FIELD VERIFY THE DIAMETER, MATERIAL, AND LOCATION OF THE EXISTING WATERLINE PRIOR TO PERFORMING THE WET CONNECTION AND TIE-IN TO THE SYSTEM.



LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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no.
90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 115+50 TO STA 120+00

SHEET 13 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 575 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:24 PM ddang33

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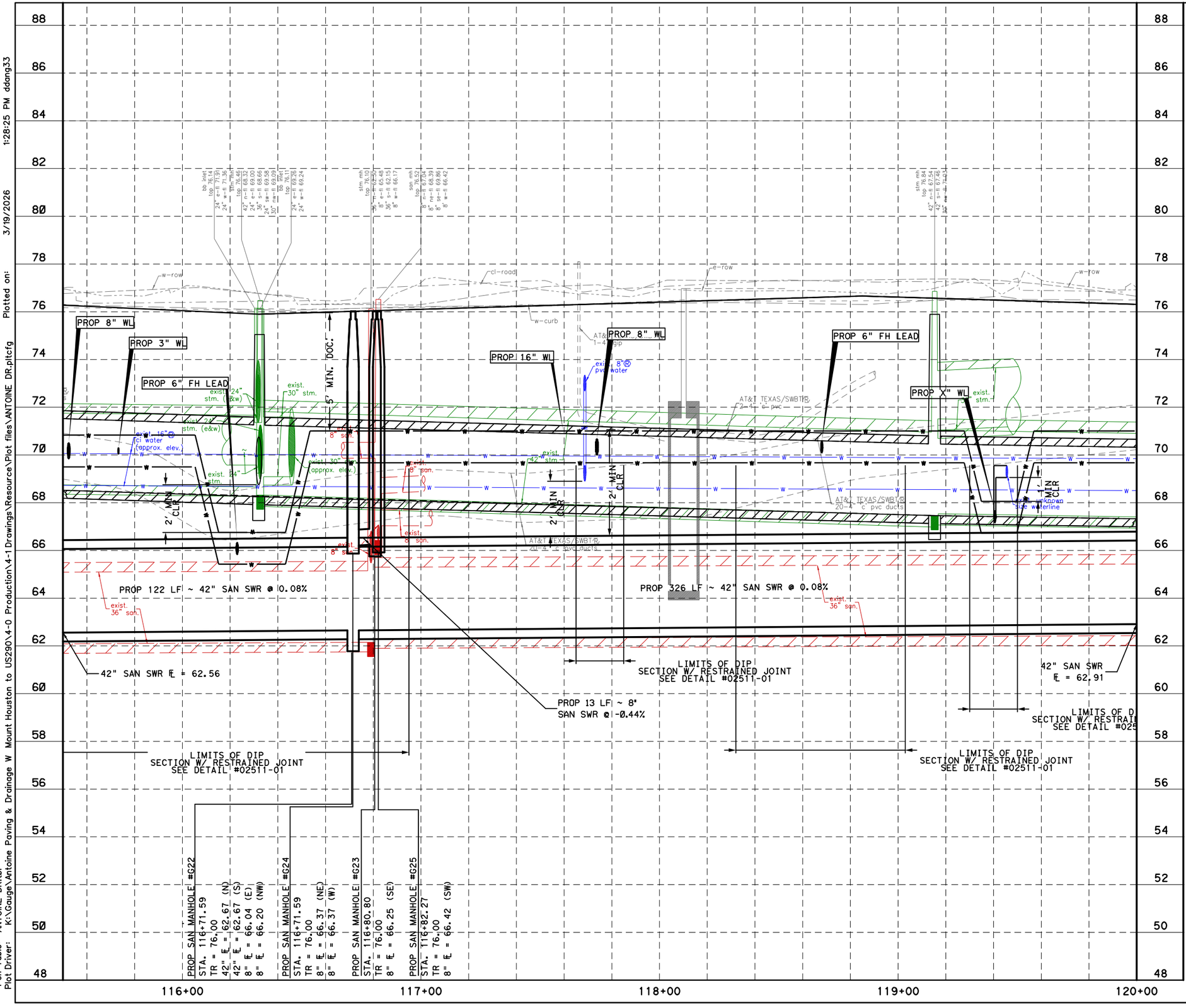

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 115+50 TO STA 120+00

SHEET 14 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 576 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg
Plotted on: 3/19/2026 1:28:25 PM ddang33

Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\14 PF_WTR SAN.dgn

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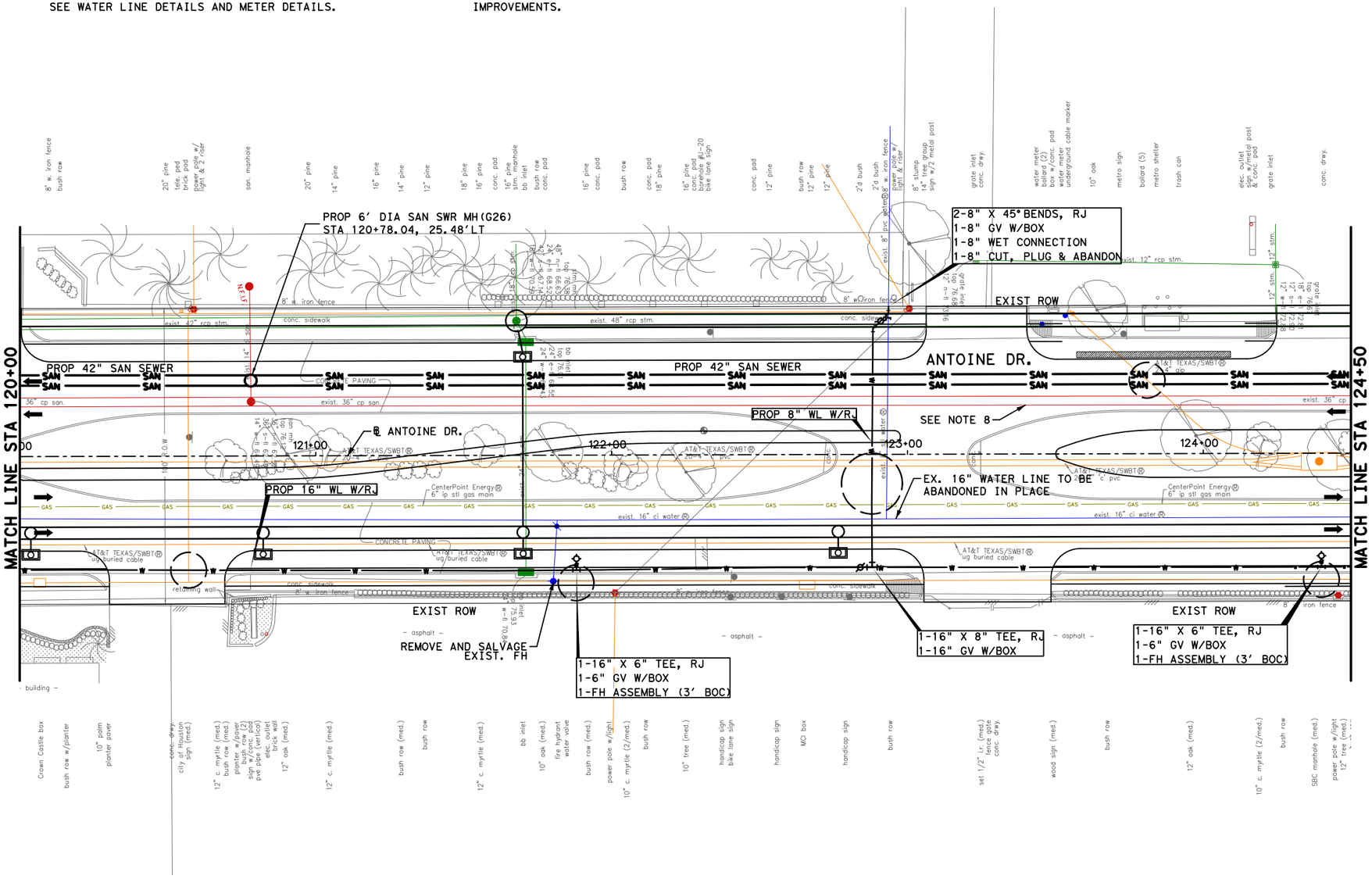

LEGEND

—W—	PROP WATER
—SAN—	PROP SANITARY
— FM —	PROP FORCE MAIN
—W—	EXIST WATER
—SAN—	EXIST SANITARY
	EXIST STORM SEWER
	CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown.) This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

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Approved for AT&T underground conduit facilities only. Signature valid for one year. Date

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Aurora Technical Services, LLC
engineering - construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

SURVEYED BY:
KUO & ASSOCIATES, INC.

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No. 60253
02/27/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 120+00 TO STA 124+50

SHEET 15 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 577 OF 1067	

24' F-F

Pen Table: ANTOINE DR.tbl
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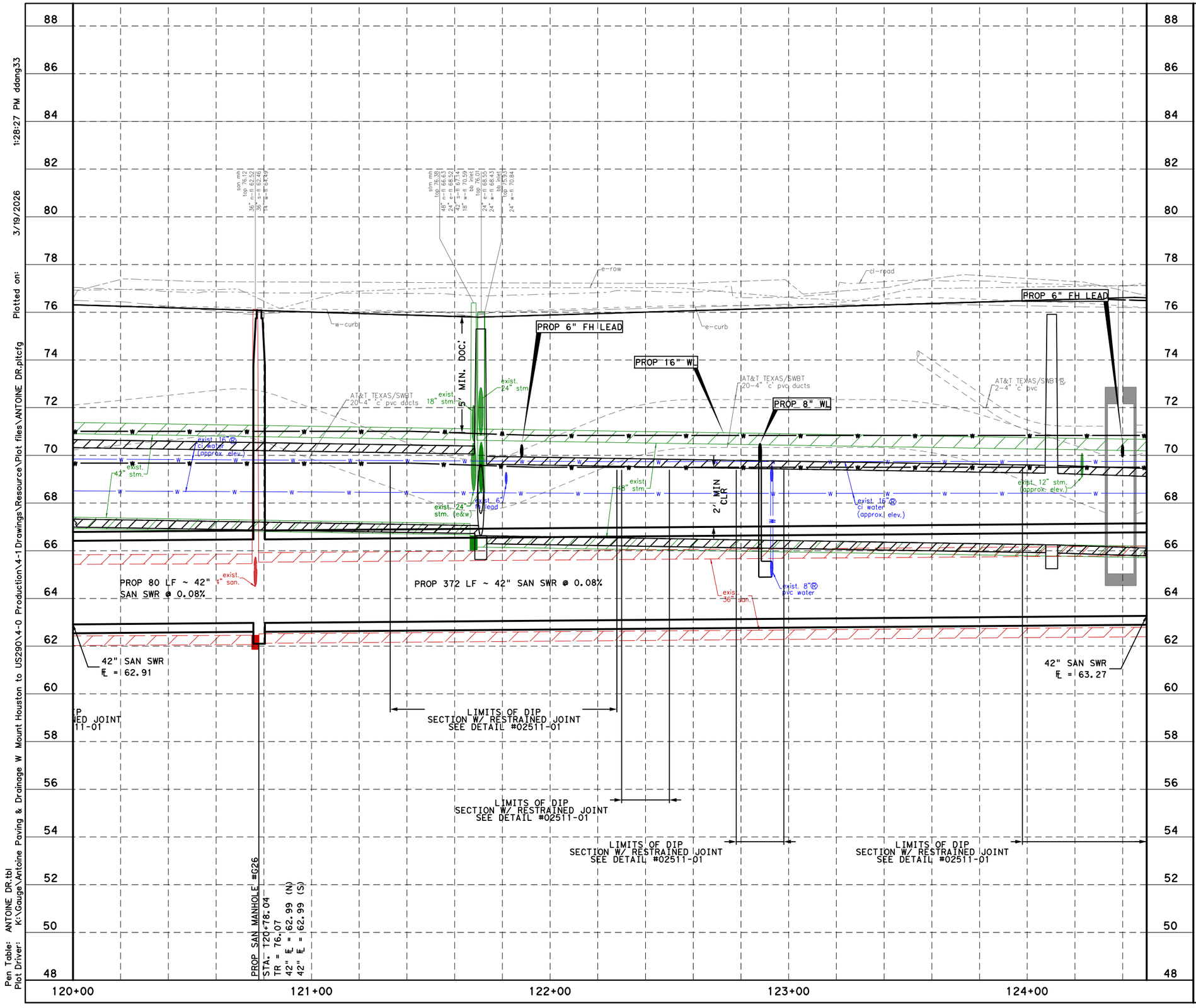

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 120+00 TO STA 124+50

SHEET 16 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 578 OF 1067	

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Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\16 PF_WTR SAN.dgn

GENERAL NOTES:

1. REFER TO PAVING PLAN & PROFILE SHEETS FOR PROP ROADWAY IMPROVEMENTS.

2. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECCESSARY DURING CONSTRUCTION.

3. WATER SERVICE CONNECTION ARE ONLY SHOWN FOR SOME LOCATIONS BUT NOT ALL. CONTRACTOR TO FIELD VERIFY AND RECONNECT ALL WATER SERVICES ALONG PROJECT. SEE WATER LINE DETAILS AND METER DETAILS.

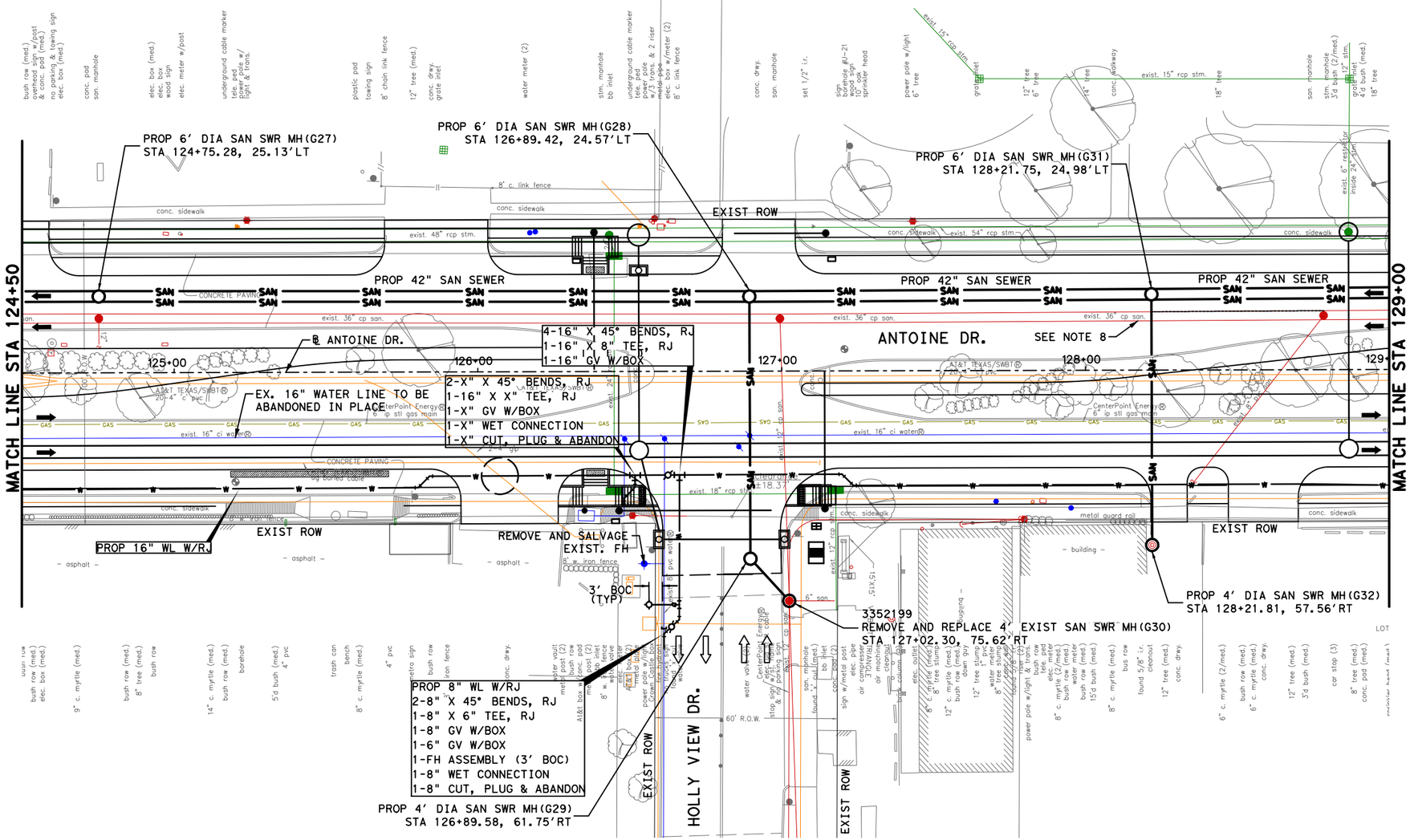
4. CONTRACTOR TO MAINTAIN ACCESS THROUGH PRIVATE DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

6. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR STORM IMPROVEMENTS.

7. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.

8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.



LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 124+50 TO STA 129+00

SHEET 17 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 579 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:27 PM ddang33

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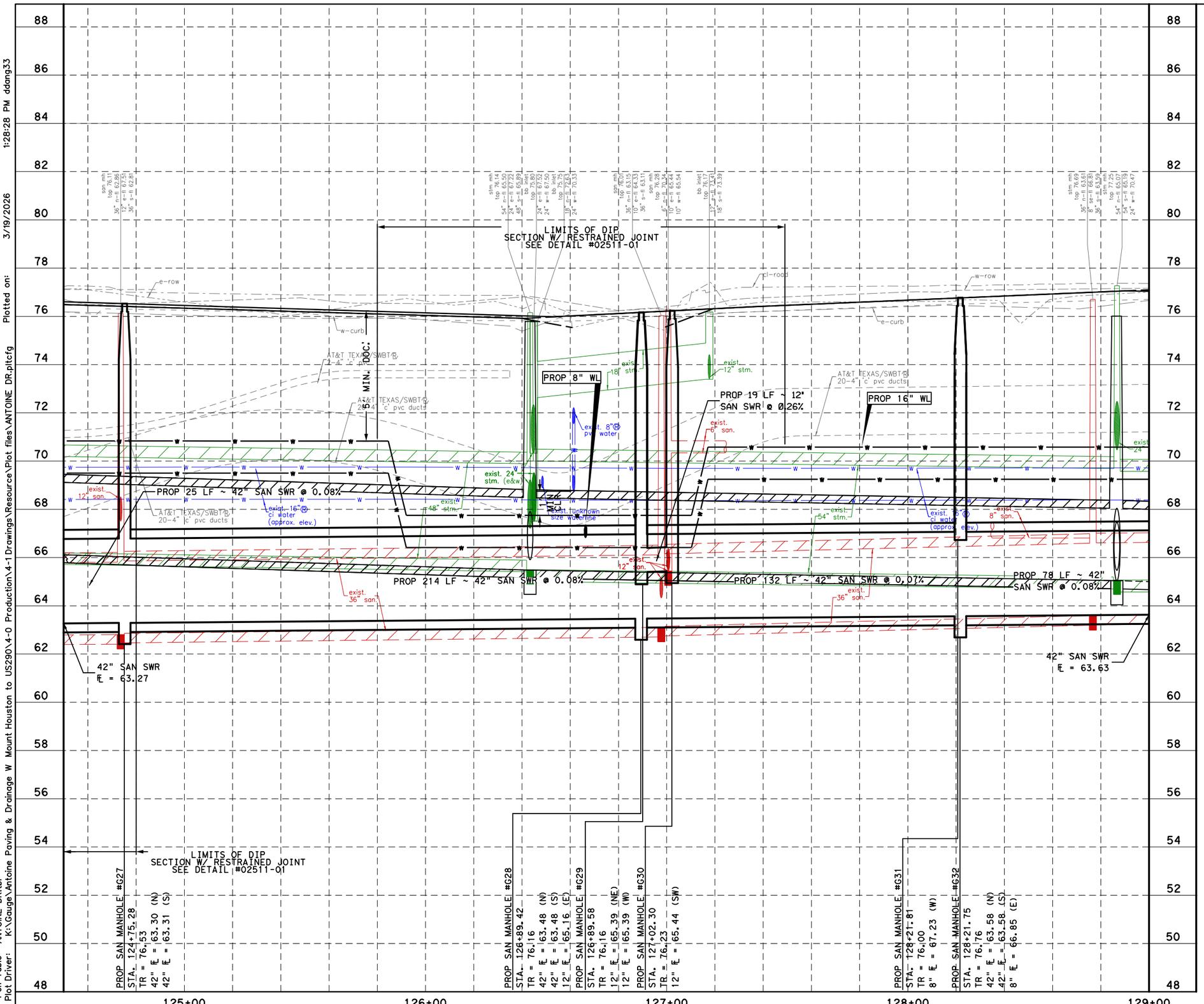

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 124+50 TO STA 129+00

SHEET 18 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 580 OF 1067	

Pen Table: ANTOINE DR.tbl
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Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\18 PF_WTR SAN.dgn

GENERAL NOTES:

1. REFER TO PAVING PLAN & PROFILE SHEETS FOR PROP ROADWAY IMPROVEMENTS.

2. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECCESSARY DURING CONSTRUCTION.

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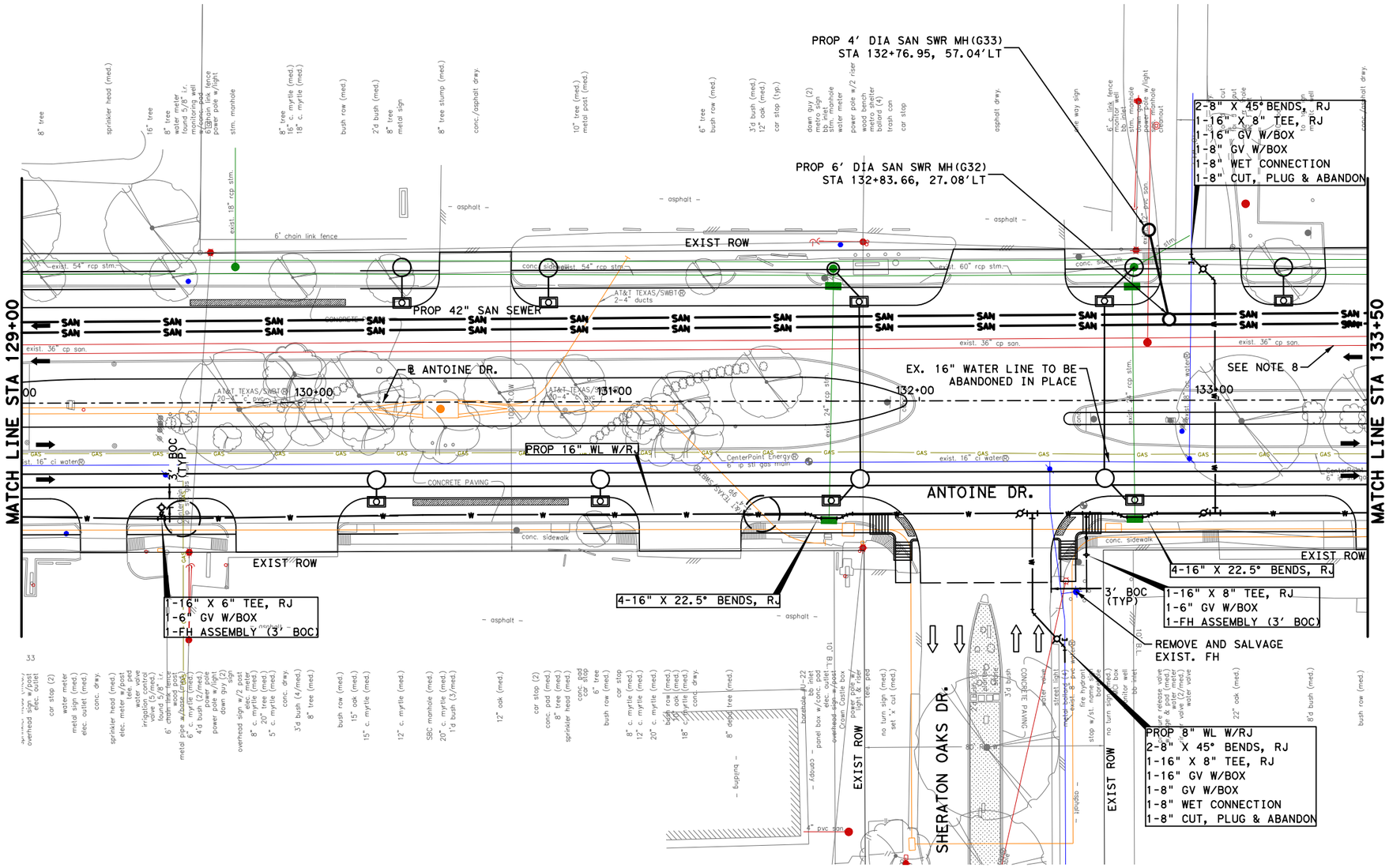
8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

9. WHERE PROPOSED WATERLINE CONFLICTS WITH AN EXISTING INLET, CONTRACTOR SHALL PROVIDE A TEMPORARY INLET OR BYPASS SYSTEM TO CONVEY DRAINAGE WITHOUT INTERRUPTION.



LEGEND

—W— PROP WATER
—SAN— PROP SANITARY
— FM — PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
STA 129+00 TO STA 133+50

SHEET 19 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 581 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:29 PM ddang33

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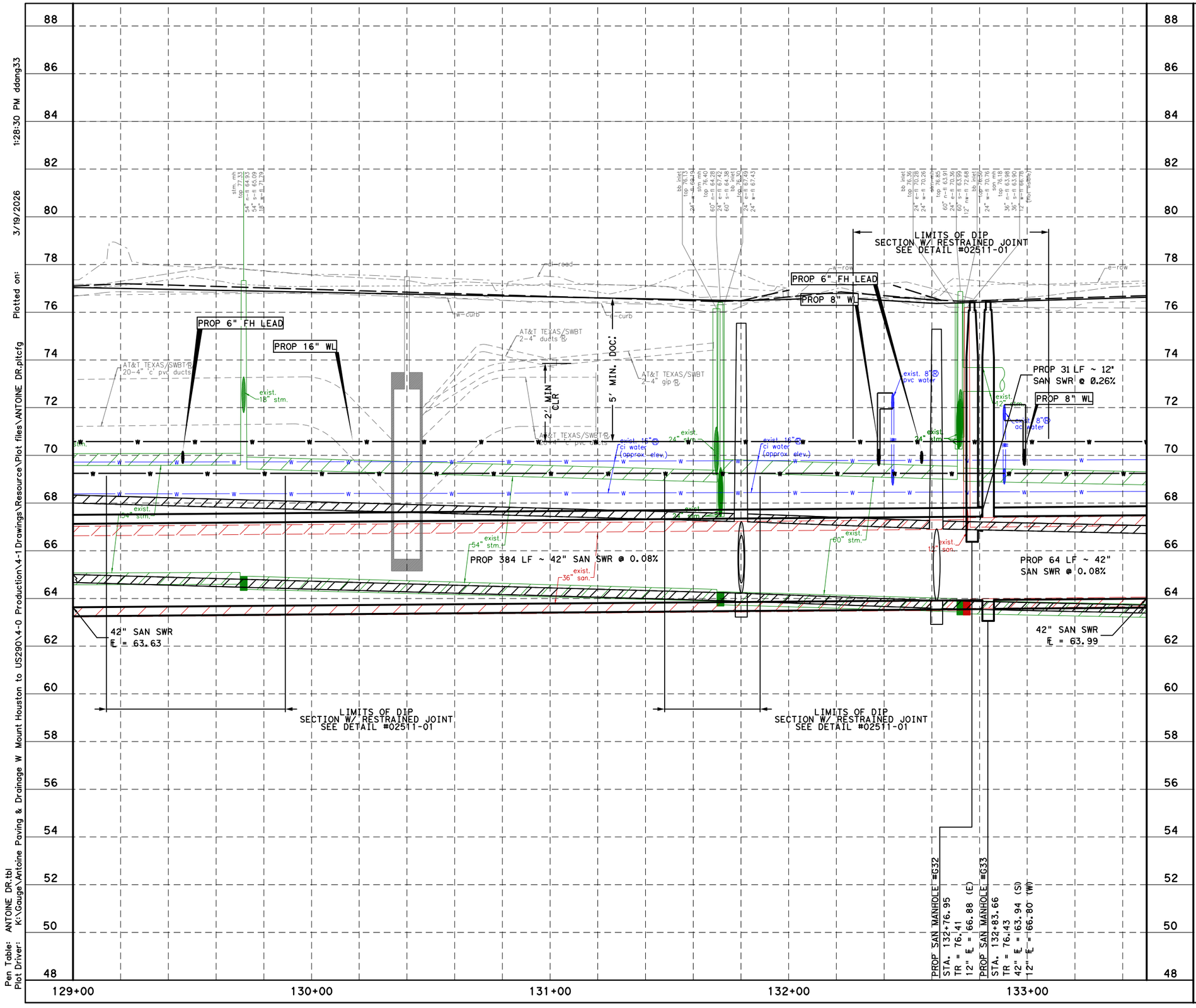

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 129+00 TO STA 133+50

SHEET 20 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 582 OF 1067	

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GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. MAINTAIN WATER SERVICE TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURIGN CONSTRUCTION.
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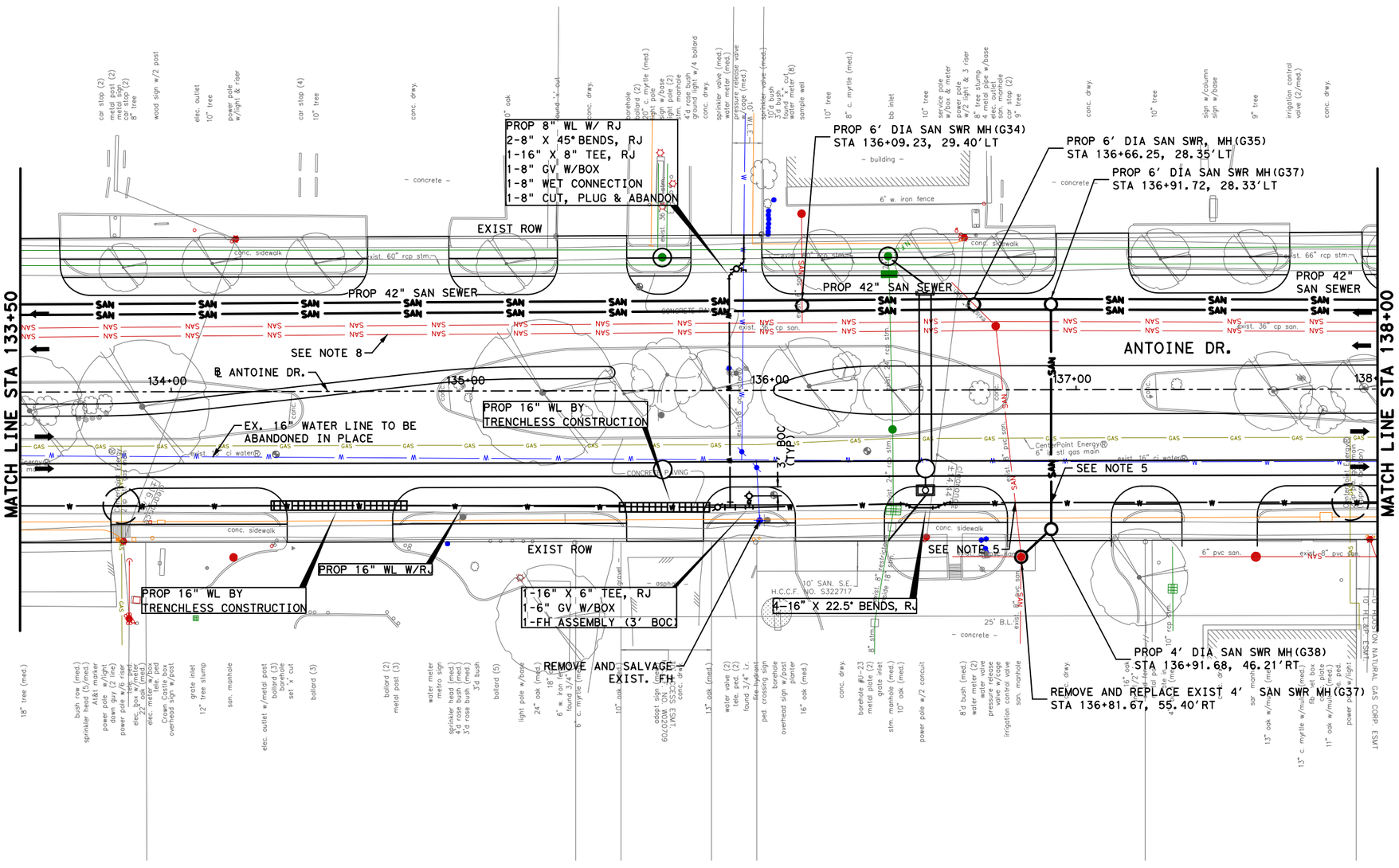
8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.
9. WHERE PROPOSED WATERLINE CONFLICTS WITH AN EXISTING INLET, CONTRACTOR SHALL PROVIDE A TEMPORARY INLET OR BYPASS SYSTEM TO CONVEY DRAINAGE WITHOUT INTERRUPTION.

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317



0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 133+50 TO STA 138+00

SHEET 21 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO: 583 OF 1067	

No.	DATE	REVISIONS	APP:

Pen Table: ANTOINE DR.tbl
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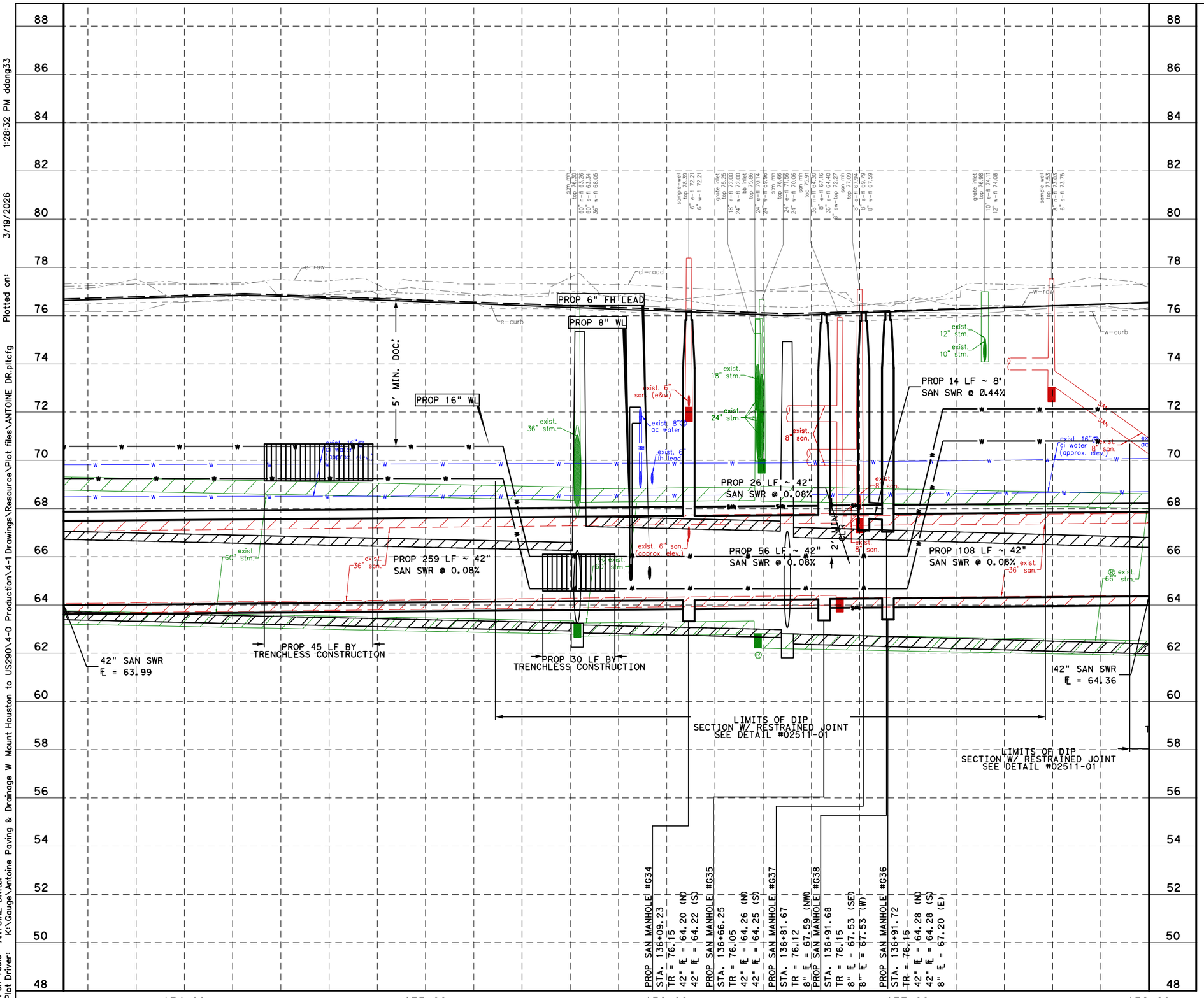

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 133+50 TO STA 138+00

SHEET 22 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 584 OF 1067	

Pen Table: ANTOINE DR.tbl
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Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\22 PF_WTR SAN.dgn

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
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- —SAN— PROP SANITARY
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- —W— EXIST WATER
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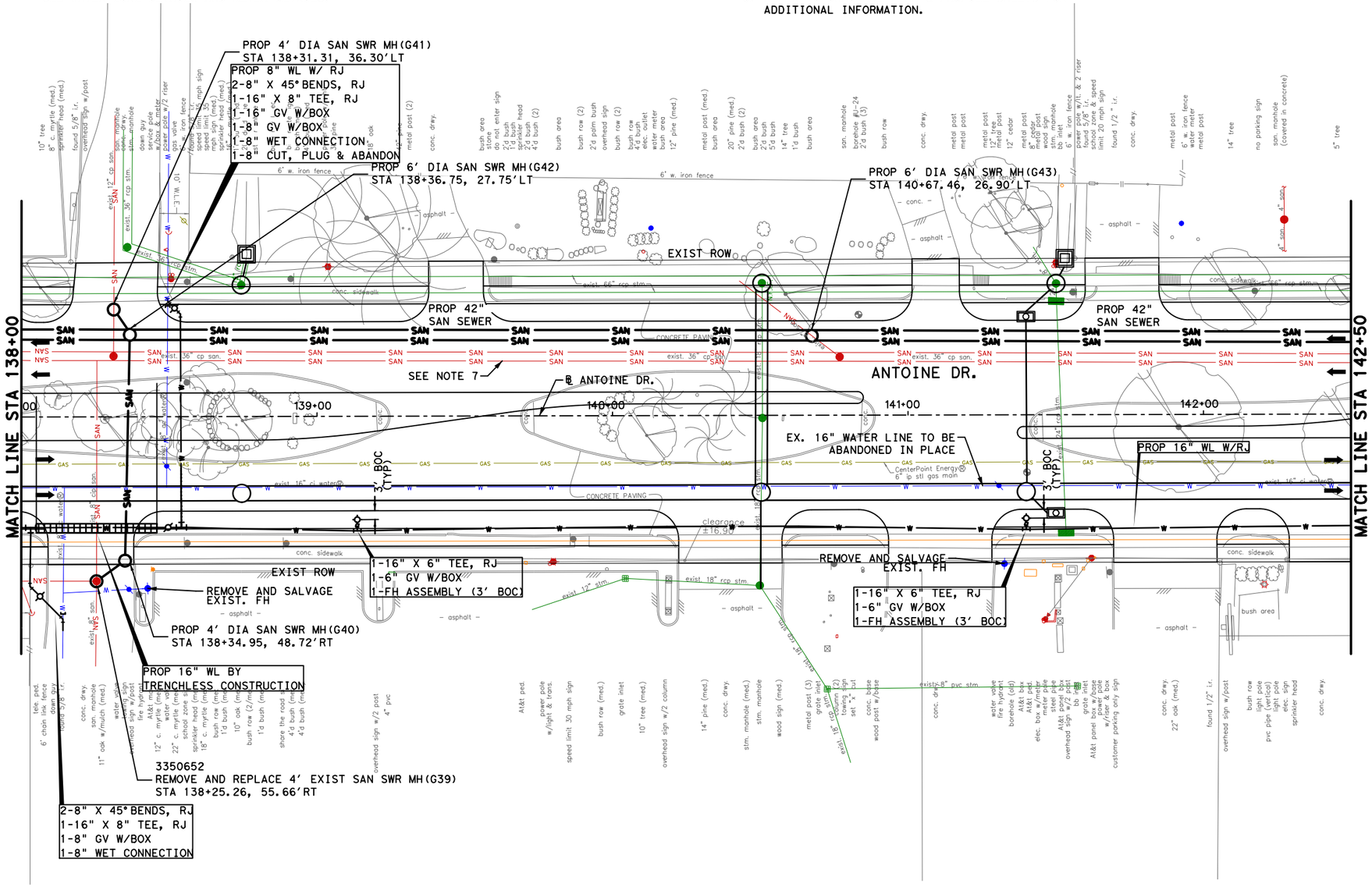
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317



0' 20' 40'
SCALE IN FEET

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Aurora Technical Services, LLC
engineering - construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 138+00 TO STA 142+50

SHEET 23 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 585 (OF 1067)	

No.	DATE	REVISIONS	APP.

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:33 PM ddang33

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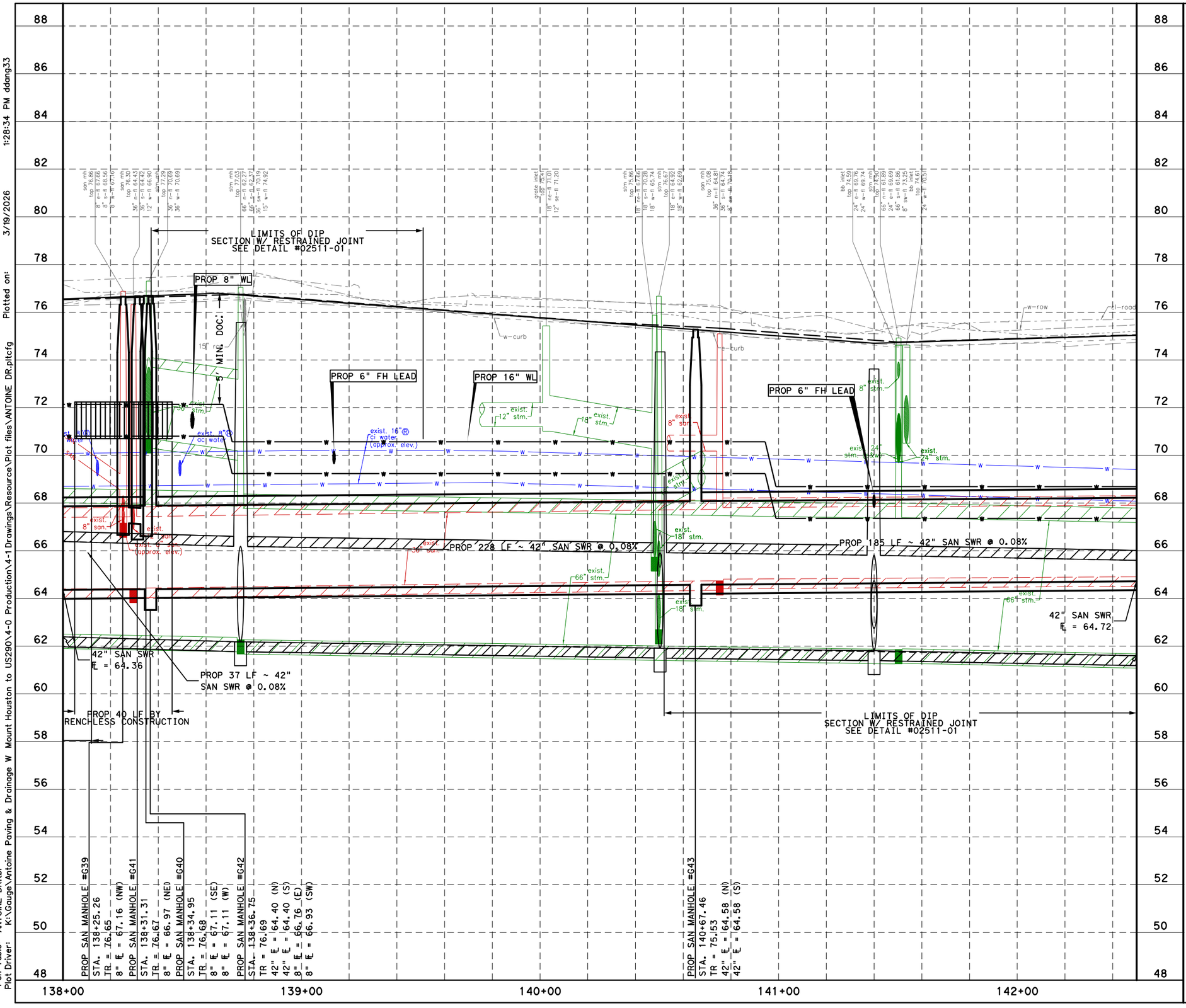

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 138+00 TO STA 142+50

SHEET 24 OF 47

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	586 OF 1067

FOR CITY OF HOUSTON USE ONLY

Pen Table: ANTOINE DR.tbl
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Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\24 PF_WTR SAN.dgn

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. MAINTAIN WATER SERVICE TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURIGN CONSTRUCTION.

3. WATER SERVICE CONNECTION ARE ONLY SHOWN FOR SOME LOCATIONS BUT NOT ALL. CONTRACTOR TO FIELD VERIFY AND RECONNECT ALL WATER SERVICES ALONG PROJECT. SEE WATER LINE DETAILS AND METER DETAILS.

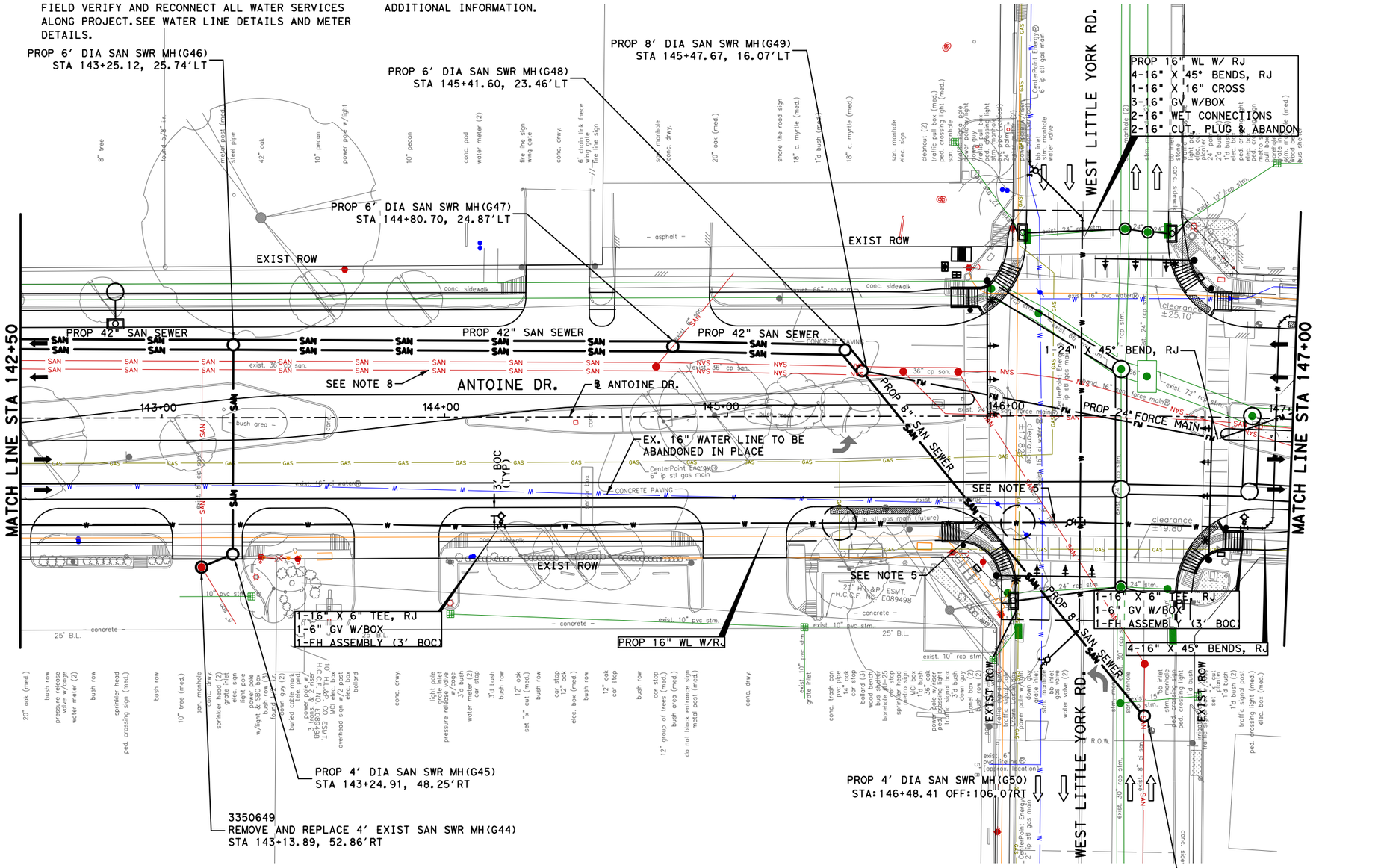
4. CONTRACTOR TO MAINTAIN ACCESS THROUGH PRIVATE DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WTIH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACE AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

6. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

7. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.

8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.



LEGEND

—W— PROP WATER
—SAN— PROP SANITARY
— FM — PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 142+50 TO STA 147+00

SHEET 25 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 587 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:35 PM ddang33

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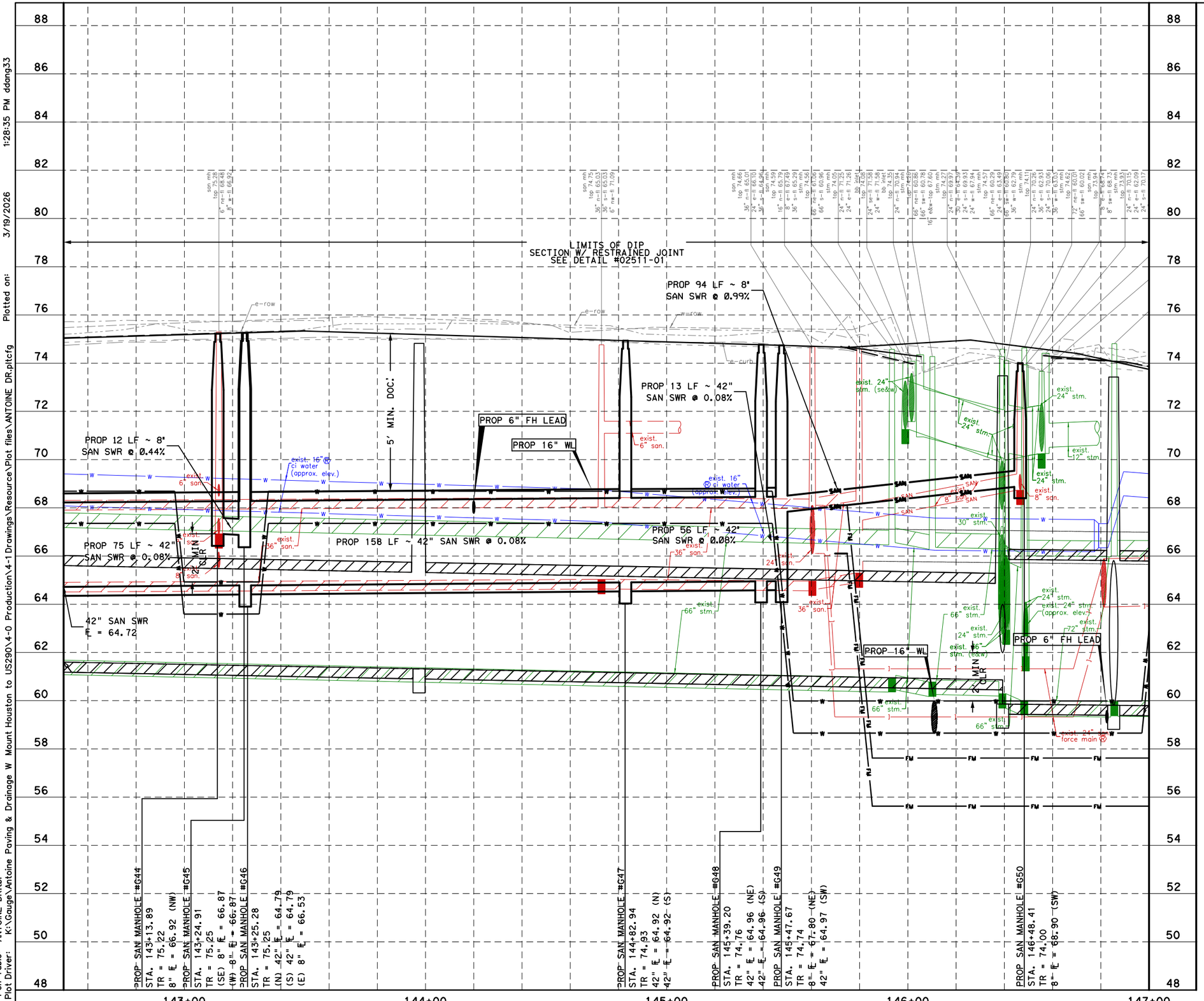

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Engineer
60253
02/27/2026
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90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 142+50 TO STA 147+00

SHEET 26 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 588 OF 1067	

No.	DATE	REVISIONS	APP.

Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\26 PF_WTR SAN.dgn

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GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. MAINTAIN WATER SERVICE TO ALL CUSTOMERS, FIRE HYDRANTS AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURIGN CONSTRUCTION.

3. WATER SERVICE CONNECTION ARE ONLY SHOWN FOR SOME LOCATIONS BUT NOT ALL. CONTRACTOR TO FIELD VERIFY AND RECONNECT ALL WATER SERVICES ALONG PROJECT. SEE WATER LINE DETAILS AND METER DETAILS.

4. CONTRACTOR TO MAINTAIN ACCESS THROUGH PRIVATE DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WTIH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACE AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

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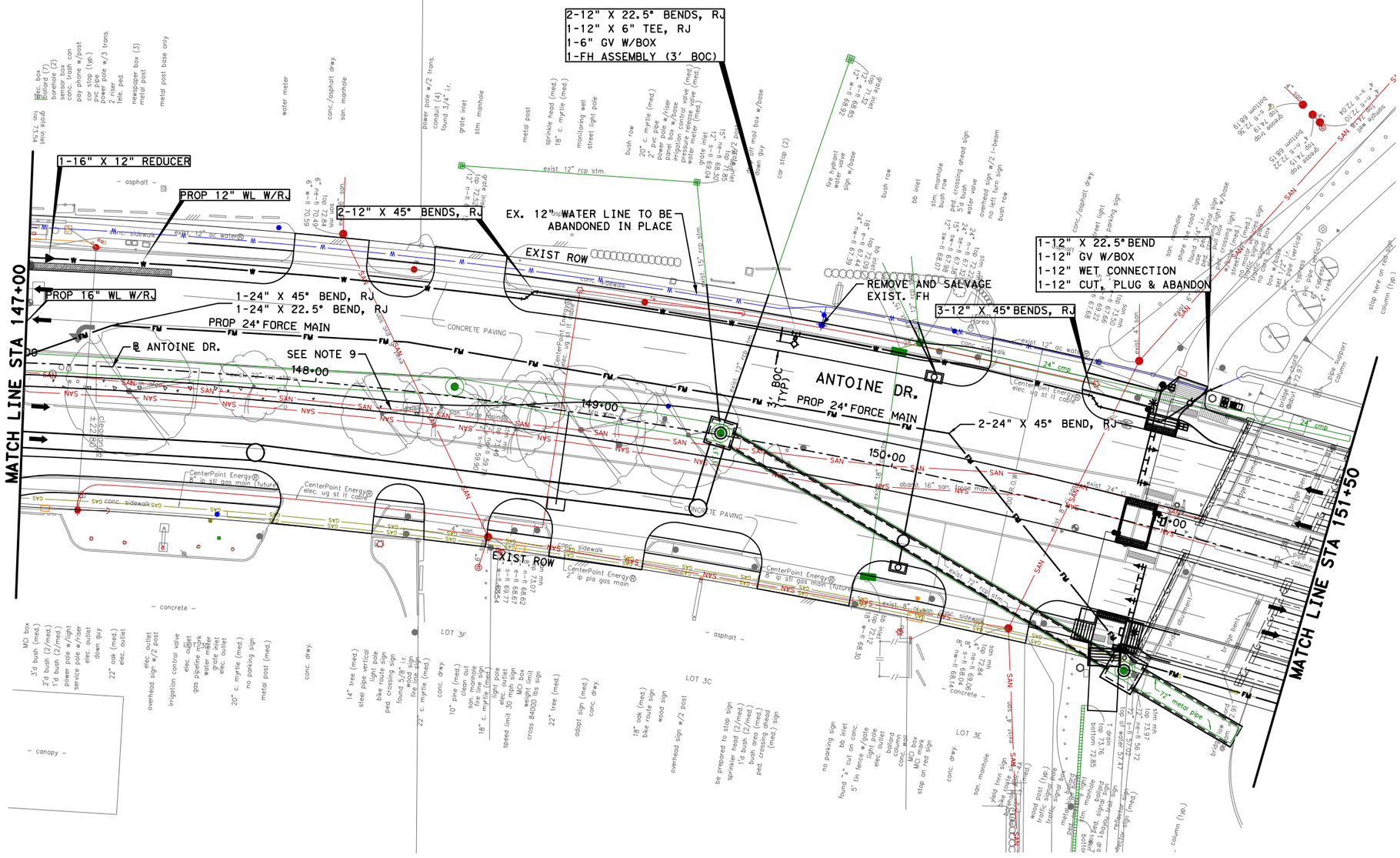
7. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT INTERVAL.

8. ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH SPECIFICATION SECTION 02222.

9. WHERE PROPOSED WATERLINE CONFLICTS WITH AN EXISTING INLET, CONTRACTOR SHALL PROVIDE A TEMPORARY INLET OR BYPASS SYSTEM TO CONVEY DRAINAGE WITHOUT INTERRUPTION.

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317



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SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 147+00 TO STA 151+50

SHEET 27 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 589 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:36 PM ddang33

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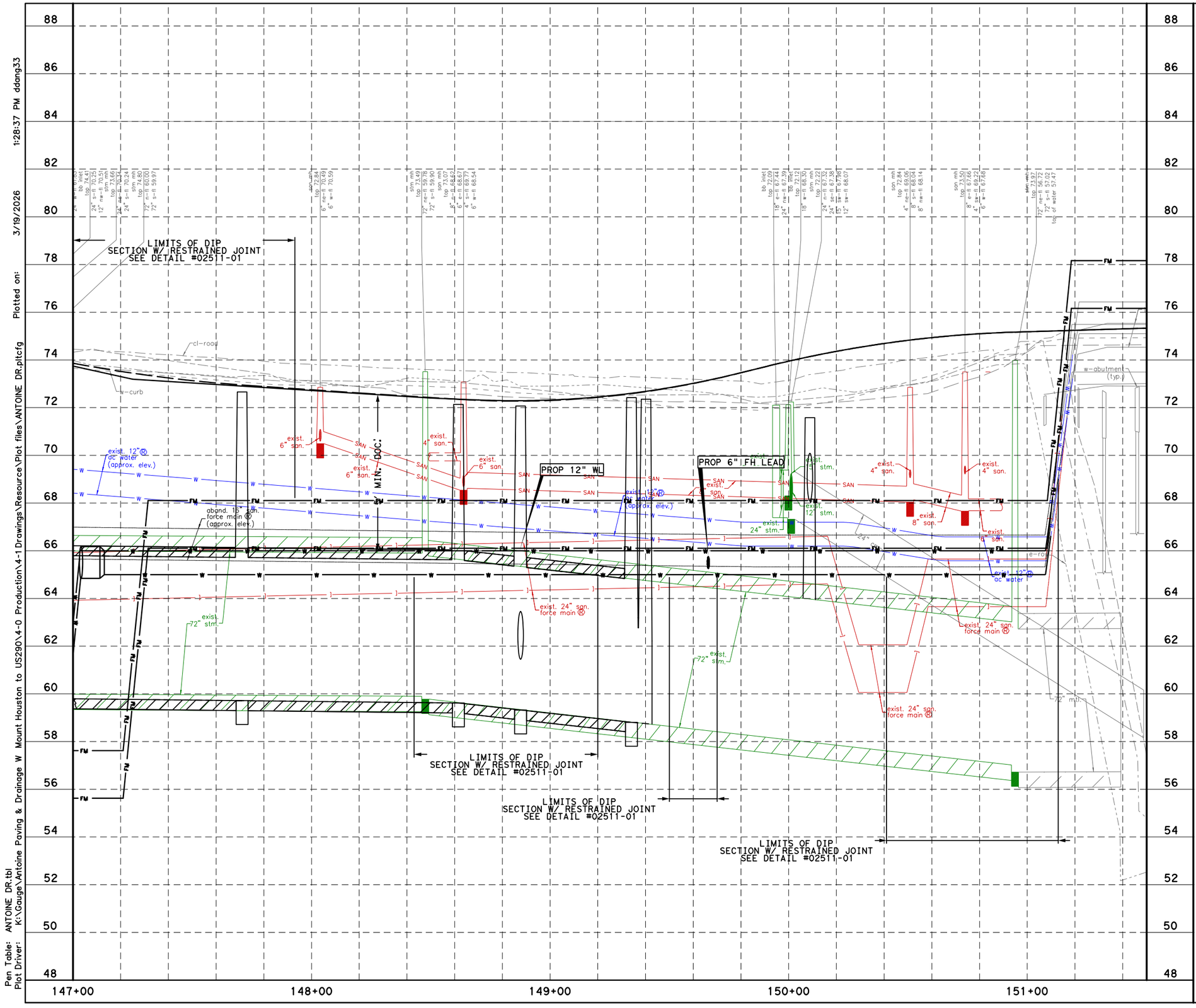

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE STA 147+00 TO STA 151+50

SHEET 28 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 590 OF 1067	

Pen Table: ANTOINE DR.tbl
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Plotted on: 3/19/2026 1:28:37 PM ddang33
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GENERAL NOTES:

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3. WATER SERVICE CONNECTION ARE ONLY SHOWN FOR SOME LOCATIONS BUT NOT ALL. CONTRACTOR TO FIELD VERIFY AND RECONNECT ALL WATER SERVICES ALONG PROJECT. SEE WATER LINE DETAILS AND METER DETAILS.

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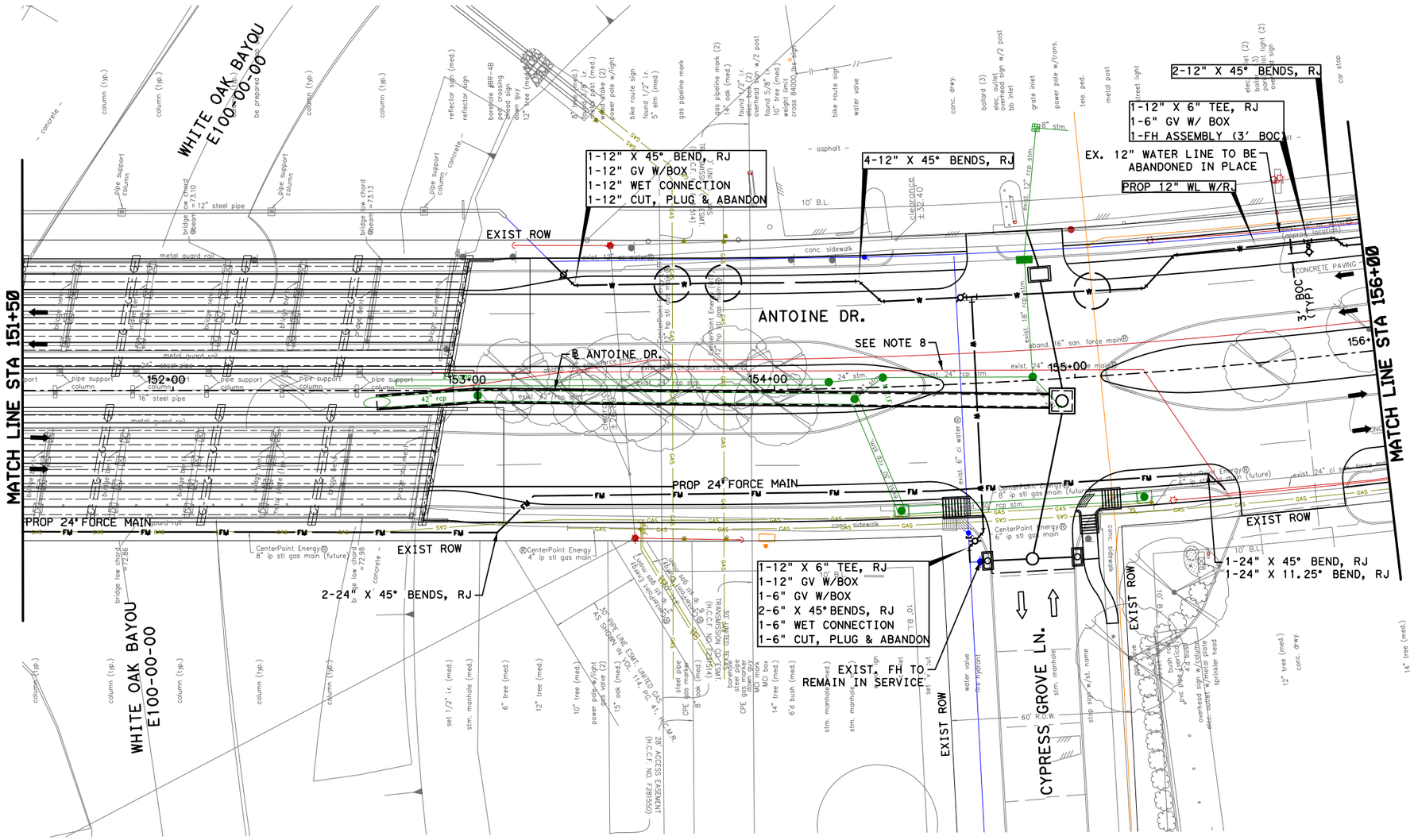

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

No.	DATE	REVISIONS	APP:

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN STA 151+50 TO STA 156+00

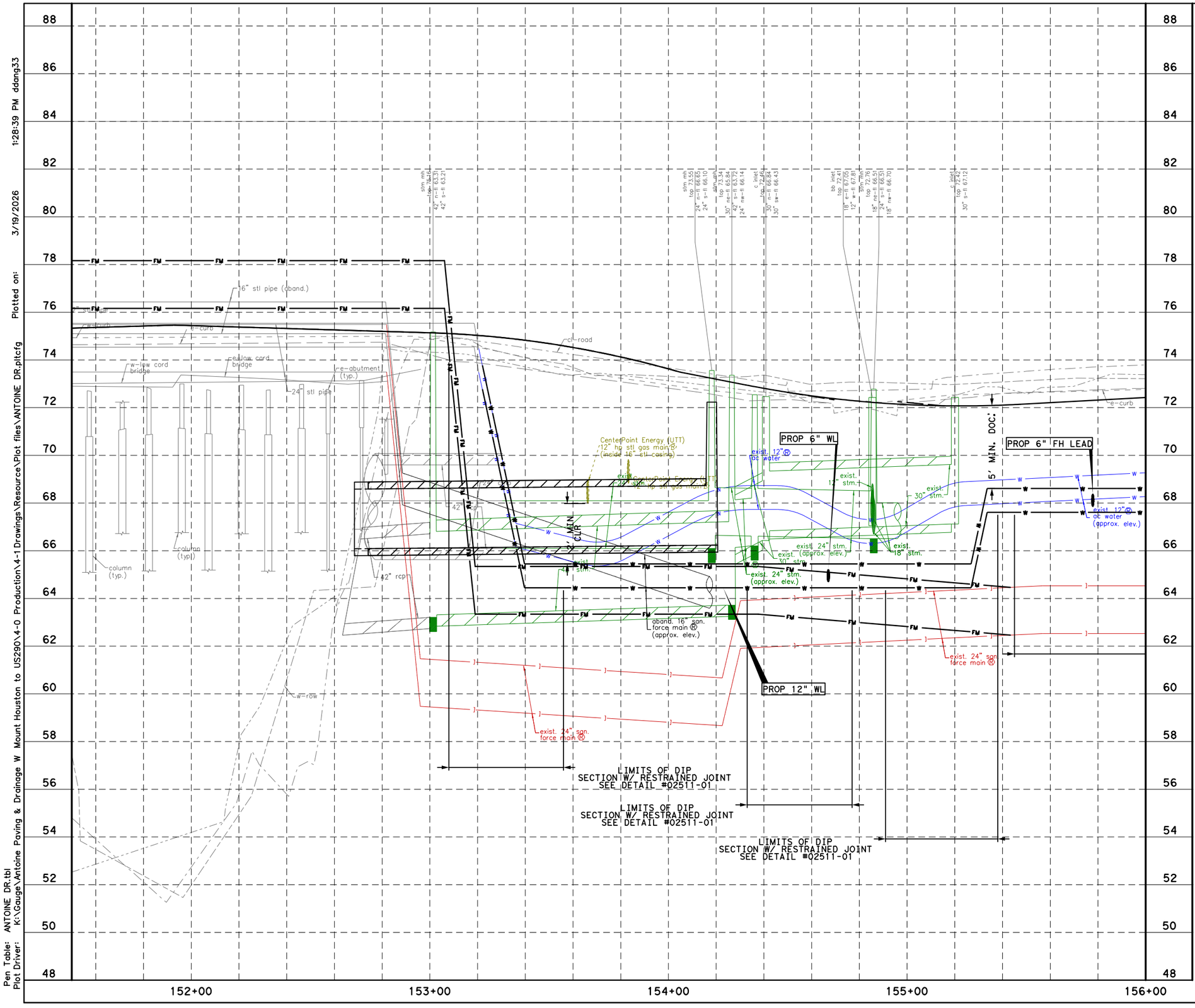
SHEET 29 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 591 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:38 PM ddang33

Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\29 PR_WTR SAN.dgn

Plotted on: 3/19/2026 1:28:39 PM ddang33
Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg
Design Filename: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\DGN Sheet Set\30 PF_WTR SAN.dgn



No.	DATE	REVISIONS	APP.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
STA 151+50 TO STA 156+00

SHEET 30 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 592 OF 1067	

GENERAL NOTES:

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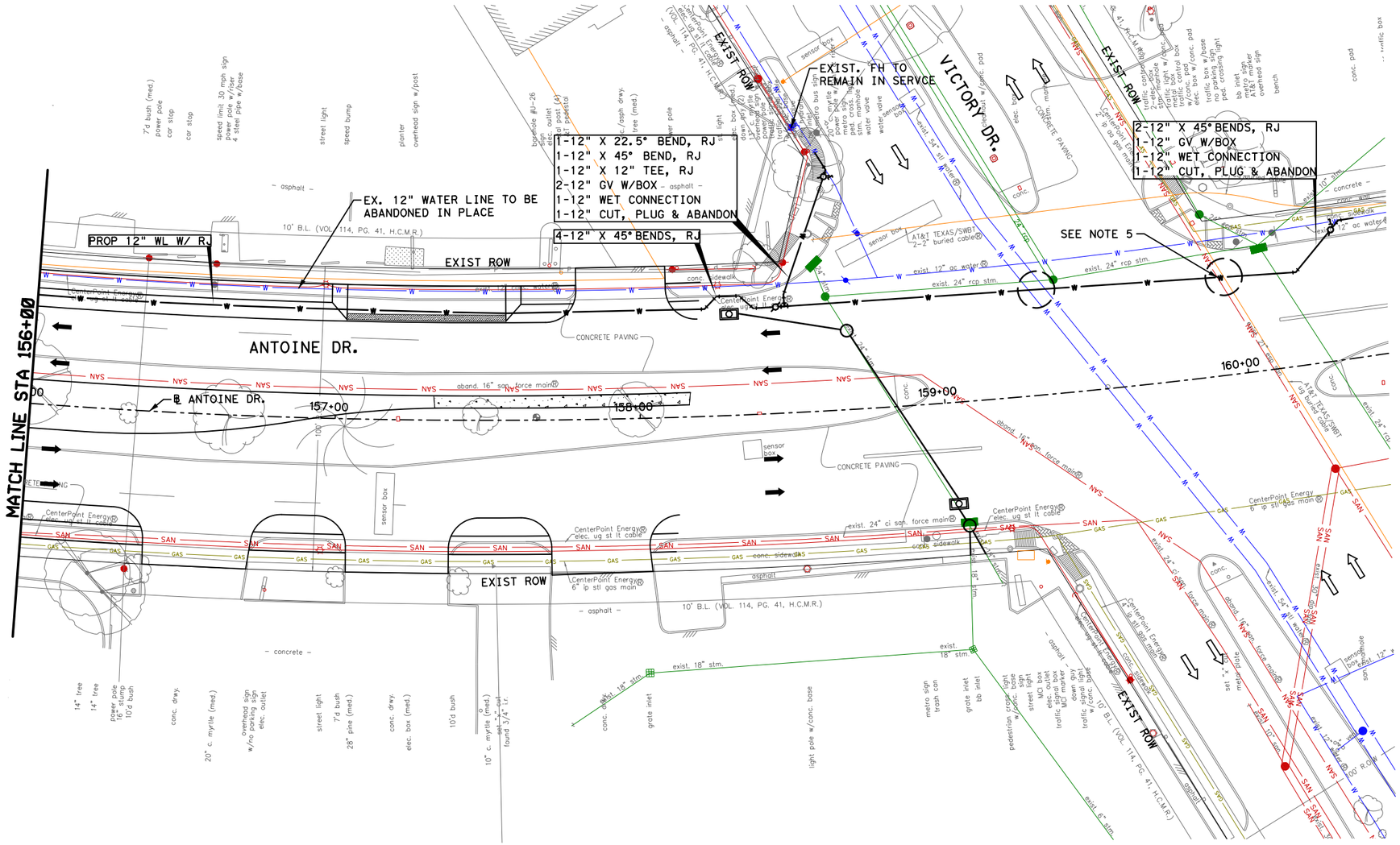
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317


MATCH LINE STA 156+00
PROP 12" WL W/ RJ
EX. 12" WATER LINE TO BE ABANDONED IN PLACE
1-12" X 22.5° BEND, RJ
1-12" X 45° BEND, RJ
1-12" X 12" TEE, RJ
2-12" GV W/BOX
1-12" WET CONNECTION
1-12" CUT, PLUG & ABANDON
4-12" X 45° BENDS, RJ
EXIST. FH TO REMAIN IN SERVCE
2-12" X 45° BENDS, RJ
1-12" GV W/BOX
1-12" WET CONNECTION
1-12" CUT, PLUG & ABANDON
SEE NOTE 5
EXIST ROW
VICTORY DR.
ANTOINE DR.
℄ ANTOINE DR.
157+00
158+00
159+00
160+00
10' B.L. (VOL. 114, PG. 41, H.C.M.R.)
CONCRETE PAVING
aband. 16" san. force main
exist. 24" ci san. force main
exist. 18" stm.
exist. 12" ac water
exist. 24" rcp stm.
CenterPoint Energy 6" ip stl gas main
CenterPoint Energy elec. ug st lt cable
AT&T TEXAS/SWBT 2-2" buried cable
sensor box
grate inlet
bb inlet
light pole w/conc. base
metro sign
trash can
pedestrian crossing light w/conc. base
street light
MCI box
elec. outlet
traffic signal box
down guy
traffic signal light w/conc. base
set ⅝" metal rod
exist. 6" stm.
asphalt
concrete
conc. sidewalk
conc. driveway
conc. pad
curb inlet
14" tree
power pole
16" stump
10'd bush
20" c. myrtle (med.)
overhead sign w/no parking sign elec. outlet
street light
7'd bush
28" pine (med.)
elec. box (med.)
10" c. myrtle (med.)
found 3/4" i.r.
7'd bush (med.)
car stop
speed limit 30 mph sign
planter
overhead sign w/post
bench
bb inlet
metro sign
trash can
no parking sign
ped. crossing sign
traffic box w/base
traffic control box
traffic light
traffic signal pole w/ped. pole
traffic control box w/conc. pad
w/dc box w/conc. pad
sign
traffic box w/base
bollard
sign
w/conc. pad
sign
w/conc. pad
sign
w/conc. pad

Plotted on: 3/19/2026 1:28:40 PM ddang33
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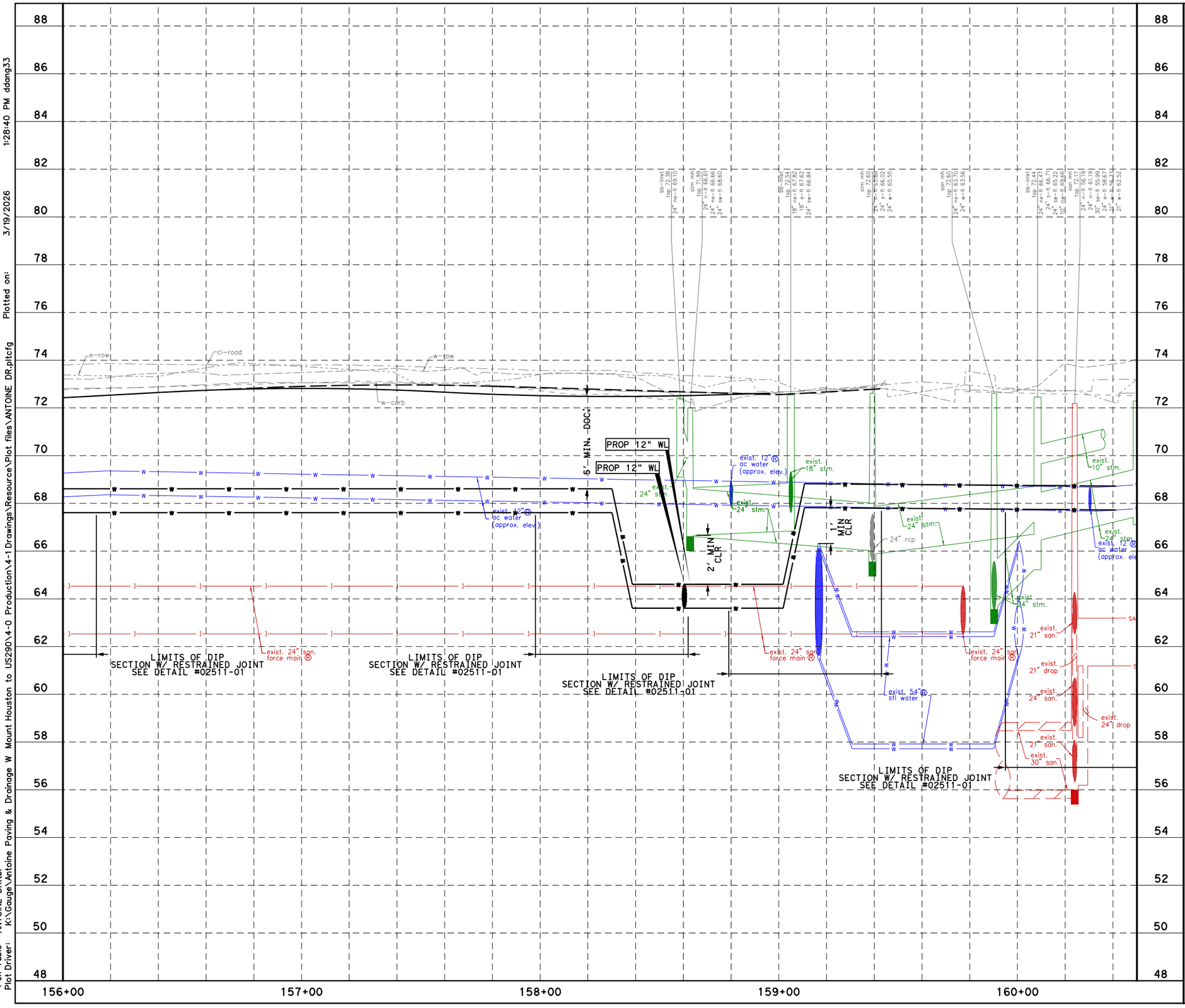

No.	DATE	REVISIONS	APP.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown.) This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Signature Date
valid for one year.

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Aurora Technical Services, LLC
engineering — construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

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Texas
60253
02/27/2026
Date
90% SUBMITTAL

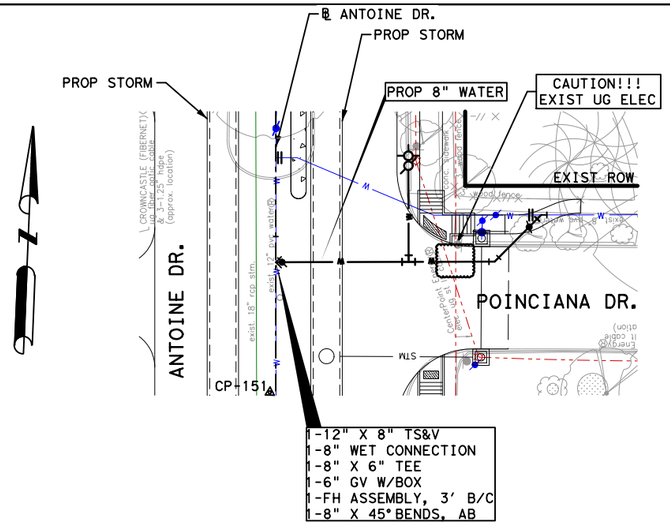
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

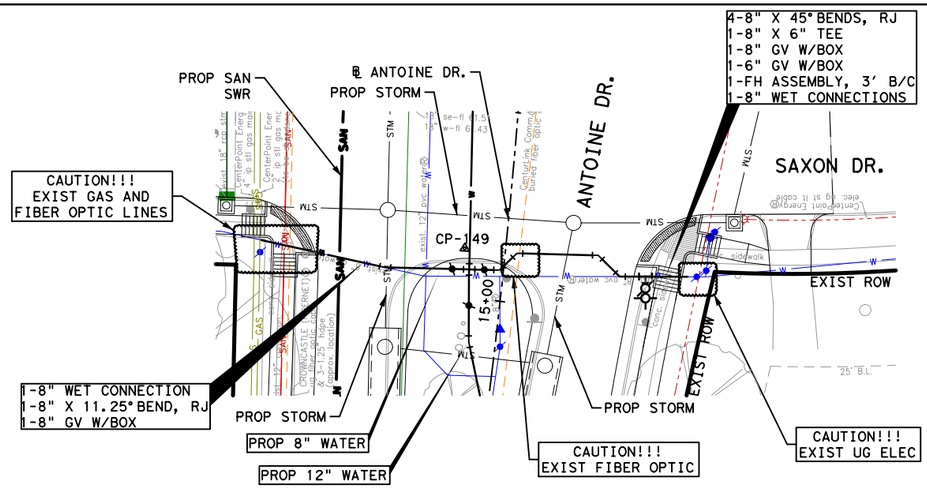
WATER AND SANITARY PROFILE
STA 156+00.00 TO END PROJECT

SHEET 32 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 594 OF 1067	



ANTOINE STA 9+43



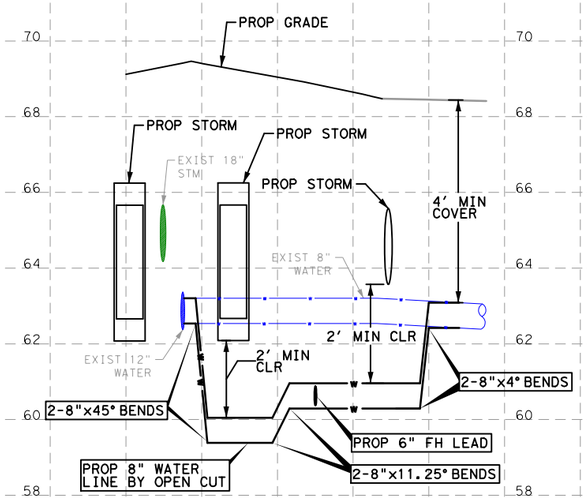
ANTOINE STA 15+06

LEGEND:

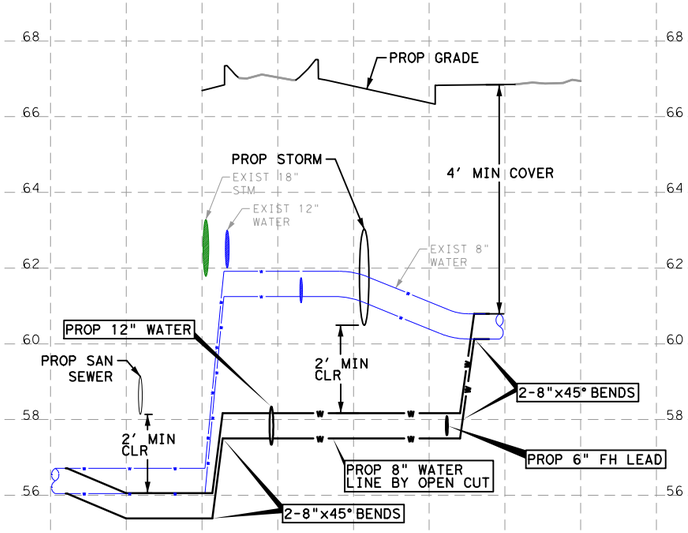
- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.
2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.



STA 9+43



STA 15+06

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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90169
MARCH 2026
Date
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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER LINE **LATERALS**

SHEET 1 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 595 OF 1067	

No.	DATE	REVISIONS	APP.

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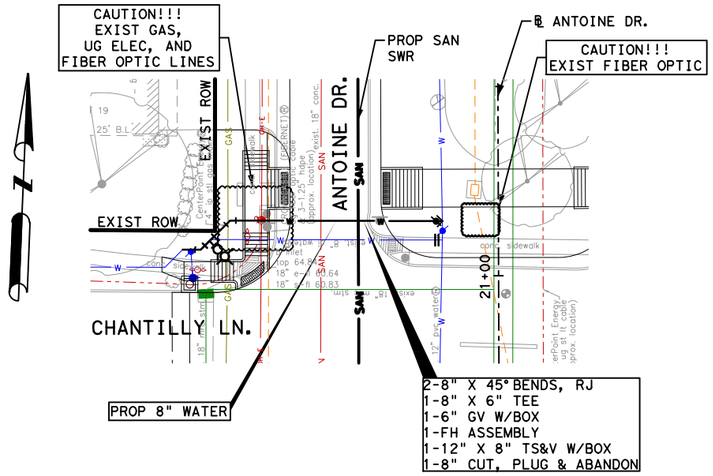
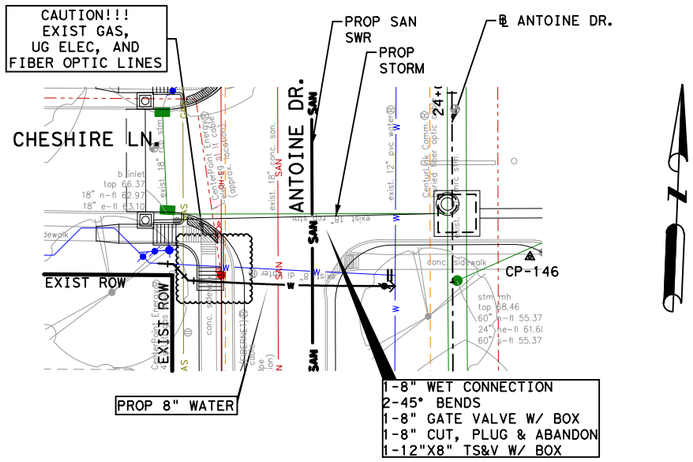


ANTOINE STA 21+14

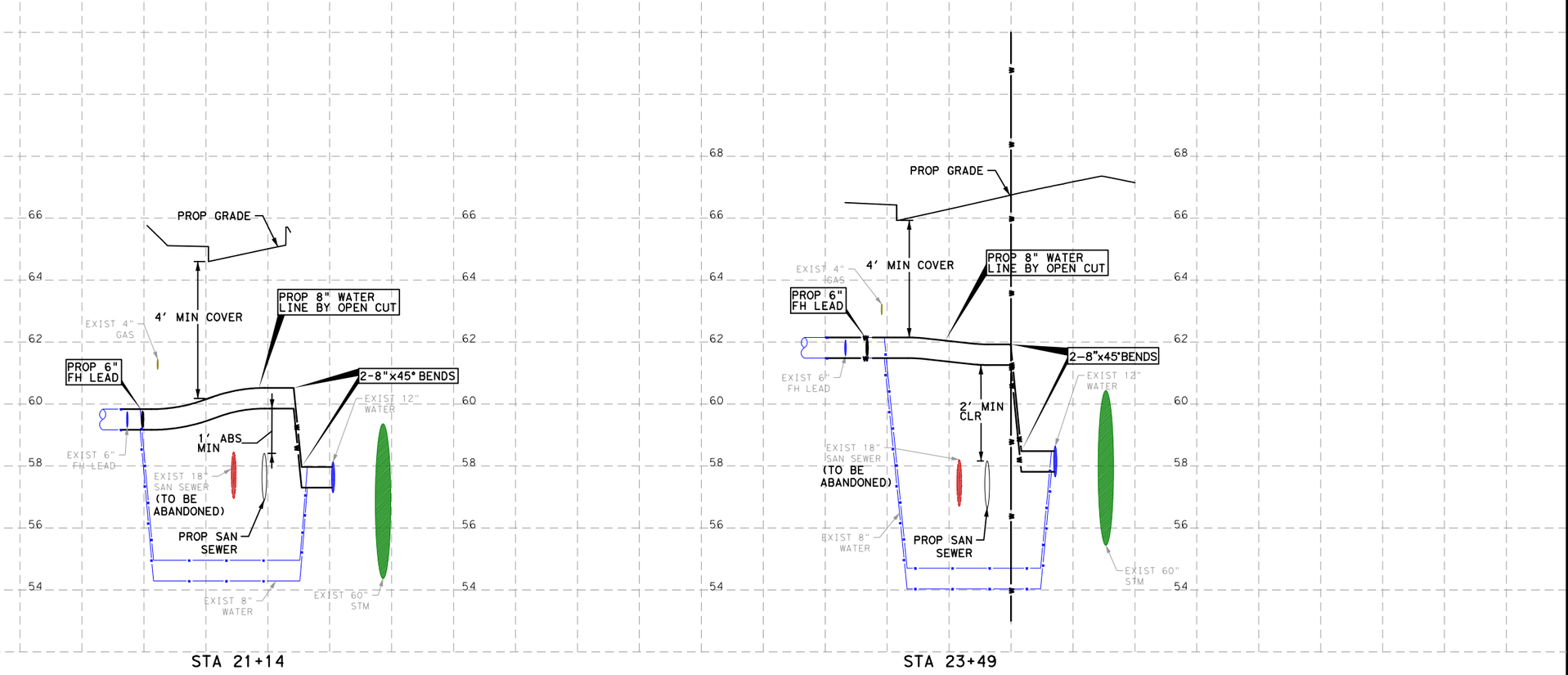


ANTOINE STA 23+49

LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

No.	DATE	REVISIONS	APP.



STA 21+14

STA 23+49

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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MARCH 2026
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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER LINE **LATERALS**

SHEET 2 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 596 OF 1067	

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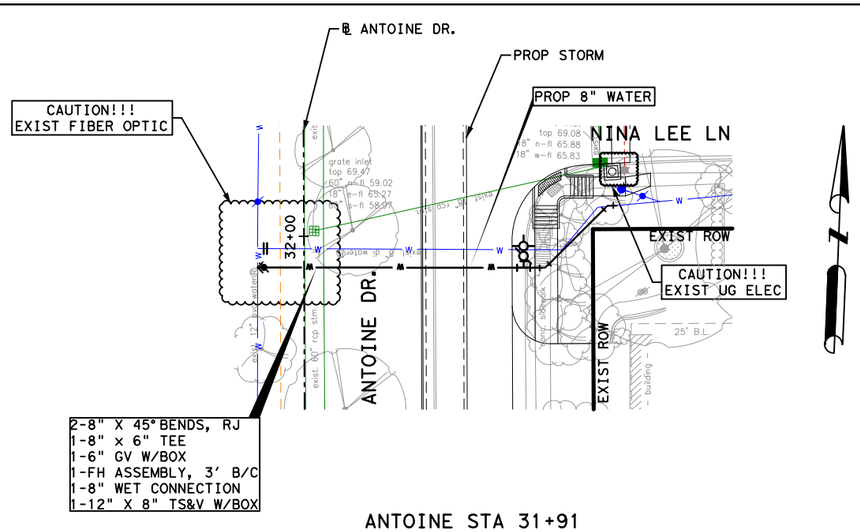
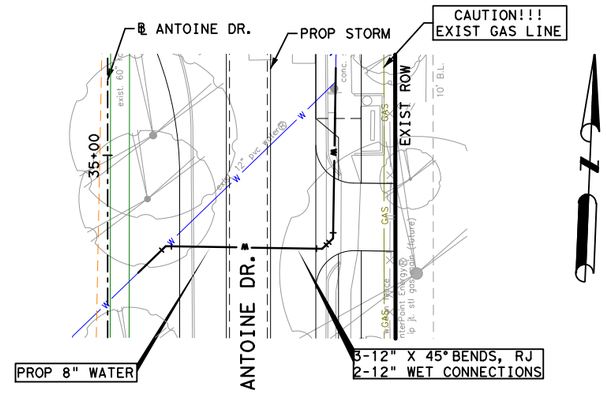


ANTOINE STA 31+91

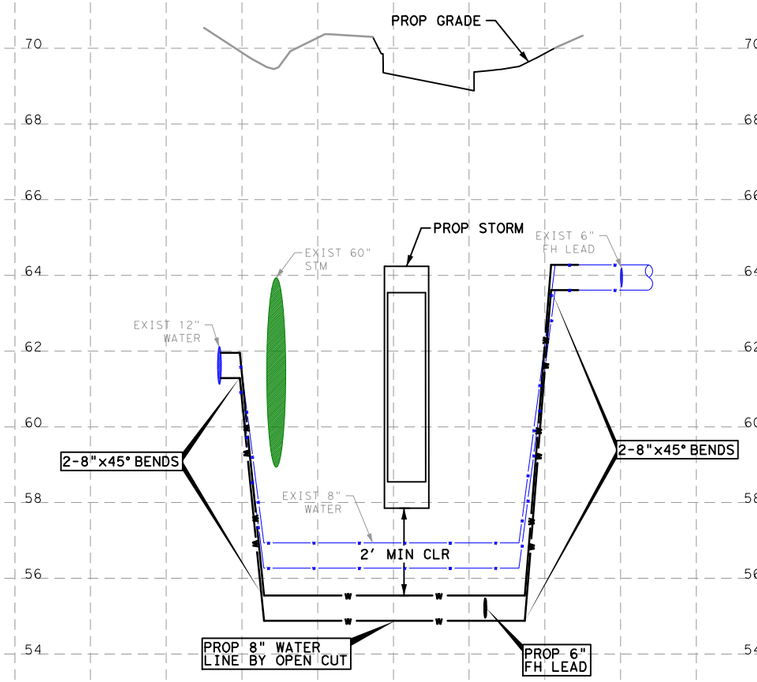


ANTOINE STA 34+75

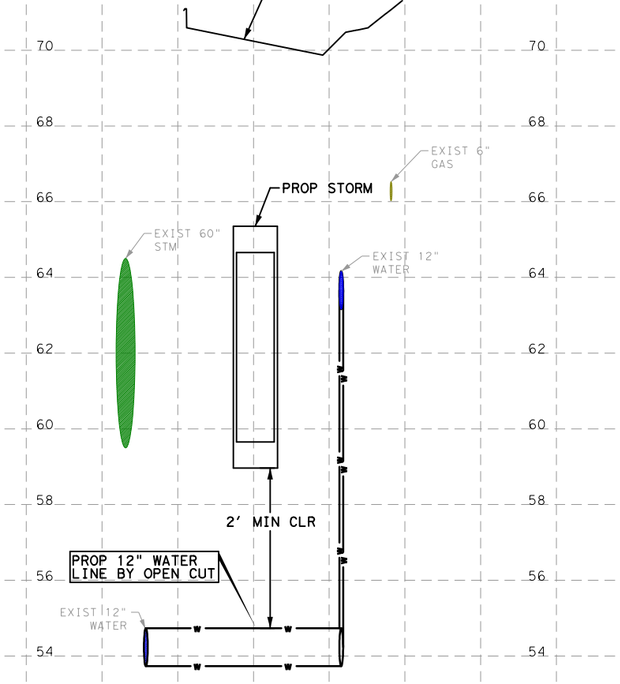
LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY

No.	DATE	REVISIONS	APP.



STA 31+91



STA 34+75

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER LINE **LATERALS**

SHEET 3 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 597 OF 1067	

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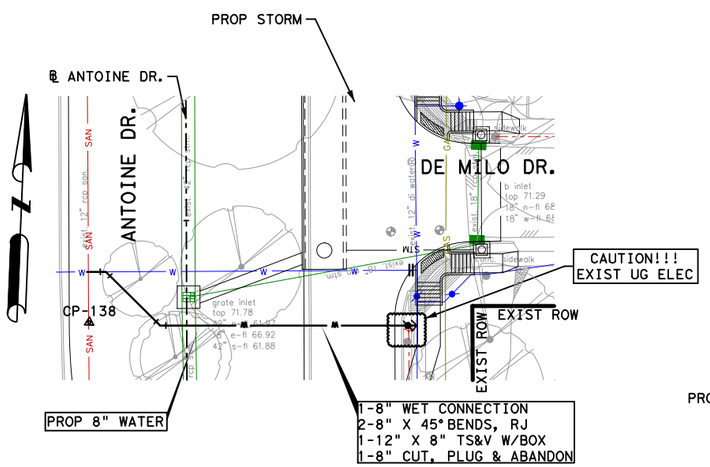
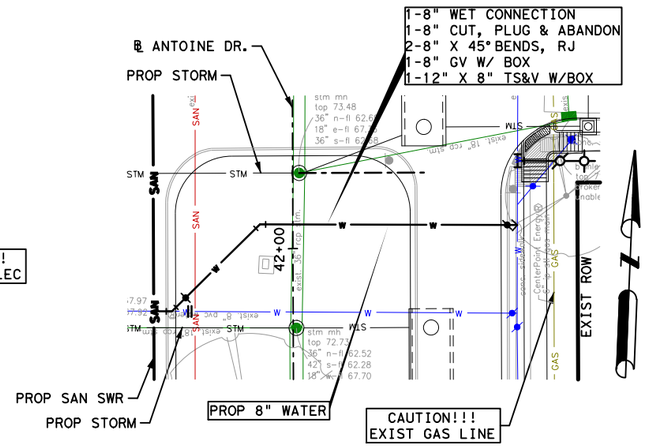
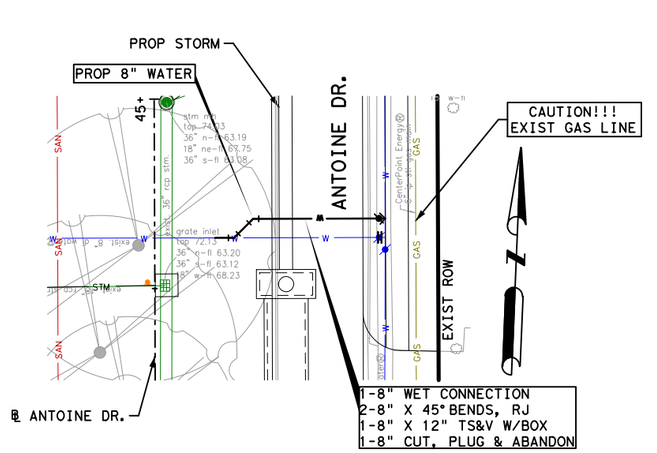


ANTOINE STA 39+22



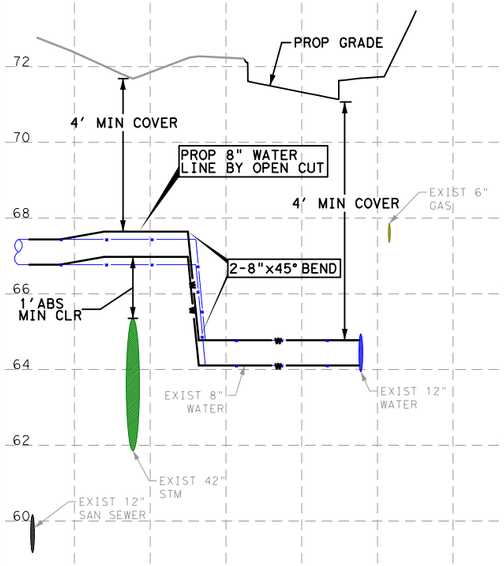
ANTOINE STA 42+06



ANTOINE STA 44+68

LEGEND:

- PROP WATER
- PROP SANITARY
- EXIST WATER
- EXIST SANITARY



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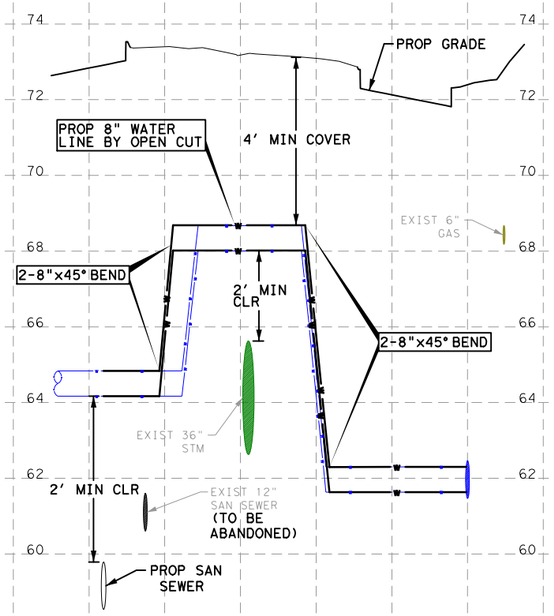
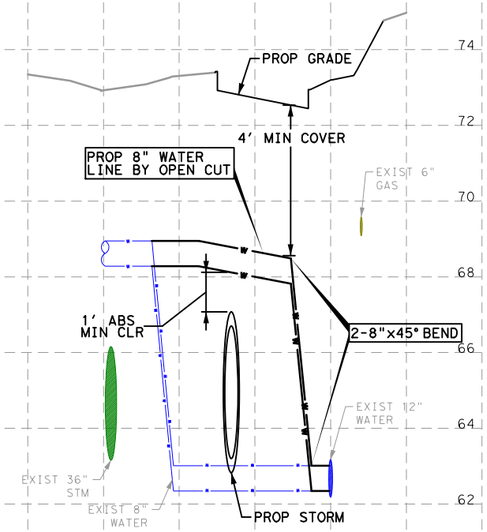


STA 42+06



STA 44+68

NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER LINE **LATERALS**

SHEET 4 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 598 OF 1067	

No.	DATE	REVISIONS	APP.

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Plot Driver:ANTOINE DR QE*APWA.pltcfg
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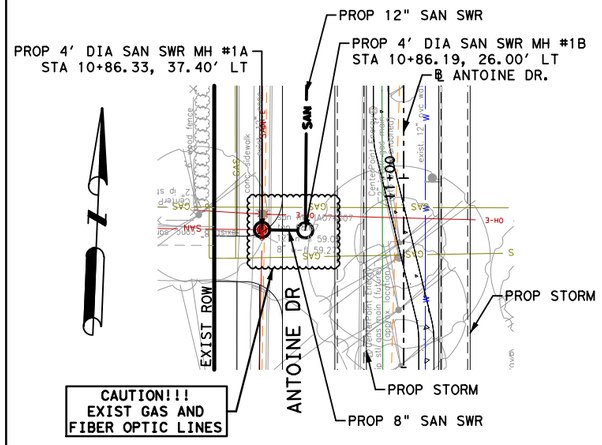
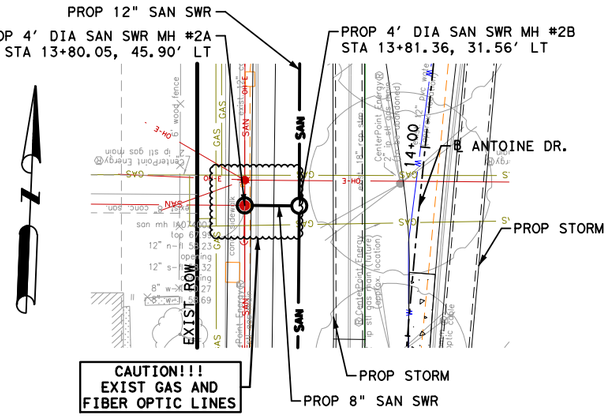


ANTOINE STA 10+86



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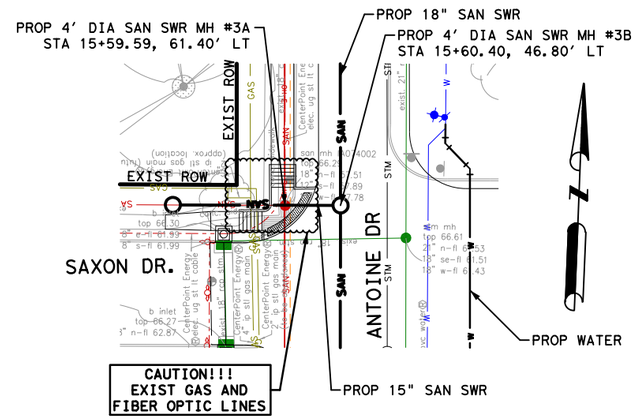
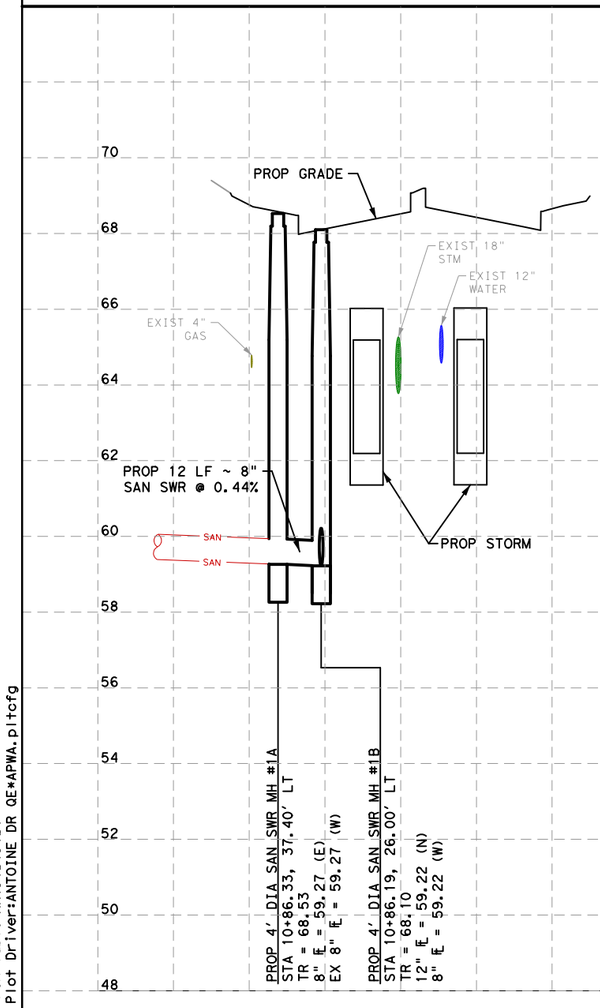
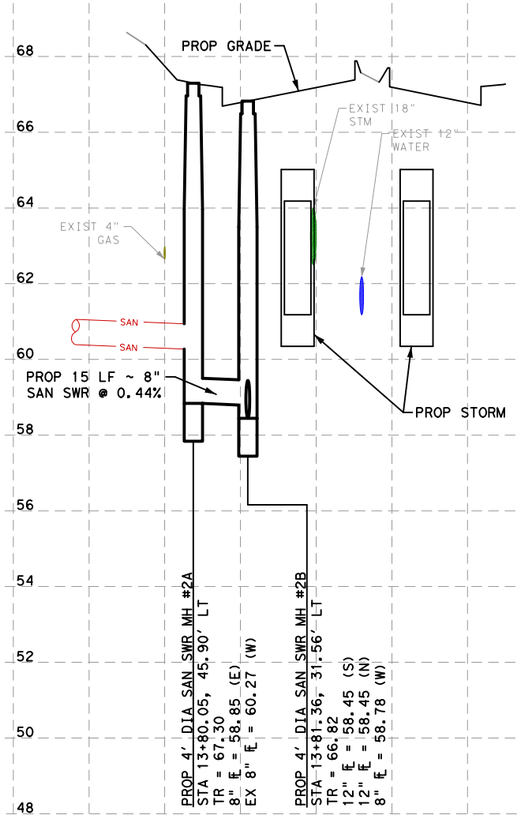
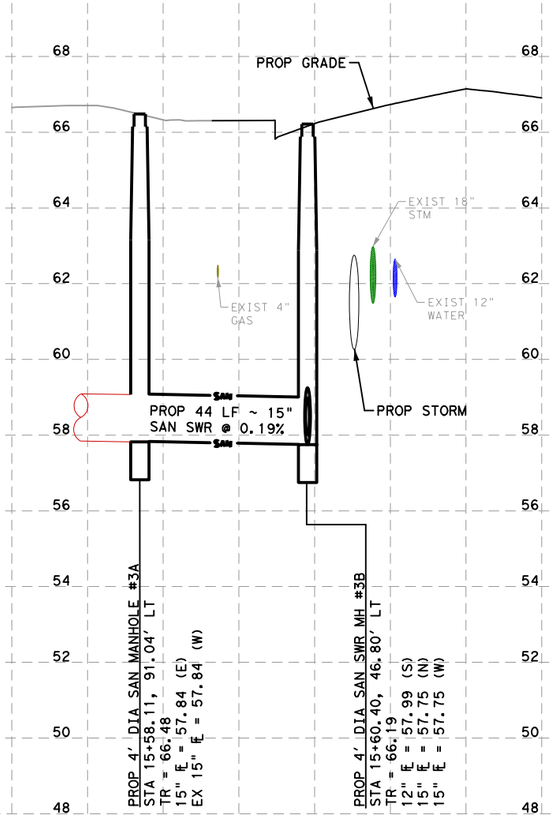


ANTOINE STA 15+63







NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 1 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 599 OF 1067	

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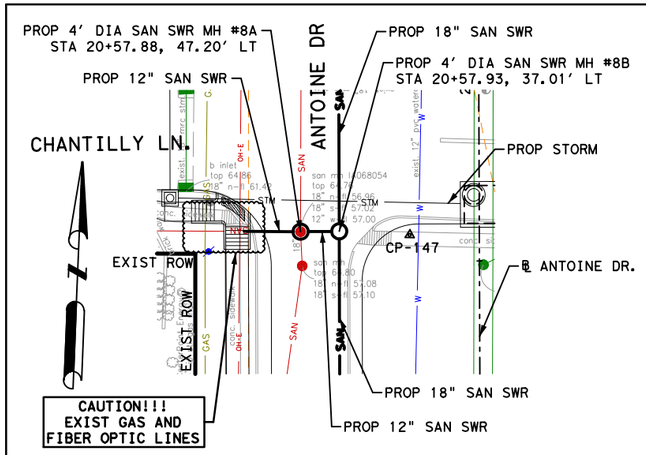

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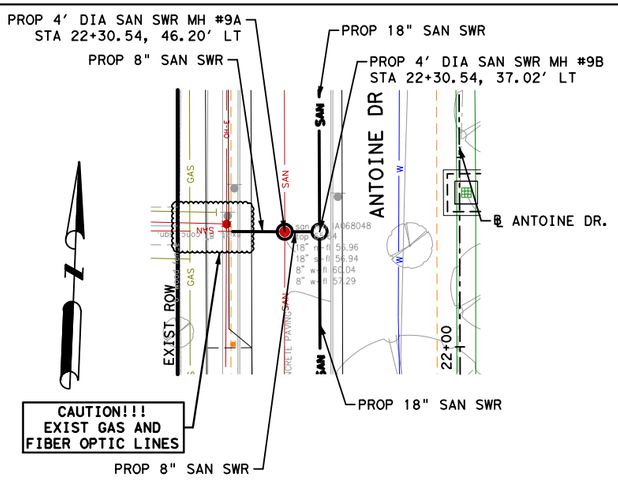
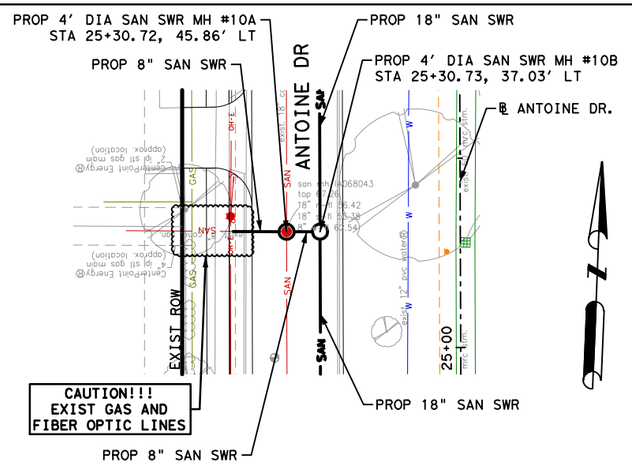
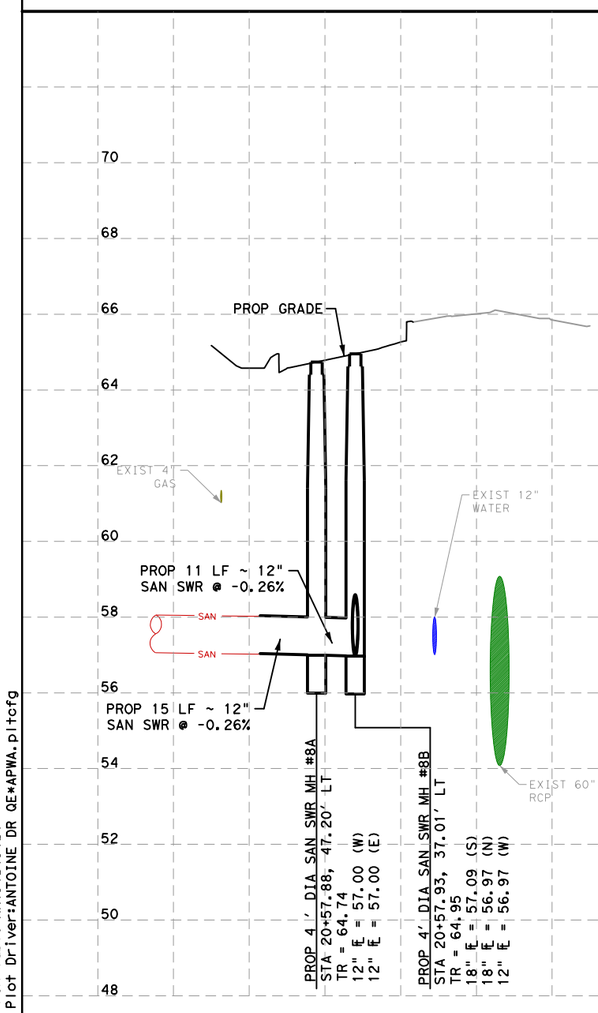
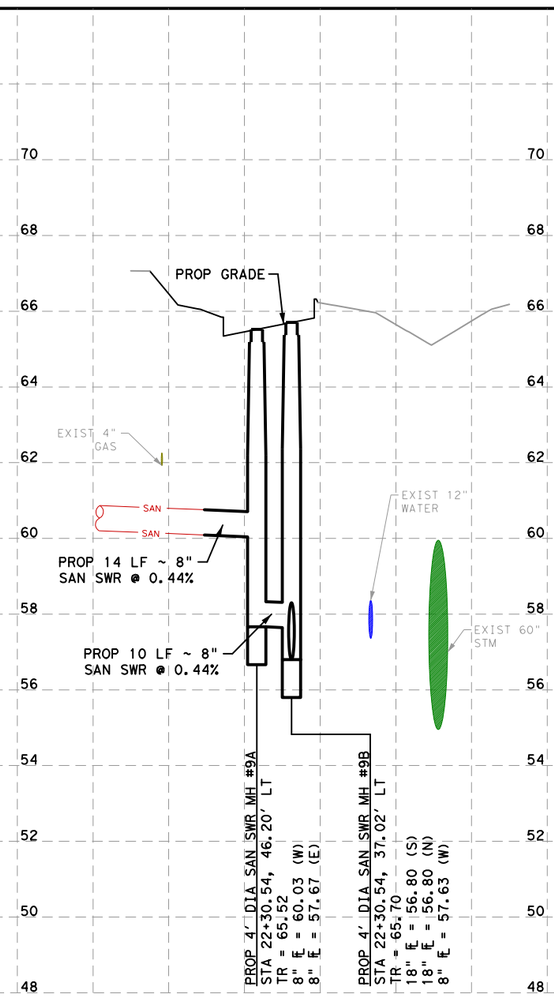


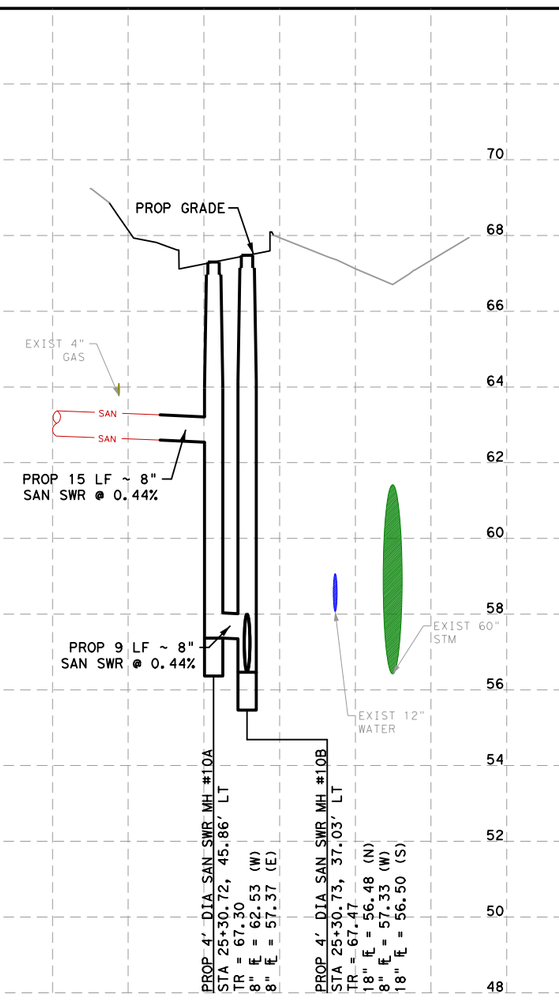
ANTOINE STA 22+30



ANTOINE STA 25+31







NOTES:

1. REFER TO DRAINAGE PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 2 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 600 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 6:50:52 PM
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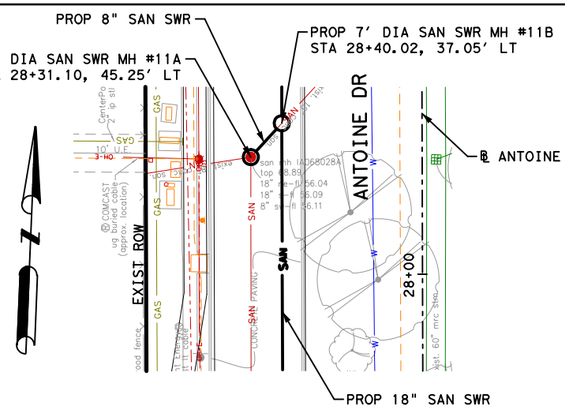
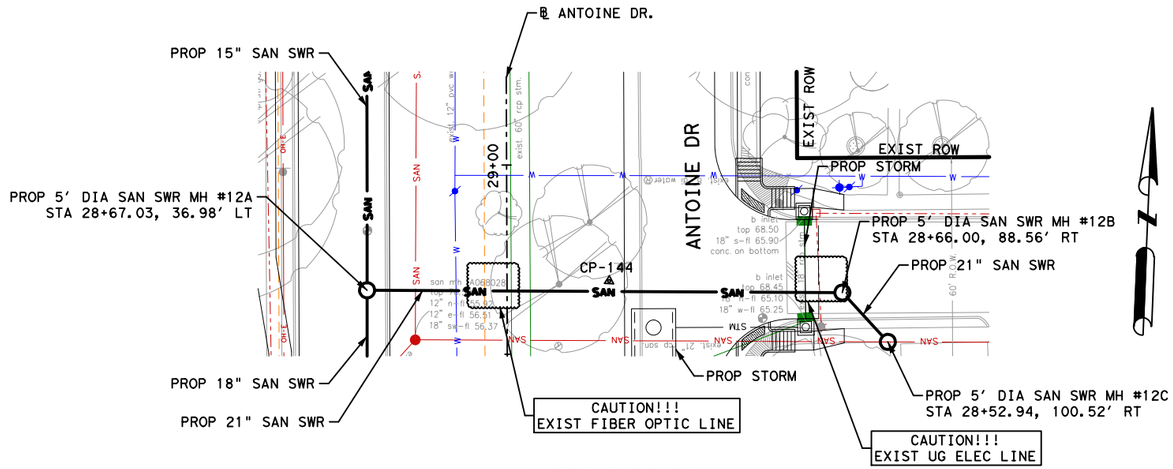
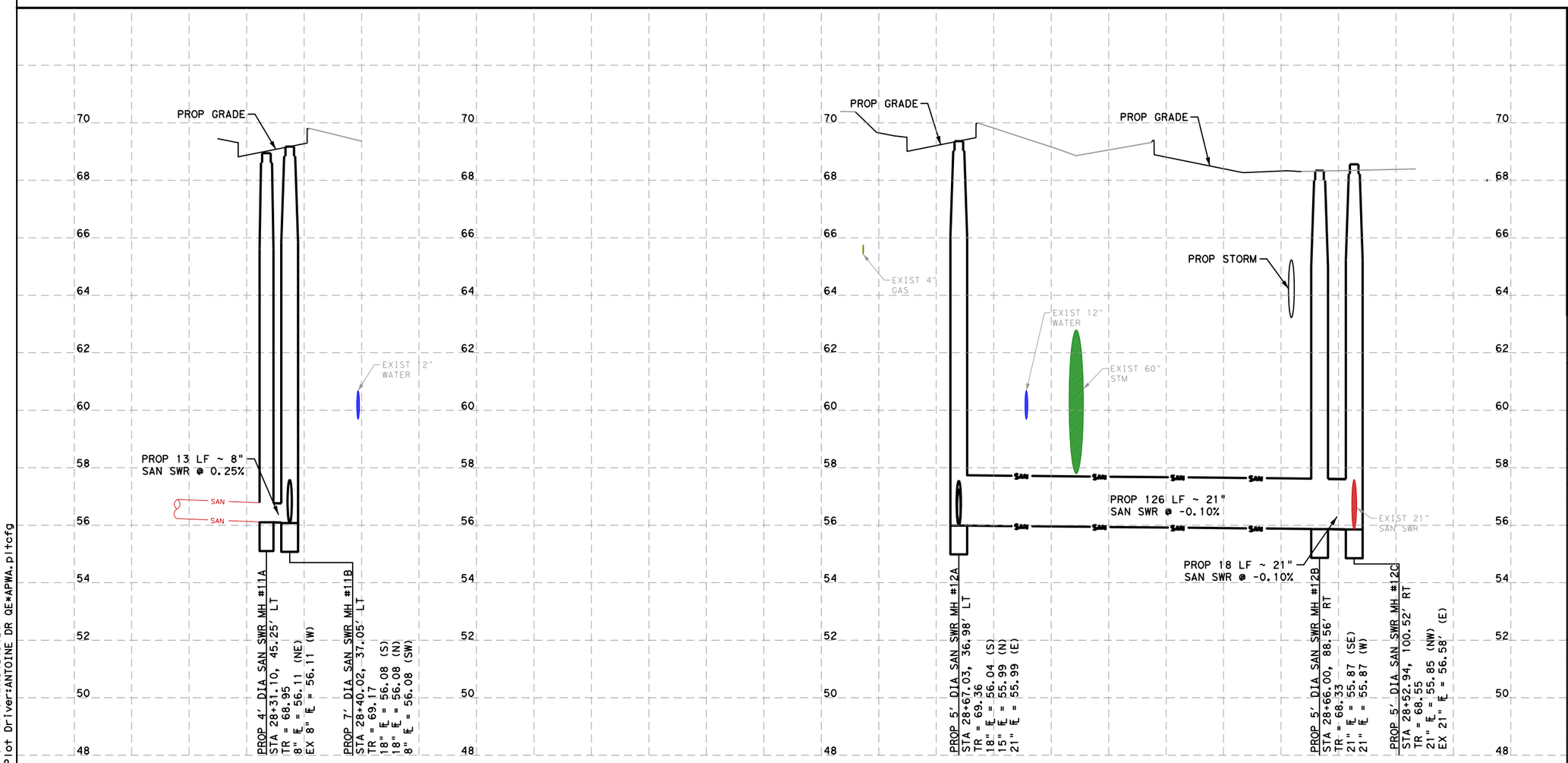


ANTOINE 28+40



ANTOINE 28+67



NOTES:

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2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 3 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 601 OF 1067	

Plotted on: 3/9/2026 6:50:53 PM
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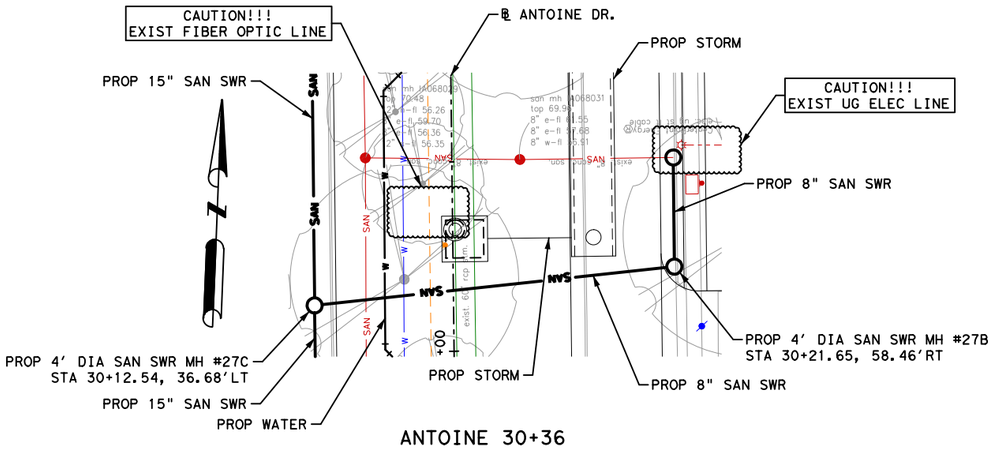
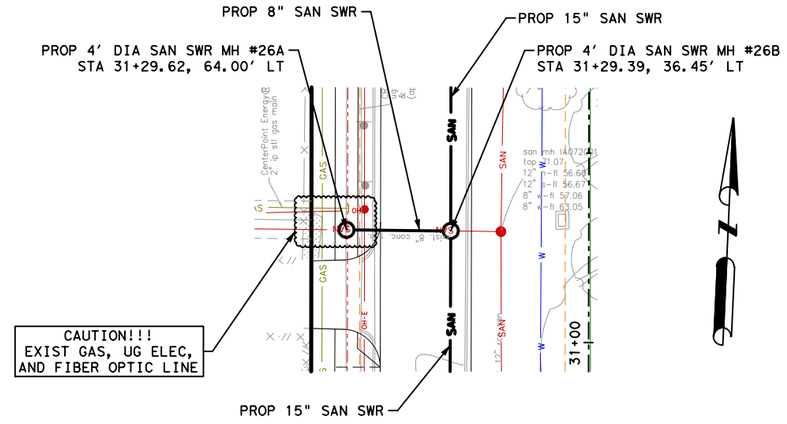
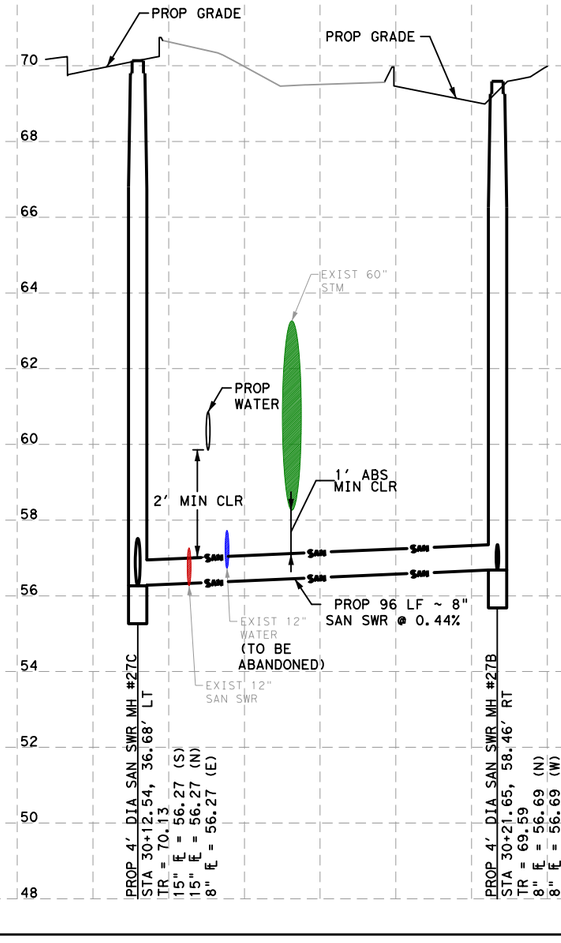
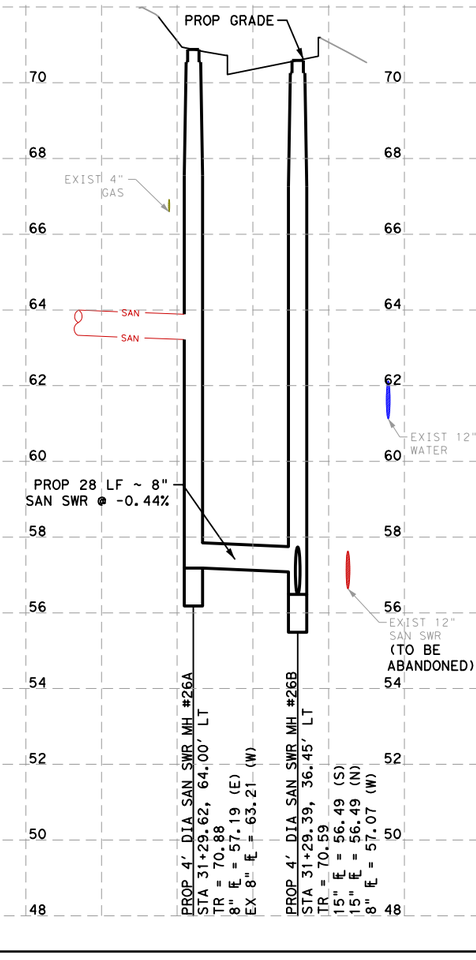


ANTOINE 30+36



ANTOINE 31+29





NOTES:

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2. REFER TO WATER AND SANITARY SEWER PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 4 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 602 OF 1067	

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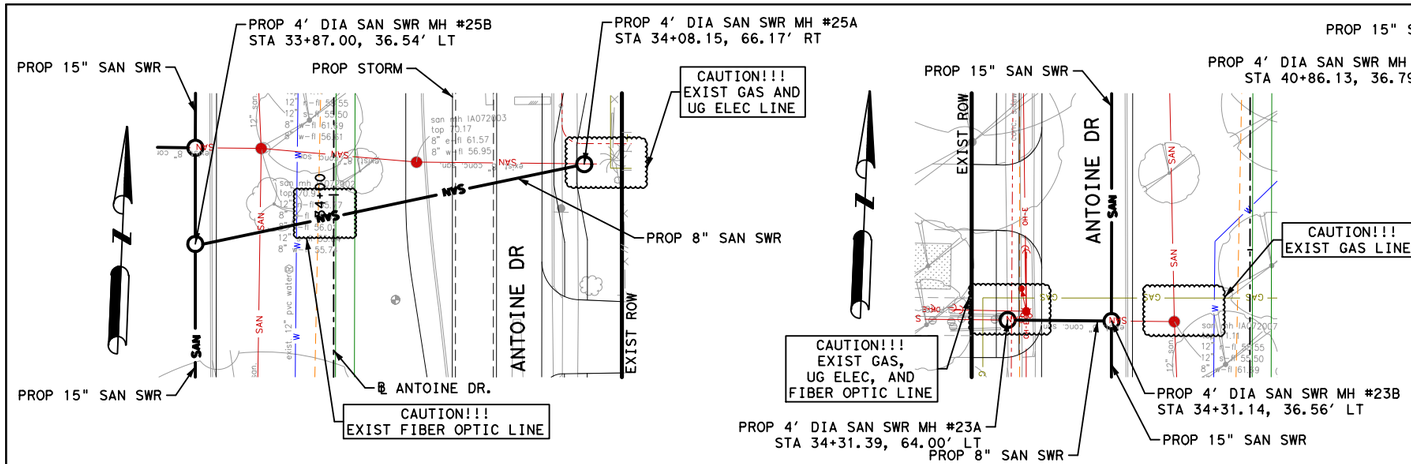

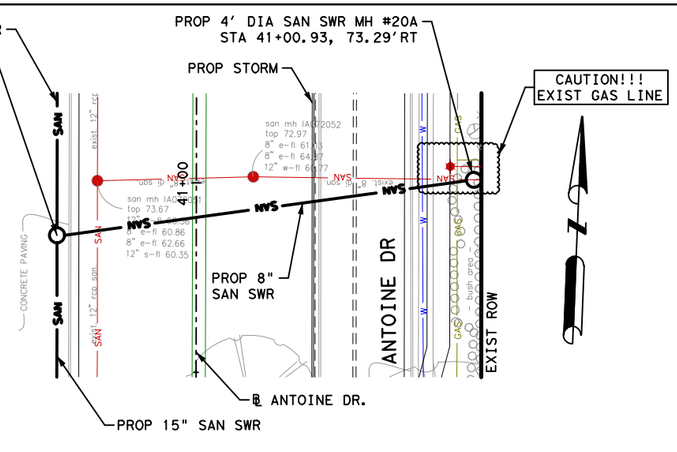

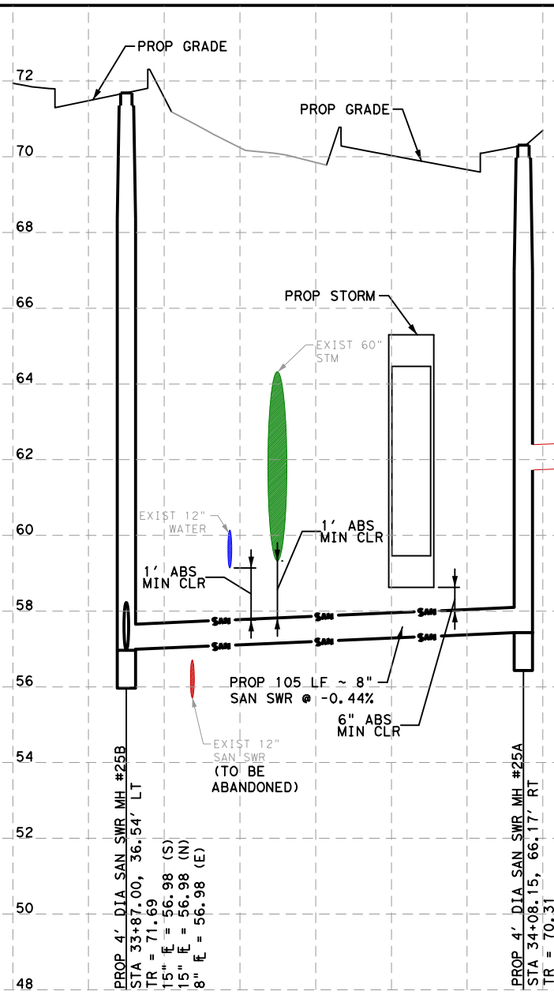

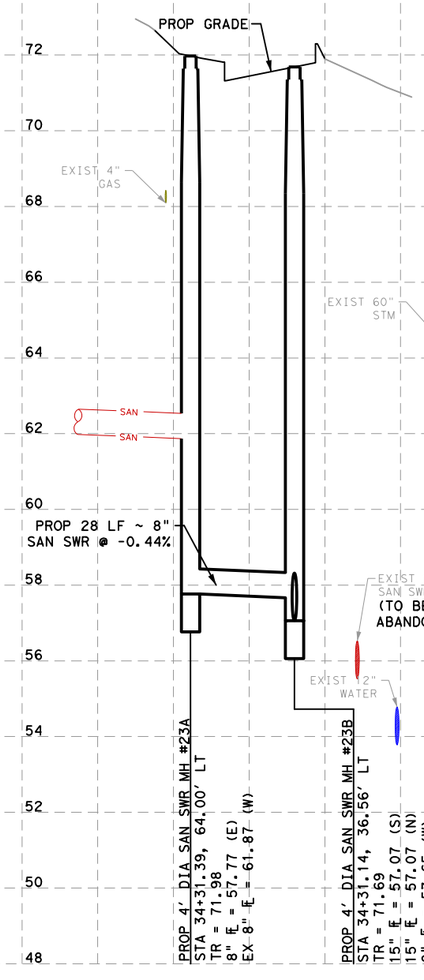

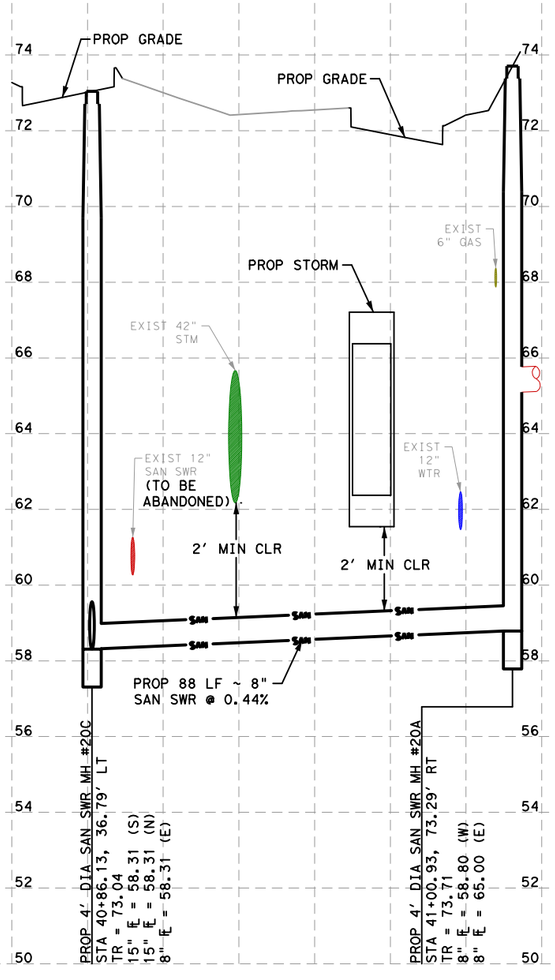

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 5 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 603 OF 1067	

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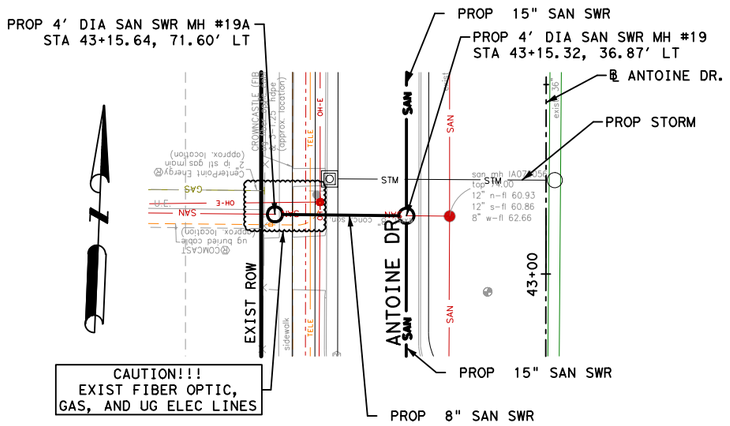

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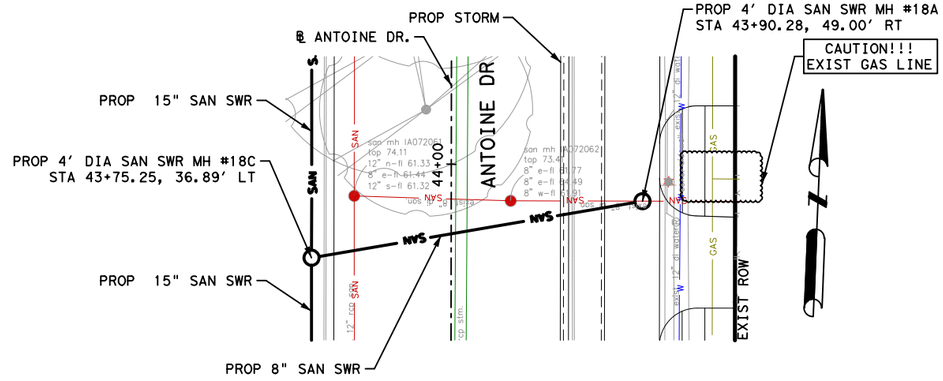

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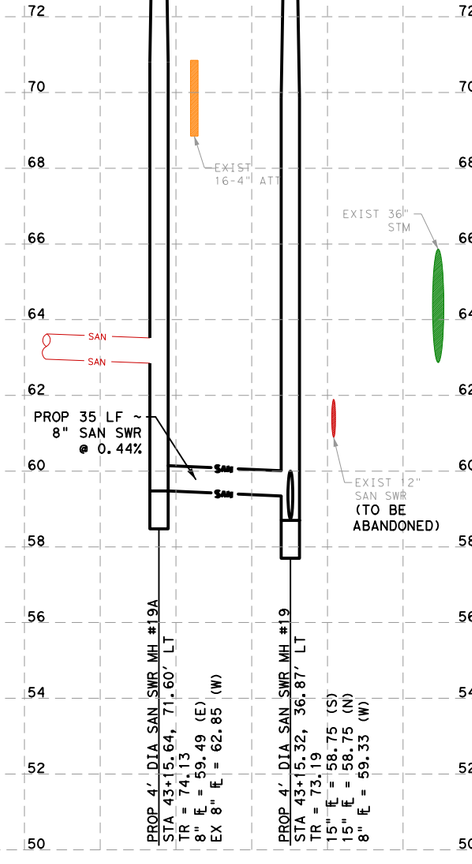

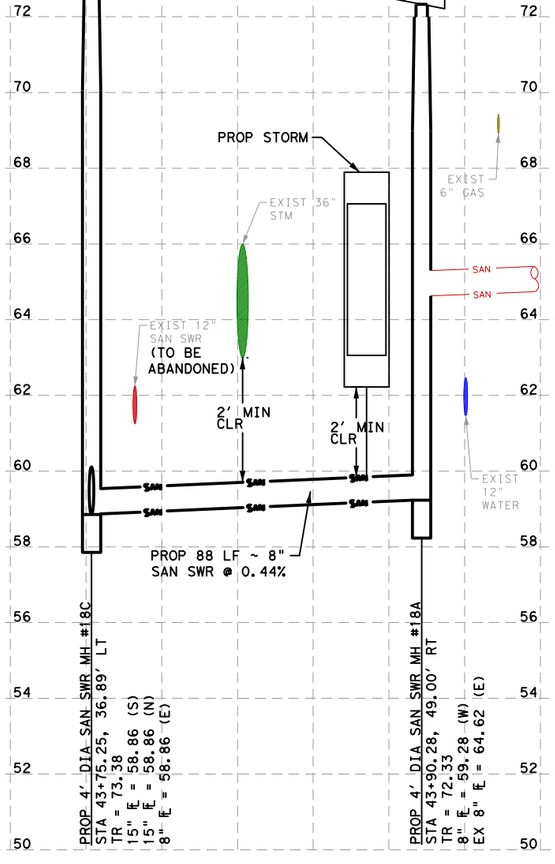

NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 6 OF 37

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
HORIZ 1"=40' VERT 1"=4'
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 604 OF 1067

FOR CITY OF HOUSTON USE ONLY

Plotted on: 3/9/2026 6:50:55 PM\F-ANTOINE.ucf
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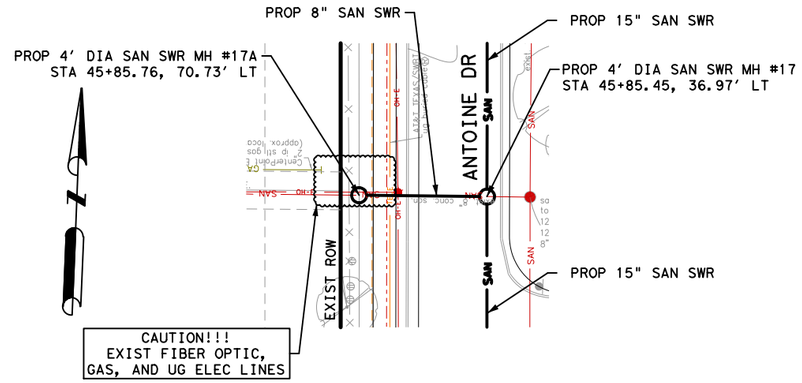
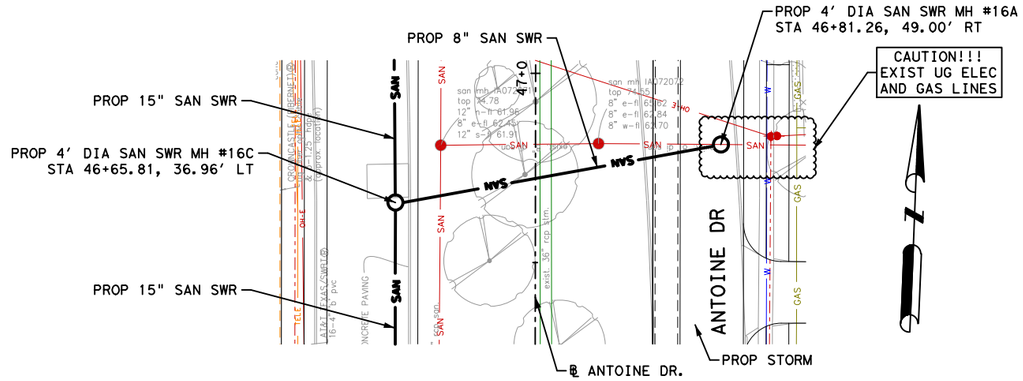
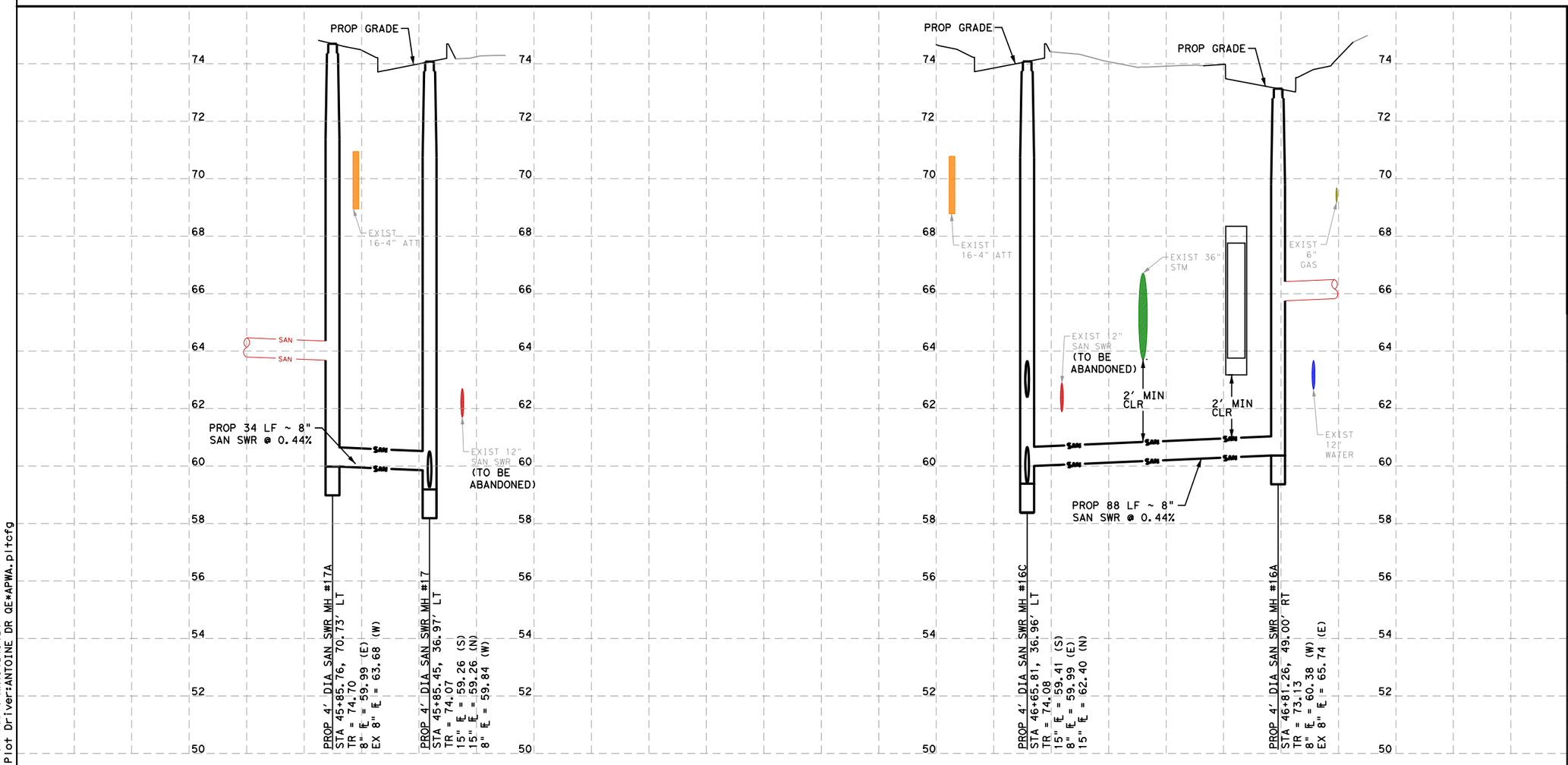


ANTOINE 45+85



ANTOINE 46+72



NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER **LATERALS**

SHEET 7 OF 37

WBS NUMBER
N-100030-0GEC-3
DRAWING SCALE
HORIZ 1"=40' VERT 1"=4'
CITY OF HOUSTON PM
ROWAIDAH AYOUB
SHEET NO. 605 OF 1067

FOR CITY OF HOUSTON USE ONLY

No.	DATE	REVISIONS	APP.

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℄ ANTOINE DR.

PROP 16" WATER LINE

℄ ANTOINE DR. STA 50+05.30
℄ ACORN ST. STA 7+68.66

ID 3331529
REMOVE AND REPLACE
EXIST SAN SWR MH (13)
STA 7+72.77, 38.63' LT
TR = 74.92

PROP 4' DIA SAN SWR MH(14)
STA 7+48.69, 55.23' LT
TR = 74.61

ANTOINE DR.

PROP 12" WATER LINE

1-16" CUT, PLUG & ABANDON
AFTER TRANSFER OF SERVICES.

2-12" X 45° BENDS, RJ

PROP 12" WET CONNECTION
1-12 G.V. W/ BOX

EXIST ROW

VARIES

60' ROW

VARIES

EXIST ROW

6+00

7+00

8+00

9+00

10+00

50+00

℄ ACORN ST.

ACORN ST.

30'

30'

60' ROW

EXIST ROW

EXIST ROW

1-8" EXIST. SAN SEWER
CUT,CAP & ABANDON AFTER
TRANSFER OF SERVICES

EXIST 8" WATER LINE TO
REMAIN IN SERVICE

REMOVE AND SALVAGE
EXIST FIRE HYDRANT
CUT, CAP & ABANDON
EXIST. 6" F.H. LEAD

29' of 15"
PROP SAN
PVC @ 0.19%

1-8" X 6" T.S. & V.
1-6" GV w/BOX
1-6" F.H. 3' B.C.

EXIST 12" WATER LINE TO
REMAIN IN SERVICE

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

N

0' 40' 80'

SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

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RAM GULIANI
101094
3/9/2026
date
ISANI CONSULTANTS
Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 11 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 606 OF 1067	

76 74 72 70 68 66 64 62 60 58

6+00 7+00 8+00 9+00

PROP 18" RCB STM

PROP 6" F.H. LEAD

PROP 29 LF ~ 15" SAN SWR PVC (SDR)@0.19%

PROP 15" SAN SWR PVC

PROP 6" F.H. LEAD

PROP 16" WL

PROP 10'X15' RCB STM

5' MIN. COVER

PROP 12" WL

PROP 18" RCB STM

CONNECT TO EXISTING 12" WATER LINE

exist. 8" di water

exist. 6" f.h. lead

exist. 8" san.

exist. 12" di water

exist. 12" di water

PROP SAN MANHOLE #14
STA. 7+48.69
TR = 74.61
15" FL = 63.08 (NE)
15" FL = 63.08 (S)

REMOVE AND REPLACE
MH 3331529(#13)
STA. 7+72.77
TR = 74.92
15" FL = 63.14 (SW)
EX. 8" FL = 63.44 (N)
EX. 8" FL = 63.49 (E)
EX. 12" FL = 63.31 (NW)

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PROP 4' DIA SAN SWR MH(29B)
STA 4+71.92, 25.99' LT
TR = 74.71

PROP 8" SANITARY LINE
w/RESTRAINED JOINTS

CRITICAL LOCATION,
SEE SPEC. 02317

CAUTION EXIST GAS CABLE
FACILITIES IN AREA
SEE DOC. 01110

@ ANTOINE DR. STA 54+06.66
℄ @ WEEPING WILLOW RD STA 05+00.00

CAUTION EXIST UGT CABLE
FACILITIES IN AREA
SEE DOC. 01110

℄ ANTOINE DR.

ID 33328577
REMOVE AND REPLACE
EXIST SAN SWR MH (29A)
STA 5+33.36, 93.65' LT
TR = 75.29

1-6" CUT, PLUG &
ABANDON AFTER
TRANSFER OF SERVICES

2-6" X 45° BENDS

1-6" WET CONNECTION
1-6" GV w/BOX

EXIST 6" WATER LINE TO
REMAIN IN SERVICE

EXIST ROW

WEEPING WILLOW RD.

EXIST ROW

℄ WEEPING WILLOW RD.

REMOVE AND SALVAGE
EXIST FIRE HYDRANT

1-16" X 6" TEE, RJ
1-6" GV w/BOX
1-6" F.H. 3' B.C.

PROP 16" WL
w/RESTRAINED JOINT

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

N

0' 40' 80'

SCALE IN FEET

LIMITS OF PROP. 8" SAN
w/RESTRAINED JOINTS.

PROP 10'X15'
RCB STM

PROP 61 LF ~ 8"
SAN SWR (SDR 26) @ 0.44%

PROP 8" SAN
SWR PVC

4' MIN CLR.

CONNECT TO EXIST
8" WATER LINE

exist. 8" san.

exist. 8" san.

exist. 16" water

2' MIN CLR.

2' MIN CLR.

PROP XX"
RCP STM

exist. 24" stm.
(approx. elev.)

PROP 6" WL

PROP 16" WL

PROP SAN MANHOLE #29B
STA. 4+71.92
TR = 74.71
8" FL = 67.25 (S)
8" FL = 67.25 (N)
8" FL = 68.37 (E)

REMOVE AND REPLACE
MH 3328577(#29A)
STA. 5+33.36
TR = 75.29
8" FL = 68.64 (W)
EX. 8" FL = 68.64 (N)
EX. 8" FL = 69.96 (E)
EX. 8" FL = 68.86 (S)

78 76 74 72 70 68 66 64 62 60

5+00 6+00 7+00

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 12 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 607 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 5:47:53 PM emma

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PROP 16" WATER LINE
w/RESTRAINED JOINTS

℄ @ ANTOINE DR. STA 58+04.89
℄ @ HOOVER ST STA 05+00.00

CAUTION EXIST GAS CABLE
FACILITIES IN AREA
SEE DOC. 01110

1-8" X 45° BENDS, AB

1-8" X 6" TEE
1-6" GV W/BOX
1-6" FH 3' B.C.

1-8" WET CONNECTION
1-8" GV w/BOX

EXIST ROW

HOOVER ST.

℄ HOVER ST.

EXIST ROW

1-8" CUT, PLUG & ABANDON
AFTER TRANSFER OF SERVICES

ID 3328566
REMOVE AND REPLACE
EXIST SAN SWR MH(30A)
STA 5+35.75, 37.51' RT
TR=74.92

CENTER 1-20' PIPE
UNDER EXIST SAN SWR
PROP 16" DIP SECTION
w/RESTRAINED JOINTS

PROP 4' DIA SAN SWR MH(30B)
STA 4+74.05, 75.40' RT
TR=74.78

℄ ANTOINE DR.

68' of 8" PROP SAN PVC @ 0.04%

ANTOINE DR.

PROP 10'X15'
RCB STM

PROP 68 LF of 8"
SAN SWR (SDR 26) @ 0.04%

PROP 8" SAN
SWR PVC

EXIST
6" SAN

5' MIN CLR.

PROP 6" F.H. LEAD

exist.
8" san.

2' MIN
CLR.

CONNECT TO EXIST
8" WATER LINE

PROP 8" WL

PROP 16" WL

PROP SAN
MANHOLE #30B
STA. 4+74.05
TR = 74.78
8" FL = 66.08 (S)
8" FL = 66.08 (N)
8" FL = 67.49 (E)

REMOVE AND
REPLACE
MH 3328566 (#30A)
STA. 5+35.75
TR = 74.92
8" FL = 67.52 (W)
8" FL = 67.30 (N)
8" FL = 67.30 (S)
EX. 6" FL
= 71.30' (E)

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

N

0' 40' 80'

SCALE IN FEET

No.	DATE	REVISIONS	APP.

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VERIFICATION OF PRIVATE UTILITY LINES

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 13 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 608 OF 1067	

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2-8" X 45° BENDS, RJ
1-8" WET CONNECTION
1-8" GV W/BOX
EXIST ROW
HARDWAY ST. (W)
5+00
6+00
7+00
℄ HARDWAY ST. (W)
EXIST ROW
EXIST 48" SAN LINE
TO REMAIN IN SERVICE
1-8" CUT, PLUG & ABANDON
AFTER TRANSFER OF SERVICES.
℄ @ ANTOINE DR. STA 62+88.93
℄ @ HARDWAY ST. STAT 7+59.71
ANTOINE DR.
63+00
62+00
PROP 16" WATER LINE
PROP 8" WATER LINE
2-8" X 45° BENDS, RJ
1-8" WET CONNECTION
1-8" GV W/BOX
2-8" X 45° BENDS, RJ
EXIST ROW
℄ HARDWAY ST. (E)
HARDWAY ST. (E)
7+00
6+00
5+00
EXIST ROW
1-8" CUT, PLUG & ABANDON
AFTER TRANSFER OF SERVICES.
1-8" X 6" TEE
1-6" GV W/BOX
1-6" FH 3' B.C.

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

N

0' 40' 80'

SCALE IN FEET

PROP SAN MANHOLE #32
STA. 7+26.12
TR = 75.70
8" FL = 59.92 (S)
PROP 10'X15' RCB STM
exist. 16" ci water
exist. 48" stm
CONNECT TO EXIST 8" WATER LINE
PROP 6" F.H. LEAD
CONNECT TO EXIST 8" WATER LINE
PROP 8"SAN SWR PVC
PROP 8" WL
76
74
72
70
68
66
64
62
60
58
6+00
7+00
5+00
6+00

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 14 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 609 OF 1067	

No.	DATE	REVISIONS	APP.

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℄ @ ANTOINE DR. STA 65+06.84
℄ @ PINEMONT DR. STAT 10+88.90

24' of 8" PROP.
SAN PVC @ 0.44%

ID 3328531
REMOVE AND REPLACE
EXIST SAN SWR MH (33A)
TR = 75.72'
STA 11+22.39, 87.11"LT

2-16" X 45° BENDS, RJ

PROP 16" WATER LINE W/RJ

REMOVE AND SALVAGE
EXIST FIRE HYDRANT.

1-20" CUT, PLUG & ABANDON
AFTER TRANSFER OF SERVICES.

1-20" WET CONNECTION
1-20" GV W/BOX

1-16' X 20" TEES, RJ
1-20" GV W/BOX
1-16" GV W/BOX

1-20" WET CONNECTION
1-20" GV W/BOX

2-20" X 45° BENDS, RJ

PROP 20" WATER LINE W/RJ

1-20" X 6" TEE
1-6" GV W/BOX
1-6" FH 3' B.C.

1-16' X 20" TEES, RJ
4-20" X 45° BENDS, RJ
1-20" GV W/BOX
1-16" GV W/BOX

PINEMONT DR.
ANTOINE DR.
EXIST ROW
CONCRETE PAVING
9+00
10+00
11+00
12+00
13+00
65+00
66+00

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

N

0' 40' 80'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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VERIFICATION OF PRIVATE UTILITY LINES

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ANTOINE DRIVE

WATER & SANITARY LATERALS

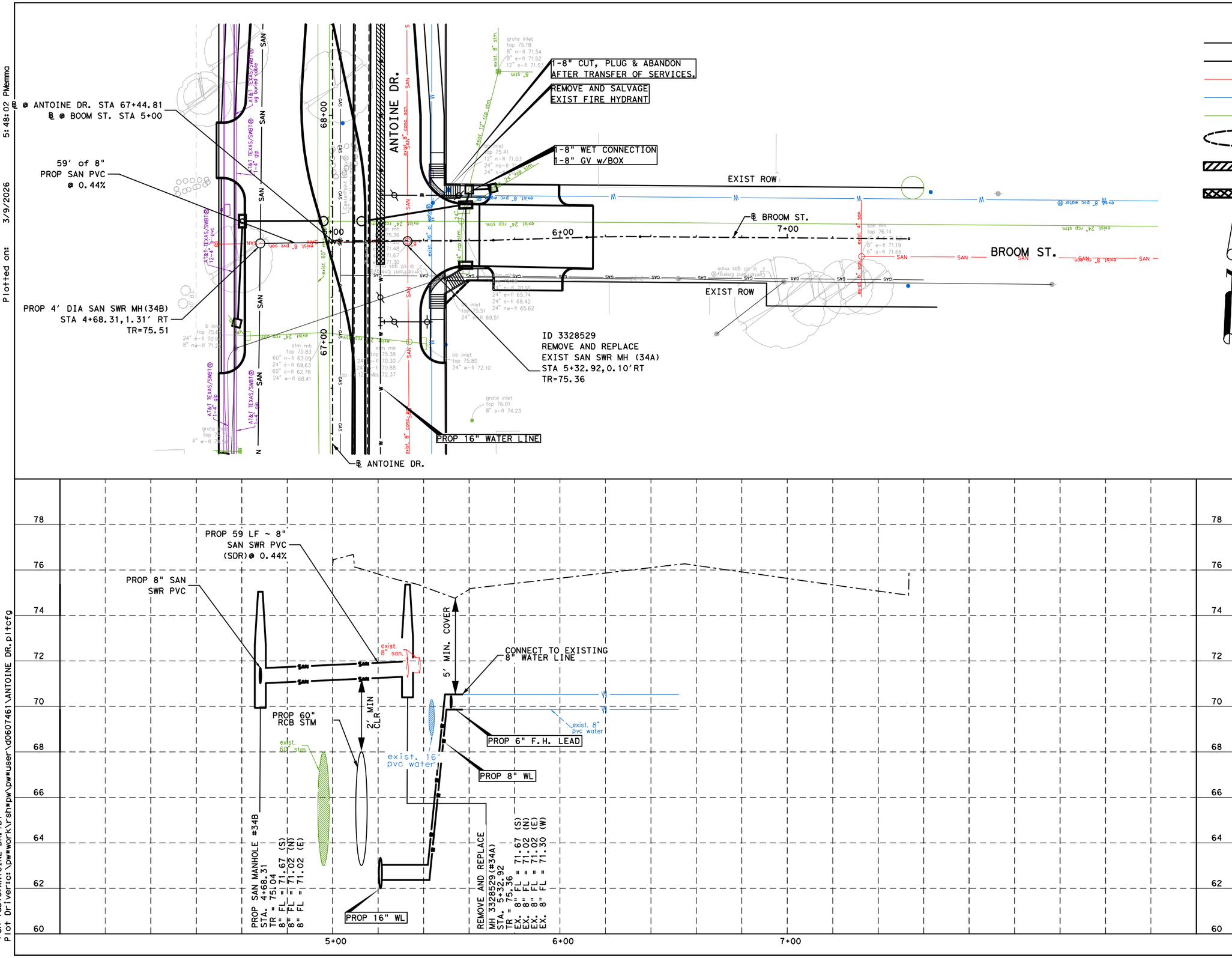
SHEET 15 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 610 OF 1067	

78 76 74 72 70 68 66 64 62 60

9+00 10+00 11+00 12+00

CONNECT TO EXISTING 20" WATER LINE
5' MIN. COVER
AT&T TEXAS/SWBT 16-4" ducts
PROP 16" WL
PROP 20" WL
CONNECT TO EXISTING 20" WATER LINE
exist. 16" ci water
exist. 20" ci water
2' MIN CLR
2' MIN CLR
PROP 6" F.H. LEAD
PROP 10'X5 RCB STM
exist. 48" stm.



LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

0' 40' 80'
SCALE IN FEET

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ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 16 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 611 OF 1067	

No.	DATE	REVISIONS	APP.

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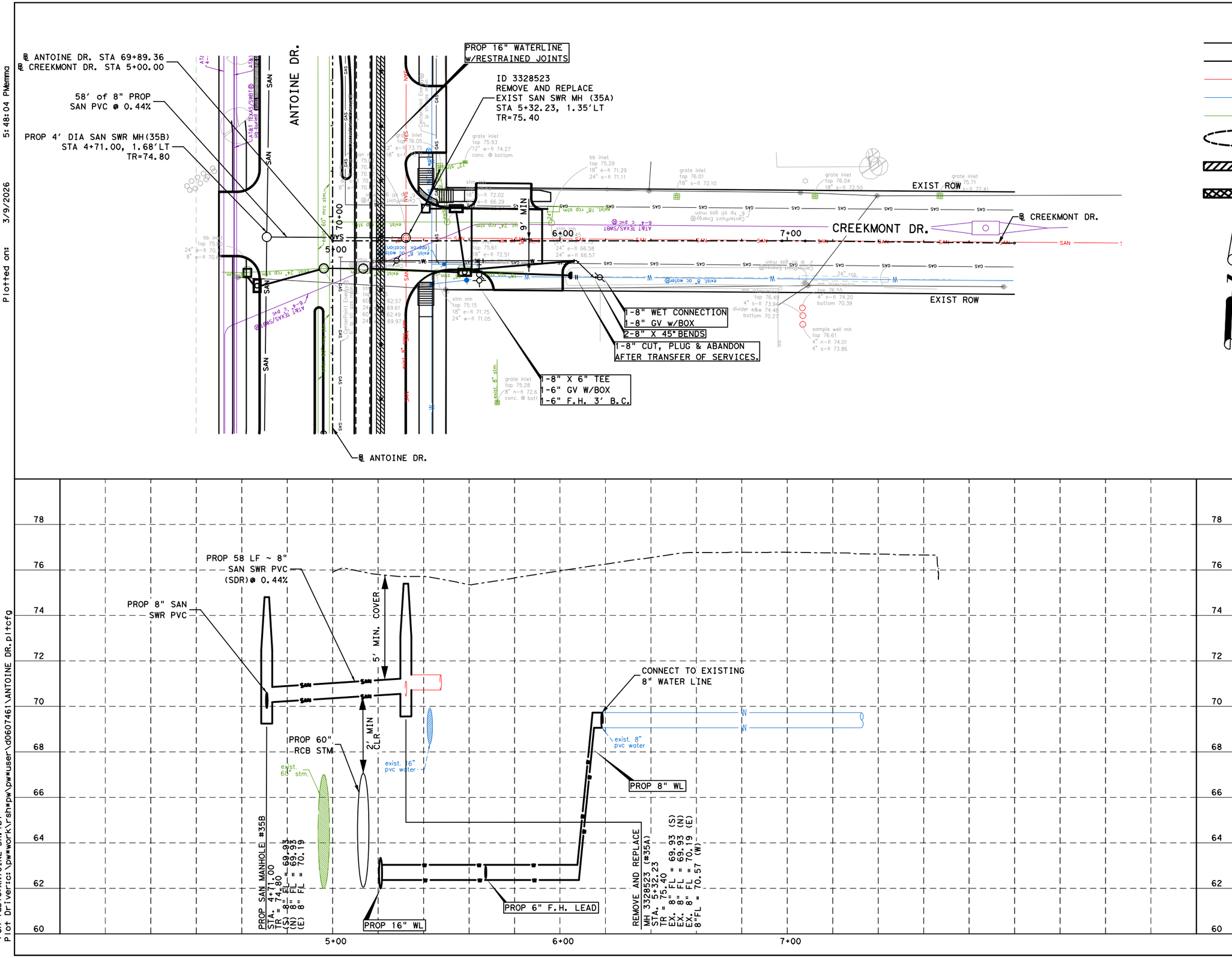

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- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
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0' 40' 80'
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ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 17 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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AS NOTED	
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ROWAIDAH AYOUB	
SHEET NO. 612 OF 1067	

No.	DATE	REVISIONS	APP.

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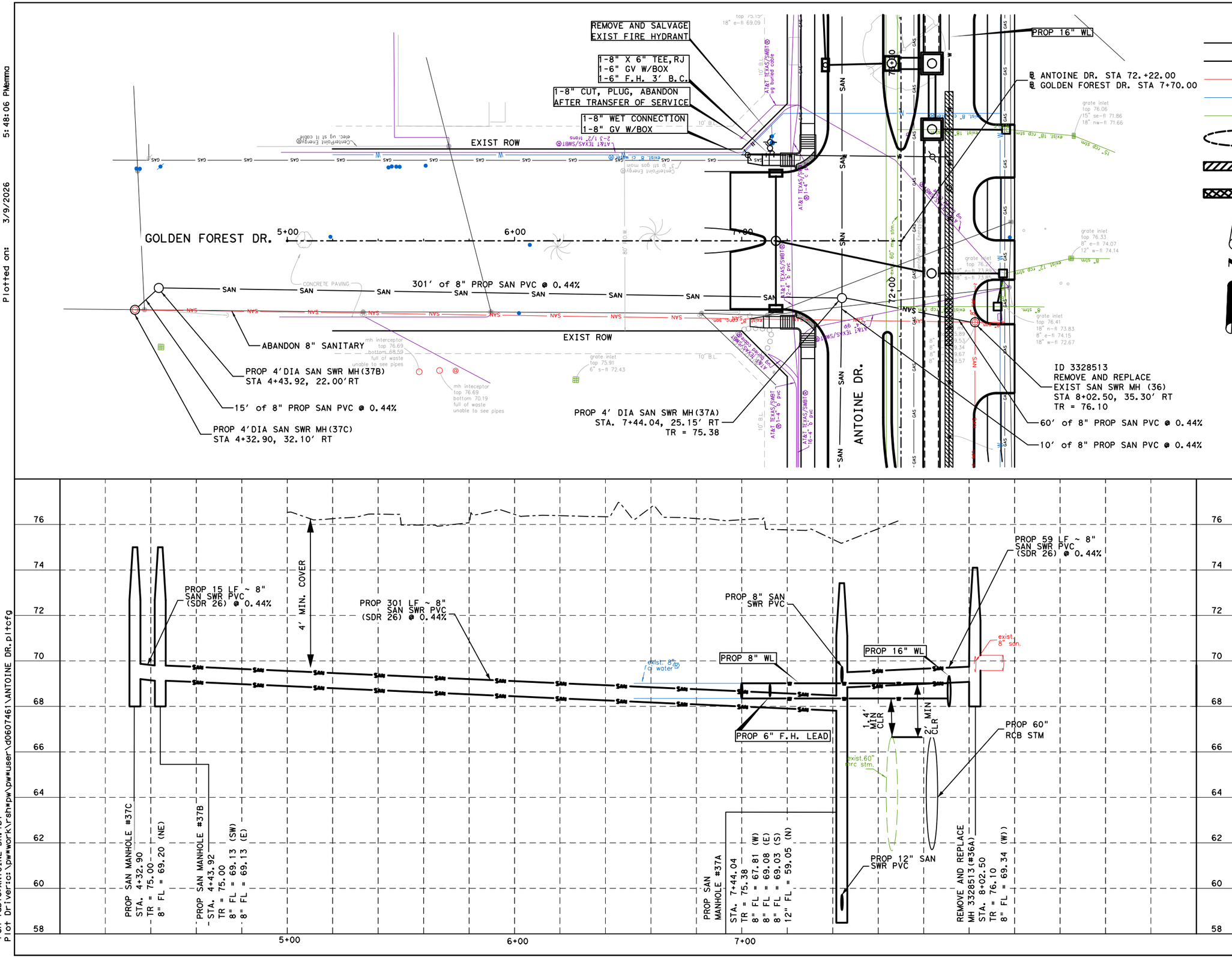

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 18 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 613 OF 1067	

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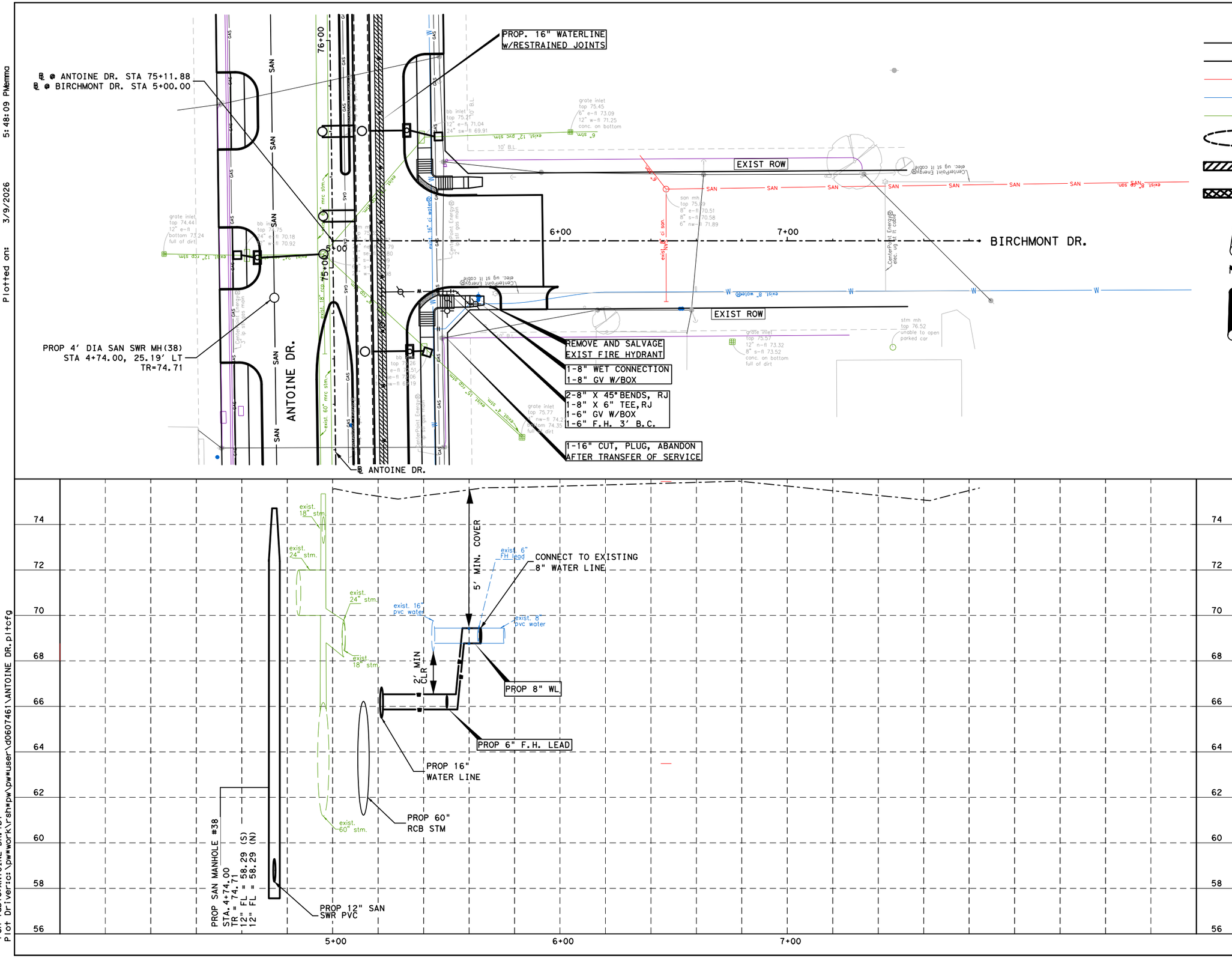

LEGEND

- SAN — PROP SANITARY SEWER
- W — PROP WATERLINE
- SAN — EXIST SANITARY SEWER
- W — EXIST WATERLINE
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317
- RESTRAINED JOINT SECTION
- DIP W/RESTRAINED JOINTS

0' 40' 80'

SCALE IN FEET

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ANTOINE DRIVE

WATER & SANITARY LATERALS

SHEET 19 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 614 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 5:48:09 PMemma

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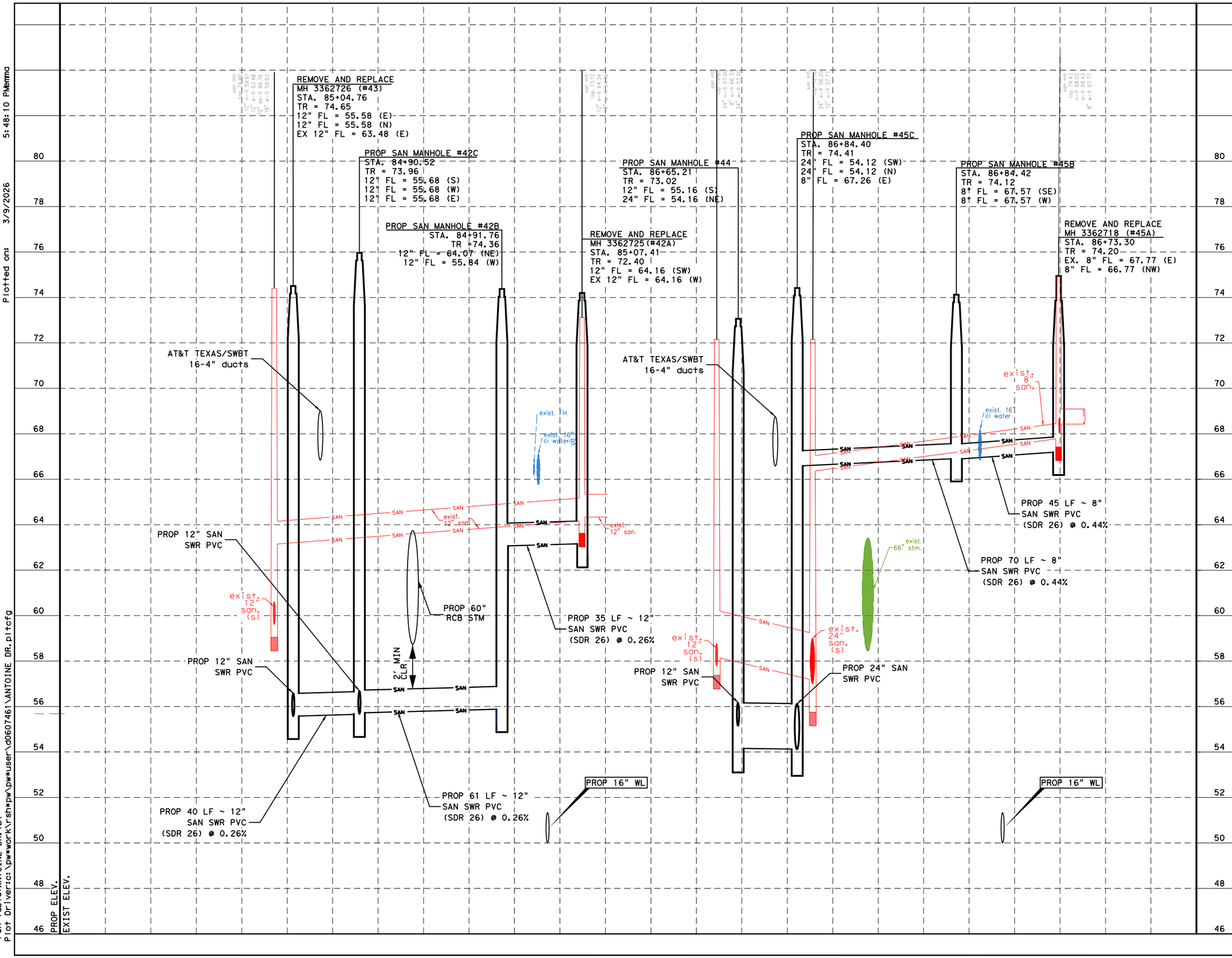

LEGEND

RESTRAINED JOINT SECTION

DIP W/RESTRAINED JOINTS

HORZ 0' 40' 80'

VERT 0' 4' 8'

SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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ISANI
civil \ design \ engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

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Engineer
101094
3/9/2026
Date
ISANI CONSULTANTS
Texas Registered Engineering Firm F-4575

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

WATER & SANITARY LATERAL STA 84+00 TO STA 88+00

SHEET 20 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 615 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 3/9/2026 5:48:10 PMemma

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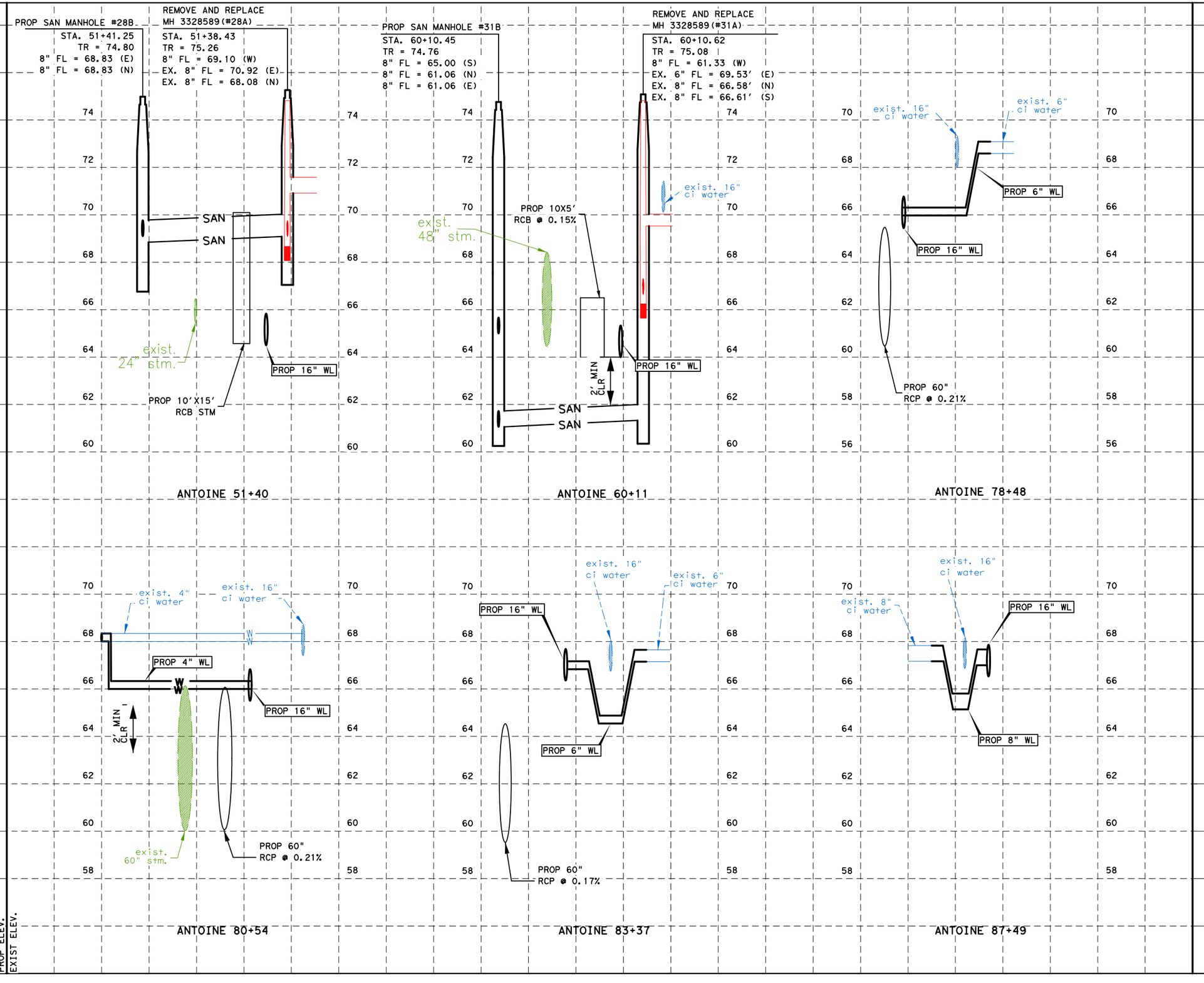

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HORZ
0' 40' 80'
0' 4' 8'
VERT
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WATER & SANITARY LATERALS

SHEET 21 OF 37

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 616 OF 1067	

Plotted on: 3/9/2026 5:48:11 PM emma
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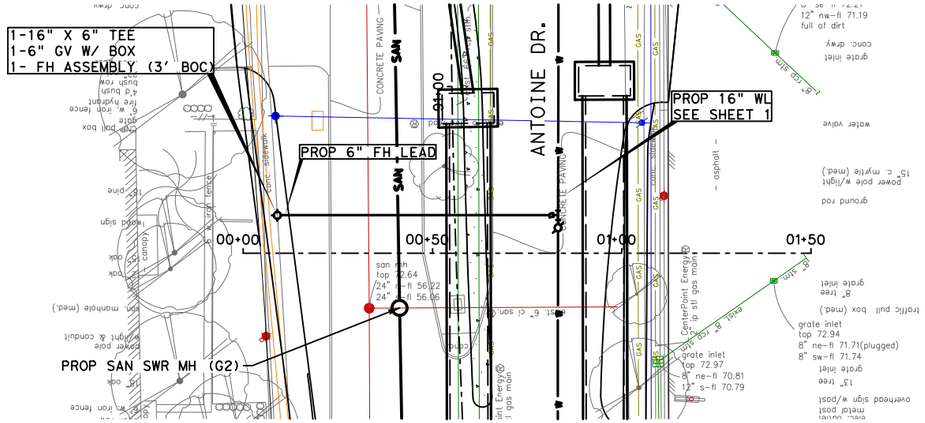
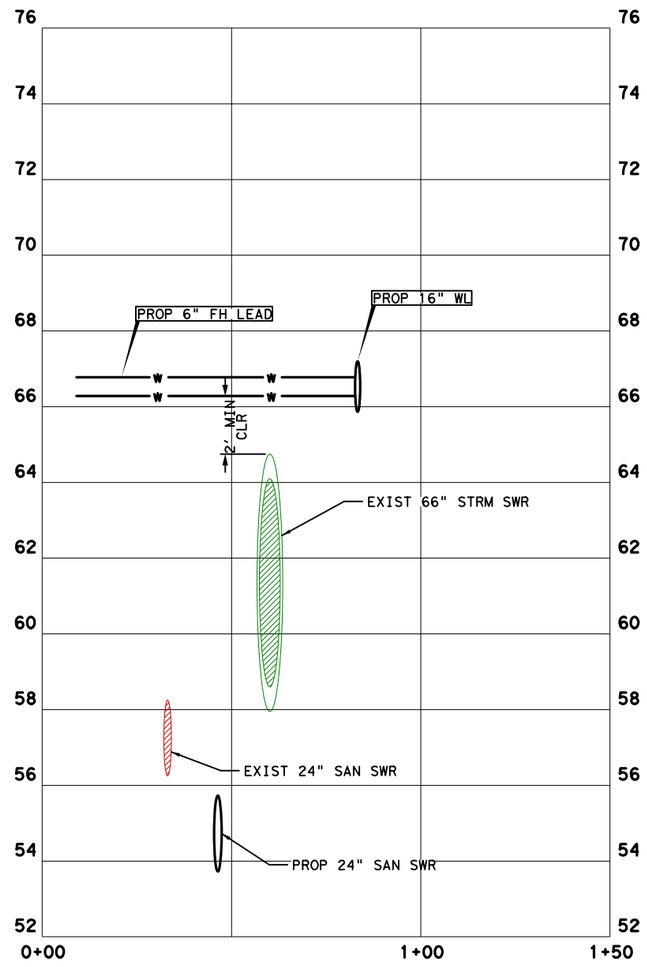


CROSS SECTION A-A



GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. SEE WATER AND WASTEWATER PLAN & PROFILE SHEETS FOR PROP WATER AND WASTERWATER IMPROVEMENTS.

3. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTION. PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.

4. CONTRACTOR TO VERIFY ALL ELEVATION AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.

5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

6. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT. INTERVAL.

7. CONTRACTOR SHALL REVIEW ALL WATER, WASTEWATER, AND STORM SEWER PROFILE SHEETS AND VERIFY THERE ARE NO DISCREPANCIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES IDENTIFIED SHALL BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER FOR RESOLUTION.

8. AFTER INSTALLATION AND SUCCESSFUL TESTING OF WATER MAINS AND SANITARY SEWERS, TRANSFER SERVICES FROM EXISTING LINES TO NEW LINES. ABANDON EXISTING WATER MAINS AND SANITARY SEWERS SHOWN OR INDICATED ON THE DRAWINGS.

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- —— EXIST STORM SEWER
- ◯ CRITICAL LOCATION, SEE SPEC. 02317

N

0′ 20′ 40′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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engineering – construction management
TX FIRM NO. F-2059
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN CROSS SECTION A-A

SHEET 33 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 617 OF 1067	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:42 PM ddang33

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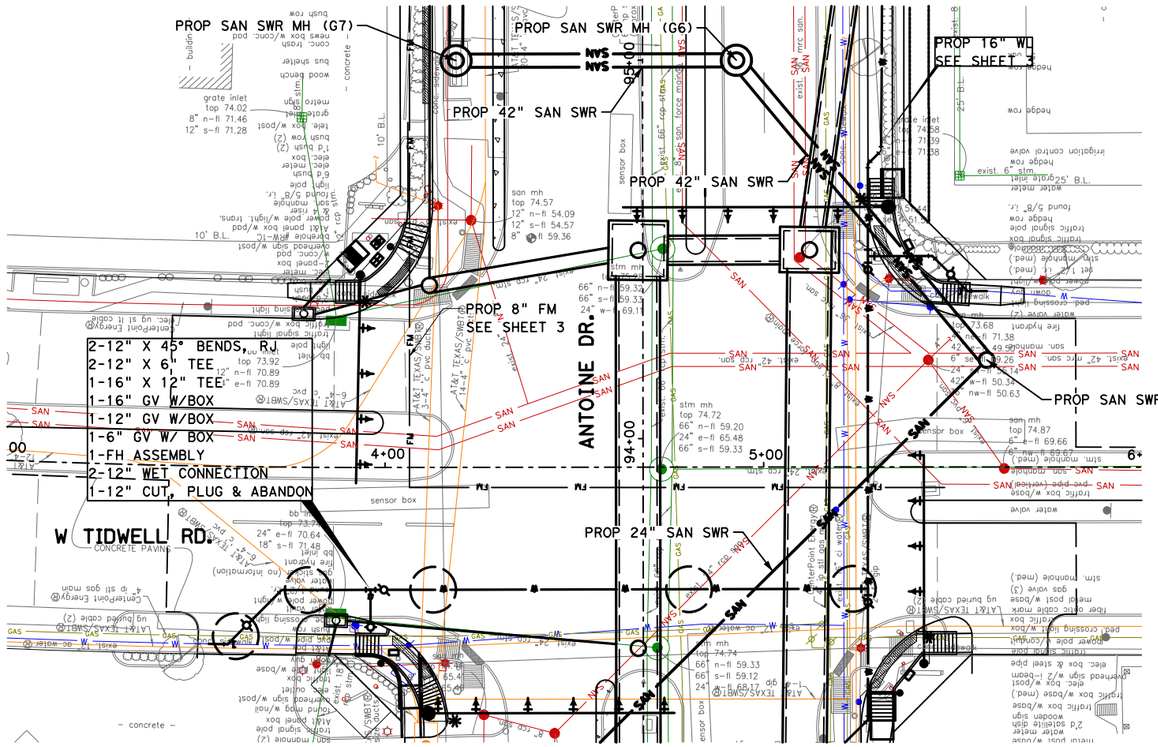

CROSS SECTION B-B

GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. SEE WATER AND WASTEWATER PLAN & PROFILE SHEETS FOR PROP WATER AND WASTERWATER IMPROVEMENTS.

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7. CONTRACTOR SHALL REVIEW ALL WATER, WASTEWATER, AND STORM SEWER PROFILE SHEETS AND VERIFY THERE ARE NO DISCREPANCIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES IDENTIFIED SHALL BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER FOR RESOLUTION.

8. AFTER INSTALLATION AND SUCCESSFUL TESTING OF WATER MAINS AND SANITARY SEWERS, TRANSFER SERVICES FROM EXISTING LINES TO NEW LINES. ABANDON EXISTING WATER MAINS AND SANITARY SEWERS SHOWN OR INDICATED ON THE DRAWINGS.

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

N

0′ 20′ 40′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

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engineering – construction management

TX FIRM NO. F-2059
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CITY OF HOUSTON
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ANTOINE DRIVE

WATER AND SANITARY PLAN CROSS SECTION B-B

SHEET 34 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 618 OF 1067	

Pen Table: ANTOINE DR.tbl
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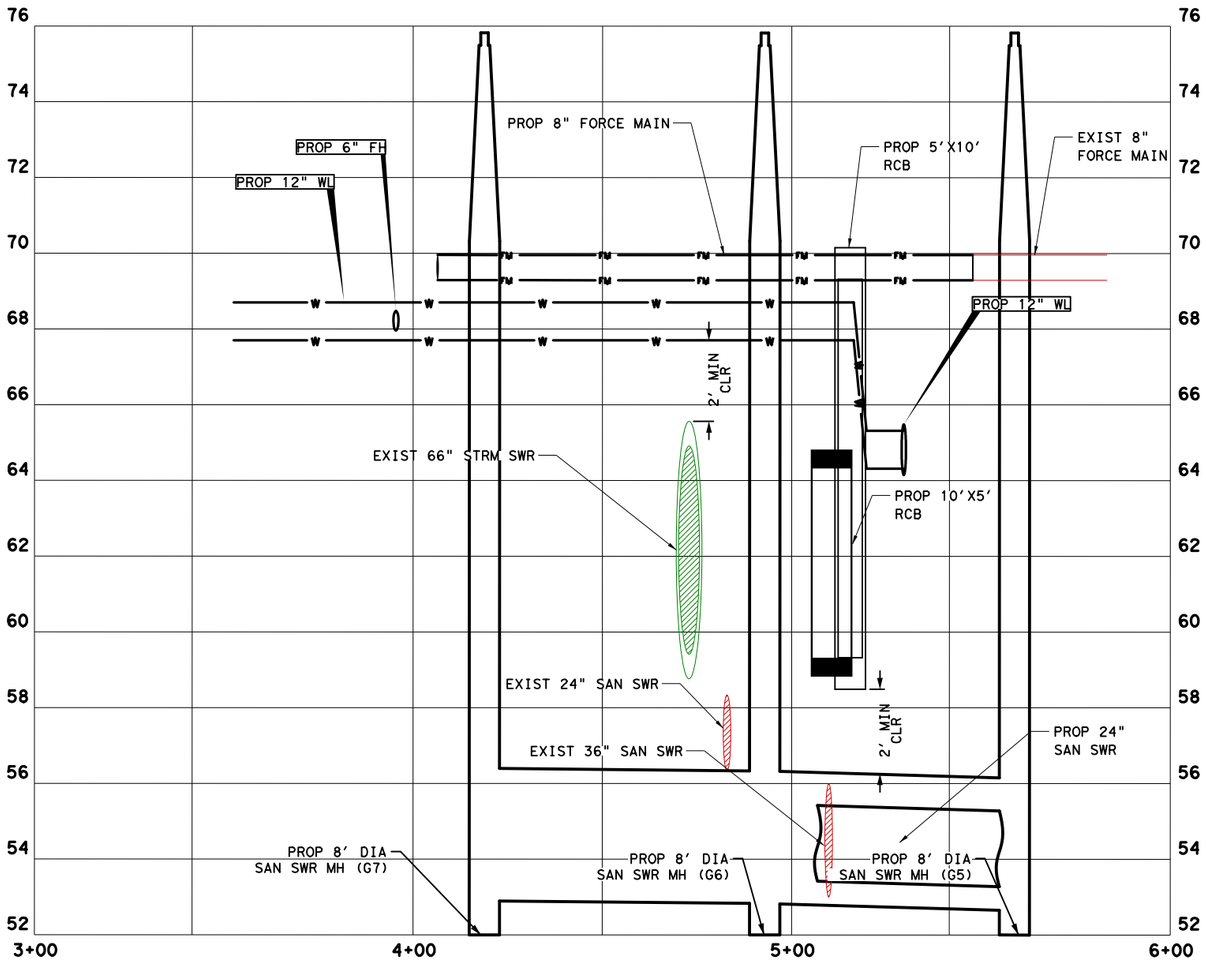

CROSS SECTION B-B

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- —FM— PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

0' 40' 80'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PROFILE
CROSS SECTION B-B

SHEET 35 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 619 OF 1067	

Pen Table: ANTOINE DR.tbl
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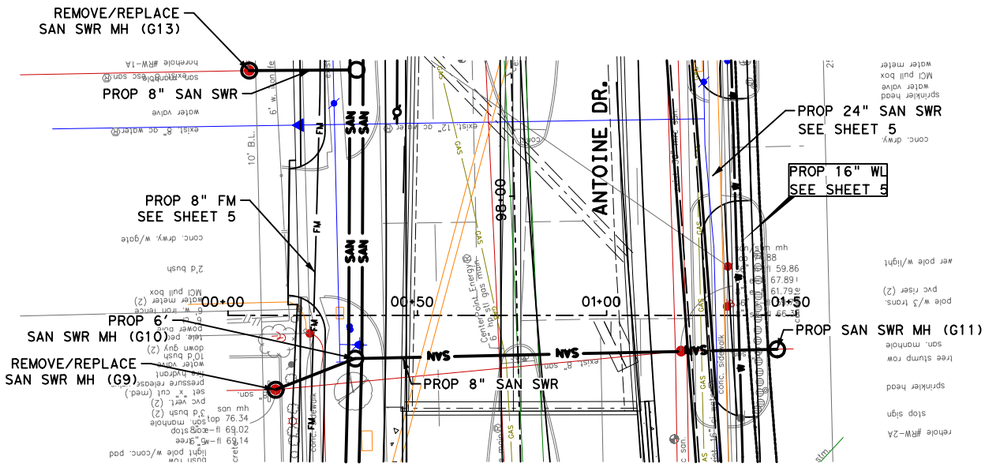

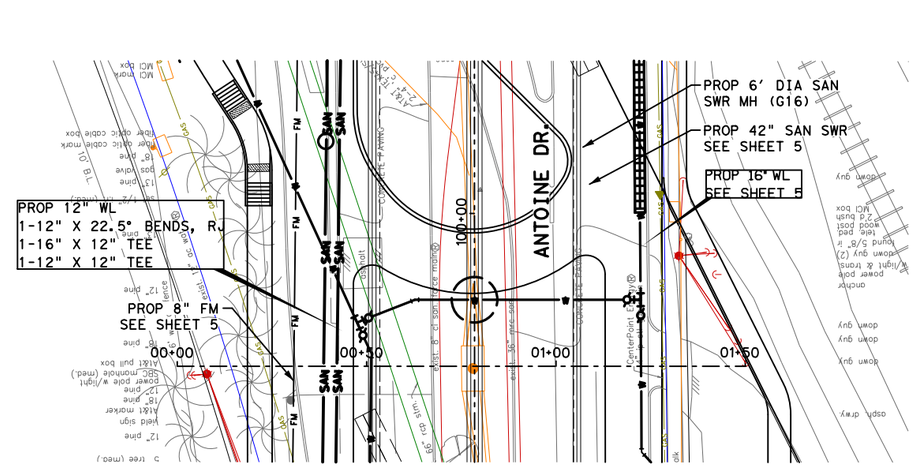

LEGEND

- —W— PROP WATER
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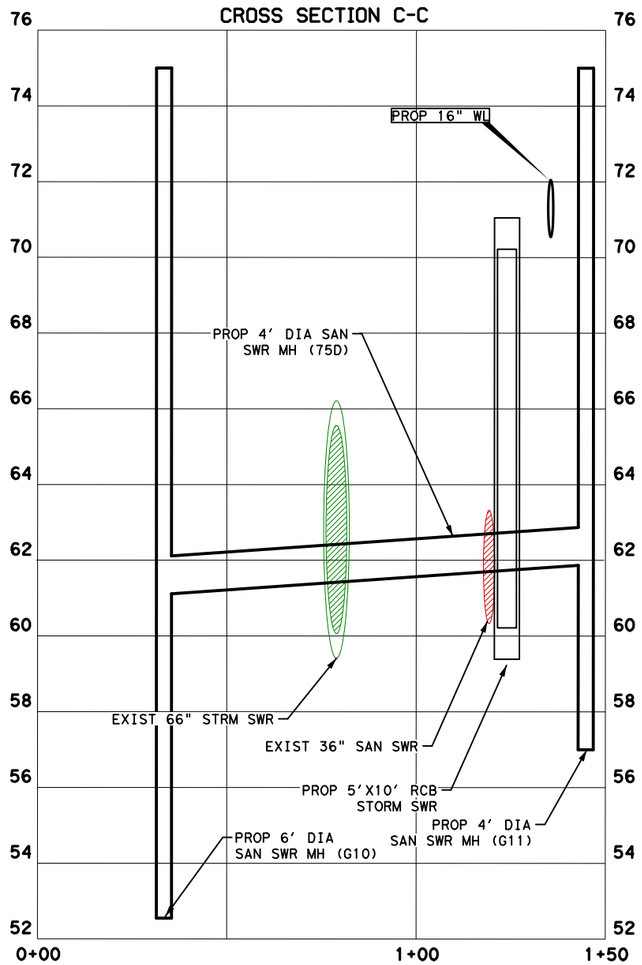
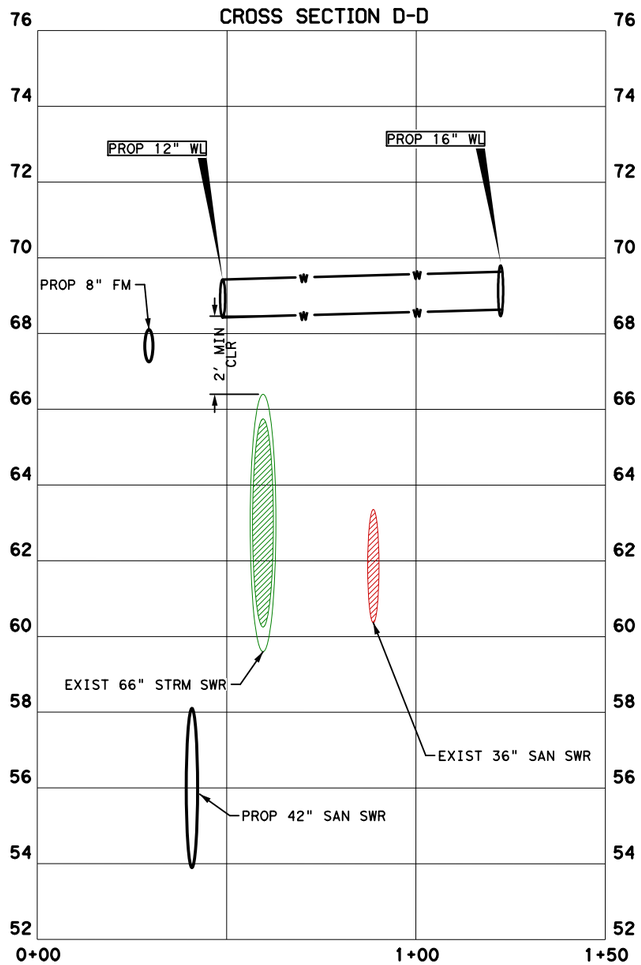
- —FM— PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

0' 40' 80'
SCALE IN FEET





GENERAL NOTES:

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Engineer
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02/27/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTIONS C-C / D-D

SHEET 36 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 620 OF 1067	

No.	DATE	REVISIONS	APP.

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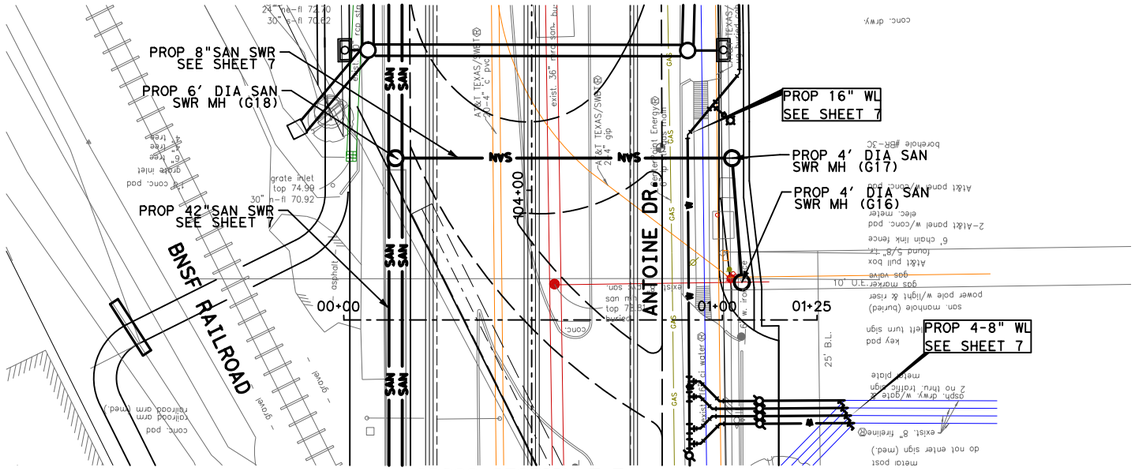
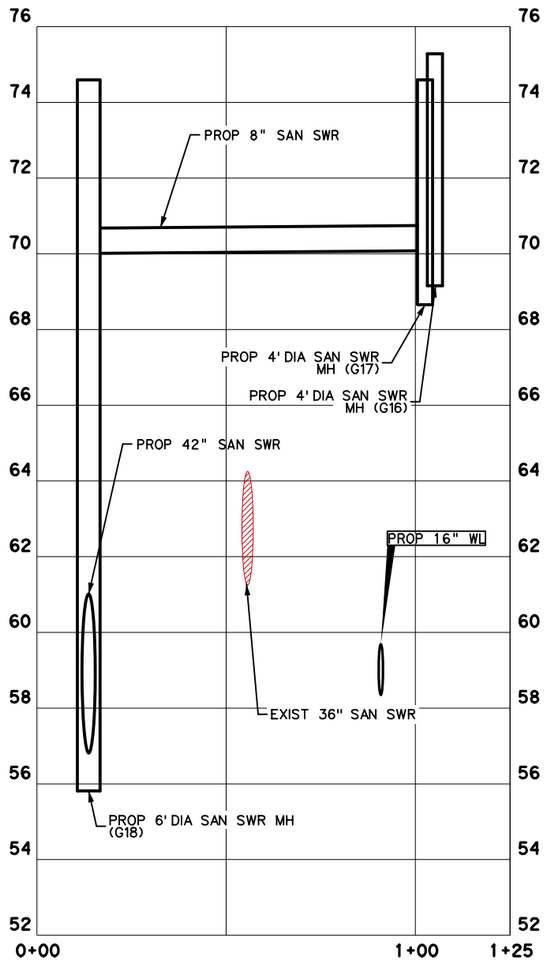


CROSS SECTION E-E



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—SAN— PROP SANITARY
— FM — PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

HORZ 0′ 10′ 20′
VERT 0′ 1′ 2′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN CROSS SECTION E-E

SHEET 37 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 621 OF 1067	

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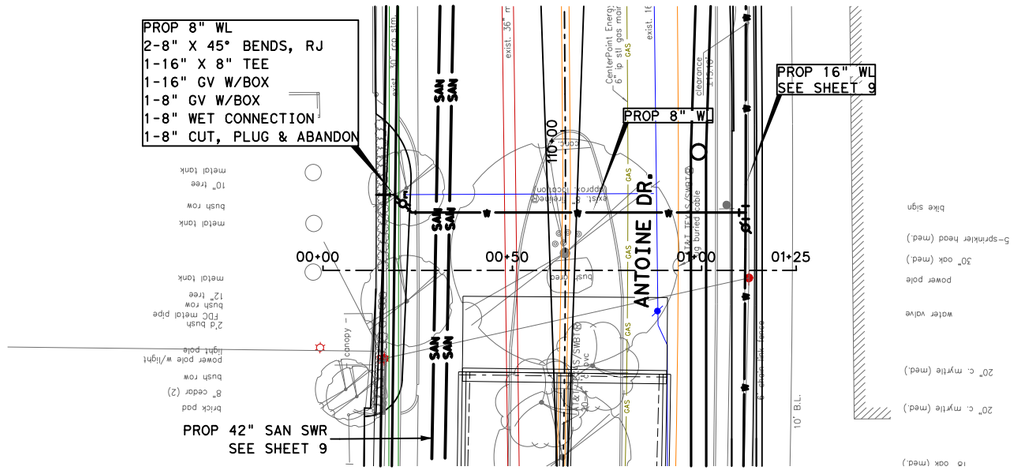
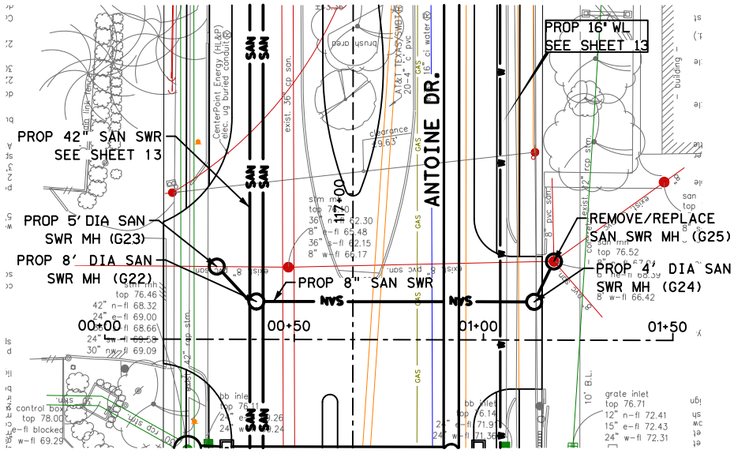
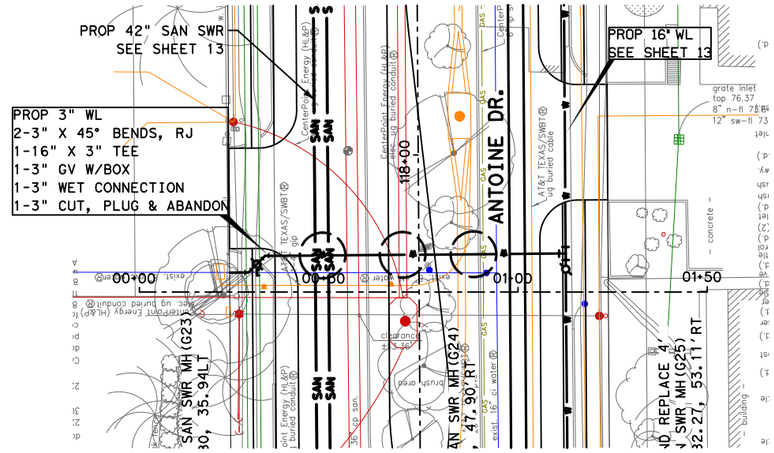
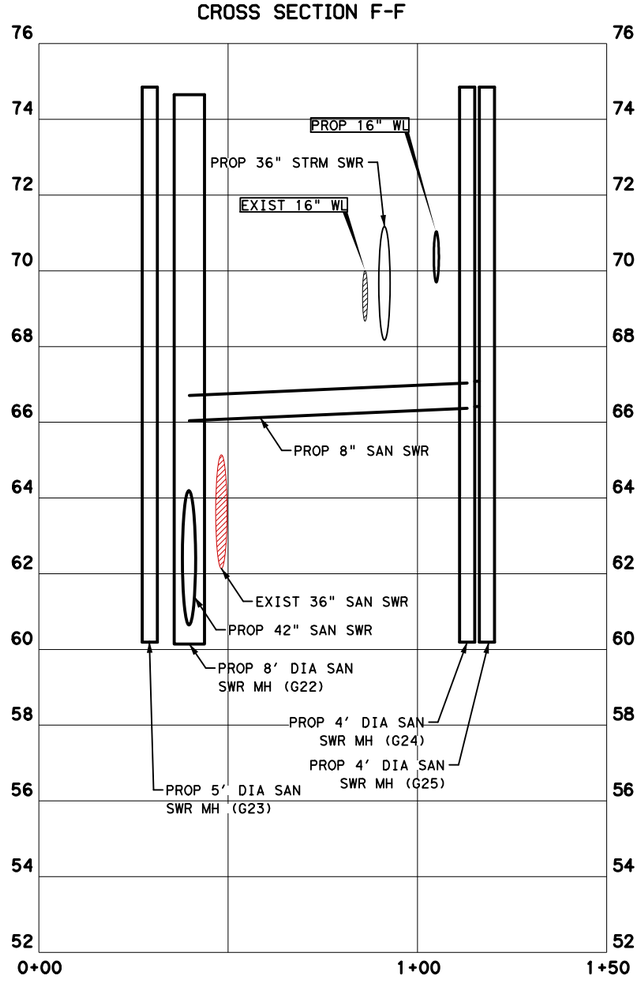

PROP 8" WL
2-8" X 45° BENDS, RJ
1-16" X 8" TEE
1-16" GV W/BOX
1-8" GV W/BOX
1-8" WET CONNECTION
1-8" CUT, PLUG & ABANDON
PROP 16" WL
SEE SHEET 9
PROP 8" WL
PROP 42" SAN SWR
SEE SHEET 9
ANTOINE DR.
00+00
00+50
01+00
01+25
110+00
SAN
GAS
W
FM
exist. 36" rcp
exist. 16" st
exist. 16" ductile iron
CenterPoint Energy 6" steel gas main
clearance 4.5'±
exist. 10" cmp
exist. 8" ductile iron
exist. 8" ductile iron
exist. 8" ductile iron

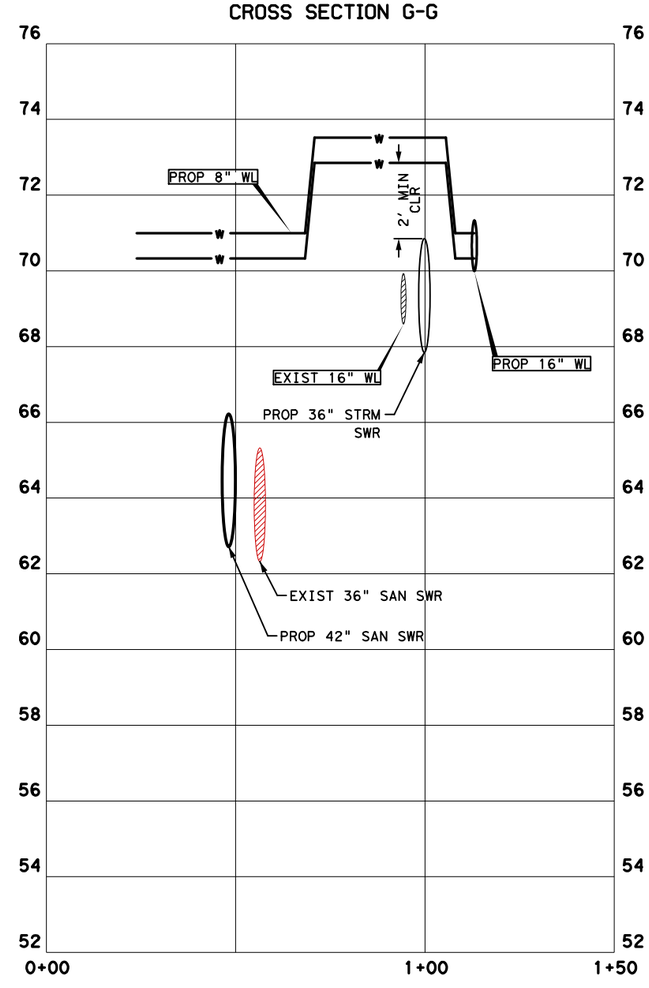


CROSS SECTION F-F



CROSS SECTION G-G





LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

GENERAL NOTES:

1. SEE SHEET 33 FOR GENERAL CONSTRUCTION NOTES.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:

FOR YOUR SAFETY,YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED.THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

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engineering - construction management
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HOUSTON, TEXAS 77056

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION F-F / G-G

SHEET 39 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 623 OF 1067	

Pen Table: ANTOINE DR.tbl
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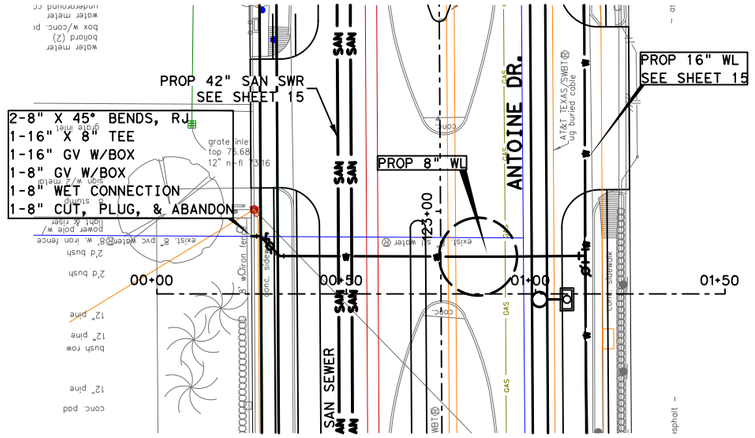
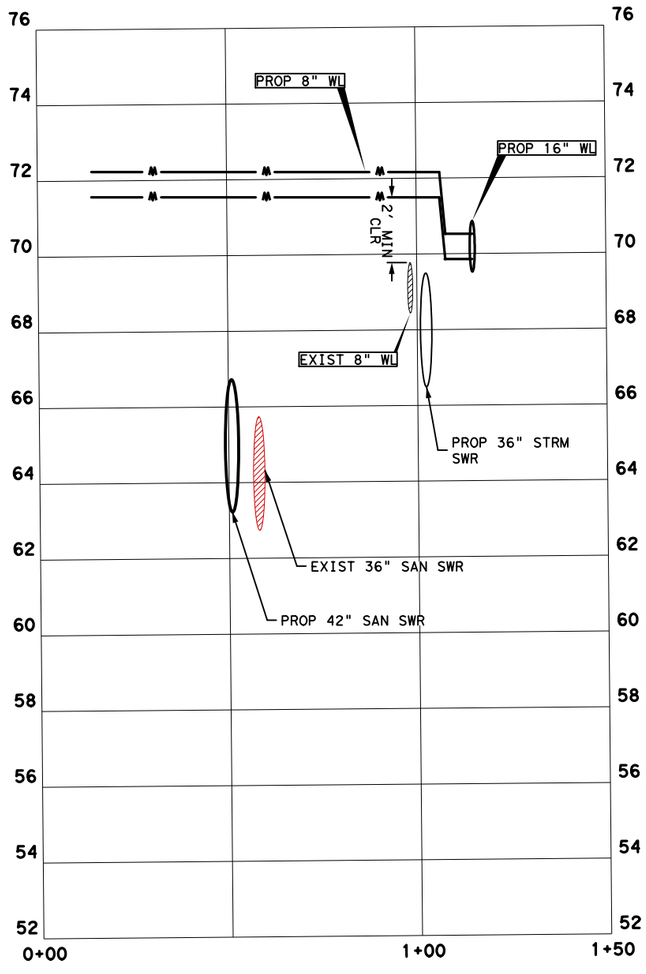


CROSS SECTION H-H



GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.
2. SEE WATER AND WASTEWATER PLAN & PROFILE SHEETS FOR PROP WATER AND WASTERWATER IMPROVEMENTS.
3. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTION. PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
4. CONTRACTOR TO VERIFY ALL ELEVATION AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.
6. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT. INTERVAL.
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8. AFTER INSTALLATION AND SUCCESSFUL TESTING OF WATER MAINS AND SANITARY SEWERS, TRANSFER SERVICES FROM EXISTING LINES TO NEW LINES. ABANDON EXISTING WATER MAINS AND SANITARY SEWERS SHOWN OR INDICATED ON THE DRAWINGS.

LEGEND

—W— PROP WATER
—SAN— PROP SANITARY
— FM — PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

No.	DATE	REVISIONS	APP:

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90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION H-H

SHEET 40 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 624 OF 1067	

24" F-F

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:47 PM ddang33
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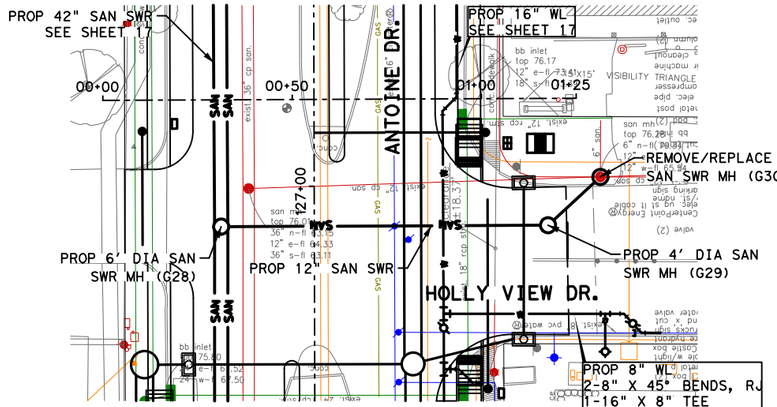
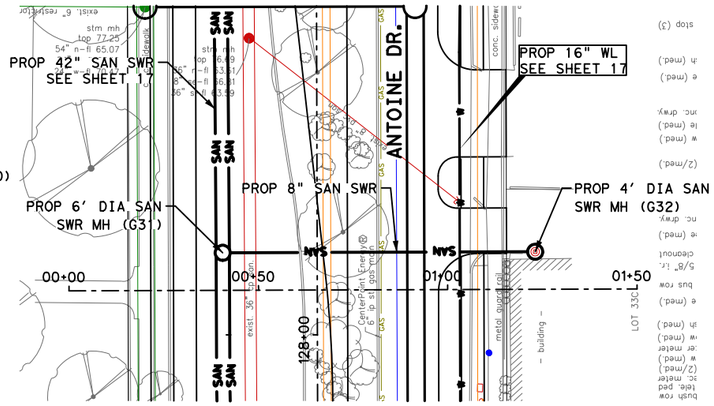
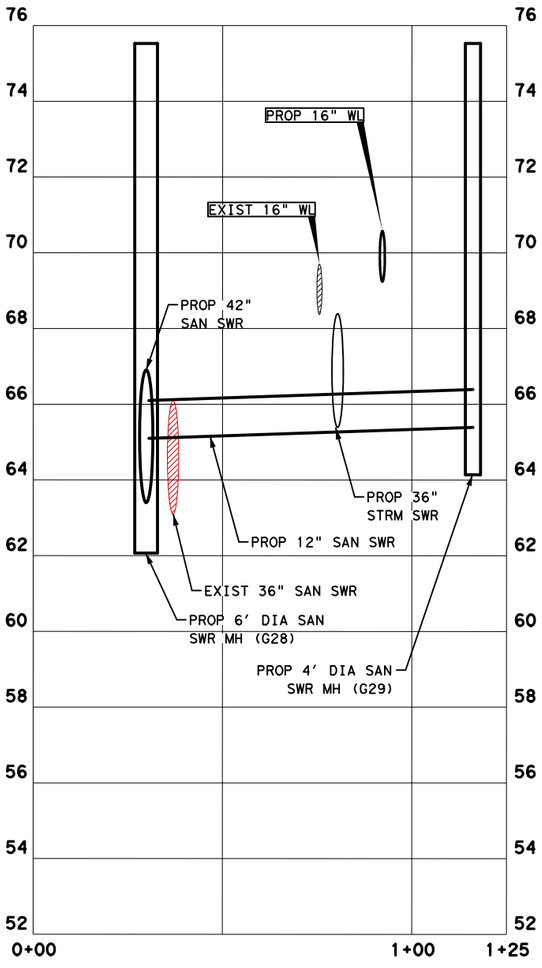
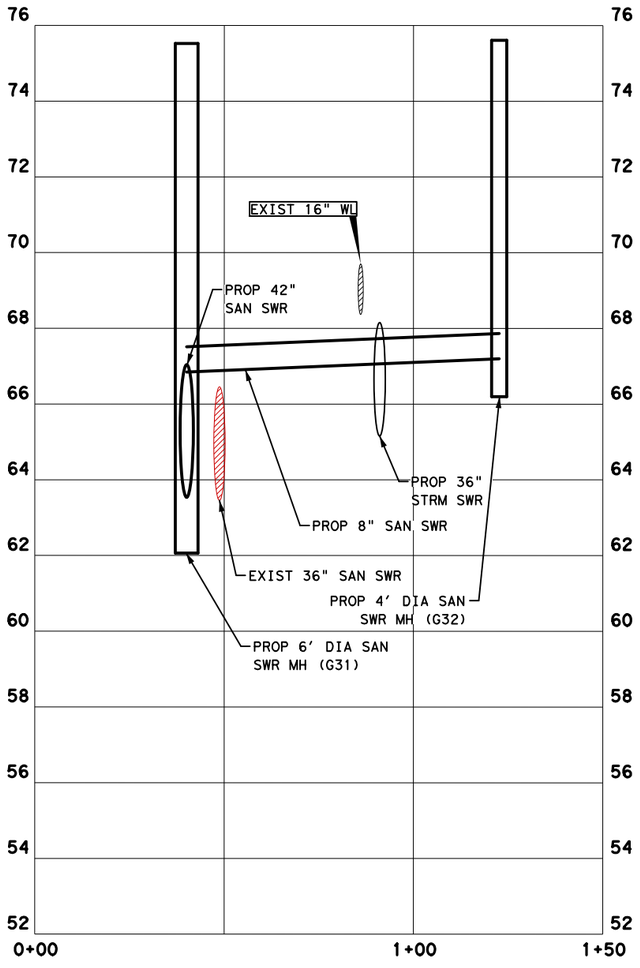


CROSS SECTION I-I



CROSS SECTION J-J





LEGEND

—W—	PROP WATER
—SAN—	PROP SANITARY
— FM —	PROP FORCE MAIN
—W—	EXIST WATER
—SAN—	EXIST SANITARY
———	EXIST STORM SEWER
○	CRITICAL LOCATION, SEE SPEC. 02317

GENERAL NOTES:

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HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION I-I / J-J

SHEET 41 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 625 OF 1067	

No.	DATE	REVISIONS	APP.

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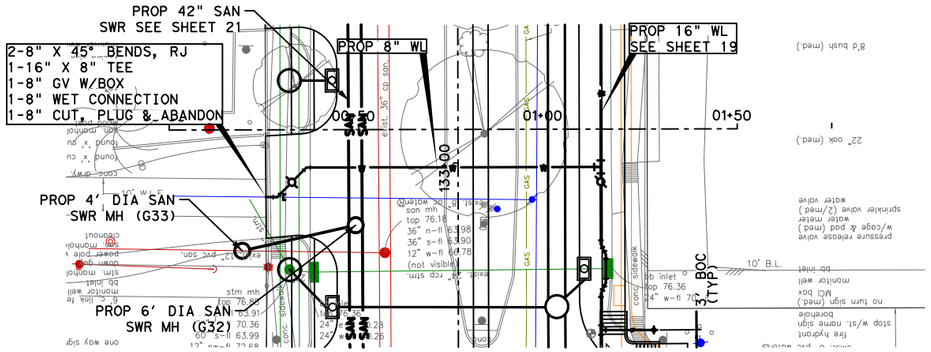
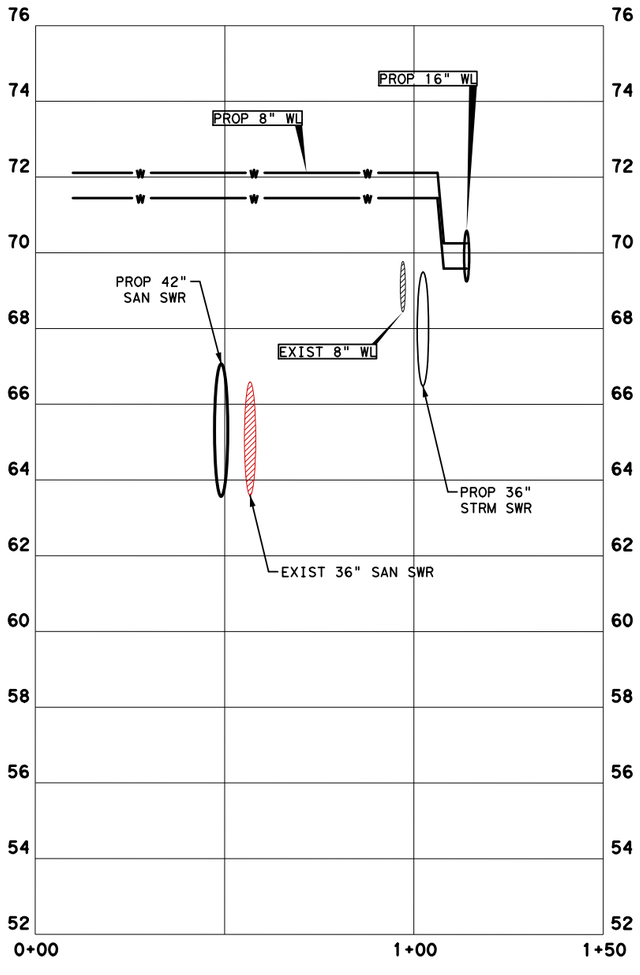


CROSS SECTION K-K



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LEGEND

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- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION K-K

SHEET 42 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 626 OF 1067	

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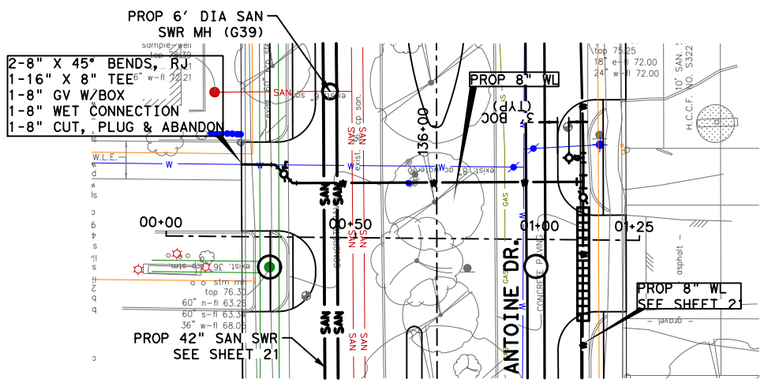
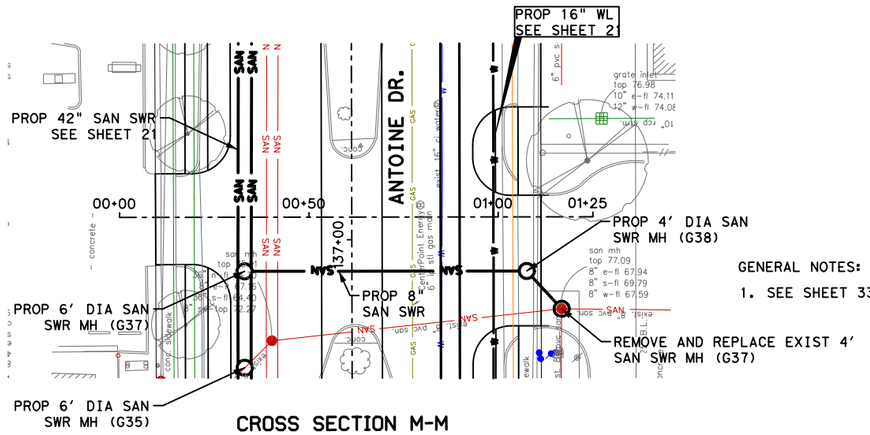


CROSS SECTION L-L



CROSS SECTION M-M

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- —FM— PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

GENERAL NOTES:

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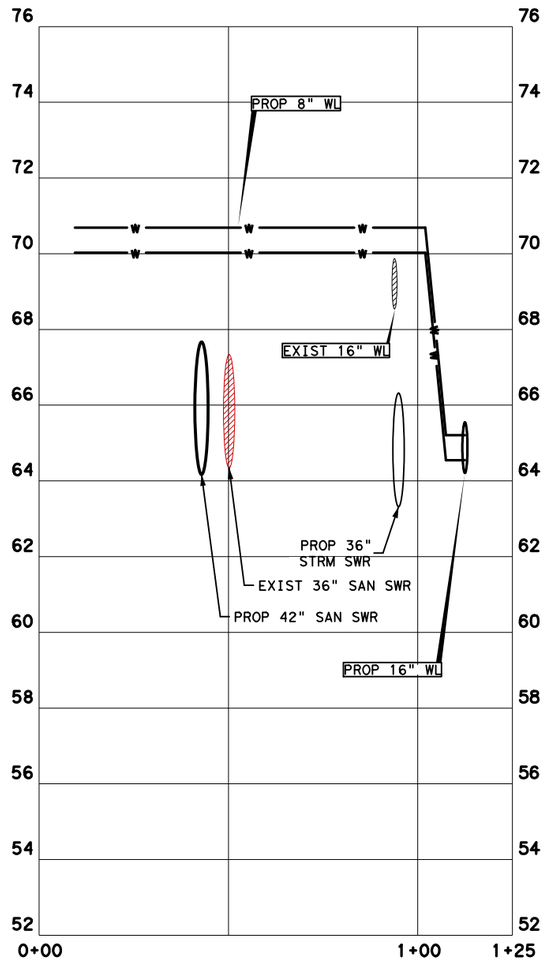

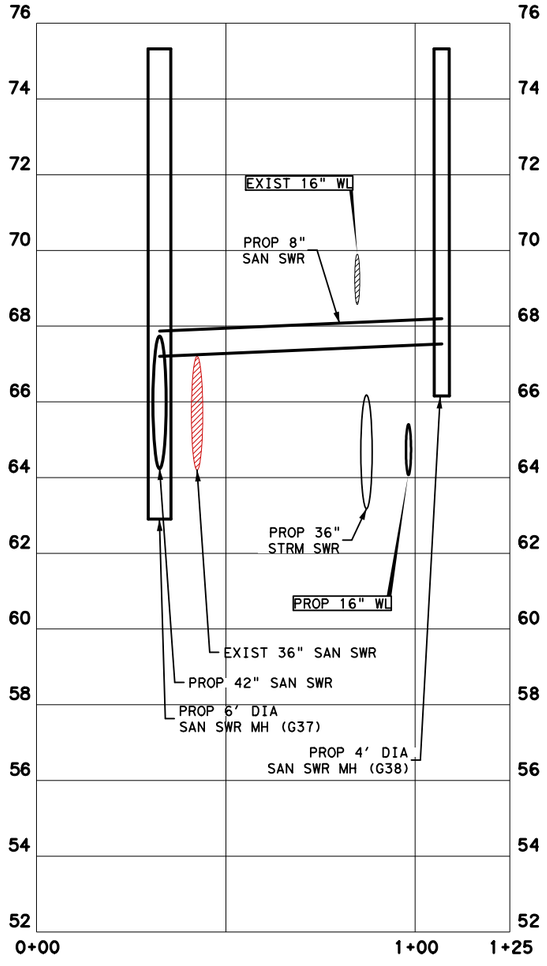

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VERT 0' 2' 4'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION L-L / M-M

SHEET 43 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO: (627 OF 1067)	

No.	DATE	REVISIONS	APP.

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:50 PM ddang33

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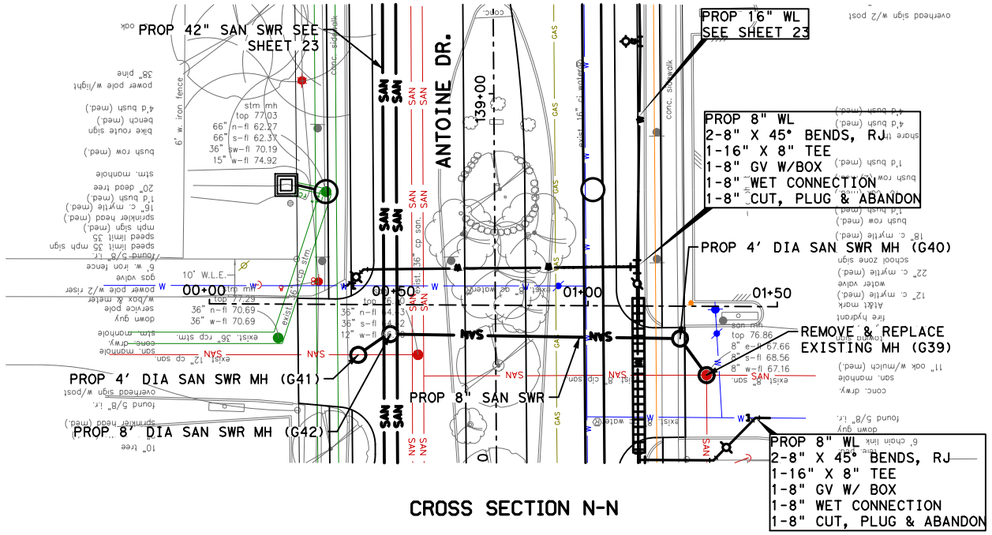
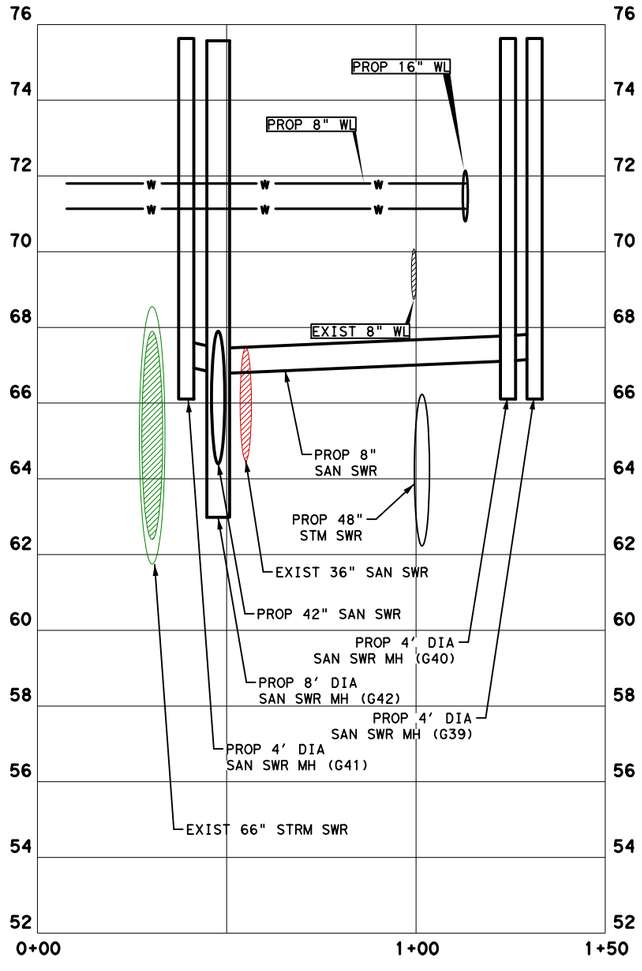


CROSS SECTION N-N



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6. PLACE 1 FULL SECTION (MIN. 18 FT) OF 150 PSI SS AT WL CROSSING. PROVIDE RESTRAINED JOINTS ON SAN SWR, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF WL, OR ENCASE IN A JOINT OF 150 PSI PRESSURE PIPE (MIN 18 FT) TWO NOMINAL SIZES LARGER WITH SPACES AT 5 FT. INTERVAL.
7. CONTRACTOR SHALL REVIEW ALL WATER, WASTEWATER, AND STORM SEWER PROFILE SHEETS AND VERIFY THERE ARE NO DISCREPANCIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES IDENTIFIED SHALL BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER FOR RESOLUTION.
8. AFTER INSTALLATION AND SUCCESSFUL TESTING OF WATER MAINS AND SANITARY SEWERS, TRANSFER SERVICES FROM EXISTING LINES TO NEW LINES. ABANDON EXISTING WATER MAINS AND SANITARY SEWERS SHOWN OR INDICATED ON THE DRAWINGS.

LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown.) This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T underground conduit facilities only. Signature Date
valid for one year.

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Aurora Technical Services, LLC
engineering — construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

SURVEYED BY:
KUO & ASSOCIATES, INC.

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RAFAEL ORTEGA, P.E.
PE#
80253
DATE
02/27/2026
FOR
90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN CROSS SECTION N-N

SHEET 44 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 628 (OF 1067)	

Pen Table: ANTOINE DR.tbl
Plot Driver: K:\Gauge\Antoine Paving & Drainage W Mount Houston to US290\4-0 Production\4-1 Drawings\Resource\Plot files\ANTOINE DR.pltcfg Plotted on: 3/19/2026 1:28:50 PM ddang33

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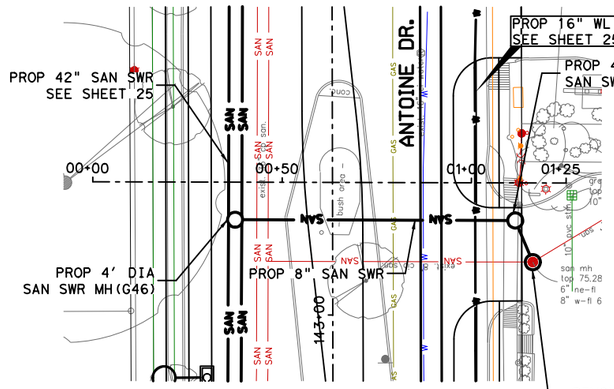
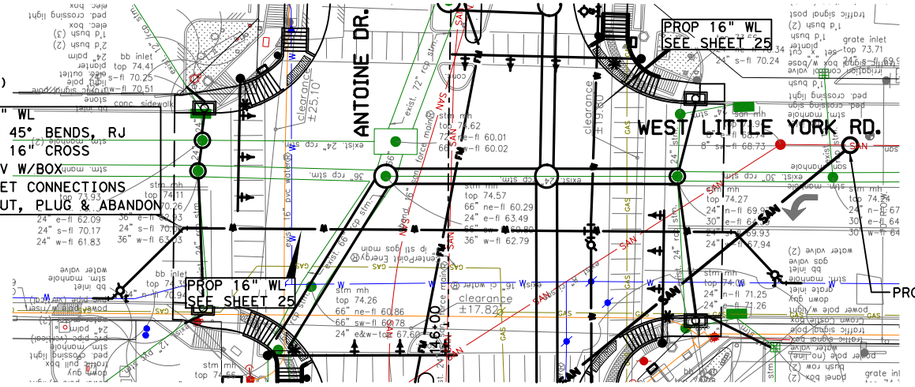
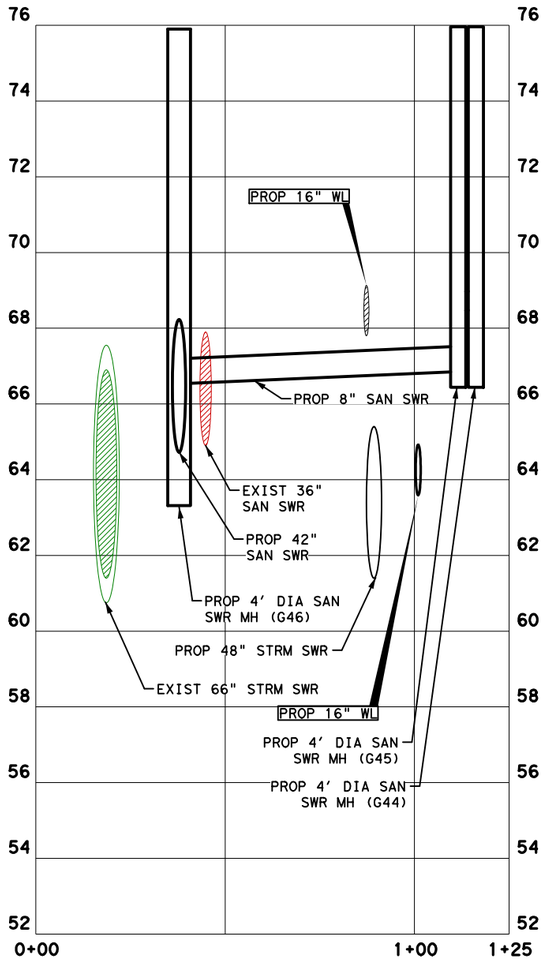
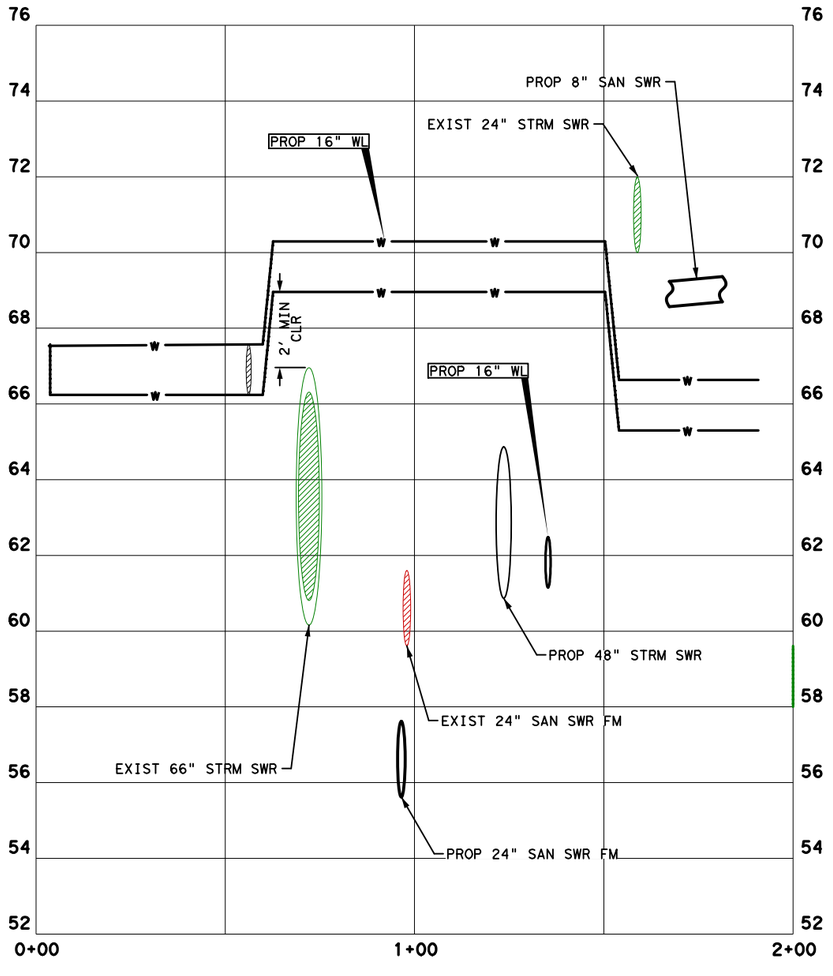


CROSS SECTION O-O



CROSS SECTION P-P





LEGEND

- —W— PROP WATER
- —SAN— PROP SANITARY
- — FM — PROP FORCE MAIN
- —W— EXIST WATER
- —SAN— EXIST SANITARY
- EXIST STORM SEWER
- CRITICAL LOCATION, SEE SPEC. 02317

GENERAL NOTES:

1. SEE SHEET 33 FOR GENERAL CONSTRUCTION NOTES.

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

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engineering · construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

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60253
02/27/2026
for
90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION O-O / P-P

SHEET 45 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 629 OF 1067	

No.	DATE	REVISIONS	APP.

Pen Table: ANTOINE DR.tbl
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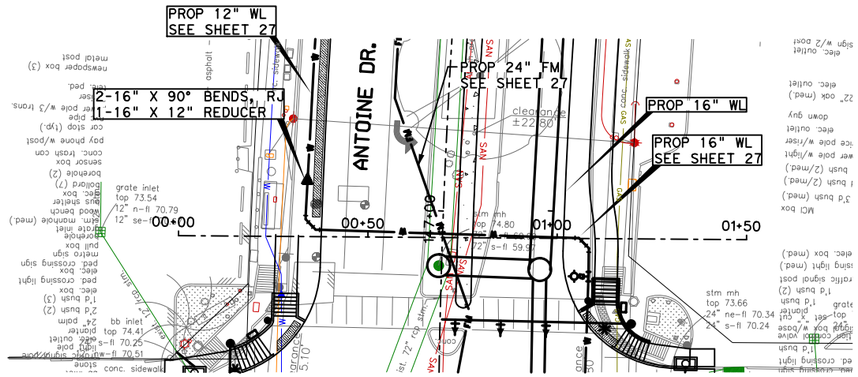
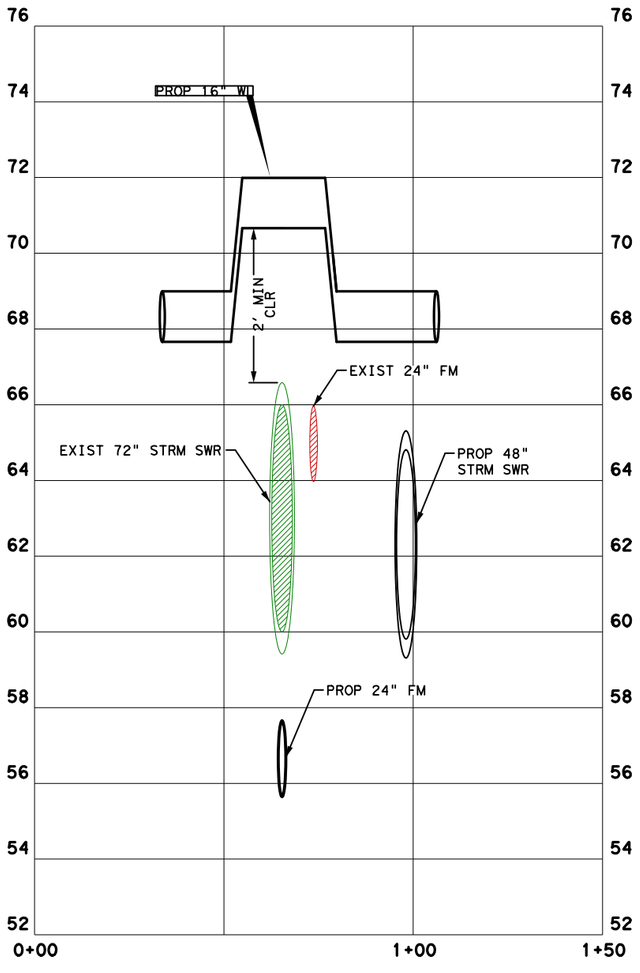


CROSS SECTION Q-Q



GENERAL NOTES:

1. SEE PAVING AND DRAINAGE PLAN & PROFILE SHEETS FOR PROP ROADWAY AND STORM IMPROVEMENTS.

2. SEE WATER AND WASTEWATER PLAN & PROFILE SHEETS FOR PROP WATER AND WASTERWATER IMPROVEMENTS.

3. MAINTAIN WATER AND WASTEWATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTION. PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.

4. CONTRACTOR TO VERIFY ALL ELEVATION AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.

5. PLACE 1 FULL SECTION (MIN. 18 FT) OF WL CENTERED AT SS CROSSING. (ENCASED PVC WL COMPLYING WITH TAC 290.44 MAY BE PROVIDED AT CONTRACTORS OPTION.) PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9 FT HORIZONTALLY FROM CENTERLINE OF SS.

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LEGEND

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—SAN— PROP SANITARY
—FM— PROP FORCE MAIN
—W— EXIST WATER
—SAN— EXIST SANITARY
EXIST STORM SEWER
CRITICAL LOCATION, SEE SPEC. 02317

HORZ 0' 20' 40'
VERT 0' 2' 4'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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P.E. No. 80253
DATE 02/27/2026
FOR 90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN CROSS SECTION Q-Q

SHEET 46 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 630 OF 1067	

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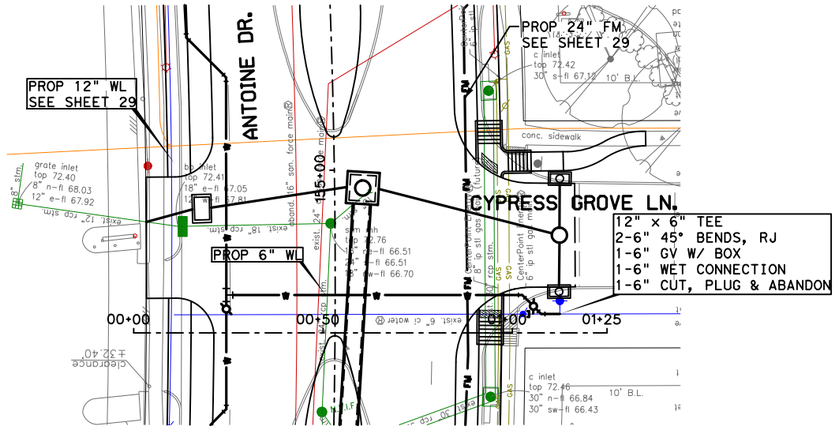
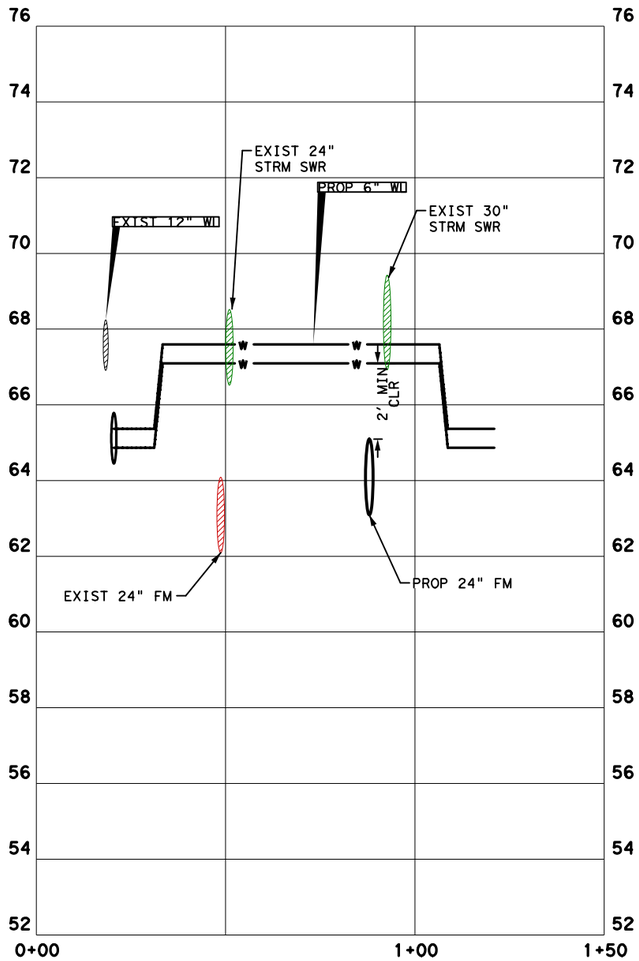


CROSS SECTION R-R



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LEGEND

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—SAN—	PROP SANITARY
— FM —	PROP FORCE MAIN
—W—	EXIST WATER
—SAN—	EXIST SANITARY
———	EXIST STORM SEWER
◯	CRITICAL LOCATION, SEE SPEC. 02317

HORZ 0′ 20′ 40′
VERT 0′ 2′ 4′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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Aurora Technical Services, LLC
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056

SURVEYED BY:
KUO & ASSOCIATES, INC.

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92253
02/27/2026
90% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER AND SANITARY PLAN
CROSS SECTION R-R

SHEET 47 OF 47

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 631 OF 1067	

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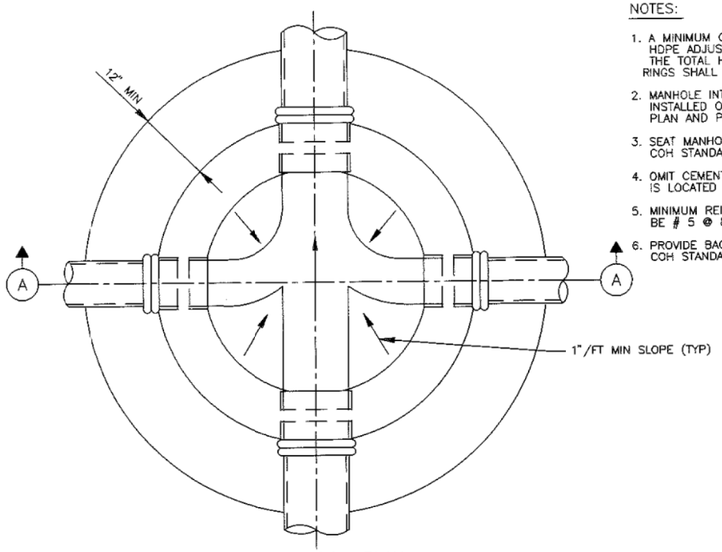
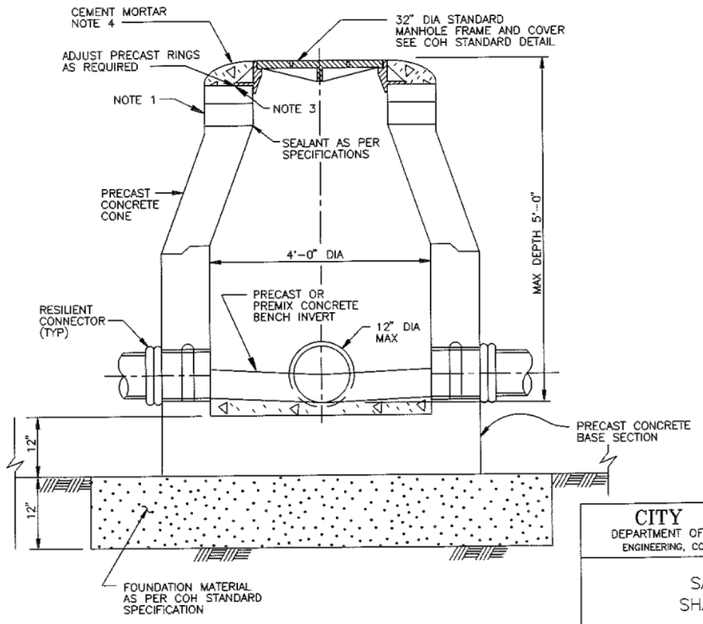
Plotted on: 3/12/2026 2:17:48 PM $USER$

NOTES:

1. A MINIMUM OF 3" PRECAST CONCRETE OR HDPE ADJUSTMENT RING SHALL BE PROVIDED. THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 12".
2. MANHOLE INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
3. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
4. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
5. MINIMUM REINFORCING IN THE BASE BE # 5 @ 8 EW.
6. PROVIDE BACKFILL MATERIAL AS PER COH STANDARD SPECIFICATION.



FOUNDATION PLAN

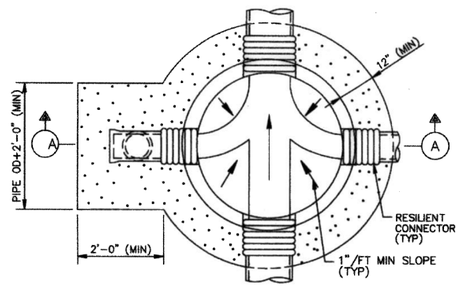


SECTION (A)

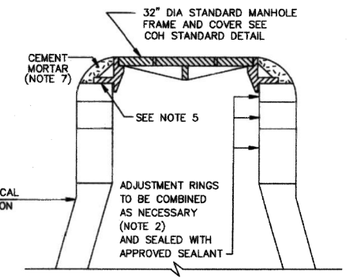
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SHALLOW MANHOLE (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02082-01

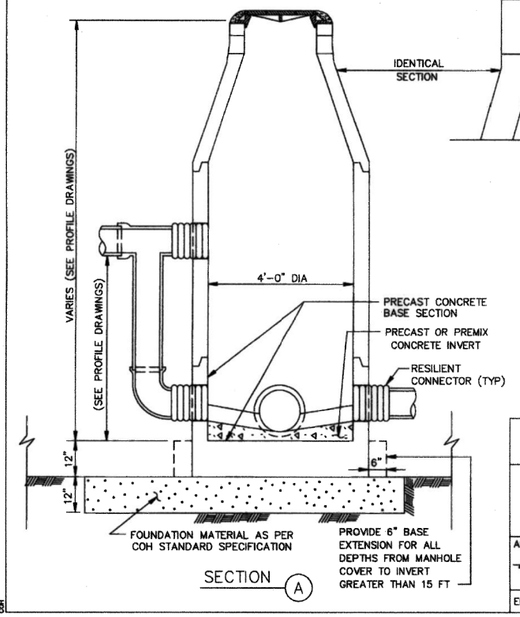
NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
6. ECCENTRIC PRECAST CONCRETE MANHOLE MAY BE USED.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8 EW.



FOUNDATION PLAN





SECTION (A)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER 4'-0" DIAMETER PRECAST CONCRETE MANHOLE (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02082-02

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

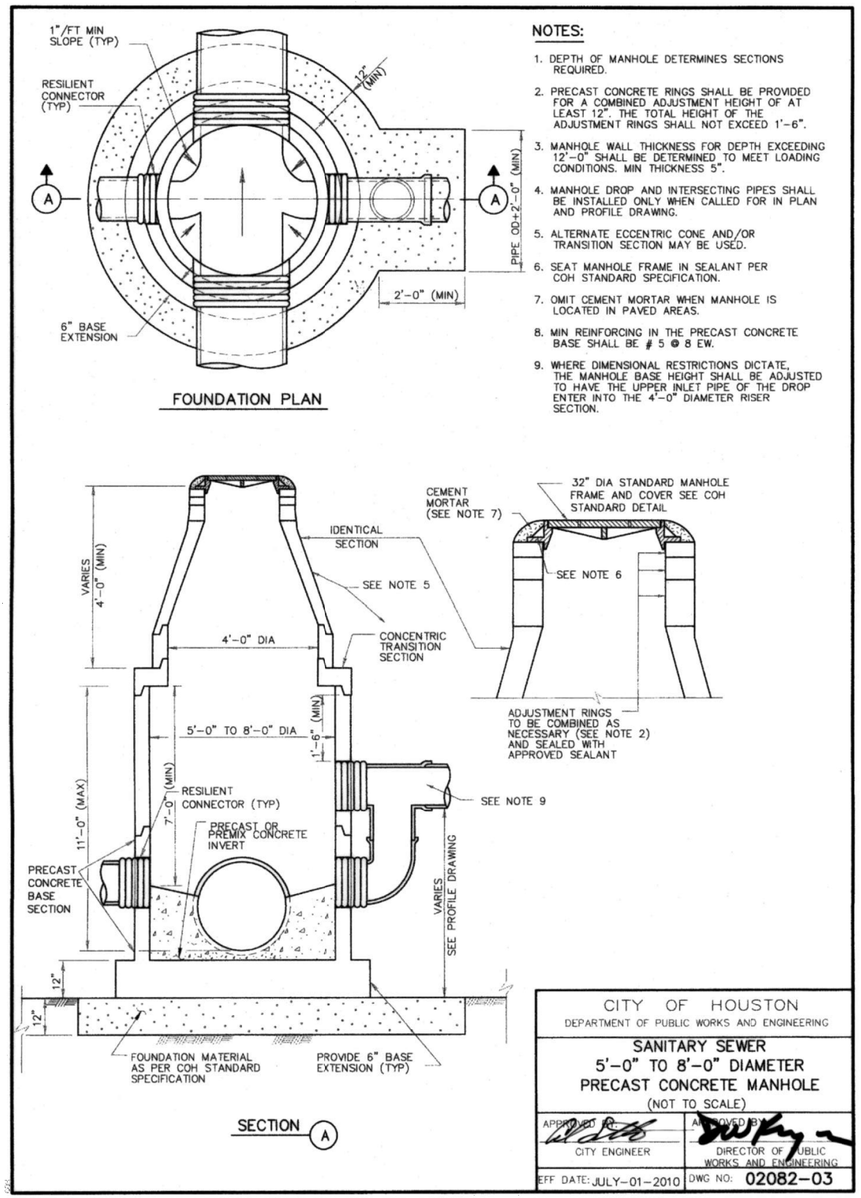
ANTOINE DRIVE

SANITARY SEWER STANDARD DETAILS

SHEET 1 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 632 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Water\STANDARDS\SAN_STD 01.dgn



FOUNDATION PLAN

SECTION (A)

NOTES:

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2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. ALTERNATE ECCENTRIC CONE AND/OR TRANSITION SECTION MAY BE USED.
6. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8 EW.
9. WHERE DIMENSIONAL RESTRICTIONS DICTATE, THE MANHOLE BASE HEIGHT SHALL BE ADJUSTED TO HAVE THE UPPER INLET PIPE OF THE DROP ENTER INTO THE 4'-0" DIAMETER RISER SECTION.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

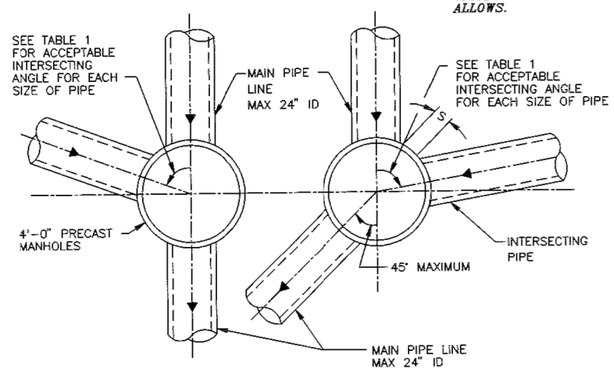
SANITARY SEWER
5'-0" TO 8'-0" DIAMETER
PRECAST CONCRETE MANHOLE
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02082-03

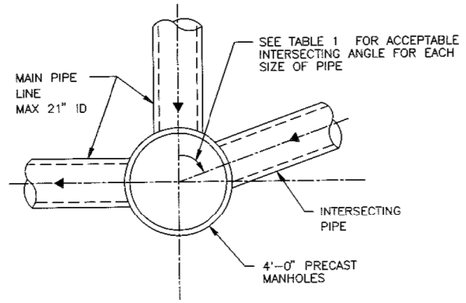
NOTES ON USE OF STANDARD DETAIL 02082-02

NOTES TO SPECIFIER:

1. *"–" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.*
2. *TABLE 1 IS BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTION PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.*
3. *PIPE WALL THICKNESS USED IN TABLE 1 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLE ALLOWS.*



MAX 24" ID MAIN PIPE ALLOWED FOR STRAIGHT THROUGH TO 45° DEFLECTION



MAX 21" ID MAIN PIPE ALLOWED FOR 45° TO 90° DEFLECTION

TABLE 1

MIN ANGLE AND INTERSECTING PIPE SIZES FOR A 4'-0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR FOR VARIOUS MAIN PIPE SIZES IN INCHES							
	6"	8"	10"	12"	15"	18"	21"	24"
6	55	58	60	65	70	75	80	85
8		60	63	68	73	77	82	87
10			66	71	75	80	85	90
12				76	80	85	90	–
15					85	90	–	–
18						–	–	–
21							–	–
24								–

NOT APPLICABLE UNLESS HYDRAULICS DICTATE (INTERSECTING PIPE > MAIN PIPE)

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

SANITARY SEWER
4'-0" DIAMETER PRECAST
CONCRETE MANHOLE NOTES
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02082N-02

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
on
125611
on
3/12/2026
for
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER
STANDARD DETAILS

SHEET 2 OF 11

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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 633 OF 1067	

No.	DATE	REVISIONS	APP.

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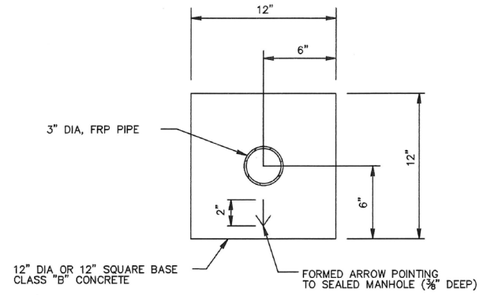
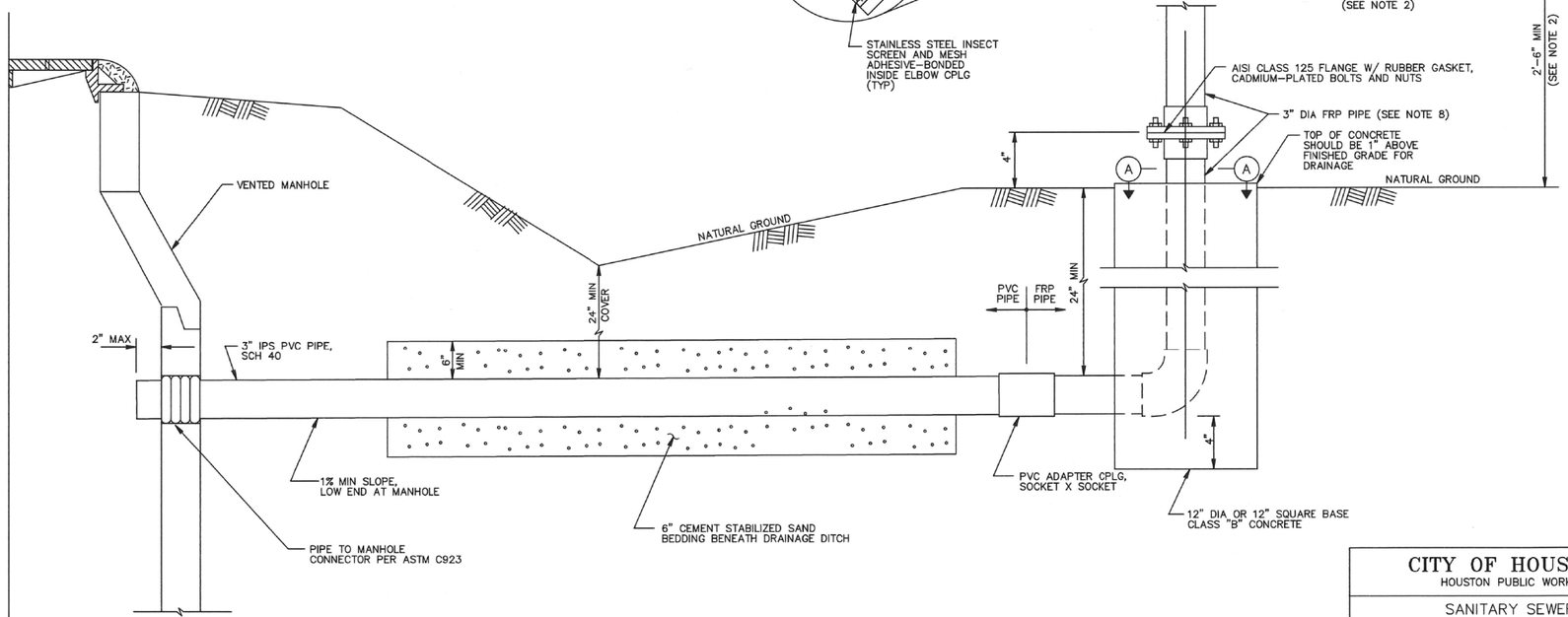


SECTION (A)
CONCRETE FOUNDATION
(SEE NOTE 8)



NOTES:

1. INSTALL AT LOCATION AND BASED ON 0.2 PERCENT FLOOD ELEVATION SHOWN ON PLAN AND PROFILE DWGS.
2. MINIMUM VENT HEIGHT ELEVATION IS TO BE 2'-6" ABOVE THE NATURAL GROUND OR AS REQUIRED BY CHAPTER 19 SECTION 19-33 OF THE CITY OF HOUSTON CODE OF ORDINANCES, WHICHEVER IS HIGHER.
3. WHEN FLOODPROOFED VENTS ARE SPECIFIED BY THE EOR, REFER TO THE CONTRACT DOCUMENTS FOR CONSTRUCTION REQUIREMENTS.
4. DRAIN TO VENTED (ADJACENT) MH AT MIN 1% SLOPE. CONNECT TO MANHOLE WITH SPECIFIED CONNECTOR.
5. WHEN VENT CROSSES DRAINAGE DITCH, PROVIDE CEMENT STABILIZED SAND BEDDING
6. THE VENT IS TO BE INSTALLED WITHIN THE RIGHT OF WAY.
7. SEE COH STANDARD SPECIFICATIONS FOR PROTECTIVE COATING REQUIREMENTS FOR EXPOSED FRP PIPE.
8. THIS STANDARD DETAIL SETS THE MINIMUM REQUIREMENTS FOR THE MANHOLE VENT'S CONCRETE FOUNDATION AND VENT PIPE SIZE. THE EOR IS RESPONSIBLE FOR THE ADEQUACY AND DESIGN OF THE CONCRETE FOUNDATION AND VENT PIPE SIZE AND SHALL PROVIDE CONSTRUCTION DETAILS IN THE DRAWINGS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

SANITARY SEWER
MANHOLE VENT FOR SEALED MANHOLE
(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-06

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER
STANDARD DETAILS

SHEET 3 OF 11

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SHEET NO. 634 OF 1067	

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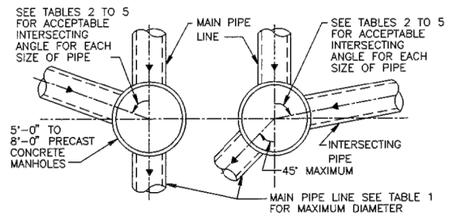
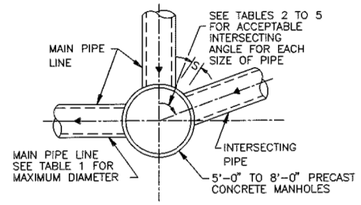


FOR MAIN PIPES FROM STRAIGHT THROUGH TO 45° DEFLECTION



FOR MAIN PIPE WITH 45° TO 90° DEFLECTION

NOTES ON USE OF STANDARD DETAIL 02082-03

TABLE 1

MAXIMUM MAIN PIPE DIAMETER (I D) IN INCHES

MANHOLE DIAMETER (FT)	STRAIGHT THROUGH TO 45° DEFLECTION	WITH 90° DEFLECTION	TABLE TO BE USED
5	36	27	2
6	42	33	3
7	48	36	4
8	60	42	5

TABLE 2

MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 5'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES										
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"
8	49	50	54	58	61	66	69	73	77	82	86
10		53	57	61	64	68	71	76	79	84	88
12			61	65	68	72	75	80	83	88	–
15				68	71	75	79	83	87	–	–
18					75	79	82	87	90	–	–
21						83	86	90	–	–	–
24							90	–	–	–	–
27								–	–	–	–
30									–	–	–
33										–	–
36											–

TABLE 3

MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 6'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES											
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"
8	40	42	45	49	51	54	57	61	63	67	70	78
10		44	47	50	53	56	59	62	65	69	72	79
12			50	54	56	60	62	66	68	72	75	83
15				57	59	62	65	69	71	75	78	85
18					62	65	68	71	74	78	81	88
21						68	71	74	77	81	84	–
24							74	77	80	84	87	–
27								83	85	89	–	–
30									–	–	–	–
33										–	–	–
36											–	–
42												–

TABLE 4

MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 7'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES												
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"	48"
8	35	36	39	42	44	47	49	52	54	57	59	65	71
10		38	40	43	45	48	50	53	55	59	61	67	73
12			43	46	48	51	53	56	58	61	64	70	76
15				48	50	53	55	58	61	64	66	72	78
18					58	56	58	61	63	66	69	74	81
21						58	60	63	66	69	71	77	83
24							63	66	68	71	74	79	86
27								70	72	76	78	84	90
30									78	81	83	89	–
33										86	88	–	–
36											–	–	–
42												–	–
48													–

TABLE 5

MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 8'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES													
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"	48"	54"	60"
8	30	32	34	36	38	41	43	45	47	50	52	56	61	67	74
10		33	35	38	40	42	44	46	48	51	53	58	63	68	77
12			38	40	42	44	46	49	51	53	55	60	65	71	79
15				42	44	47	48	51	53	56	58	62	67	73	81
18					46	49	51	53	55	58	66	64	70	75	83
21						51	53	55	57	60	62	67	72	77	85
24							55	57	59	62	64	69	74	79	89
27								61	63	66	68	73	78	83	–
30									67	70	72	77	82	87	–
33										74	76	81	86	–	–
36											81	86	–	–	–
42												–	–	–	–
48													–	–	–
54														–	–
60															–

* NOT APPLICABLE
(INTERSECTING PIPE GREATER THAN MAIN PIPE)

NOTES TO SPECIFIER:

1. "–" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLES 2 TO 5 ARE BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTION PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLES 2 TO 5 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLES ALLOW.
4. LIMITATIONS TO BASE HEIGHT ARE BASED ON RESISTING BUOYANT UPLIFT FORCES BASED ON WATER AT GROUND SURFACE AND A SAFETY FACTOR OF 1.20.
5. A SPECIAL DESIGN IS REQUIRED IF MANHOLE ID IS GREATER THAN 8 FT.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE GROUP

SANITARY SEWER
5'-0" TO 8'-0" DIAMETER
PRECAST CONCRETE MANHOLE NOTES
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02082N-03

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER
STANDARD DETAILS

SHEET 4 OF 11

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SHEET NO. 635 OF 1067	

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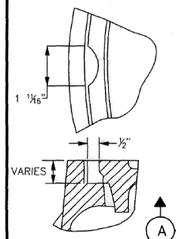
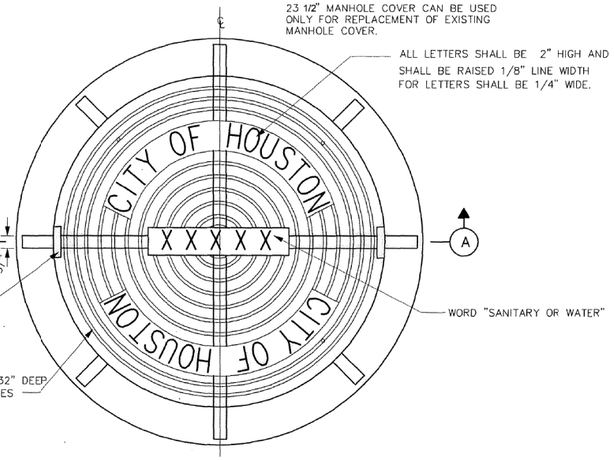
TYPE 1
OPEN PICK HOLE

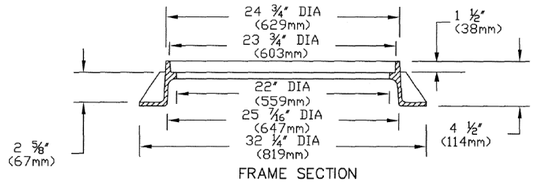


NOTE:
23 1/2" MANHOLE COVER CAN BE USED ONLY FOR REPLACEMENT OF EXISTING MANHOLE COVER.

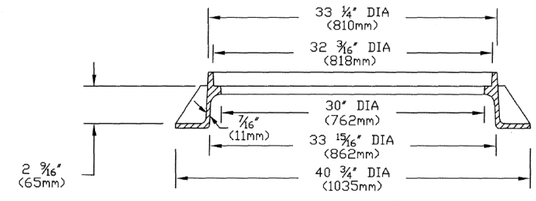


PLAN

23 1/2" MANHOLE COVER WITH FRAME



FRAME SECTION



SECTION (A)

32" MANHOLE COVER WITH FRAME

1) NOTE: APPROXIMATE WEIGHTS.
FRAME- 170 LBS 77 kg
COVER- 270 LBS 123 kg
UNIT- 440 LBS 200 kg

2) MATERIAL- GRAY IRON ASTM A48 CL35B

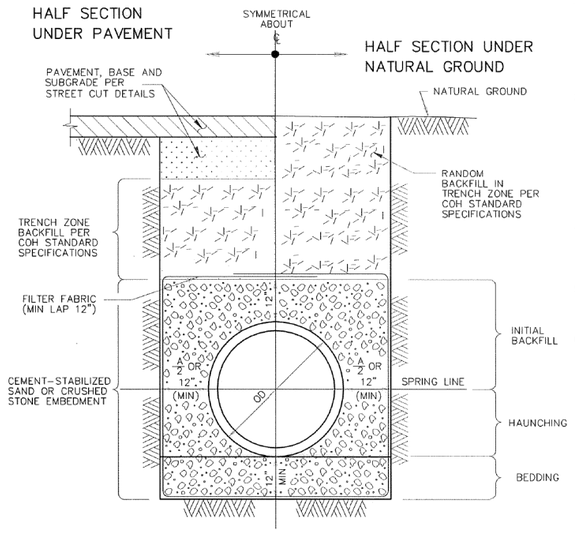
3) CASTING TO MEET M306 PROOF LOAD SPECIFICATION

4) MODEL V-14240 ASY OR APPROVED EQUAL

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER AND WATER MANHOLE FRAME AND COVER (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016	DWG NO: 02090-01

HALF SECTION
UNDER PAVEMENT

HALF SECTION UNDER
NATURAL GROUND



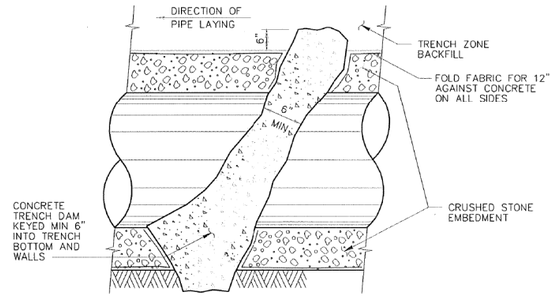
TYPICAL CROSS-SECTION

NOTES:

1. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

2. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
3. TRENCH DAM MAY BE FORMED OR UNFORMED.ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
4. TRENCH DAM SHALL BE PLACED AT LEAST 5 FT AWAY FROM ANY PIPELINE STRUCTURE.SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
5. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.
6. CEMENT-STABILIZED SAND IS PREFERRED FOR EMBEDMENT, BUT CRUSHED STONE MAY BE USED ONLY WHEN SPECIFIED ON THE PLANS.



LONGITUDINAL SECTION ALONG PIPE ℄
AT EMBEDMENT TRENCH DAM

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER EMBEDMENT AND TRENCH ZONE BACKFILL FOR DRY OR WET STABLE TRENCH (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016	DWG NO: 02317-01

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER STANDARD DETAILS

SHEET 5 OF 11

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SHEET NO. 636 OF 1067	

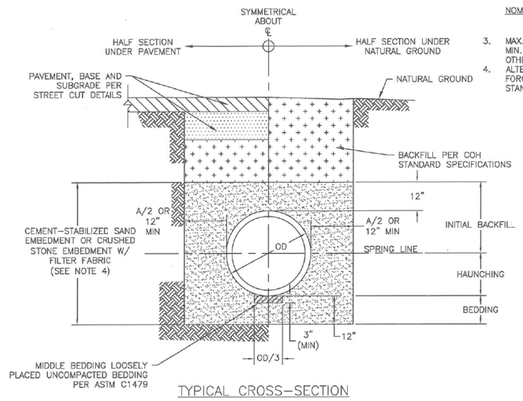
02317–03

NOTES:

1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN. TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

3. MAX. TRENCH WIDTH SHALL BE NOT GREATER THAN MIN. TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
4. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.



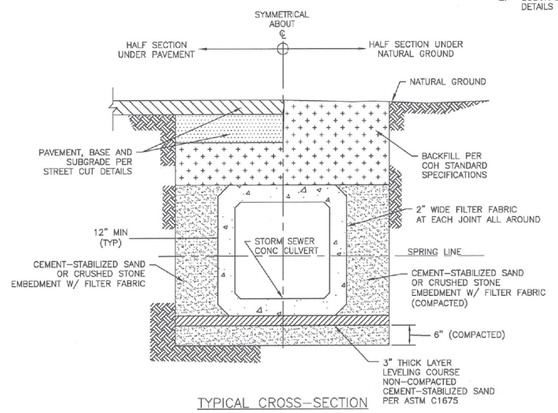
TYPICAL CROSS–SECTION

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–05

NOTES:

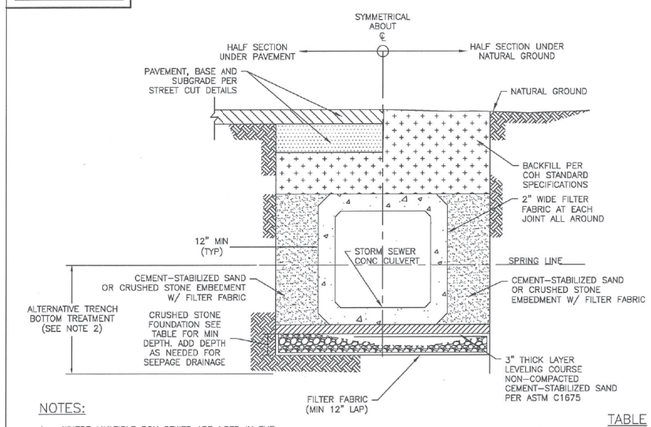
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. SUBGRADE AND PAVEMENT FOR STREET CUT DETAILS – 02951.



TYPICAL CROSS–SECTION

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–06



NOTES:

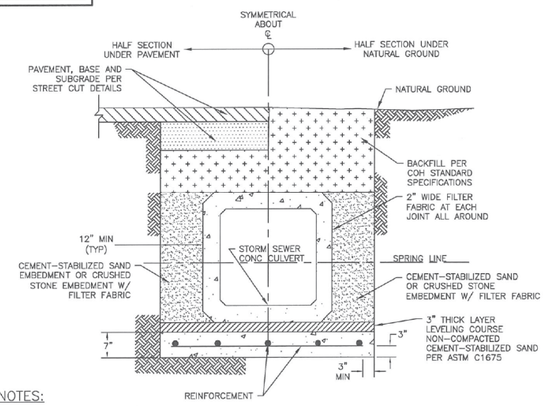
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY OF ENGINEERS AND AS PAID FOR IN THE PROPOSAL.

TABLE

CULVERT SIZE (FT)	FOUNDATION DEPTH(INCHES)
3' X 2' TO 6' X 6'	12
6' X 6' AND LARGER	18

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR WET STABLE TRENCH
NTS

02317–07



NOTES:

1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. REINFORCED CONCRETE SLAB PIPE BEDDING TO BE PLACED IN DRY TRENCH ONLY.
3. CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
4. PRECAST SEAL SLAB MAYBE USED AS APPROVED BY CITY ENGINEER.

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL WITH SEAL SLAB
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02317–03 THROUGH 07

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: Carol Haddock
DIRECTOR

EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

SHEET NO.

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Date 3/12/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER
STANDARD DETAILS

SHEET 6 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 637 OF 1067	

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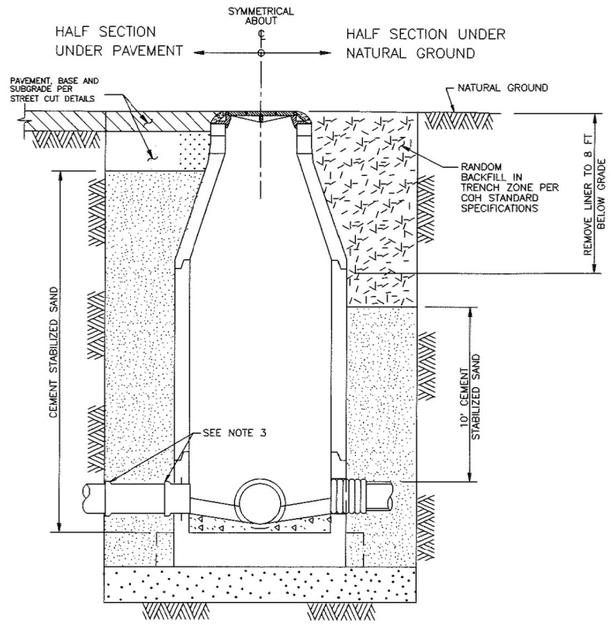
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Water\STANDARDS\SAN_STD 06.dgn

NOTES:

1. GROUTING OF MANHOLE STRUCTURE ANNULAR SPACE WILL BE PERMITTED IN CASES WHERE INSUFFICIENT WORK SPACE EXISTS FOR PLACEMENT AND COMPACTATION OF CEMENT STABILIZED SAND, PER COH STANDARD SPECIFICATION FOR TUNNEL GROUT.
2. THIS DETAIL ALSO APPLIES TO BACKFILL OF SHAFTS WITHOUT STRUCTURES.
3. ARRANGE PIPE JOINTS AS SHOWN WHEN USING RIGID CONNECTION TO CAST IN PLACE MANHOLE BASE.

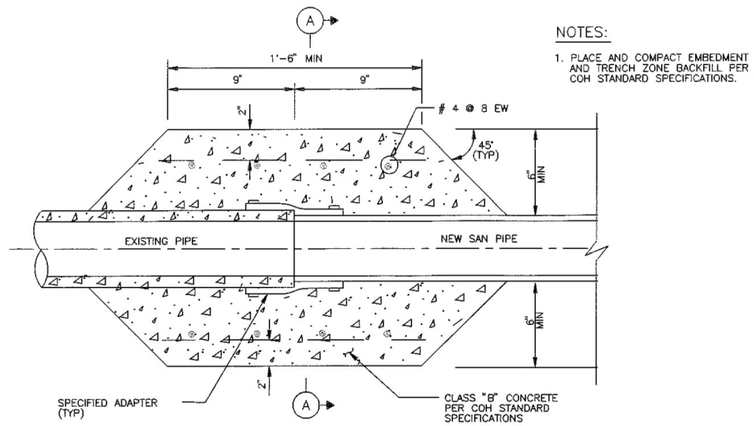


TYPICAL CROSS – SECTION

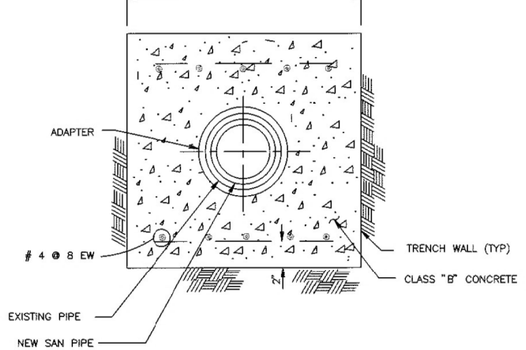
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER BACKFILL OF SHAFTS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02317-08

NOTES:

1. PLACE AND COMPACT EMBEDMENT AND TRENCH ZONE BACKFILL PER COH STANDARD SPECIFICATIONS.



LONGITUDINAL SECTION



SECTION (A)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER PIPE TRANSITION FOR 36" SEWER AND SMALLER (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02531-04

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER STANDARD DETAILS

SHEET 7 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 638 OF 1067	

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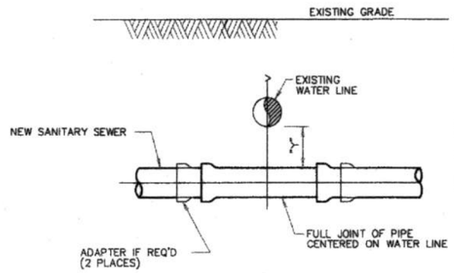
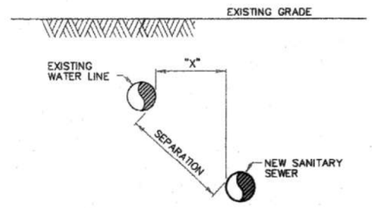


INSTALLATION REQUIREMENTS

1. IF "Y" IS GREATER THAN 1' AND "Y" IS LESS THAN 2', USE MINIMUM 18 FT JOINT OF PRESSURE-RATED PIPE PER COH STANDARD DRAWING.
2. IF "Y" IS GREATER THAN 2' AND "Y" IS LESS THAN 9', USE GRAVITY SEWER PIPE IN CEMENT-STABILIZED SAND EMBEDMENT.
3. IF "Y" IS GREATER THAN 9', USE STANDARD EMBEDMENT AND NORMAL JOINT SPACING.

NEW SANITARY SEWER CROSSING EXISTING WATER LINE



INSTALLATION REQUIREMENTS

1. IF SEPARATION IS LESS THAN 9', USE PRESSURE-RATED PIPE MH TO MH. "X" MUST BE AT LEAST 4 FT. VERTICAL SEPARATION MUST BE AT LEAST 2 FT.
2. IF SEPARATION IS 9' OR GREATER, USE STANDARD PIPE AND EMBEDMENT.

NEW SANITARY SEWER PARALLEL TO EXISTING WATER LINE

NOTES:

1. SANITARY SEWER MUST BE BELOW WATER LINE WHEREVER POSSIBLE. WHEN WATERLINE IS BELOW THE SANITARY SEWER PROVIDE MINIMUM 2 FT SEPARATION AND INSTALL PIPE IN ACCORDANCE TO CHAPTER 7 TABLE 7.3 OF COH DESIGN MANUAL.
2. WHEN PRESSURE-RATED PIPE IS REQUIRED, PROVIDE PIPE WITH MINIMUM 150 psi PRESSURE RATING.
3. ADAPTERS MUST BE FACTORY MOLDED OR FABRICATED, WITH RING STIFFNES AT LEAST EQUAL TO THE ADJOINING SANITARY SEWER PIPE, AND USING RESILIENT GASKET OR SEAL MATERIAL. FLEXIBLE RUBBER "BOOT" TYPE ADAPTERS WILL NOT BE ACCEPTED.
4. INSTALL FORCE MAINS SAME AS FOR GRAVITY SEWER, USING SPECIFIED PRESSURE PIPE.
5. "Y" MUST ALWAYS BE GREATER THAN OR EQUAL TO 1 FT FOR PRESSURE RATED SS AND 2 FT FOR NON-PRESSURE RATED SS.
6. "X" MUST BE GREATER THAN OR EQUAL TO 4 FT.
7. ALTERNATIVES MAY BE SHOWN ON THE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.
8. SEPARATION REQUIREMENTS SHOWN HERE DO NOT APPLY TO SERVICE CONNECTIONS – REFER TO PLUMBING CODE FOR APPLICABLE REQUIREMENTS.

INSTALLING SANITARY SEWERS CROSSING OR PARALLEL TO WATER LINES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SANITARY SEWER
INSTALLING SANITARY SEWERS
CROSSING OR PARALLEL TO WATER LINES
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010
DWG NO: 02531-05

No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER
STANDARD DETAILS

SHEET 8 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 639 OF 1067	

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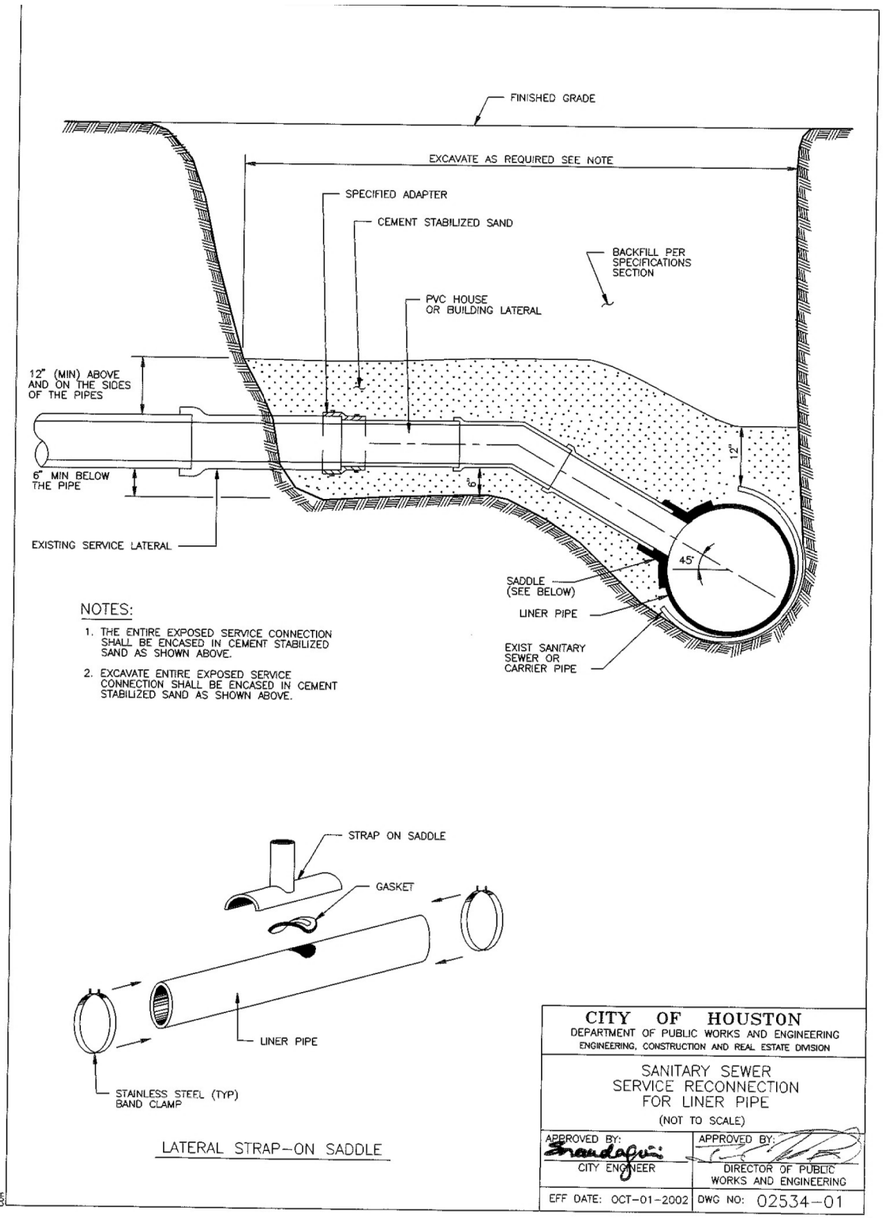


NOTES:

1. THE ENTIRE EXPOSED SERVICE CONNECTION SHALL BE ENCASED IN CEMENT STABILIZED SAND AS SHOWN ABOVE.
2. EXCAVATE ENTIRE EXPOSED SERVICE CONNECTION SHALL BE ENCASED IN CEMENT STABILIZED SAND AS SHOWN ABOVE.

LATERAL STRAP-ON SADDLE

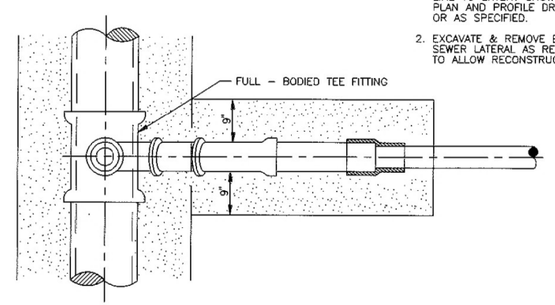
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

SANITARY SEWER
SERVICE RECONNECTION
FOR LINER PIPE
(NOT TO SCALE)

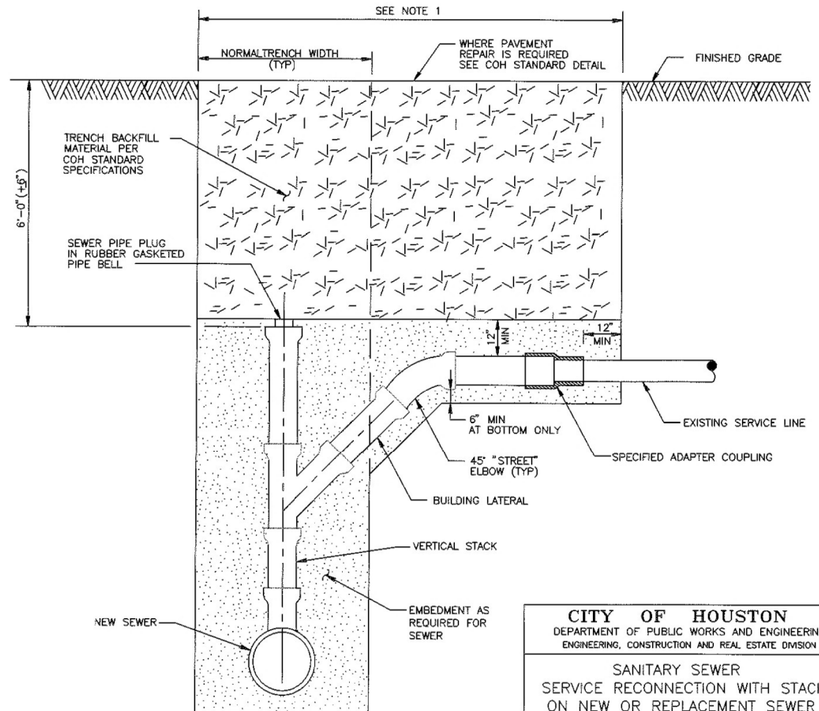
APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-01

NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN AND PROFILE DRAWINGS, OR AS SPECIFIED.
2. EXCAVATE & REMOVE EXISTING SEWER LATERAL AS REQUIRED TO ALLOW RECONSTRUCTION.



PLAN



CROSS-SECTION OF SEWER AT SERVICE CONNECTION

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

SANITARY SEWER
SERVICE RECONNECTION WITH STACK
ON NEW OR REPLACEMENT SEWER
(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-02

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER STANDARD DETAILS

SHEET 9 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 640 OF 1067	

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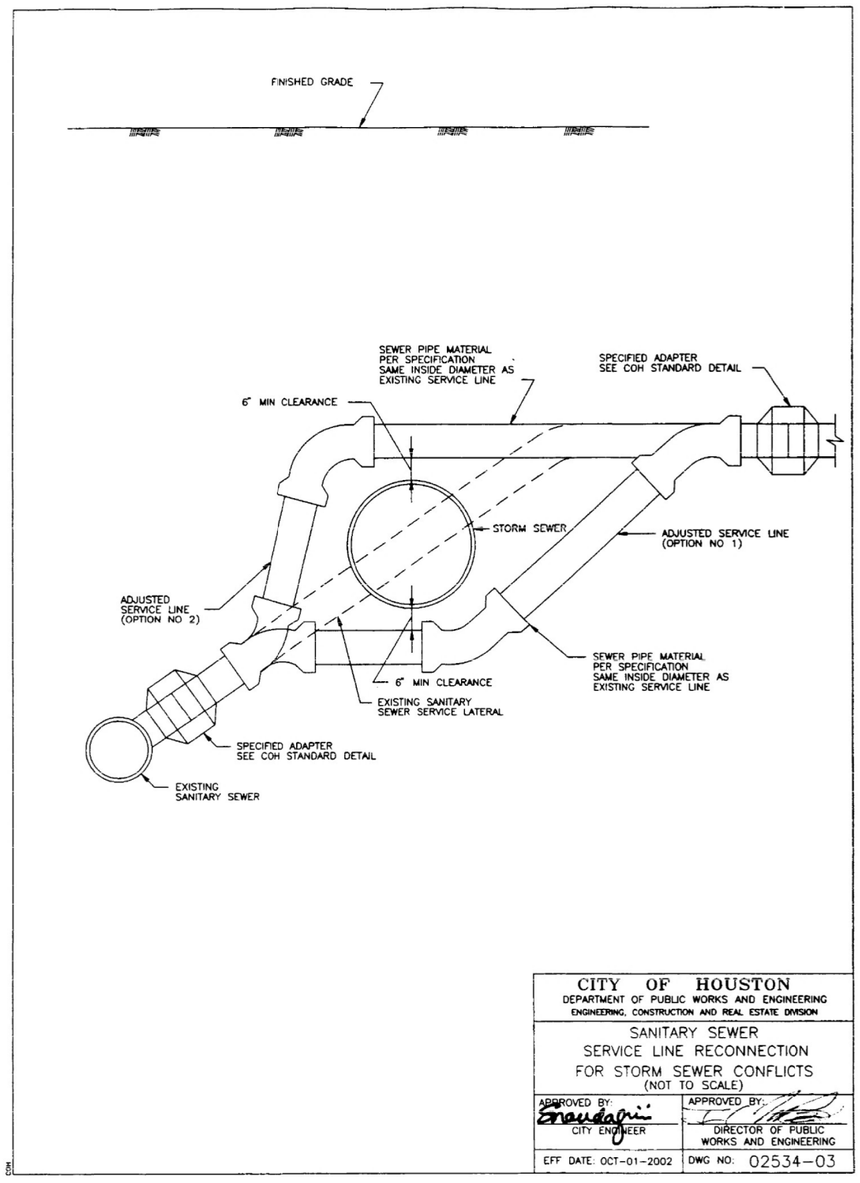
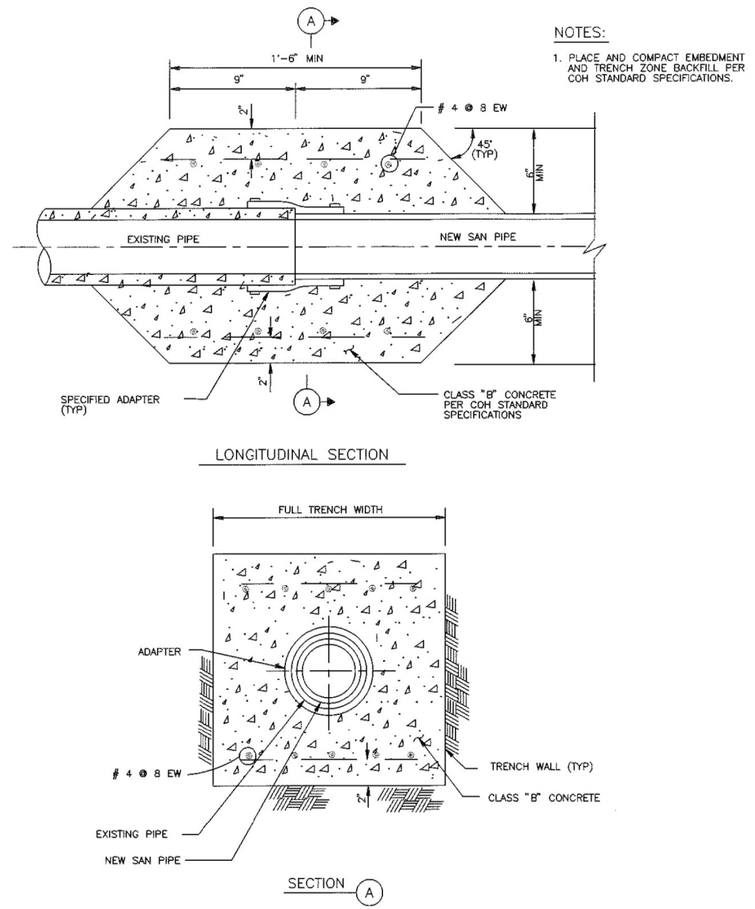


CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE LINE RECONNECTION FOR STORM SEWER CONFLICTS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-03



NOTES:

1. PLACE AND COMPACT EMBEDMENT AND TRENCH ZONE BACKFILL PER COH STANDARD SPECIFICATIONS.

LONGITUDINAL SECTION

SECTION (A)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER PIPE TRANSITION FOR 36" SEWER AND SMALLER (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02531-04

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER STANDARD DETAILS

SHEET 10 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 641 OF 1067	

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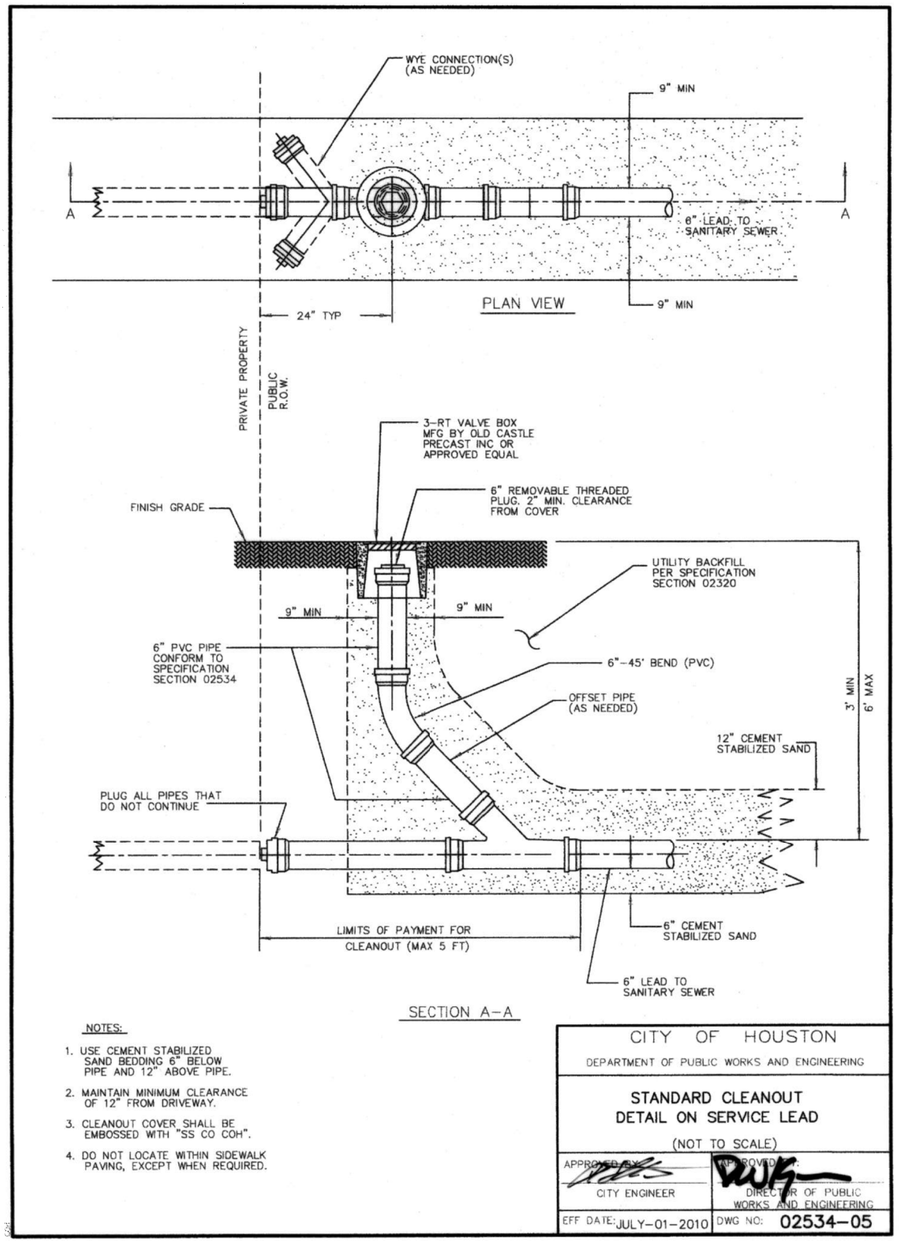

NOTES:

1. USE CEMENT STABILIZED SAND BEDDING 6" BELOW PIPE AND 12" ABOVE PIPE.
2. MAINTAIN MINIMUM CLEARANCE OF 12" FROM DRIVEWAY.
3. CLEANOUT COVER SHALL BE EMBOSSED WITH "SS CO COH".
4. DO NOT LOCATE WITHIN SIDEWALK PAVING, EXCEPT WHEN REQUIRED.

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STANDARD CLEANOUT
DETAIL ON SERVICE LEAD

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02534-05

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SANITARY SEWER
STANDARD DETAILS

SHEET 11 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 642 OF 1067	

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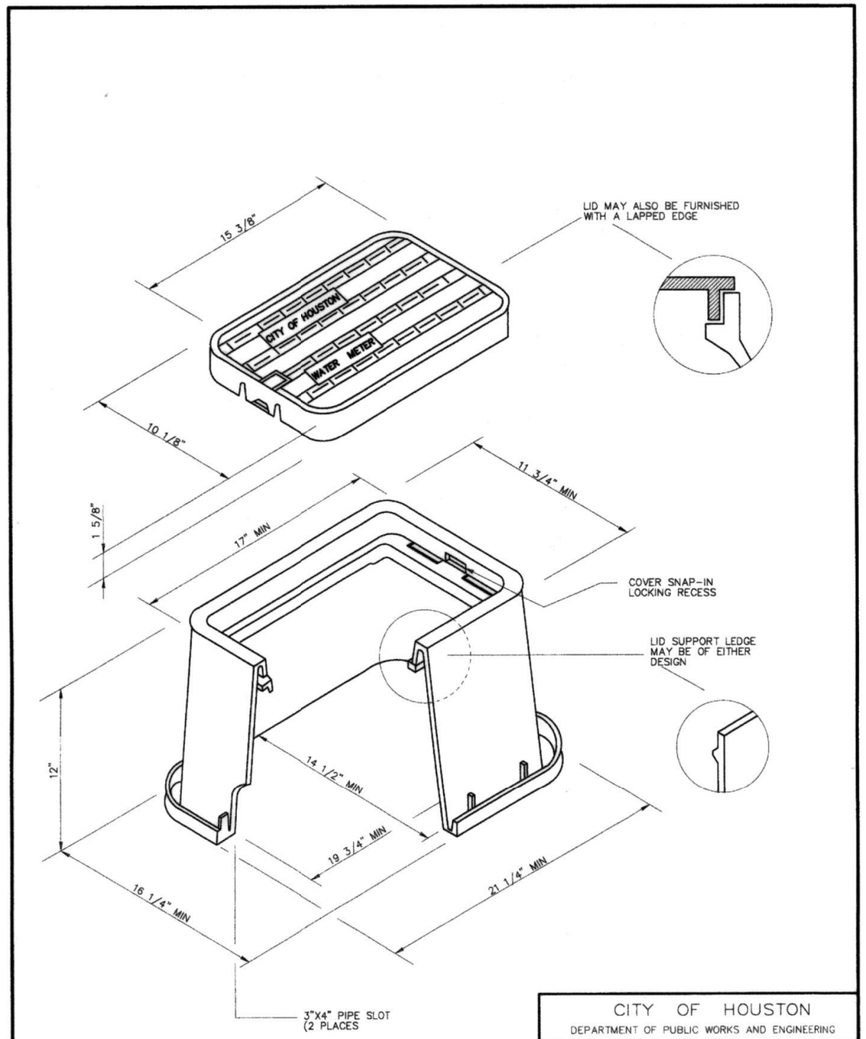


NOTE

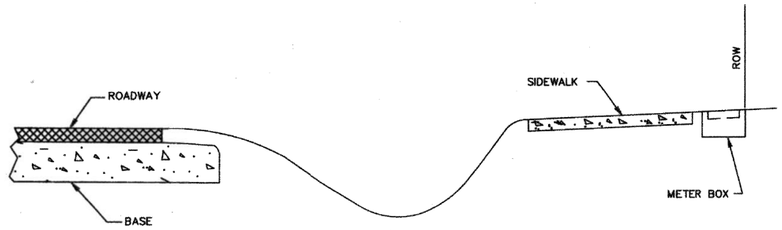
1. LID MUST BE ABLE TO ACCEPT THE CITY'S AMR TRANSMITTING ENDPOINT.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

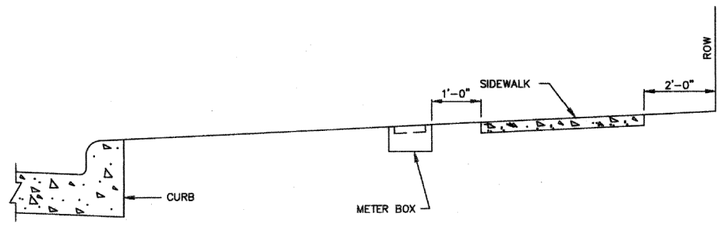
STANDARD PLASTIC METER BOX FOR 5/8" AND 1" METERS

(NOT TO SCALE)

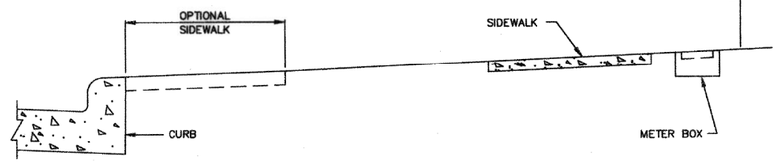
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-01



OPEN DITCH STREET



CURB STREET



CURB STREET

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

LOCATION OF WATER METER BOX FOR 2" DIAMETER AND LESS

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-02

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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P.E. 125611
3/12/2026
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER STANDARD DETAILS

SHEET 1 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 643 OF 1067	

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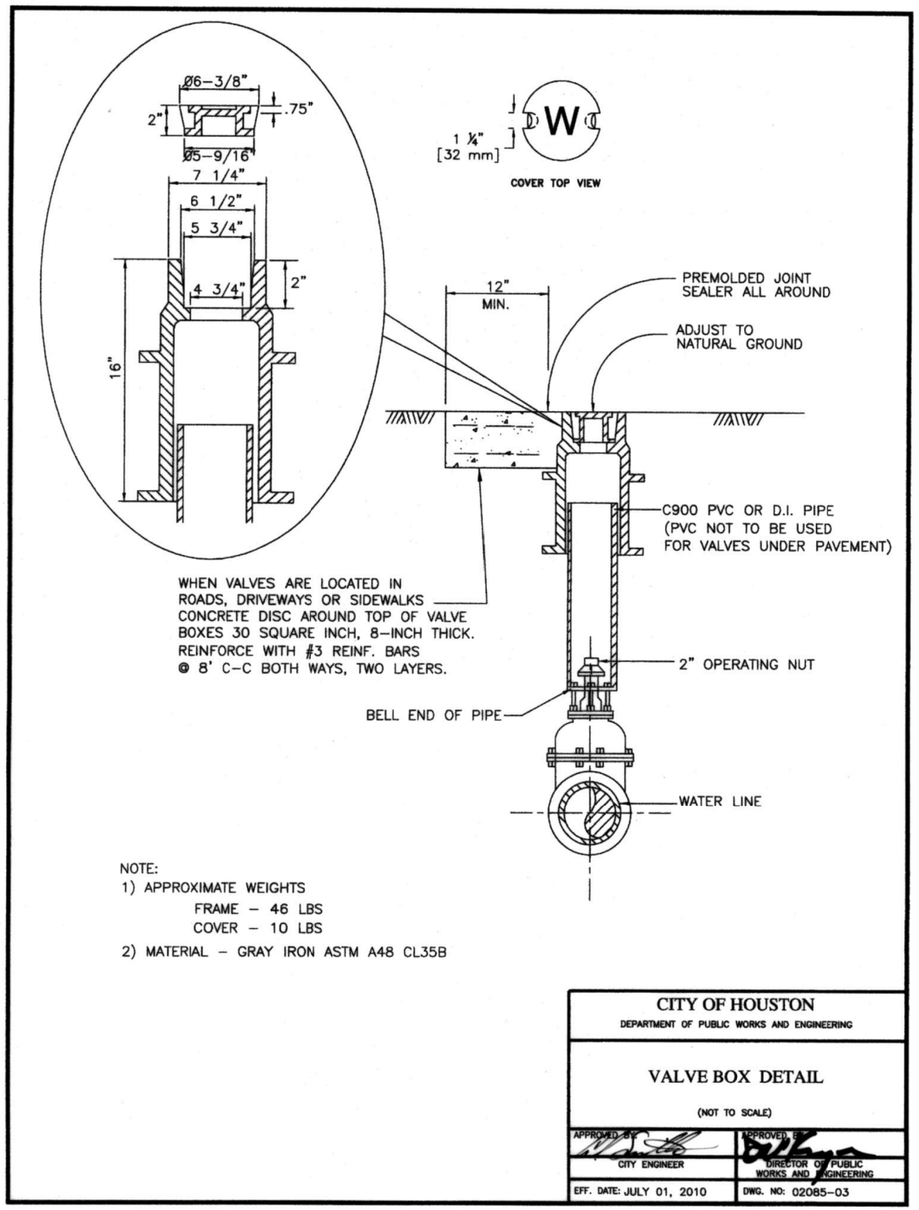
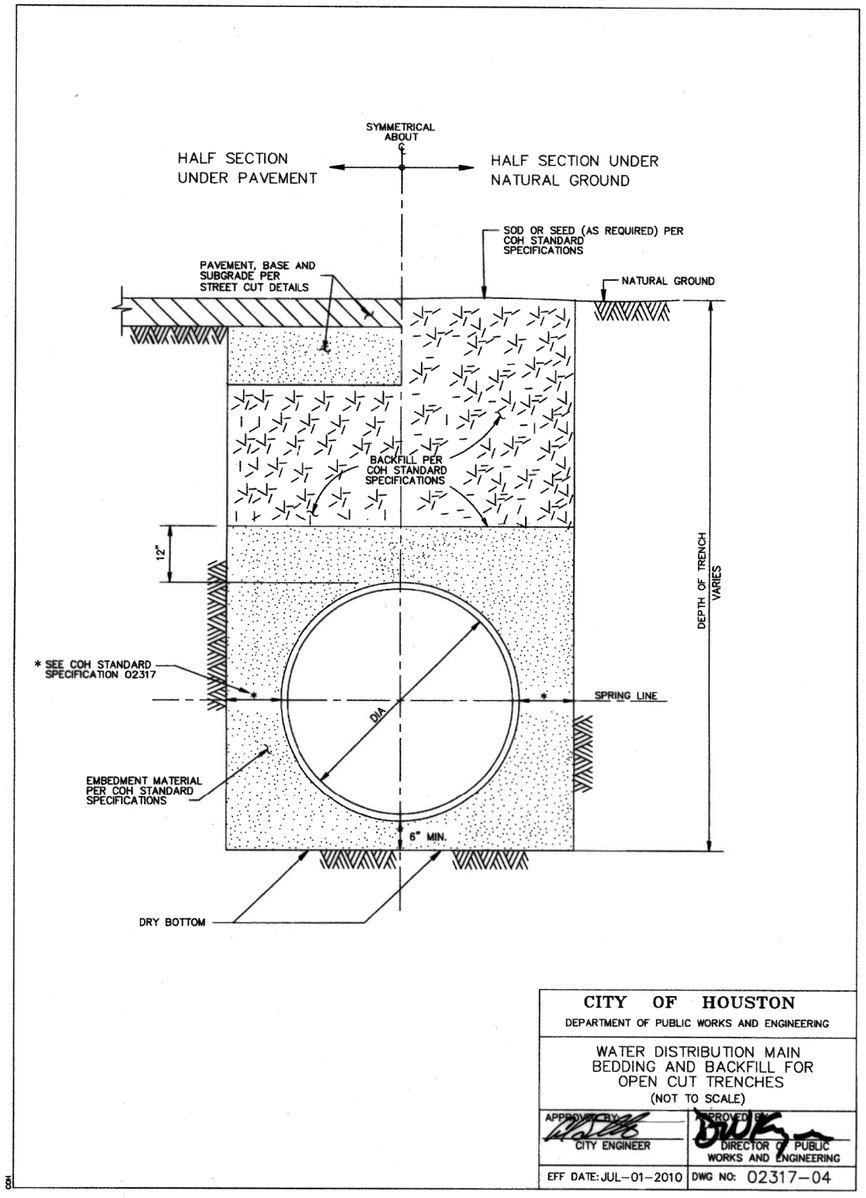


NOTE:
1) APPROXIMATE WEIGHTS
FRAME – 46 LBS
COVER – 10 LBS
2) MATERIAL – GRAY IRON ASTM A48 CL35B

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
VALVE BOX DETAIL (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF. DATE: JULY 01, 2010	DWG. NO: 02085-03



CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
WATER DISTRIBUTION MAIN BEDDING AND BACKFILL FOR OPEN CUT TRENCHES (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02317-04

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER STANDARD DETAILS

SHEET 2 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 644 OF 1067	

Pen Table: TX_Pen.tbl
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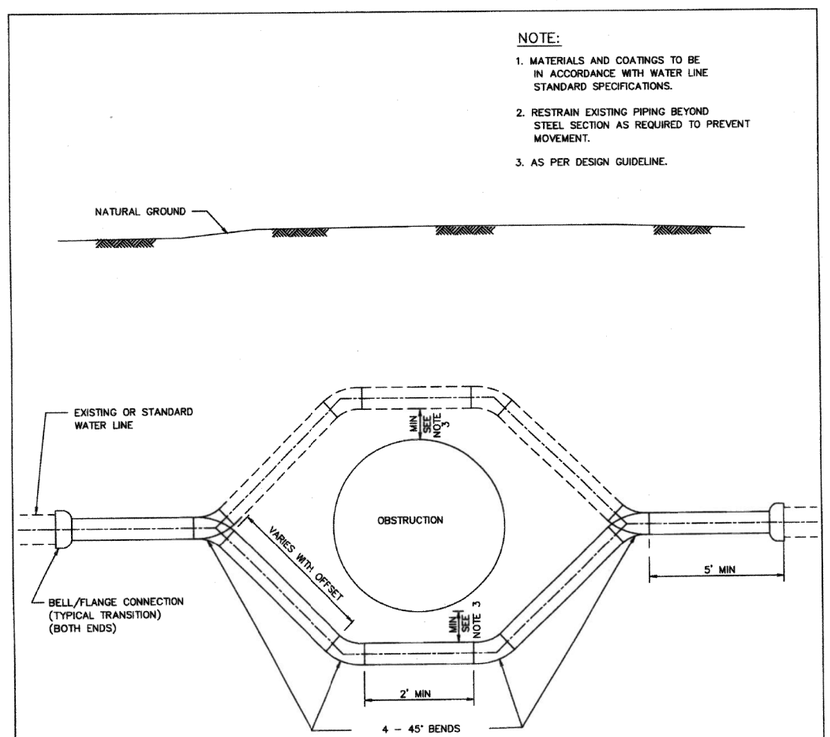
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Water\STANDARDS\WL_STD 02.dgn

NOTE:

1. MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH WATER LINE STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPING BEYOND STEEL SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. AS PER DESIGN GUIDELINE.



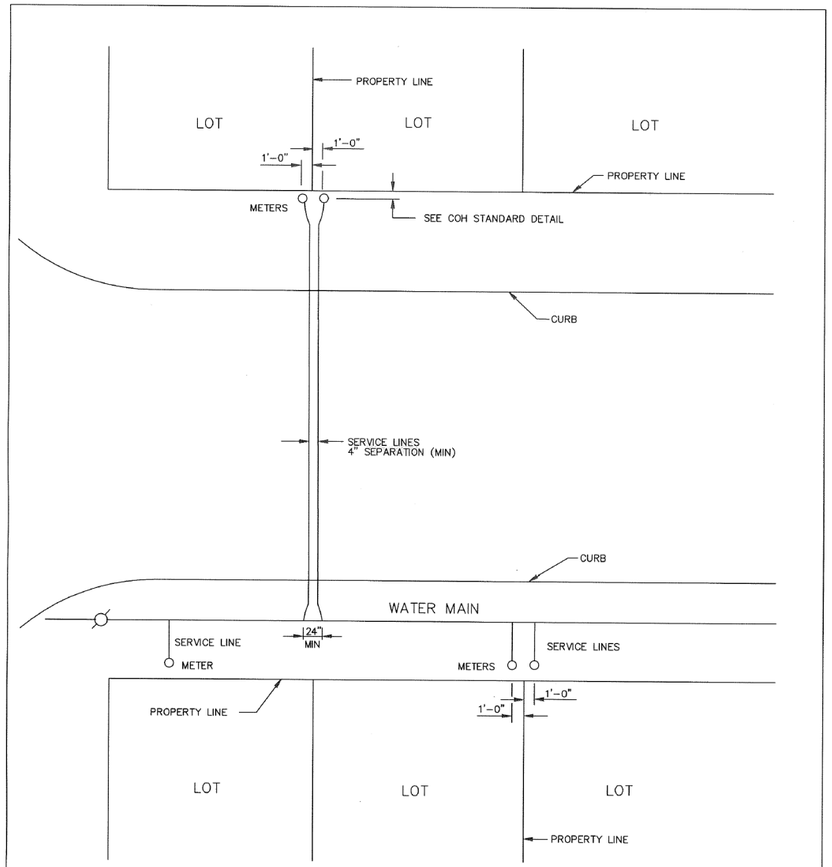
PIPE OFFSET ALTERNATES

1. DUCTILE IRON PIPE PRESSURE 250 PSI WITH APPROVED RESTRAINED JOINTS.
2. PVC PIPE WITH INTEGRAL RESTRAINED JOINT SYSTEM, OR DUCTILE – IRON RESTRINED JOINT FITTINGS, EPOXY LINED AND COATED. USE 250 PSI AWWA C900 DR 14 FOR PVC RESTRAINED JOINTS.
3. PVC NOT ALLOWED FOR GREATER THAN 20 FT OF COVER OR FOR DIAMETER LARGER THAN 20 IN.
4. USE ONLY DUCTILE IRON AND PVC PRODUCTS LISTED ON OCE DIVISION APPROVED PRODUCTS LIST AND IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL STEEL PIPE OFFSET SECTION FOR WATER LINES
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY–01–2010	DWG NO: 02511–01



GENERAL NOTES:

1. TWO SERVICE LINES MAY BE INSTALLED IN SAME TRENCH PROVIDING 4" CLEARANCE IS MAINTAINED.
2. ONE METER PER SERVICE LINE

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL 3/4" THROUGH 2" SERVICE ARRANGEMENTS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL–01–2016	DWG NO: 02512–01

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas
125511
3/12/2026
Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER STANDARD DETAILS

SHEET 3 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 645 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Water\STANDARDS\WL_STD 03.dgn

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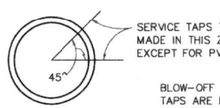
No.	DATE	REVISIONS	APP.

PIPE TAPPING SCHEDULE

WATER MAIN TYPE AND DIAMETER	SERVICE SIZE			
	3/4"	1"	1 1/2"	2"
4" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
4" ASBESTOS (EXISTING) CEMENT	WBSS	WBSS	DSS, WBSS	DSS, WBSS
4" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
16" AND UP CAST IRON OR DUCTILE IRON	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP ASBESTOS (EXISTING) CEMENT	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP PVC (AWWA C900)	DWBSS	DWBSS	DWBSS	DWBSS

DSS – DUAL STRAP SADDLES
WBSS – WIDE BAND STRAP SADDLES
DWBSS – DUAL WIDE BAND STRAP SADDLES



SERVICE TAPS TO BE MADE IN THIS ZONE EXCEPT FOR PVC FASTTAP

BLOW-OFF & CHLORINATION TAPS ARE MADE IN VERTICAL POSITION



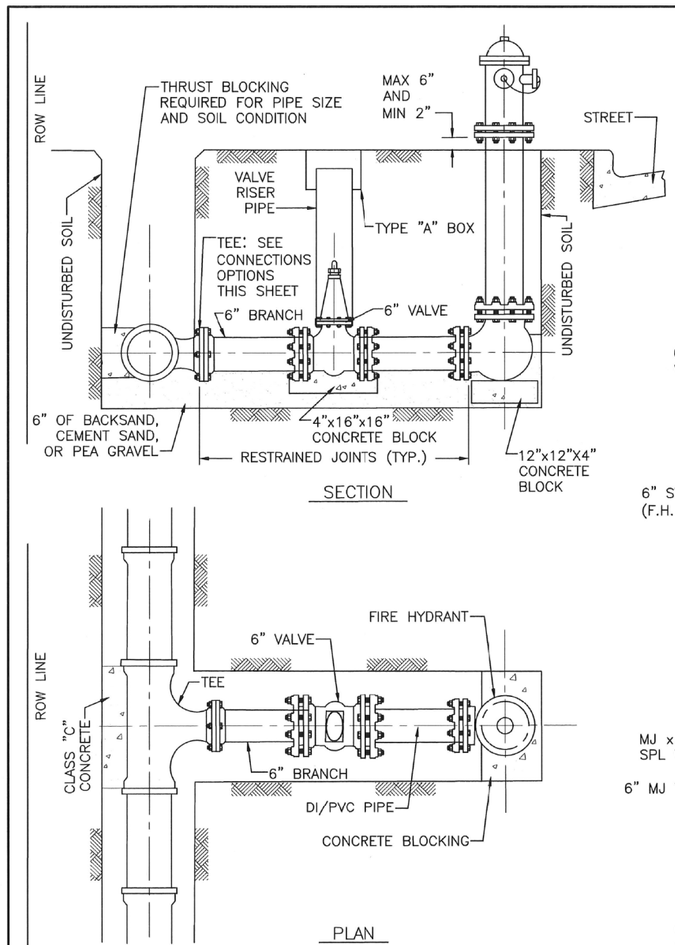
WIDE BAND SINGLE SADDLE OR DUAL SADDLES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

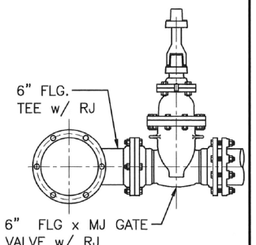
SERVICE TAPS

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02512-02



CONNECTION TO MAIN



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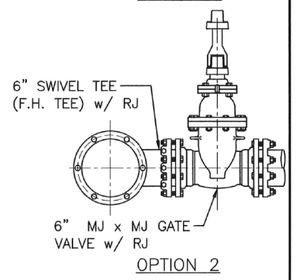

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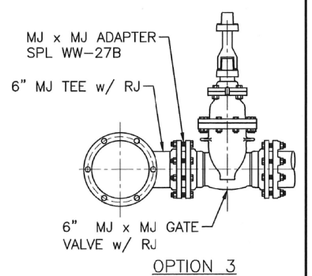

OPTION 3

NOTES:
1. LOCATE FIRE HYDRANTS AT POINT OF CURVATURE (PC) OR POINT OF TANGENCY (PT) OF THE INTERSECTION CURB RADIUS, 3 FEET BEHIND CURB OR PROJECTED FUTURE CURB.
2. ON OPEN-DITCH ROADWAYS, SET THE FIRE HYDRANTS WITH IN 5 FEET OF RIGHT-OF-WAY LINES.
3. FIRE HYDRANT STEAMER NOZZLE SHALL FACE THE STREET.
4. LOCATE HYDRANT VALVE IMMEDIATELY ADJACENT TO WATER LINE.
5. ALL PIPING TO BE RESTRAINED JOINTS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STANDARD FIRE HYDRANT DETAIL

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL - 01 - 2021	DWG NO: 02520-01

Texas Department of Transportation

Gauge ENGINEERING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

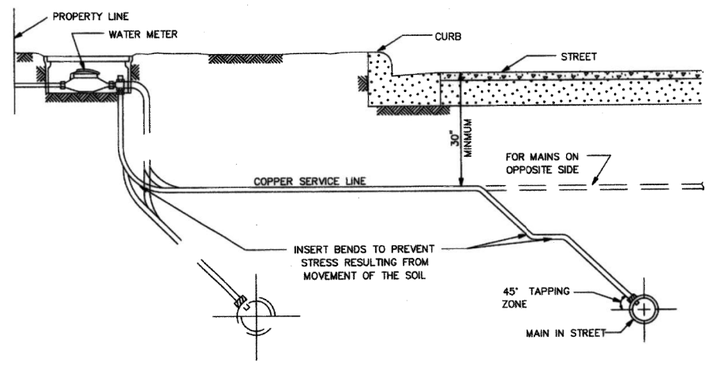
WATER STANDARD DETAILS

SHEET 4 OF 5

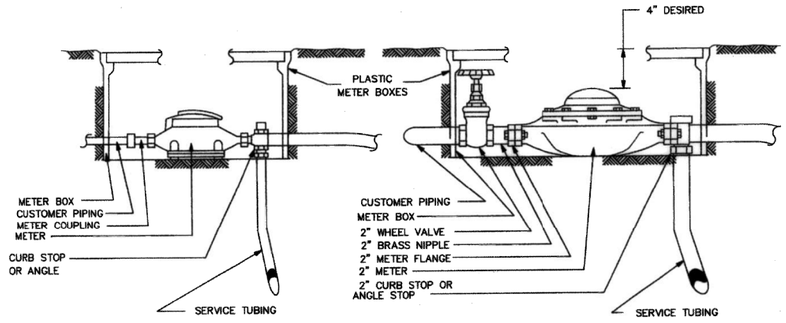
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 646 OF 1067	

NOTES:

1 1/2" METER SET IS SAME AS 2" EXCEPT WHEEL VALVE IS NOT REQUIRED.



TYPICAL SECTION SERVICE LINE



5/8", 3/4" AND 1" METER SET

2" METER SET

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL METER SETTINGS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 DWG NO: 02526-01

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

WATER STANDARD DETAILS

SHEET 5 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 647 OF 1067	

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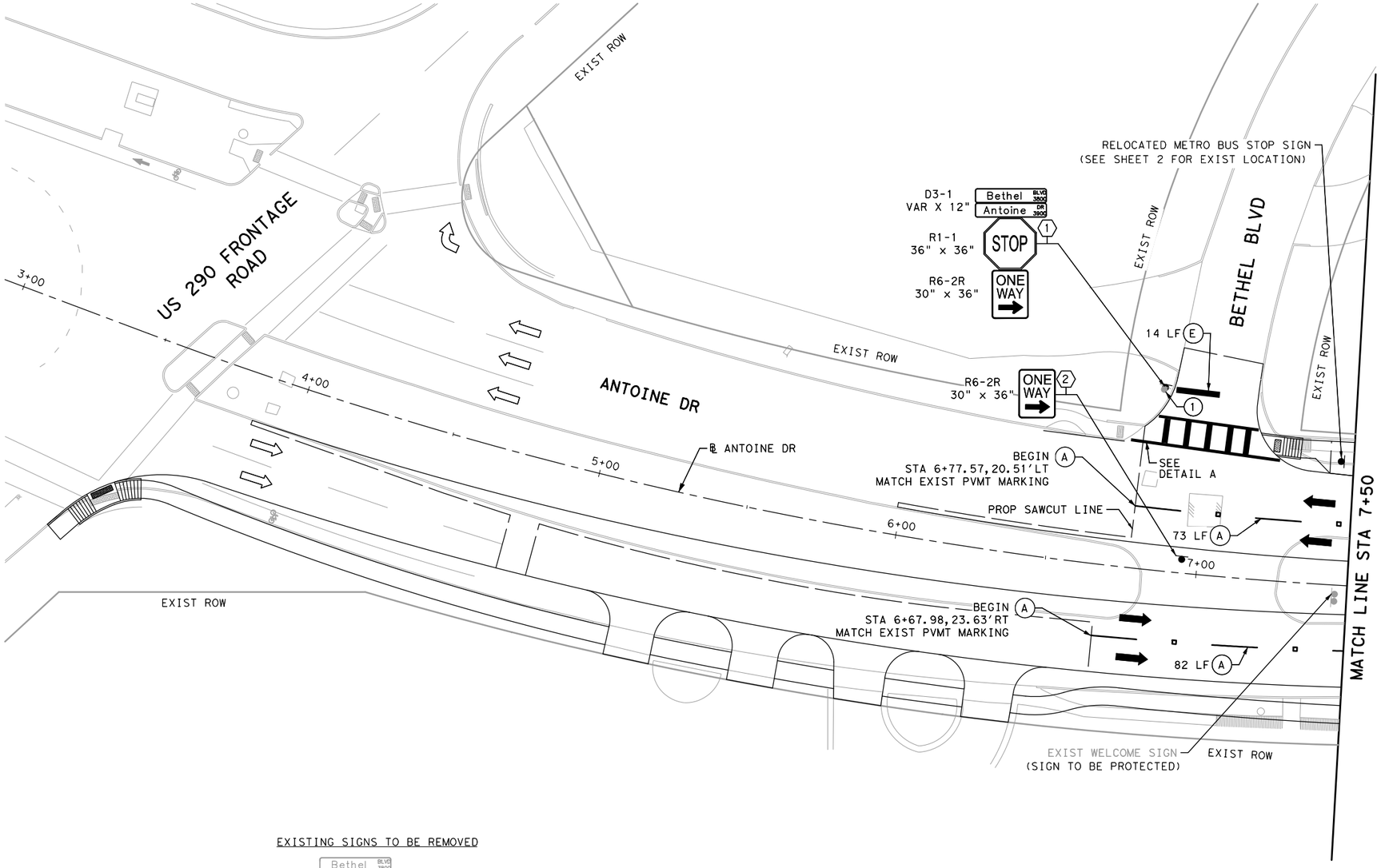
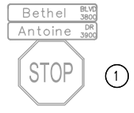
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Water\STANDARDS\WL_STD 05.dgn



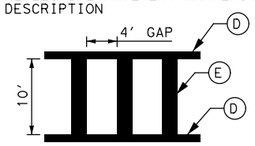
EXISTING SIGNS TO BE REMOVED



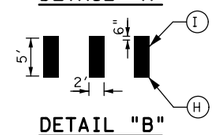
LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- (#) PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



DETAIL "A"



DETAIL "B"



0' 20' 40'
SCALE IN FEET

REVISIONS				APP.
No.	DATE			

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P 713 747 2399
F 713 748 3748
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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING BEGIN PROJECT TO STA 7+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 648 OF 1067	

Plotted on: 2/19/2026 Prabesh

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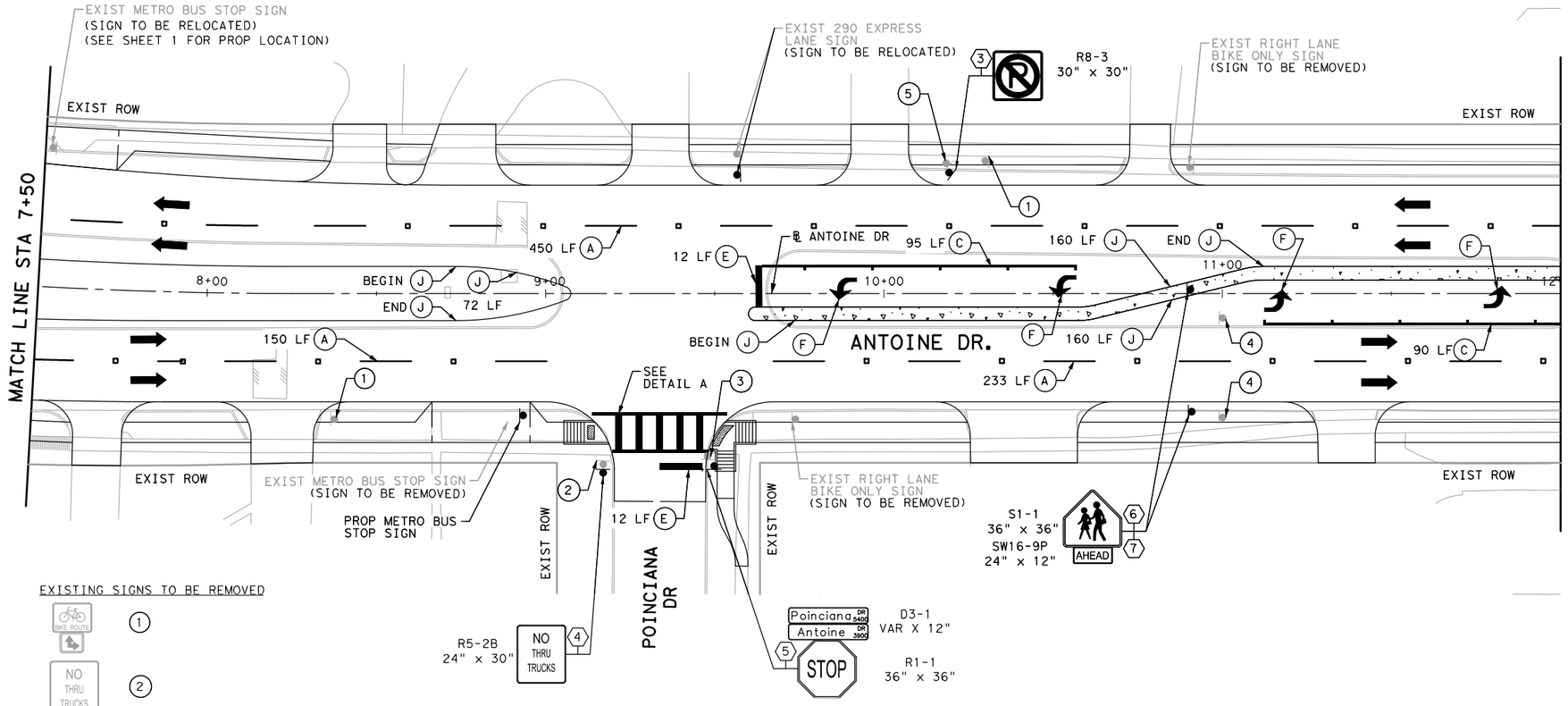
Plotted on: 2/19/2026 Prabesh



EXISTING SIGNS TO BE REMOVED

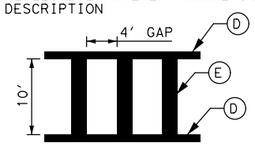


LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- ⟨#⟩ PROP SIGN NUMBER

No.	DATE	REVISIONS	APP.

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



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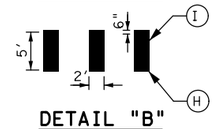

DETAIL "B"



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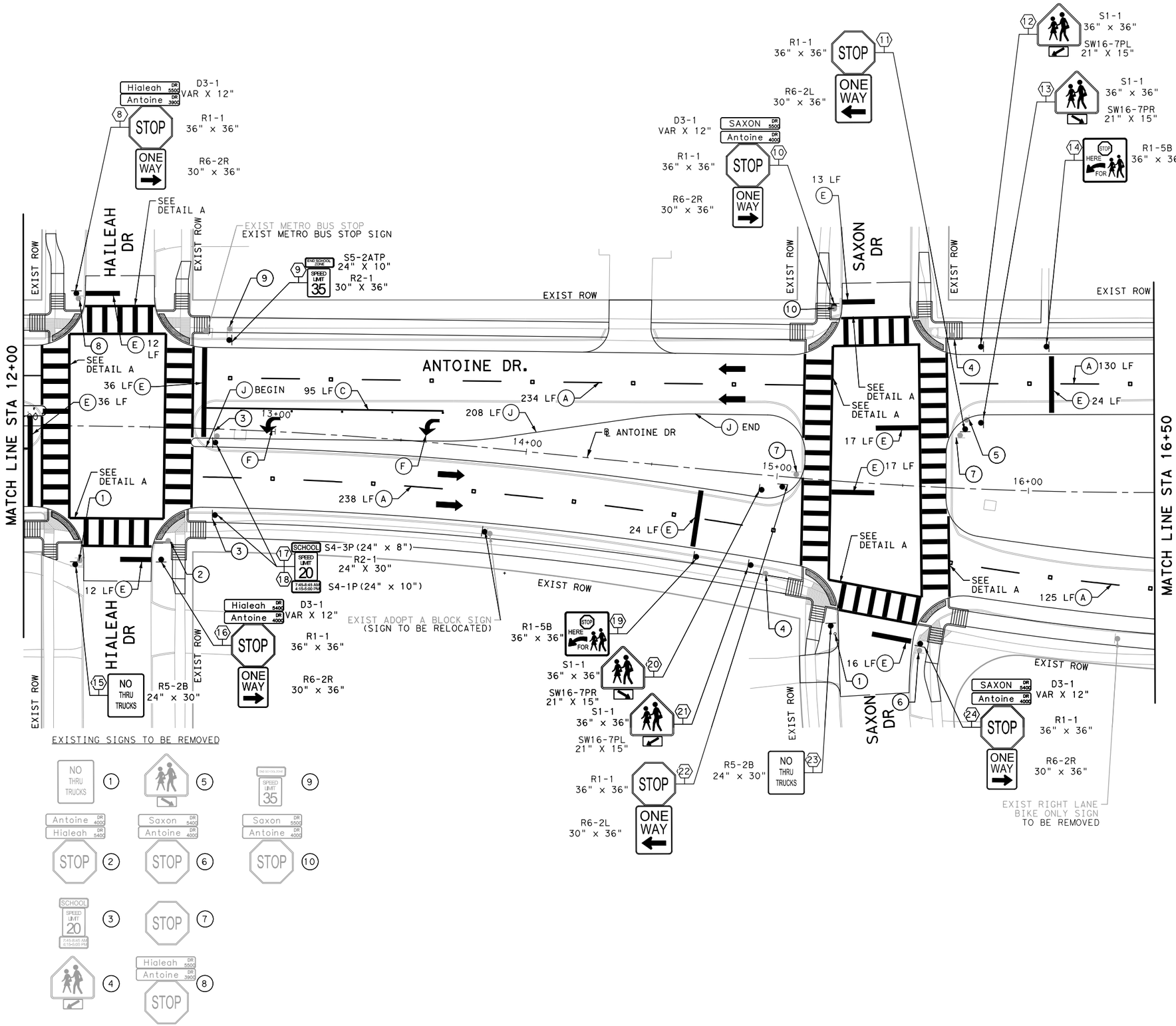
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 7+50 TO STA 12+00

$SPM02$ TL

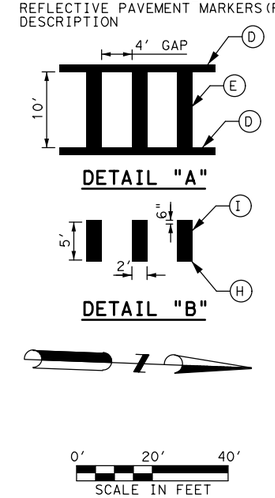
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 649 OF 1067	



LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- EXIST SIGN NUMBER
- PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS (RPM) DESCRIPTION



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Engineer
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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 12+00 TO STA 16+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 650 OF 1067	

No.	DATE	REVISIONS	APP.

Prabesh
Plotted on: 2/19/2026
File: P:\ACTIVE\26PV133\WORKING\DRAWINGS\SPM\133_SPM 03.dgn
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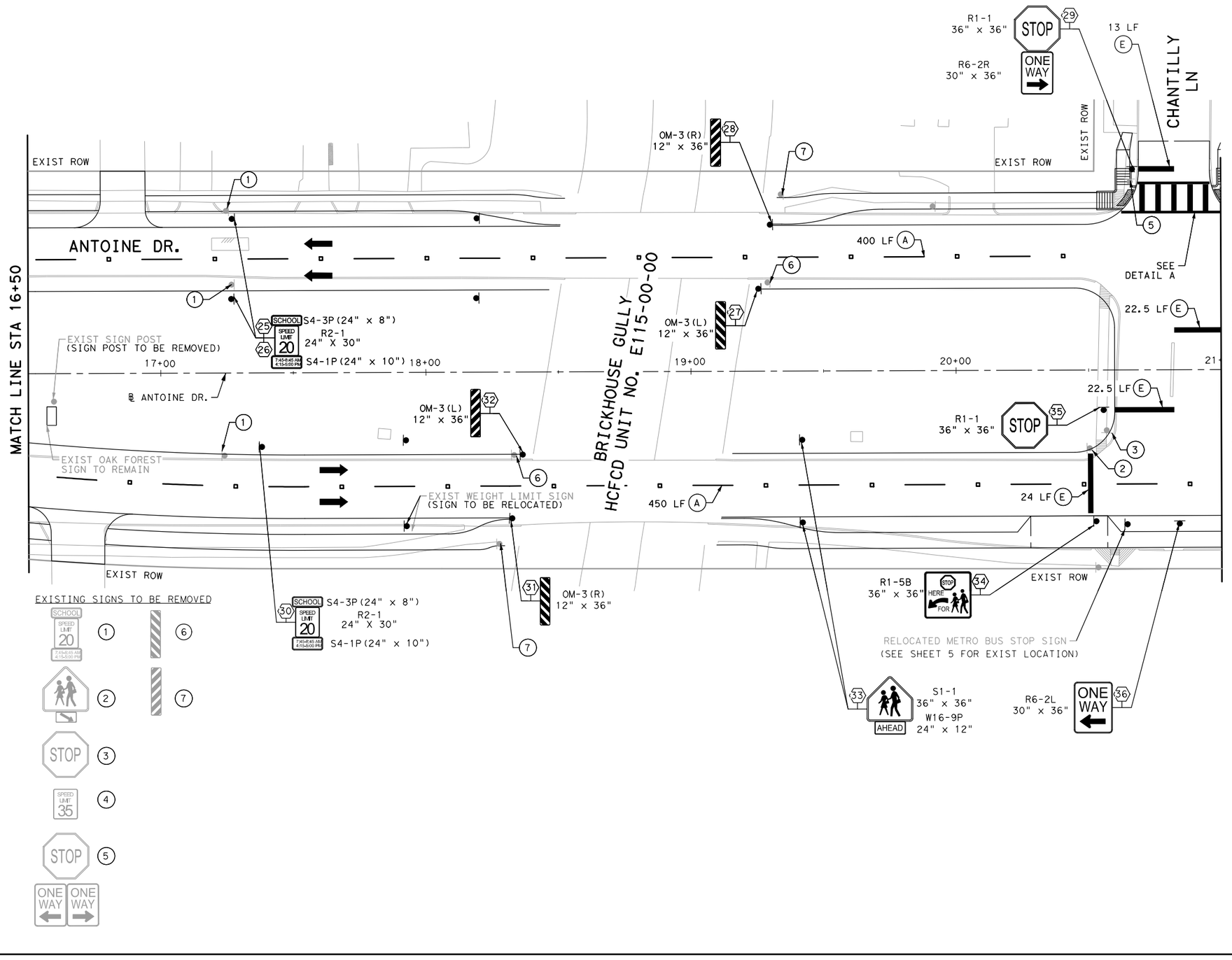

LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
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NOTE:
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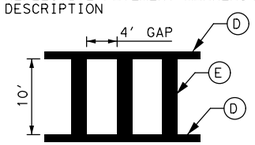
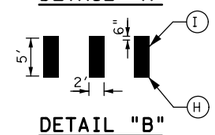


DETAIL "A"



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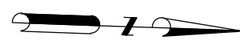

0' 20' 40'
SCALE IN FEET

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TBPE Firm Reg. #4575

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2/19/2026
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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 16+50 TO STA 21+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 651 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 2/19/2026 Prabesh

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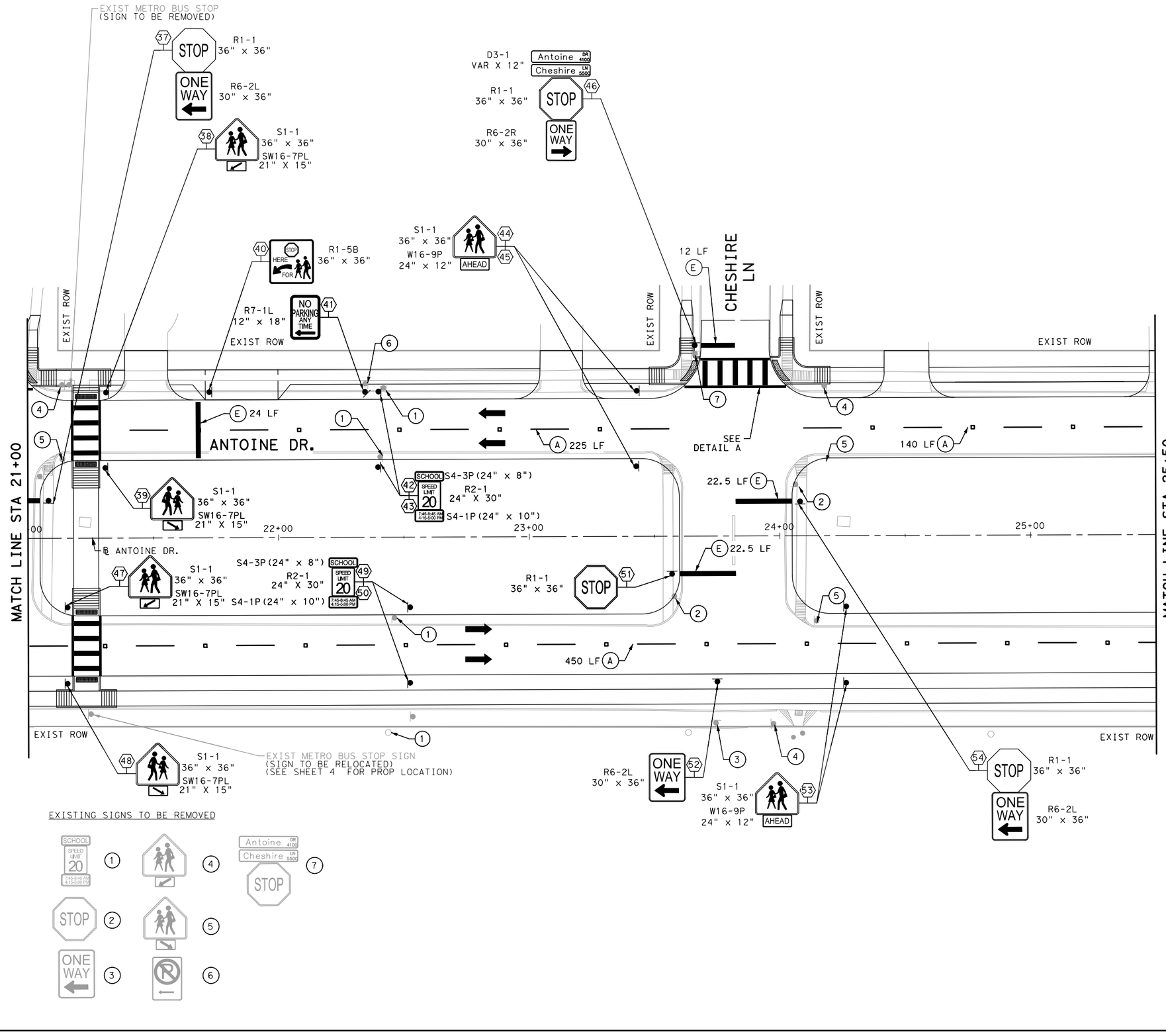
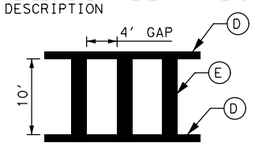


EXISTING SIGNS TO BE REMOVED

LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- (#) PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



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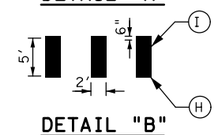

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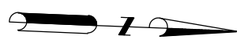

0' 20' 40'
SCALE IN FEET

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No.	DATE		APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 21+00 TO STA 25+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 652 OF 1067	

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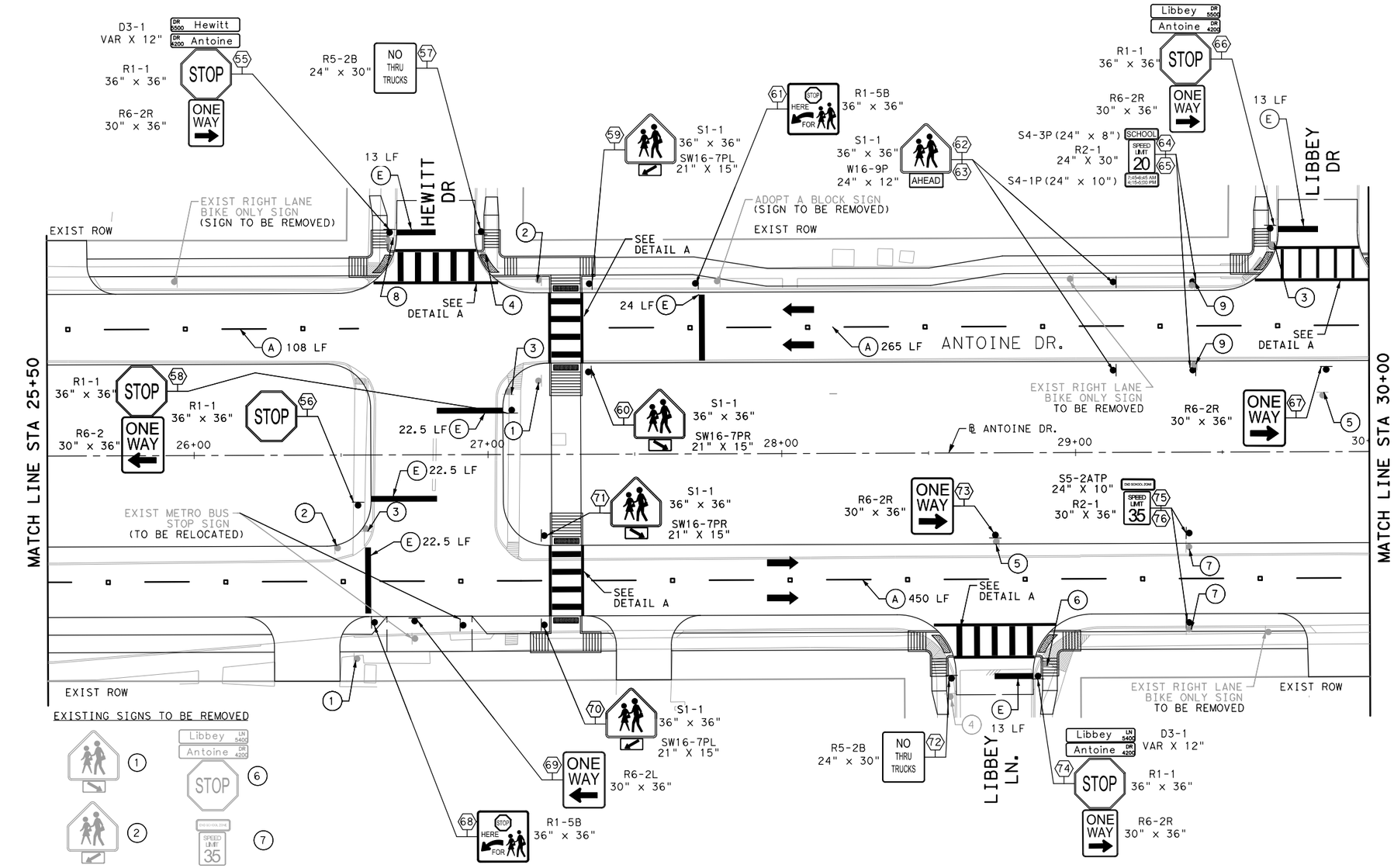
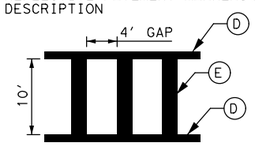
Plotted on: 2/19/2026
Prabesh



LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- ⬡(#) PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



DETAIL "A"



DETAIL "B"



0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 25+50 TO STA 30+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 653 OF 1067	

Plotted on: 2/19/2026 Prabesh

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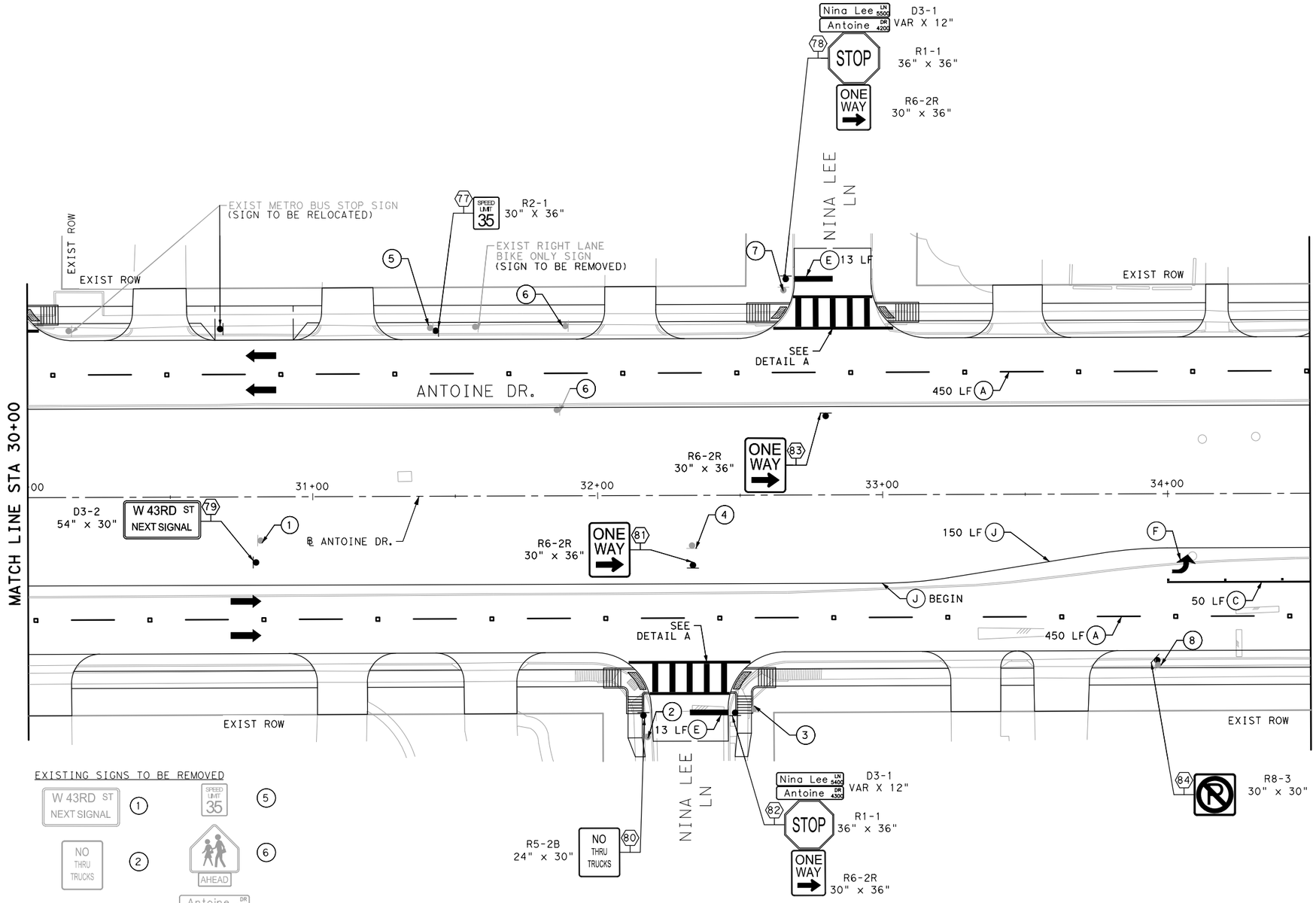
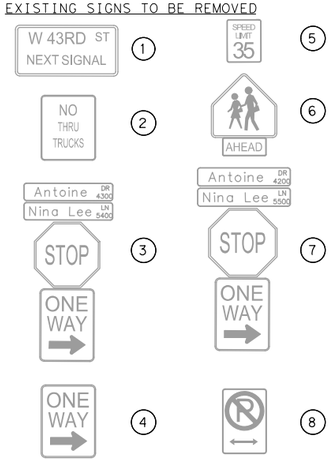


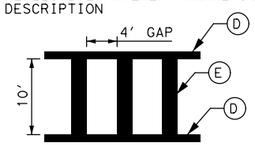
EXISTING SIGNS TO BE REMOVED



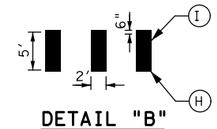
LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- ⟨#⟩ PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



DETAIL "A"



DETAIL "B"



0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 30+00 TO STA 34+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 654 OF 1067	

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Plotted on: 2/19/2026
Prabesh

Plotted on: 2/19/2026 Prabesh
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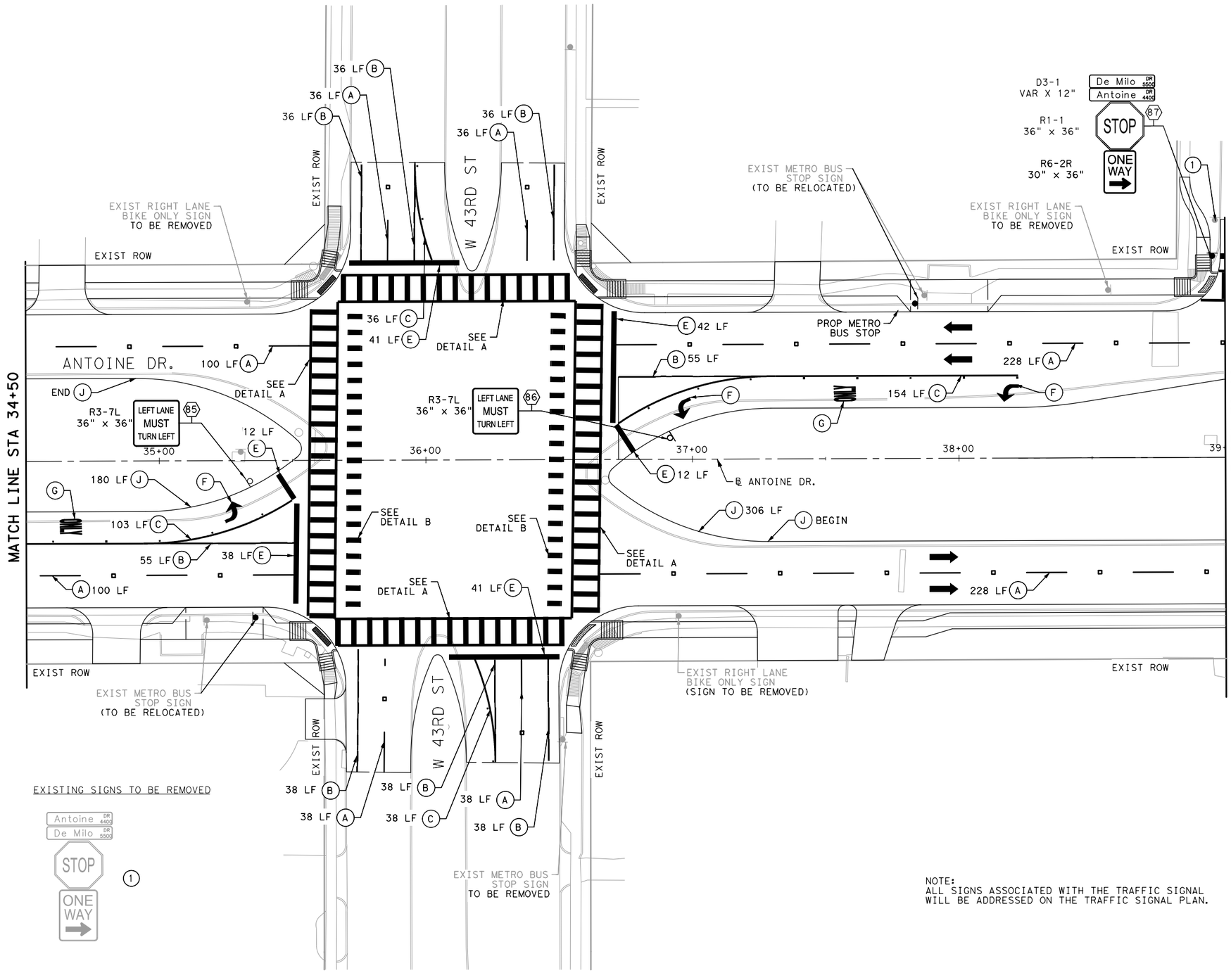


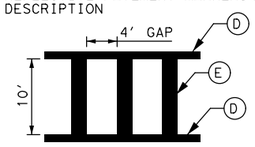
EXISTING SIGNS TO BE REMOVED

NOTE:
ALL SIGNS ASSOCIATED WITH THE TRAFFIC SIGNAL WILL BE ADDRESSED ON THE TRAFFIC SIGNAL PLAN.

LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- (#) PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



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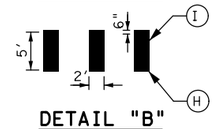

DETAIL "B"



0' 20' 40'
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No.	DATE			

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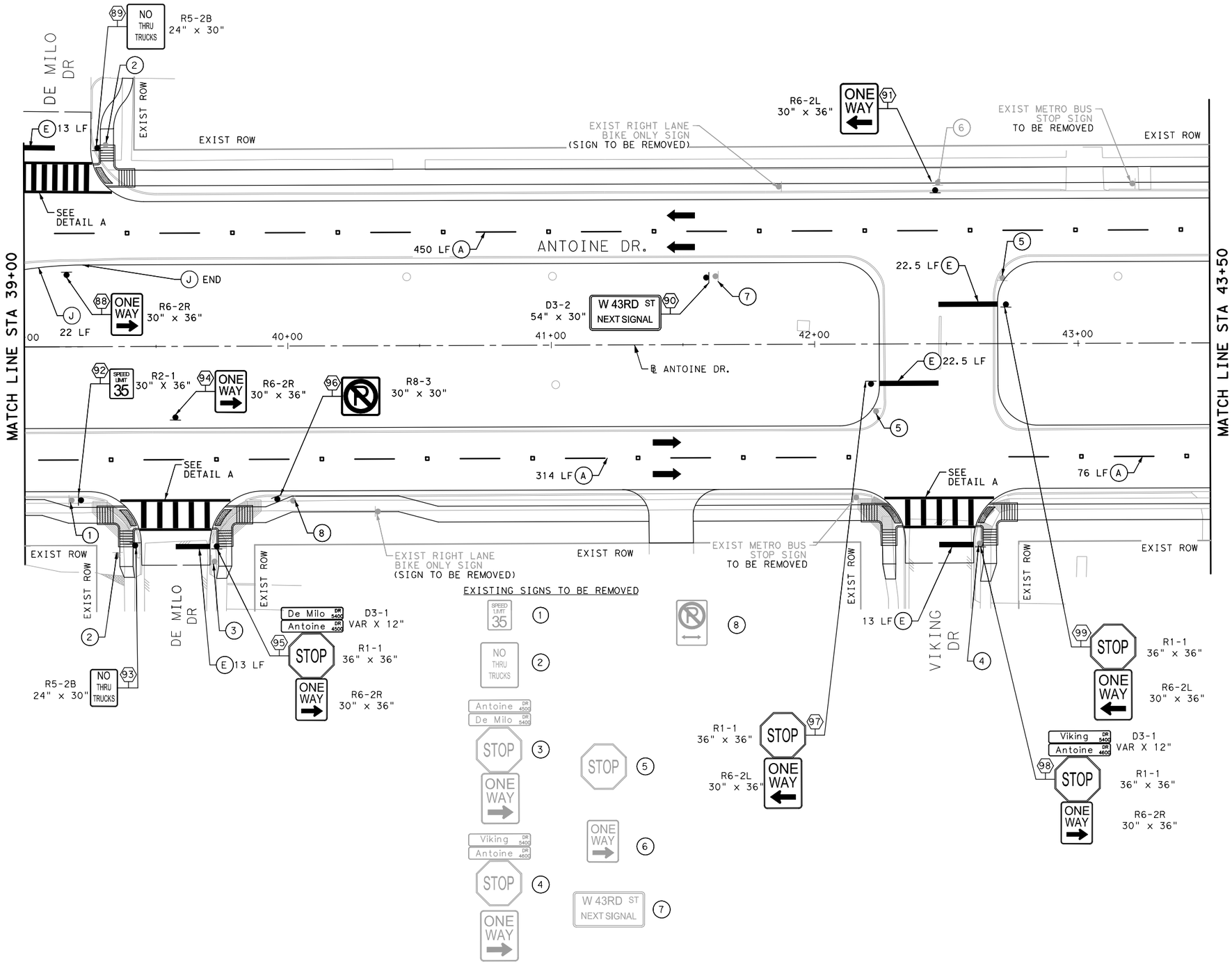
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 34+50 TO STA 39+00

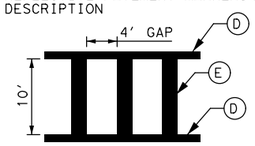
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 655 OF 1067	



LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- ⬡(#) PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



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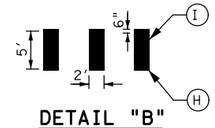

DETAIL "B"



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 39+00 TO STA 43+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 656 OF 1067	

No.	DATE	REVISIONS	APP.

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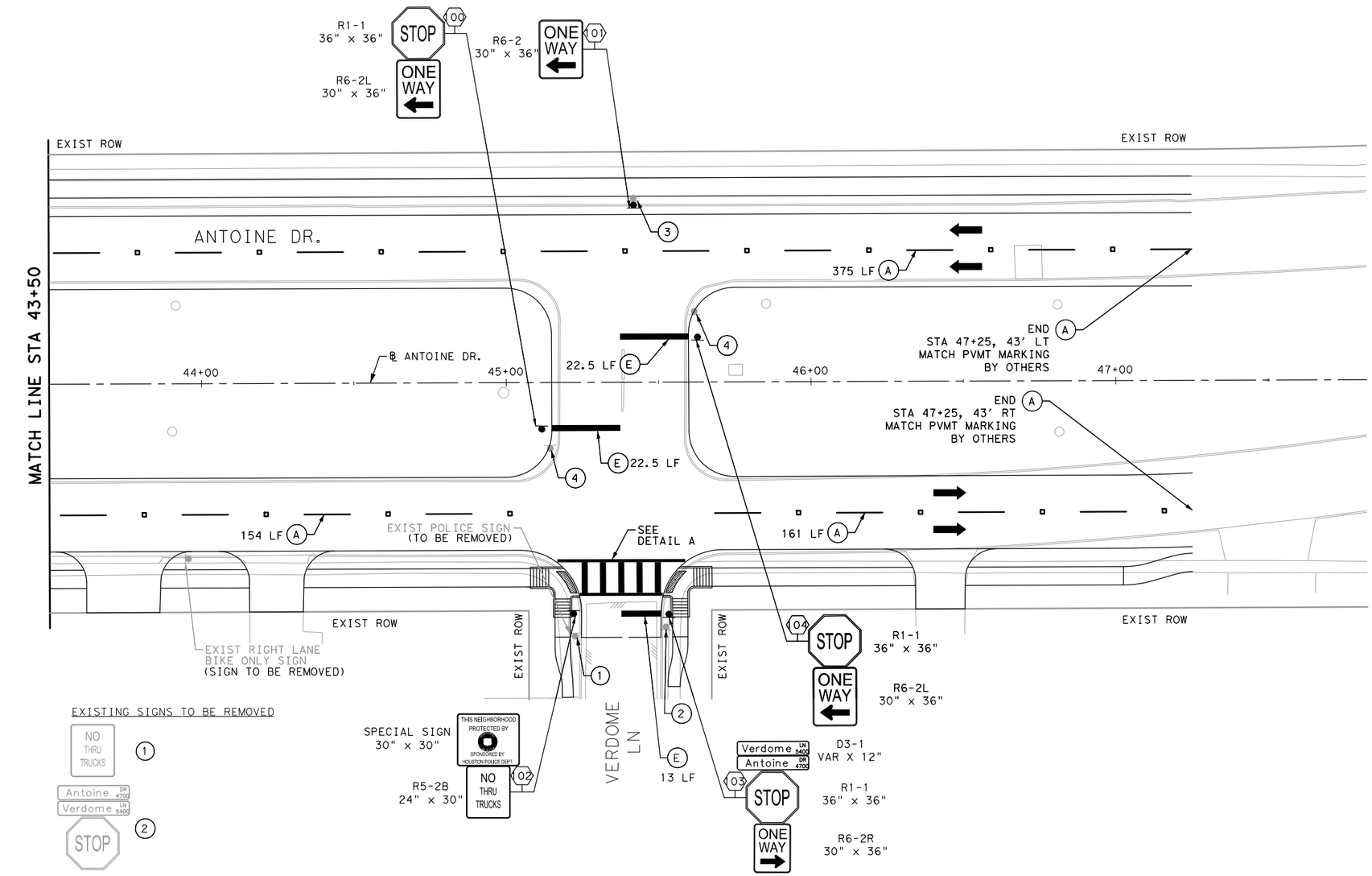
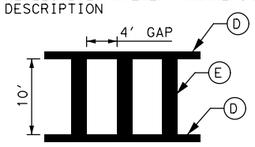
Plotted on: 2/19/2026 Prabesh



LEGEND

- (A) WB4-R40
- (B) WS6
- (C) WS6-R20
- (D) WS12
- (E) WS24
- (F) WS LEFT TURN ARROW
- (G) WS WORD
- (H) WG6
- (I) BICYCLE GREEN
- (J) YELLOW PAINT CURB
- EXIST SIGN
- PROP SIGN
- (#) EXIST SIGN NUMBER
- (#) PROP SIGN NUMBER

NOTE:
SEE CITY OF HOUSTON "PAVEMENT MARKING GENERAL NOTES AND LEGENDS" SHEET FOR LINE STYLE & REFLECTIVE PAVEMENT MARKERS(RPM) DESCRIPTION



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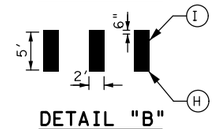

DETAIL "B"



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SCALE IN FEET

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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNAGE AND PAVEMENT MARKING STA 43+50 TO STA 47+25

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 657 OF 1067	

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Plotted on: 2/19/2026
Prabesh

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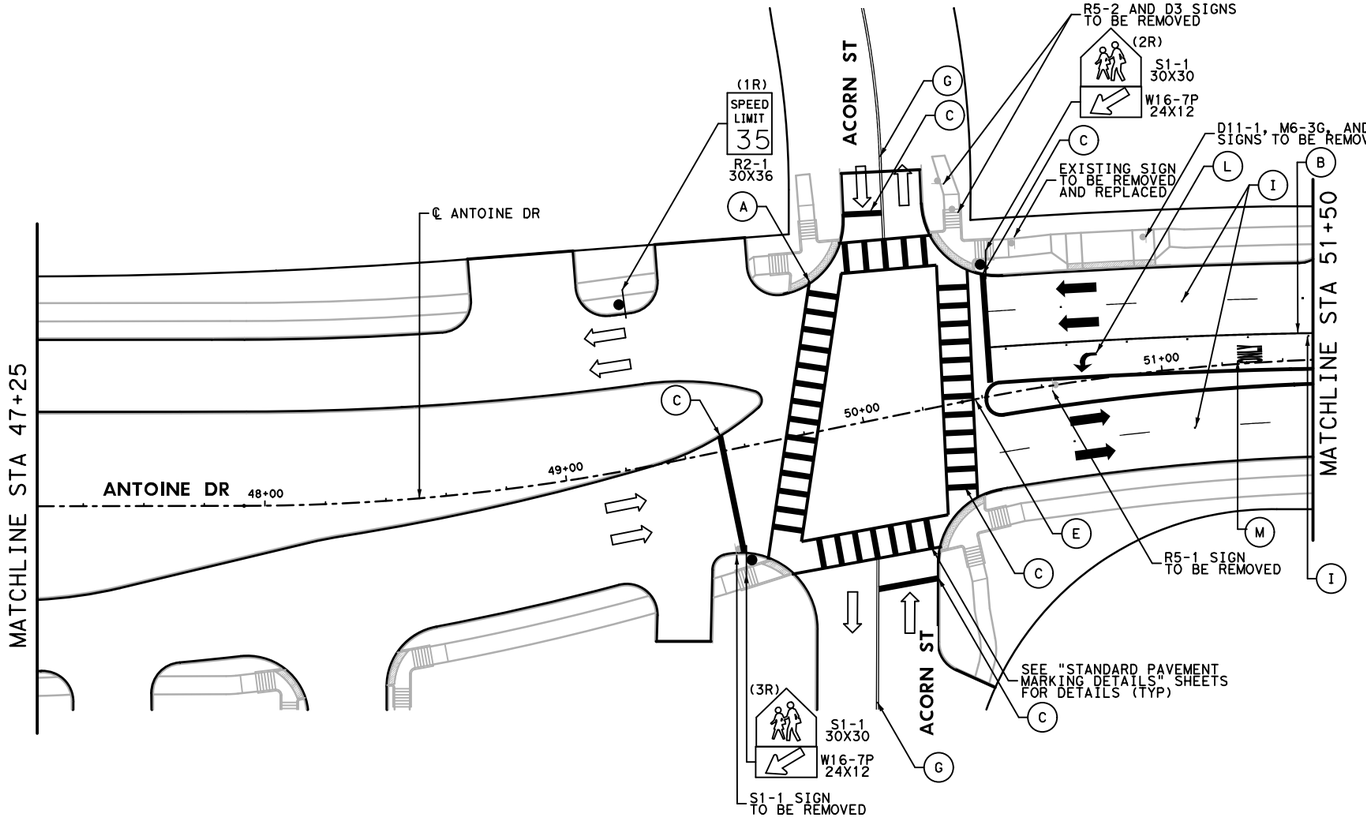

NOTES

1. REFER TO SUMMARY OF SMALL SIGNS FOR ADDITIONAL INFORMATION.
2. ALL SIGNS AND PAVEMENT MARKINGS MUST MEET THE REQUIREMENTS AS SHOWN IN THE SIGNING AND PAVEMENT MARKING STANDARDS.
3. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXIST TRAFFIC AND STREET SIGNS THAT THE PROJECT WILL AFFECT TO DOCUMENT WHAT SIGNS EXIST AND THEIR LOCATION.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR SAFE-GUARDING EXISTING SIGNS SO THAT THEY EITHER CONTINUE TO REMAIN VISIBLE AND UPRIGHT IN THE FIELD OR ARE COLLECTED AND STORED IN A SECURED AREA WHEN TEMPORARY SIGNS ARE USED IN LIEU OF THE EXISTING SIGNS.
5. CONTRACTOR SHALL INSTALL ALL PERMANENT SIGNS, POST, AND HARDWARE AS SHOWN ON PLANS AND STANDARD DETAILS.
6. REMOVAL OF EXISTING SIGNS SHALL BE INCIDENTAL.
7. METRO SIGNS (BUS STOP) WILL BE INSTALLED BY METRO.
8. A BLUE REFLECTORIZED RAISED PAVEMENT MARKER OR BUTTON IS REQUIRED AT ALL FIRE HYDRANTS AND SHALL BE LOCATED 6 INCHES OFF THE PAVEMENT CENTERLINE TOWARD THE FIRE HYDRANT.

LEGEND

- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- EXISTING SIGN
- PROPOSED SIGN
- RIGHT OF WAY
- PROP CURB

A	WS12
B	WS6-R20
C	WS24
D	WB4-R40
E	YS12
F	YB4-C
G	YDS4-A
H	RAIS PAV MRK TY I-C
I	RAIS PAV MRK TY II-C-R
J	PREFAB PAV MRK TY C (GRN)(SLD)(BLOCK)
K	REFL PAV MRK (W) SHARROW
L	REFL PAV MRK (W) ARROW
M	REFL PAV MRK (W) WORD
N	REFL PAV MRK TY II (Y)(12")(SD)

No.	DATE	REVISIONS	APP.

N

0′ 25′ 50′
SCALE IN FEET

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3200 Southwest Freeway, Suite 3150
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713-914-4455 FAX 713-914-0155

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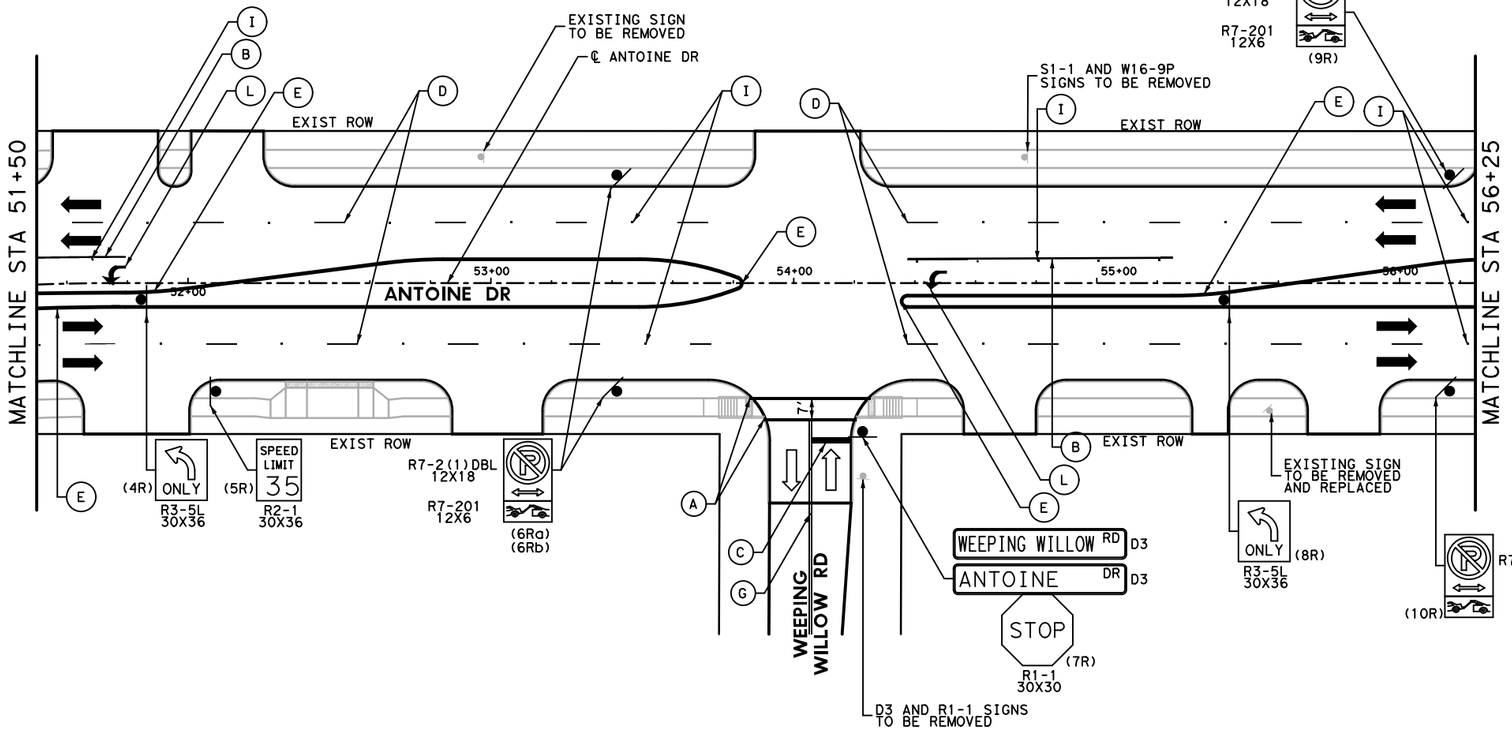
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

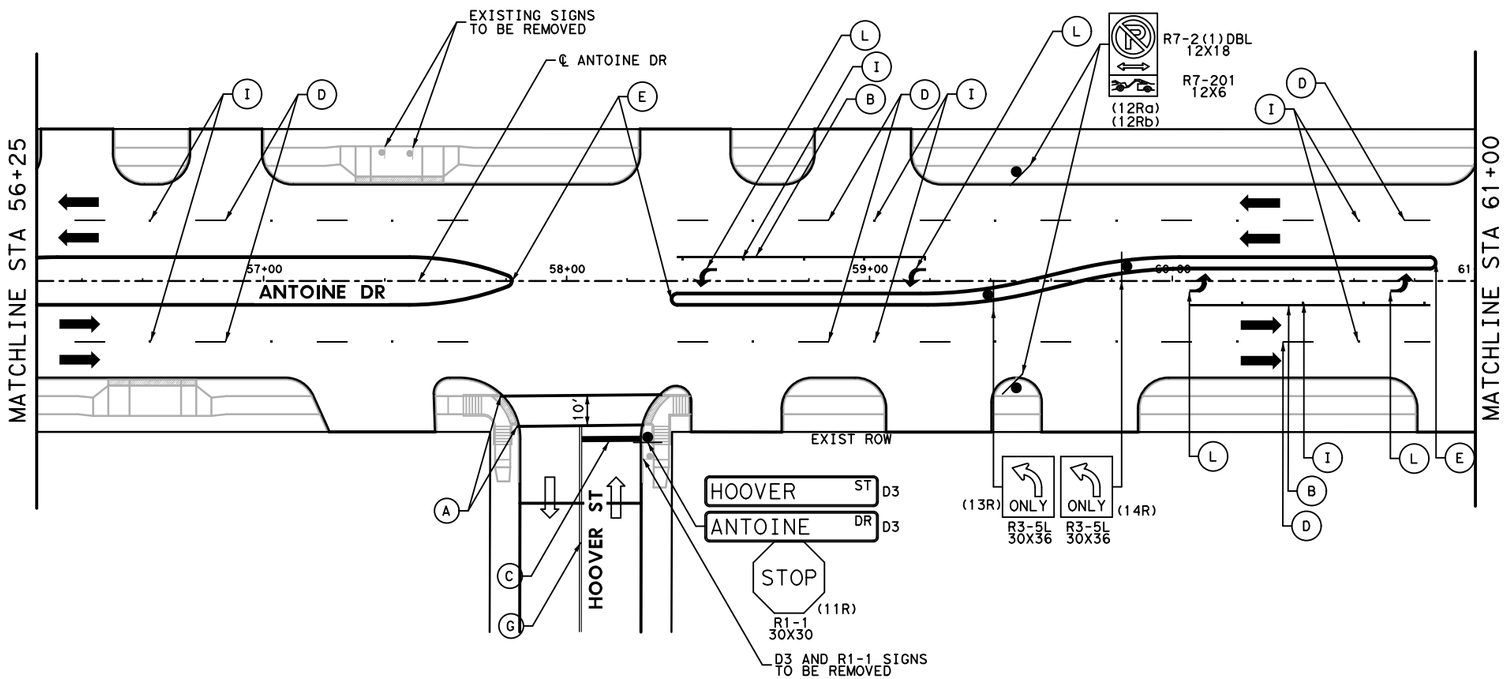
ANTOINE DRIVE

SIGNING AND PAVEMENT MARKING LAYOUT STA 49+00 TO STA 55+00

SHEET XX OF XX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 658 OF 1067	





NOTES

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2. ALL SIGNS AND PAVEMENT MARKINGS MUST MEET THE REQUIREMENTS AS SHOWN IN THE SIGNING AND PAVEMENT MARKING STANDARDS.
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6. REMOVAL OF EXISTING SIGNS SHALL BE INCIDENTAL.
7. METRO SIGNS (BUS STOP) WILL BE INSTALLED BY METRO.
8. A BLUE REFLECTORIZED RAISED PAVEMENT MARKER OR BUTTON IS REQUIRED AT ALL FIRE HYDRANTS AND SHALL BE LOCATED 6 INCHES OFF THE PAVEMENT CENTERLINE TOWARD THE FIRE HYDRANT.

LEGEND

- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- EXISTING SIGN
- PROPOSED SIGN
- RIGHT OF WAY
- PROP CURB

A	WS12
B	WS6-R20
C	WS24
D	WB4-R40
E	YS12
F	YB4-C
G	YDS4-A
H	RAIS PAV MRK TY I-C
I	RAIS PAV MRK TY II-C-R
J	PREFAB PAV MRK TY C (GRN)(SLD)(BLOCK)
K	REFL PAV MRK (W) SHARROW
L	REFL PAV MRK (W) ARROW
M	REFL PAV MRK (W) WORD
N	REFL PAV MRK TY II (Y)(12")(SD)

N

0′ 25′ 50′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

BOWMAN ENGINEERING/CONSULTING INC

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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING AND PAVEMENT MARKING LAYOUT STA 55+00 TO END

SHEET XX OF XX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 659 OF 1067	

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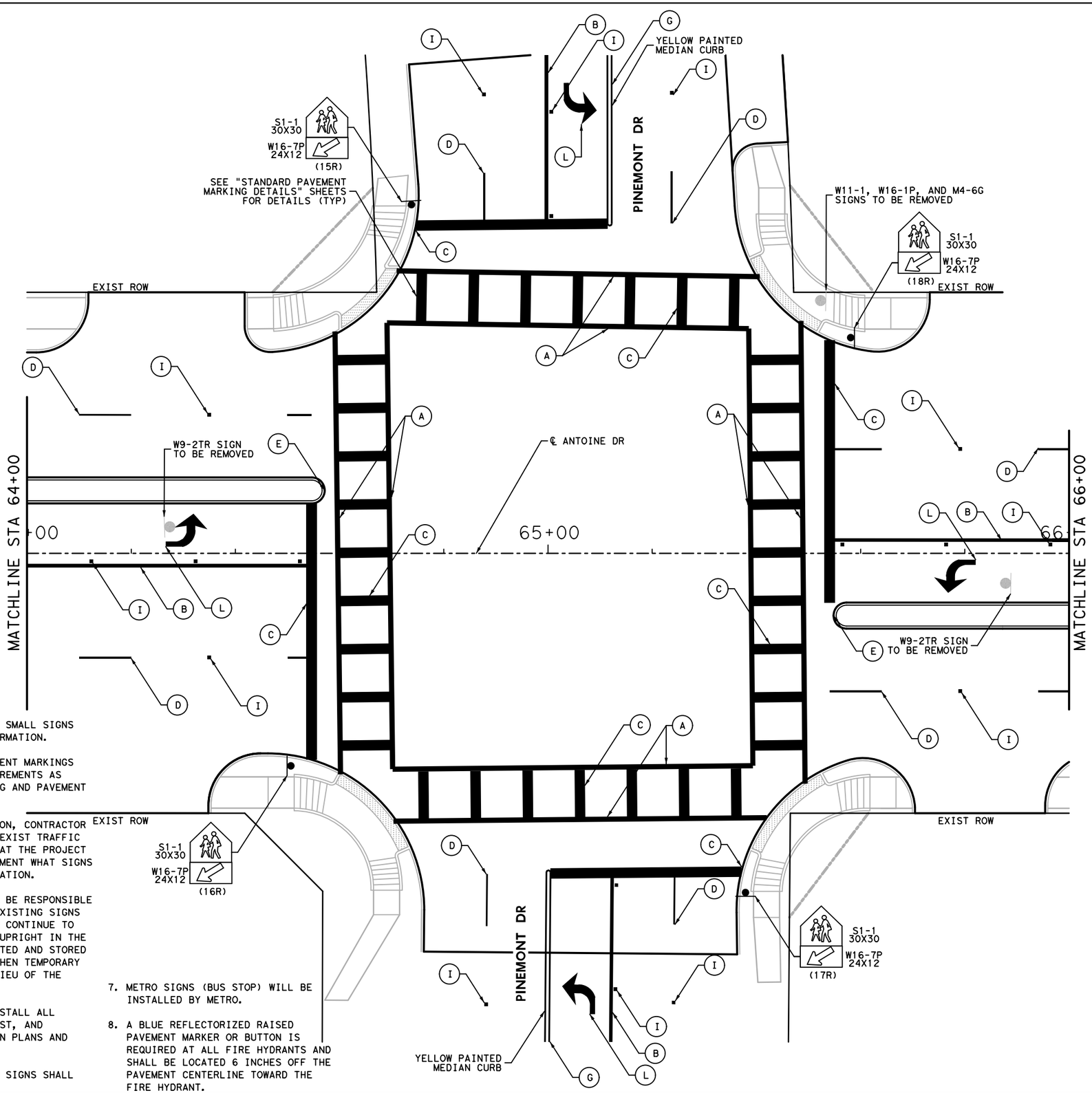

LEGEND

- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- EXISTING SIGN
- PROPOSED SIGN
- RIGHT OF WAY
- PROP CURB

(A) WS12
(B) WS6-R20
(C) WS24
(D) WB4-R40
(E) YS12
(F) YB4-C
(G) YDS4-A
(H) RAIS PAV MRK TY I-C
(I) RAIS PAV MRK TY II-C-R
(J) PREFAB PAV MRK TY C (GRN)(SLD)(BLOCK)
(K) REFL PAV MRK (W) SHARROW
(L) REFL PAV MRK (W) ARROW
(M) REFL PAV MRK (W) WORD
(N) REFL PAV MRK TY II (Y)(12")(SD)

No.	DATE	REVISIONS	APP.

N

0' 10' 20'
SCALE IN FEET

NOTES

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2. ALL SIGNS AND PAVEMENT MARKINGS MUST MEET THE REQUIREMENTS AS SHOWN IN THE SIGNING AND PAVEMENT MARKING STANDARDS.
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BOWMAN ENGINEERING/CONSULTING INC

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING AND PAVEMENT MARKING LAYOUT

SHEET XX OF XX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 660 OF 1067	

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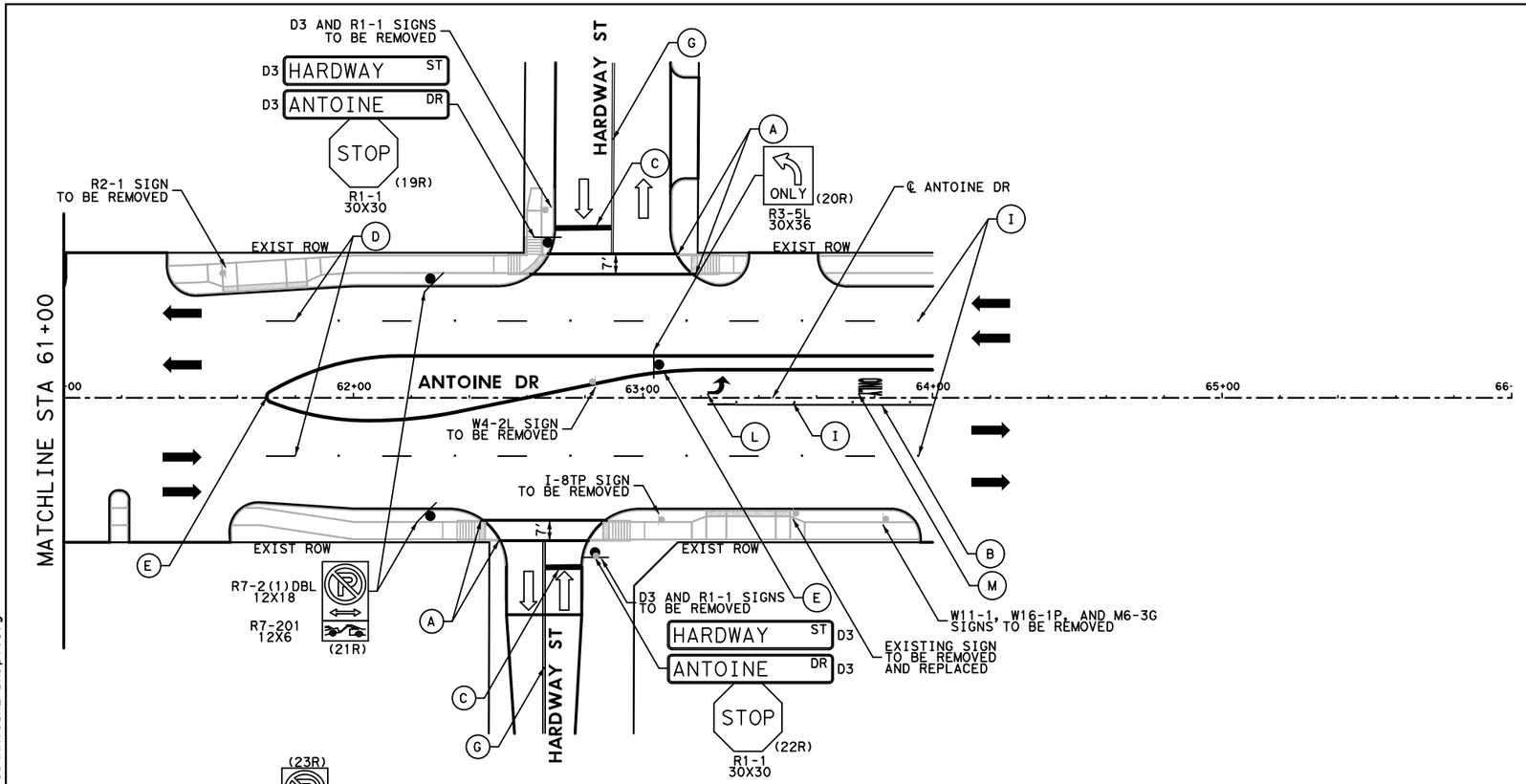

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LEGEND

- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- EXISTING SIGN
- PROPOSED SIGN
- RIGHT OF WAY
- PROP CURB

A	WS12
B	WS6-R20
C	WS24
D	WB4-R40
E	YS12
F	YB4-C
G	YDS4-A
H	RAIS PAV MRK TY I-C
I	RAIS PAV MRK TY II-C-R
J	PREFAB PAV MRK TY C (GRN)(SLD)(BLOCK)
K	REFL PAV MRK (W) SHARROW
L	REFL PAV MRK (W) ARROW
M	REFL PAV MRK (W) WORD
N	REFL PAV MRK TY II (Y)(12")(SD)

N

0′ 25′ 50′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING AND PAVEMENT MARKING LAYOUT STA 66+00 TO STA 77+00

SHEET XX OF XX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 661 OF 1067	

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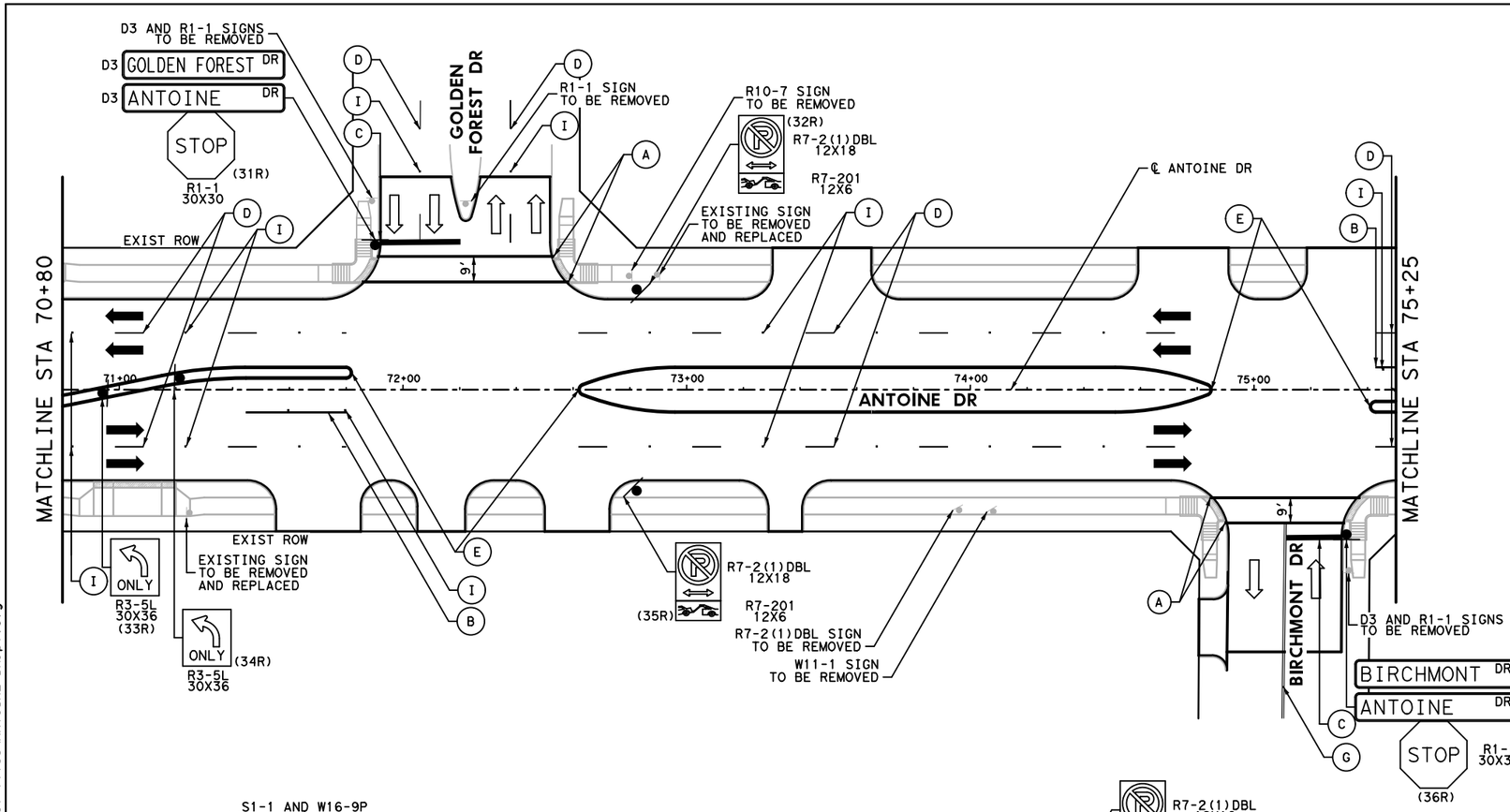

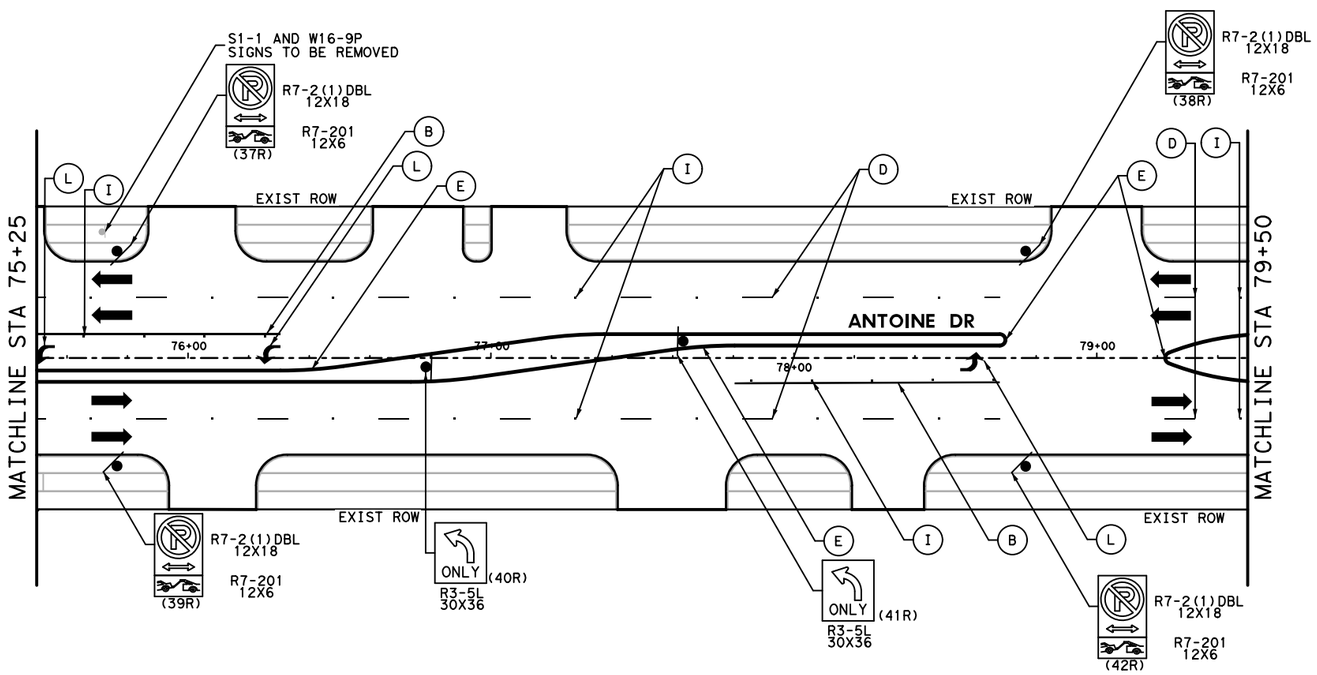

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LEGEND

- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- EXISTING SIGN
- PROPOSED SIGN
- RIGHT OF WAY
- PROP CURB

A	WS12
B	WS6-R20
C	WS24
D	WB4-R40
E	YS12
F	YB4-C
G	YDS4-A
H	RAIS PAV MRK TY I-C
I	RAIS PAV MRK TY II-C-R
J	PREFAB PAV MRK TY C (GRN)(SLD)(BLOCK)
K	REFL PAV MRK (W) SHARROW
L	REFL PAV MRK (W) ARROW
M	REFL PAV MRK (W) WORD
N	REFL PAV MRK TY II (Y)(12")(SD)

N

0' 25' 50'
SCALE IN FEET

No.	DATE	REVISIONS	APP'D

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING AND PAVEMENT MARKING LAYOUT STA 77+00 TO STA 88+00

SHEET XX OF XX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 662 OF 1067	

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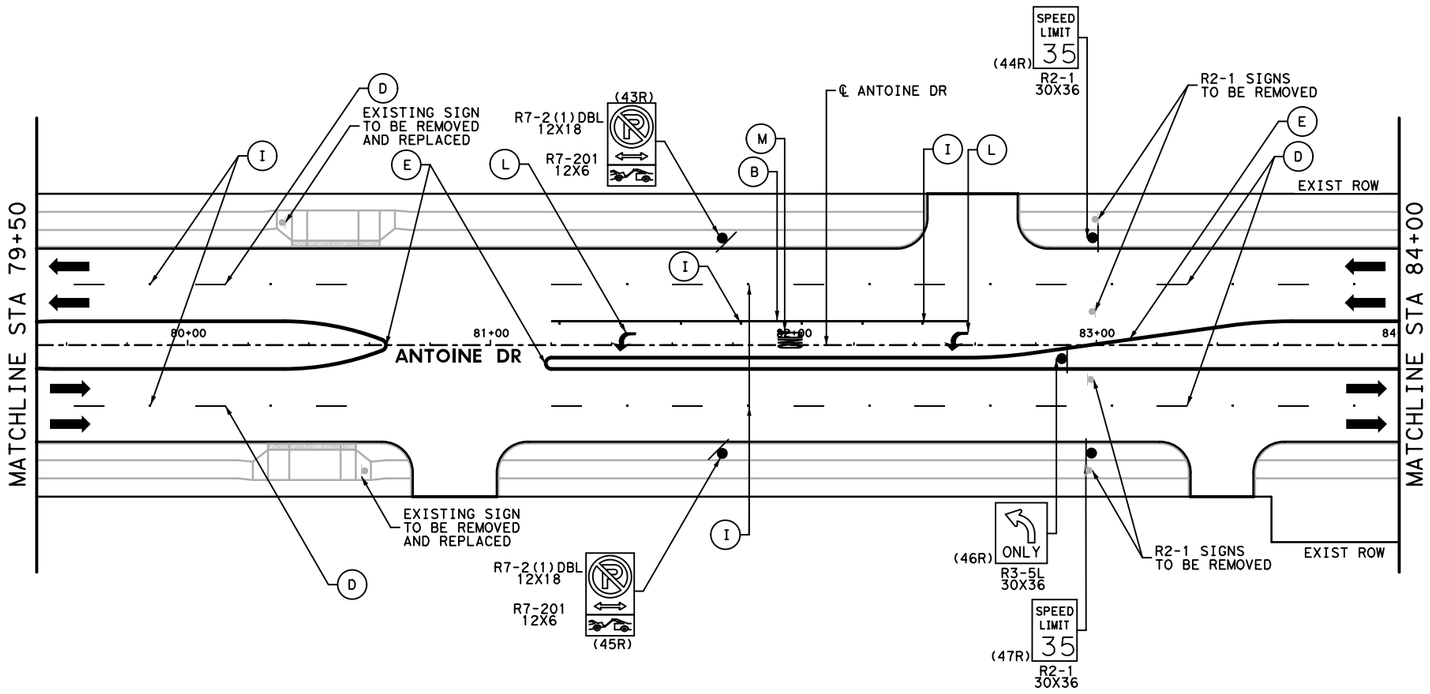

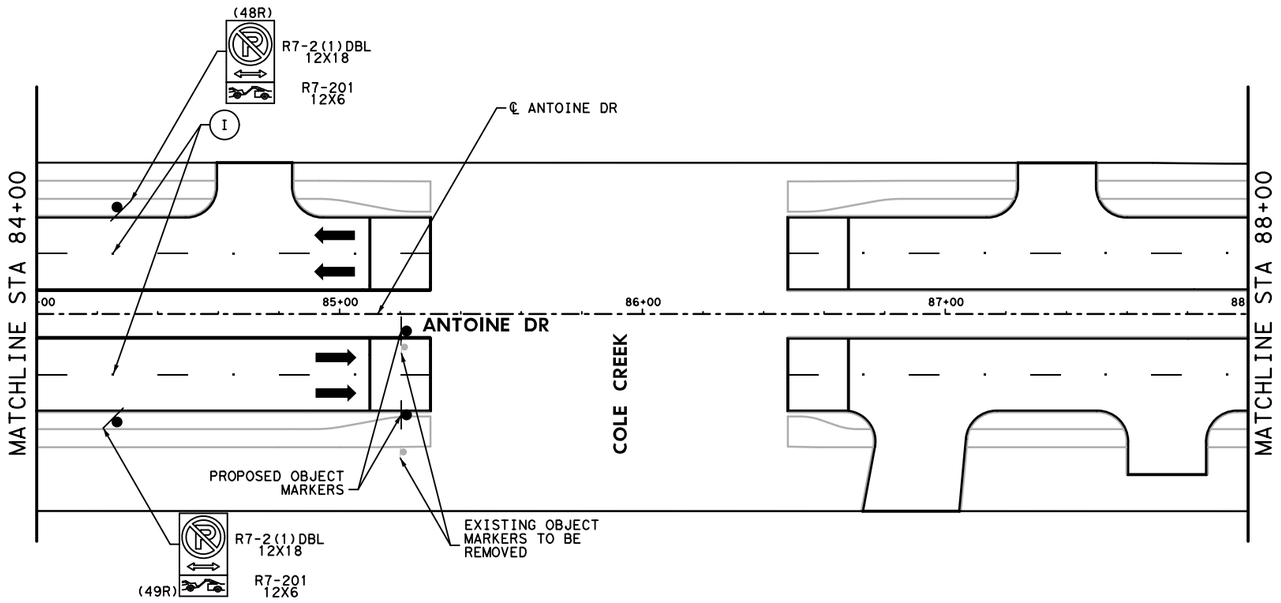

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LEGEND

- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- EXISTING SIGN
- PROPOSED SIGN
- RIGHT OF WAY
- PROP CURB

A	WS12
B	WS6-R20
C	WS24
D	WB4-R40
E	YS12
F	YB4-C
G	YDS4-A
H	RAIS PAV MRK TY I-C
I	RAIS PAV MRK TY II-C-R
J	PREFAB PAV MRK TY C (GRN)(SLD)(BLOCK)
K	REFL PAV MRK (W) SHARROW
L	REFL PAV MRK (W) ARROW
M	REFL PAV MRK (W) WORD
N	REFL PAV MRK TY II (Y)(12")(SD)

No.	DATE	REVISIONS	APP.

N

0′ 25′ 50′
SCALE IN FEET

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3200 Southwest Freeway, Suite 3150
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date
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING AND PAVEMENT MARKING LAYOUT
STA 77+00 TO STA 88+00

SHEET XX OF XX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 663 OF 1067	

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NOTE:

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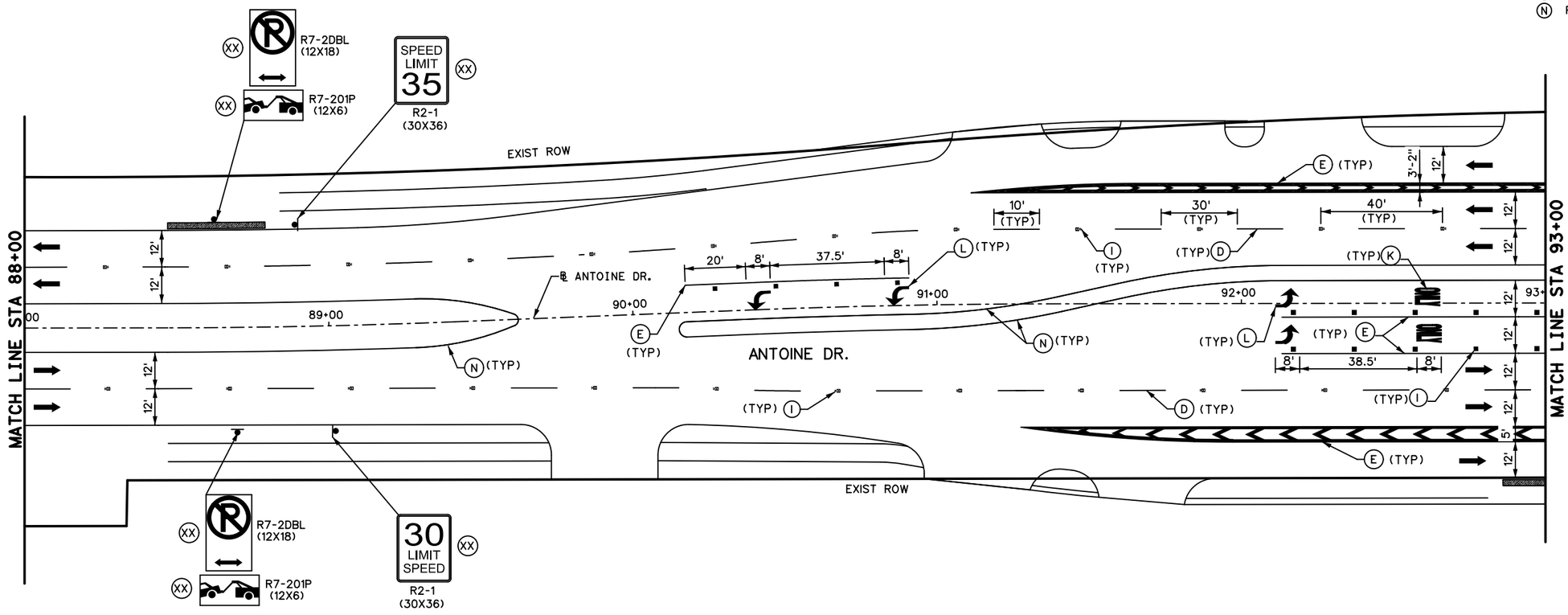
LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
- (K) REFL PAV MRK (W) WORD
- (L) REFL PAV MRK (W) ARROW
- (M) REFL PAV MRK TY II (Y)(12")(SLD)
- (N) PAV MRK (Y) (6") CURB

No.	DATE	REVISIONS	APP.



0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STA 88+00 TO STA 93+00

SHEET 20 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 664 OF 1067	

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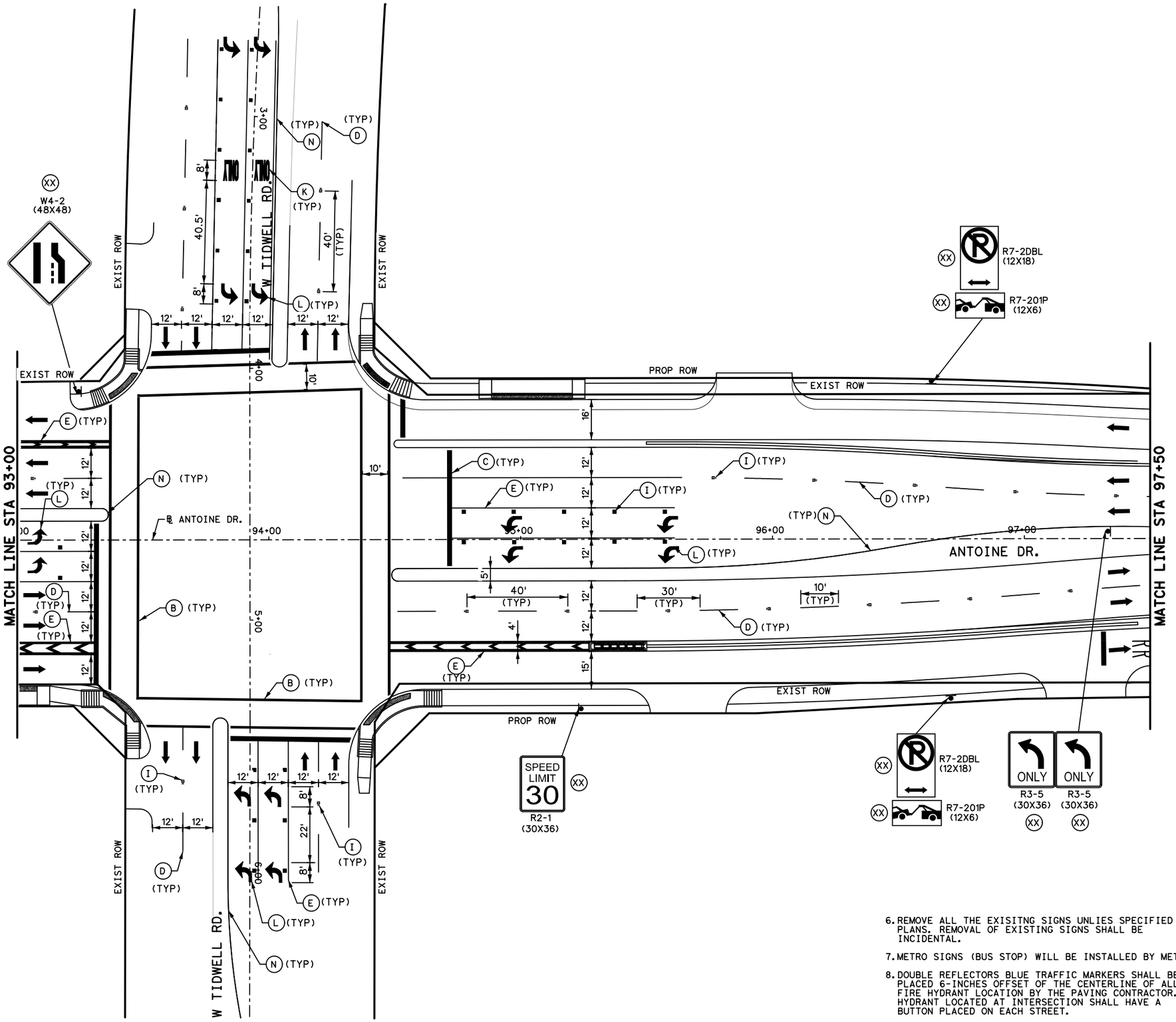

LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
- (K) REFL PAV MRK (W) WORD
- (L) REFL PAV MRK (W) ARROW
- (M) REFL PAV MRK TY II (Y)(12")(SLD)
- (N) PAV MRK (Y) (6") CURB

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0′ 20′ 40′
SCALE IN FEET

APP:	DATE	No.	REVISIONS

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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KARAM QADDO
P.E. No. 125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

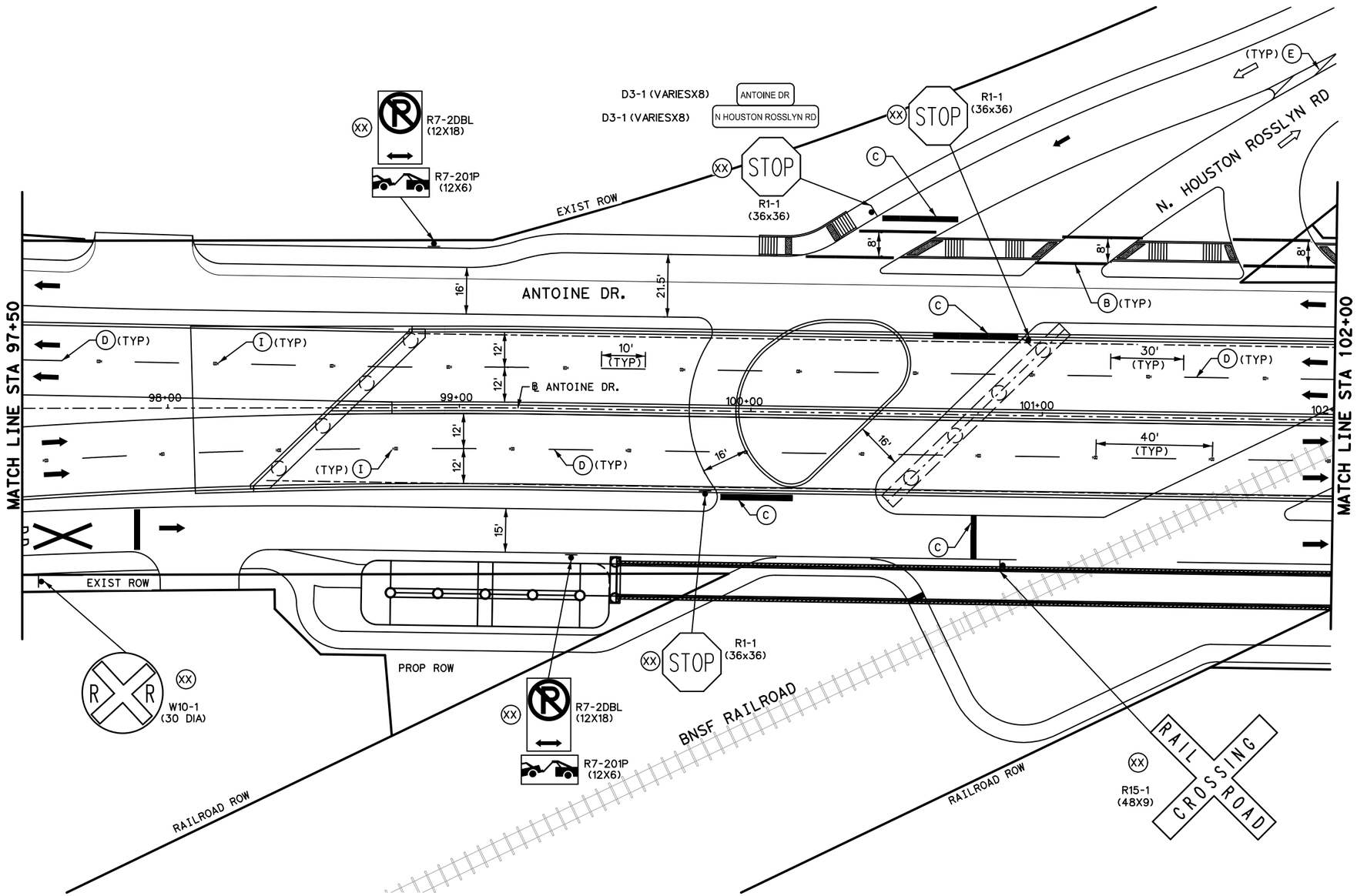
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS
STA 93+00 TO STA 97+50

SHEET 21 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 665 OF 1067	



LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
- (K) REFL PAV MRK (W) WORD
- (L) REFL PAV MRK (W) ARROW
- (M) REFL PAV MRK TY II (Y)(12")(SLD)
- (N) PAV MRK (Y) (6") CURB

NOTE:

1. REFER TO SUMMARY OF SMALL SIGNS FOR ADDITIONAL INFORMATION.
2. REFER TO SIGN AND PAVEMENT MARKING STANDARDS FOR ADDITIONAL INFORMATION.
3. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXIST TRAFFIC AND STREET SIGNS THAT THE PROJECT WILL AFFECT TO DOCUMENT WHAT SIGNS EXIST AND THEIR LOCATION.
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8. DOUBLE REFLECTORS BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATION BY THE PAVING CONTRACTOR. HYDRANT LOCATED AT INTERSECTION SHALL HAVE A BUTTON PLACED ON EACH STREET.

0′ 20′ 40′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STA 97+50 TO STA 102+00

SHEET 22 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 666 OF 1067	

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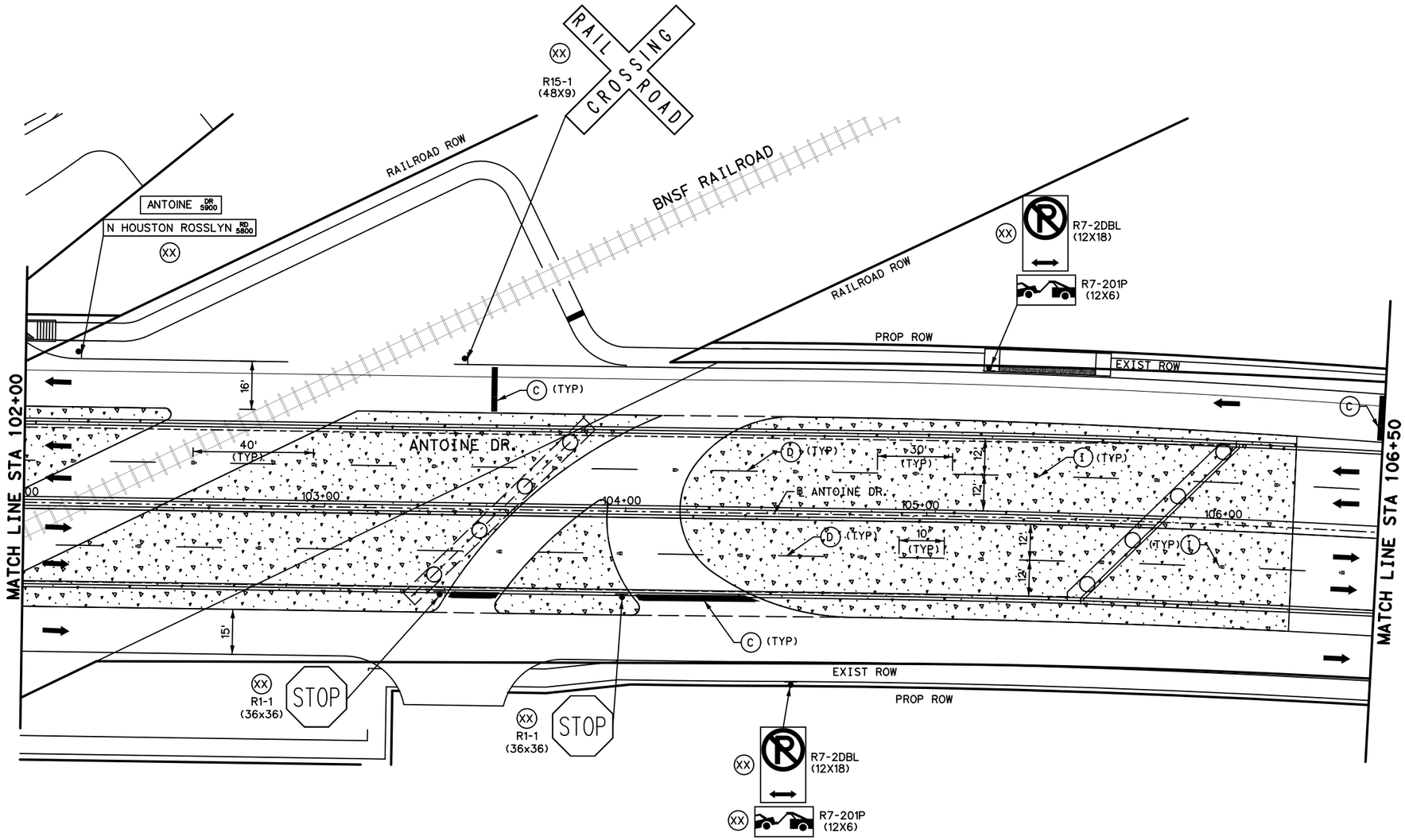

LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
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- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
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- (M) REFL PAV MRK TY II (Y)(12")(SLD)
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SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS
STA 102+00 TO STA 106+50

SHEET 23 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 667 OF 1067	

Pen Table: TX_Pen.tbl
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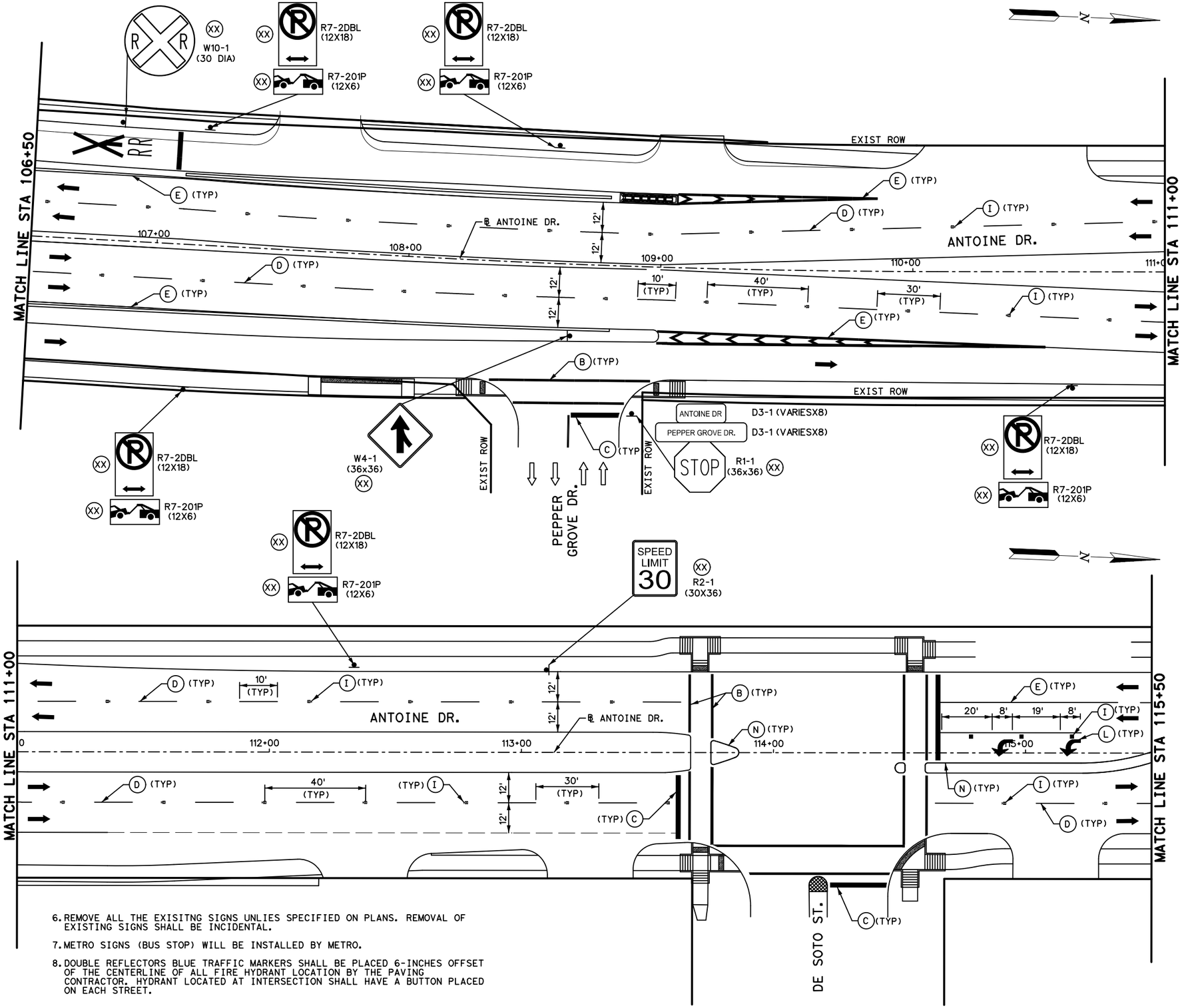

LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
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- (E) PAV MRK (W) (6") (SLD)
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- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
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- (I) RAIS PAV MRK TY II-C-R
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- (N) PAV MRK (Y) (6") CURB

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STA 106+50 TO STA 115+50

SHEET 24 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 668 OF 1067	

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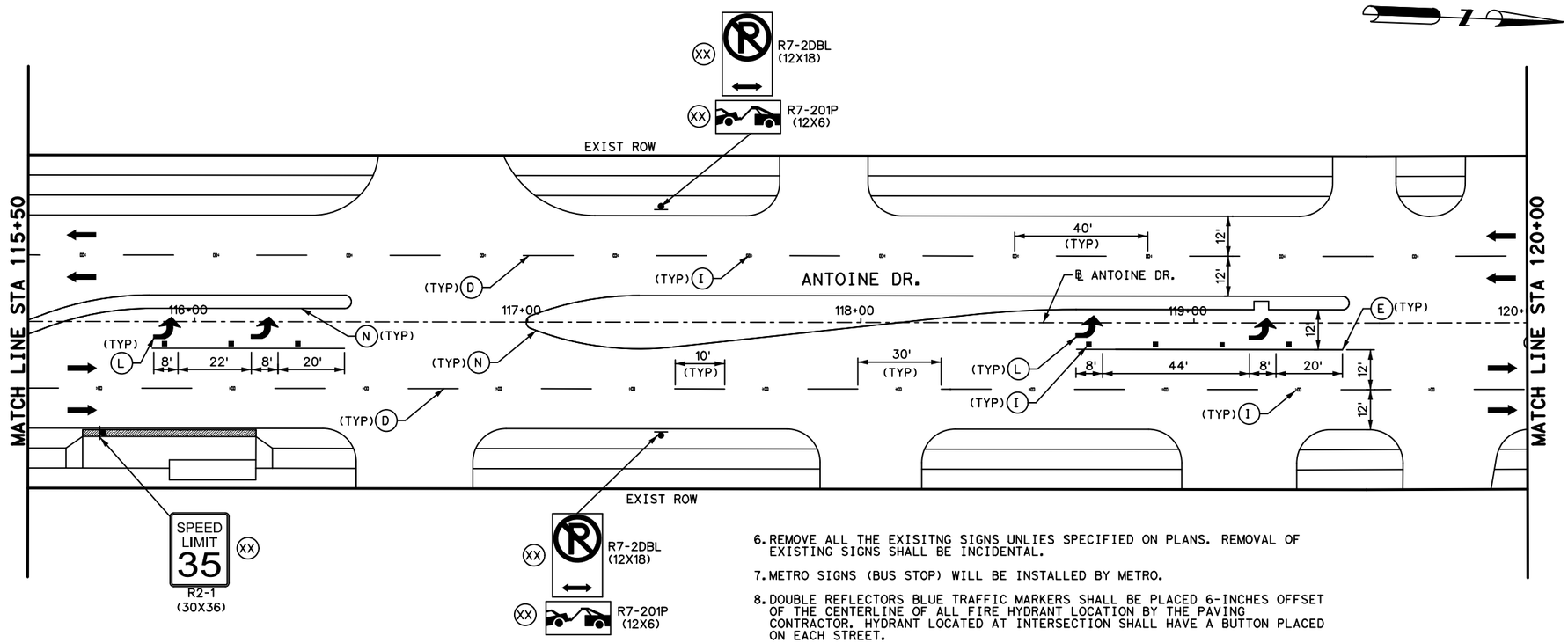

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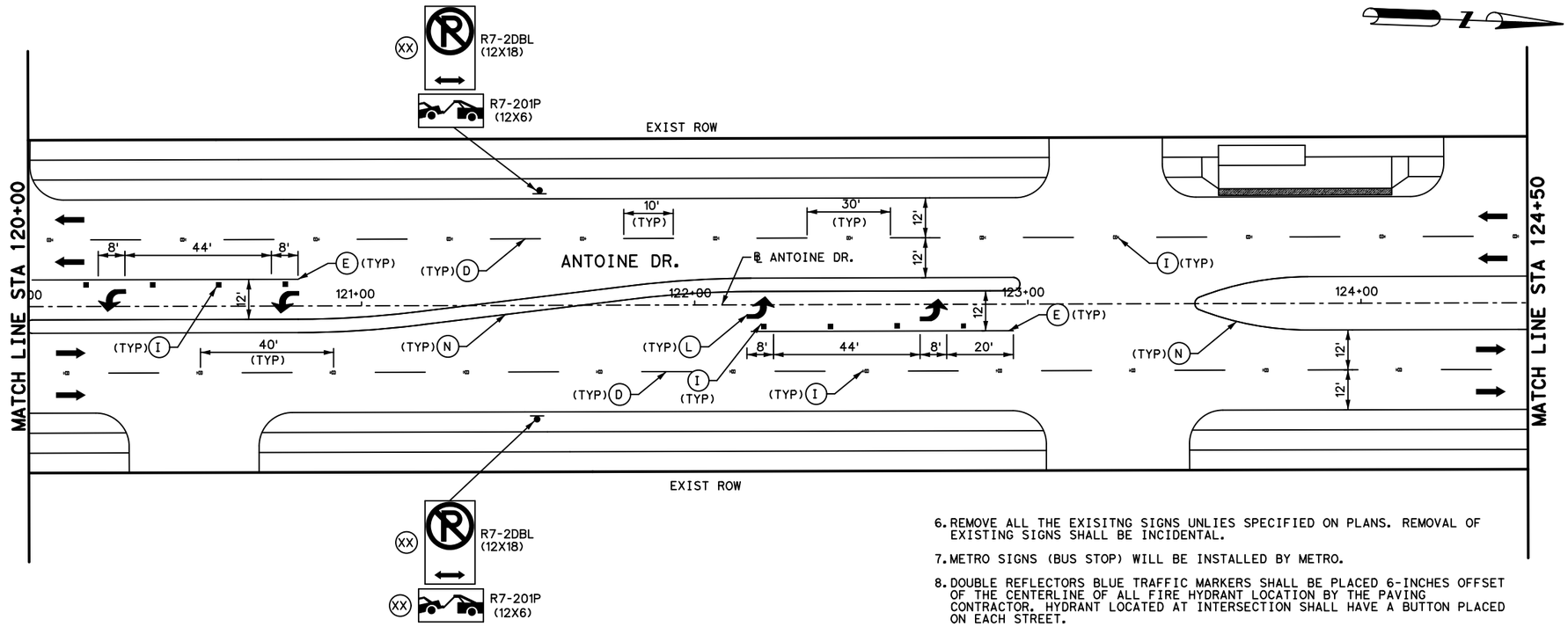

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LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
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- (N) PAV MRK (Y) (6") CURB

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APP:	DATE	No.	REVISIONS

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS
STA 115+50 TO STA 124+50

SHEET 25 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 669 OF 1067	

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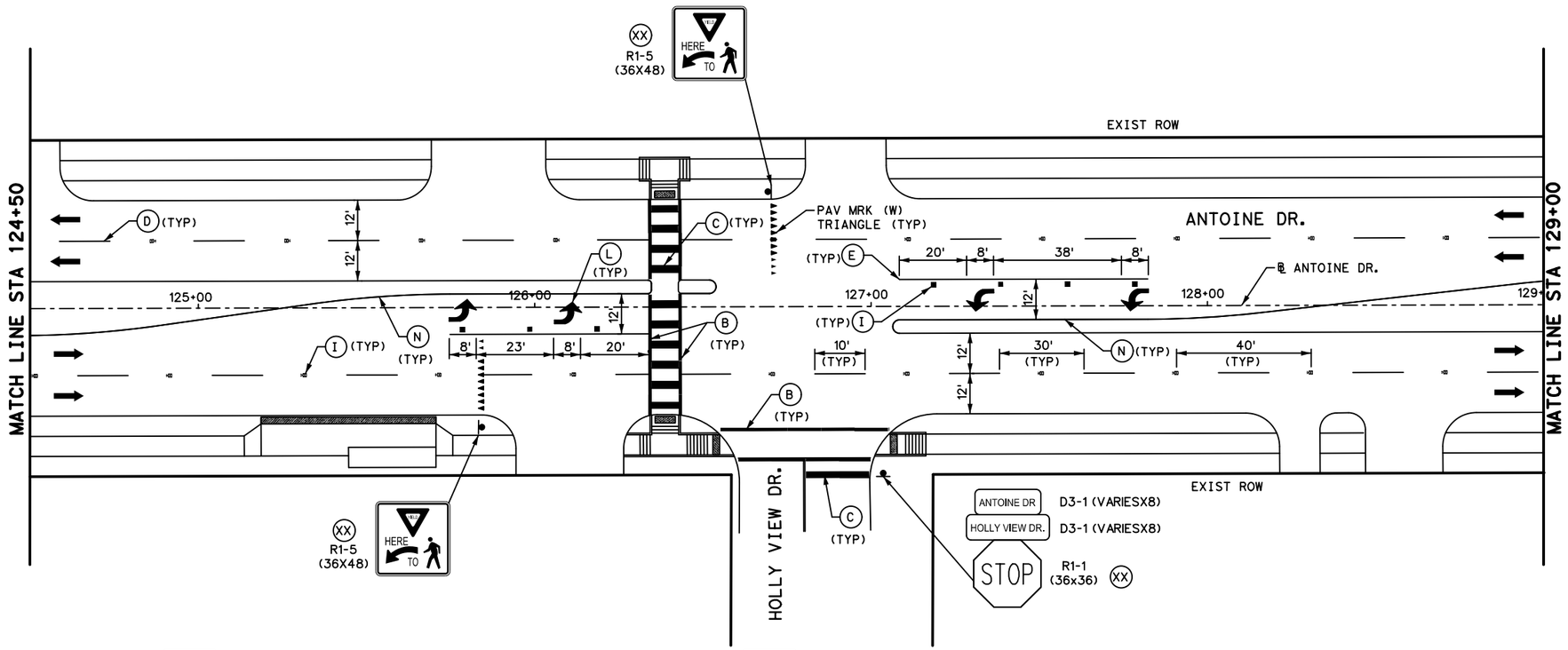

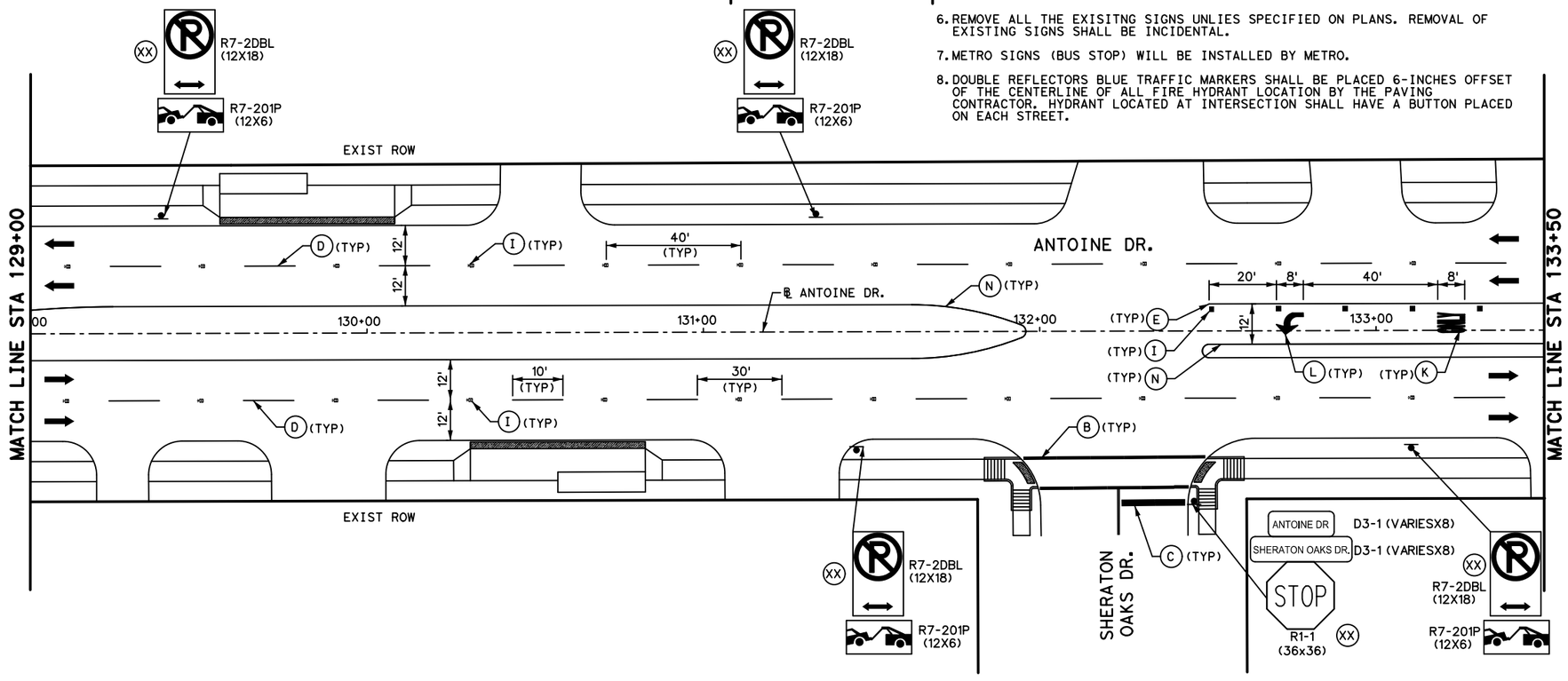

LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
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- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
- (K) REFL PAV MRK (W) WORD
- (L) REFL PAV MRK (W) ARROW
- (M) REFL PAV MRK TY II (Y)(12")(SLD)
- (N) PAV MRK (Y) (6") CURB

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0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

SHEET 26 OF 35

Gauge ENGINEERING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS
STA 124+50 TO STA 133+50

SHEET 26 OF 29

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DRAWING SCALE	
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CITY OF HOUSTON PM	
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SHEET NO. 670 OF 1067	

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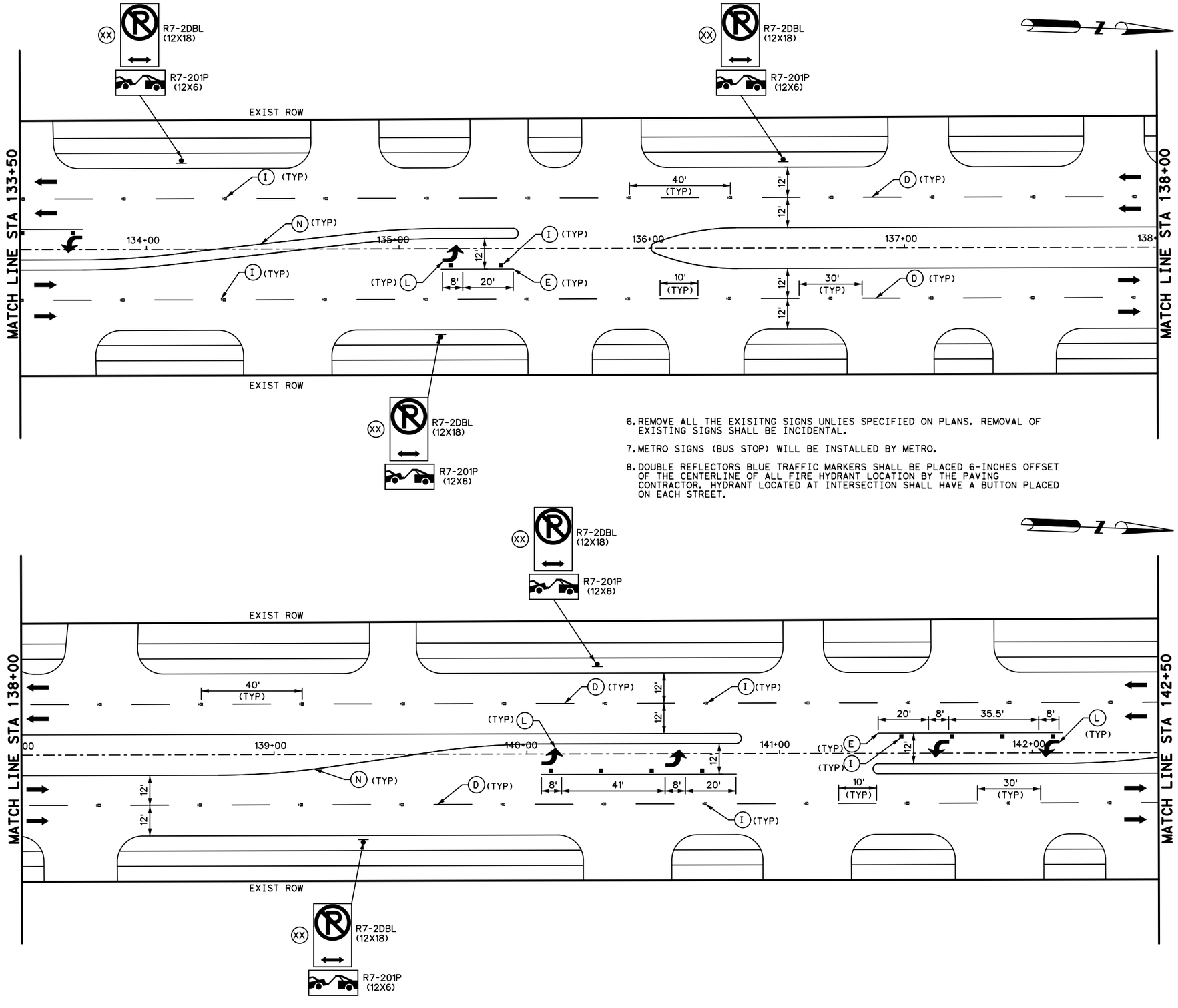

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- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS
STA 133+50 TO STA 142+50

SHEET 27 OF 29

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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 671 OF 1067	

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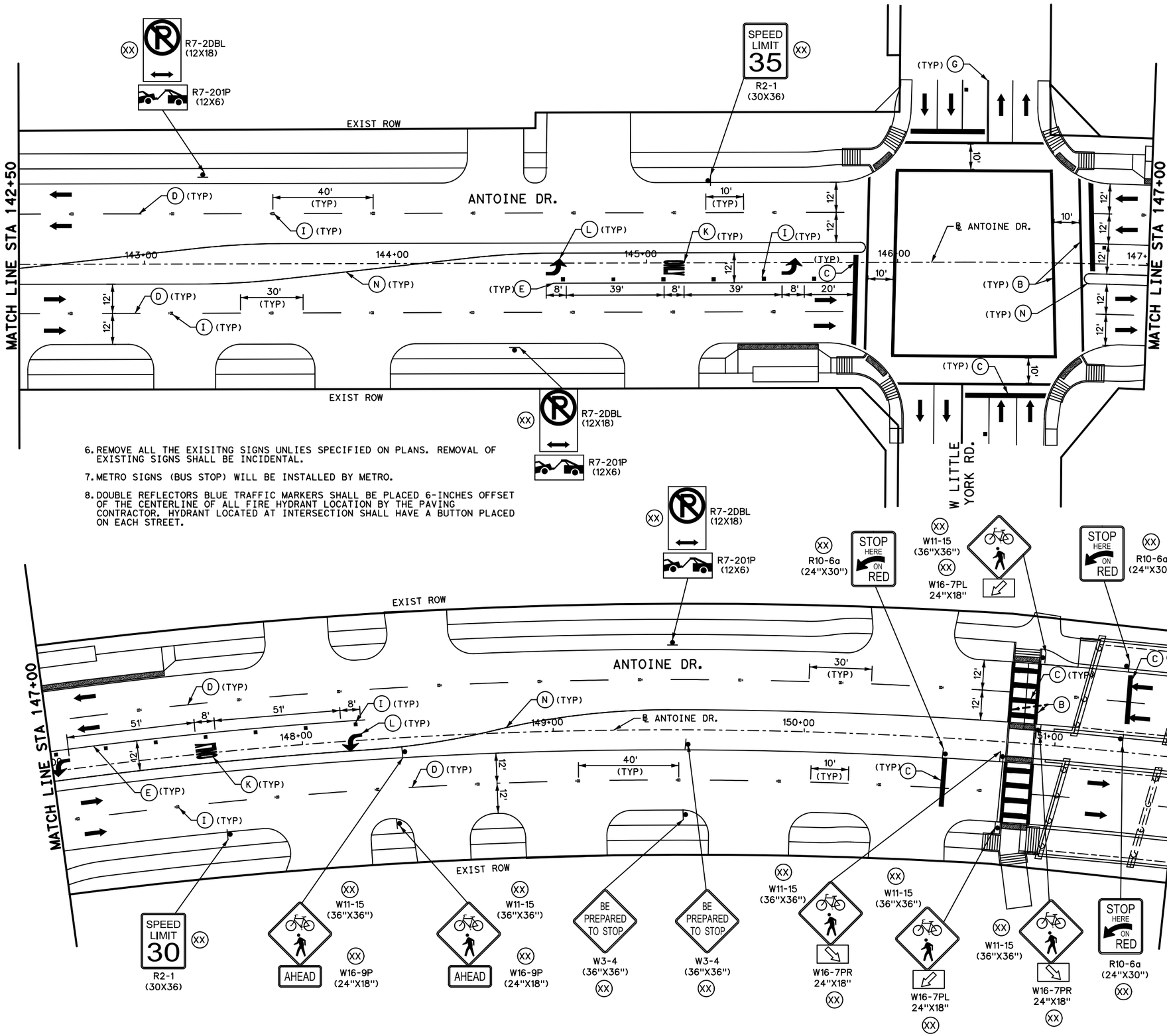

6. REMOVE ALL THE EXISITNG SIGNS UNLIES SPECIFIED ON PLANS. REMOVAL OF EXISTING SIGNS SHALL BE INCIDENTAL.
7. METRO SIGNS (BUS STOP) WILL BE INSTALLED BY METRO.
8. DOUBLE REFLECTORS BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATION BY THE PAVING CONTRACTOR. HYDRANT LOCATED AT INTERSECTION SHALL HAVE A BUTTON PLACED ON EACH STREET.

LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
- (K) REFL PAV MRK (W) WORD
- (L) REFL PAV MRK (W) ARROW
- (M) REFL PAV MRK TY II (Y)(12")(SLD)
- (N) PAV MRK (Y) (6") CURB

NOTE:

1. REFER TO SUMMARY OF SMALL SIGNS FOR ADDITIONAL INFORMATION.
2. REFER TO SIGN AND PAVEMENT MARKING STANDARDS FOR ADDITIONAL INFORMATION.
3. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXIST TRAFFIC AND STREET SIGNS THAT THE PROJECT WILL AFFECT TO DOCUMENT WHAT SIGNS EXIST AND THEIR LOCATION.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR SAFE-GUARDING EXISTING SIGNS SO THAT THEY EITHER CONTINUE TO REMAIN VISIBLE AND UPRIGHT IN THE FIELD OR ARE COLLECTED AND STORED IN A SECURED AREA WHEN TEMPORARY SIGNS ARE USED IN LIEU OF THE EXISTING SIGNS.
5. CONTRACTOR SHALL INSTALL ALL PERMANENT SIGNS, POST, AND HARDWARE AS SHOWN ON PLANS AND STANDARD DETAILS.

0' 20' 40'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STA 142+50 TO STA 151+50

SHEET 28 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 672 OF 1067	

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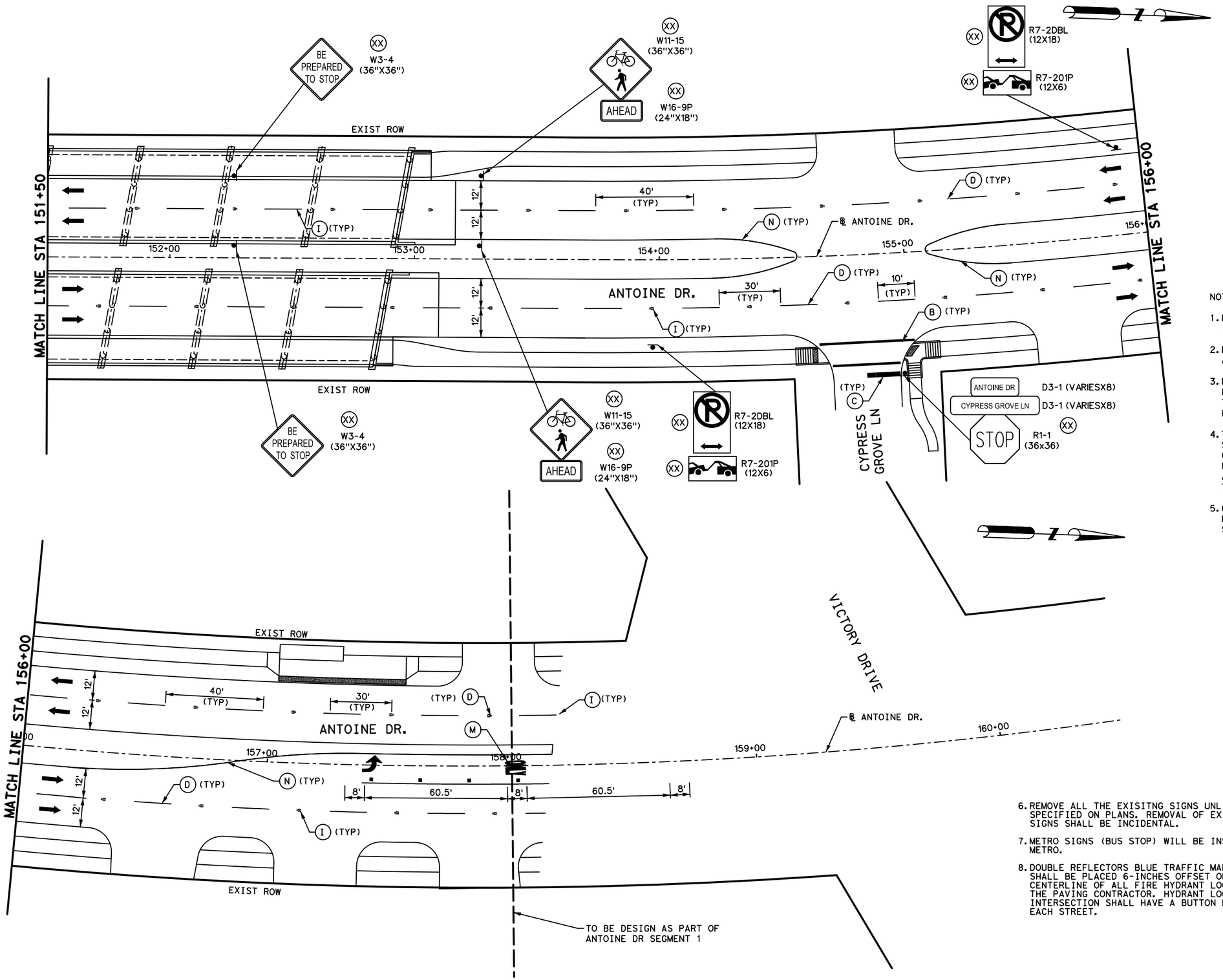

LEGEND

- PROPOSED LANE
- EXISTING LANE
- RIGHT-OF-WAY
- PROP CURB
- PROP SIGN
- (A) PAV MRK (W) (4") (SLD)
- (B) PAV MRK (W) (12") (SLD)
- (C) PAV MRK (W) (24") (SLD)
- (D) PAV MRK (W) (4") (BRK)
- (E) PAV MRK (W) (6") (SLD)
- (F) REFL PAV MRK TY I (Y)(4")(BRK)
- (G) REFL PAV MRK TY I (Y)(4")(DBL SLD)
- (H) RAIS PAV MRK TY II-A-A
- (I) RAIS PAV MRK TY II-C-R
- (J) RAIS PAV MRK TY I-C
- (K) REFL PAV MRK (W) WORD
- (L) REFL PAV MRK (W) ARROW
- (M) REFL PAV MRK TY II (Y)(12")(SLD)
- (N) PAV MRK (Y) (6") CURB

NOTE:

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0′ 20′ 40′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STA 151+50 TO END PROJECT

SHEET 29 OF 29

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 673 OF 1067	

Pen Table: TX_Pen.tbl
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SUMMARY OF SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN TEXT	DIMENSIONS	SQUARE POST	SIGNAL MOUNT	ROUND POST (PERMISSION NEEDED FROM CITY TRAFFIC ENGINEER)	NUMBER OF POSTS (1 OR 2)	SIGN AREA (FOR INFORMATION ONLY,NOT INTENDED FOR BID)	SIGN POST SIZE (TABLE A)
1	(1R)	R2-1	SPEED LIMIT 35	30x36					7.5	
1	(2R),(3R)	S1-1	SCHOOL CROSSING	36 x 36					9	
1	(2R),(3R)	W16-7P	DOWNWARD ARROW PLAQUE	24 x 12					2	
2	(4R),(8R),(13R),(14R)	R3-5L	LEFT TURN ONLY	30 x 36					7.5	
2	(5R)	R2-1	SPEED LIMIT 35	30 x 36					7.5	
2	(6Ra),(6Rb),(9R)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
2	(6Ra),(6Rb),(9R)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
2	(7R)	R1-1	STOP	30 x 30					6.25	
2	(7R)	D3-1	STREET NAME SIGN	36 x 12					3	
2	(7R)	D3-1	STREET NAME SIGN	36 x 12					3	
2	(10R),(12Ra),(12Rb)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
2	(10R),(12Ra),(12Rb)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
2	(11R)	R1-1	STOP	30 x 30					6.25	
2	(11R)	D3-1	STREET NAME SIGN	36 x 12					3	
2	(11R)	D3-1	STREET NAME SIGN	36 x 12					3	
3	(15R),(16R),(17R),(18R)	S1-1	SCHOOL CROSSING	36 x 36					9	
3	(15R),(16R),(17R),(18R)	W16-7P	DOWNWARD ARROW PLAQUE	24 x 12					2	
4	(19R)	R1-1	STOP	30 x 30					6.25	
4	(19R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(19R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(20R),(26R),(28R)	R3-5L	LEFT TURN ONLY	30 x 36					7.5	
4	(21aR,(21bR),(23R)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
4	(21aR),(21bR),(23R)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
4	(22R)	R1-1	STOP	30 x 30					6.25	
4	(22R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(22R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(24R),(25R),(29R)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
4	(24R),(25R),(29R)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
4	(27R)	R1-1	STOP	30 x 30					6.25	
4	(27R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(27R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(30R)	R1-1	STOP	30 x 30					6.25	
4	(30R)	D3-1	STREET NAME SIGN	36 x 12					3	
4	(30R)	D3-1	STREET NAME SIGN	36 x 12					3	
5	(31R)	R1-1	STOP	30 x 30					6.25	
5	(31R)	D3-1	STREET NAME SIGN	36 x 12					3	
5	(31R)	D3-1	STREET NAME SIGN	36 x 12					3	
5	(32R),(35R),(37R)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
5	(32R),(35R),(37R)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
5	(33R),(34R),(40R),(41R)	R3-5L	LEFT TURN ONLY	30 x 36					7.5	
5	(36R)	R1-1	STOP	30 x 30					6.25	
5	(36R)	D3-1	STREET NAME SIGN	36 x 12					3	
5	(36R)	D3-1	STREET NAME SIGN	36 x 12					3	
5	(38R),(39R),(42R)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
5	(38R),(39R),(42R)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
6	(43R),(45R),(48R),(49R)	R7-2	NO PARKING ANY TIME	12 x 18					1.5	
6	(43R),(45R),(48R),(49R)	R7-201	TOW AWAY ZONE PLAQUE	12 x 6					0.5	
6	(44R),(47R)	R2-1	SPEED LIMIT 35	30 x 36					7.5	
6	(46R)	R3-5L	LEFT TURN ONLY	30 x 36					7.5	

BOWMAN ENGINEERING/CONSULTING INC
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RS&H
3200 Southwest Freeway, Suite 3160
Houston, Texas 77027
713-914-4465 FAX 713-914-0155
SURVEYED BY: KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS
ANTOINE DRIVE
SUMMARY OF SMALL SIGNS

FOR CITY OF HOUSTON USE ONLY

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO. 674 OF 1067	

No.	DATE	REVISIONS	APP.

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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Sign-Pvmt Markings\SUMMARY OF SMALL SIGNS SEG II.DGN

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN TEXT	DIMENSIONS	SQUARE POST	SIGNAL MOUNT	ROUND POST (PERMISSION NDED FROM CITY TRAFIC ENGINEER)	NUMBER OF POSTS (1 OR 2)	SIGN AREA SQ.FT (FOR INFORMATION ONLY, NOT INTENDED FOR BID)	SIGN POST SIZE (TABLE A)
GAUGE SHEET 1		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R2-1	SPEED LIMIT	30x36	X			1		
		R2-1	SPEED LIMIT	30x36	X			1		
		W9-1R	RIGHT LANE ENDS	48X48	X			1		
GAUGE SHEET 2		R2-1	SPEED LIMIT	30x36	X			1		
		R3-5	LEFT TURN ONLY	30x36	X			1		
		R3-5	LEFT TURN ONLY	30x36						
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
GAUGE SHEET 3		W10-1	GRADE CROSSING WARNING	30 DIA	X			1		
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R1-1	STOP	36X36	X			1		
		D3-1	STREET NAME	VARIESX8						
		D3-1	STREET NAME	VARIESX8						
		R1-1	STOP	36X36	X			1		
		R15-1	RAIL ROAD CROSSING	48X9	X			1		
GAUGE SHEET 4		D3-1	STREET NAME	VARIESX8	X			1		
		D3-1	STREET NAME	VARIESX8						
		R15-1	RAIL ROAD CROSSING	48X9	X			1		
		R1-1	STOP	36X36	X			1		
		R1-1	STOP	36X36	X			1		
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
GAUGE SHEET 5		W10-1	GRADE CROSSING WARNING	30 DIA	X			1		
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		W4-1	MERGE	36X36	X			1		
		R1-1	STOP	36X36	X			1		
		D3-1	STREET NAME	VARIESX8						
		D3-1	STREET NAME	VARIESX8						
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R2-1	SPEED LIMIT	30x36	X			1		
GAUGE SHEET 6		R2-1	SPEED LIMIT	30x36	X			1		
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
GAUGE SHEET 7		R1-5	YIELD HERE TO PEDESTRIAN	36X48	X			1		
		R1-5	YIELD HERE TO PEDESTRIAN	36X48	X			1		
		R1-1	STOP	36X36	X			1		
		D3-1	STREET NAME	VARIESX8						
		D3-1	STREET NAME	VARIESX8						
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R1-1	STOP	36X36	X			1		
		D3-1	STREET NAME	VARIESX8						
		D3-1	STREET NAME	VARIESX8						
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN TEXT	DIMENSIONS	SQUARE POST	SIGNAL MOUNT	ROUND POST (PERMISSION NDED FROM CITY TRAFIC ENGINEER)	NUMBER OF POSTS (1 OR 2)	SIGN AREA SQ.FT (FOR INFORMATION ONLY, NOT INTENDED FOR BID)	SIGN POST SIZE (TABLE A)
GAUGE SHEET 8		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
GAUGE SHEET 9		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R2-1	SPEED LIMIT	30x36	X			1		
		R2-1	SPEED LIMIT	30x36	X			1		
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
GAUGE SHEET 10		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R7-2DBL	NO PARKING RIGHT /LEFT ARROWS	12X18	X			1		
		R7-201P	TOW AWAY ZONE	12X6	X					
		R1-1	STOP	36X36	X			1		
		D3-1	STREET NAME	VARIESX8						
		D3-1	STREET NAME	VARIESX8						

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

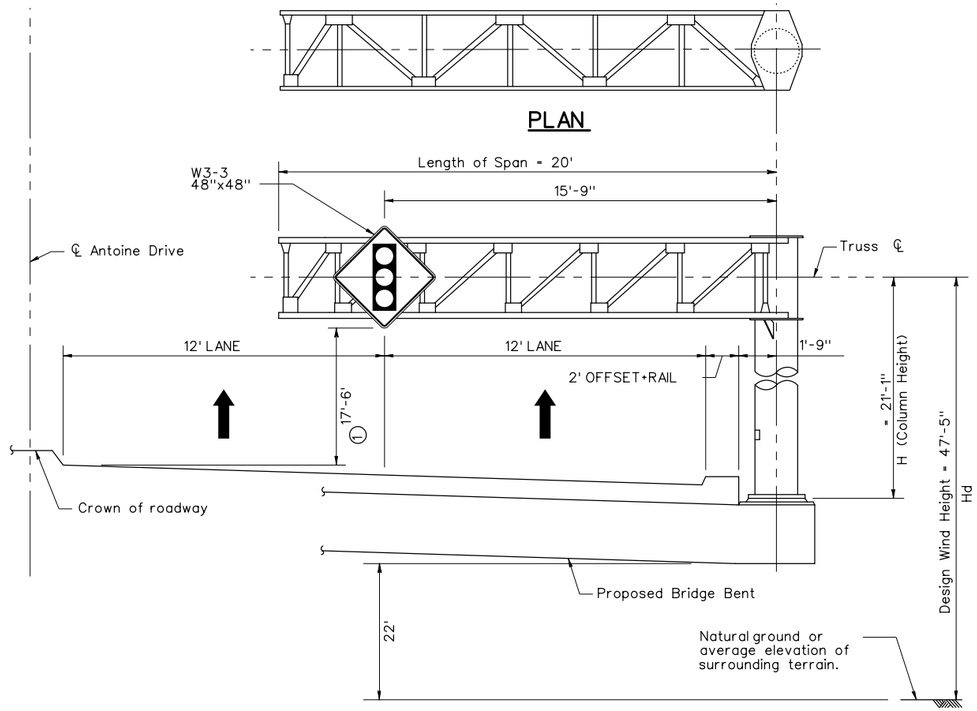
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SUMMARY OF SMALL SIGNS

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 675 OF 1067	



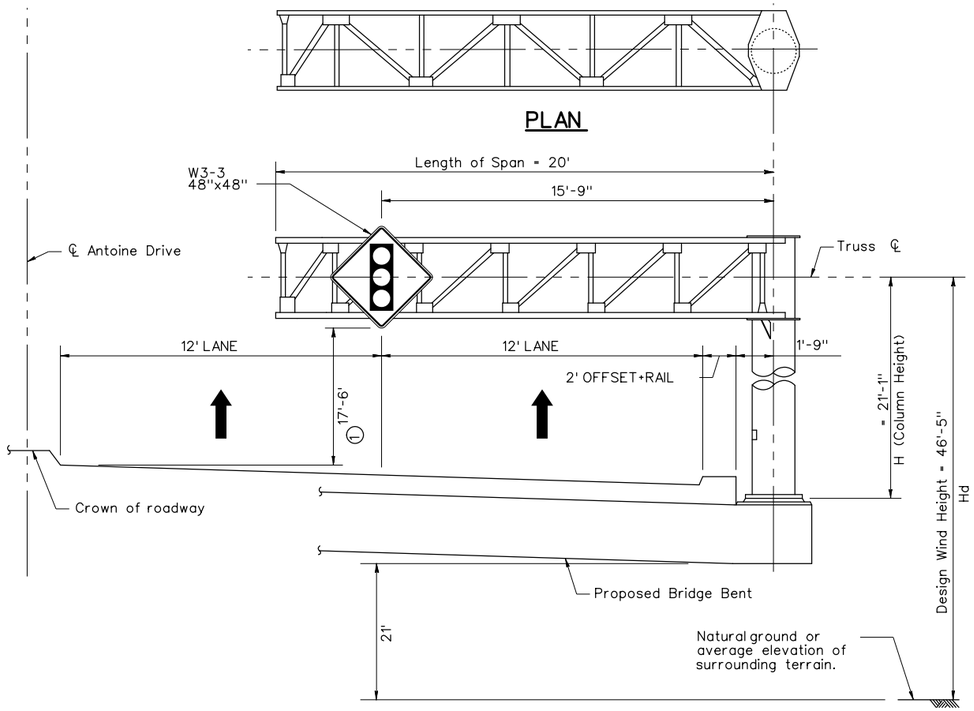
1 Minimum vertical clearance

NORTHBOUND SIGN STRUCTURE ELEVATION

Cantilever Span = 20'
Column Height, H = 21'-1"
Design Wind Height, Hd = 47'-5"
HCOSS-Z1 Standard

Design Moment = 300.38 Kip-ft
Design Torsion = 111.29 Kip-ft
Design Shear = 12.34 Kips

Sign structure to be mounted on proposed bridge bent.
See bridge plans for construction details.



1 Minimum vertical clearance

SOUTHBOUND SIGN STRUCTURE ELEVATION

Cantilever Span = 20'
Column Height, H = 21'-1"
Design Wind Height, Hd = 46'-5"
HCOSS-Z1 Standard

Design Moment = 300.38 Kip-ft
Design Torsion = 111.29 Kip-ft
Design Shear = 12.34 Kips

Sign structure to be mounted on proposed bridge bent.
See bridge plans for construction details.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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BRADLEY G. EAVES
Registered Professional Engineer
91759
3/9/2026
Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CANTILEVER SIGN
STRUCTURE ELEVATIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 676 OF 1067	

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ZONE 1 100 MPH WIND

Column key for the span tables below — TOWER PIPE: O.D. (in), WALL THICK (in), DEFL ΔH (in); ANCHOR BOLTS: SIZE DIA (in), NO., BOLT CIR DIA; BASE PLATE: SIZE (in); TRUSS: DEFL ΔV (in); DESIGN LOADS: SHEAR V (Kips), TORSION T (K-ft), MOMENT M (K-ft).

10' SPAN

TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	16	0.375	0.240	1 1/2	8	21"	25 x 1 3/4	0.2	6.46	27.82	153.70
26'		0.375	0.250				25 x 1 3/4		6.49		160.15
27'		0.406	0.260				25 x 1 3/4		6.52		166.65
28'		0.438	0.260				25 x 1 7/8		6.55		173.18
29'		0.469	0.260	1 1/2		21"	25 x 1 7/8		6.58		179.73
30'			0.270	1 3/4		21 1/2"	26 x 1 7/8		6.61		186.32
31'			0.290				26 x 2		6.64		192.94
32'		0.469	0.310				26 x 2		6.67		199.59
33'		0.500	0.320				26 x 2 1/8		6.70		206.26
34'		0.500	0.330						6.73		212.97
35'		0.500	0.350						6.75		219.70
36'		0.531	0.350				26 x 2 1/8		6.78		226.47
37'		0.531	0.370				26 x 2 1/4		6.81		233.26
38'		0.531	0.390						6.84		240.08
39'		0.656	0.350						6.87		246.94
40'		0.656	0.360	1 3/4		21 1/2"	26 x 2 1/4		6.90		253.82
42'		0.656	0.400	2		22"	27 x 2 3/8		6.96		267.67
44'		0.687	0.420	2		22"	27 x 2 3/8		7.02		281.64
45'	16	0.687	0.440	2	8	22"	27 x 2 3/8	0.2	7.05	27.82	288.67

15' SPAN

TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	16	0.531	0.384	1 3/4	8	21 1/2"	26 x 2 1/4	0.5	9.30	62.60	225.51
26'		0.531	0.415	1 3/4		21 1/2"	26 x 2 1/4		9.33		234.80
27'		0.531	0.448	1 3/4		21 1/2"	26 x 2 1/4		9.36		244.12
28'		0.656	0.400	2		22"	27 x 2 3/8		9.39		253.47
29'		0.656	0.429				27 x 2 3/8		9.42		262.85
30'		0.687	0.441				27 x 2 1/2		9.45		272.26
31'			0.471						9.48		281.70
32'			0.502						9.50		291.17
33'		0.687	0.534						9.53		300.68
34'		0.750	0.525	2		22"	27 x 2 1/2		9.56		310.21
35'			0.557	2 1/4		22 1/2"	28 x 2 5/8		9.59		319.77
36'			0.589				28 x 2 5/8		9.62		329.37
37'			0.622				28 x 2 3/4		9.65		338.99
38'		0.750	0.656				28 x 2 3/4		9.65		347.49
39'		0.843	0.626				28 x 2 7/8		9.71		358.32
40'		0.843	0.658				28 x 2 7/8		9.74		368.03
42'		0.843	0.726				28 x 3		9.80		387.55
44'		1.031	0.675				28 x 3		9.85		407.18
45'	16	1.218	0.619	2 1/4	8	22 1/2"	28 x 3	0.5	9.88	62.60	417.04

20' SPAN

TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	20	0.438	0.411	2	8	25 3/4"	30 1/2 x 2 1/8	0.8	12.34	111.29	300.38
26'		0.438	0.444				30 1/2 x 2 1/8		12.37		312.67
27'		0.469	0.449				30 1/2 x 2 1/4		12.41		325.01
28'		0.500	0.455						12.44		337.38
29'		0.500	0.488						12.48		349.80
30'		0.531	0.495				30 1/2 x 2 1/4		12.52		362.25
31'		0.562	0.501	2		25 3/4"	30 1/2 x 2 3/8		12.55		374.75
32'		0.562	0.534	2 1/4		26"	31 x 2 3/8		12.59		387.28
33'		0.562	0.568				31 x 2 3/8		12.63		399.85
34'		0.594	0.573				31 x 2 3/8		12.66		412.46
35'		0.594	0.607				31 x 2 1/2		12.70		425.11
36'		0.594	0.643				31 x 2 5/8		12.74		437.80
37'		0.625	0.648				31 x 2 5/8		12.77		450.53
38'		0.625	0.684				31 x 2 5/8		12.81		463.29
39'		0.656	0.689				31 x 2 3/4		12.84		476.09
40'		0.656	0.725	2 1/4		26"	31 x 2 3/4		12.88		488.93
42'		0.719	0.736	2 1/2		26 1/2"	31 1/2 x 2 3/4		12.95		514.72
44'		0.750	0.779	2 1/2		26 1/2"	31 1/2 x 2 7/8		13.03		540.66
45'	20	0.750	0.814	2 1/2	8	26 1/2"	31 1/2 x 2 7/8	0.8	13.06	111.29	553.68

25' SPAN

TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	24	0.469	0.356	2	8	29 3/4"	34 1/2 x 2 1/8	0.9	15.37	173.89	375.94
26'		0.469	0.385	2		29 3/4"	34 1/2 x 2 1/8		15.41		391.21
27'		0.500	0.391	2		29 3/4"	34 1/2 x 2 1/4		15.46		406.54
28'			0.421	2 1/4		30"	35 x 2 1/4		15.50		421.92
29'			0.451						15.54		437.35
30'		0.500	0.483						15.59		452.82
31'		0.531	0.488					0.9	15.63		468.35
32'			0.520					1.0	15.68		483.93
33'			0.553				35 x 2 1/4		15.72		499.55
34'			0.587	2 1/4		30"	35 x 2 3/8		15.76		515.23
35'		0.531	0.622	2 1/2		30 1/2"	36 x 2 3/8		15.81		530.95
36'		0.562	0.624				36 x 2 1/2		15.85		546.71
37'		0.562	0.659				36 x 2 1/2	1.0	15.89		562.53
38'		0.562	0.695				36 x 2 1/2	1.1	15.94		578.39
39'		0.594	0.696				36 x 2 5/8		15.98		594.30
40'		0.594	0.732				36 x 2 5/8		16.03		610.25
42'		0.625	0.770				36 x 2 3/4		16.11		642.29
44'		0.656	0.808				36 x 2 3/4		16.20		674.52
45'	24	0.688	0.809	2 1/2	8	30 1/2"	36 x 2 3/4	1.1	16.24	173.89	690.71

ZONE 1 100 MPH WIND

30' SPAN

TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	24	0.531	0.475	2 1/4	8	30"	35 x 2 1/4	1.4	18.21	250.41	449.85
26'		0.531	0.514				35 x 2 1/4		18.25		467.86
27'		0.562	0.526				35 x 2 3/8		18.29		485.93
28'		0.562	0.566				35 x 2 3/8	1.4	18.34		504.07
29'		0.562	0.607	2 1/4		30"	35 x 2 3/8	1.5	18.38		522.25
30'		0.594	0.617	2 1/2		30 1/2"	36 x 2 1/2	1.5	18.43		540.50
31'		0.594	0.659				36 x 2 1/2	1.5	18.47		558.79
32'		0.594	0.702				36 x 2 5/8	1.6	18.51		577.14
33'		0.625	0.712				36 x 2 5/8		18.56		595.54
34'		0.625	0.756				36 x 2 5/8		18.60		614.00
35'		0.656	0.766				36 x 2 3/4		18.64		632.50
36'		0.656	0.811				36 x 2 3/4		18.69		651.05
37'		0.688	0.820				36 x 2 3/4		18.73		669.66
38'		0.688	0.865				36 x 2 3/4		18.78		688.31
39'		0.719	0.875	2 1/2		30 1/2"	36 x 2 7/8		18.82		707.01
40'		0.719	0.920	2 3/4		31 1/2"	38 x 2 7/8		18.86		725.76
42'		0.750	0.977				38 x 3		18.95		763.41
44'		0.937	0.877				38 x 3		19.04		801.24
45'	24	0.937	0.918	2 3/4	8	31 1/2"	38 x 3 1/8	1.6	19.08	250.41	820.23

35' SPAN

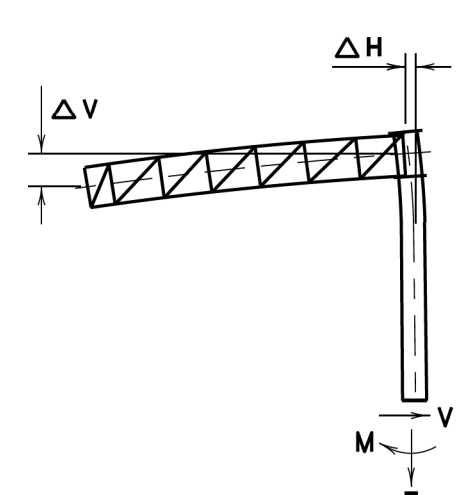
TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	30	0.406	0.442	2 1/4	8	36"	41 x 2	1.6	21.34	340.83	529.13
26'		0.406	0.478				41 x 2	1.7	21.40		550.13
27'		0.438	0.479				41 x 2 1/8		21.45		571.21
28'			0.515				41 x 2 1/8		21.50		592.37
29'			0.552	2 1/4		36"	41 x 2 1/8		21.56		613.61
30'		0.438	0.591	2 1/2		36 1/2"	42 x 2 1/4		21.61		634.92
31'		0.469	0.591				42 x 2 1/4	1.7	21.67		656.31
32'		0.469	0.630				42 x 2 1/4	1.8	21.72		677.76
33'		0.469	0.670				42 x 2 3/8		21.78		699.28
34'		0.500	0.669				42 x 2 3/8		21.83		720.87
35'		0.500	0.709				42 x 2 1/2		21.89		742.53
36'		0.500	0.750				42 x 2 1/2		21.94		764.25
37'		0.531	0.749	2 1/2		36 1/2"	42 x 2 1/2		22.00		786.04
38'		0.531	0.790	2 3/4		37"	43 x 2 5/8		22.05		807.89
39'		0.562	0.788				43 x 2 5/8		22.10		829.80
40'		0.562	0.829				43 x 2 3/4		22.16		851.78
42'		0.594	0.868				43 x 2 3/4		22.27		895.92
44'		0.625	0.905				43 x 2 3/4	1.8	22.38		940.31
45'	30	0.625	0.947	2 3/4	8	37"	43 x 2 3/4	1.9	22.43	340.83	962.59

40' SPAN

TOWER HEIGHT (ft)	O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)
25'	30	0.500	0.502	2 1/2	8	36 1/2"	42 x 2 1/4	2.1	24.18	445.17	606.83
26'		0.500	0.543				42 x 2 1/4	2.2	24.23		630.43
27'		0.500	0.586				42 x 2 3/8	2.3	24.29		654.13
28'		0.531	0.595				42 x 2 3/8		24.34		677.92
29'		0.531	0.638				42 x 2 3/8		24.40		701.81
30'		0.531	0.683				42 x 2 1/2	2.3	24.45		725.77
31'		0.562	0.691	2 1/2		36 1/2"	42 x 2 1/2	2.4	24.51		749.82
32'		0.562	0.737	2 3/4		37"	43 x 2 1/2		24.56		773.96
33'		0.562	0.783				43 x 2 5/8		24.61		798.17
34'		0.594	0.789				43 x 2 5/8		24.67		822.45
35'		0.594	0.836				43 x 2 5/8	2.4	24.72		846.81
36'		0.594	0.885				43 x 2 3/4	2.5	24.78		871.25
37'		0.625	0.891				43 x 2 3/4		24.83		895.75
38'		0.625	0.940				43 x 2 3/4		24.89		920.33
39'		0.656	0.946				43 x 2 3/4		24.94		944.97
40'		0.656	0.995	2 3/4		37"	43 x 2 7/8	2.5	25.00		969.68
42'		0.688	1.150	3		37 1/2"	44 x 3	2.7	25.11		1019.30
44'		0.719	1.106	3		37 1/2"	44 x 3	2.6	25.22		1069.19
45'	30	0.719	1.157	3	8	37 1/2"	44 x 3	2.6	25.27	445.17	1094.23

GENERAL NOTES

1. Design conforms to AASHTO 1994 Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto.
2. Steel for tower pipe shall conform to ASTM A53 Grade B or to ASTM A501. Tower pipe wall thickness shown is the minimum allowable. Fabricator may use the wall thickness shown or pipe of the same diameter with greater wall thickness.
3. All connection bolts shall conform to Item 447, "Structural Bolting". All structural steel, connection bolts, nuts and washers shall be galvanized in accordance with the Specifications.
4. Compensate for truss deflection at free end by offsetting upper and lower bolt holes at truss-to-tower connection.
5. For truss details see standard drawing COSSD.
6. For base and foundation details see standard drawing COSSF.
7. For cantilever truss lengths falling between those shown use sizes called for in the next longer span.
8. Truss and towers for cantilever sign supports are designed for the equivalent area of a 10'-0" deep sign panel over 100% of the span length. Design includes 3 pounds per foot squared for sign panel and 20 pounds per foot for lights and 50 pounds per foot for walkways all placed as specified for the design sign panel.
9. Details called for hereon are applicable for Design Wind Heights of 30' to 50' inclusive.
10. Number of High Strength bolts required in truss connection or splice are indicated in brackets, e.g. [3], after the member size.
11. Deflections shown include the design loads for Truss, Sign Panel, Lights and Walkways.



ELEVATION

(SHOWING DESIGN LOADS AND DEAD LOAD DEFLECTIONS)

TRUSS DETAILS

SPAN	10', 15', & 20'	25'	30'	35'	40'
W x D = WIDTH x DEPTH	4.5 x 4.5	4.5 x 4.5	4.5 x 4.5	4.5 x 4.5	4.5 x 4.5
CHORD-①, Unless Otherwise Shown	L 3 x 3 x 3/16 ② [3]	L 3 x 3 x 1/4 ② [4]	L 3 1/2 x 3 1/2 x 5/16 [8]	L 3 1/2 x 3 1/2 x 5/16 [9]	L 3 1/2 x 3 1/2 x 3/8 [8]
DEAD LOAD DIAGONAL-②	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 3 x 2 x 3/16 [2]
WIND LOAD DIAGONAL-②	L 3 x 3 x 3/16 [3]	L 3 x 3 x 3/16 [3]	L 3 x 2 1/2 x 1/4 [3]	L 3 x 3 x 1/4 [4]	L 3 x 3 x 1/4 [3]
DEAD LOAD VERTICAL-②	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 3 x 2 x 3/16 [2]
WIND LOAD STRUT-②	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]	L 2 1/2 x 2 1/2 x 3/16 [1]
TRUSS DEAD LOAD	42 lb/ft	47 lb/ft	59 lb/ft	60 lb/ft	70 lb/ft
SIZE H.S. BOLTS IN CONNECTION	5/8" DIA	5/8" DIA	5/8" DIA	5/8" DIA	3/4" DIA
NO. & SIZE OF H.S. BOLTS IN CHORD ANGLE TO TOWER CONNECTION PLATE	3 ~ 5/8" DIA ea	5 ~ 5/8" DIA or 3 ~ 3/4" DIA ea	8 ~ 5/8" DIA or 6 ~ 3/4" DIA ea	9 ~ 5/8" DIA or 7 ~ 3/4" DIA ea	8 ~ 3/4" DIA ea

① "Low-Alloy Steel" for non-bridge structures per Item 442, "Metal For Structures".

② "Carbon Steel" for non-bridge structures per Item 442, "Metal For Structures".

Texas Department of Transportation — Traffic Safety Division Standard

OVERHEAD SIGN BRIDGE DETAILS

HCOSS-Z1-21

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REVISIONS 4-10 8-21	DIST	COUNTY		SHEET NO.

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BRADLEY G. EAVES (Engineer)
91759 (Registration Number)
3/9/2026 (Date)
TEI Planning + Design
Texas Registered Engineering Firm F-3158

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CANTILEVER OVERHEAD SIGN SUPPORTS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 677 OF 1067	

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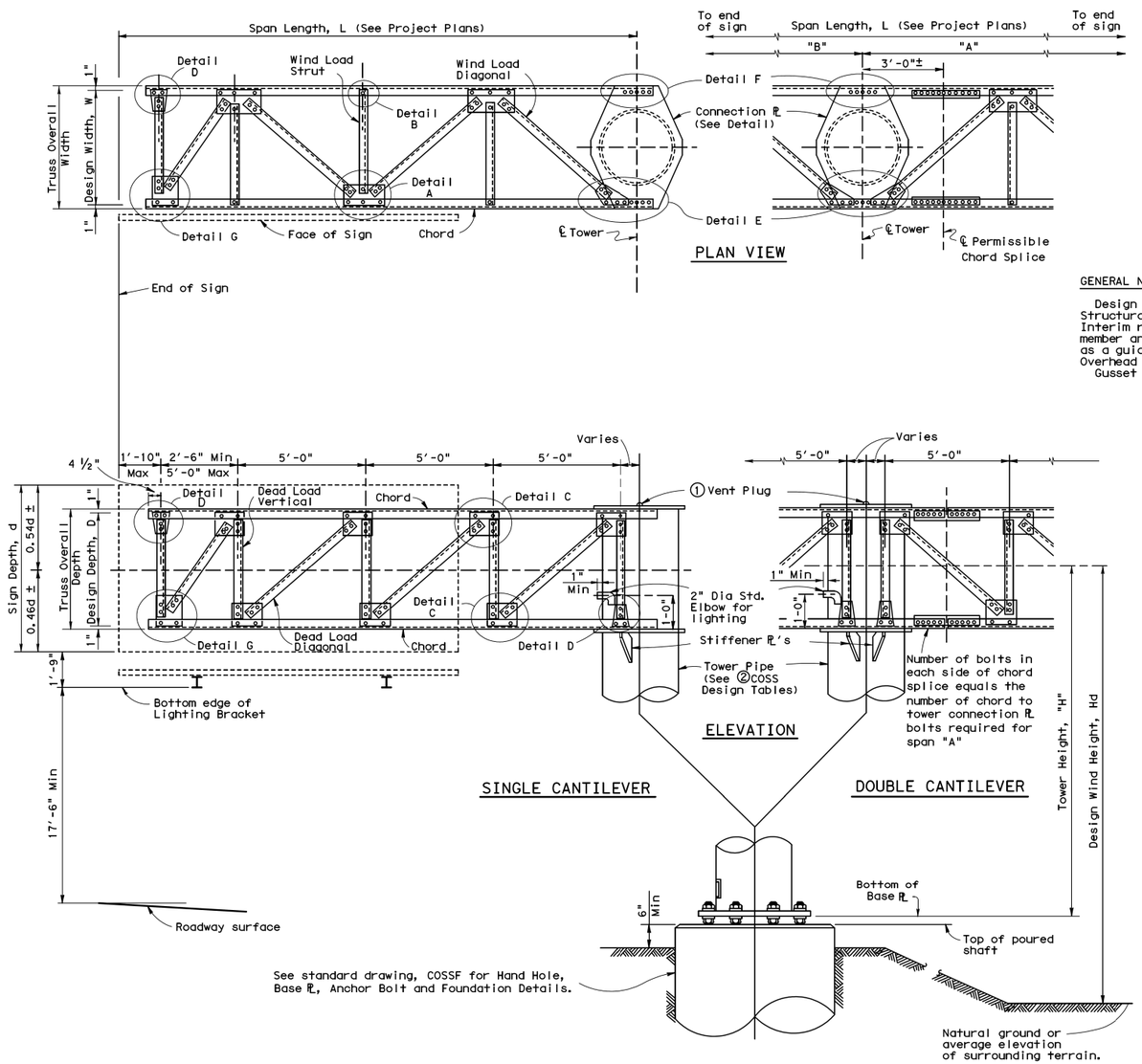

GENERAL NOTES:

Design conforms to 1975 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and Interim revisions thereto. Connection details are typical only. Actual size of member and number of bolts will vary. The details on this sheet are intended as a guide only. See "Cantilever Overhead Sign Supports" or "High Level Cantilever Overhead Sign Supports" sheets for number of bolts and size of members.

Gusset plates to be same thickness as thickest web member in connection.

① Note: Cap shall be solid steel sheet ⅜" nominal thickness. Drill, tap and plug galvanizing vent. Weld plate to pipe with ⅜" weld all around.

② For COSS design tables see standard drawing, "Cantilever Overhead Sign Supports" or "High Level Cantilever Overhead Sign Supports".

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

CANTILEVER OVERHEAD SIGN SUPPORT DETAILS

COSSD

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	CONT	SECT	JOB	HIGHWAY
	DIST		COUNTY	SHEET NO.

66A

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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BRADLEY G. EAVES
Registered Professional Engineer
91759
3/9/2026
Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CANTILEVER OVERHEAD SIGN SUPPORT DETAILS
SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 678 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Detail Sheets\Detail sheet 22- Cantilever Overhead Sign Support Details (Sheet 1 of 2

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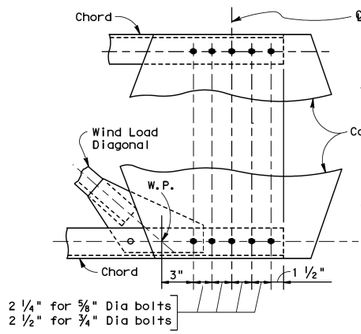
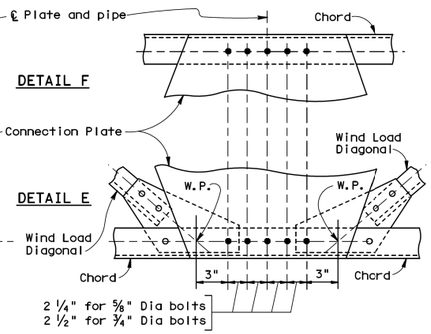
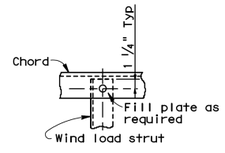


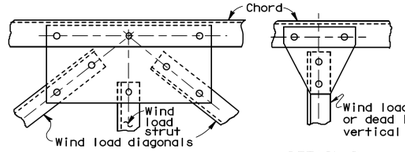
SINGLE CANTILEVER

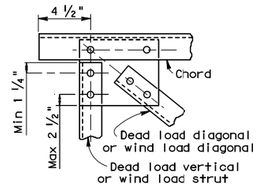


DOUBLE CANTILEVER

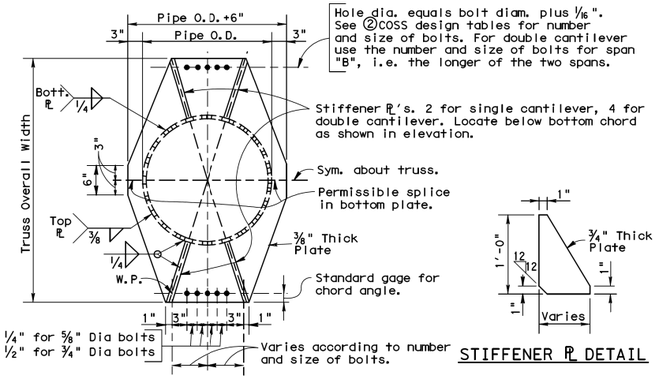
CONNECTION DETAILS





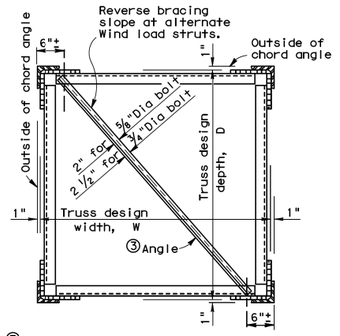


TOTAL NO. OF BOLTS IN DIAG'S. IN JOINT	NUMBER OF BOLTS REQD. IN GUSSET ℄ TO CHORD CONNECTION
0	2
2	2
3	3
4	3
5	4
6	4
8	5
10	6



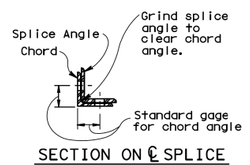
CONNECTION PLATE DETAIL

STIFFENER ℄ DETAIL

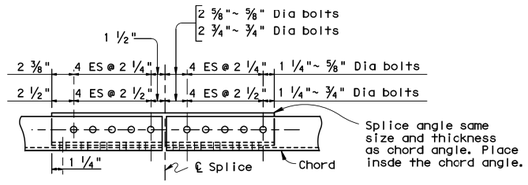


③2" x 2" x ⅜" angle for ⅝" Dia bolts [1]
2 ½" x 2" x ⅜" angle for ¾" Dia bolts [1]

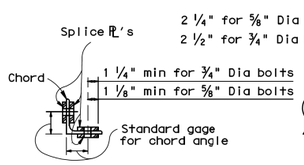
TRUSS SECTION
(DIAGONALS NOT SHOWN)



SECTION ON ℄ SPLICE



SINGLE SHEAR CHORD SPLICE



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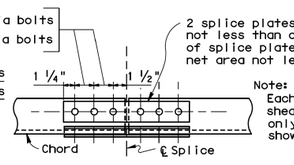
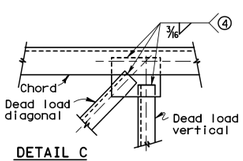


2 splice plates with combined thickness not less than chord thickness. Both pairs of splice plates shall have a combined net area not less than chord net area.

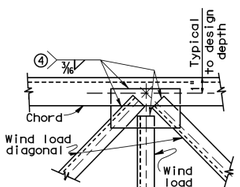
Note:
Each side of the double shear chord splice requires only half the number of bolts shown in the ②COSS design tables.

DOUBLE SHEAR CHORD SPLICE

SPLICE DETAILS



DETAIL C
(Gusset plates in other details to be similar)



DETAIL A

ALTERNATE WELDED CONNECTION DETAILS

④MINIMUM LENGTH OF ⅜" FILLET WELD REQUIRED		
NUMBER OF BOLTS	TO REPLACE ⅝" DIA BOLTS	TO REPLACE ¾" DIA BOLTS
1	2"	3"
2	4"	6"
3	6"	9"
4	8"	11 ½"
5	10"	14 ½"
6	12"	17 ½"
7	14"	20"

DATE:
FILE:

SHEET 2 OF 2

Texas Department of Transportation
Traffic Operations Division

CANTILEVER OVERHEAD SIGN SUPPORT DETAILS

COSSD

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REVISIONS	DIST	COUNTY		SHEET NO.

DIST	COUNTY	SECT	JOB	HIGHWAY

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CANTILEVER OVERHEAD SIGN SUPPORT DETAILS SHEET 2 OF 2

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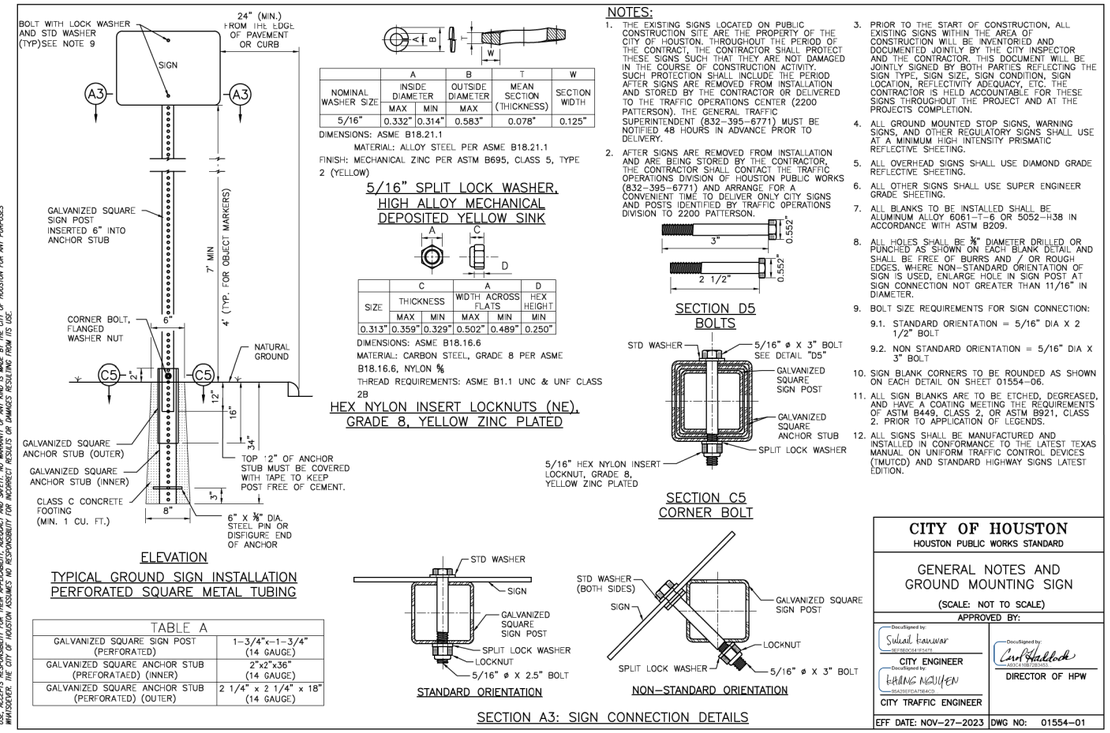

ELEVATION

TYPICAL GROUND SIGN INSTALLATION
PERFORATED SQUARE METAL TUBING

TABLE A	
GALVANIZED SQUARE SIGN POST (PERFORATED)	1-3/4"x-1-3/4" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PREFORATAED) (INNER)	2"x2"x36" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED) (OUTER)	2 1/4" x 2 1/4" x 18" (14 GAUGE)

NOMINAL WASHER SIZE	A INSIDE DIAMETER MAX	A INSIDE DIAMETER MIN	B OUTSIDE DIAMETER MAX	T MEAN SECTION (THICKNESS)	W SECTION WIDTH
5/16"	0.332"	0.314"	0.583"	0.078"	0.125"

DIMENSIONS: ASME B18.21.1
MATERIAL: ALLOY STEEL PER ASME B18.21.1
FINISH: MECHANICAL ZINC PER ASTM B695, CLASS 5, TYPE 2 (YELLOW)

5/16" SPLIT LOCK WASHER, HIGH ALLOY MECHANICAL DEPOSITED YELLOW SINK

SIZE	C THICKNESS MAX	C THICKNESS MIN	A WIDTH ACROSS FLATS MAX	A WIDTH ACROSS FLATS MIN	D HEX HEIGHT MIN
0.313"	0.359"	0.329"	0.502"	0.489"	0.250"

DIMENSIONS: ASME B18.16.6
MATERIAL: CARBON STEEL, GRADE 8 PER ASME B18.16.6, NYLON 6/6
THREAD REQUIREMENTS: ASME B1.1 UNC & UNF CLASS 2B

HEX NYLON INSERT LOCKNUTS (NE), GRADE 8, YELLOW ZINC PLATED

NOTES:

1. THE EXISTING SIGNS LOCATED ON PUBLIC CONSTRUCTION SITE ARE THE PROPERTY OF THE CITY OF HOUSTON, THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO THE TRAFFIC OPERATIONS CENTER (2200 PATTERSON). THE GENERAL TRAFFIC SUPERINTENDENT (832-395-6771) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.
2. AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS DIVISION OF HOUSTON PUBLIC WORKS (832-395-6771) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER ONLY CITY SIGNS AND POSTS IDENTIFIED BY TRAFFIC OPERATIONS DIVISION TO 2200 PATTERSON.
3. PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.
4. ALL GROUND MOUNTED STOP SIGNS, WARNING SIGNS, AND OTHER REGULATORY SIGNS SHALL USE AT A MINIMUM HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING.
5. ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.
6. ALL OTHER SIGNS SHALL USE SUPER ENGINEER GRADE SHEETING.
7. ALL BLANKS TO BE INSTALLED SHALL BE ALUMINUM ALLOY 6061-T-6 OR 5052-H38 IN ACCORDANCE WITH ASTM B209.
8. ALL HOLES SHALL BE 13/16" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND / OR ROUGH EDGES. WHERE NON-STANDARD ORIENTATION OF SIGN IS USED, ENLARGE HOLE IN SIGN POST AT SIGN CONNECTION NOT GREATER THAN 11/16" IN DIAMETER.
9. BOLT SIZE REQUIREMENTS FOR SIGN CONNECTION:
   9.1. STANDARD ORIENTATION = 5/16" DIA X 2 1/2" BOLT
   9.2. NON STANDARD ORIENTATION = 5/16" DIA X 3" BOLT
10. SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL ON SHEET 01554-06.
11. ALL SIGN BLANKS ARE TO BE ETCHED, DEGREASED, AND HAVE A COATING MEETING THE REQUIREMENTS OF ASTM B449, CLASS 2, OR ASTM B921, CLASS 2. PRIOR TO APPLICATION OF LEGENDS.
12. ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE LATEST TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND STANDARD HIGHWAY SIGNS LATEST EDITION.

SECTION D5
BOLTS

SECTION C5
CORNER BOLT

STANDARD ORIENTATION

NON-STANDARD ORIENTATION

SECTION A3: SIGN CONNECTION DETAILS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

GENERAL NOTES AND GROUND MOUNTING SIGN
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukat Kanwar — CITY ENGINEER
DocuSigned by: Khang Nguyen — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 01554-01

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORING THEIR USE ADDRESS SUCH CONCERNS IN THEIR WORK. ANY USE BY ANY PERSON OR ENTITY OTHER THAN THE EOR IS AT THE SOLE RISK OF THAT PERSON OR ENTITY AND WITHOUT LIABILITY TO THE EOR OR THE CITY OF HOUSTON. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

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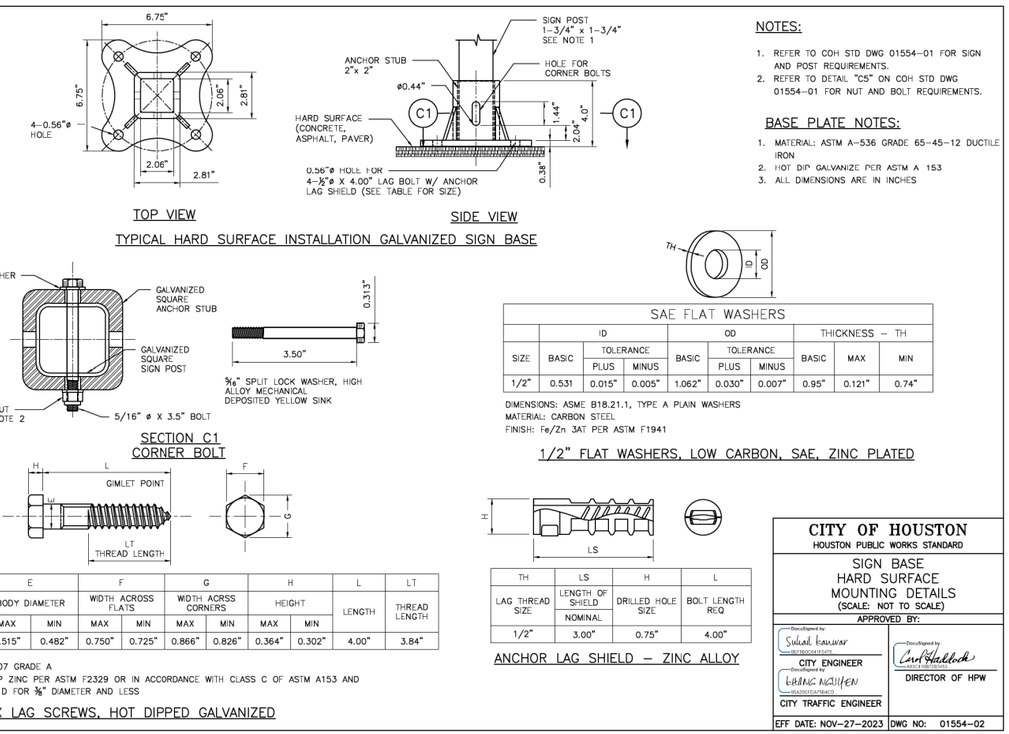

TOP VIEW

SIDE VIEW

TYPICAL HARD SURFACE INSTALLATION GALVANIZED SIGN BASE

NOTES:

1. REFER TO COH STD DWG 01554-01 FOR SIGN AND POST REQUIREMENTS.
2. REFER TO DETAIL "C5" ON COH STD DWG 01554-01 FOR NUT AND BOLT REQUIREMENTS.

BASE PLATE NOTES:

1. MATERIAL: ASTM A-536 GRADE 65-45-12 DUCTILE IRON
2. HOT DIP GALVANIZE PER ASTM A 153
3. ALL DIMENSIONS ARE IN INCHES

SECTION C1
CORNER BOLT

SAE FLAT WASHERS								
	ID			OD			THICKNESS - TH	
SIZE	BASIC	TOLERANCE PLUS	TOLERANCE MINUS	BASIC	TOLERANCE PLUS	TOLERANCE MINUS	BASIC	MAX	MIN
1/2"	0.531	0.015"	0.005"	1.062"	0.030"	0.007"	0.95"	0.121"	0.74"

DIMENSIONS: ASME B18.21.1, TYPE A PLAIN WASHERS
MATERIAL: CARBON STEEL
FINISH: Fe/Zn 3AT PER ASTM F1941

1/2" FLAT WASHERS, LOW CARBON, SAE, ZINC PLATED

DIAMETER	E BODY DIAMETER MAX	E BODY DIAMETER MIN	F WIDTH ACROSS FLATS MAX	F WIDTH ACROSS FLATS MIN	G WIDTH ACRSS CORNERS MAX	G WIDTH ACRSS CORNERS MIN	H HEIGHT MAX	H HEIGHT MIN	L LENGTH	LT THREAD LENGTH
1/2"	0.515"	0.482"	0.750"	0.725"	0.866"	0.826"	0.364"	0.302"	4.00"	3.84"

MATERIAL:PER A307 GRADE A
COATING: HOT DIP ZINC PER ASTM F2329 OR IN ACCORDANCE WITH CLASS C OF ASTM A153 AND CLASS D FOR 3/8" DIAMETER AND LESS

4" HEX LAG SCREWS, HOT DIPPED GALVANIZED

TH LAG THREAD SIZE	LS LENGTH OF SHIELD NOMINAL	H DRILLED HOLE SIZE	L BOLT LENGTH REQ
1/2"	3.00"	0.75"	4.00"

ANCHOR LAG SHIELD - ZINC ALLOY

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIGN BASE
HARD SURFACE
MOUNTING DETAILS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukat Kanwar — CITY ENGINEER
DocuSigned by: Khang Nguyen — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 01554-02

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 1 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 680 OF 1067	

No.	DATE	REVISIONS	APP.

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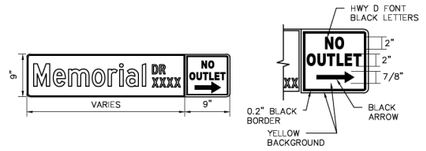
POST MOUNTED STREET NAME SIGN W/ NO OUTLET SIGN



D3 – POST MOUNTED STREET NAME SIGN



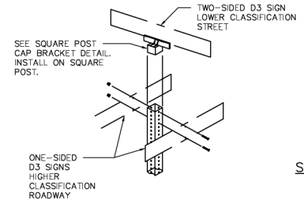
OVERHEAD STREET NAME SIGN DETAIL



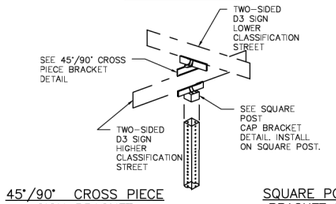
D3 – STREET NAME SIGN

	POST-MOUNTED SIGN	OVERHEAD SIGN
HEIGHT	9"	24"
LENGTH	30" MIN 48" MAX 6" INCREMENTS OF LENGTH	10" MAX 2' INCREMENT OF LENGTH
THICKNESS	0.125"	0.080"
SUBSTREATE	ALLUMINUM ALLOY, 5052-H38 (ASTM B-209)	
SIGN FACE MATERIALS	GREEN FILM OVER DIAMOND GRADE VIP SHEETING	
LEGENDS AND SYMBOLS	HIGHWAY GOTHIC SERIES D (USUAL) HIGHWAY GOTHIC SERIES C OR B FOR MAXIMUM LENGTH SIGN BLACK	
COLOR	LETTERS-WHITE REFLECTIVE BORDER-WHITE REFLECTIVE BACKGROUND-GREEN REFLECTIVE	

D3 SIGNS GREATER THAN 42" PLATES IN LENGTH



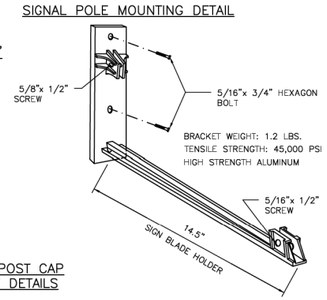
D3 SIGNS LESS THAN OR EQUAL TO 42" PLATES IN LENGTH



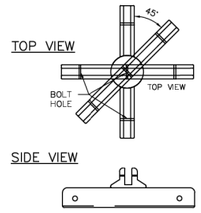
NOTES:

1. TYPICAL SIGN PLATE SHOULD BE 30" MAX.
2. LONGER SIGN PLATE MUST BE APPROVED BY THE CITY TRAFFIC ENGINEER.

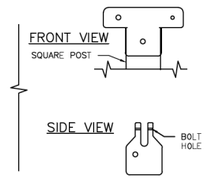
SIGNAL POLE MOUNTING DETAIL



45°/90° CROSS PIECE SIGN BRACKET



SQUARE POST CAP BRACKET DETAILS



CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET NAME SIGN AND SIGN MOUNTING

(SCALE: NOT TO SCALE)

APPROVED BY:

Sohail Kanwar — CITY ENGINEER

HANG NGUYEN — CITY TRAFFIC ENGINEER

Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 01554-03

DISCLAIMER:
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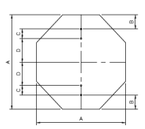
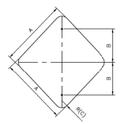


A	B	C	D	T
24	3	3	12	0.08
36	3	3	24	0.08

DIAMOND



A	B	C	T
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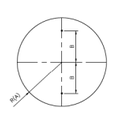
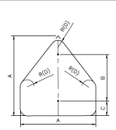
30	15	1 1/2	0.08
36	18	1 1/2	0.08

CIRCLE



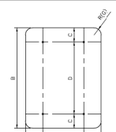
A	B	T
15	15	0.08
18	12	0.08

PENTAGON (SCHOOL)



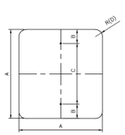
A	B	C	J	T
36	24	3	1 1/2	0.08

VERTICAL RECTANGLE



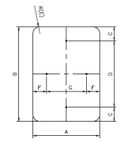
A	B	C	D	E	F	G	T
36	48	6	36	6	24	1 1/2	0.08
48	60	6	48	9	30	1 1/2	0.08
18	30	3	24	–	–	1 1/2	0.08

SQUARE (A)



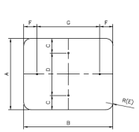
A	B	C	D	T
18	3	12	1 1/2	0.08
24	3	18	1 1/2	0.08
36	3	30	1 1/2	0.08

VERTICAL/HORIZONTAL RECTANGLE



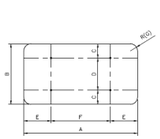
A	B	C	D	E	F	G	T
12	18	1 1/2	15	1 1/2	1 1/2	1	0.08
12	36	3	30	1 1/2	1 1/2	1	0.08
18	24	3	18	1 1/2	1 1/2	15	0.08
24	30	3	24	1 1/2	3	8	0.08
24	36	3	30	1 1/2	3	8	0.08
24	48	3	36	1 1/2	3	18	0.08
30	36	3	30	1 1/2	3	24	0.08

HORIZONTAL/VERTICAL RECTANGLE



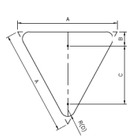
A	B	C	D	E	F	G	T
12	6	–	–	1 1/2	1	4	0.08
18	6	–	–	1 1/2	1	4	0.08
12	12	1	10	1 1/2	–	–	0.08
24	12	1 1/2	8	1 1/2	2	8	0.08
24	18	3	12	1 1/2	2	14	0.08
30	24	3	18	1 1/2	3	18	0.08
36	12	1 1/2	8	1 1/2	2	8	0.08

HORIZONTAL RECTANGLE



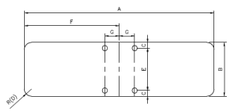
A	B	C	D	E	F	G	T
36	24	3	18	6	24	1 1/2	0.08
48	24	3	18	9	30	1 1/2	0.08
48	36	6	24	9	30	1 1/2	0.08
60	24	3	18	12	36	1 1/2	0.08
60	36	6	24	12	36	1 1/2	0.08

EQUILATERAL TRIANGLE



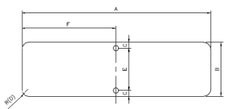
A	B	C	D	T
36	3	21	1 1/2	0.08

TABLE – D3 SIGNS (BRACKETS)



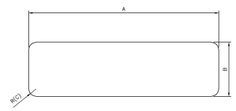
A	B	C	D	E	F	G	T
30	9	5/16	1 1/2	8 3/8	15	1 3/4	0.125
36	9	5/16	1 1/2	8 3/8	18	1 3/4	0.125
42	9	5/16	1 1/2	8 3/8	21	1 3/4	0.125
48	9	5/16	1 1/2	8 3/8	24	1 3/4	0.125

TABLE – D3 SIGNS



A	B	C	D	E	F	T
30	9	1 1/2	1 1/2	6	15	0.125
36	9	1 1/2	1 1/2	6	18	0.125
42	9	1 1/2	1 1/2	6	21	0.125
48	9	1 1/2	1 1/2	6	24	0.125

TABLE – D1 SIGNS



A	B	C	T
60	24	1 1/2	0.08
72	24	1 1/2	0.08
84	24	1 1/2	0.08
96	24	1 1/2	0.08

NOTES:

1. A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "NO OUTLET" SUPPLEMENT IS REQUIRED.
2. THE CITY OF HOUSTON "STOP" AND "YIELD" SIGNS SHALL BE A MINIMUM 36". SPECIAL PERMISSION FROM THE CITY TRAFFIC ENGINEER IS REQUIRED FOR LESS THAN 36" SIGNS.
3. ALL PUNCHED HOLES ARE 3/8"x 1/2" OVAL.
4. ALL CORNER RADII ARE 1 1/2".
5. ALL DIMENSIONS ARE IN INCHES.
6. T = THICKNESS



APPROVED BY: Sohail Kanwar — CITY ENGINEER

APPROVED BY: HANG NGUYEN — CITY TRAFFIC ENGINEER

APPROVED BY: Carl Haddock — DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 01554-06

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

GROUND MOUNTED SIGN SIZES

DRAWING SCALE: NOT TO SCALE

FOR CITY OF HOUSTON USE ONLY

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 2 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 681 OF 1067	

No.	DATE	REVISIONS	APP.

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D11-1 MOD HB-L



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN; [BIKE] C;
[ROUTE] C 90% SPACING; STANDARD ARROW CUST3M
7.9" X 4.7" 180°

D11-1 MOD HB-SLR



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING;
90 DEG DOUBLE HEADED ARROW 11.0" X 10.5" WHITE

D11-1 MOD HB-SL



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING;
90 DEG DOUBLE HEADED ARROW 11.0" X 10.5" WHITE

D11-1 MOD HB-R



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS]C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING;
STANDARD ARROW CUSTOM 7.9" X 4.7" 0°

D11-1 MOD HB-S



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING;
STANDARD ARROW CUSTOM 7.9" X 4.7" 90°

D11-1 MOD HB-SR



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING;
90 DEG DOUBLE HEADED ARROW 11.0" X 10.5" WHITE

APPROVED BY:	APPROVED BY:
Signature Required SALAH SAUER	Signature Required LIANG KONIEH
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Signature Required Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-05A

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

HOUSTON BIKEWAY SIGNAGE

SHEET 01 OF 02

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH ITS USE. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO USE THIS STANDARD WITH CARE AND TO APPLY SAFE ENGINEERING PRACTICES AND JUDGMENT AS NEEDED TO ANY SITE OR CONDITION TO WHICH IT IS APPLIED. THE CITY OF HOUSTON DISCLAIMS ANY WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE

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D11-1 MOD HB-LR



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING;
DOUBLE HEADED ARROW 1 – 12.0" 0°

D11-1 MOD HB-E



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C; 1.5" RADIUS, 0.6"
BORDER, WHITE ON GREEN; [BIKE] C;
[ROUTE] C;[ENDS] C 90% SPACING

D11-1 MOD HB-A



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C; 1.5" RADIUS, 0.6"
BORDER, WHITE ON GREEN; [BIKE] C; [ROUTE] C;
[AHEAD] C 90% SPACING

C-1-1 MOD HB-TR



1.5" RADIUS, 0.6" BORDER, WHITE ON BLUE;
[HOUSTON] C; [BIKEWAYS] C;
1.5" RADIUS, 0.6" BORDER, WHITE ON GREEN;
[BIKE] C; [ROUTE] C 90% SPACING; ARROW MS-1

D11-1 MOD HB-TL



1.5" Radius, 0.6" Border, White on Blue;
[HOUSTON] C; [BIKEWAYS] C;
1.5" Radius, 0.6" Border, White on Green;
[BIKE] C; [ROUTE] C 90% spacing; Arrow MS-1

APPROVED BY:	APPROVED BY:
Signature Required SALAH SAUER	Signature Required LIANG KONIEH
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Signature Required Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-05B

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

HOUSTON BIKEWAY SIGNAGE

SHEET 02 OF 02

FOR CITY OF HOUSTON USE ONLY

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NOT TO SCALE

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No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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KARAM QADDO
Date: 3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 3 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 682 OF 1067	

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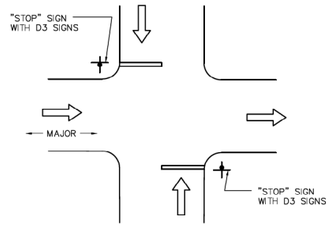
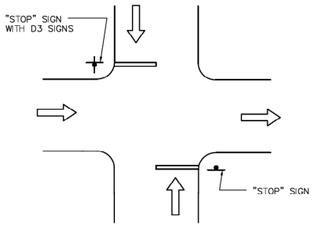
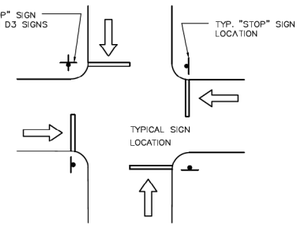


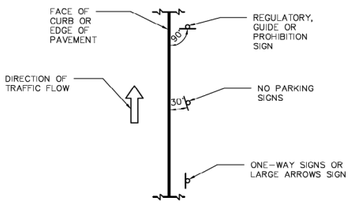
TWO-WAY STOP
AND ONE-WAY OPERATION
ON MAJOR/LOCAL INTERSECTION



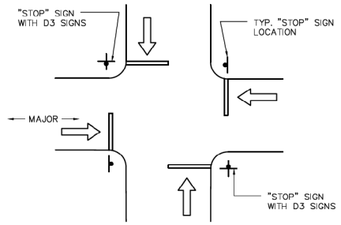
TWO-WAY STOP
AND ONE-WAY OPERATION
ON LOCAL/LOCAL INTERSECTION



FOUR-WAY STOP CONTROL
ON LOCAL/LOCAL INTERSECTION



MAST ARM INSTALLATION
REFER TO TRAFFIC SIGNAL DETAILS
FOR ADDITIONAL INFORMATION.



FOUR-WAY STOP CONTROL
ON MAJOR/LOCAL INTERSECTION

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY ADHERING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPROPRIATE, ADEQUACY AND SAFETY. NO WARRANTY, OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DAMAGES RESULTING FROM ITS USE.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TYPICAL SIGN PLACEMENT (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukrit Kaniwar CITY ENGINEER	DocuSigned by: Carl Haddock DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	
EFF DATE: NOV-27-2023	DWG NO: 01554-07

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
STOP	R1-1	36x36
YIELD	R1-2	36x36x36
ALL WAY PLAQUE	R1-3P	18x6
YIELD HERE TO PEDESTRIANS	R1-5a	30x40
EXCEPT RIGHT TURN (PLAQUE)	R1-10P(1)	24x18
EXCEPT BUSES (PLAQUE)	R1-10P(2)	24x18
SPEED LIMIT	R2-1	30x36
MINIMUM SPEED LIMIT (PLAQUE)	R2-4P	24x30
NO RIGHT TURNS	R3-1	36x36
NO LEFT TURNS	R3-2	36x36
NO U-TURNS	R3-4	36x36
LEFT/RIGHT TURN ONLY	R3-5	30x36
THRU ONLY	R3-5a	30x36
LEFT TURN/THRU	R3-6	30x36
LEFT/RIGHT LANE MUST TURN LEFT/RIGHT	R3-7	36x36
ADVANCE INTERSECTION LANE CONTROL (VARIES)	R3-8	VARIESx30
TWO-WAY LEFT TURN ONLY (OVERHEAD)	R3-8a	30x36
TWO-WAY LEFT TURN LANE (POST MOUNTED)	R3-8b	24x36
BEGIN	R3-9cP	30x12
END	R3-9dP	30x12
REVERSIBLE LANE CONTROL (SYMBOL)	R3-8e	108x48
REVERSIBLE LANE CONTROL (POST MOUNTED)	R3-9f	36x54
ADVANCE REVERSIBLE LANE CONTROL TRANSITION	R3 9g,9h	108x36
END REVERSIBLE LANE	R3-9i	108x48
BIKE LANE	R3-17	24x18
SLOWER TRAFFIC KEEP RIGHT	R4-3	24x30
BEGIN RIGHT TURN LANE YIELD TO BIKES	R4-4	36x30
KEEP RIGHT	R4-7	24x30
KEEP LEFT	R4-8	24x30
DO NOT DRIVE ON SHOULDER	R4-17	24x30
DO NOT PASS ON SHOULDER	R4-18	24x30
DO NOT ENTER	R5-1	36x36
WRONG WAY	R5-1a	42x30
NO TRUCKS (SYMBOL)	R5-2(1)	24x24
NO THRU TRUCKS (TEXT)	R5-2(2)	24x30
ONE WAY (LONG)	R6-1	54x18
ONE WAY	R6-2	30x36
ROUNDABOUT DIRECTIONAL (2 CHEVRONS)	R6-4	30x24
ROUNDABOUT CIRCULATION (PLAQUE)	R6-5P	30x30
BEGIN ONE WAY	R6-6	30x36
END ONE WAY PARKING RESTRICTION (ARROW)	R6-7 R7-2(1)	30x36 12x18
PARKING RESTRICTION (TO CORNER)	R7-2(2)	12x18
PARKING RESTRICTION (BUS ZONE)	R7-2(3)	12x18

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
PARKING RESTRICTION (VALET ZONE)	R7-2(4)	12x18
PARKING RESTRICTION (PEAK PERIOD)	R7-2(5)	12x18
PARKING RESTRICTION (EMERGENCY VEH. ONLY)	R7-2(6)	12x18
PARKING RESTRICTION (TAXI ZONE)	R7-2(7)	12x18
PARKING RESTRICTION (NO STOPPING OR STANDING)	R7-2(8)	12x18
PARKING RESTRICTION (ATHEY STOP)	R7-2(9)	12x18
PARKING RESTRICTION (TCD CAD ZONE)	R7 2(10)	12x18
PARKING RESTRICTION (LIMO ZONE)	R7-2(11)	12x18
PARKING RESTRICTION (COMMERCIAL VEH. ZONE)	R7-2(12)	12x18
PARKING RESTRICTION (FED/CITY AUTHORIZED VEH. ONLY)	R7-2(13)	12x10
PARKING RESTRICTION (U.S. MARSHAL PARKING ONLY)	R7-2(14)	12x18
PARKING RESTRICTION (EMERGENCY)	R7-2(15)	12x18
PARKING TIME LIMIT (VARIES)	R7-105	12x18
HANDICAPPED PARKING	R7-8T	12x18
TOW AWAY ZONE (PLAQUE)	R7-201P	12x6
PARKING METER (COM)	R7-110	12x18
ON TRACKS (PLAQUE)	R8-3aP	24x18
CROSS ONLY AT CROSSWALKS (SYMBOL)	R9-2	12x18
NO PEDESTRIAN CROSSING (SYMBOL)	R9-3	18x18
NO PEDESTRIAN CROSSING	R9-3a	12x18
PEDESTRIAN CROSSING	R9-8	36x18
SIDEWALK CLOSED	R9-9	24x12
SIDEWALK CLOSED USE OTHER SIDE	R9-10	24x12
SIDEWALK CLOSED CROSS HERE	R9-11a	24x12
PUSH BUTTON FOR PEDESTRIAN CROSSING	R10-3a	9x15
LEFT ON GREEN ARROW ONLY	R10-5	30x36
STOP HERE ON RED	R10-6	24x36
DO NOT BLOCK INTERSECTION	R10-7	24x30
LEFT/RIGHT TURN SIGNAL	R10-10	30x36
NO TURN ON RIGHT (TEXT)	R10-11a	36x48
LEFT TURN YIELD ON GREEN	R10-12	30x36
CROSSWALK, STOP ON RED	R10-23	24x30
KEEP OFF MEDIAN	R11-1	24x30
ROAD CLOSED	R11-2	48x30
ROAD CLOSED LOCAL TRAFFIC ONLY	R11-3a	60x30
BRIDGE OUT LOCAL TRAFFIC ONLY	R11-3b	60x30
ROAD CLOSED TO THRU TRAFFIC	R11-4	60x30
WEIGHT LIMIT XX TONS	R12-1	24x30
AXLE WEIGHT LIMIT XX TONS/LBS	R12-2	24x30
NO TRUCKS OVER XX TONS/LBS EMPTY WEIGHT	R12-3	24x36
WEIGHT LIMIT XX TONS PER AXLE XX TONS GROSS	R12-4	36x24
LOAD ZONED BRIDGE	R12aT	VARIESx36
TRUCK ROUTE	R14-1	24x18
GRADE CROSSING (CROSSBUCK)	R15-1	48x9
NUMBER OF TRACKS (PLAQUE)	R15-2P	27x18

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
RIGHT ANGLE TURN	CW1-1	36X36
HORIZONTAL CURVE	CW1-2	36X36
REVERSE RIGHT ANGLE TURNS	CW1-3	36X36
REVERSE HORIZONTAL CURVES	CW1-4	36X36
REVERSE CURVE (2 LANES)	CW1-4b	30X30
REVERSE CURVE (MORE THAN 2 LANES)	CW1-4c	36X36
ONE-DIRECTION LARGE ARROW	CW1-6	48X24
UPWARD SLOPING ARROW	CW1 6aT	36X36
CHEVRON	CW1-8	18X24
STOP AHEAD	CW3-1	36X36
SIGNAL AHEAD	CW3-3	36X36
BE PREPARED TO STOP	CW3-4	36X36
ROAD NARROWS	CW6-1	36X36
NARROW BRIDGE	CW6-2	36X36
TWO-WAY TRAFFIC	CW6-3	36X36
DIP	CW8-2	36X36
SOFT SHOULDER	CW8-4	36X36
TRUCK CROSSING	CW8-6	36X36
ROUGH ROAD	CW8-8	36X36
UNEVEN LANES	CW8-11	36X36
LEFT LANE ENDS	CW9-1(L)	36X36
RIGHT LANE ENDS	CW9-1(R)	36X36
DOUBLE ARROW	CW12-1	30X30
ADVISORY SPEED (PLAQUE)	CW13-1P	24X24
XX FEET (PLAQUE)	CW16-2P	24X18
AHEAD (PLAQUE)	CW16-3	24X12
ROAD WORK AHEAD	CW20-1	30X30
DETOUR AHEAD	CW20-2	36X36
ROAD CLOSED AHEAD	CW20-3	36X36
ONE LANE ROAD	CW20-4	36X36
LEFT LANE CLOSED	CW20-5(1)	36X36
RIGHT LANE CLOSED	CW20-5(2)	36X36
FLAGGER (SYMBOL)	CW20-7	16X16
NARROW LANES AHEAD	CW20-8T	36X36
SHOULDER WORK AHEAD	CW21-5	36X36
UTILITY WORK AHEAD	CW21-7	36X36
DOUBLE REVERSE CURVE (1 LANE)	CW24-1	36X36
DOUBLE REVERSE CURVE (2 LANE)	CW24-1a	36X36
DOUBLE REVERSE CURVE (3 LANE)	CW24-1b	36X36
END ROAD WORK	G20-2	36X18
DETOUR WITH ARROWS	M4-9	30X24
END DETOUR	M4 8a	24X18
PEDESTRIAN DETOUR	M4-9b	30X24
DETOUR	M4-10	48X18

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukrit Kaniwar CITY ENGINEER	DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-08

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TYPICAL CITY OF HOUSTON SIGNS SHEET 1 OF 2	
	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE NOT TO SCALE	

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Date 3/12/2026
for 60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 4 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE AS NOTED	
CITY OF HOUSTON PM ROWAIDAH AYOUB	
SHEET NO. 683 OF 1067	

No.	DATE	REVISIONS	APP.

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Plotted on: 3/12/2026 2:19:12 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Sign-Pvmt Markings\STANDARDS\PR_PVMNT MRK SD 4.dgn

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WARNING SIGNS

SIGN	SIGN DESIGNATION	SIZE (IN.)
RIGHT ANGLE TURN CURVE	W1-1	30x30
RIGHT ANGLE TURN WITH SPEED LIMIT	W1-1a	36x36
HORIZONTAL CURVE	W1-2	30x30
HORIZONTAL CURVE WITH SPEED LIMIT	W1-2a	36x36
REVERSE RIGHT ANGLE TURN	W1-3	30x30
REVERSE HORIZONTAL CURVE	W1-4	30x30
WINDING ROAD	W1-5	30x30
ONE DIRECTION LARGE ARROW	W1-6	48x24
TWO DIRECTION LARGE ARROW	W1-7	48x24
CHEVRON ALIGNMNET	W1-8	18x24
HAIRPIN CURVE	W1-11	30x30
TRUCK ROLLOVER	W1-13	36x36
CROSS ROAD	W2-1	30x30
SIDE STREET T-INTERSECTION (SYMBOL)	W2-2	30x30
T- INTERSECTION (SYMBOL)	W2-4	30x30
Y- INTERSECTION (SYMBOL)	W2-5	30x30
ROUNDABOUT (SYMBOL)	W2-6	30x30
STOP AHEAD	W3-1	30x30
SIGNAL AHEAD	W3-3	30x30
REDUCED SPEED LIMIT AHEAD	W3-5	36x36
MERGE	W4-1	36x36
LANE ENDS	W4-2	36x36
ADDED LANE	W4-3	36x36
CROSS TRAFFIC DOES NOT STOP (PLAQUE)	W4-4P	24x12
ROAD NARROWS	W5-1	36x36
NARROW BRIDGE	W5-2	36x36
DIVIDED HIGHWAY	W6-1	36x36
DIVIDED HIGHWAY ENDS	W6-2	36x36
TWO WAY TRAFFIC (SYMBOL)	W6-3	36x36
BUMP	W8-1	30x30
DIP	W8-2	30x30
PAVEMENT ENDS	W8-3	36x36
SOFT SHOULDER	W8-4	36x36
TRUCK CROSSING	W8-6	36x36
LOOSE GRAVEL	W8-7	36x36
ROUGH ROAD	W8-8	36x36
UNEVEN LANES	W8-11	36x36
WATCH FOR ICE ON BRIDGE	W8-13T	36x36
SHOULDER DROP-OFF (SYMBOL)	W8-17	30x30
SHOULDER DROP-OFF (PLAQUE)	W8-17P	24x18

WARNING SIGNS

SIGN	SIGN DESIGNATION	SIZE (IN.)
FLOOD GAUGE	W8-19	12X72
NO SHOULDER	W8-23	36x36
SHOULDER ENDS	W8-25	36x36
LEFT LANE ENDS	W9-1(1)	36x36
RIGHT LANE ENDS	W9-1(2)	36x36
LANE ENDS MERGE LEFT	W9-2(1)	36x36
LANE ENDS MERGE RIGHT	W9-2(2)	36x36
GRADE CROSSING ADVANCE WARNING	W10-1	30 DIA
NO TRAIN HORN	W10-9	36x36
NO TRAIN HORN (PLAQUE)	W10-9P	30x24
BICYCLE	W11-1	30x30
PEDESTRIAN	W11-2	36x36
EMERGENGY VEHICLE	W11-8	30x30
HANDICAPPED	W11-9	30x30
TRUCK	W11-10	30x30
EMERGENGY SIGNAL AHEAD (PLAQUE)	W11-12P	36x30
BICYCLE/PEDESTRIAN	W11-15	30x30
TRAIL CROSSING (PLAQUE)	W11-15P	24x18
DOUBLE ARROW	W12-1	30x30
LOW CLEARANCE WITH ARROWS	W12-2	36x36
LOW CLEARANCE	W12-2a	78x24
LOADED ZONED BRIDGE	W12-5T	36x36
ADVISORY SPEED (PLAQUE)	W13-1P	18x18
NO OUTLET	W14-2	24x24
NO OUTLET WITH ARROW	W14-2a	36x6
SHARE THE ROAD (PLAQUE)	W16-1P	18x24
XX FEET (PLAQUE)	W16-2P	24x18
NEXT XX FEET (PLAQUE)	W16-4P	30x24
SUPPLEMENTAL LEFT ARROW (PLAQUE)	W16-5P(1)	24x18
SUPPLEMENTAL RIGHT ARROW (PLAQUE)	W16-5P(2)	24x18
DIAGONAL ARROW (PLAQUE)	W16-7P	24x12
AHEAD (PLAQUE)	W16-9P	24x12
WHEN FLASHING (PLAQUE)	W16-13P	24x18
ROUNDABOUT (PLAQUE)	W16-17	24x12
SPEED HUMP	W17-1	30x30
TYPE 3 OBJECT MARKER (LEFT)	OM3-L	12x36
TYPE 3 OBJECT MARKER (RIGHT)	OM3-R	12x36
TYPE 3 OBJECT MARKER (CENTER)	OM3-C	12x36
TYPE 4 OBJECT MARKER	OM4-1	18x18

BICYCLE SIGNS

SIGN	SIGN DESIGNATION	SIZE (IN.)
STOP	R1-1	18x18
STREET NAME	D3-1	VARIESx6
YIELD	R1-2	18x18x18
TO REQUEST GREEN WAIT ON SYMBOL	R10-22	12x18
YIELD TO PEDESTRIAN	R9-6	18x18
NO PARKING BIKE LANE	R7-9	12x18
BIKE ROUTE	D11-1	24x18
BIKE ROUTE TO DOWNTOWN	D11-1c	24x18
BIKE SIGN AUXILARY SIGNS	M4-1, M4-14	12x6
BICYCLE ROUTE ROUTE ARROW SIGNS	M5-1,2; M6-1,2,3,4,5,6,7	12x9
WALK YOUR BIKE (CUSTOM SIGN)	R9-8 CoH	12x18
YIELD TO PED/BIKE (CUSTOM SIGN)	R1-5PB	36x36
TURNING VEHICLES YIELD TO PED/BIKE (CUSTOM SIGN)	R10-15PB	36x36
STOP FOR PED/BIKE (CUSTOM SIGN)	R1-5PBb	36x36
TURNING VEHICLES STOP FOR PED/BIKE (CUSTOM SIGN)	R10-15PBa	36x36
CROSSWALK STOP ON RED (CUSTOM SIGN)	R10-23 (CoH)	42x30
PEDESTRAIN CROSSING (CUSTOM SIGN)	W11-2 (HAWK)	48x30
LOOK BOTH WAYS (CUSTOM SIGN)	W4-4Pa (BIKE) W4-4Pb (BIKE)	VARIES
TURN WIDE (CUSTOM SIGN)	R3-8 (BIKE)	30x36
BIKE MERGE AHEAD (CUSTOM SIGN)	W11-1 (MERGE)	36x36

SCHOOL SIGNS

SIGN	SIGN DESIGNATION	SIZE (IN.)
SCHOOL	S1-1(FYG)	36x36
X:XX TO X:XX AM AND PM (PLAQUE)	S4-1P	24x10
SCHOOL (PLAQUE)	S4-3P(FYG)	24x8
WHEN FLASHING (PLAQUE)	S4-4P	24x10
REDUCED SCHOOL SPEED LIMIT AHEAD	S4-5a(FYG)	36x36
SCHOOL SPEED LIMIT XX WHEN FLASHING	S5-1(FYG)	24x48
END SCHOOL ZONE	S5-2	24x30
END SCHOOL ZONE (PLAQUE)	S5-2aTP	24x10
CELL PHONE USE PROHIBITED	S7-1T	24x18
TURN ARROW (PLAQUE)	SW16-5P(FYG)	24x12
ADVANCE TURN ARROW (PLAQUE)	SW16-6P(FYG)	24x12
DIAGONAL ARROW (PLAQUE)	SW16-7P(FYG)	24x12
AHEAD (PLAQUE)	S16-9P(FYG)	24x12

FYG- FLUORESCENT YELLOW-GREEN BACKGROUND COLOR

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar	DocuSigned by: KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-09

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CITY OF HOUSTON SIGNS

SHEET 2 OF 2

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
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DESCRIPTION AND APPLICATION OF PAVEMENT MARKING LINES

LINE SERIES	COLOR	DESCRIPTION	WIDTH (INCHES)	TYPICAL APPLICATIONS
WB	WHITE	BROKEN (10' STRIPE W/30' GAP)	4"	LANE LINES BETWEEN TRAVEL LANES IN THE SAME DIRECTION WHERE CHANGING OF LANES IS PERMITTED.
WS	WHITE	SOLID	4"	EDGE LINES TO DELINEATE THE RIGHT EDGE OF THE ROADWAY.
			6"	LEFT EDGE OF BICYCLE LANE AND LANE LINES BETWEEN TRAVEL LANES IN THE SAME DIRECTION WHERE CHANGING OF LANES IS DISCOURAGED.
			12"	PERPENDICULAR CROSSWALK LINES.
			24"	STOP BARS AT INTERSECTIONS (SIGNALIZED AND UNSIGNALIZED).
				HATCHING AT HIGH VISIBILITY CROSSWALKS.
			12", 24"	DIAGONAL HATCHING USED IN GORES BETWEEN SAME DIRECTION OF TRAVEL LANES.
WG	WHITE	GUIDE (2' STRIPE W/6' GAP)	6"	GUIDE LINES THROUGH INTERSECTIONS.
				TAPER LINES FOR TURN LANES.
				GUIDE LINES FOR BICYCLE LANES.
YS	YELLOW	SOLID	4"	EDGE LINES TO DELINEATE THE LEFT EDGE OF A DIVIDED ROADWAY, A ONE-WAY ROAD, OR RAMP.
			6"	BIDIRECTIONAL BICYCLE LANE PAVEMENT MARKING.
			12", 24"	DIAGONAL HATCHING USED IN GORES BETWEEN OPPOSING DIRECTION OF TRAVEL LANES.
YDS	YELLOW	DOUBLE SOLID	4" - (4") - 4" (GAP)	CENTERLINE THAT SEPARATES OPPOSING TRAVEL LANES AND DELINEATION OF MEDIAN ISLANDS.
YDB	YELLOW	DOUBLE BROKEN	4" - (4") - 4" (GAP)	DEFINES THE EDGES OF CENTER REVERSIBLE LANES THAT ARE USED AS TWLTLS DURING INTERMITTENT PERIODS.
YB	YELLOW	BROKEN (10' STRIPE W/30' GAP)	4"	SEPARATES TRAVEL LANES IN OPPOSITE DIRECTIONS WHERE PASSING IS PERMITTED IN BOTH DIRECTIONS OF TRAVEL.
YB (BIKE)	YELLOW	BROKEN (3' STRIPE W/9' GAP)	4"	SEPARATES BICYCLE TRAVEL LANES IN OPPOSITE DIRECTIONS WHERE PASSING IS PERMITTED IN BOTH DIRECTIONS OF TRAVEL.
YSB	YELLOW	SOLID & BROKEN BROKEN (10' STRIPE W/30' GAP)	4" - (4") - 4" (GAP)	SEPARATES TRAVEL LANES IN OPPOSITE DIRECTIONS WHERE PASSING IS PERMITTED IN ONE DIRECTION AND PROHIBITED IN THE OPPOSITE DIRECTION.
				USED FOR EDGE OF TWO-WAY LEFT TURN LANES (TWLTL).
BICYCLE GREEN	GREEN	SOLID COLORED PAVEMENT	VARIES	PED/BIKE CROSSING
				VEHICLE / BIKE/ CONFLICT AREA
YIELD LINE	WHITE	TRIANGLE	16" x 24"	MID-BLOCK CROSSING.

DESCRIPTION AND APPLICATION OF REFLECTIVE RAISED PAVEMENT MARKERS (RPM)

RRPM TYPES	COLOR	COH SPEC. SEC. 02764 EQUIVALENT	DESCRIPTION
C	CLEAR	TYPE I-C	APPROACH FACE THAT REFLECTS WHITE LIGHT, AND THE OTHER SIDE DOES NOT REFLECT.
R	CLEAR & RED	TYPE II-C-R	APPROACH FACE THAT REFLECTS WHITE LIGHT, AND THE OTHER SIDE REFLECTS RED LIGHT.
A	AMBER & AMBER	TYPE II A A	APPROACH FACE AND THE OTHER SIDE BOTH REFLECT AMBER LIGHT.

LINE STYLE DESIGNATION : YSB4 - A40/A40

- COLOR
- PATTERN
- WIDTH OF STRIPE
- RPM SPACING
- RPM TYPE
- RPM SPACING
- RPM TYPE

GENERAL PAVEMENT MARKING NOTES:

1. PRIOR TO START OF CONSTRUCTION, ALL EXISTING PAVEMENT MARKINGS WITHIN THE AREA OF CONSTRUCTION SHALL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING ALL EXISTING PAVEMENT MARKINGS AND LANE CONFIGURATIONS WILL BE DUPLICATED AGAIN. THIS REVIEW CAN BE DONE IN CONJUNCTION WITH SIGN INVENTORY. THE CONTRACTOR IS HELD ACCOUNTABLE FOR EXISTING AND TEMPORARY CONSTRUCTION PAVEMENT MARKINGS THROUGHOUT THE PROJECT AND AT THE PROJECT'S COMPLETION.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO CITY OF HOUSTON STANDARDS AND SPECIFICATIONS AND GENERAL GUIDELINES OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
4. THE DESIGN SPEED FOR THE ROAD IS: ____. THE POSTED SPEED LIMIT IS: ____.
5. ALL LANE DIMENSIONS ARE FROM CENTER OF LANE LINE, CENTER OF DOUBLE LANE LINE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT MARKINGS AND SYMBOLS.
7. THE FINAL LONGITUDINAL STRIPINGS SHALL BE 60 MIL (0.060") THICK HOT-SPRAYED THERMOPLASTIC PLACED OVER THE TEMPORARY STRIPING WITHIN 14 TO 30 CALENDAR DAYS AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE, OR AS DIRECTED BY THE CITY TRAFFIC ENGINEER. ALL OTHER PAVEMENT MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE WATER BASED PAINT.
8. ALL FINAL TRANSVERSE MARKINGS SHALL BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. ALL PAVEMENT ARROWS AND LEGENDS SHALL ALSO BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. PREFORMED THERMOPLASTIC APPLICATIONS MAY BE USED IF ONLY APPROVED BY THE CITY TRAFFIC ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS OF FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE IMPLEMENTED. IN TANGENT SECTIONS OF A ROAD WHERE THE PAVEMENT MARKING PATTERN DOES NOT CHANGE, CONTROL POINTS CAN BE SET AT 200 FEET SPACING. THE LAYOUT AND INSPECTION OF ALL PAVEMENT MARKINGS SHALL BE APPROVED BY CITY OF HOUSTON REPRESENTATIVE PRIOR TO THE APPLICATION OF MATERIALS.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET NO MORE THAN ONE FOOT CLEAR OF THE CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE CITY TRAFFIC ENGINEER.
11. ALL RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR FACE OF EACH MARKER IS FACING THE APPROACHING TRAFFIC FLOW AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.
12. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED IN ACCORDANCE TO CITY OF HOUSTON STANDARD SPECIFICATION 02762. APPLYING OVER EXISTING PAVEMENT MARKINGS DOES NOT CONSTITUTE AS APPROVED OBLITERATION METHOD.
13. THE ENGINEER OF RECORD SHALL BE REQUIRED TO PRODUCE AS-BUILT OF PAVEMENT MARKING PLANS WITHIN 30 DAYS AFTER COMPLETION OF PAVEMENT MARKING IMPLEMENTATION.
14. BLUE RPMS MAY BE PLACED ADJACENT TO FIRE HYDRANTS WITH THE APPROVAL OF THE CITY TRAFFIC ENGINEER.
15. FOR ALL CONSTRUCTION, ALL PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED AND SHALL BE PAID BY THE PROJECT OWNER/DEVELOPER.
16. FINAL INSPECTION AND ACCEPTANCE OF PAVEMENT MARKINGS SHALL BE PERFORMED BY TRANSPORTATION & DRAINAGE OPERATION REPRESENTATIVE (713-803-3054).

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar	DocuSigned by: KHANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT MARKINGS GENERAL NOTES AND LEGENDS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

REVISIONS			
No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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KARAM QADDO
Engineer
125611
3/12/2026
Date
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Texas Registered Engineering Firm F-20017

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 4 OF 12

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WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB

SHEET NO. 684 OF 1067

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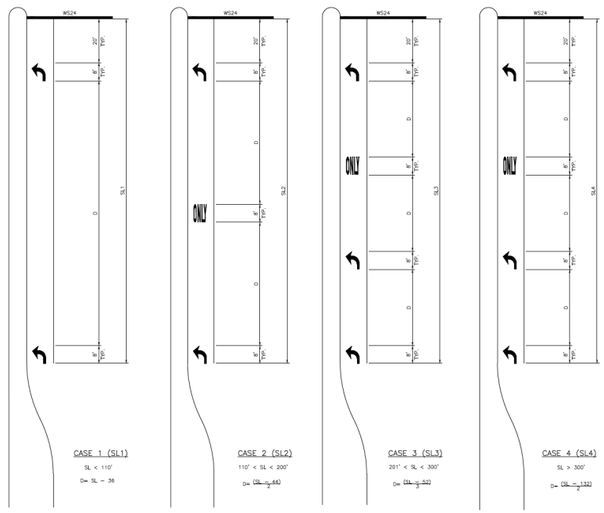
THE TOP OF THIS STANDARD IS ORIENTED TO GRID NORTH AS PROJECTED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, SOUTH CENTRAL ZONE.
REPRODUCTION OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR ACCIDENTS, RESULTS OR DAMAGES RESULTING FROM ITS USE.



KEY (FOR TURN LANES ONLY):

SL = STORAGE LENGTH (FEET)

D = DISTANCE BETWEEN ARROWS AND/OR WORDS (FEET)

GENERAL NOTES:

1. ALL CASES AND DETAILS ALSO APPLY TO RIGHT-TURN LANES.
2. FOR DUAL-TURN LANES, DIMENSIONS SHALL BE THE SAME FOR EACH LANE.
3. SL DIMENSION IS FROM BACK OF STOP LINE TO END OF TURN LANE.
   NOTE: DO NOT INCLUDE TAPER LENGTH.
4. PAVEMENT ARROWS AND "ONLY" LEGEND MARKINGS ARE TYPICALLY USED AT ALL SIGNALIZED INTERSECTIONS AND AT ALL UNSIGNALIZED INTERSECTIONS THAT HAVE TURN LANES.
5. MINIMUM SL= 100'. SL MAY BE LESS THAN 100 FEET ONLY BY APPROVAL OF THE CITY TRAFFIC ENGINEER.

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

LEFT/RIGHT-TURN "ONLY" AND ARROW SPACING

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-03

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKING - (WORDS)

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No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 6 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 685 OF 1067	

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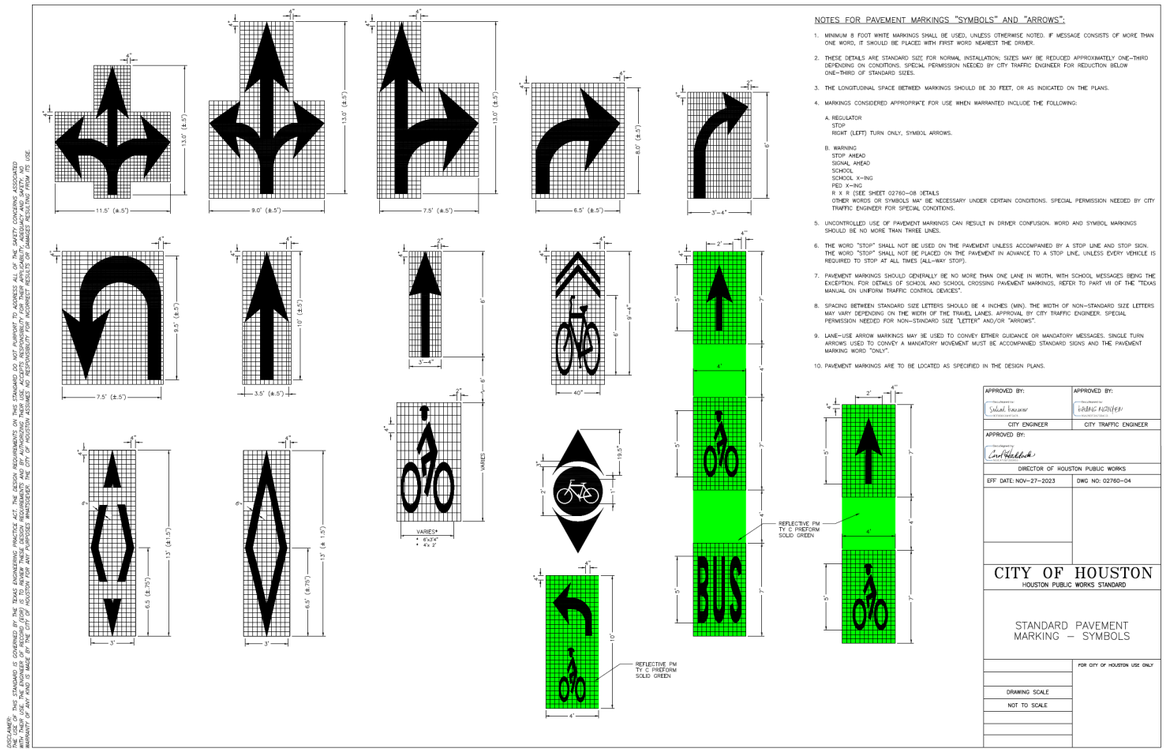

DISCLAIMER:
THE CONTRACTOR IS CAUTIONED BY THE TEXAS ENGINEERING PRACTICE ACT THAT ENGINEERING DRAWINGS AND SPECIFICATIONS MAY NOT BE ALTERED IN ANY WAY BY ANYONE OTHER THAN THE AUTHORIZING ENGINEER OR HIS DULY DESIGNATED REPRESENTATIVE. THE CONTRACTOR AGREES, AS PART OF THE CONSIDERATION FOR RECEIVING THESE PLANS AND SPECIFICATIONS, THAT HE WILL NOT USE THEM IN WHOLE OR IN PART FOR ANY EXTRA PROJECT WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER. HE FURTHER AGREES TO HOLD HARMLESS AND INDEMNIFY THE ENGINEER FROM ANY AND ALL CLAIMS ARISING FROM THE UNAUTHORIZED REUSE OF THE PLANS AND SPECIFICATIONS BY THE CONTRACTOR, HIS EMPLOYEES OR ANY OF HIS SUBCONTRACTORS. THE CONTRACTOR ALSO AGREES TO INDEMNIFY THE ENGINEER FOR ANY LIABILITY RESULTING FROM SUCH UNAUTHORIZED REUSE OF THE PLANS AND SPECIFICATIONS.
DISCLAIMER:
THE CONTRACTOR IS CAUTIONED BY THE TEXAS ENGINEERING PRACTICE ACT THAT ENGINEERING DRAWINGS AND SPECIFICATIONS MAY NOT BE ALTERED IN ANY WAY BY ANYONE OTHER THAN THE AUTHORIZING ENGINEER OR HIS DULY DESIGNATED REPRESENTATIVE. THE CONTRACTOR AGREES, AS PART OF THE CONSIDERATION FOR RECEIVING THESE PLANS AND SPECIFICATIONS, THAT HE WILL NOT USE THEM IN WHOLE OR IN PART FOR ANY EXTRA PROJECT WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER. HE FURTHER AGREES TO HOLD HARMLESS AND INDEMNIFY THE ENGINEER FROM ANY AND ALL CLAIMS ARISING FROM THE UNAUTHORIZED REUSE OF THE PLANS AND SPECIFICATIONS BY THE CONTRACTOR, HIS EMPLOYEES OR ANY OF HIS SUBCONTRACTORS. THE CONTRACTOR ALSO AGREES TO INDEMNIFY THE ENGINEER FOR ANY LIABILITY RESULTING FROM SUCH UNAUTHORIZED REUSE OF THE PLANS AND SPECIFICATIONS.

NOTES FOR PAVEMENT MARKINGS "SYMBOLS" AND "ARROWS":

1. MINIMUM 8 FOOT WHITE MARKINGS SHALL BE USED, UNLESS OTHERWISE NOTED. IF MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD BE PLACED WITH FIRST WORD NEAREST THE DRIVER.
2. THESE DETAILS ARE STANDARD SIZE FOR NORMAL INSTALLATION; SIZES MAY BE REDUCED APPROXIMATELY ONE-THIRD DEPENDING ON CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR REDUCTION BELOW ONE-THIRD OF STANDARD SIZES.
3. THE LONGITUDINAL SPACE BETWEEN MARKINGS SHOULD BE 30 FEET, OR AS INDICATED ON THE PLANS.
4. MARKINGS CONSIDERED APPROPRIATE FOR USE WHEN WARRANTED INCLUDE THE FOLLOWING:

   A. REGULATOR
      STOP
      RIGHT (LEFT) TURN ONLY, SYMBOL ARROWS.

   B. WARNING
      STOP AHEAD
      SIGNAL AHEAD
      SCHOOL
      SCHOOL X-ING
      PED X-ING
      R X R (SEE SHEET 02760-08 DETAILS
      OTHER WORDS OR SYMBOLS MAY BE NECESSARY UNDER CERTAIN CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR SPECIAL CONDITIONS.
5. UNCONTROLLED USE OF PAVEMENT MARKINGS CAN RESULT IN DRIVER CONFUSION. WORD AND SYMBOL MARKINGS SHOULD BE NO MORE THAN THREE LINES.
6. THE WORD "STOP" SHALL NOT BE USED ON THE PAVEMENT UNLESS ACCOMPANIED BY A STOP LINE AND STOP SIGN. THE WORD "STOP" SHALL NOT BE PLACED ON THE PAVEMENT IN ADVANCE TO A STOP LINE, UNLESS EVERY VEHICLE IS REQUIRED TO STOP AT ALL TIMES (ALL-WAY STOP).
7. PAVEMENT MARKINGS SHOULD GENERALLY BE NO MORE THAN ONE LANE IN WIDTH, WITH SCHOOL MESSAGES BEING THE EXCEPTION. FOR DETAILS OF SCHOOL AND SCHOOL CROSSING PAVEMENT MARKINGS, REFER TO PART VII OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
8. SPACING BETWEEN STANDARD SIZE LETTERS SHOULD BE 4 INCHES (MIN). THE WIDTH OF NON-STANDARD SIZE LETTERS MAY VARY DEPENDING ON THE WIDTH OF THE TRAVEL LANES. APPROVAL BY CITY TRAFFIC ENGINEER. SPECIAL PERMISSION NEEDED FOR NON-STANDARD SIZE "LETTER" AND/OR "ARROWS".
9. LANE-USE ARROW MARKINGS MAY BE USED TO CONVEY EITHER GUIDANCE OR MANDATORY MESSAGES. SINGLE TURN ARROWS USED TO CONVEY A MANDATORY MOVEMENT MUST BE ACCOMPANIED STANDARD SIGNS AND THE PAVEMENT MARKING WORD "ONLY".
10. PAVEMENT MARKINGS ARE TO BE LOCATED AS SPECIFIED IN THE DESIGN PLANS.

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-04

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKING – SYMBOLS

FOR CITY OF HOUSTON USE ONLY

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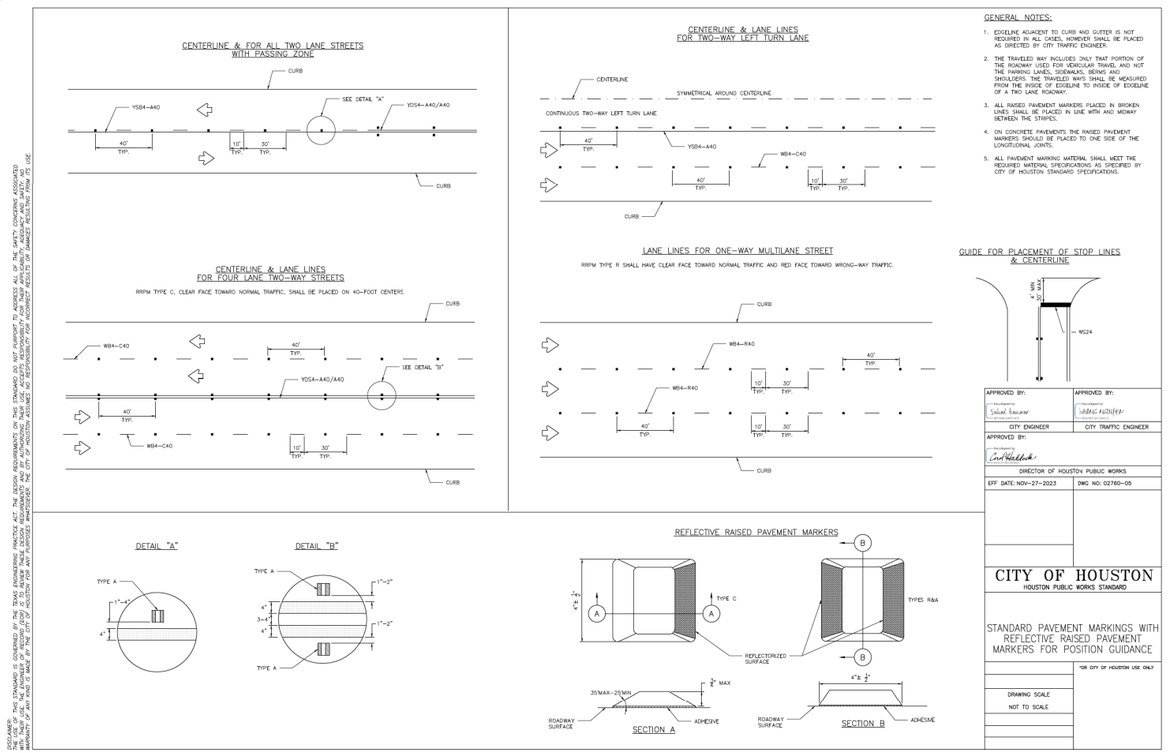

GENERAL NOTES:

1. EDGELINE ADJACENT TO CURB AND GUTTER IS NOT REQUIRED IN ALL CASES, HOWEVER SHALL BE PLACED AS DIRECTED BY CITY TRAFFIC ENGINEER.
2. THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAYS SHALL BE MEASURED FROM THE INSIDE OF EDGELINE TO INSIDE OF EDGELINE OF A TWO LANE ROADWAY.
3. ALL RAISED PAVEMENT MARKERS PLACED IN BROKEN LINES SHALL BE PLACED IN LINE WITH AND MIDWAY BETWEEN THE STRIPES.
4. ON CONCRETE PAVEMENTS THE RAISED PAVEMENT MARKERS SHOULD BE PLACED TO ONE SIDE OF THE LONGITUDINAL JOINTS.
5. ALL PAVEMENT MARKING MATERIAL SHALL MEET THE REQUIRED MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-05

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE

FOR CITY OF HOUSTON USE ONLY

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Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 7 OF 12

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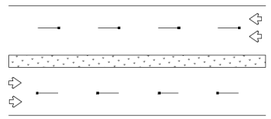
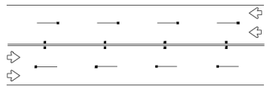
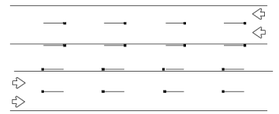
LANE LINES FOR DIVIDED STREET



LANE & CENTER LINES FOR MULTILANE UNDIVIDED STREETS



TWO-WAY LEFT TURN LANE



TEMPORARY PAVEMENT MARKINGS PLACEMENT DETAILS

DOUBLE YELLOW LINE

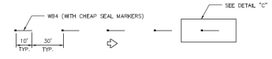


SOLID LINES

EDGE LINE OR SINGLE NO-PASSING LINE

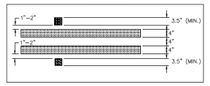


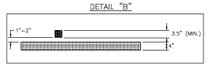
BROKEN LINE

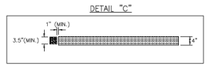


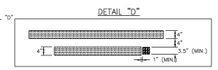
YELLOW DOUBLE BROKEN LINE







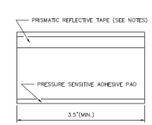




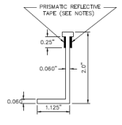
NOTES:

1. YELLOW MARKERS SHALL HAVE YELLOW BODIES AND YELLOW REFLECTIVE TAPE.
2. WHITE MARKERS SHALL HAVE WHITE BODIES AND WHITE REFLECTIVE TAPE.
3. ONE-WAY OR TWO-WAY REFLECTIVE SHALL BE USED AS NECESSARY FOR APPLICATION.
4. THE CLEAR PLASTIC COVER MAY VARY FROM ONE MANUFACTURER TO ANOTHER IF DEEMED NECESSARY BY SPECIFIC PROJECT.
5. ALL TEMPORARY PAVEMENT MARKERS SHALL BE PLACED WITH REFLECTIVE SIDE FACING ONCOMING TRAFFIC.
6. ALL TEMPORARY STRIPING SHALL BE WATER BASED PAINT.

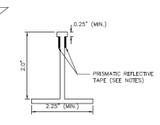
TEMPORARY CHIP SEAL MARKER DETAIL



TEMPORARY PAVEMENT MARKER FRONT VIEW



"L" DESIGN RIGHT VIEW



"T" DESIGN RIGHT VIEW

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-06

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

REFLECTIVE CHIP SEAL MARKER USE FOR TEMPORARY MARKINGS

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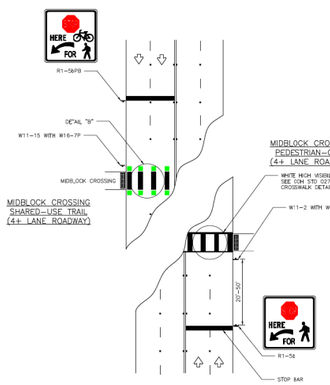
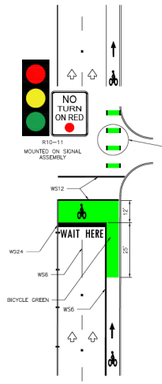
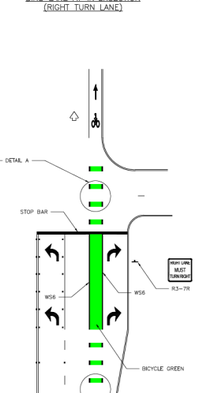
USE OF TREATMENTS ON THIS SHEET MUST BE PRE-APPROVED BY THE CITY TRAFFIC ENGINEER



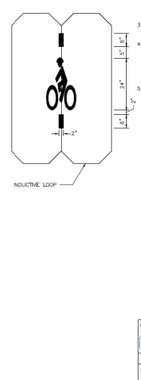
BIKE BOX



BIKE LANE AT INTERSECTION (RIGHT TURN LANE)



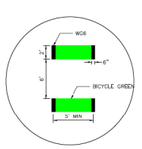
BICYCLE DETECTION MARKING



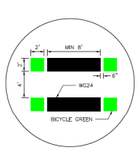
NOTE:

1. ALL PAVEMENT MARKINGS SHALL BE WHITE EXCEPT WHEN NOTED OTHERWISE ON PLANS.
2. PAVEMENT MARKINGS SHALL BE OF THE MATERIALS SPECIFIED AND SHALL BE IN CONFORMANCE WITH MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.
3. WHERE NOT SHOWN ON THIS SHEET, SIGN PLACEMENT AND DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.
4. ADDITIONAL REFERENCES (LATEST EDITION):
   4.1. TMUTCD (TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES)
   4.2. GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, AASHTO
   4.3. URBAN BIKEWAY DESIGN GUIDE, NACTO
5. FOR PLACEMENT OF PAVEMENT ARROWS AND WORDS SEE CSH STD 02760-13 & 02760-14 LEFT-TURN LANE & RIGHT TURN LANE DESIGN.

DETAIL "A"



DETAIL "B"



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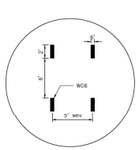

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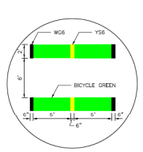

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-10

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BICYCLE INTERSECTION TREATMENTS

SHEET 01 OF 02

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 8 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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ROWAIDAH AYOUB	
SHEET NO. 687 OF 1067	

No.	DATE	REVISIONS	APP.

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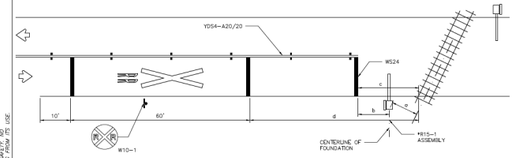
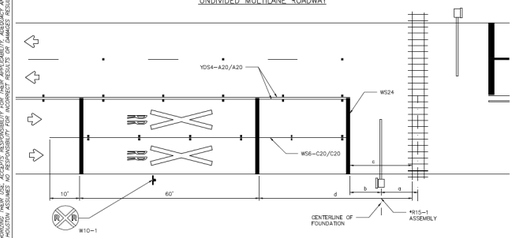
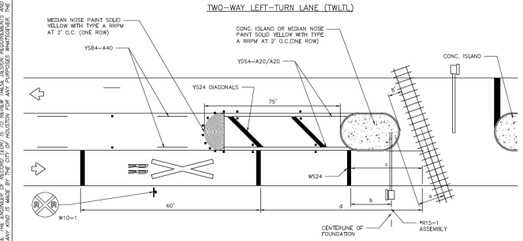
TWO LANE, TWO-WAY



UNDIVIDED MULTILANE ROADWAY



TWO-WAY LEFT-TURN LANE (TWLTL)



a = 12 FEET MINIMUM, 15 FEET USUAL, IF ACTIVE WARNING DEVICES ARE PRESENT. DISTANCE "a" SHOULD BE MEASURED FROM THE CENTER-LINE OF * R15-1 ASSEMBLY TO THE CENTER-LINE OF NEAREST TRACK.

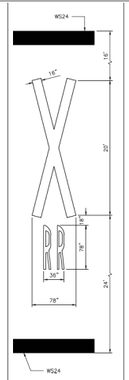
b = STOP LINES SHOULD BE APPROXIMATELY 8 FEET IN ADVANCE OF ACTIVE WARNING DEVICES (TYPE A, E OR F). STOP LINE SHOULD BE APPROXIMATELY 15 FEET FROM NEAR RAIL IF ONLY PASSIVE DEVICES (R15-1, PLUS R15-2 WHEN APPLICABLE) ARE PRESENT.

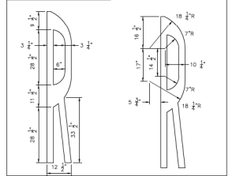
c = 15 FEET DESIRABLE MINIMUM IF NO GATE OR SIGNAL IS PRESENT. R15-1 SHOULD BE PLACED BETWEEN STOP LINE AND RAILS WITH ADEQUATE DISTANCE PROVIDED FOR "a".

d* =

APPROACH SPEED LIMIT (MPH)	DESIRABLE PLACEMENT (FEET)
20	145
25	220
30	295
35	370
40	445
45	520
50	595
55	670
60	745
65	820
70	900

*LOCAL CONDITIONS MAY REQUIRE ALTERNATE PLACEMENT LOCATIONS.





NOTES:

1. THE PAVEMENT MARKINGS ON AN APPROACH TO A RAILROAD GRADE CROSSING SHALL CONSIST OF:
   A) THE RR X-ING SYMBOL,
   B) THREE TRANSVERSE 24" LINES, AND
   C) LANE LINES: A SOLID NO PASSING LINE FOR TWO-WAY TRAFFIC APPROACHES, OR SOLID LANE LINES FOR MULTILANE APPROACHES.
2. FOR BIDDING PURPOSES, THE RR X-ING SYMBOL WILL BE MEASURED AND PAID FOR AS FOR EACH (EA) LANE IN PLACE. THE TRANSVERSE MARKINGS AND LANE LINES WILL BE MEASURED AND PAID FOR BY THE LINEAR FOOT (LF).
3. APPROACH LANES LESS THAN 8 FOOT WIDTH SHALL NOT HAVE MARKINGS.
4. MARKINGS SHOULD NOT BE PLACED WHERE LESS THAN 110 FEET OF APPROACH ROADWAY IS AVAILABLE FOR PLACEMENT UNLESS DIRECTED BY CITY TRAFFIC ENGINEER.
5. RR X-ING SYMBOLS SHOULD BE PLACED APPROXIMATELY IN THE CENTER OF THE APPROACH LANE.
6. ALL TRANSVERSE MARKINGS, INCLUDING STOP LINES, SHALL BE PLACED AT RIGHT ANGLES TO THE CENTERLINE AND ACROSS ALL APPROACH LANES.
7. EXISTING NON-STANDARD MARKINGS SHALL BE REMOVED TO THE FULLEST EXTENT POSSIBLE SO AS NOT TO LEAVE A DISCERNABLE MARKING. BY ANY METHOD APPROVED BY THE CITY TRAFFIC ENGINEER. OVERPAINTING WILL NOT BE ALLOWED.
8. ADDITIONAL MARKINGS AND PLACEMENT DETAILS MAY BE FOUND IN THE TMUTCD, APPENDIX H.
9. THE CITY TRAFFIC ENGINEER MAY REQUIRE ADDITIONAL LONGITUDINAL MARKINGS IF THE DISTANCE BETWEEN THE STOP LINES IS GREATER THAN 80 FEET. MARKINGS ARE NOT REQUIRED ACROSS OR BETWEEN THE RAILS UNLESS SPECIFIED ELSEWHERE IN THE PLANS.



W10-1 (30" DIA.)

SIGN W10-1 TO BE PLACED AS SHOWN IN TYPICAL DETAILS WHEN PAVEMENT MARKINGS ARE INSTALLED.

*R15-1 ASSEMBLY

MAY CONSIST OF ONE OR MORE OF THE FOLLOWING:

R15-1 CROSSBUCK SIGN
R15-2 MULTIPLE TRACK SIGN
TYPE A MAST FLASHERS
TYPE E CANTILEVERS
TYPE F GATES

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-08

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

RAILROAD CROSSING PAVEMENT MARKING DETAILS

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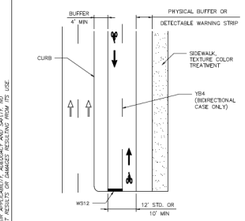
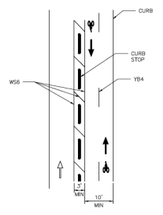
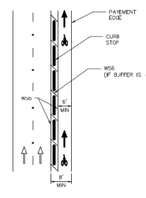


DEDICATED BIKE PATH

BIDIRECTIONAL CASE SHOWN, ONE-WAY CASE SIMILAR (LANE WIDTH 6' STD OR 5' MIN)



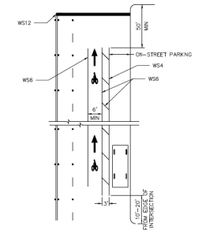
BIDIRECTIONAL PROTECTED BIKE LANE



ON-STREET PROTECTED/BUFFERED BIKE LANE
SEE NOTE 6

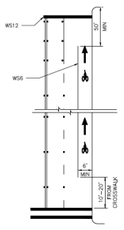
NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE WHITE EXCEPT WHEN NOTED OTHERWISE ON PLANS.
2. PAVEMENT MARKINGS SHALL BE OF THE MATERIALS SPECIFIED AND SHALL BE IN CONFORMANCE WITH MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.
3. EXACT SIGN PLACEMENT AND DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.
4. ADDITIONAL REFERENCES: TMUTCD (TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) GUIDE FOR THE DEVELOPMENT OF BICYCLES FACILITIES, AASHTO, LATEST EDITION.
5. SHARED LANE MARKING SHALL BE IMPLEMENTED ONLY ON ROADWAY SEGMENT BUT NOT WITHIN THE FUNCTIONAL LIMITS OF AN INTERSECTION.
6. PHYSICAL PROTECTION IS PREFERRED FOR BIKE WAY DESIGN. A BIKE WAY DESIGN THAT LACKS PHYSICAL PROTECTION SHALL REQUIRE APPROVAL FROM TOH.
7. REFER TO CONTRACT DRAWINGS FOR MARKINGS FOR ADDITIONAL SHARED LANE REQUIREMENTS.



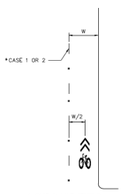
STANDARD BIKE LANES

ON-STREET PARKING ALONG BICYCLE LANE
SEE NOTE 6



STANDARD BIKE LANES

NO ON-STREET PARKING ALONG BICYCLE LANE
SEE NOTE 6



SHARED LANE MARKING
SEE NOTE 6

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BICYCLE LANE PAVEMENT MARKINGS

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 9 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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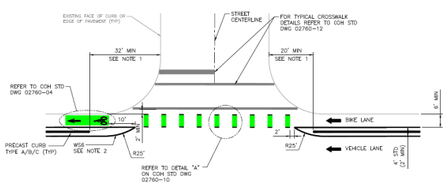
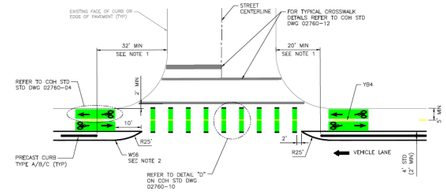
TYPICAL UNSIGNALIZED INTERSECTION AT BIKE LANE



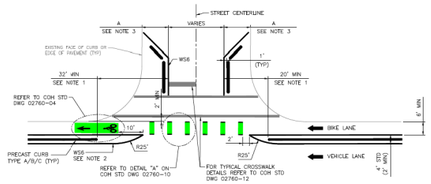
TYPICAL UNSIGNALIZED INTERSECTION AT BIDERECTIONAL BIKE LANE



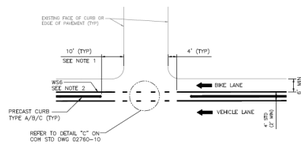
NOTES:

1. ACTUAL DELINEATOR OFFSET FROM DRIVEWAY SHALL BE DETERMINED BASED ON DESIGN AND CONTROL VEHICLE SWEPT PATH ANALYSIS.
2. DIAGONAL STRIPING WITHIN THE AREA BETWEEN THE BICYCLE LANE AND VEHICLE LANE ARE NOT SHOWN FOR CLARITY. REFER TO COH STD DWG 02760-09 FOR PAVEMENT MARKS WITHIN THAT AREA.
3. DIMENSION "A" VARIES ACCORDING TO ROADWAY CONTEXT.
4. AT BUS STOP LOCATIONS, DO NOT INSTALL CURB STOPS 120 FEET AHEAD OF BUS STOP TO ENSURE FULL OVER SPACE FOR THE BUS.

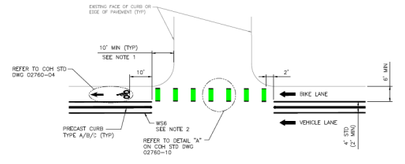
UNSIGNALIZED INTERSECTION AT BIKE LANE WITH CURB EXTENSIONS



MINOR DRIVEWAY AT BIKE LANE



MAJOR DRIVEWAY AT BIKE LANE



APPROVED BY:	APPROVED BY:
Salud Lozano	Gerald Pattiller
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-11

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BICYCLE INTERSECTION TREATMENTS

SHEET 02 OF 02

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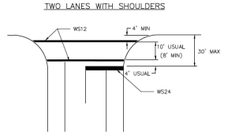
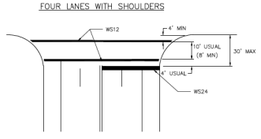
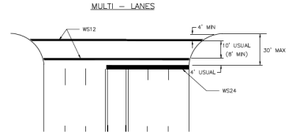
TWO LANES WITH SHOULDERS



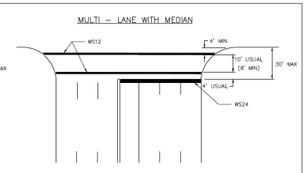
FOUR LANES WITH SHOULDERS



MULTI – LANES



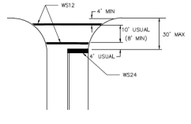
MULTI – LANE WITH MEDIAN



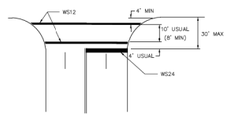
NOTES:

1. CROSSWALKS AND STOP LINES SHALL BE WHITE.
2. "D" IS EQUAL TO ONE HALF THE WIDTH OF TRAVEL LANE.

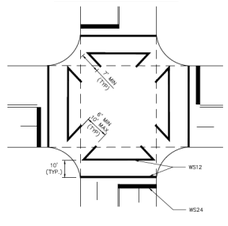
TWO LANES



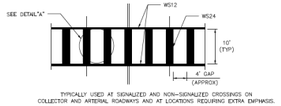
FOUR LANES



EXCLUSIVE PEDESTRIAN PHASE

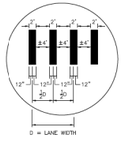


HIGH VISIBILITY CROSSWALK DETAIL

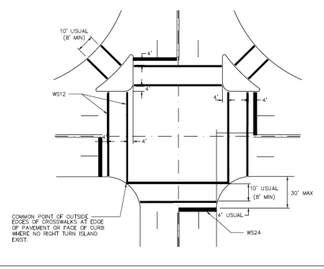


TYPICALLY USED AT SIGNALIZED AND NON-SIGNALIZED CROSSINGS ON COLLECTOR AND ARTERIAL ROADWAYS AND AT LOCATIONS REQUIRING EXTRA EMPHASIS.

DETAIL "A"



INTERSECTION WITH RIGHT – TURN ISLANDS



COMMON POINT OF OUTSIDE EDGES OF CROSSWALKS AT EDGE OF PAVEMENT OR FACE OF CURB WHERE NO RIGHT TURN ISLAND EXIST.

APPROVED BY:	APPROVED BY:
Salud Lozano	Gerald Pattiller
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CROSSWALK DETAILS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

No.	DATE	REVISIONS	APP:

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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KARAM QADDO
P.E. No. 125611
Date 3/12/2026
For 60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 10 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 689 OF 1067	

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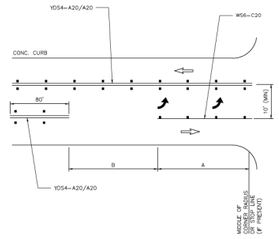
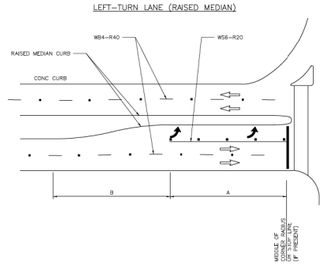
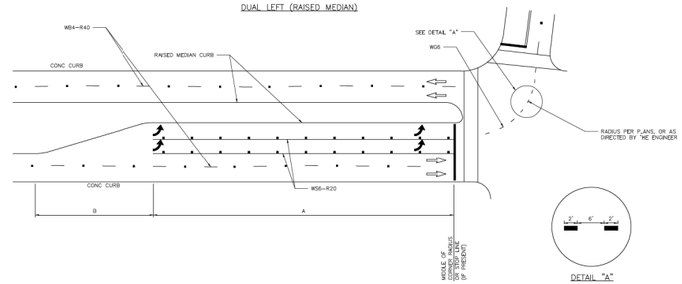
LEFT-TURN LANE



LEFT-TURN LANE (RAISED MEDIAN)



DUAL LEFT (RAISED MEDIAN)



GENERAL NOTES:

1. THE DIMENSIONS GIVEN FOR DUAL LEFT (RAISED MEDIAN) ON THIS SHEET ARE ALSO APPLICABLE FOR DUAL RIGHT-TURN LANES.
2. STORAGE LENGTHS LONGER THAN THE MINIMUMS LISTED ON THIS DRAWING MAY BE DETERMINED USING TRAFFIC ENGINEERING ANALYSIS.
3. FOR THE PLACEMENT OF PAVEMENT ARROWS AND WORDS, REFER TO 02760-02 – LEFT/RIGHT TURN "ONLY" AND ARROW SPACING.
4. REFER TO APPLICABLE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE AND LEFT- TURN & RIGHT-TURN LANE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKINGS.
5. REFER TO BICYCLE LANE PAVEMENT MARKINGS STANDARD FOR TYPE AND PLACEMENT.

LEFT TURN BAY NOTES:

1. LEFT TURN BAY DIMENSIONS
   A = 150' MINIMUM AT INTERSECTION OF TWO (2) MAJOR STREETS WHEN PRACTICAL.
   = 100' MINIMUM AT ALL OTHER INTERSECTIONS.
   B = 100' MINIMUM ON STRAIGHT ROADWAYS.
   *TAPER LENGTH MAY BE SHORTER IF IT IS ON A HORIZONTAL CURVE TO THE LEFT.
   *TAPER LENGTH MAY BE LONGER IF CURVE IS TO THE RIGHT.
2. DIMENSIONS SHALL BE ADJUSTED AS DETERMINED BY CITY OF HOUSTON TRAFFIC ENGINEER.
3. REFER TO CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL (FIGURE 10.8) FOR DETAILS.

APPROVED BY:	APPROVED BY:
Salud Escobar	Ludwig Kuffner
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-13

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

LEFT-TURN LANE & RIGHT-TURN LANE DESIGN

SHEET 01 OF 02

FOR CITY OF HOUSTON USE ONLY

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DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD FOR EACH PROJECT IS RESPONSIBLE FOR PROJECT SAFETY, AND MUST EXERCISE PROFESSIONAL JUDGMENT IN THE APPLICATION OF THESE DESIGN REQUIREMENTS AS IT AUTHORIZED HEREUNDER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR ACCIDENTS RESULTING FROM, OR DAMAGES RESULTING FROM ITS USE.

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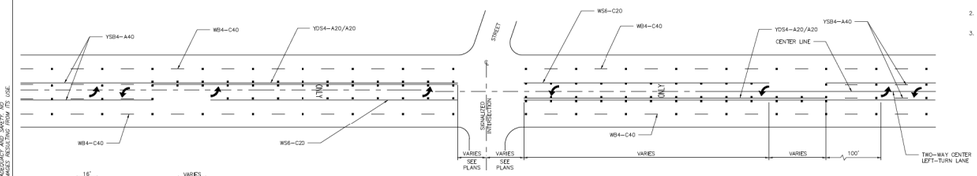
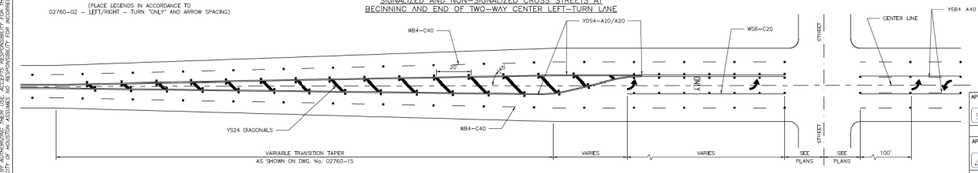
TYPICAL TWO-WAY LEFT-TURN LANE DETAILS
SIGNALIZED INTERSECTION



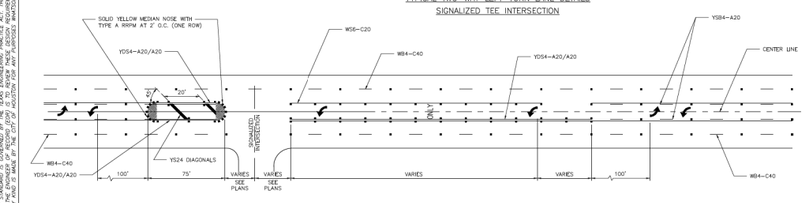
NOTE:
1. REFLECTIVE RAISED PAVEMENT MARKERS SHOULD BE IN ACCORDANCE WITH STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE AND LEFT-TURN & RIGHT-TURN LANE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS.
2. SEE LEFT-TURN & RIGHT-TURN LANE DESIGN WORKSHEET FOR APPLICABLE INFORMATION.
3. REFER TO 02760-02 – LEFT/RIGHT TURN "ONLY" AND ARROW SPACING.



TYPICAL MEDIAN LEFT TURN BAY
SIGNALIZED AND NON-SIGNALIZED CROSS STREETS AT BEGINNING AND END OF TWO-WAY CENTER LEFT-TURN LANE



TYPICAL TWO-WAY LEFT-TURN LANE DETAILS
SIGNALIZED TEE INTERSECTION



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APPROVED BY:	APPROVED BY:
Salud Escobar	Ludwig Kuffner
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-16

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TWO-WAY LEFT-TURN LANE DETAIL 2

SHEET 02 OF 02

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No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
on 3/12/2026
for 60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 11 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 690 OF 1067	

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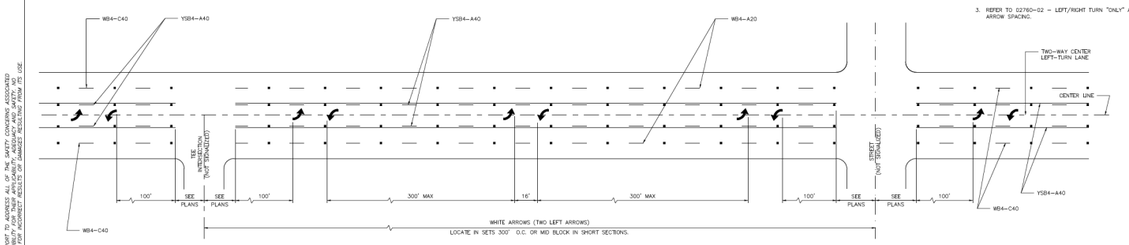
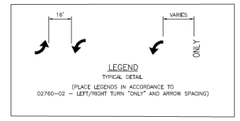
TWO-WAY LEFT-TURN LANE DETAILS
NON-SIGNALIZED INTERSECTIONS



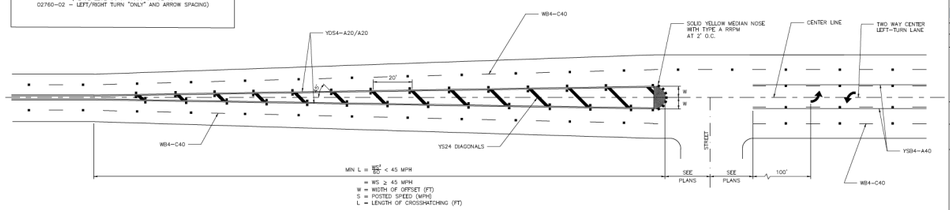
NOTE:

1. REFLECTIVE RAISED PAVEMENT MARKERS SHOULD BE IN ACCORDANCE WITH STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE AN LEFT-TURN & RIGHT-TURN LANE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS.
2. SEE LEFT-TURN & RIGHT-TURN LANE DESIGN WORKSHEET FOR APPLICABLE INFORMATION.
3. REFER TO 02760-02 – LEFT/RIGHT TURN "ONLY" AND ARROW SPACING.



LEGEND
TYPICAL DETAIL
(PLACE LEGENDS IN ACCORDANCE TO 02760-02 – LEFT/RIGHT TURN "ONLY" AND ARROW SPACING)

TYPICAL TRANSITION AT BEGINNING AND END OF TWO-WAY CENTER LEFT-TURN LANE



APPROVED BY:	APPROVED BY:
Signature on file	Signature on file
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Signature on file	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-15

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TWO-WAY LEFT-TURN LANE DETAIL 1

SHEET 01 OF 02

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DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE SEALING REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER IS RESPONSIBLE FOR THE SAFETY OF DESIGNS PREPARED USING THIS STANDARD AND SHALL TAKE PRECAUTIONS NECESSARY TO ELIMINATE OR REDUCE HAZARDS TO PERSONS AND PROPERTY DURING AND AFTER THE CONSTRUCTION PROJECT. USE OF THIS STANDARD IS AT THE USER'S SOLE RISK. ANY AND ALL RISK AND RESPONSIBILITY ARISING FROM THE USE OF THIS STANDARD IS ASSUMED BY THE USER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR ANY DAMAGES RESULTING FROM ITS USE.
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE SEALING REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER IS RESPONSIBLE FOR THE SAFETY OF DESIGNS PREPARED USING THIS STANDARD AND SHALL TAKE PRECAUTIONS NECESSARY TO ELIMINATE OR REDUCE HAZARDS TO PERSONS AND PROPERTY DURING AND AFTER THE CONSTRUCTION PROJECT. USE OF THIS STANDARD IS AT THE USER'S SOLE RISK. ANY AND ALL RISK AND RESPONSIBILITY ARISING FROM THE USE OF THIS STANDARD IS ASSUMED BY THE USER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR ANY PURPOSES WHATSOEVER AND DISCLAIMS ANY AND ALL LIABILITY FOR DAMAGES RESULTING FROM ITS USE.

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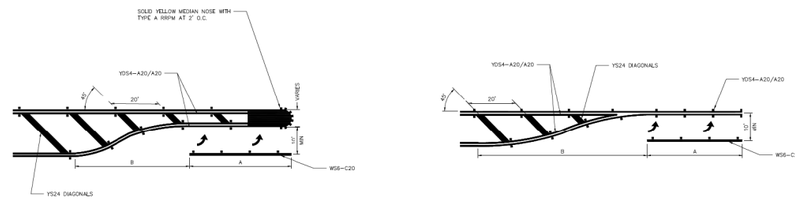
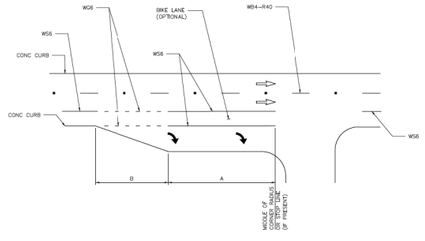
PAINTED MEDIAN LEFT TURN BAY DETAILS



UNSIGNALIZED RIGHT-TURN LANE



GENERAL NOTES:

1. STORAGE LENGTHS LONGER THAN THE MINIMUMS LISTED ON THIS DRAWING MAY BE DETERMINED USING TRAFFIC ENGINEERING ANALYSIS OR APPROXIMATE CALCULATIONS.
2. FOR THE PLACEMENT OF PAVEMENT ARROWS AND WORDS REFER TO 02760-02 – LEFT/RIGHT TURN "ONLY" AND ARROW SPACING.
3. REFER TO APPLICABLE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE AND LEFT-TURN & RIGHT-TURN LANE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKINGS.
4. REFER TO BICYCLE LANE PAVEMENT MARKINGS STANDARD FOR TYPE AND PLACEMENT.

LEFT TURN BAY NOTES:

1. LEFT TURN BAY DIMENSIONS
   A = 150' MINIMUM AT INTERSECTION OF TWO (2) MAJOR STREETS WHEN PRACTICAL.
   = 100' MINIMUM AT ALL OTHER INTERSECTIONS.

   B = 100' MINIMUM ON STRAIGHT ROADWAYS. TAPER LENGTH MAY BE SHORTER IF IT IS ON A HORIZONTAL CURVE TO THE LEFT. TAPER LENGTH MAY BE LONGER IF CURVE IS TO THE RIGHT.
2. DIMENSIONS SHALL BE ADJUSTED AS DETERMINED BY CITY OF HOUSTON TRAFFIC ENGINEER.
3. REFER TO CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL (FIGURE 10.8) FOR DETAILS.

APPROVED BY:	APPROVED BY:
Signature on file	Signature on file
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Signature on file	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF. DATE: NOV-27-2023	DWG NO: 02760-14

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

LEFT TURN LANE & RIGHT TURN LANE DESIGN

SHEET 02 OF 02

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No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
Date
125611
3/12/2026
Rev.
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SIGNING & PAVEMENT MARKINGS STANDARD DETAILS

SHEET 12 OF 12

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 691 OF 1067	

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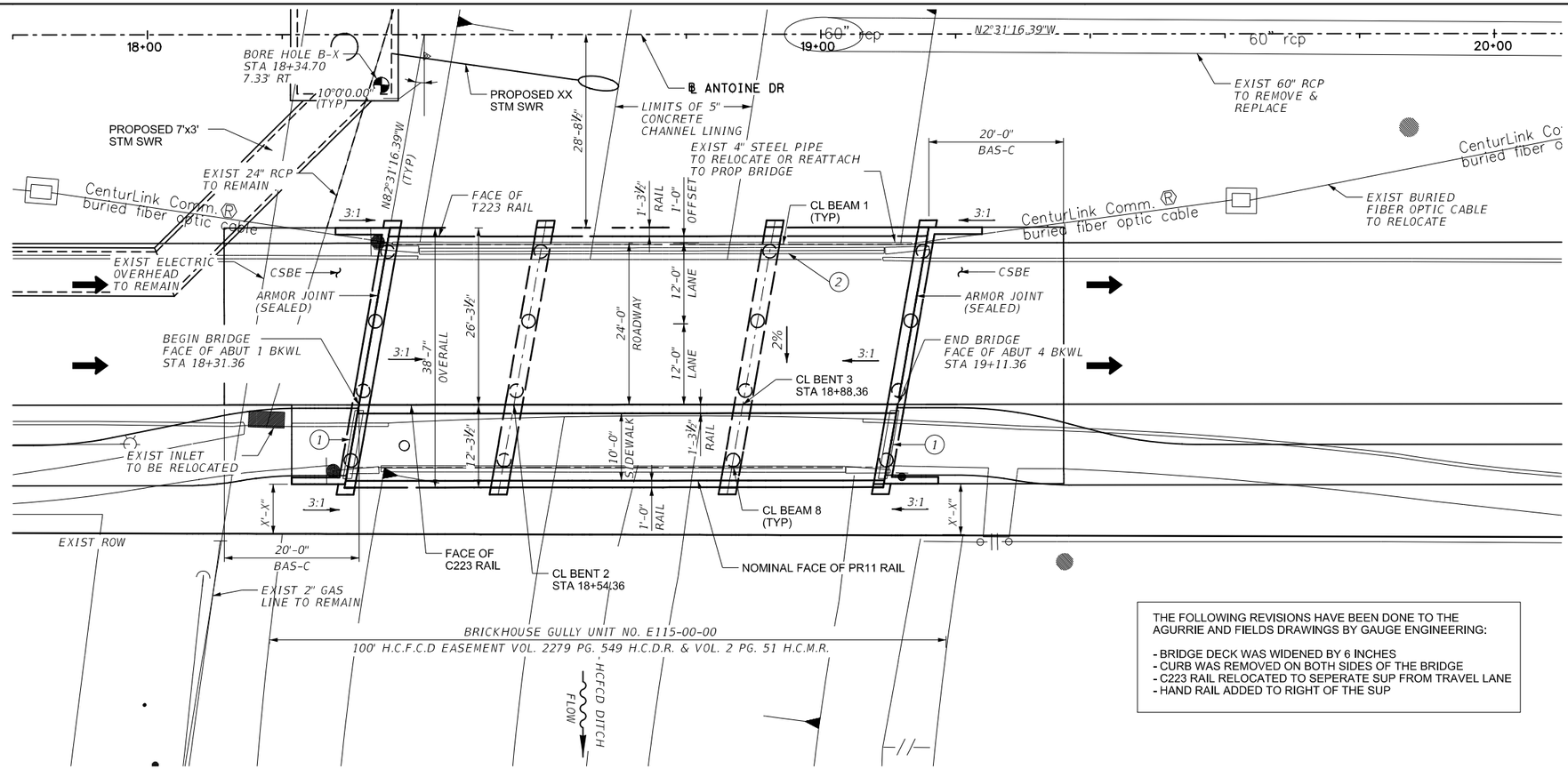


PLAN

GENERAL NOTES

1. DESIGNED ACCORDING TO AASHTO LRFD BRIDGE SPECIFICATIONS, 9TH EDITION, (2020), AS MODIFIED BY THE TXDOT BRIDGE DESIGN MANUAL - LRFD, JAN 2020.
2. FOR TYPICAL SECTION, SEE "TYPICAL SECTION" SHEET.
3. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. FOR BORING LOG INFORMATION, SEE BORING LOG SHEETS.
5. FOR CONTROL POINTS INFORMATION, SEE "SURVEY CONTROL MAP" SHEETS.
6. SEE CSBE STANDARD FOR CEMENT STABILIZED BACKFILL EMBANKMENT DETAIL.

(1) BRIDGE SIDEWALK EXPANSION JOINT COVER PLATE STANDARD BS-EJCP.

(2) EXISTING 3 SPAN, 70'-11" LONG BRIDGE (TO BE REMOVED). EXISTING DRILLED SHAFTS (TO BE REMOVED) MIN 2'-0" BELOW THE CONCRETE RIPRAP.

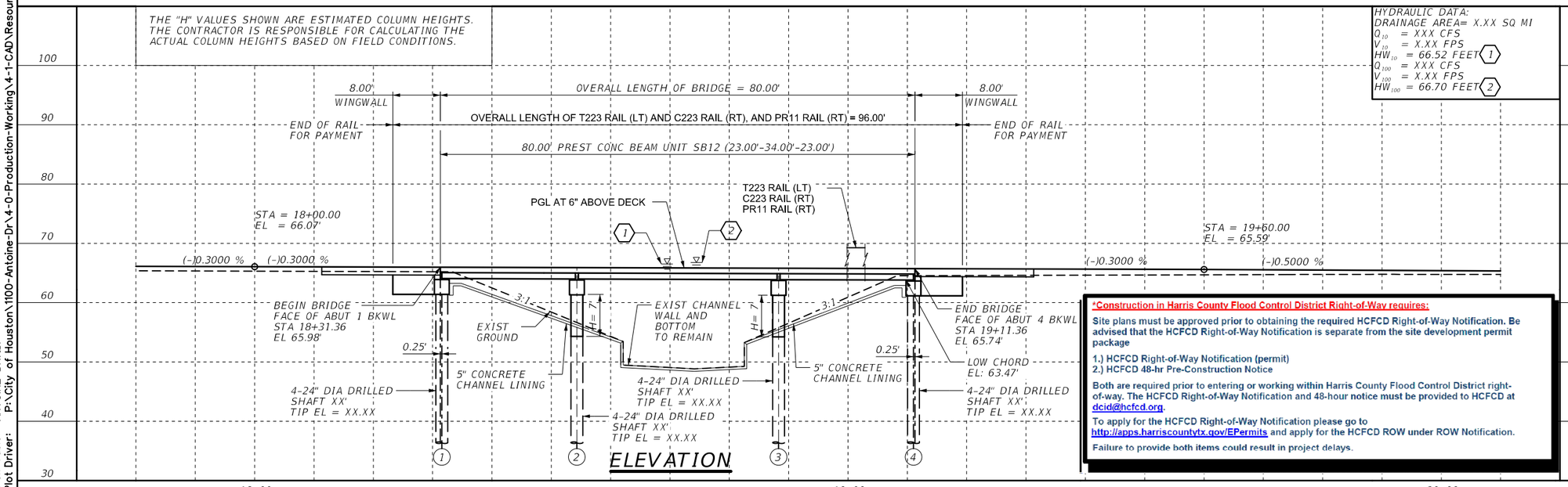
THE FOLLOWING REVISIONS HAVE BEEN DONE TO THE AGURRIE AND FIELDS DRAWINGS BY GAUGE ENGINEERING:

- BRIDGE DECK WAS WIDENED BY 6 INCHES
- CURB WAS REMOVED ON BOTH SIDES OF THE BRIDGE
- C223 RAIL RELOCATED TO SEPERATE SUP FROM TRAVEL LANE
- HAND RAIL ADDED TO RIGHT OF THE SUP

FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED:
ADT (2021):
ADT (2041):
EXIST NBI: 12-102-0-B033-69-052
NEW NBI: 12-102-0-B033-69-301

0' 10' 20'
1" = 20'

HL 93 Loading



ELEVATION

***Construction in Harris County Flood Control District Right-of-Way requires:**

Site plans must be approved prior to obtaining the required HCFCD Right-of-Way Notification. Be advised that the HCFCD Right-of-Way Notification is separate from the site development permit package

1.) HCFCD Right-of-Way Notification (permit)
2.) HCFCD 48-hr Pre-Construction Notice

Both are required prior to entering or working within Harris County Flood Control District right-of-way. The HCFCD Right-of-Way Notification and 48-hour notice must be provided to HCFCD at dcid@hcfcd.org.

To apply for the HCFCD Right-of-Way Notification please go to http://apps.harriscountytx.gov/EPermits and apply for the HCFCD ROW under ROW Notification.

Failure to provide both items could result in project delays.

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBPE FIRM REGISTRATION # 739

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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MAHSA ARASTOO
125062
5/28/2025
30% SUBMITTAL
AGUIRRE & FIELDS
Texas Registered Engineering Firm F-739

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

NB BRIDGE LAYOUT BRICKHOUSE GULLY

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	CATHERINE GOFORTH
SHEET NO.	692 OF 1067

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Pen Table: ANTOINE DR.tbl
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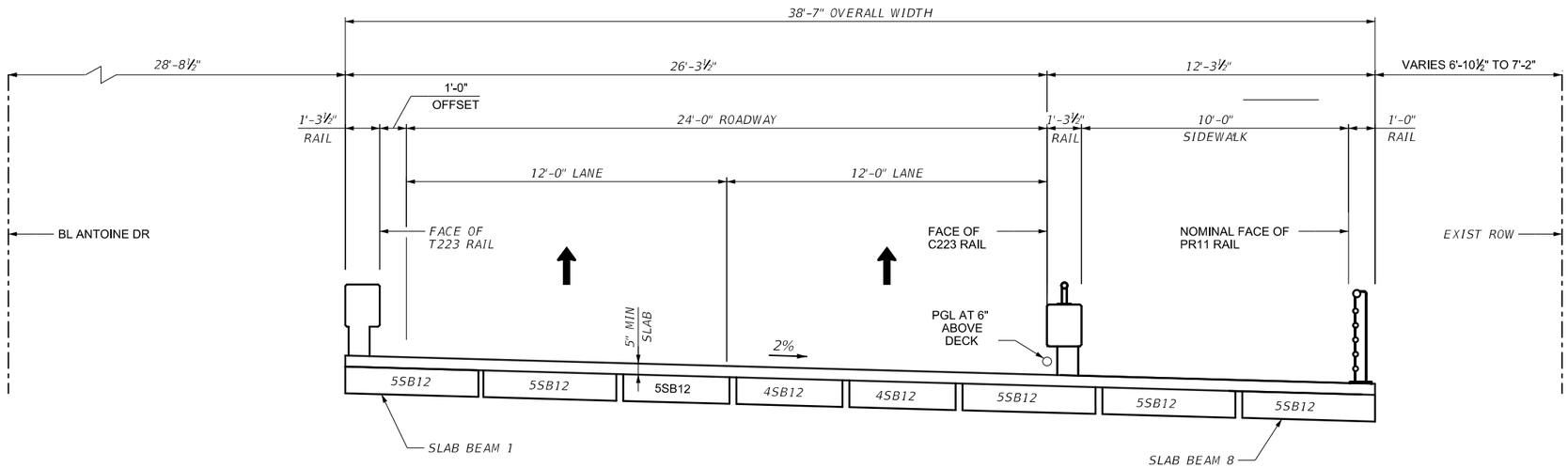
THE FOLLOWING REVISIONS HAVE BEEN DONE TO THE AGURRIE AND FIELDS DRAWINGS BY GAUGE ENGINEERING:

- BRIDGE DECK WAS WIDENED BY 6 INCHES
- CURB WAS REMOVED ON BOTH SIDES OF THE BRIDGE
- C223 RAIL RELOCATED TO SEPERATE SUP FROM TRAVEL LANE
- HAND RAIL ADDED TO RIGHT OF THE SUP



* SUP STANDS FOR SHARED USE SIDEPATH

BRIDGE TYPICAL SECTION

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ENGINEERING INNOVATORS
TBPE FIRM REGISTRATION # 739

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

NB BRIDGE TYPICAL SECTION BRICKHOUSE GULLY

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 693 OF 1067	

Plotted on: 5/28/2025 2:03:33 PM ahmed.alobaidi

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Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR.pltcfg

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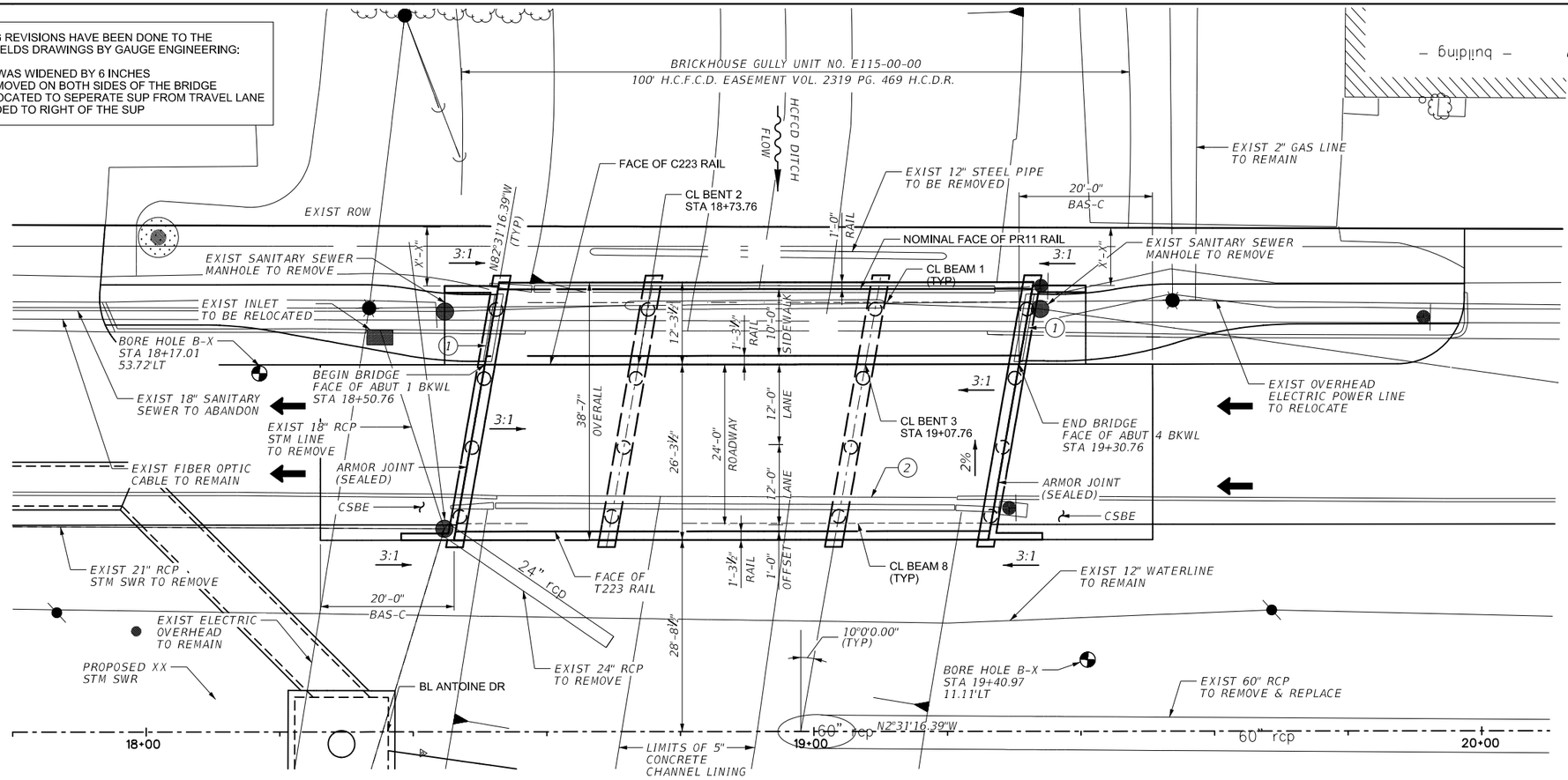
THE FOLLOWING REVISIONS HAVE BEEN DONE TO THE AGURRIE AND FIELDS DRAWINGS BY GAUGE ENGINEERING:

- BRIDGE DECK WAS WIDENED BY 6 INCHES
- CURB WAS REMOVED ON BOTH SIDES OF THE BRIDGE
- C223 RAIL RELOCATED TO SEPERATE SUP FROM TRAVEL LANE
- HAND RAIL ADDED TO RIGHT OF THE SUP



PLAN

GENERAL NOTES

1. DESIGNED ACCORDING TO AASHTO LRFD BRIDGE SPECIFICATIONS, 9TH EDITION, (2020), AS MODIFIED BY THE TXDOT BRIDGE DESIGN MANUAL - LRFD, JAN 2020.
2. FOR TYPICAL SECTION, SEE "TYPICAL SECTION" SHEET.
3. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. FOR BORING LOG INFORMATION, SEE BORING LOG SHEETS.
5. FOR CONTROL POINTS INFORMATION, SEE "SURVEY CONTROL MAP" SHEETS.
6. SEE CSBE STANDARD FOR CEMENT STABILIZED BACKFILL EMBANKMENT DETAIL.

(1) BRIDGE SIDEWALK EXPANSION JOINT COVER PLATE STANDARD BS-EJCP.

(2) EXISTING 3 SPAN, 70'-11" LONG BRIDGE (TO BE REMOVED). EXISTING DRILLED SHAFTS (TO BE REMOVED) MIN 2'-0" BELOW THE CONCRETE RIPRAP.

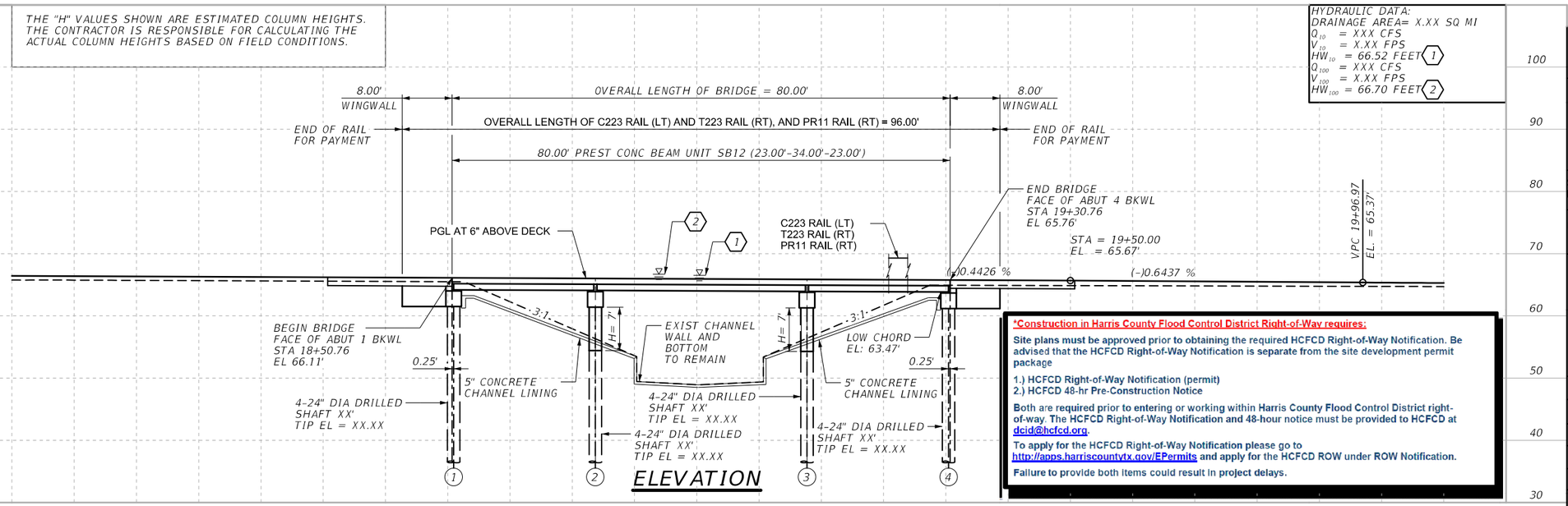
FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED:
ADT (2021):
ADT (2041):
EXIST NBI: 12-102-0-B033-69-053
NEW NBI: 12-102-0-B033-69-302

0' 10' 20'
1" = 20'

HL 93 Loading

THE "H" VALUES SHOWN ARE ESTIMATED COLUMN HEIGHTS. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATING THE ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

HYDRAULIC DATA:
DRAINAGE AREA= X.XX SQ MI
Q_{10} = XXX CFS
V_{10} = X.XX FPS
HW_{10} = 66.52 FEET (1)
Q_{100} = XXX CFS
V_{100} = X.XX FPS
HW_{100} = 66.70 FEET (2)



ELEVATION

*Construction in Harris County Flood Control District Right-of-Way requires:

Site plans must be approved prior to obtaining the required HCFCD Right-of-Way Notification. Be advised that the HCFCD Right-of-Way Notification is separate from the site development permit package

1.) HCFCD Right-of-Way Notification (permit)
2.) HCFCD 48-hr Pre-Construction Notice

Both are required prior to entering or working within Harris County Flood Control District right-of-way. The HCFCD Right-of-Way Notification and 48-hour notice must be provided to HCFCD at dcid@hcfcd.org.

To apply for the HCFCD Right-of-Way Notification please go to http://apps.harriscountytx.gov/EPermits and apply for the HCFCD ROW under ROW Notification.

Failure to provide both items could result in project delays.

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBPE FIRM REGISTRATION # 739

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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MAHSA ARASTOO
125062
5/28/2025
30% SUBMITTAL
AGUIRRE & FIELDS
Texas Registered Engineering Firm F-739

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SB BRIDGE LAYOUT BRICKHOUSE GULLY

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 694 OF 1067	

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Design Filename: $FILEABBREV$

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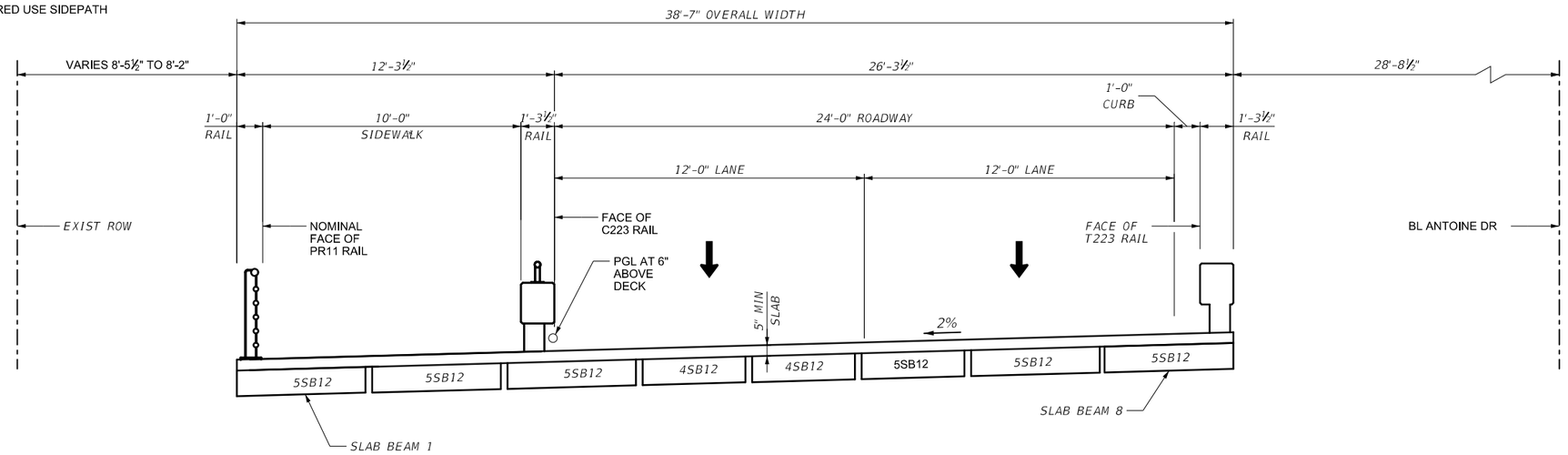
- CURB WAS REMOVED ON BOTH SIDES OF THE BRIDGE
- C223 RAIL RELOCATED TO SEPERATE SUP FROM TRAVEL LANE
- HAND RAIL ADDED TO RIGHT OF THE SUP

* SUP STANDS FOR SHARED USE SIDEPATH



BRIDGE TYPICAL SECTION

HL 93 Loading

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBPE FIRM REGISTRATION # 739

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-739

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SB BRIDGE TYPICAL SECTION BRICKHOUSE GULLY

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 695 OF 1067	

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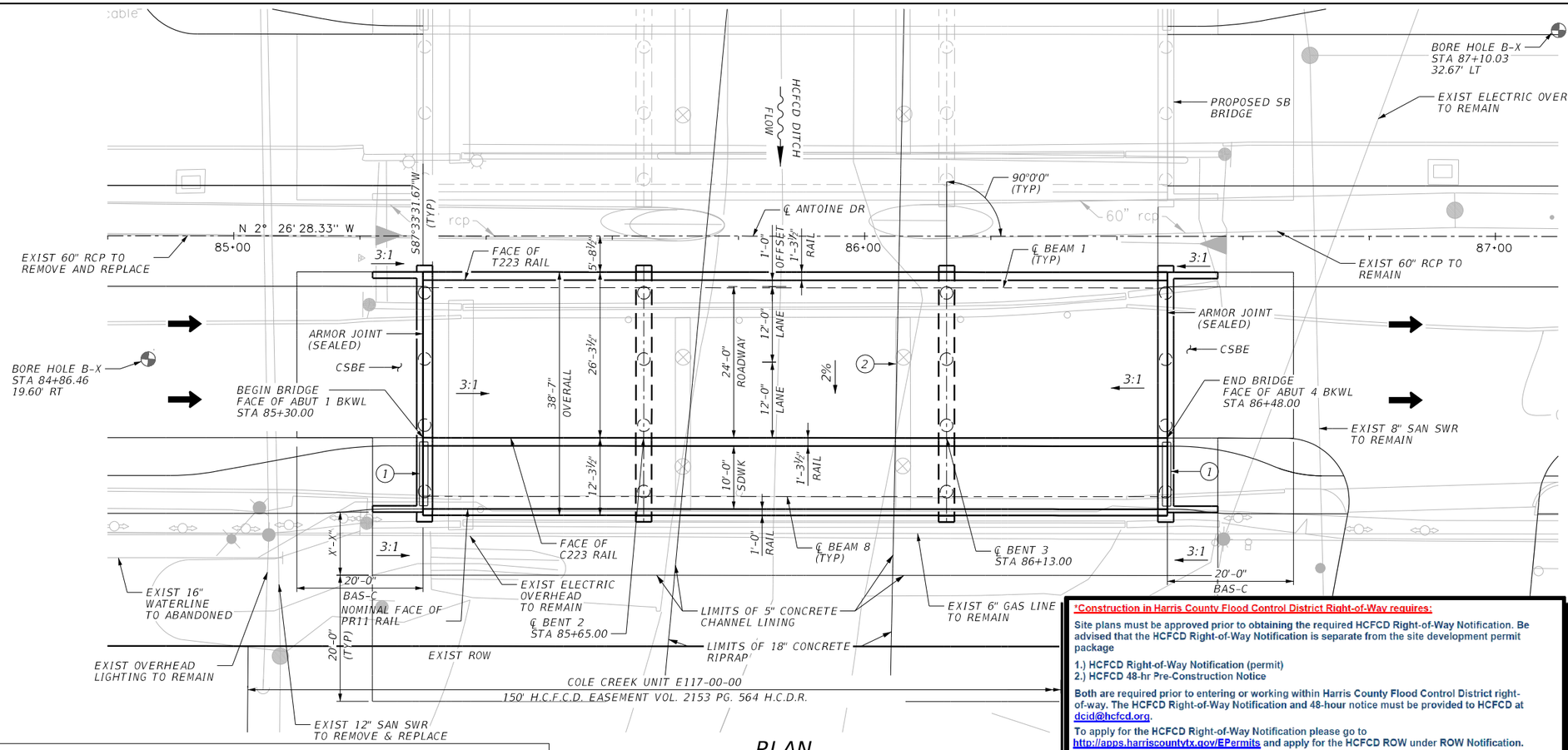
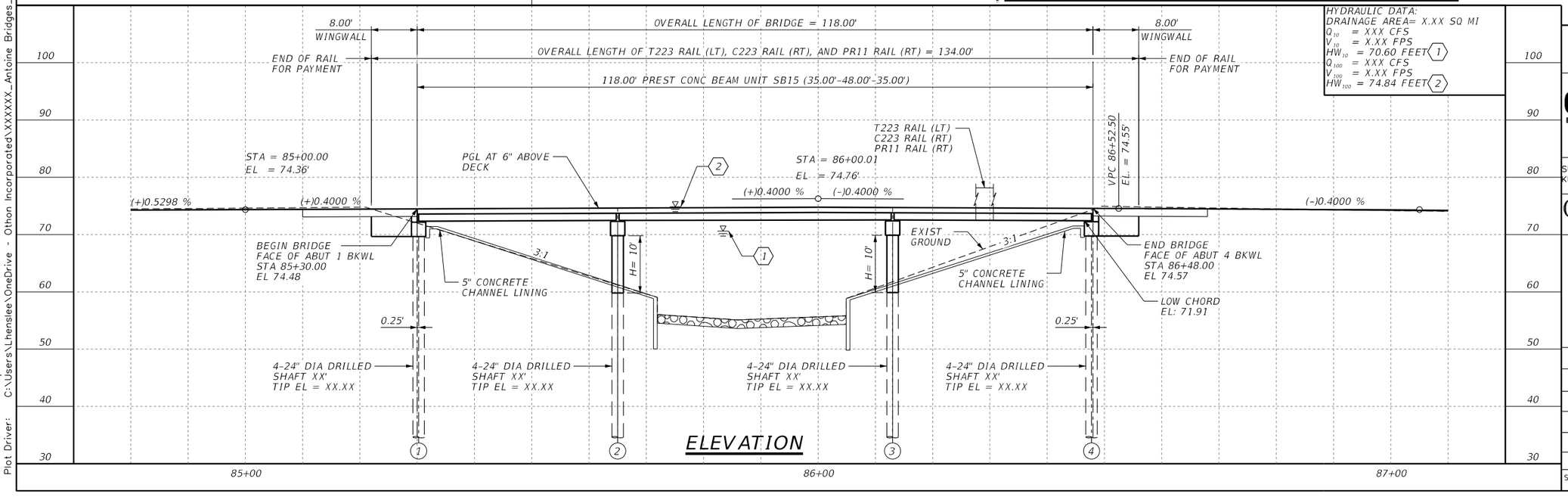


PLAN

THE "H" VALUES SHOWN ARE ESTIMATED COLUMN HEIGHTS. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATING THE ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.



ELEVATION

HYDRAULIC DATA:
DRAINAGE AREA= X.XX SQ MI
Q_{10} = XXX CFS
V_{10} = X.XX FPS
HW_{10} = 70.60 FEET (1)
Q_{100} = XXX CFS
V_{100} = X.XX FPS
HW_{100} = 74.84 FEET (2)

GENERAL NOTES

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FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED: 35 MPH
ADT (2021):
ADT (2041):
EXIST NBI: 12-102-0-B033-69-103
NEW NBI: 12-102-0-B033-69-305

***Construction in Harris County Flood Control District Right-of-Way requires:**

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Failure to provide both items could result in project delays.

0' 10' 20'
1" = 20'

HL 93 LOADING

No.	DATE	REVISIONS	APP.

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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RYAN KRAUSE
129405
05/30/2025
30% SUBMITTAL
OTHON ENGINEERING
Texas Registered Engineering Firm F-1471

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

NB BRIDGE LAYOUT COLE CREEK

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 696 OF 1067	

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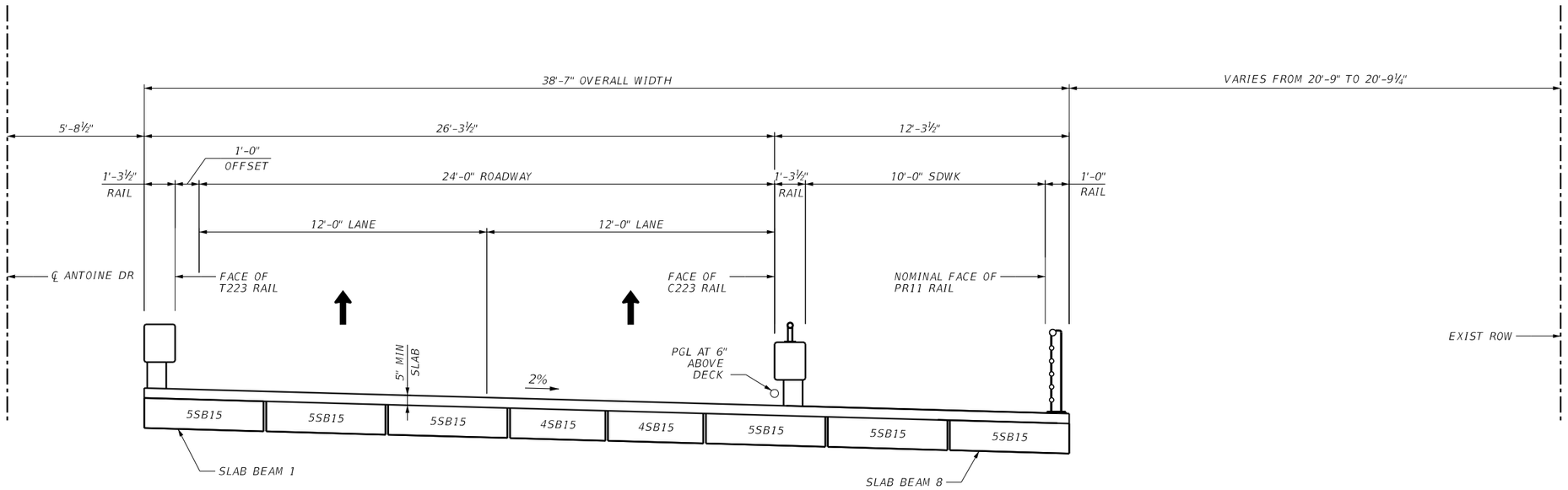

BRIDGE TYPICAL SECTION

HL 93 LOADING

No.	DATE	REVISIONS	APP.

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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05/30/2025
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Texas Registered Engineering Firm F-1471

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

NB BRIDGE TYPICAL SECTION COLE CREEK

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 697 OF 1067	

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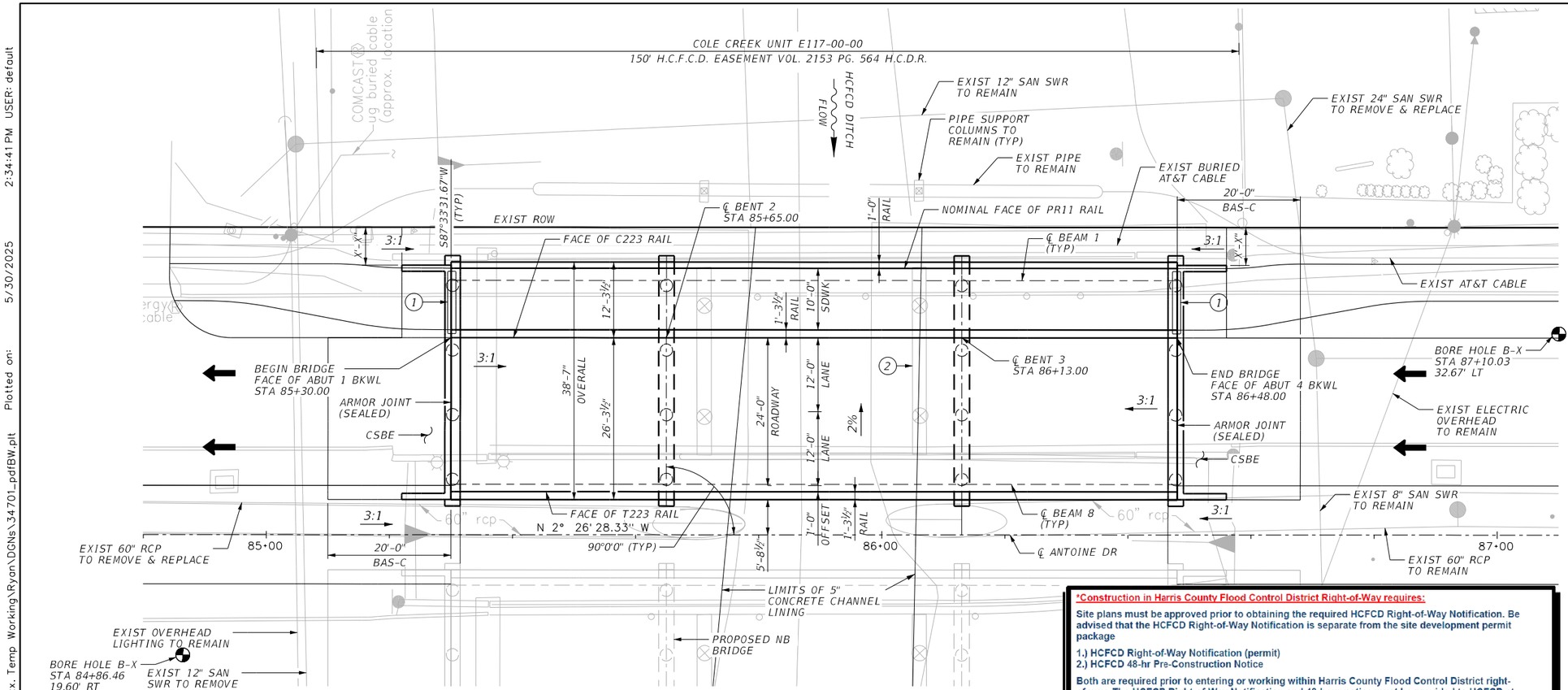

PLAN

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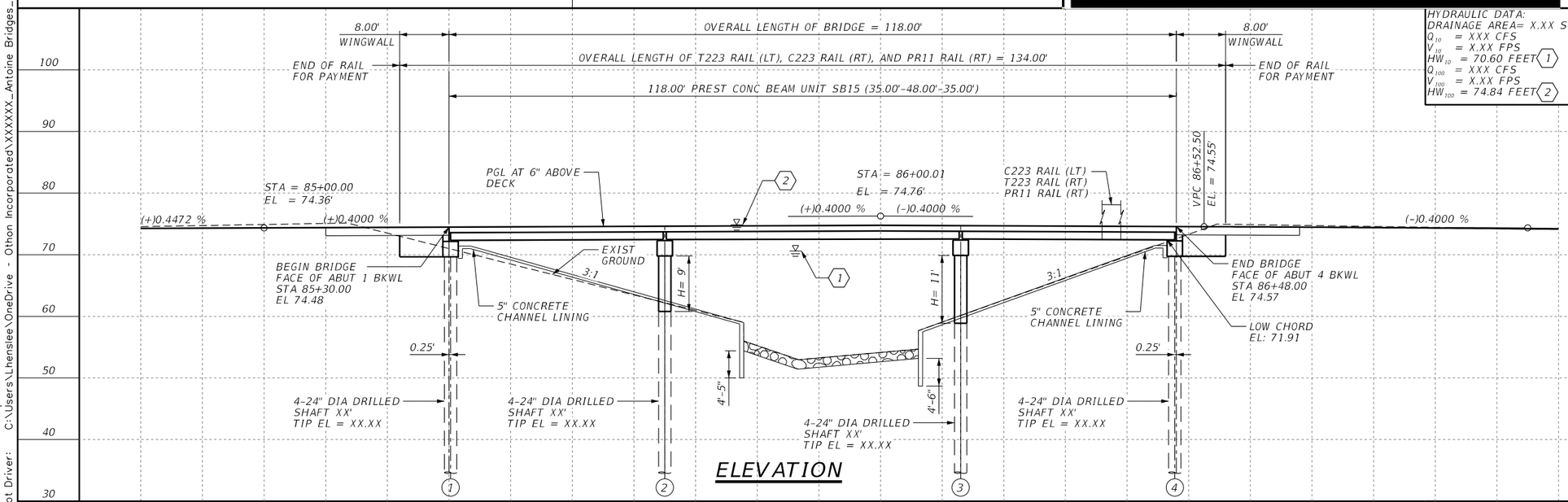

ELEVATION

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V_{10} = X.XX FPS
HW_{10} = 70.60 FEET (1)
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FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED: 35 MPH
ADT (2021):
ADT (2041):
EXIST NBI: 12-102-0-B033-69-104
NEW NBI: 12-102-0-B033-69-306

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0' 10' 20'
1" = 20'

HL 93 LOADING

No.	DATE	REVISIONS	APP.

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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05/30/2025
30% SUBMITTAL
OTHON ENGINEERING
Texas Registered Engineering Firm F-1471

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SB BRIDGE LAYOUT
COLE CREEK

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 698 OF 1067	

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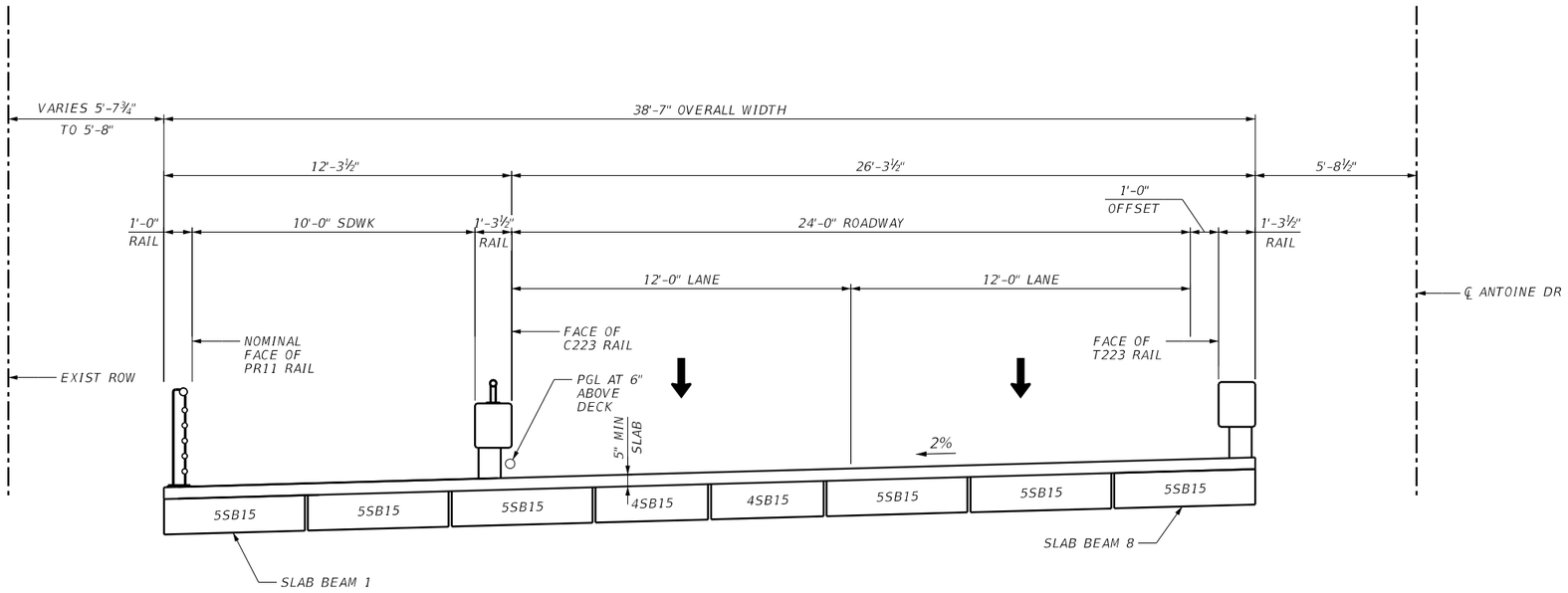

BRIDGE TYPICAL SECTION

HL 93 LOADING

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SB BRIDGE TYPICAL SECTION COLE CREEK

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 699 OF 1067	

No.	DATE	REVISIONS	APP.

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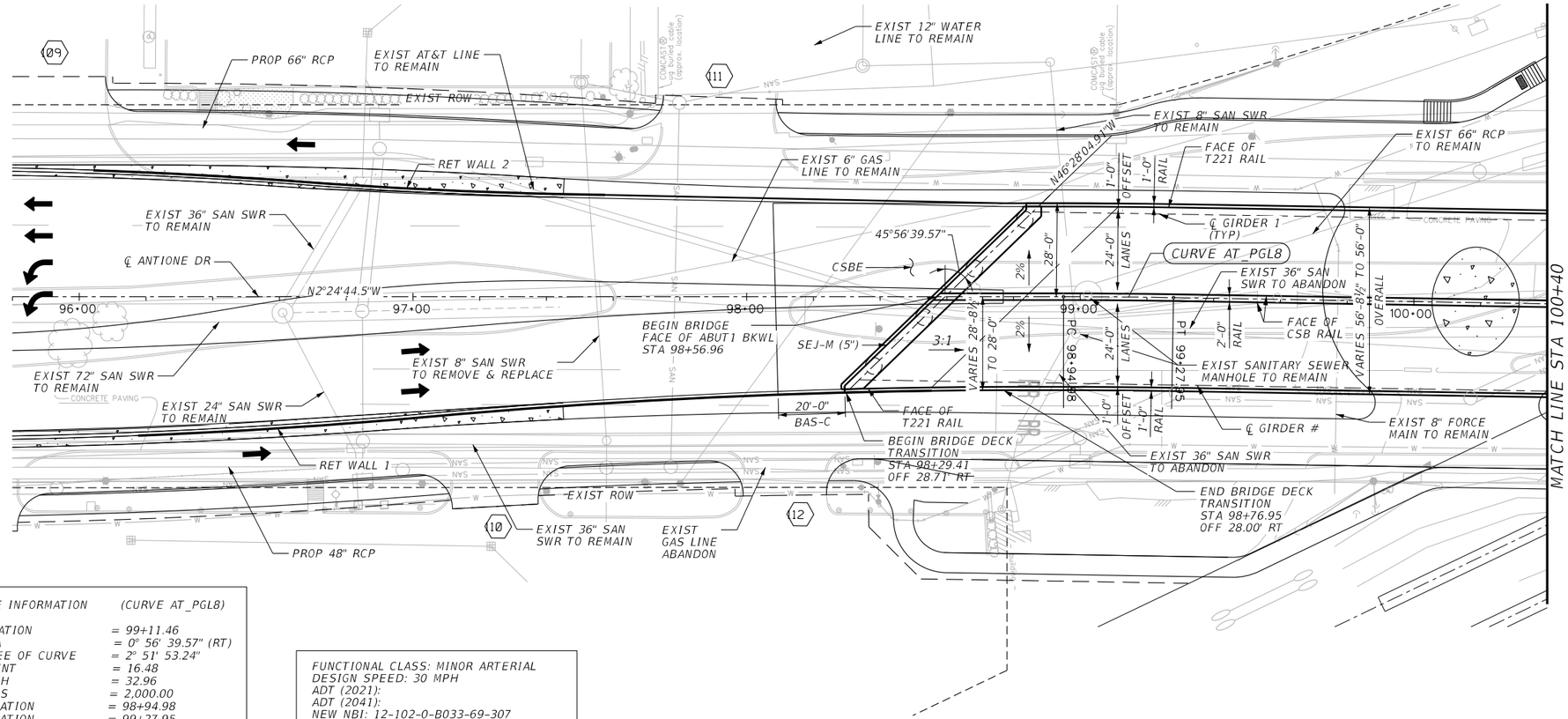

PLAN

CURVE INFORMATION	(CURVE AT_PGL8)
PI STATION	= 99+11.46
DELTA	= 0° 56' 39.57" (RT)
DEGREE OF CURVE	= 2° 51' 53.24"
TANGENT	= 16.48
LENGTH	= 32.96
RADIUS	= 2,000.00
PC STATION	= 98+94.98
PT STATION	= 99+27.95

FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED: 30 MPH
ADT (2021):
ADT (2041):
NEW NBI: 12-102-0-B033-69-307

GENERAL NOTES

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4. FOR BORING LOG INFORMATION, SEE BORING LOG SHEETS.
5. GIRDER END CONDITIONS: "D" DENOTES SLOTTED HOLE AT EXTERIOR GIRDERS. BLANK DENOTES NO HOLE. "E" DENOTES EXPANSION BEARING AND "F" DENOTES FIXED BEARING.
6. FOR CONTROL POINTS INFORMATION, SEE "SURVEY CONTROL MAP" SHEETS.
7. SEE CSBE STANDARD FOR CEMENT STABILIZED BACKFILL EMBANKMENT DETAIL.
8. SEE "WELDED WIRE FENCE" SHEETS FOR DETAILS ON FENCE.

RAILROAD CONSTRUCTION NOTES

1. DRAINAGE FROM THE STRUCTURE WILL BE ACCOMODATED TO DRAIN AWAY FROM RAILROAD RIGHT OF WAY AND TO NOT CHANGE THE CHARACTER OF FLOW IN THE RAILROAD DITCHES OR DRAINAGE STRUCTURE.
2. ALL DRAINAGE SLOTS WILL BE BLOCKED WITHIN AND BEYOND 100 FT OF RAILROAD RIGHT OF WAY.
3. CONTRACTOR TO APPLY THE FOLLOWING INFORMATION USING SEVEN (7) INCH HIGH BLACK LETTERING AND NUMBERING ON WHITE BACKGROUND IN A CONSPICUOUS LOCATION ON THE EAST AND WEST SIDES OF THE STRICTURE NEAR THE CENTERLINE OF THE EXISTING BNSF TRACK BELOW:
   DOT NO. 023010V
   MP 65.806
4. CHAIN-LINK FENCING TO BE INSTALLED ON OUTSIDE OF STRUCTURE FOR FULL WIDTH OF RAILROAD RIGHT OF WAY. TOTAL HEIGHT OF RAIL AND FENCE TO BE 10'-0" MIN. HEIGHT FROM TOP OF ROADWAY SURFACE TO TOP OF FENCE.

0' 20' 40'
SCALE: 1" = 40'

No.	DATE	REVISIONS	APP.

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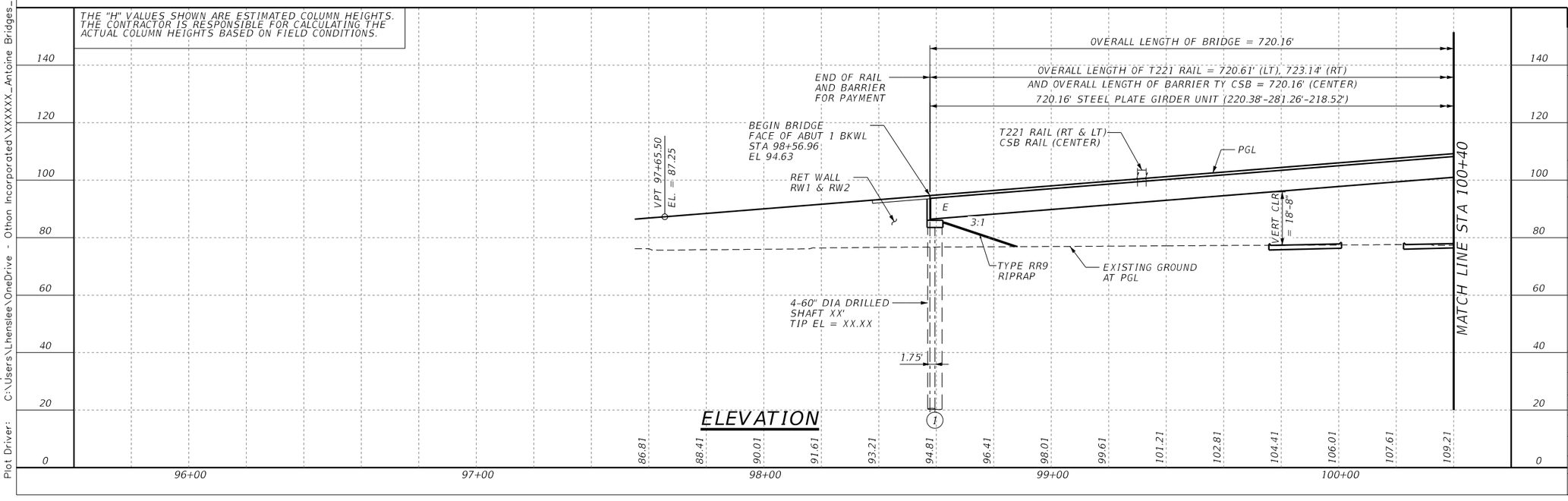

ELEVATION

HL 93 LOADING

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

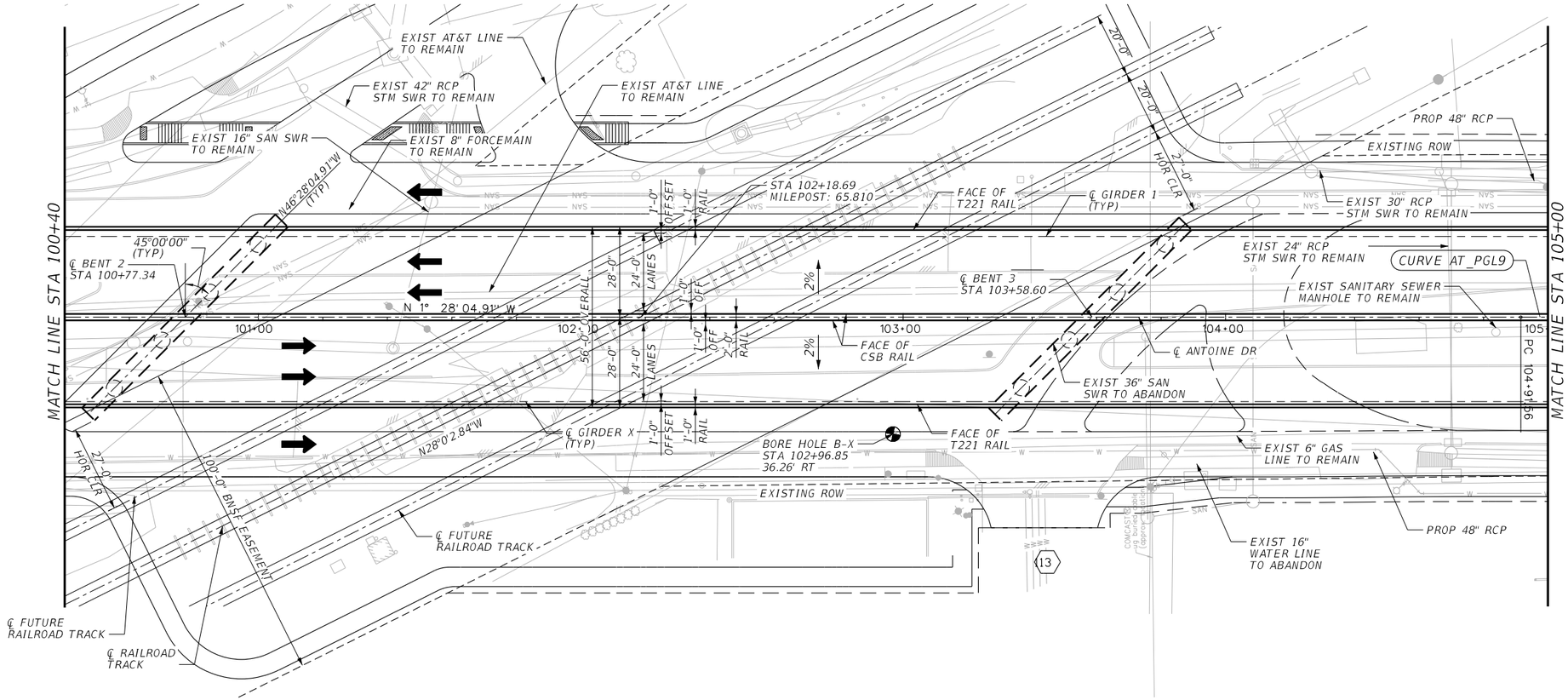
ANTOINE DRIVE

BRIDGE LAYOUT
BNSF

SHEET: 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 700 OF 1067	

Design Filename: ...\DGNs\OTHON_BRG_LAY_BNSF_01.dgn



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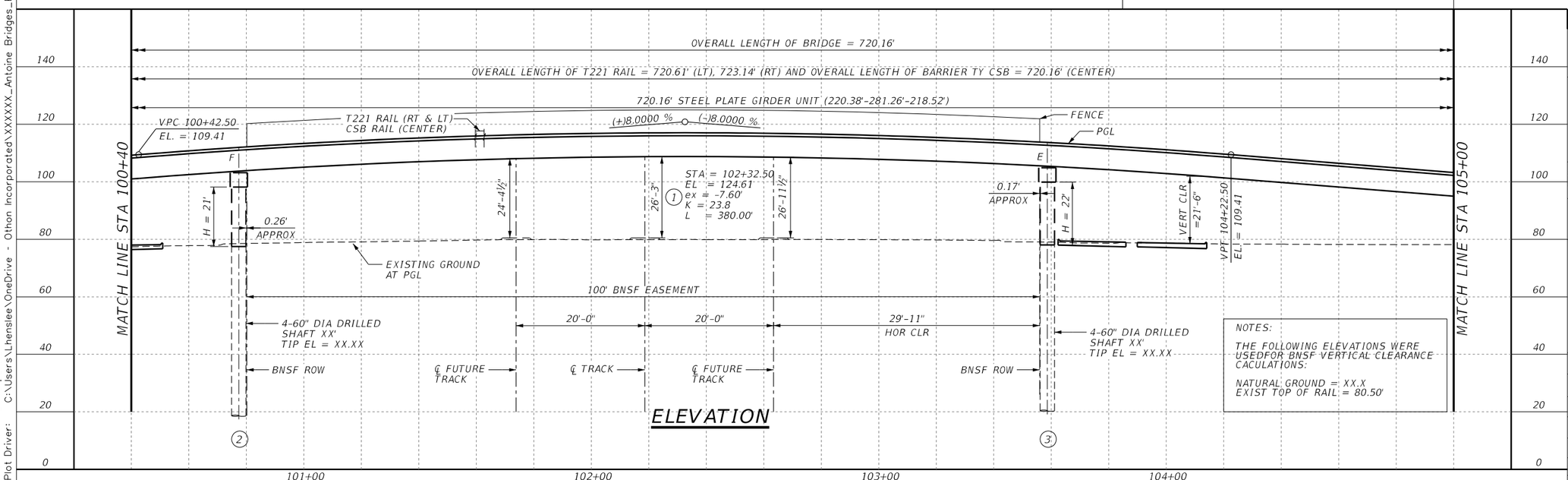

ELEVATION

NOTES:

THE FOLLOWING ELEVATIONS WERE USEDFOR BNSF VERTICAL CLEARANCE CACULATIONS:

NATURAL GROUND = XX.X
EXIST TOP OF RAIL = 80.50'

NOTES

SEE SHEET 1 OF 3 FOR GENERAL NOTES

(1) CONTRACTOR TO MAINTAIN 21'-6" VERTICAL CLEARANCE MEASURED FROM TOP OF HIGH RAIL FOR ALL TRACKS. CONTRACTOR TO MAINTAIN 15'-0" HORIZONTAL CLEARANCE MEASURED PERPENDICULAR FROM ℄ OF NEAREST TRACK DURING CONSTRUCTION AT ALL TIME.

CURVE INFORMATION	(CURVE AT_PGL9)
PI STATION	= 105+66.65
DELTA	= 2° 15' 07.67" (RT)
DEGREE OF CURVE	= 1° 29' 59.60"
TANGENT	= 75.09
LENGTH	= 150.15
RADIUS	= 3,820.00
PC STATION	= 104+91.56
PT STATION	= 106+41.71

0' 20' 40'
SCALE: 1" = 40'

HL 93 LOADING

No.	DATE	REVISIONS	APP.

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

INTERIM REVIEW ONLY
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RYAN KRAUSE
Date
129405
05/30/2025
30% SUBMITTAL
OTHON ENGINEERING
Texas Registered Engineering Firm F-1471

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BRIDGE LAYOUT BNSF

SHEET: 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 701 OF 1067	

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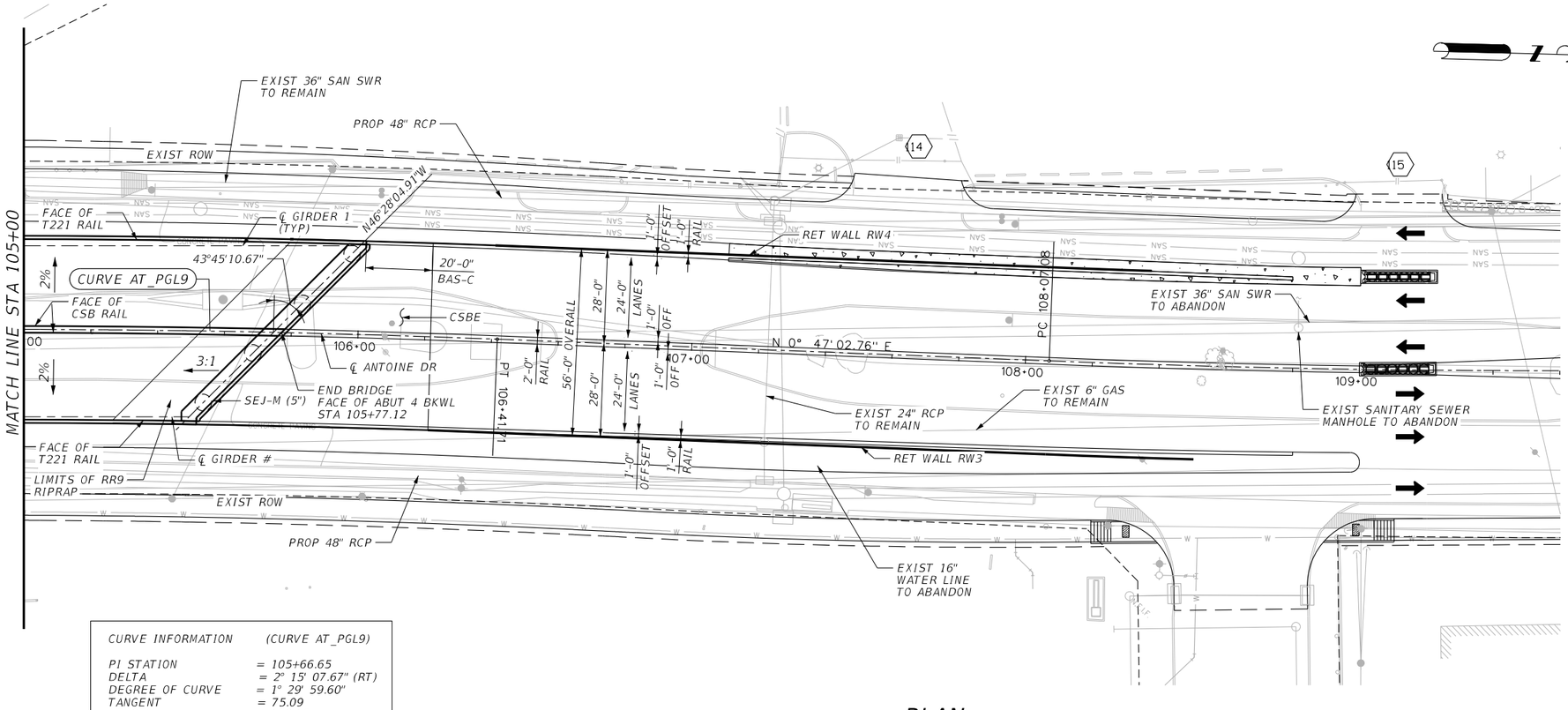

PLAN

CURVE INFORMATION	(CURVE AT_PGL9)
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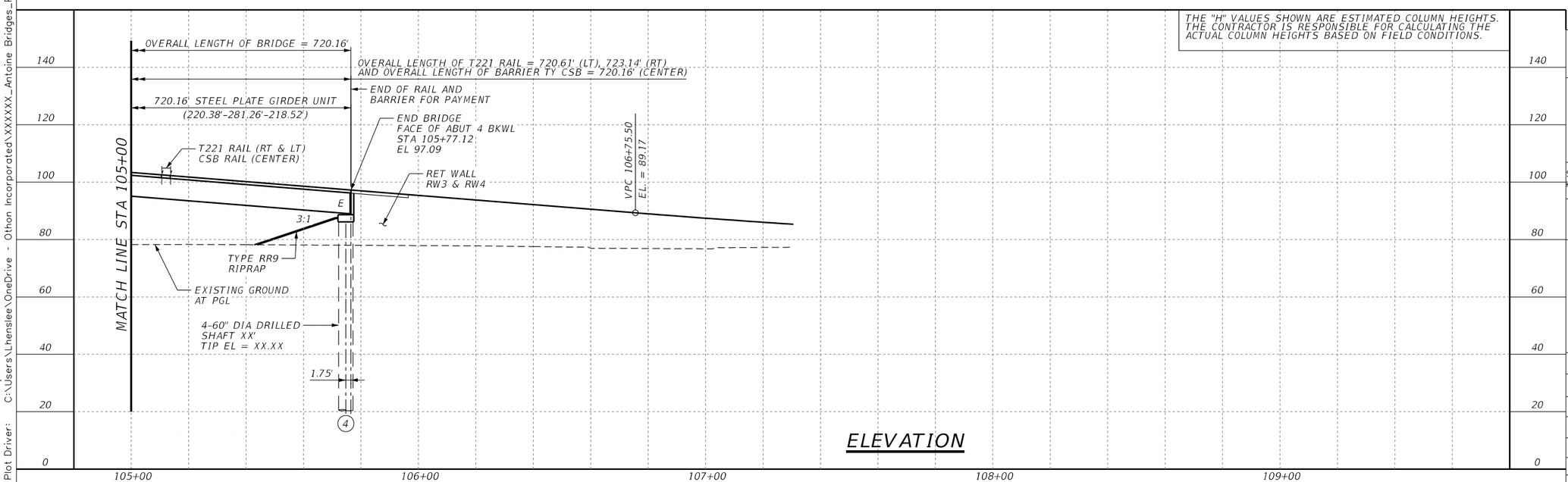
TANGENT	= 75.09
LENGTH	= 150.15
RADIUS	= 3,820.00
PC STATION	= 104+91.56
PT STATION	= 106+41.71

0' 20' 40'
SCALE: 1" = 40'



ELEVATION

THE "H" VALUES SHOWN ARE ESTIMATED COLUMN HEIGHTS. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATING THE ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

NOTES

SEE SHEET 1 OF 3 FOR GENERAL NOTES

No.	DATE	REVISIONS	APP.

HL 93 LOADING

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TEXAS PE FIRM REG. # 20017
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BRIDGE LAYOUT
BNSF

SHEET: 3 OF 3

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N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 702 OF 1067	

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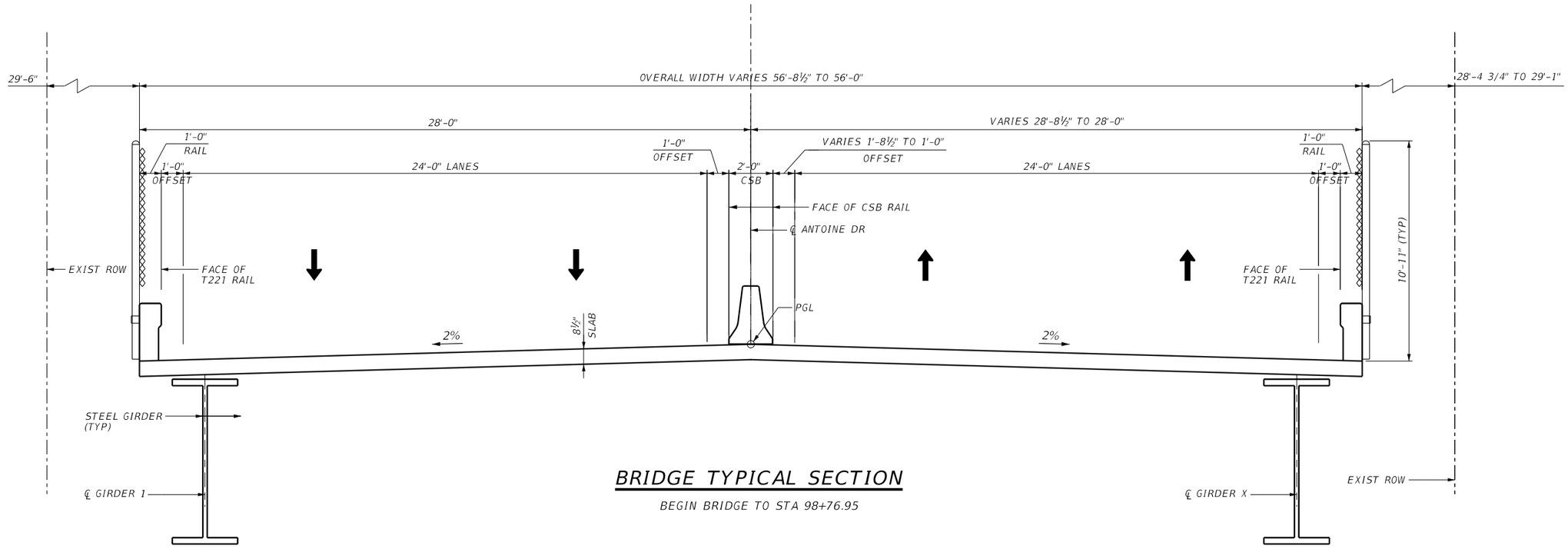
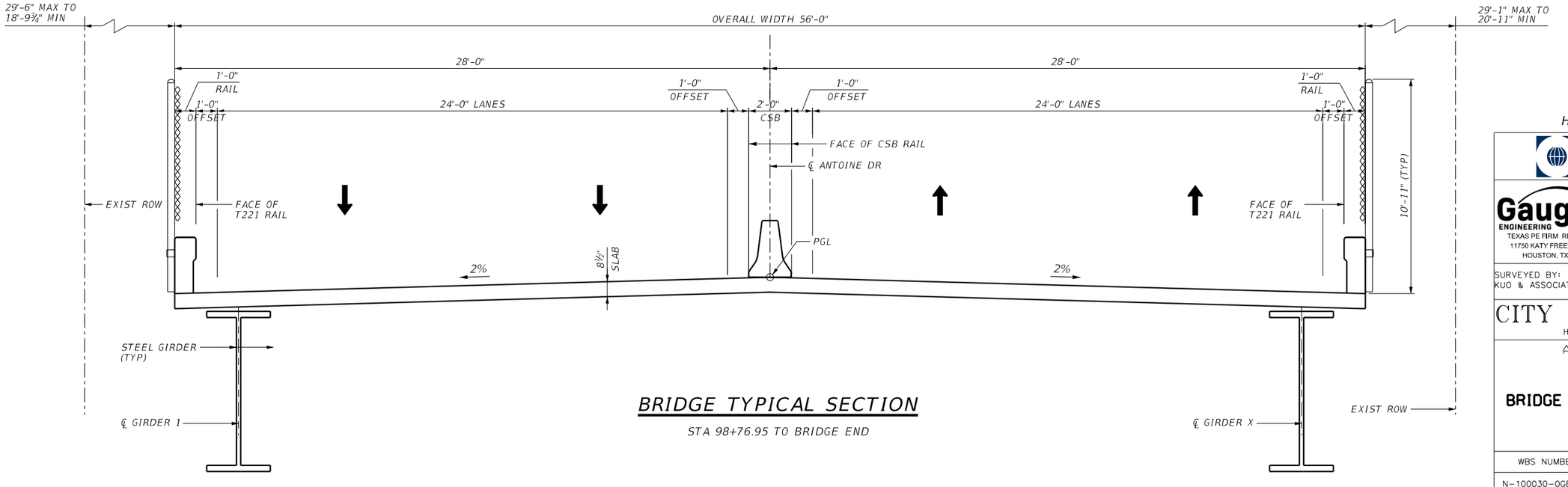


BRIDGE TYPICAL SECTION

BEGIN BRIDGE TO STA 98+76.95



BRIDGE TYPICAL SECTION

STA 98+76.95 TO BRIDGE END

HL 93 LOADING

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BRIDGE TYPICAL SECTION BNSF

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 703 OF 1067	

No.	DATE	REVISIONS	APP.

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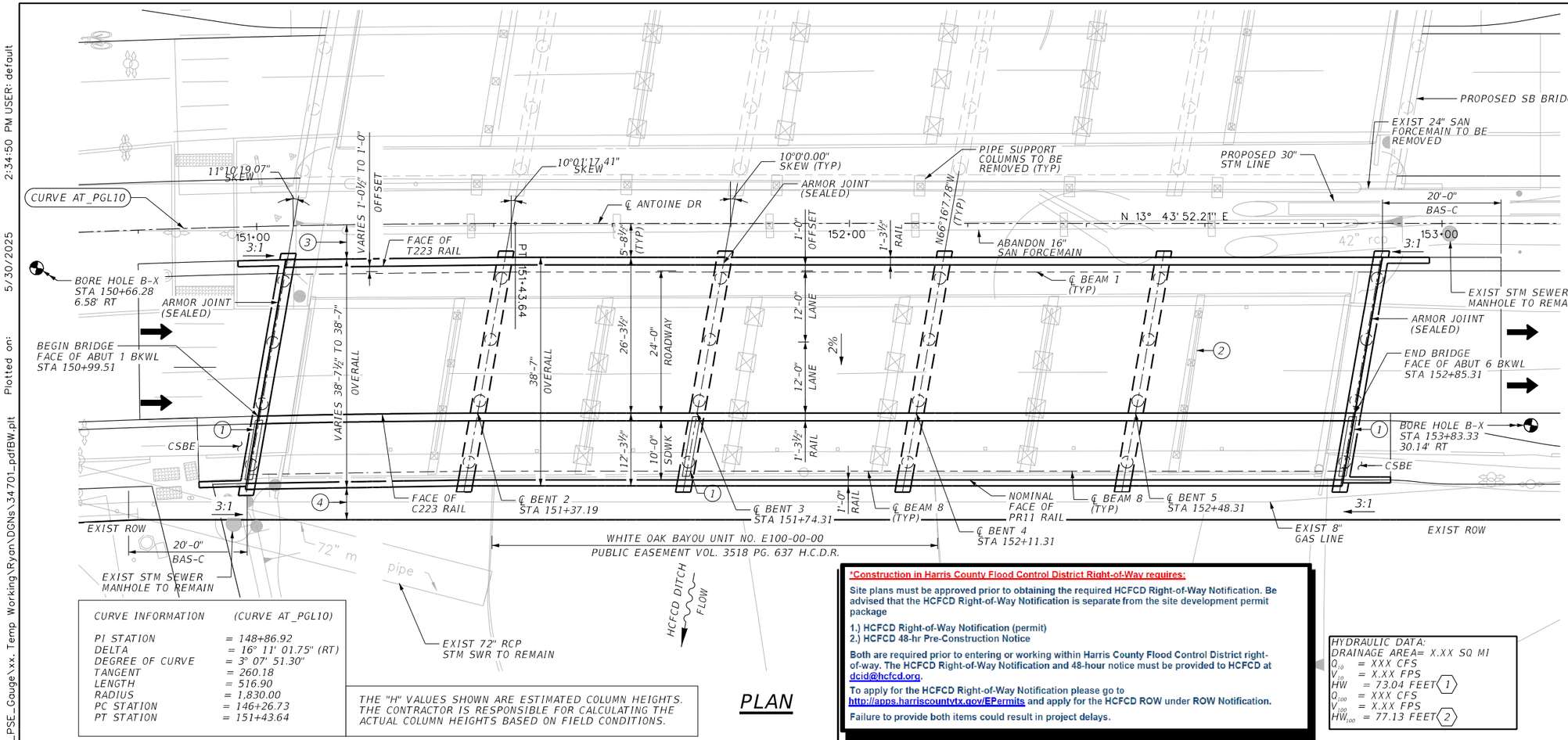

CURVE INFORMATION	(CURVE AT_PGL10)
PI STATION	= 148+86.92
DELTA	= 16° 11' 01.75" (RT)
DEGREE OF CURVE	= 3° 07' 51.30"
TANGENT	= 260.18
LENGTH	= 516.90
RADIUS	= 1,830.00
PC STATION	= 146+26.73
PT STATION	= 151+43.64

THE "H" VALUES SHOWN ARE ESTIMATED COLUMN HEIGHTS. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATING THE ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

PLAN

***Construction in Harris County Flood Control District Right-of-Way requires:**

Site plans must be approved prior to obtaining the required HCFCD Right-of-Way Notification. Be advised that the HCFCD Right-of-Way Notification is separate from the site development permit package

1.) HCFCD Right-of-Way Notification (permit)
2.) HCFCD 48-hr Pre-Construction Notice

Both are required prior to entering or working within Harris County Flood Control District right-of-way. The HCFCD Right-of-Way Notification and 48-hour notice must be provided to HCFCD at dcid@hcfcd.org.

To apply for the HCFCD Right-of-Way Notification please go to http://apps.harriscountytx.gov/EPermits and apply for the HCFCD ROW under ROW Notification.

Failure to provide both items could result in project delays.

HYDRAULIC DATA:
DRAINAGE AREA= X.XX SQ MI
Q_{10} = XXX CFS
V_{10} = X.XX FPS
HW = 73.04 FEET (1)
Q_{100} = XXX CFS
V_{100} = X.XX FPS
HW_{100} = 77.13 FEET (2)

GENERAL NOTES

1. DESIGNED ACCORDING TO AASHTO LRFD BRIDGE SPECIFICATIONS, 9TH EDITION, (2020), AS MODIFIED BY THE TXDOT BRIDGE DESIGN MANUAL – LRFD, JAN 2020.
2. FOR TYPICAL SECTION, SEE "TYPICAL SECTION" SHEET.
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4. FOR BORING LOG INFORMATION, SEE BORING LOG SHEETS.
5. FOR CONTROL POINTS INFORMATION, SEE "SURVEY CONTROL MAP" SHEETS.
6. SEE CSBE STANDARD FOR CEMENT STABILIZED BACKFILL EMBANKMENT DETAIL.

(1) BRIDGE SIDEWALK EXPANSION JOINT COVER PLATE STANDARD BS-EJCP.

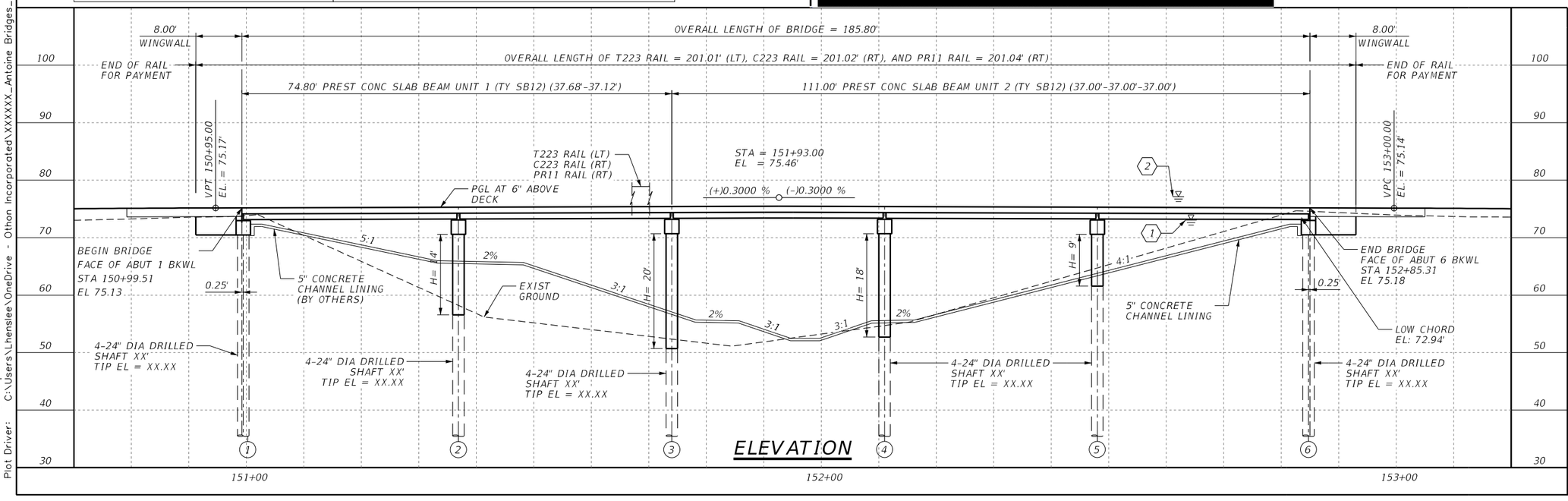
(2) EXISTING 7 SPAN, 177'-2" LONG BRIDGE (TO BE REMOVED). EXISTING DRILLED SHAFTS (TO BE REMOVED) MIN 2'-0" BELOW THE CONCRETE RIPRAP.

(3) VARIES 5'-8½" AT BENTS AND 5'-9½" AT MID SPAN.

(4) VARIES 5'-1½" TO 5'-8½".

FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED: 30 MPH
ADT (2021):
ADT (2041):
EXIST NBI: 12-102-0-B033-69-091
NEW NBI: 12-102-0-B033-69-304

0' 10' 20'
SCALE: 1" = 20'



ELEVATION

HL 93 LOADING

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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05/30/2025
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Texas Registered Engineering Firm F-1471

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

NB BRIDGE LAYOUT
WHITE OAK BAYOU

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 704 OF 1067	

No.	DATE	REVISIONS	APP.

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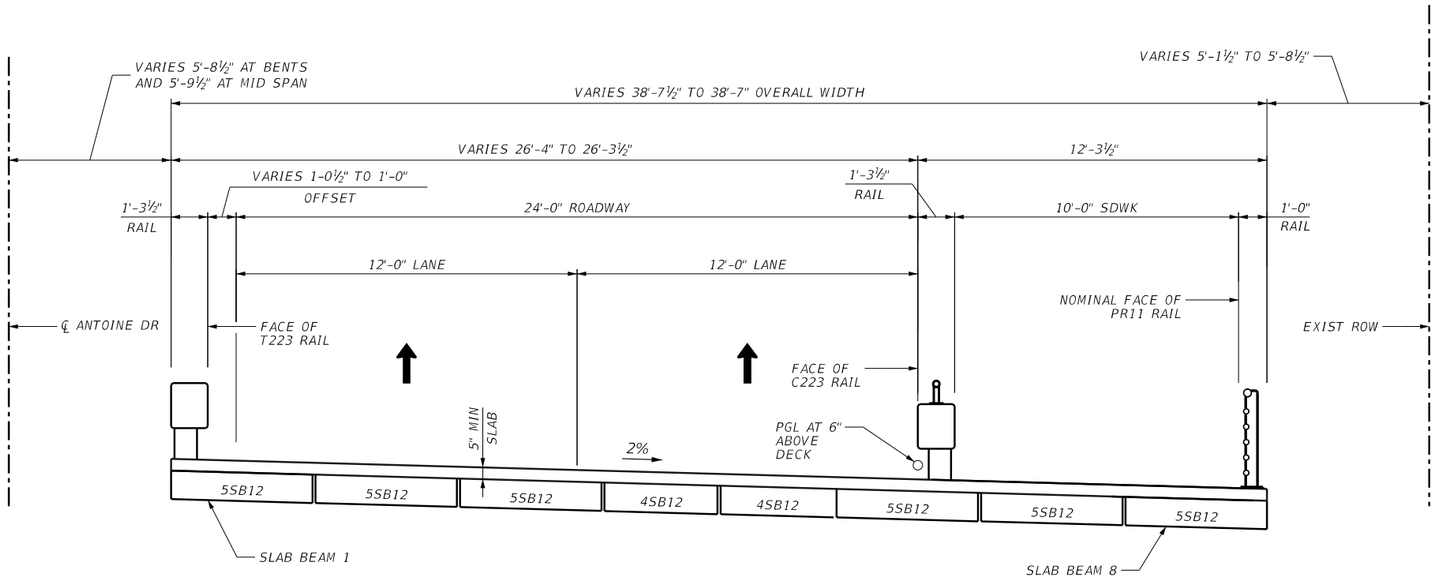
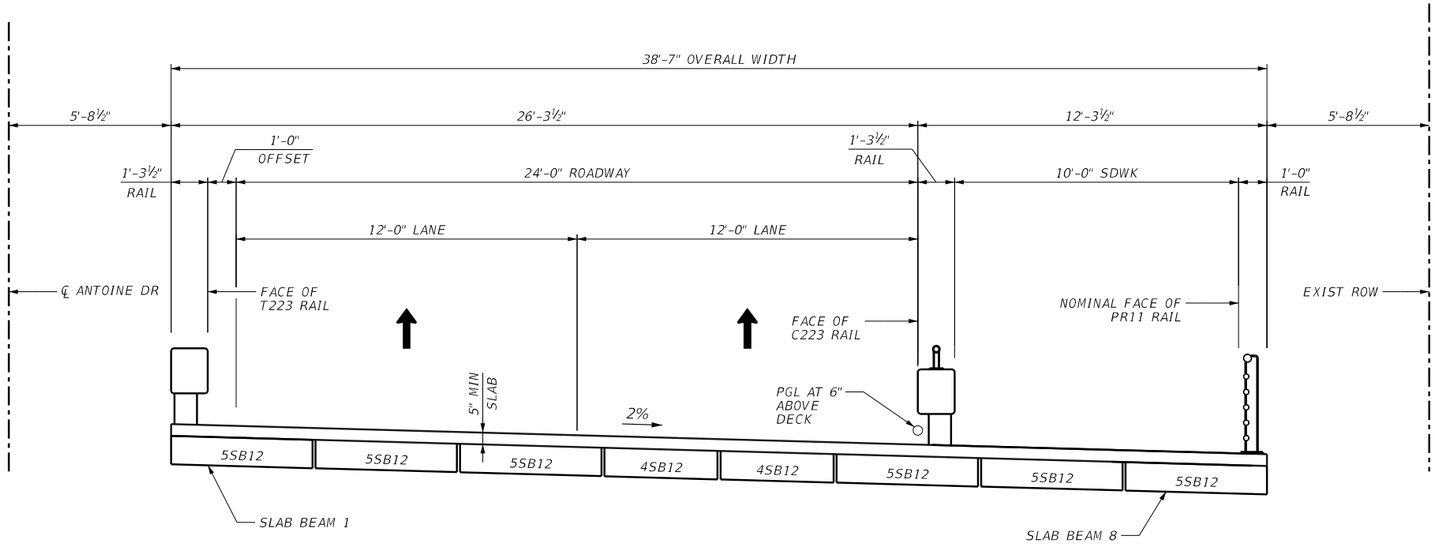


BRIDGE TYPICAL SECTION

SPAN 1



BRIDGE TYPICAL SECTION

SPANS 2-5

HL 93 LOADING

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

**NB BRIDGE
TYPICAL SECTION
WHITE OAK BAYOU**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 705 OF 1067	

APP.	DATE	No.	REVISIONS

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WHITE OAK BAYOU UNIT E100-00-00
H.C.F.C.D. EASEMENT VOL. 3518 PG. 641 H.C.D.R.

HCFCD DITCH FLOW

EXIST 24" CMP TO REMAIN

EXIST 12" WATERLINE TO REMAIN

EXIST ROW

NOMINAL FACE OF PR11 RAIL

N66°16'7.8"W (TYP)

℄ BENT 4 STA 152+22.59

℄ BENT 5 STA 152+59.59

20'-0" BAS-C

℄ BEAM 1 (TYP)

℄ BENT 2 STA 151+48.59

FACE OF C223 RAIL

CSBE

BEGIN BRIDGE FACE OF ABUT 1 BKWL STA 151+12.16

VARIES 38'-7½" TO 38'-7" OVERALL

VARIES 1'-0½" TO 1'-0" OFFSET

38'-7" OVERALL

℄ BENT 3 STA 151+85.59

2%

1'-0" RAIL

12'-3½"

10'-0" SDWK

1'-3½" RAIL

26'-3½"

24'-0" ROADWAY

12'-0" LANE

12'-0" LANE

1'-0" OFFSET

1'-3½" RAIL

BORE HOLE B-X STA 153+05.75 33.46' LT

END BRIDGE FACE OF ABUT 6 BKWL STA 152+96.59

ARMOR JOINT (SEALED)

ARMOR JOINT (SEALED)

CSBE

EXIST 24" SAN FORCEMAIN TO BE REMOVED

20'-0" BAS-C

BORE HOLE B-X STA 150+66.28 6.58' RT

151+00

11°10'19.07" SKEW

CURVE AT_PGL10

11°01'17.41" SKEW

PT 151+43.64

FACE OF T223 RAIL

5'-8½" (TYP)

℄ BEAM 8 (TYP)

℄ ANTOINE DR

152+00

N 13° 43' 52.21" E

153+00

ABANDON 16" SAN FORCEMAIN

PROPOSED 30" STM SEWER

EXIST STM SEWER MANHOLE TO REMAIN

PIPE SUPPORT COLUMNS TO BE REMOVED (TYP)

EXIST 24" SAN FORCE MAIN TO BE REMOVED

PROPOSED NB BRIDGE

10°0'0.00" SKEW (TYP)

EXIST 42" RCP TO REMAIN

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PC STATION	= 146+26.73
PT STATION	= 151+43.64

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Q_{10} = XXX CFS
V_{10} = X.XX FPS
HW = 73.04 FEET (1)
Q_{100} = XXX CFS
V_{100} = X.XX FPS
HW_{100} = 77.13 FEET (2)

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(3) VARIES 5'-8½" AT BENTS AND 5'-7¼" AT MID SPAN.

FUNCTIONAL CLASS: MINOR ARTERIAL
DESIGN SPEED: 30 MPH
ADT (2021):
ADT (2041):
EXIST NBI: 12-102-0-B033-69-090
NEW NBI: 12-102-0-B033-69-303

0' 10' 20'
SCALE: 1" = 20'

HL 93 LOADING

OVERALL LENGTH OF BRIDGE = 184.43'

8.00' WINGWALL

OVERALL LENGTH OF PR11 RAIL = 200.97' (LT), C223 RAIL = 200.98' (LT), AND T223 RAIL 201.00' (RT)

END OF RAIL FOR PAYMENT

73.43' PRESTR CONC SLAB BEAM UNIT 1 (TY SB12) (36.43'-37.00')

111.00' PRESTR CONC SLAB BEAM UNIT 2 (TY SB12) (37.00'-37.00'-37.00')

VPT 150+95.00 EL.: = 75.17'

C223 RAIL (LT)
T223 RAIL (RT)
PR11 RAIL (RT)

STA.= 151+93.00
EL = 75.46'

PGL AT 6" ABOVE DECK

(+)0.3000 % (-)0.3000 %

VPC 153+00.00 EL.: = 75.14'

BEGIN BRIDGE FACE OF ABUT 1 BKWL STA 151+12.16 EL 75.21

5:1

0.25'

5" CONCRETE CHANNEL LINING (BY OTHERS)

H= 16

2%

EXIST GROUND

3:1

H= 20'

2%

3:1

3:1

H= 17'

2%

H= 9'

4:1

5" CONCRETE CHANNEL LINING

0.25'

END BRIDGE FACE OF ABUT 6 BKWL STA 152+96.59 EL 75.12

LOW CHORD EL: 72.91

4-24" DIA DRILLED SHAFT XX' TIP EL = XX.XX

ELEVATION

100 90 80 70 60 50 40 30

151+00 152+00 153+00

REVISIONS			
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SB BRIDGE LAYOUT
WHITE OAK BAYOU

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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 706 OF 1067	

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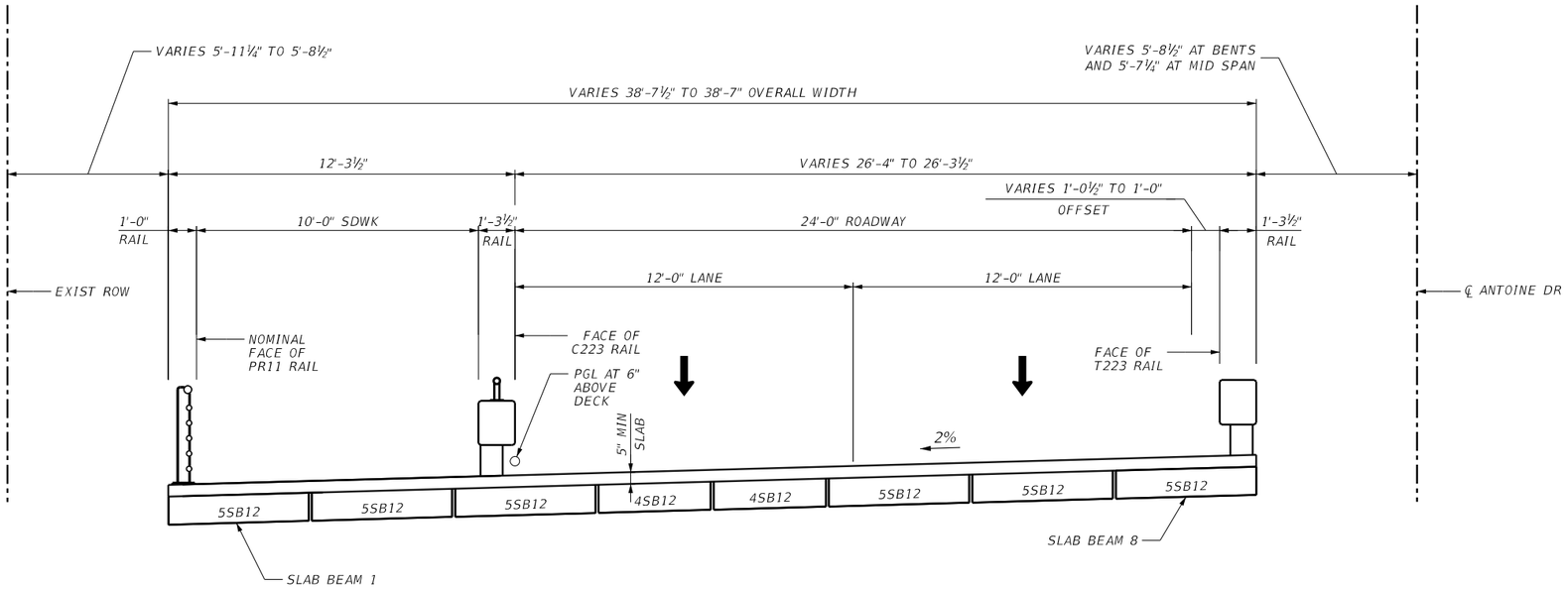
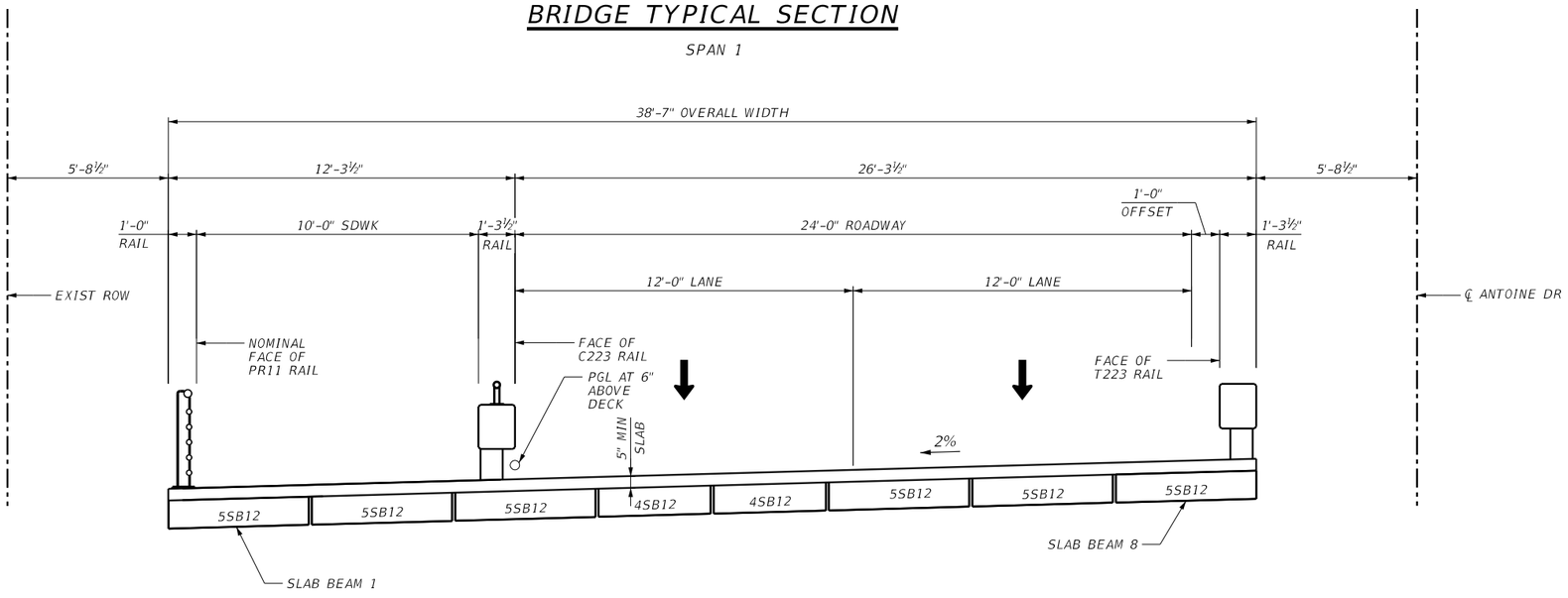


BRIDGE TYPICAL SECTION

SPAN 1



BRIDGE TYPICAL SECTION

SPANS 2-5

HL 93 LOADING

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

SB BRIDGE TYPICAL SECTION WHITE OAK BAYOU

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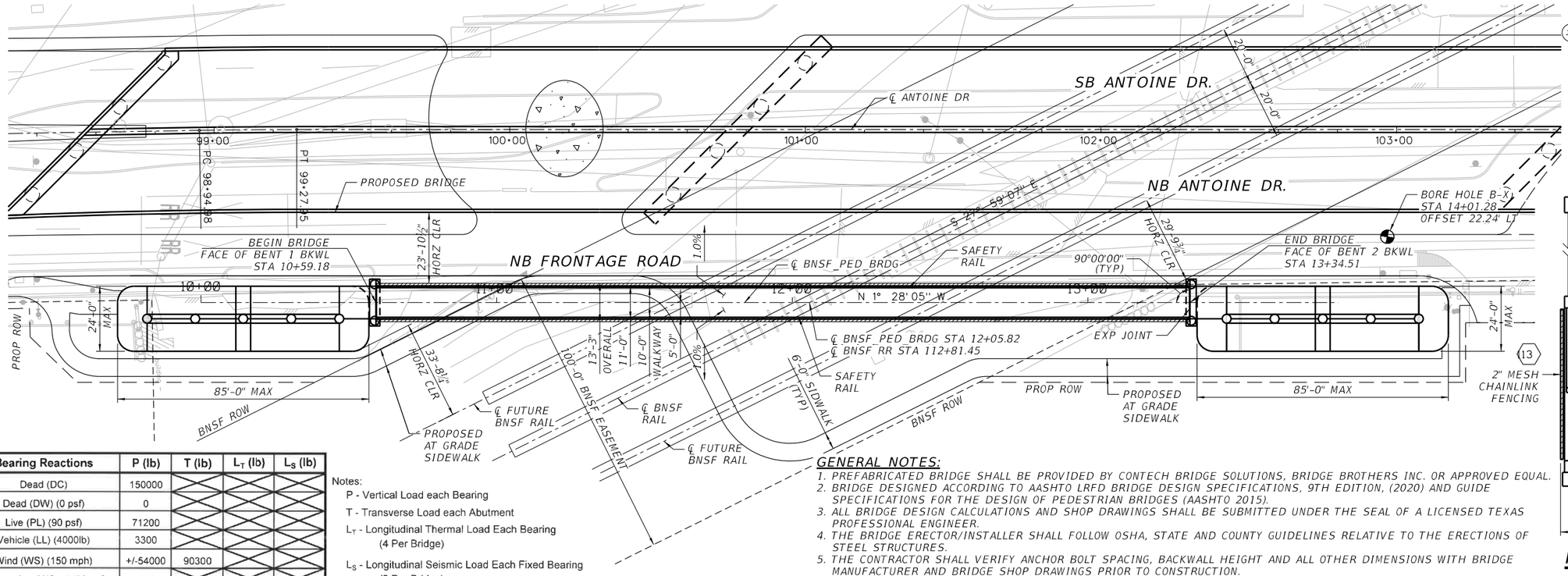
Design Filename: ...\OTHON_BRG_TYP_WOB_SB_01.dgn



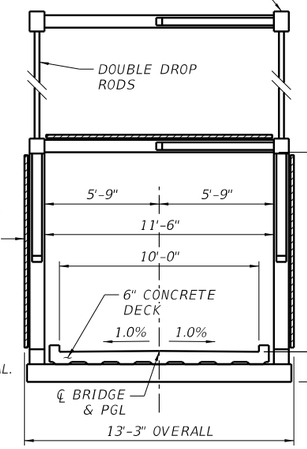
PLAN

Bearing Reactions	P (lb)	T (lb)	L_T (lb)	L_S (lb)
Dead (DC)	150000			
Dead (DW) (0 psf)	0			
Live (PL) (90 psf)	71200			
Vehicle (LL) (4000lb)	3300			
Wind (WS) (150 mph)	+/-54000	90300		
Overturning (WS_{VW}) (20 psf)	-22900			
Overturning (WS_{VL}) (20 psf)	-8400			
Stream (WA) (0 fps)	+/-0	0		
Snow (SL) (0 psf)	0			
Thermal (TU) (6.5% of DL)			9800	
Seismic (EQ)	TBD	TBD		TBD

Notes:
- P - Vertical Load each Bearing
- T - Transverse Load each Abutment
- L_T - Longitudinal Thermal Load Each Bearing (4 Per Bridge)
- L_S - Longitudinal Seismic Load Each Fixed Bearing (2 Per Bridge)
- WS_{VW} - Overturning on Windward Truss
- WS_{VL} - Overturning on Leeward Truss
- All Bearing Reactions are unfactored.
- Seismic Bearing Reactions include an R of 1.0
- Total Lifting Weight of Bridge = 222600 lb

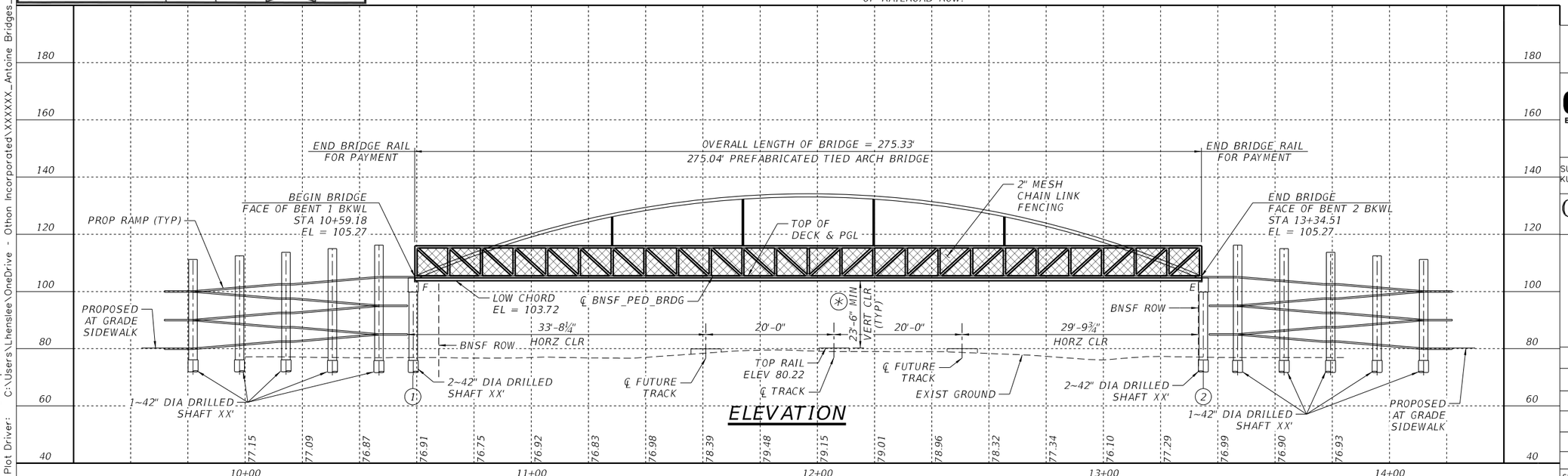
GENERAL NOTES:

1. PREFABRICATED BRIDGE SHALL BE PROVIDED BY CONTECH BRIDGE SOLUTIONS, BRIDGE BROTHERS INC. OR APPROVED EQUAL.
2. BRIDGE DESIGNED ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, (2020) AND GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES (AASHTO 2015).
3. ALL BRIDGE DESIGN CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED UNDER THE SEAL OF A LICENSED TEXAS PROFESSIONAL ENGINEER.
4. THE BRIDGE ERECTOR/INSTALLER SHALL FOLLOW OSHA, STATE AND COUNTY GUIDELINES RELATIVE TO THE ERECTIONS OF STEEL STRUCTURES.
5. THE CONTRACTOR SHALL VERIFY ANCHOR BOLT SPACING, BACKWALL HEIGHT AND ALL OTHER DIMENSIONS WITH BRIDGE MANUFACTURER AND BRIDGE SHOP DRAWINGS PRIOR TO CONSTRUCTION.
6. SEE GEOTECHNICAL ENGINEERING REPORT FOR SOIL INFORMATION.
7. CONTRACTOR SHALL LOCATE AND IDENTIFY ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
8. SEE BRIDGE MANUFACTURERS DRAWINGS FOR MATERIALS AND FINISHES.
9. REFER TO TXDOT SPECIAL SPECIFICATIONS FOR PREFABRICATED PEDESTRIAN STEEL TRUSS BRIDGE SPANS, FOR REQUIREMENTS.
10. STEEL TRUSS BRIDGE BEARING PLATES, BEARING PADS, AND ANCHOR BOLTS TO BE PROVIDED BY BRIDGE MANUFACTURER.
11. STORM RUNOFF SHALL NOT BE PERMITTED TO FALL WITHIN THE RAILROAD ROW. THE BRIDGE MANUFACTURER SHALL PROVIDE APPROPRIATE CAMBER AND BRIDGE DRAINS ON STRUCTURE TO ENSURE ADEQUATE DRAINAGE TO PROPOSED DITCHES OUTSIDE OF RAILROAD ROW.



PEDESTRIAN BRIDGE TYPICAL SECTION

N.T.S



ELEVATION

H5 LOADING

0' 20' 40'

SCALE: 1" = 40'

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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RYAN KRAUSE
129405
05/30/2025
on
30% SUBMITTAL
OTHON ENGINEERING
Texas Registered Engineering Firm F-1471

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BRIDGE LAYOUT
BNSF PEDESTRIAN BRIDGE

SHEET: 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 708 OF 1067	

No.	DATE	REVISIONS	APP.

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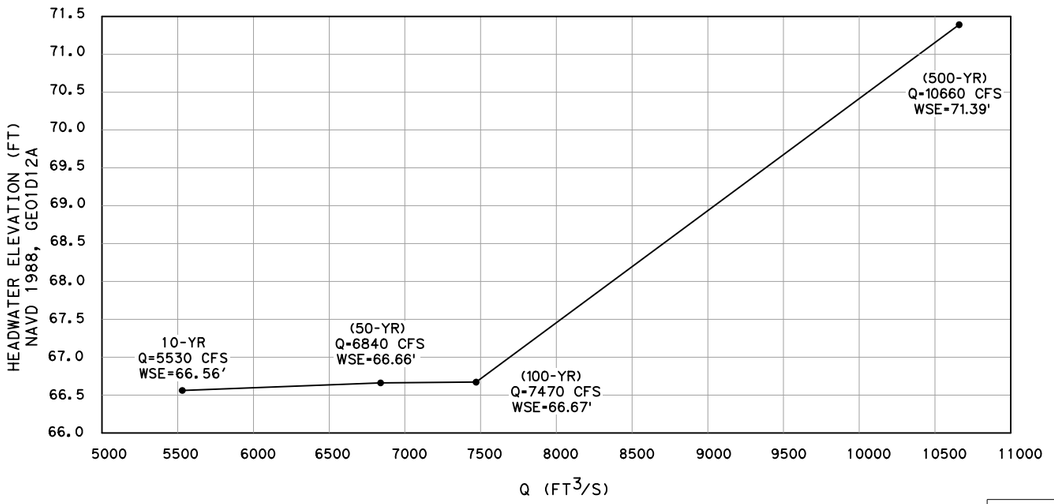
* RATING CURVE AT STATION 6273.6
HEADWATER ELEVATION VS. FLOW



* RATING CURVE BASED ON HEC-RAS PROPOSED MODEL

NOTES:

1. DATA PRESENTED FROM "ANTOINE DRIVE (SEGMENT 2) DRAINAGE IMPACT STUDY, FROM US 290 TO VICTORY DRIVE," HOUSTON DISTRICT, TEXAS, DATED NOV 2023, PREPARED BY GAUGE ENGINEERING INC.
2. THE PROPOSED BRIDGE IS LOCATED AT STATION 6202, BETWEEN STATION 6116.7 (DOWNSTREAM) AND 6273.6 (UPSTREAM). PROPOSED MODELED BRIDGE LENGTH IS 80 FEET;WIDTH IS 133 FEET.
3. THE PROJECT DATA IS REFERENCED TO NAVD 1988, GEO1D12A.
4. THE PROJECT SITE IS WITHIN THE FEMA ZONE AE WITH FLOODWAY DEFINED.
5. HYDROLOGY WAS BASED ON PRE-ATLAS 14 RAINFALL.
6. HEC-RAS (VERSION 3.1.3) WAS USED FOR HYDRAULIC ANALYSIS AND DESIGN.
7. REFER TO DRAINAGE REPORT "ANTOINE DRIVE (SEGMENT 2) DRAINAGE IMPACT STUDY, FROM US 290 TO VICTORY DRIVE," PREPARED BY GAUGE ENGINEERING (2023), FOR DISCUSSION ON THE IMPACT OF BRICKHOUSE GULLY AT THIS BRIDGE CROSSING.

HYDROLOGIC METHOD

FLOWS WERE OBTAINED FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT HEC-RAS MODEL. 500-YR WAS UTILIZED IN PLACE OF 100-YR BECAUSE HYDROLOGY IN HEC-HMS MODEL WAS BASED ON PRE-ATLAS 14 RAINFALL DEPTHS.

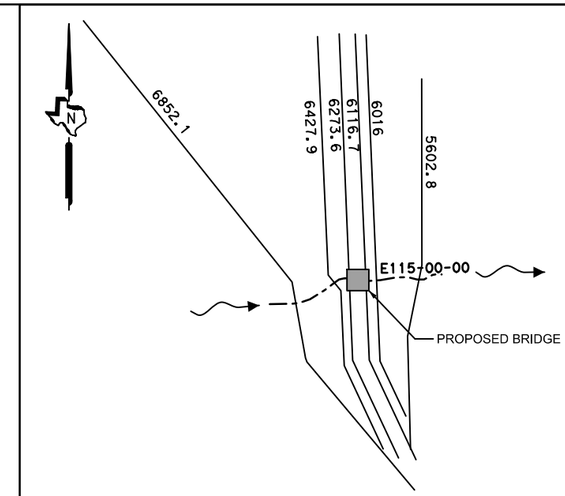
HYDRAULIC METHOD

WATER SURFACE ELEVATION (WSE) IS COMPUTED USING HEC-RAS MODEL "E115-00-00.PRJ".

EXISTING CONDITION WSE FROM HEC-RAS MODEL GEOMETRY NAMED "E115-00-00 GAUGE".

PROPOSED CONDITION WSE FROM HEC-RAS MODEL GEOMETRY NAMED "E115-00-00+PROP".

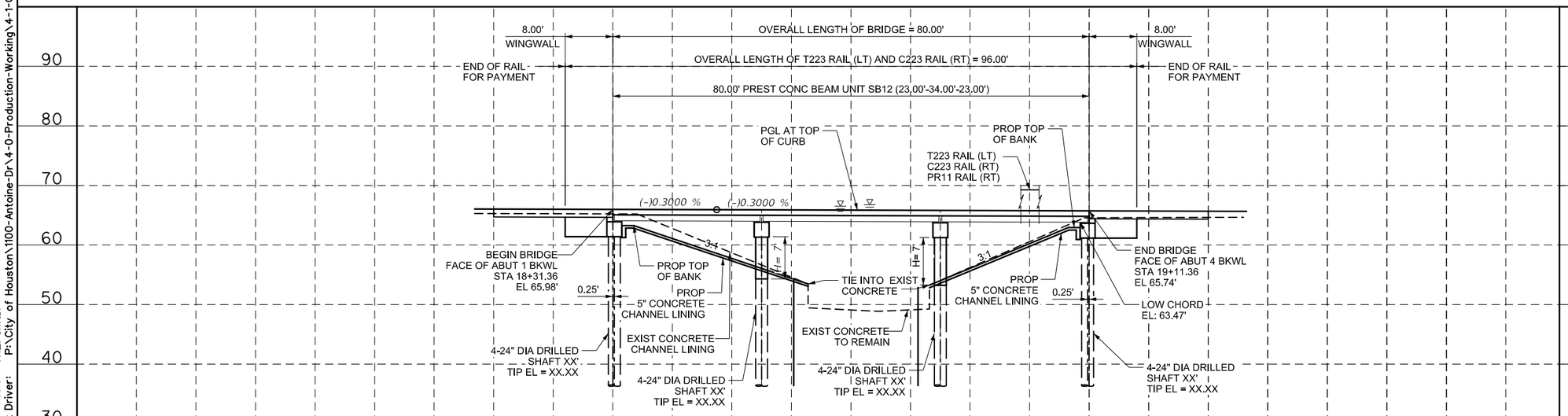
EXISTING CONDITION IS A REVISED EXISTING MODEL TO REFLECT SURVEY ON BRICKHOUSE GULLY BRIDGE.



HEC-RAS CROSS SECTIONS

COMPARISON OF HEC-RAS MODEL RESULT
FOR ANTOINE BRIDGE OVER E115-00-00

XS	FREQ	FLOW	FL (FT)	WSE (FT) PROPOSED	WSE (FT) EXISTING	WSE (FT) DELTA	VELOCITY (FT/S) PROPOSED	VELOCITY (FT/S) EXISTING	VELOCITY (FT/S) DELTA
6852.1	10PCT_10yr	5350.00	49.67	66.79	66.90	-0.11	7.86	7.76	0.10
	2PCT_50yr	6610.00	49.67	66.99	67.05	-0.06	9.49	9.44	0.05
	1PCT_100yr	7180.00	49.67	67.11	67.15	-0.05	10.18	10.12	0.06
	0.2PCT_500	10270.00	49.67	71.53	71.53	0.00	7.02	7.02	0.00
6427.9	10PCT_10yr	5530.00	49.29	66.67	66.78	-0.11	7.68	7.61	0.07
	2PCT_50yr	6840.00	49.29	66.83	66.90	-0.07	9.27	9.21	0.06
	1PCT_100yr	7470.00	49.29	66.92	66.97	-0.05	9.96	9.91	0.05
	0.2PCT_500	10660.00	49.29	71.50	71.50	0.00	6.75	6.75	0.00
6273.6	10PCT_10yr	5530.00	49.15	66.62	66.74	-0.12	7.60	7.49	0.11
	2PCT_50yr	6840.00	49.15	66.70	66.77	-0.07	9.31	9.22	0.09
	1PCT_100yr	7470.00	49.15	66.71	66.77	-0.06	10.17	10.08	0.09
	0.2PCT_500	10660.00	49.15	71.39	71.40	-0.01	6.88	6.84	0.04
6202.3	Bridge								
6116.7	10PCT_10yr	5530.00	49.15	65.37	65.37	0.00	8.78	8.78	0.00
	2PCT_50yr	6840.00	49.15	65.98	65.98	0.00	10.11	10.11	0.00
	1PCT_100yr	7470.00	49.15	66.51	66.52	-0.01	10.39	10.37	0.02
	0.2PCT_500	10660.00	49.15	70.88	70.91	-0.03	7.49	7.45	0.04
6016	10PCT_10yr	5530.00	48.92	65.32	65.32	0.00	8.77	8.77	0.00
	2PCT_50yr	6840.00	48.92	65.92	65.92	0.00	10.12	10.12	0.00
	1PCT_100yr	7470.00	48.92	66.46	66.46	0.00	10.40	10.40	0.00
	0.2PCT_500	10660.00	48.92	71.02	71.02	0.00	6.45	6.45	0.00
5602.8	10PCT_10yr	5530.00	47.99	65.31	65.31	0.00	7.91	7.91	0.00
	2PCT_50yr	6840.00	47.99	65.93	65.93	0.00	9.11	9.11	0.00
	1PCT_100yr	7470.00	47.99	66.53	66.53	0.00	9.23	9.23	0.00
	0.2PCT_500	10660.00	47.99	70.72	70.72	0.00	7.35	7.35	0.00



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0 10 20 (V)

No.	DATE	REVISIONS	APP.

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Gauge ENGINEERING
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HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HYDRAULIC DATA SHEET BRIDGE OVER BRICKHOUSE GULLY E115-00-00

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	709 OF 1067

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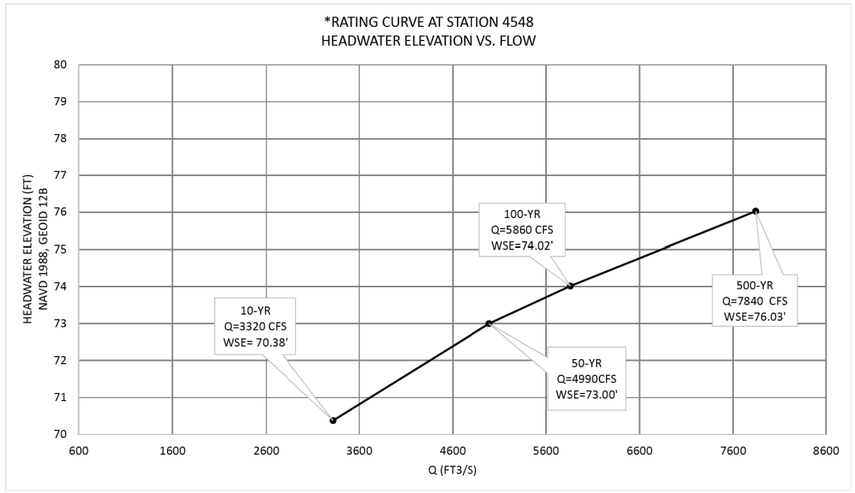
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Drainage\PR_BRICKOUSE BRIDGE.dgn

COMPARISON OF HEC-RAS MODEL RESULT FOR ANTOINE BRIDGE OVER E117-00-00

XS	FREQ	EXISTING FLOW(CFS)	PROPOSED FLOW(CFS)	WSE (FT) EXISTING	WSE (FT) PROPOSED	WSE (FT) DELTA	VELOCITY (FT/S) EXISTING	VELOCITY (FT/S) PROPOSED	VELOCITY (FT/S) DELTA
4948	10-year	3320	3320	71.04	70.98	-0.06	4.21	4.25	0.04
	50-year	4990	4990	73.66	73.60	-0.05	4.48	4.51	0.03
	100-year	5860	5860	74.68	74.68	0.00	4.38	4.38	0.00
	500-year	7840	7840	76.55	76.54	-0.01	3.80	3.81	0.01
4548	10-year	3320	3320	70.46	70.38	-0.08	4.89	4.94	0.05
	50-year	4990	4990	73.06	73.00	-0.07	5.31	5.35	0.04
	100-year	5860	5860	74.02	74.02	0.00	5.64	5.64	0.00
	500-year	7840	7840	76.04	76.03	-0.02	5.30	5.32	0.02
4493 (INSIDE BRIDGE US)	10-year	3320	3320	67.79	67.71	-0.08	5.17	5.22	0.05
	50-year	4990	4990	70.41	70.35	-0.06	5.64	5.68	0.04
	100-year	5860	5860	74.02	74.02	0.00	5.41	5.41	0.00
	500-year	7840	7840	75.95	75.68	-0.28	5.94	6.78	0.84
4435	10-year	3320	3320	70.07	70.07	0.00	4.97	4.97	0.00
	50-year	4990	4990	72.68	72.68	0.00	5.37	5.37	0.00
	100-year	5860	5860	73.80	73.80	0.00	5.60	5.60	0.00
	500-year	7840	7840	75.63	75.63	0.00	5.63	5.63	0.00



* RATING CURVE BASED ON HEC-RAS PROPOSED MODEL

HYDROLOGIC METHOD

FLOWS CALCULATED FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT HEC-RAS MODEL. 500-YR WAS UTILIZED IN PLACE OF 100-YR BECAUSE HYDROLOGY IN HEC-HMS MODEL WAS BASED ON PRE-ATLAS 14 RAINFALL DEPTHS.

HYDRAULIC METHOD

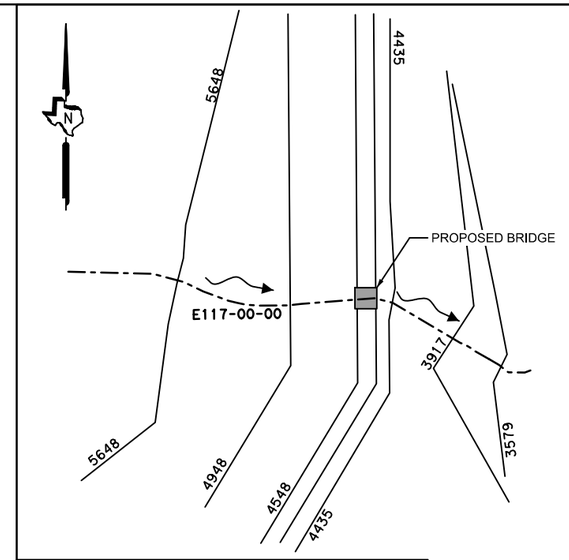
WATER SURFACE ELEVATION (WSE) IS COMPUTED USING HEC-RAS MODEL "E117-00-00.PRJ", V3.1.3.

EXISTING CONDITION WSE FROM HEC-RAS MODEL GEOMETRY NAMED "E117-00-00 JUNE 2007 REVISED".

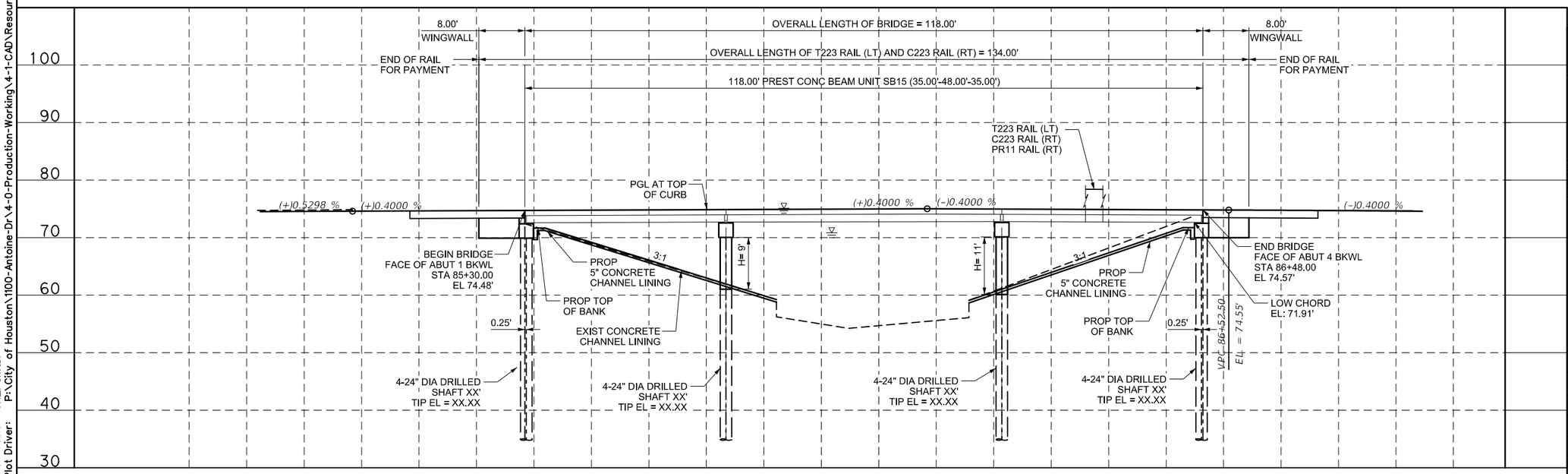
PROPOSED CONDITION WSE FROM HEC-RAS MODEL GEOMETRY NAMED "E117-00-00 JUNE 2007 PROPOSED".

NOTES:

1. DATA PRESENTED FROM "ANTOINE DRIVE (SEGMENT 2) DRAINAGE IMPACT STUDY, FROM US 290 TO VICTORY DRIVE," HOUSTON DISTRICT, TEXAS, DATED NOV 2023, PREPARED BY GAUGE ENGINEERING INC.
2. THE PROPOSED BRIDGE IS LOCATED AT STATION 4493, BETWEEN STATION 4435 (DOWNSTREAM) AND 4548 (UPSTREAM). PROPOSED MODELLED BRIDGE LENGTH IS 236 FEET.
3. THE PROJECT DATA IS REFERENCED TO NAVD 1988, GEO1D12A
4. THE PROJECT SITE IS WITHIN THE FEMA ZONE AE WITH FLOODWAY DEFINED.
5. HYDROLOGY WAS BASED ON PRE-ATLAS 14 RAINFALL.
6. HEC-RAS (VERSION 3.1.3) WAS USED FOR HYDRAULIC ANALYSIS AND DESIGN.
7. REFER TO DRAINAGE REPORT "ANTOINE DRIVE (SEGMENT 2) DRAINAGE IMPACT STUDY, FROM US 290 TO VICTORY DRIVE," PREPARED BY GAUGE ENGINEERING (2023), FOR DISCUSSION ON THE IMPACT OF COLE CREEK AT THIS BRIDGE CROSSING.



HEC-RAS CROSS SECTIONS



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APP: | DATE | No. | REVISIONS

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HYDRAULIC DATA SHEET
BRIDGE OVER
COLE CREEK
E117-00-00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 710 OF 1067	

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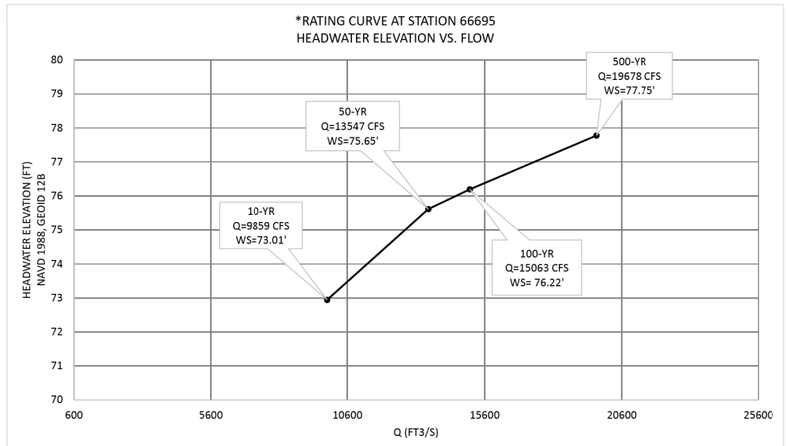
COMPARISON OF HEC-RAS MODEL RESULT FOR ANTOINE BRIDGE OVER E100-00-00

XS	FREQ	EXISTING FLOW(CFS)	PROPOSED FLOW(CFS)	WSE (FT) EXISTING	WSE (FT) PROPOSED	WSE (FT) DELTA	VELOCITY (FT/S) EXISTING	VELOCITY (FT/S) PROPOSED	VELOCITY (FT/S) DELTA
66806	10-year	9859	9859	73.10	72.94	-0.15	5.34	5.41	0.07
	50-year	13547	13547	75.65	75.61	-0.03	4.91	4.94	0.03
	100-year	15063	15063	76.20	76.19	-0.01	4.79	4.80	0.01
	500-year	19678	19678	77.79	77.78	-0.01	4.14	4.15	0.01
66695	10-year	9859	9859	73.16	73.01	-0.15	4.16	4.21	0.05
	50-year	13547	13547	75.69	75.65	-0.03	3.91	3.93	0.02
	100-year	15063	15063	76.23	76.22	-0.01	3.96	3.97	0.01
	500-year	19678	19678	77.76	77.75	-0.01	3.98	3.99	0.01
66641.5 (INSIDE BRIDGE US)	10-year	9859	9859	72.96	72.95	-0.01	5.19	4.52	-0.67
	50-year	13547	13547	75.75	75.71	-0.04	2.79	3.02	0.23
	100-year	15063	15063	76.30	76.29	-0.01	2.50	2.45	-0.05
	500-year	19678	19678	77.83	77.82	-0.01	1.89	1.96	0.07
66585	10-year	9859	9859	72.81	72.85	0.04	5.04	4.53	-0.51
	50-year	13547	13547	75.67	75.65	-0.02	2.85	3.08	0.23
	100-year	15063	15063	76.24	76.24	0.00	2.55	2.50	-0.05
	500-year	19678	19678	77.80	77.79	0.00	1.91	1.98	0.07



* RATING CURVE BASED ON HEC-RAS PROPOSED MODEL

HYDROLOGIC METHOD

FLOWS CALCULATED FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT HEC-RAS MODEL. 500-YR WAS UTILIZED IN PLACE OF 100-YR BECAUSE HYDROLOGY IN HEC-HMS MODEL WAS BASED ON PRE-ATLAST 14 RAINFALL DEPTHS.

HYDRAULIC METHOD

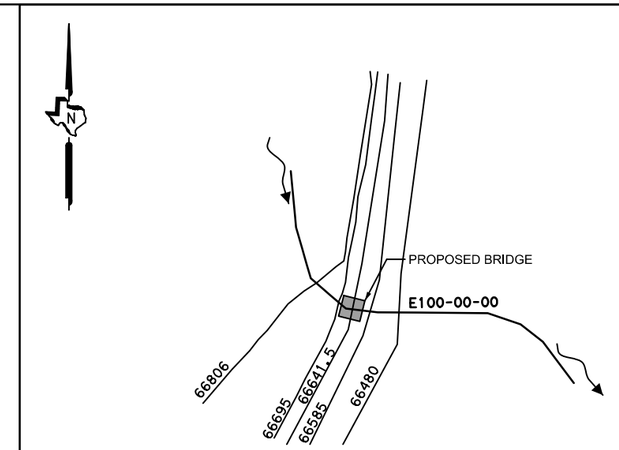
WATER SURFACE ELEVATION (WSE) IS COMPUTED USING HEC-RAS MODEL "E100-00-00-ANT.PRJ", V4.0.0.

EXISTING CONDITION WSE FROM HEC-RAS MODEL GEOMETRY NAMED "EFFECTIVE MP 2014 REVISED".

PROPOSED CONDITION WSE FROM HEC-RAS MODEL GEOMETRY NAMED "EFFECTIVE MP 2014 PROPOSED".

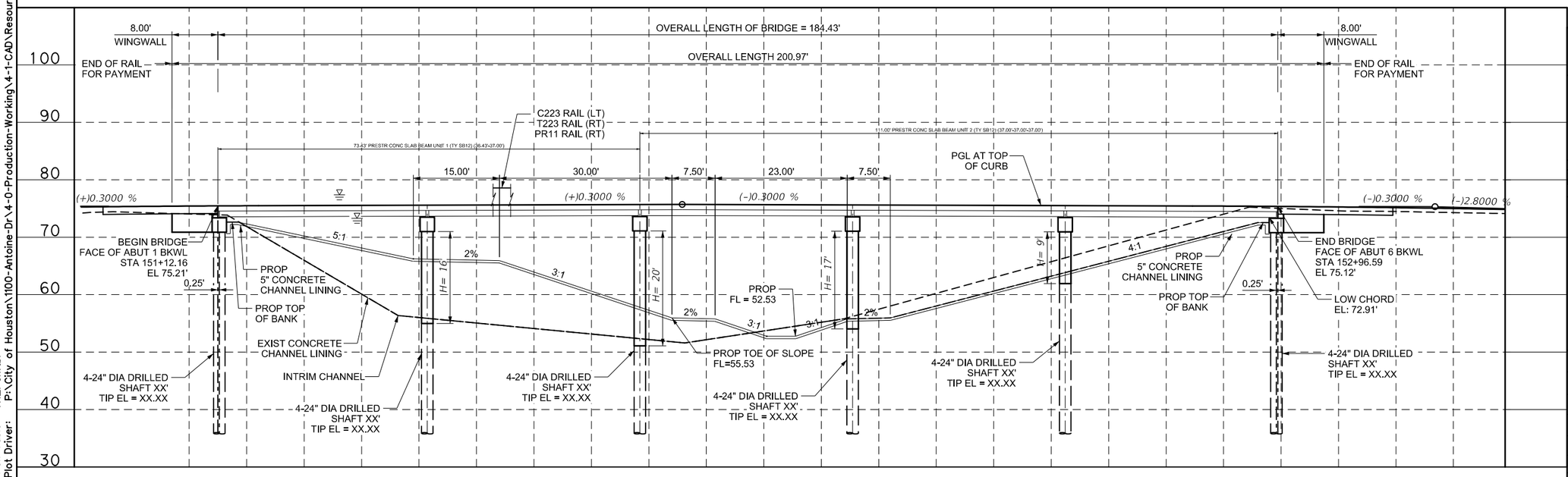
NOTES:

1. DATA PRESENTED FROM "ANTOINE DRIVE (SEGMENT 2) DRAINAGE IMPACT STUDY, FROM US 290 TO VICTORY DRIVE," HOUSTON DISTRICT, TEXAS, DATED NOV 2023, PREPARED BY GAUGE ENGINEERING INC.
2. THE PROPOSED BRIDGE IS LOCATED AT STATION 66641.5, BETWEEN STATION 66585(DOWNSTREAM) AND 66695 (UPSTREAM). PROPOSED MODELLED BRIDGE LENGTH IS 368.79 FEET
3. THE PROJECT DATA IS REFERENCED TO NAVD 1988, GEO1D12A.
4. THE PROJECT SITE IS WITHIN THE FEMA ZONE AE WITH FLOODWAY DEFINED.
5. HYDROLOGY WAS BASED ON PRE-ATLAS 14 RAINFALL.
6. HEC-RAS (VERSION 4.0.0) WAS USED FOR HYDRAULIC ANALYSIS AND DESIGN.
7. REFER TO DRAINAGE REPORT "ANTOINE DRIVE (SEGMENT 2) DRAINAGE IMPACT STUDY, FROM US 290 TO VICTORY DRIVE," PREPARED BY GAUGE ENGINEERING (2023), FOR DISCUSSION ON THE IMPACT OF WHITE OAK BAYOU AT THIS BRIDGE CROSSING.



HEC-RAS CROSS SECTIONS

No.	DATE	REVISIONS	APP.



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60% SUBMITTAL
GAUGE ENGINEERING Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HYDRAULIC DATA SHEET BRIDGE OVER WHITE OAK BAYOU E100-00-00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 711 OF 1067	

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SCOUR INCIPIENT OVERTOPPING

	Upstream Approach River Station 6852.1			Contracted Section at Bridge River Station 6273.6		
	Left Overbank	Main Channel	Right Overbank	Left Overbank	Main Channel	Right Overbank
A (sq. ft.)	210	673	34	199	729	38
WP (ft.)	142	79	23	0	92	0
n (-)	0.080	0.015	0.080	0.080	0.015	0.040
Q (cfs)	29	5291	30	0	5530	0
V (ft./sec.)	0.4	7.9	0.9	0.0	7.6	0.0
y (ft.)	0.5	10.0	1.5	0.0	9.1	0.0
W (ft.)	253	67	23	264	82	149
WSEL (ft.)	66.79			66.62		
V_{avg} (ft./sec/)	7.91			7.6		

SCOUR DESIGN CHECK FLOOD

	Upstream Approach River Station 6852.1			Contracted Section at Bridge River Station 6273.6		
	Left Overbank	Main Channel	Right Overbank	Left Overbank	Main Channel	Right Overbank
A (sq. ft.)	3277	992	3850	3178	1122	3396
WP (ft.)	1027	79	1879	1171	95	1237
n (-)	0.080	0.015	0.080	0.080	0.015	0.040
Q (cfs)	1482	6964	1824	1411	7712	1537
V (ft./sec.)	0.5	7.0	0.5	0.5	6.9	0.5
y (ft.)	2.8	14.8	2.1	2.5	13.6	2.6
W (ft.)	1027	79	1879	1171	82	1237
WSEL (ft.)	71.53			71.39		
V_{avg} (ft./sec/)	7.03			6.89		

NOTES:

THIS SCOUR EVALUATION WAS CONDUCTED USING THE PRESSURE METHOD, IN ACCORDANCE WITH THE LATEST TxDOT SCOUR ANALYSIS GUIDE.

REFER TO THE GEOTECHNICAL DATA FOR ADDITIONAL SUBSURFACE INFORMATION.

REFER TO THE HYDRAULIC DATA SHEET FOR ADDITIONAL HYDROLOGIC AND HYDRAULIC INFORMATION.

THE MEDIAN GRAIN SIZE OF THE CHANNEL MATERIAL IS LESS THAN 0.00066 FT. PER THE TXDOT GEOTECHNICAL MANUAL, D50 WAS ASSUMED = 0.00066 FT.

CHANNEL MATERIAL

Channel Bed Material Description	Subsurface conditions at piers generally consist of firm to very stiff sandy lean clay.
D_{50}	0.00066 ft. (0.2 mm)
Basis of Channel Bed Material Description	Geotechnical Data from Boring Data (BR-1A & BR-1B) at left and right top bank of channel near bridge location.
Non-Erodible Strata	None

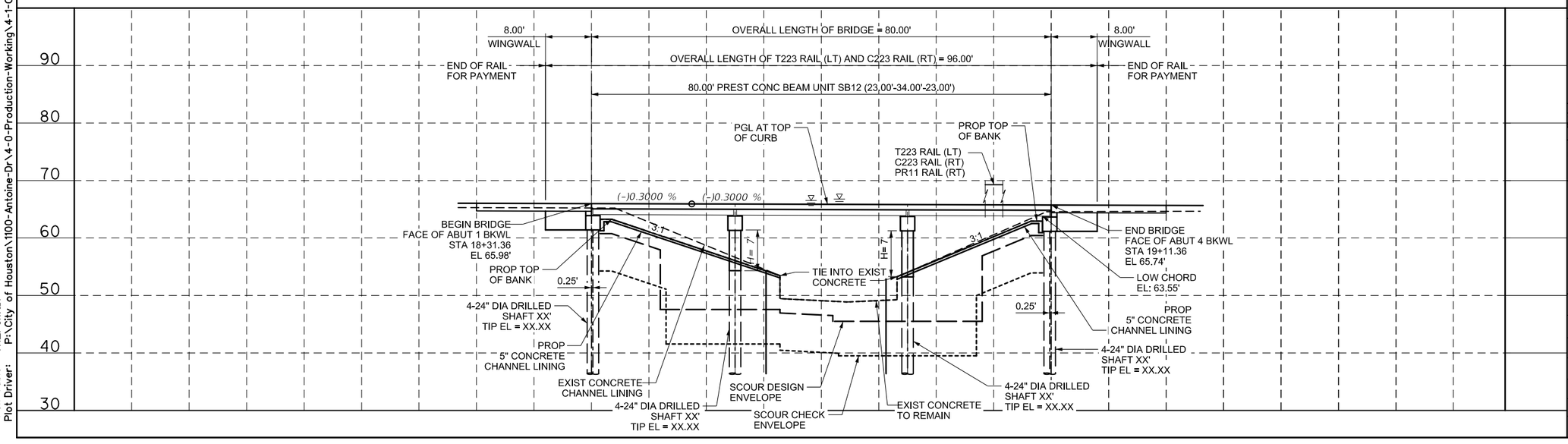
SUMMARY OF RETURN PERIOD[1]

INCIPIENT OVERTOPPING	10-YEAR
DESIGN FLOOD	500-YEAR
SCOUR DESIGN FLOOD	100-YEAR
SCOUR DESIGN CHECK FLOOD	500-YEAR

[1]The return period for the Design Flood was obtained from the TxDOT Hydraulic Design Manual.

SUMMARY OF CALCULATED SCOUR DEPTHS (ft.)

	INCIPIENT OVERTOPPING			SCOUR DESIGN CHECK FLOOD		
	Contraction Scour	Pier Scour	Total Scour	Contraction Scour	Pier Scour	Total Scour
Main Channel (Pressure	2.5	6.0	8.5	9.0	5.5	14.5
Main Channel (SRICOS			10.0			9.5



0 10 20 (H)
0 10 20 (V)

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Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BRIDGE SCOUR DATA BRIDGE OVER BRICKHOUSE GULLY E115-00-00

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO. 712 OF 1067	

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No.	DATE	REVISIONS	APP.

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	SCOUR DESIGN FLOOD					
	Upstream Approach River Station 4948			Contracted Section at Bridge River Station 4493		
	Left Overbank	Main Channel	Right Overbank	Left Overbank	Main Channel	Right Overbank
A (sq. ft.)	399.25	1255.93	387.3		1027.15	
WP (ft.)	623.08	146.7	418.23		266.36	
n (-)	0.08	0.04	0.08	0.08	0.04	0.08
Q (cfs)	157.22	5504.54	198.24		5860	
V (ft./sec.)	0.39	4.38	0.51		5.41	
y (ft.)	0.64	8.97	0.93		9.85	
W (ft.)	701.35	140	418.14		105.20	
WSEL (ft.)	74.68			74.02		
V_{ave} (ft./sec.)	2.87			5.69		

	SCOUR CHECK FLOOD					
	Upstream Approach River Station 4948			Contracted Section at Bridge River Station 4493		
	Left Overbank	Main Channel	Right Overbank	Left Overbank	Main Channel	Right Overbank
A (sq. ft.)	2095.17	1516.21	1361.05	1052.75	1027.15	386.93
WP (ft.)	1112.26	146.70	646.81	884.74	266.36	619.34
n (-)	0.08	0.04	0.08	0.08	0.04	0.08
Q (cfs)	1128.53	5772.17	939.3	712.79	6961.07	166.14
V (ft./sec.)	0.54	3.81	0.69	0.68	6.78	0.43
y (ft.)	1.88	10.83	2.11	1.48	11.89	0.88
W (ft.)	1112.12	140	646.55	1190.24	126.90	712.87
WSEL (ft.)	76.54			75.68		
V_{ave} (ft./sec.)	1.58			3.18		

NOTE:

THIS SCOUR EVALUATION WAS CONDUCTED USING THE PRESSURE METHOD, IN ACCORDANCE WITH THE LATEST TxDOT SCOUR ANALYSIS GUIDE.

REFER TO THE BORING HOLE DATA SHEET FOR ADDITIONAL SURFACE INFORMATION.

REFER TO THE HYDRAULIC DATA SHEET FOR ADDITIONAL HYDROLOGIC AND HYDRAULIC INFORMATION.

THE CHANNEL MATERIAL IS CLASSIFIED AS COHESIVE SOIL #200 SIEVE PASSING IS ABOVE 31%.

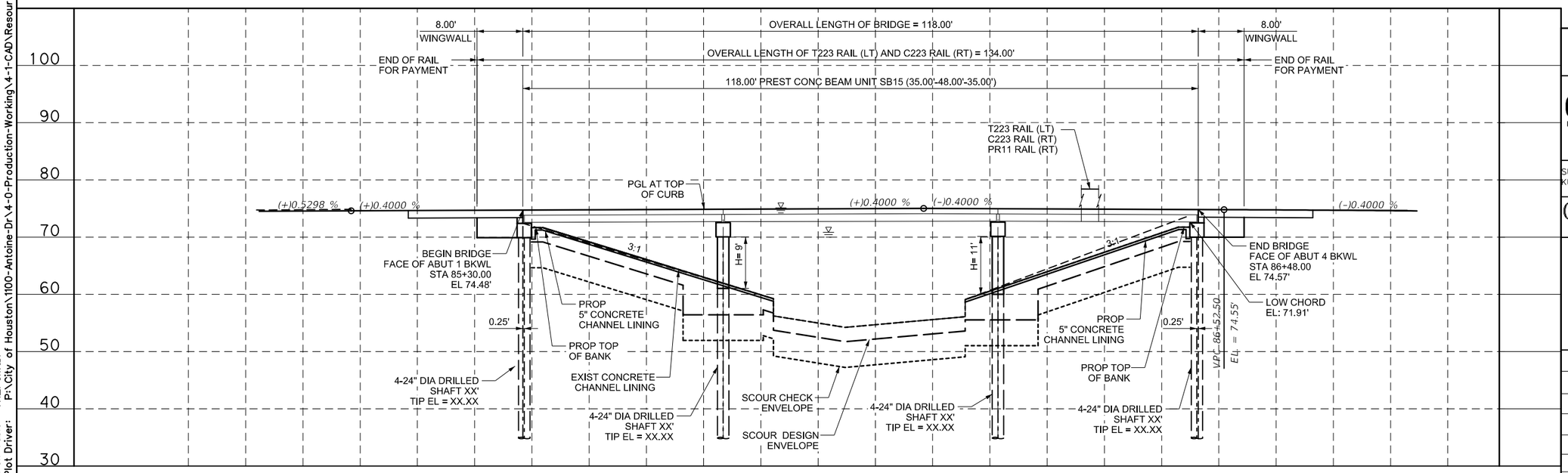
THE TOTAL CALCULATED SCOUR AT EITHER ABUTMENT IS EQUAL TO CALCULATED CONTRACTION SCOUR AT THAT LOCATION.

ABUTMENT #1 IS LOCATED IN THE LEFT OVERBANK. INTERNAL BENTS ARE LOCATED IN THE MAIN CHANNEL.
ABUTMENT #2 IS LOCATED IN THE RIGHT OVERBANK.

CHANNEL MATERIAL	
Channel Bed Material Description	Channel includes lean clay, fat clay and lean clay with sand.
D_{50}	0.00066 ft. (0.2mm)
Basis of Channel Bed Material Description	Geothechnical Data from Boring Data (BR-2A and BR-2B) at left and right top bank of channel near bridge location.
Non-Erodible Strata	Not observed

SUMMARY OF RETURN PERIODS	
DESIGN FLOOD	50-YEAR
SCOUR DESIGN FLOOD	100-YEAR
SCOUR CHECK FLOOD	500-YEAR

SUMMARY OF CALCULATED SCOUR DEPTHS (ft.)						
SCOUR TYPE	SCOUR DESIGN FLOOD			SCOUR CHECK FLOOD		
	Contraction Scour	Pier Scour	Total Scour	Contraction Scour	Pier Scour	Total Scour
Abut #1	2.50	N/A	2.50	7.00	N/A	7.00
Main Channel	2.50	3.00	5.50	7.00	3.00	10.00
Abut #2	2.50	N/A	2.50	7.00	N/A	7.00



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BRIDGE SCOUR DATA
BRIDGE OVER
COLE CREEK
E117-00-00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 713 OF 1067	

No.	DATE	REVISIONS	APP.

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	SCOUR DESIGN FLOOD					
	Upstream Approach River Station 66806			Contracted Section at Bridge River Station66641.5		
	Left Overbank	Main Channel	Right Overbank	Left Overbank	Main Channel	Right Overbank
A (sq. ft.)	3257.83	2269.45	697.92	6985.25	2181.73	1410.2
WP (ft.)	2216.38	179.02	589.65	3038.16	564.37	629.35
n (-)	0.08	0.04	0.08	0.08	0.04	0.08
Q (cfs)	1953.03	11210.19	383.78	5832.72	6588.14	1126.15
V (ft./sec.)	0.6	4.94	0.55	0.84	3.02	0.8
y (ft.)	1.47	13.37	1.18	2.3	15.11	2.22
W (ft.)	2215.98	169.8	589.63	2965.35	187.20	622.58
WSEL (ft.)	75.61			75.71		
V_{ch} (ft./sec.)	2.18			1.28		

	SCOUR CHECK FLOOD					
	Upstream Approach River Station 66806			Contracted Section at Bridge River Station66641.5		
	Left Overbank	Main Channel	Right Overbank	Left Overbank	Main Channel	Right Overbank
A (sq. ft.)	10000.41	2637.28	2239.90	14093.95	2510.64	2903.34
WP (ft.)	3546.08	179.02	1077.72	3610.30	748.87	825.22
n (-)	0.08	0.04	0.08	0.08	0.04	0.08
Q (cfs)	7468.75	10949.16	1260.09	12520.05	4921.96	2236.00
V (ft./sec.)	0.75	4.15	0.56	0.89	1.96	0.77
y (ft.)	2.82	15.53	2.08	3.9	13.61	3.52
W (ft.)	3545.59	169.8	1077.66	3609.27	184.50	824.32
WSEL (ft.)	77.78			77.82		
V_{ch} (ft./sec.)	1.32			1.01		

NOTE:

THIS SCOUR EVALUATION WAS CONDUCTED USING THE PRESSURE METHOD, IN ACCORDANCE WITH THE LATEST TxDOT SCOUR ANALYSIS GUIDE.

REFER TO THE BORING HOLE DATA SHEET FOR ADDITIONAL SURFACE INFORMATION.

REFER TO THE HYDRAULIC DATA SHEET FOR ADDITIONAL HYDROLOGIC AND HYDRAULIC INFORMATION.

THE CHANNEL MATERIAL IS CLASSIFIED AS COHESIVE SOIL #200 SIEVE PASSING IS ABOVE 16%.

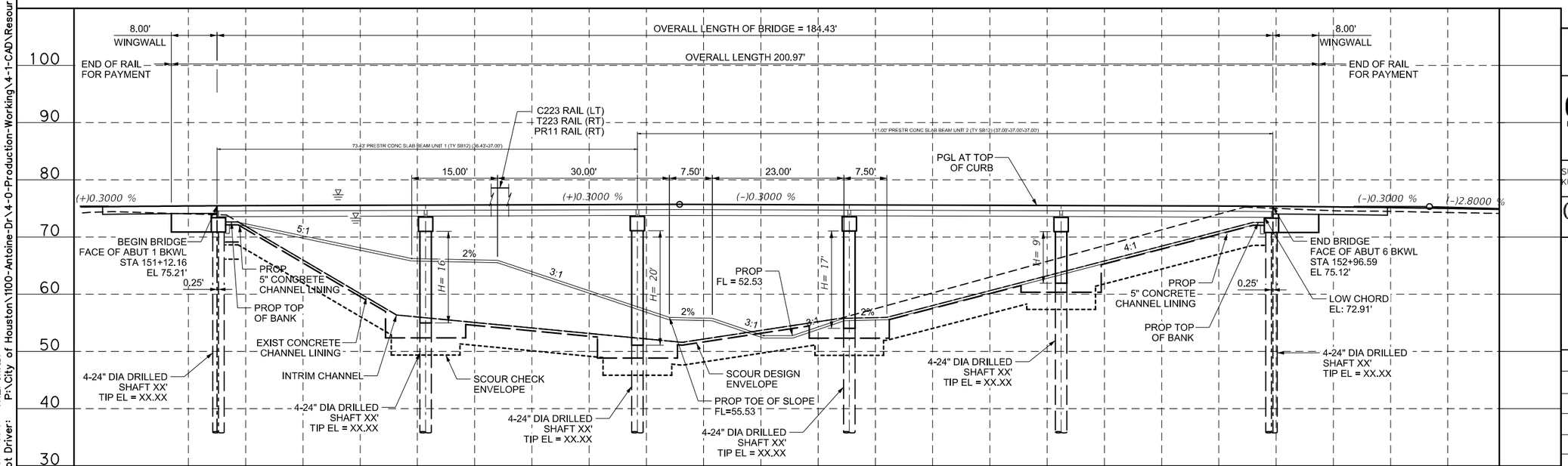
THE TOTAL CALCULATED SCOUR AT EITHER ABUTMENT IS EQUAL TO CALCULATED CONTRACTION SCOUR AT THAT LOCATION.

ABUTMENT #1 IS LOCATED IN THE LEFT OVERBANK. INTERNAL BENTS ARE LOCATED IN THE MAIN CHANNEL.
ABUTMENT #2 IS LOCATED IN THE RIGHT OVERBANK.

CHANNEL MATERIAL	
Channel Bed Material Description	Channel includes clay, in top 5 ft. Channel invert underlain clay, lean with sand.
D_{50}	0.00066 ft. (0.2mm)
Basis of Channel Bed Material Description	Geothechnical Data from Boring Data (BR-4A and BR-4B) at left and right top bank of channel near bridge location.
Non-Erodible Strata	Not observed

SUMMARY OF RETURN PERIODS	
DESIGN FLOOD	50-YEAR
SCOUR DESIGN FLOOD	50-YEAR
SCOUR CHECK FLOOD	500-YEAR

SUMMARY OF CALCULATED SCOUR DEPTHS (ft.)						
SCOUR TYPE	SCOUR DESIGN FLOOD			SCOUR CHECK FLOOD		
	Contraction Scour	Pier Scour	Total Scour	Contraction Scour	Pier Scour	Total Scour
Abut #1	0.50	N/A	0.50	4.00	N/A	4.00
Main Channel	0.50	3.00	3.50	4.00	2.50	6.50
Abut #2	0.50	N/A	0.50	4.00	N/A	4.00



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
BRIDGE SCOUR DATA
BRIDGE OVER
WHITE OAK BAYOU
E100-00-00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 714 OF 1067	

No.	DATE	REVISIONS	APP.

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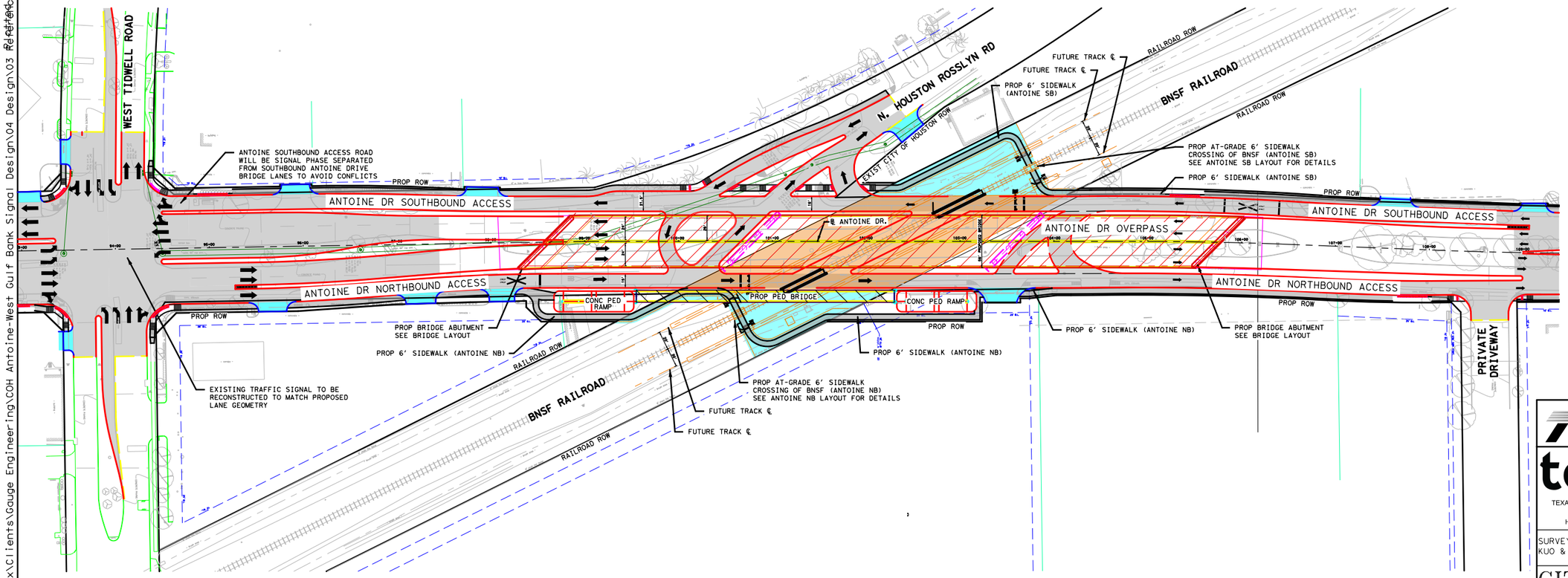
LEGEND

- APPROX EXIST. (22,270 SF = 0.51 AC)
- PROP EASEMENT (15,213 SF = 0.35 AC)
- ON GRADE ROADWAY LANES
- PROP BRIDGED LANES
- PROP PED BRIDGE

0′ 60′ 120′
SCALE IN FEET



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

PROJECT LAYOUT

ANTOINE DRIVE AT BNSF RAILROAD
DOT No. 597084X, RR MP 65.810
SB SIDEWALK, RR MP 65.843
NB SIDEWALK, RR MP 65.768
HOUSTON SUBDIVISION

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 715 OF 1067	

N. HOUSTON ROSSLYN ROAD

100+00

101+00

102+00

SEE ANTOINE DRIVE BRIDGE LAYOUT

OUTSIDE EDGE OF ANTOINE DR BRIDGE OVER BNSF

OUTSIDE EDGE OF ANTOINE DR BRIDGE OVER BNSF

RAILROAD ROW

FOR DETAILS SEE LAYOUTS FOR ANTOINE DRIVE SOUTHBOUND SIDEWALK

RAISED CURB

NEW DOT #023010V, RR MILEPOST 65.806
FUTURE ANTOINE DRIVE OVERPASS

10'

10'

℄ ANTOINE DR.

RAISED CURB

BNSF RAILWAY TRACK

RAISED CURB

RAISED CURB

PROPOSED 20' GATE ASSEMBLY

RAILROAD TO INSTALL 10' X 48' CONCRETE CROSSING PANELS

FUTURE TRACKS

PROPOSED FENCING

RAISED CURB

STOP LINE WITH DETECTABLE WARNINGS

5'-3"

RAISED CURB

RAISED CURB

CONC PED RAMP

16.61'

PROP PED BRIDGE

CONC PED RAMP

RAILROAD ROW

PROP 6' SIDEWALK (ANTOINE NB)

6' SIDEWALK

PROPOSED 11' GATE ASSEMBLY

15'

PROP 6' SIDEWALK

15'

5'-3"

PROP 6' SIDEWALK (ANTOINE NB)

PROPOSED FENCING ON RAILROAD ROW, TERMINATING 15' FROM CL OF TRACK, OR AT LOCATIONS OF SWING GATES AND RAILROAD GATES

BNSF RAILWAY TRACK

RAILROAD TO INSTALL 10'X14' CONCRETE CROSSING PANELS RR MP 65.768

PROPOSED 11' GATE ASSEMBLY

EXIST 6'X6' RR CROSSING CONTROL BOX TO BE REMOVED/REPLACED ANTOINE DRIVE DOT NO. 597084X RR MP: 65.810

PROP 6' SIDEWALK (ANTOINE NB)

FUTURE TRACK ℄

20'

100' BNSF RR ROW

20'

FUTURE TRACK

FUTURE TRACK ℄

PROPOSED SWING GATES, IN-LINE WITH STOP LINES, DESIGNED TO PUSH OPEN AWAY FROM TRACK, ON EMERGENCY EXIT ROUTES (TYP)

PROPOSED FENCING

RAILROAD ROW

STOP LINE WITH DETECTABLE WARNINGS

PROPOSED 8'X8' RR CROSSING CONTROL HOUSE ANTOINE DRIVE NB FR RD DOT NO. 597084X RR MP: 65.796 REQUIRED 32' CURB CUT FOR 12' RR DRIVEWAY

PROPOSED FENCING ON RAILROAD ROW, TERMINATING 15' FROM CL OF TRACK, OR AT LOCATIONS OF SWING GATES AND RR GATE.

brush area

6' chain link fence

6' chain link fence

0' 10' 20'
SCALE IN FEET

LEGEND

- APPROX EXIST. (22,270 SF = 0.51 AC)
- PROP EASEMENT (15,213 SF = 0.35 AC)
- ON GRADE ROADWAY LANES
- PROP BRIDGED LANES
- PROP PED BRIDGE

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Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
EXHIBIT "A"
RAILROAD SIGNAL LAYOUT
ANTOINE DRIVE NORTHBOUND
AT BNSF
DOT: 597084X, RRMP: 65.810
HOUSTON SUBDIVISION

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 716 OF 1067	

REVISIONS | No. | DATE | APP.

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N. HOUSTON ROSSLYN ROAD

PRIVATE DRIVEWAY

CITY OF HOUSTON ROW

RAILROAD ROW

PROP 6' SIDEWALK (ANTOINE SB)

PROPOSED FENCING

PROPOSED FENCING ON RAILROAD ROW, TERMINATING 15' FROM CL OF TRACK, OR AT LOCATIONS OF SWING GATES AND RR GATE.

RAISED CURB

RAILROAD TO INSTALL 10' X 56' CONCRETE CROSSING PANELS

NEW DOT #023010V, RR MILEPOST 65.806
FUTURE ANTOINE DRIVE OVERPASS

BNSF RAILWAY TRACK

FUTURE TRACKS

OUTSIDE EDGE OF ANTOINE DR BRIDGE OVER BNSF

ANTOINE DR. BRIDGE OVER BNSF LIMITS

℄ ANTOINE DR.

OUTSIDE EDGE OF ANTOINE DR BRIDGE OVER BNSF

ANTOINE DR NORTHBOUND

CONC PED RAMP

CITY OF HOUSTON ROW

YES PREP SCHOOL DRIVEWAY

PROP SIDEWALK (ANTOINE NB)

STOP LINE WITH DETECTABLE WARNINGS

PROPOSED 11' GATE ASSEMBLY

PROPOSED SWING GATE, IN-LINE WITH STOP LINES, DESIGNED TO PUSH OPEN AWAY FROM TRACK, ON EMERGENCY EXIT ROUTES

PROPOSED 21' GATE ASSEMBLY

RAILROAD ROW

PROPOSED SWING GATE, IN-LINE WITH STOP LINES, DESIGNED TO PUSH OPEN AWAY FROM TRACK, ON EMERGENCY EXIT ROUTES

RAILROAD TO INSTALL 10'X14' CONCRETE CROSSING PANELS

BNSF RAILROAD ROW

BNSF RAILWAY TRACK

FUTURE TRACK ℄

PROPOSED 8'X8' RR CROSSING CONTROL HOUSE
ANTOINE DRIVE NB FR RD
DOT NO. 597084X
RR MP: 65.796
REQUIRED 32' CURB CUT FOR 12' RR DRIVEWAY

PROP SIDEWALK (ANTOINE SB)

ANTOINE DR SOUTHBOUND

2+00

103+00

104+00

LEGEND

- APPROX EXIST. (22,270 SF = 0.51 AC)
- PROP EASEMENT (15,213 SF = 0.35 AC)
- ON GRADE ROADWAY LANES
- PROP BRIDGED LANES
- PROP PED BRIDGE

0' 10' 20'
SCALE IN FEET

No.	DATE	REVISIONS	APP.

CSJ 0912-72-615

Texas Department of Transportation

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712 MAIN #950
HOUSTON, TX 77002

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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
EXHIBIT "A"
RAILROAD SIGNAL LAYOUT
ANTOINE DRIVE SOUTHBOUND AT BNSF
DOT: 597084X, RRMP: 65.832
HOUSTON SUBDIVISION

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO. 717 OF 1067	

FOR CITY OF HOUSTON USE ONLY

Pen Table:TEI*Color*BlackBorder.tbl
Plot Driver:E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine-West Gulf Bank Signal Design\04 Design\03 Preliminary and Refined Design\Railroad\Railroad CAD Files\TEI Signs Markings.dgn* 1/7/2026 15:05 BMUSER*

ROW

PROP BRIDGE ABUTMENT
SEE BRIDGE LAYOUT

N. HOUSTON ROSSLYN RD

EXIST CITY OF HOUSTON ROW

PROP 6' SIDEWALK (ANTOINE SB)

RAILROAD ROW

BNSF RAILROAD

RAILROAD ROW

PROP AT-GRADE 6' SIDEWALK
CROSSING OF BNSF (ANTOINE SB)
SEE ANTOINE SB LAYOUT FOR DETAILS

W10-1, 36 IN DIA.

PROP ROW

ANTOINE DR SOUTHBOUND ACCESS

21.5'

24'

26'

16'

℄ ANTOINE DR.

99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00

ANTOINE DR OVERPASS

56' PROPOSED BRIDGE

250'

15'

ANTOINE DR NORTHBOUND ACCESS

PROP PED BRIDGE

CONC PED RAMP

PROP 6' SIDEWALK (ANTOINE NB)

PROP ROW

25' B.L.

250'

W10-1, 36 IN DIA.

RAILROAD ROW

BNSF RAILROAD

RAILROAD ROW

PROP AT-GRADE 6' SIDEWALK
CROSSING OF BNSF (ANTOINE NB)
SEE ANTOINE NB LAYOUT FOR DETAILS

NOTE:
THE SPEED LIMIT FOR THE NORTHBOUND AND SOUTHBOUND ANTOINE DRIVE ACCESS ROADS IS 35 MPH.

LEGEND

- APPROX EXIST. (22,270 SF = 0.51 AC)
- PROP EASEMENT (15,213 SF = 0.35 AC)
- ON GRADE ROADWAY LANES
- PROP BRIDGED LANES
- PROP PED BRIDGE

0' 60' 120'
SCALE IN FEET

PROP BRIDGE ABUTMENT
SEE BRIDGE LAYOUT

CSJ 0912-72-615

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. # 3158
712 MAIN #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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91759
1/7/2026
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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

SIGNING & PAVEMENT MARKINGS

ANTOINE DRIVE AT BNSF RAILROAD
DOT No. 597084X, RR MP 65.810
SB SIDEWALK, RR MP 65.843
NB SIDEWALK, RR MP 65.768
HOUSTON SUBDIVISION

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 718 OF 1067	

Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\Railroad\Railroad CAD Files\TEI Signs Markings.dgn

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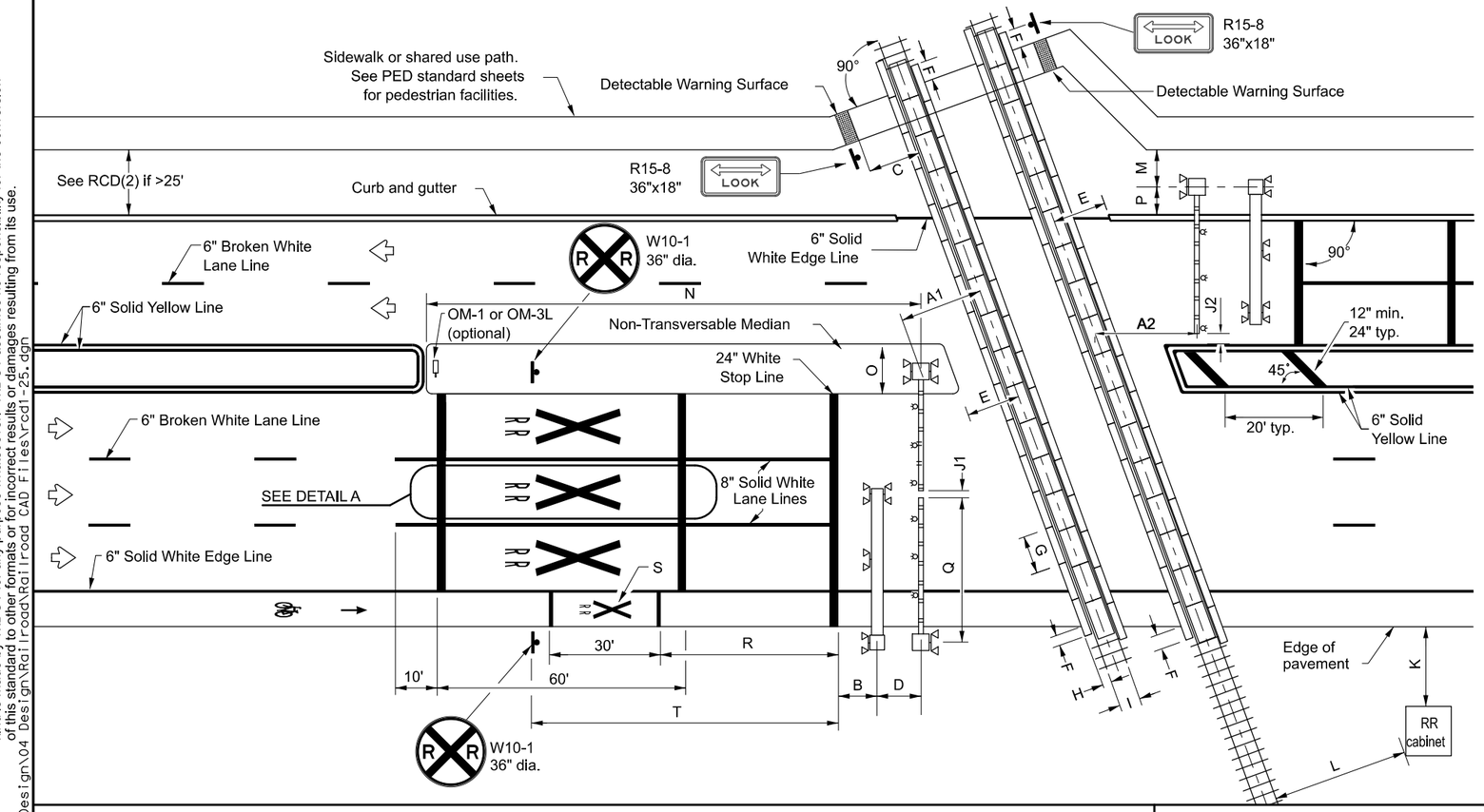
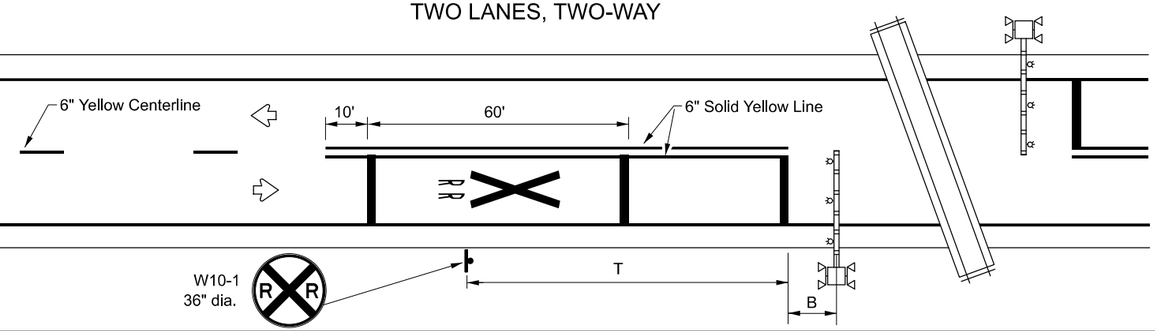
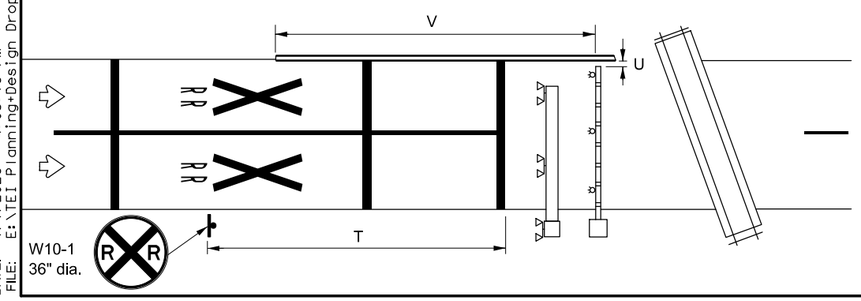
TWO-WAY, MULTIPLE LANES EACH DIRECTION



TWO LANES, TWO-WAY



ONE-WAY STREET WITH CURB



CALLOUTS:

T: Stop line to Grade Crossing Advance Warning (W10-1) sign and adjacent RR Crossing pavement markings. See Table 1. See RCD(2) for other signs.

U: Tip of gate to edge of curb: 1 ft. maximum for Quiet Zone SSM, 90% of traveled way covered by gates for all other locations.

V: Non-traversable curb length from gate: 100 ft. minimum for a Quiet Zone SSM, 10 ft. minimum for all other locations.

CALLOUTS:

A1: Center of RR mast to center of rail: 12 ft. minimum, 15 ft. typical.
A2: Tip of gate to center of rail: 12 ft. minimum, 15 ft. typical.
B: Center of nearest active traffic control device (cantilever, gate, or mast flasher) to stop line: 8 ft. (NOTE: Stop line may be moved as needed, but should be at least 8 ft. back from nearest active traffic control device, if present).
C: Near edge of detectable warning surface to nearest rail: 12 ft. minimum and 2 ft. upstream of railroad flashing light signals (if present).
D: Center of gate mast to center of cantilever mast: 6 ft. typical. NOTE: Cantilever may be located in front or behind gates.
E: Edge of median or curb to center of track: 10 ft. typical. NOTE: Design median edge to be parallel with rail.
F: Edge of planking panel from edge of pavement or sidewalk: 3 ft. minimum. NOTE: Field panels need not be in line with gauge panels.
G: Length of panels along rail: 8 ft. typical.
H: Width of field panel: 2 ft. typical (check with railroad company).
I: Distance between rails: 4 ft. 8 ½ in.
J1: Tip of gate to tip of gate: 2 ft. maximum.
J2: Tip of gate to edge of traveled way: 1 ft. maximum.
K: Nearest edge of RR cabinet from edge of pavement: 30 ft. typical. NOTE: Cabinet not required to be parallel to edge of pavement.
L: Nearest edge of RR cabinet from nearest rail: 25 ft. typical.
M: Center of RR mast to edge of sidewalk: 6 ft. minimum.
N: Center of gate mast to leading edge of non-traversable median: 100 ft. minimum to qualify as a Quiet Zone SSM. NOTE: 60 ft. will suffice if there is a street intersection within the 100 ft. and all street intersections within 60 ft. are closed.
O: Width of median for RR gate assembly: 11 ft. typical (face of curb to face of curb) when using median gates. NOTE: Center of gate mast 5 ft. 3 in. minimum from face of curb.
P: Center of RR mast to face of curb: 5 ft. 3 in. minimum. Center of RR mast to edge of pavement (with shoulder): 7 ft. minimum. Center of RR mast to edge of pavement (no shoulder): 9 ft. 3 in. minimum. NOTE: Final location determined by the railroad company.
Q: Gate length: 28 ft. or less typical, but railroad company may allow up to 32 ft. under special circumstances.
R: Stop line to first RR Crossing transverse line (bicycle lane): 50 ft. typical.
S: See the SHSD for bicycle lane railroad crossing symbol details.
T: Stop line to Grade Crossing Advance Warning (W10-1) sign and adjacent RR Crossing pavement markings. See Table 1. See RCD(2) for other signs.

DETAIL A

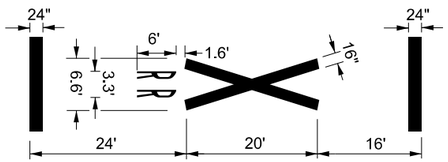


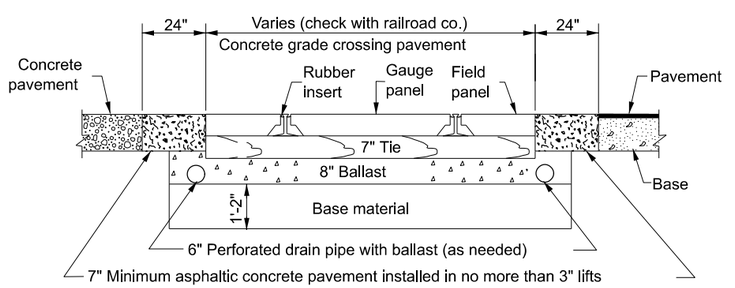
TABLE 1	
Approach Speed (MPH)	Desirable Placement (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

LEGEND	
	Cantilever
	Gate Assembly
	Mast Flasher Pair
	Object Marker
	Sign
	Traffic Flow

GENERAL NOTES:

1. Medians and curbs must be non-traversable to qualify as a Quiet Zone Supplementary Safety Measure (SSM). Non-traversable curbs in Quiet Zones are 6 in. tall minimum and used on roadways where speed does not exceed 40 mph.
2. Raised pavement markers may be used to supplement striping. See PM(2) and PM(3) standard sheets.
3. Medians preferred whenever possible to prevent vehicles from driving around gates.
4. Longitudinal edge striping may be continued thru crossing as needed. Illumination may also be considered for nighttime visibility.
5. See SMD standard sheets for sign mounting details.
6. See the Standard Highway Sign Designs for Texas (SHSD) for sign details.
7. Transverse lines for a railroad crossing symbol are not paid for directly, but are subisdiary to the bid item for the symbol marking.

CROSSING SURFACE CROSS SECTION



Texas Department of Transportation

Traffic Safety Division Standard

RAILROAD CROSSING DETAILS SIGNING, STRIPING, AND DEVICE PLACEMENT RCD(1)-25

FILE:	rcd1-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	April 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS		0912	72	615	.
2-16 4-25		DIST	COUNTY		SHEET NO.
11-22	719	HOU	HARRIS		OF 1067

DATE: 1/7/2026 4:03:19 PM
FILE: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\Railroad\Railroad CAD Files\rcd1-25.dgn

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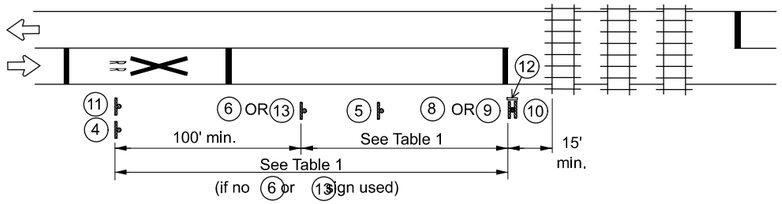
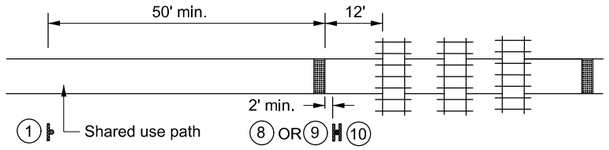
DATE: 1/7/2026 4:02:00 PM
FILE: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\Railroad\CAD Files\rcd2-25.dgn

PASSIVE CROSSING



1. A STOP or YIELD sign may also be installed to the left of the crossbuck sign, rather than below it.
2. A 2 in. white retroreflective strip shall be installed on front and back of crossbuck sign post.
3. See the Crossbuck Assemblies with YIELD or STOP Signs at Passive Grade Crossings section of the TMUTCD for details about sign mounting arrangements.

PATHWAY CROSSING



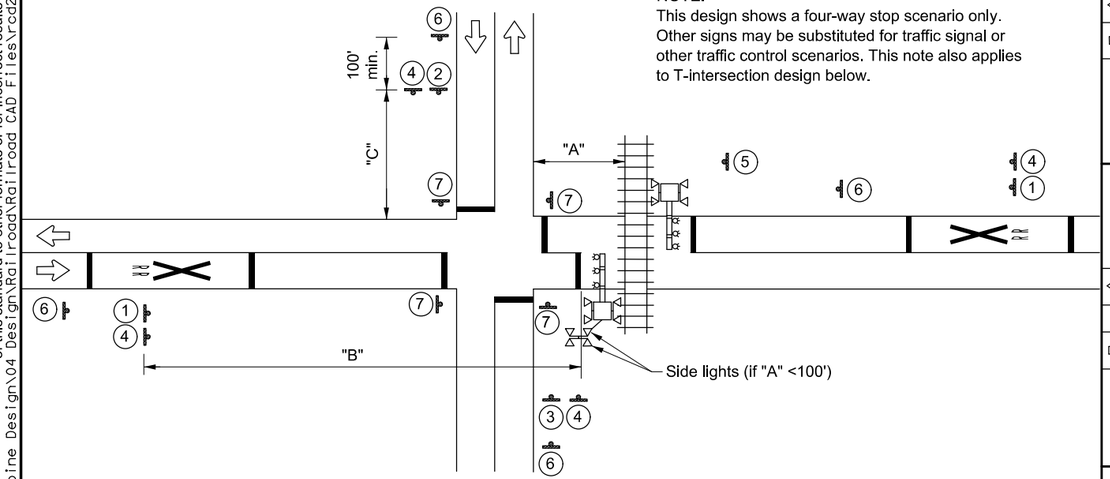
1. A shared use path is considered a separate pathway crossing when more than 25 ft. from traveled way of adjacent roadway.
2. Stop bar used at detectable warning surface.
3. Smaller signs preferred. See the Design of Bicycle Signs section within the TMUTCD for sizing details.

TABLE 1	
Approach Speed (MPH)	Desirable Placement (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

GENERAL NOTES:

1. Railroad company to provide active traffic control devices, Grade Crossing (Crossbuck) (R15-1), Number of Tracks (R15-2P) plaque (if more than 1 track), and Emergency Notification (I13-1) signs.
2. Low Ground Clearance Grade Crossing (W10-5) signs may be relocated further upstream of crossing to provide advance warning of alternate route.
3. Grade Crossing and Intersection Advance Warning (W10-2) signs may be modified as needed to fit roadway geometry.
4. Table 1 placement distances may vary per the Placement of Warning Signs section of the TMUTCD.
5. See Table 1 to determine placement of Stop Ahead (W3-1) and Yield Ahead (W3-2) signs unless shown otherwise.
6. DO NOT STOP ON TRACKS (R8-8) signs are installed when potential for vehicles stopping on tracks is significant as determined by sealing engineer. Install so sign does not block view of RR mast.
7. See the Standard Highway Sign Designs for Texas (SHSD) for sign and pavement marking details.

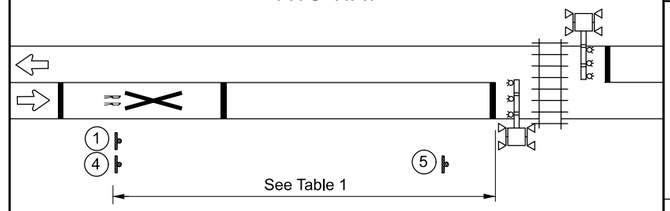
GRADE CROSSING NEAR A PARALLEL STREET



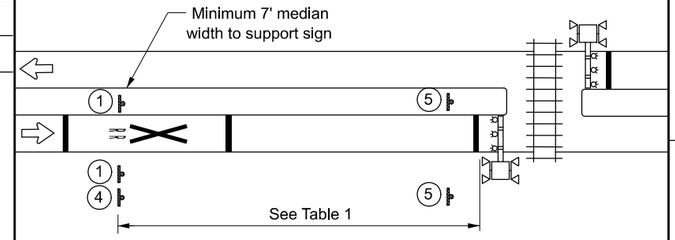
NOTE:
This design shows a four-way stop scenario only. Other signs may be substituted for traffic signal or other traffic control scenarios. This note also applies to T-intersection design below.

	"A" <100'	"A" ≥ 100'
"B"	See Table 1. Place pavement markings and signs on opposite side of intersection from rail if spacing from Table 1 would put markings within intersection.	See Table 1. Place pavement markings and signs between rail and intersection if spacing from Table 1 would put markings within intersection.
"C"	See Table 1.	Grade Crossing and Intersection Advance Warning (W10-2, W10-3, W10-4) signs should only be installed if W10-1 sign is not between intersection and railroad crossing. If needed, see Table 1.

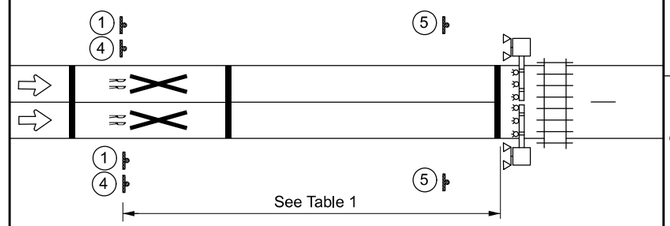
TWO-WAY



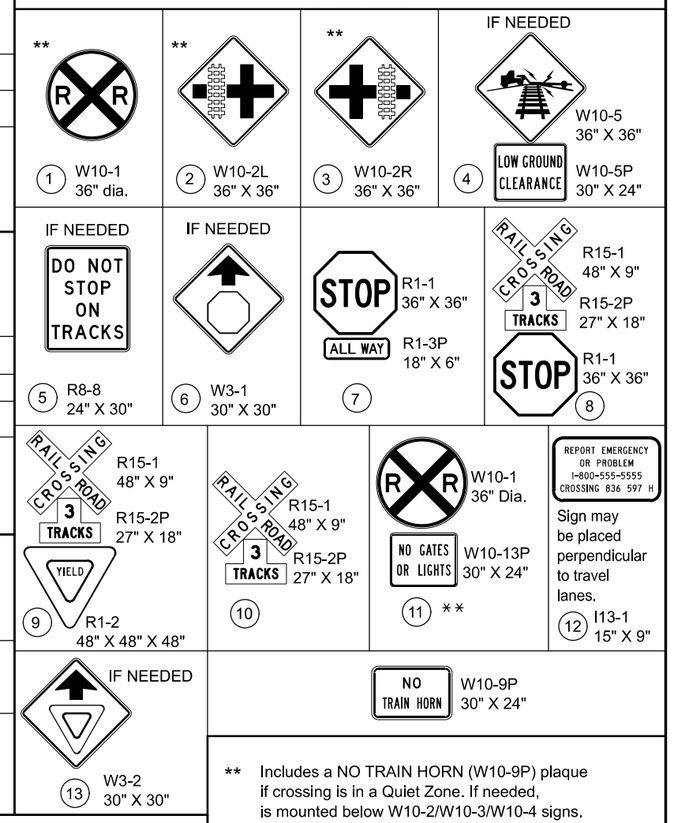
TWO-WAY WITH MEDIAN



ONE-WAY

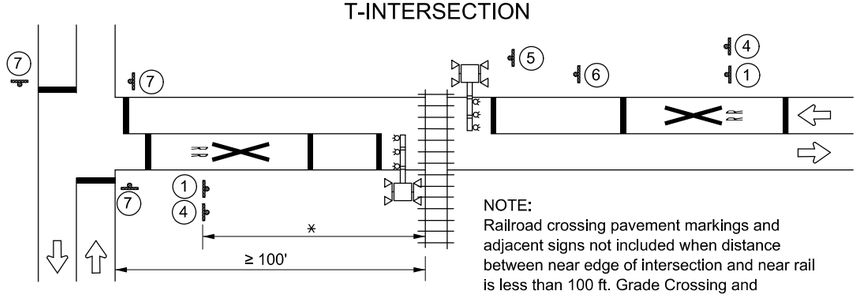


SIGNS



** Includes a NO TRAIN HORN (W10-9P) plaque if crossing is in a Quiet Zone. If needed, is mounted below W10-2/W10-3/W10-4 signs.

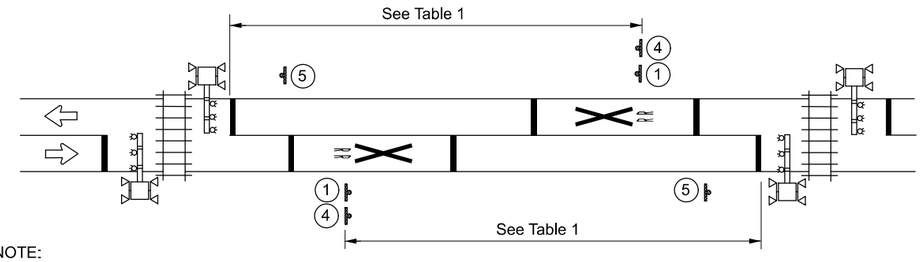
T-INTERSECTION



*Use Table 1 if sufficient space exists.

NOTE:
Railroad crossing pavement markings and adjacent signs not included when distance between near edge of intersection and near rail is less than 100 ft. Grade Crossing and Intersection Advance Warning (W10-3) signs installed on roadway parallel with rail in this case.

TWO ADJACENT CROSSINGS



NOTE:
Separate active traffic control devices, railroad crossing pavement markings, and adjacent signs required when tracks are more than 100 ft. apart.

Texas Department of Transportation — Traffic Safety Division Standard

RAILROAD CROSSING DETAILS SIGNING & STRIPING

RCD(2)-25

FILE: rcd2-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2025	CONT	SECT	JOB	HIGHWAY
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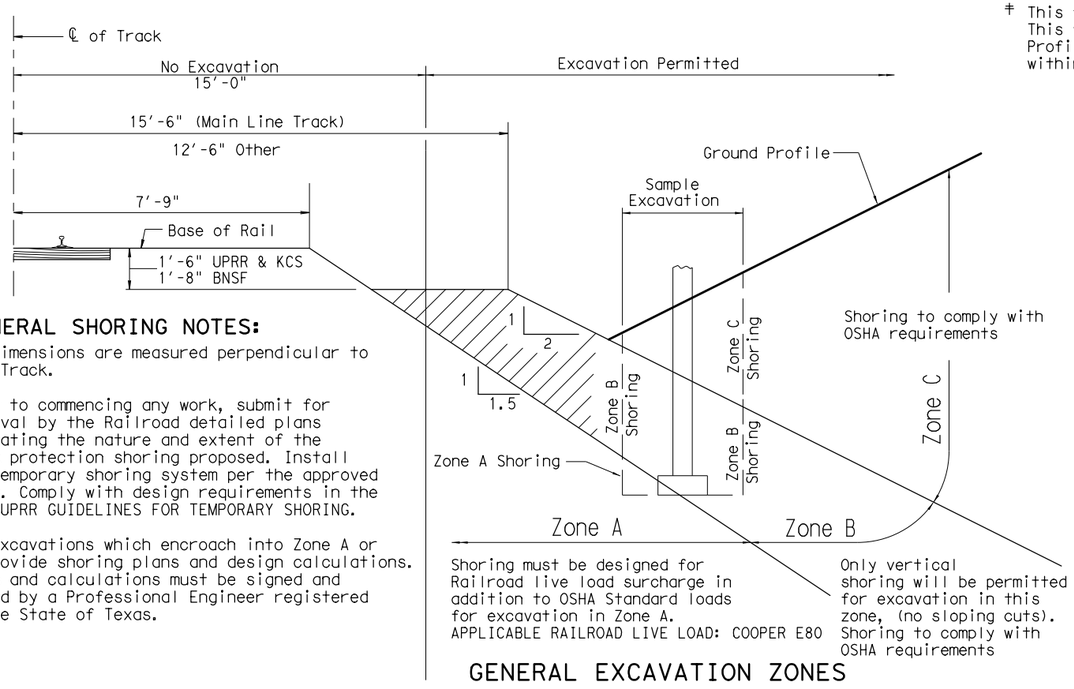
2-16 4-25	DIST	COUNTY		SHEET NO.
11-22 720	HOU	HARRIS		OF 1067



GENERAL EXCAVATION ZONES

GENERAL SHORING NOTES:

1. All dimensions are measured perpendicular to ℄ of Track.
2. Prior to commencing any work, submit for approval by the Railroad detailed plans indicating the nature and extent of the track protection shoring proposed. Install the temporary shoring system per the approved plans. Comply with design requirements in the BNSF/UPRR GUIDELINES FOR TEMPORARY SHORING.
3. For excavations which encroach into Zone A or B, provide shoring plans and design calculations. Plans and calculations must be signed and sealed by a Professional Engineer registered in the State of Texas.

GENERAL SHORING REQUIREMENTS ǂ

RAILROAD GENERAL NOTES:

1. Railroad review and approval of shoring, erection, demolition, and falsework is required. Allow a minimum of four weeks for the review and approval of each submittal.
2. The proposed grade separation project shall not increase the quantity and/or characteristics of the flow in the Railroad's ditches and/or drainage structures. In the rare event that a grade separation project will increase the quantity and/or characteristics of flow in such elements, such a design must be reviewed and approved by the Railroad.
3. Verify the elevation of the existing top-of-rail profile before beginning construction. Bring all discrepancies to the attention of the Railroad prior to construction.
4. Submit a proposed method of erosion and sediment control for approval by the Railroad.
5. Design and construct all shoring systems that impact the Railroad's operations and/or support the Railroad's embankment per current Railroad Guidelines for Temporary Shoring.
6. Comply with Railroad Demolition Guidelines for all demolitions within the Railroad's right of way and/or demolition that may impact the Railroad's tracks or operations.
7. Design erection methods over the Railroad's right of way to cause no interruption to the Railroad's operation, enabling the track(s) to remain open to traffic per the Railroad's requirements. Coordinate construction work windows with the Railroad's Designated Representative.
8. Design all construction phasing that may impact the Railroad operations to cause no interruption to the Railroad's operations, enabling the track(s) to remain open to traffic per the Railroad's requirements. Coordinate construction work windows with the Railroad's Designated Representative.
9. Comply with minimum construction clearances for falsework outlined in the Railroad's Guidelines.
10. Verify all permanent clearances before project closing.
11. For Railroad coordination please refer to Sheets 2 and 3 and the TxDOT Standard Specifications.

For shoring/excavations in Zone A or B, TxDOT requires a predesigned and approved shoring design in the PS&E. If this is the case no Contractor submittal is required.

ǂ This table is primarily required for overpass projects. This table is not required for underpass projects if the provided Plan and Profile sheets indicate this information at a minimum of every 100 ft and within bounds including 1500 ft before and after the limits of trackwork.

TABLE OF TOP OF RAIL PROFILE ǂ

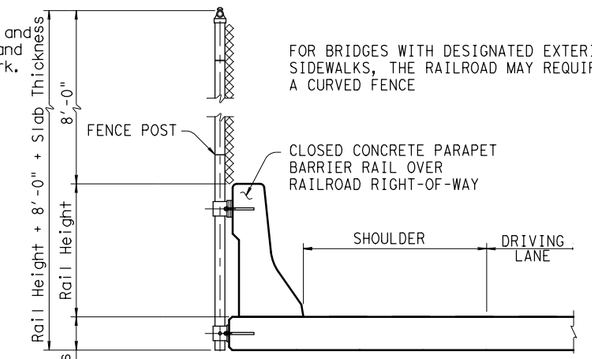
(STATIONS INCREASE WITH MILEPOST INCREASE)

	MAIN LINE			
	ALIGNMENT: 100′ STATIONS	LEFT RAIL ELEVATION	ALIGNMENT: 100′ STATIONS	RIGHT RAIL ELEVATION
1000′ PRIOR TO PROJECT	1060 FT E OF ℄	78.74	1060 FT E OF ℄	78.74
	560 FT E OF ℄	79.75	560 FT E OF ℄	79.76
	460 FT E OF ℄	79.87	460 FT E OF ℄	79.88
	360 FT E OF ℄	80.04	360 FT E OF ℄	80.08
	260 FT E OF ℄	80.15	260 FT E OF ℄	80.17
WITHIN PROJECT	EAST SIDEWALK	80.19	EAST SIDEWALK	80.17
	EAST ROW	80.21	EAST ROW	80.18
	Antoine Dr ℄	80.49	Antoine Dr ℄	80.48
	WEST ROW	80.49	WEST ROW	80.48
	WEST SIDEWALK	80.49	WEST SIDEWALK	80.48
1000′ AFTER PROJECT	232 FT W OF ℄	81.01	232 FT W OF ℄	80.98
	337 FT W OF ℄	81.20	337 FT W OF ℄	81.18
	450 FT W OF ℄	81.51	450 FT W OF ℄	81.49
	552 FT W OF ℄	81.59	552 FT W OF ℄	81.59
	653 FT W OF ℄	81.55	653 FT W OF ℄	81.60
	754 FT W OF ℄	81.71	754 FT W OF ℄	81.74
	850 FT W OF ℄	81.80	850 FT W OF ℄	81.82
	950 FT W OF ℄	81.74	950 FT W OF ℄	81.76
	1050 FT W OF ℄	81.99	1050 FT W OF ℄	82.04
	1150 FT W OF ℄	82.02	1150 FT W OF ℄	82.02

⬓ ± EXISTING TRACK STA. 10+00
= ± CONSTRUCTION STA. XX+XX

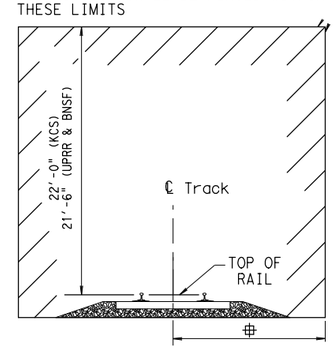
FOR THE FOLLOWING INFORMATION PLEASE REFER TO THE PLAN AND ELEVATION DRAWINGS OF THE BRIDGE PLANS. THE PLAN AND ELEVATION DRAWINGS SHALL SHOW ALL REQUIRED INFORMATION PER BNSF/UPRR GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECT PLAN NO. 711100 SHEET 2.

1. Centerline of bridge and/or centerline of project.
2. Track layout and limits of Railroad right of way with respect to centerline of main lines.
3. Future tracks, access roadways and existing tracks as main line, siding, spur, etc.
4. Point of minumum vertical clearance and distance, Measured perpendicular, from the centerline of nearest track.
5. Horizontal clearance at right angle from centerline of nearest existing or future track to the face of obstruction such as substructure above grade.
6. Horizontal clearance at right angle from centerline of nearest existing or future track to the face of nearest foundation below grade.
7. Horizontal spacing at right angle between centerlines of existing and/or future tracks.
8. Limits of shoring and minimum distance at right angle from centerline of nearest track.
9. All existing facilities and utilities and their proposed relocation, if required.
10. Toe of riprap or earth slope and/or limits of retaining wall.
11. Existing and proposed contours. (not required if the existing groundlines or drainage characteristics in Railroad ROW will not be altered).
12. Railroad Milepost and direction of increasing Milepost.
13. Direction of flow for all drainage systems within project limits.
14. Limits of barrier rail and fence with respect to centerline of track.
15. Depth of foundation below bottom of tie. (for footings only)
16. Top and bottom of pier protection wall elevation relative to top of rail elevation.
17. Controlling dimensions of drainage ditches and/or drainage structures.
18. Top of rail elevations for all tracks.
19. Minimum permanent vertical clearance above top of high rail to the lowest point under the bridge.
20. Existing and proposed groundline & roadway profile.
21. Type of riprap slope paving.
22. Location of deck drains.
23. Total width of superstructure.
24. Width of shoulder and/or sidewalk.



TYPICAL FENCE ON BARRIER DETAIL

ONLY REQUIRED ON OVERPASSES IF SHOWN ON BRIDGE LAYOUT. (AREAS WITH PEDESTRIANS ON BRIDGE, RAIL YARDS, OR HISTORY OF VANDALISM)



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

(NORMAL TO RAILROAD)
15′-0"(UPRR), (BNSF)and14′-0" (KCS)

GENERAL NOTES:

Design and Construction for Railroad Projects shall be in accordance with the AREMA Manual for Railway Engineering and BNSF/UPRR Guidelines for Railroad Grade Separation Projects or Kansas City Southern Guidelines for the Design and Construction of Overpasses and Underpasses, or DART Light Rail Project Design Criteria Manual, and the TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges AS APPLICABLE TO THE RAILROAD COMPANY INVOLVED.

See BNSF/UPRR Guidelines for Grade Seperation Projects Plan No. 711100 and TxDOT Railroad Fence Details Sheet for additional information. A curved top fence extending 8′-0" above top of sidewalk is acceptable only where there is a traffic rail between roadway and sidewalk.

See Kansas City Southern Guidelines for the Design and Construction of Overpasses and Underpasses for corresponding BNSF/UPRR sheets referenced.

P.E. SEAL REQUIRED

PRELIMINARY

SUBJECT TO REVISION

This document is released for informational purposes under the authority of **BRADLEY G. EAVES** P.E. 91759 on 01/07/2026 It is not to be used for regulatory approval, permit, bidding, or construction purposes.

FIRM: TEI PLANNING + DESIGN
TBPELS FIRM NUMBER F-3158

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION

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PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the right of way and/or properties of the Railroad Company and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right of Way or when impacting current or future railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right of Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right of Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad's website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, FRA (Federal Railway Administration) and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of Railroad's train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor's machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the contract site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a railroad flag person will be required. At the direction of the Railroad's flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. A railroad flag person will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right of Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right of Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right of Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.18 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right of Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right of Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety", and maintain current registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right of Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF)(UPRR), and 14' - 0" (KCS) horizontal from centerline of track
B. 22' - 0" (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement until receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR FOR BRIDGE CONSTRUCTION

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3.09 CONSTRUCTION AND AS-BUILT SUBMITTALS

A. Provide TxDOT submittals for construction materials and procedures as outlined below and indicated in TxDOT Standard Specifications. A summary of most TxDOT submittal requirements can be found at: www.dot.state.tx.us/publications/bridge/items reviewed.pdf

B. The tables below provide the Railroad's minimum submittal requirements for the construction items noted. Submittal requirements are in addition to those specified elsewhere in these bid documents. The review times indicated below represent the total time, including the Railroad's required four (4) weeks.

C. TxDOT will forward relevant submittals to the Railroad Manager of Industry and Public Projects unless otherwise directed by the Railroad. TxDOT and the Engineer of Record will review and include comments prior to forwarding to the Railroad. Submit items in Table 1 for both railroad overpass and underpass projects, as applicable. Submit items in Table 2 for railroad underpass projects only.

TABLE 1 - RAILROAD SUBMITTAL REQUIREMENTS FOR OVERPASS & UNDERPASS PROJECTS

ITEM	DESCRIPTION	SETS	REVIEW TIME
1	Shoring design and details	6	6 weeks
2	Falsework design and details	6	6 weeks
3	Drainage design provisions	6	6 weeks
4	Erection diagrams and sequence	6	6 weeks
5	Demolition diagram and sequence	6	6 weeks

TABLE 2 - RAILROAD SUBMITTAL REQUIREMENTS FOR UNDERPASS PROJECTS

ITEM	DESCRIPTION	SETS	NOTES	REVIEW TIME
1	Shop drawings	6	Steel and Concrete members	6 weeks
2	Bearings	6	For all structures	6 weeks
3	Concrete Mix Designs	6	For all structures	6 weeks
4	Rebar & Strand certifications	6	For superstructure only	6 weeks
5	28 day concrete strength	6	For superstructure only	6 weeks
6	Waterproofing material certifications and installation procedure	6	Waterproofing & protective boards	6 weeks
7	Structural steel certifications	6	All fracture critical members & other members requiring improved notch toughness	6 weeks
8	Fabrication and Test reports	6	All fracture critical members & other members requiring improved notch toughness	6 weeks
9	Welding Procedures and Welder Certification	6	AWS requirements	6 weeks
10	Foundation Construction Reports or Notes	6	Pile driving, drilled shaft construction, bearing pressure test reports for spread footings	6 weeks
11	Compaction testing reports for backfill at abutments	6	Must meet 95% maximum dry density, Modified Procter ASTM D1557	6 weeks

D. TxDOT shall submit As-Built Records to the Railroad when TxDOT has processed the final project plans. These records shall consist of the following items:

Overpass Projects

1. Electronic files of all structure design drawings with as constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as constructed modifications shown.

Underpass Projects

1. Electronic files of all structure design drawings with as constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as constructed modifications shown.
3. Final approved copies of shop drawings for concrete and steel members.
4. Foundation Construction Reports
5. Compaction testing reports for backfill at abutments

3.10 APPROVAL OF DETAILS

Submit details of the construction affecting Railroad's tracks and property not already included in the Contract Plans to the Railroad Designated Representative through TxDOT for the Railroad's review and written approval before such work is undertaken. Allow a total six (6) weeks for review and approval of these submittals, which includes the Railroad's four (4) week review time.

3.11 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right of Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractor's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the Project Site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.12 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
1. Pre-construction meetings.
2. Pile driving/drilling of caissons or drilled shafts.
3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
4. Erection of precast concrete or steel bridge superstructure.
5. Placement of waterproofing (prior to placing ballast on bridge deck).
6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.13 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad, at expense of TxDOT, to protect Railroad's facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to Railroad's facilities, which, in the opinion of the Railroad Designated Representative, may endanger railroad facilities or operations.

D. During any contractor's operations when, in the opinion of the Railroad Designated Representative, Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.14 WALKWAYS REQUIRED

Maintain along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than twelve feet (12') from centerline of track. Remove any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours before the close of each work day. Construct walkways with railings over open excavation areas when in close proximity of track. Do not violate allowable clearances of these railings to centerline of track: 8' - 6" horizontally for tangent track or 9' - 6" horizontally for curved track.

3.15 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad, will be done by its own forces and it is not a part of the Work under this Contract.

3.16 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around railroad facilities with the Railroad Designated Representative.

3.17 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

UPRR 1-800-336-9193
7:00 AM to 9:00 PM CST Monday-Friday except holidays,
staffed 24 hrs/day for emergencies
48 hrs notice required

BNSF 1-800-533-2891
24 hour number
5 working days notice required

KCS 1-800-344-8377
Texas One Call, a 24 hour number
48 hrs notice required, excluding weekends and holidays

If a telecommunications system is buried anywhere on or near Railroad's property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor-assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of 1/4 inch vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.18 RAILROAD FLAGGING

Per the RIGHT OF ENTRY agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor work and at least 30 working days in advance of any Contractor work in which any person or equipment will be within 25 feet of nearest rail or as specified in the Contractor Right of Entry (CROE).

3.19 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right of Way and leave the Right of Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation — Rail Division

RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION

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I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 597084X (Existing)
Crossing Type: Public - At Grade
RR Company Operating Track at Crossing: BNSF
RR Company Owning Track at Crossing: BNSF
RR MP: 65.797
RR Subdivision: HOUSTON
City: HOUSTON
County: HARRIS
CSJ at this Crossing: 0912-72-615
Latitude: 29.8512928
Longitude: -95.473422

Scope of Work, including any TCP, to be performed by State Contractor:

Removal of existing at-grade pavement approaches of Antoine Drive. Removal of existing signaling equipment and circuits needed for existing signaling equipment.

Scope of Work to be performed by Railroad Company:

Removal of existing signaling equipment and circuits needed for existing signaling equipment. Modifications to rail panels (if needed)

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 14

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☐ Not Required
☑ Required. Contact Information for Construction Inspection:

Tim Huya
BNSF Railway
Office: 817-352-2902
Mobile: 817-919-8685

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☑ Required.
☐ Not Required

Railroad Point of Contact: Tim Huya

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other:	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☑ Required: Contractor to obtain
- ☑ BNSF: https://bnsf.railpermitting.com
- ☐ CPKCR https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads:

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF
Railroad Emergency Line at: 800-832-5452
Location: DOT 597084X (EXISTING)
RR Milepost: 65.797
Subdivision: HOUSTON

RRD Review Only
Initials: _____
Date: _____

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK: BE	DW: BE	CK: BE		
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I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 597084X
Crossing Type: Roadway Overpass over BNSF Railroad Tracks
RR Company Operating Track at Crossing: BNSF
RR Company Owning Track at Crossing: BNSF
RR MP: 65.797
RR Subdivision: Houston
City: Houston
County: Harris
CSJ at this Crossing: 0912-72-615
Latitude: 29.8512
Longitude: -95.4734

Scope of Work, including any TCP, to be performed by State Contractor:

Construct 56 foot wide, two-way, Antoine Drive roadway bridge over BNSF railroad tracks.

Scope of Work to be performed by Railroad Company:

Flagging and Inspection

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 150

On this project, night or weekend flagging is:

☑ Expected
☐ Not Expected

Flagging services will be provided by:

☑ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☑ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☐ Not Required
☑ Required. Contact Information for Construction Inspection:

Tim Huya
BNSF Railway
Office: 817-352-2902
Mobile: 817-919-8685

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☑ Required.
☐ Not Required

Railroad Point of Contact: Tim Huya

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☑ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other:	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☑ Required: Contractor to obtain
- ☑ BNSF: https://bnsf.railpermitting.com
- ☐ CPKCR https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads:

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF
Railroad Emergency Line at: 800-832-5452
Location: DOT 023010V (Proposed)
RR Milepost: 65.806
Subdivision: HOUSTON

RRD Review Only
Initials: _____
Date: _____

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY
REVISIONS 6/2023		0912	72	615		VARIES
	725	DIST	COUNTY			SHEET NO.
		HOU	HARRIS			OF 1067

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 597084X (Proposed)
Crossing Type: Public - At Grade
RR Company Operating Track at Crossing: BNSF
RR Company Owning Track at Crossing: BNSF
RR MP: 65.796
RR Subdivision: HOUSTON
City: HOUSTON
County: HARRIS
CSJ at this Crossing: 912-72-615
Latitude: 29.8512
Longitude: -95.4734

Scope of Work, including any TCP, to be performed by State Contractor:

Construct northbound at-grade Antoine Drive roadway approach to BNSF railroad tracks. Construct sidewalk crossing along east side of Antoine Drive to cross BNSF tracks at right angle to BNSF railroad tracks.

Construct pedestrian overpass over BNSF railroad tracks along the east side of Antoine Drive right of way.

Scope of Work to be performed by Railroad Company:

Install 48 foot concrete crossing panels at BNSF tracks for 15 foot wide northbound at-grade roadway crossing. Install Railroad Mast Flashing Lights with 20 foot gate and necessary circuits.Install 8 foot concrete crossing panels for 6 foot wide sidewalk in northbound direction. Install Railroad Mast Flashing Lights with 11 foot gate for northbound sidewalk crossing.

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 45

On this project, night or weekend flagging is:

☑ Expected
☑ Not Expected

Flagging services will be provided by:

☑ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☑ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☐ Not Required
☑ Required. Contact Information for Construction Inspection:

Tim Huya
BNSF Railway
Office: 817-352-2902
Mobile: 817-919-8685

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☑ Required.
☐ Not Required

Railroad Point of Contact: Tim Huya

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☑ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other:	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☑ Required: Contractor to obtain
- ☑ BNSF: https://bnsf.railpermitting.com
- ☐ CPKCR https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads:

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF
Railroad Emergency Line at: 800-832-5452
Location: DOT 597084X (Proposed
RR Milepost: 65.796
Subdivision: HOUSTON

RRD Review Only
Initials: _____
Date: _____

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK: BE	DW: BE	CK: BE		
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS 6/2023	726	0912	72	615			
		DIST	COUNTY			SHEET NO.	
		HOU	HARRIS			OF 1067	

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I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: SDFASDFASD
Crossing Type: Public - At Grade
RR Company Operating Track at Crossing: BNSF
RR Company Owning Track at Crossing: BNSF
RR MP: 65.832
RR Subdivision: HOUSTON
City: HOUSTON
County: HARRIS
CSJ at this Crossing: 0912-72-615
Latitude: 29.8512
Longitude: -95.4734

Scope of Work, including any TCP, to be performed by State Contractor:

Construct approaches for 16 foot wide southbound access roadway at-grade crossing of BNSF railroad tracks. Construct approaches for six foot wide at-grade sidewalk crossing southbound along west side of Antoine Drive.

Scope of Work to be performed by Railroad Company:

Install 56 foot concrete crossing panels at BNSF tracks for 16 foot wide southbound at-grade roadway crossing. Install Railroad Mast Flashing Lights with 21 foot gate and necessary circuits.Install 8 foot concrete crossing panels for 6 foot wide sidewalk in southbound direction. Install Railroad Mast Flashing Lights with 11 foot gate for southbound sidewalk crossing.

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 30

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

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Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☐ Not Required
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Tim Huya
BNSF Railway
Office: 817-352-2902
Mobile: 817-919-8685

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☑ Required.
☐ Not Required

Railroad Point of Contact: Tim Huya

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Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
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☑ Required: Contractor to obtain
- ☑ BNSF: https://bnsf.railpermitting.com
- ☐ CPKCR https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads:

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VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF
Railroad Emergency Line at: 800-832-5452
Location: DOT 023009B (Proposed)
RR Milepost: 65.832
Subdivision: HOUSTON

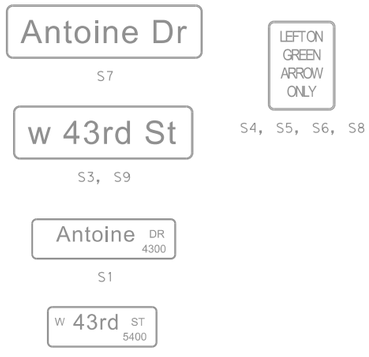
RRD Review Only
Initials: _____
Date: _____

Texas Department of Transportation — Rail Division

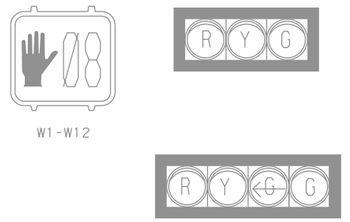
RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf	DN: TxDOT	CK:	DW:	CK:		
© TxDOT June 2014	CONT	SECT	JOB	HIGHWAY		
REVISIONS 6/2023	0912	72	615	VARIES		
727	DIST	COUNTY		SHEET NO.		
	HOU	HARRIS		OF 1067		

EXISTING OVERHEAD SIGN LEGEND



EXISTING TRAFFIC SIGNAL LEGEND



LEGEND

- PEDESTAL POLE
- POLE W/MAST ARM
- POLE W/SPAN WIRE
- VEHICLE SIGNAL HEAD W/BACK PLATE
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PULL BOX
- CONDUIT
- CONTROLLER CABINET
- METERED POWER PEDESTAL
- MAST ARM SIGN
- LUMINAIRE
- WIMAX ANTENNA
- PRE-EMPT SENSOR
- LANE ASSIGNMENT ARROW

EXISTING PEDESTRIAN SIGN LEGEND

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation ©2025

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ◆ Bellaire, TX 77401
713.777.5337

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No. 147989
12/4/2025
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W 43RD ST
EXISTING SIGNAL LAYOUT

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 728 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 12/4/2025 1:26:00 PM
Pen Table:ANT.tbl.tbl
Plot Driver:$PLTDRVL$
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\traffic\Sheets\1 Existing Conditions.dgn

S1 = STREET NAME "W 43RD ST", BLOCK NUMBER 5400 & 5500
S2 = STREET NAME "ANTOINE DR", BLOCK NUMBER 4300 & 4200
S3 = STREET NAME "ANTOINE DR", BLOCK NUMBER 4200 & 4300
S4 = STREET NAME "W 43RD ST", BLOCK NUMBER 5500 & 5400
S5 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S6 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S7 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S8 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S9 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S10 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S11 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"
S12 = R10-5 (30"X36") SIGN, "LEFT ON GREEN ARROW ONLY"

PROPOSED MAST ARM SIGNS

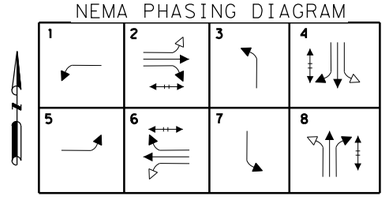
W 43rd ST 5400 5500 — S1
Antoine DR 4300 4200 — S2
W 43rd ST 5500 5400 — S4
Antoine DR 4200 4300 — S3

LEFT ON GREEN ARROW ONLY
R10-5
30" x 36"
S5, S6, S7, S8, S9, S10, S11, S12

POSTED SPEED LIMIT

ANTOINE DR = 35 MPH
W43RD ST = 35 MPH

NEMA PHASING DIAGRAM



TRAFFIC PHASE
PEDESTRIAN PHASE

LEGEND

- PEDESTAL POLE
- POLE W/MAST ARM
- LUMINAIRE
- VEHICLE SIGNAL HEAD W/BACK PLATE
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PULL BOX - TYPE A
- PULL BOX - TYPE B
- PULL BOX - TYPE C
- CONDUIT
- CONDUIT (BORED)
- CONTROLLER CABINET W/ UPS
- METERED POWER PEDESTAL
- MAST ARM SIGN
- PRE-EMPT SENSOR
- SAW-CUT LOOP DETECTOR
- PRE-FORMED LOOP DETECTOR
- LANE ASSIGNMENT ARROW

0' 20' 40'
SCALE IN FEET

PROPOSED TRAFFIC SIGNAL HEADS

(W/ BLACK BACK PLATE & YELLOW RETROREFLECTIVE BORDER)

ø2, ø4, ø6, ø8

ø1, ø3, ø5, ø7

ø1 (V), ø3 (V), ø5 (V), ø7 (V)

COMMUNICATION SYSTEM NOTE:

1. ALL INTELLIGENT SYSTEMS (ITS) INFRASTRUCTURE MUST BE FIELD VERIFIED AND INCLUDED ON ALL DESIGN PLANS. ITS INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER OPTIC CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH EQUIPMENT, CCTV CAMERAS, ETC. A FIELD HARDENED MANAGED ETHERNET SWITCH MUST BE INCLUDED FOR ANY NEW OR MODIFIED SIGNALIZED INTERSECITON(S). CONTACT TRAFFIC OPERATIONS DIVISION/ITS SECTION FOR COMPATIBILITY QUESTIONS WITH CITY OF HOUSTON COMMUNICATION INFRASTRUCTURE.

UTILITY NOTES:

1. CONTRACTOR IS MADE AWARE THAT CENTERPOINT, AT&T AND COMCAST ARE PRESENT IN THE VICINITY AND MAY BE IN CONFLICT WITH TRAFFIC SIGNAL POLES. CABLES/CONDUITS MAY NEED TO BE RELOCATED IF IN CONFLICT WITH TRAFFIC SIGNAL POLE.

CENTERPOINT GAS LINES:

1. CONTRACTOR SHALL MAINTAIN 2FT MINIMUM CLEARANCE FROM ALL EXISTING GAST LINES.

SPECIAL NOTES:

1. CONFIRM FINAL PLACEMENT OF PULLBOXES WITH CONSTRUCTION MANAGER.
2. CELLULAR MODEM, BLUETOOTH READER, AND ANTENNA TO BE INSTALLED PER COMMUNICATION INSTALLATION DETAILS.

WATERLINE NOTES:

1. THE CONTRACTOR SHALL MAINTAIN 4' HORIZONTAL CLEARANCE AND 6" VERTICAL CLEARANCE BETWEEN WATERLINE AND ANY CONCRETE FOUNDATION FOR STREET TRAFFIC LIGHTS, SIGNS, AND PANEL BOARD FOUNDATION SIGNS. IF REQUIRED, OFFSET WATERLINES IN COORDINATION WITH DWO.
2. NO ELECTRICAL OR SIGNAL PULL BOX TO BE INSTALL ABOVE WATERLINES. IF REQUIRED, OFFSET WATERLINES IN COORDINATION WITH DWO.

Texas Department of Transportation ©2025

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

SURVEYED BY:
KUO & ASSOCIATES, INC.

INTERIM REVIEW ONLY
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Texas 147989
12/4/2025
Date
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W 43RD ST TRAFFIC SIGNAL PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 729 OF 1067	

No.	DATE	REVISIONS	APP.

Plotted on: 12/4/2025 1:26:24 PM •Cowser
Pen Table:ANT.tbl.tbl
Plot Driver:$PLTDRVL$
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\traffic\Sheets\2 Proposed Conditions.dgn

POLE SCHEDULE

POLE NUMBER	POLE TYPE	MAST ARM		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
(C)	TYPE 2	40'	N.T.S. 15'	3 - ASTROBRAC	2 - H3 1 - H4L	106 WATT SYSTEM MAX. LED COBRA LUMINAIRE	-	PRE-EMPT SENSOR SIGNS: S1 = STREET NAME S5 = R10-5 (30"x36")	POLE C: STA 35+29.2 16.0' LT ANTOINE DRIVE ℄	01554-11 02465-01 02582-01 02582-02 02582-03 02893-01
(D)	TYPE 2	55'	N.T.S. 15'	3 - ASTROBRAC	2 - H3 1 - H4L	106 WATT SYSTEM MAX. LED COBRA LUMINAIRE	-	PRE-EMPT SENSOR SIGNS: S2 = STREET NAME S6 = R10-5 (30"x36")	POLE D: STA 35+45.6 4.7' LT ANTOINE DRIVE ℄	01554-11 02465-01 02582-01 02582-02 02582-03 02893-01
(E)	TYPE 2	55'	N.T.S. 15'	3 - ASTROBRAC	2 - H3 1 - H4L	106 WATT SYSTEM MAX. LED COBRA LUMINAIRE	-	PRE-EMPT SENSOR SIGNS: S3 = STREET NAME S7 = R10-5 (30"x36")	POLE E: STA 36+76.1 6.5' RT ANTOINE DRIVE ℄	01554-11 02465-01 02582-01 02582-02 02582-03 02893-01
(F)	TYPE 2	40'	N.T.S. 15'	3 - ASTROBRAC	2 - H3 1 - H4L	106 WATT SYSTEM MAX. LED COBRA LUMINAIRE	-	PRE-EMPT SENSOR SIGNS: S4 = STREET NAME S8 = R10-5 (30"x36")	POLE F: STA 36+89.6 15.5' RT ANTOINE DRIVE ℄	01554-11 02465-01 02582-01 02582-02 02582-03 02893-01
(G)	PED POLE 20'	-	-	2 - SIDE OF POLE	1 - CDP 1 - V4L	-	POLARA NAVIGATOR R10-3E (L)	SIGNS: S9 = R10-5 (30"x36")	POLE G: STA 36+76.5 68.3' LT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(H)	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - CDP	-	POLARA NAVIGATOR R10-3E (R)	-	POLE H: STA 36+63.5 72.1' LT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(I)	PED POLE 20'	-	-	2 - SIDE OF POLE	1 - CDP 1 - V4L	-	POLARA NAVIGATOR R10-3E (L)	SIGNS: S10 = R10-5 (30"x36")	POLE I: STA 35+59.2 72.4' LT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(J)	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - CDP	-	POLARA NAVIGATOR R10-3E (L)	-	POLE J: STA 35+48.4 59.7' LT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(K)	PED POLE 20'	-	-	2 - SIDE OF POLE	1 - CDP 1 - V4L	-	POLARA NAVIGATOR R10-3E (L)	SIGNS: S11 = R10-5 (30"x36")	POLE K: STA 35+47.6 68.2' RT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(L)	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - CDP	-	POLARA NAVIGATOR R10-3E (R)	-	POLE L: STA 35+57.2 70.4' RT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(M)	PED POLE 20'	-	-	2 - SIDE OF POLE	1 - CDP 1 - V4L	-	POLARA NAVIGATOR R10-3E (L)	SIGNS: S12 = R10-5 (30"x36")	POLE M: STA 36+63.0 69.8' RT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01
(N)	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - CDP	-	POLARA NAVIGATOR R10-3E (L)	-	POLE N: STA 36+77.2 59.6' RT ANTOINE DRIVE ℄	02465-02 02582-01 02893-01

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A)	METERED PEDESTAL SERVICE UL TYPE 3R	METERED PEDESTAL SERVICE WITH ONE 30 AMP AND ONE 60 AMP BREAKER AND PHOTOCELL	-	PROVIDE METER SOCKET WINDOW 4" H X 6" W POWER SOURCE: CENTERPOINT PROVIDE STREET LIGHTING PHOTO CELL ON TRAFFIC SIGNAL SERVICE PANEL	STA 34+42.3, 68.7' LT (TO CENTER OF METER) ANTOINE DRIVE ℄	02893-02
(B)	TYPE 340 ITS W/ POLYMER BASE (2' HEIGHT) STANDARD SPECIFICATION 02983-10C	2070 LX CONTROLLER UNIT WITH 2070-1C CPU MODULE W/ GPS SERIAL COMMUNICATIONS MODULE AND UPS SYSTEM	-	1 APCC-M APCC 4 CHANNEL OUTPUTS 1 EX-240 EXPANSION CARD 4 CHANNEL 1 APCC-SPP APCC SERIAL PORT PROTOCOL (DIGITAL RADIO) 1 APCC-ACC-1 APCC ACCESSORY, ISOLATOR 1 KIT-MTG/MOUNTING KIT STANDARD SPECIFICATION 16730 & 16731 UNINTERRUPTIBLE POWER SUPPLY STANDARD SPECIFICATION 16732 FIELD HARDENED ETHERNET SWITCH (SIX COPPER PORTS AND TWO FIBER OPTIC PORTS) STANDARD SPECIFICATION 16733 CELLULAR MODEM, BLUETOOTH READER, AND ANTENNA GPS SERIAL COMMUNICATIONS MODULE STANDARD SPECIFICATION 16785	STA 35+21.8, 7.8' LT (TO CENTER OF CAB.) ANTOINE DRIVE ℄	16730-03

STOP LINE AND DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION (ANTOINE DR)	OFFSET
WESTBOUND		
STOP LINE @ GUTTER	36+49.9	74.0' RT
STOP LINE @ CENTERLINE	36+08.4	74.0' RT
PHASE 6 PRESENCE LOOP		
L6-1A LEADING EDGE (6'X6')	36+30.7	CENTERED IN LANE
L6-2A LEADING EDGE (6'X6')	36+41.7	CENTERED IN LANE
L6-1B LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
L6-2B LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
PHASE 6 PULSE LOOP		
L6-1C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
L6-2C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
PHASE 1 PRESENCE LOOP		
L1-1A LEADING EDGE (6'X6')	7' IN FRONT OF STOP BAR	CENTERED IN LANE
L1-1B LEADING EDGE (6'X6')	36+19.8	CENTERED IN LANE
L1-1C LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
L1-1D LEADING EDGE (6'X6')	30' FROM STOP BAR	CENTERED IN LANE
EASTBOUND		
STOP LINE @ GUTTER	35+71.5	74.0' LT
STOP LINE @ CENTERLINE	36+12.8	74.0' LT
PHASE 2 PRESENCE LOOP		
L2-1A LEADING EDGE (6'X6')	35+92.9	CENTERED IN LANE
L2-2A LEADING EDGE (6'X6')	35+82.8	CENTERED IN LANE
L2-1B LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
L2-2B LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
PHASE 2 PULSE LOOP		
L2-1C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
L2-2C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
PHASE 5 PRESENCE LOOP		
L5-1A LEADING EDGE (6'X6')	7' IN FRONT OF STOP BAR	CENTERED IN LANE
L5-1B LEADING EDGE (6'X6')	36+02.8	CENTERED IN LANE
L5-1C LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
L5-1D LEADING EDGE (6'X6')	30' FROM STOP BAR	CENTERED IN LANE
NORTHBOUND		
STOP LINE @ GUTTER	35+51.1	53.7' RT
STOP LINE @ CENTERLINE	35+51.6	16.1' RT
PHASE 8 PRESENCE LOOP		
L8-1A LEADING EDGE (6'X6')	35+50.3	CENTERED IN LANE
L8-2A LEADING EDGE (6'X6')	35+50.1	CENTERED IN LANE
PHASE 8 PULSE LOOP		
L8-1B LEADING EDGE (6'X6')	260' FROM STOP BAR	CENTERED IN LANE
L8-2B LEADING EDGE (6'X6')	260' FROM STOP BAR	CENTERED IN LANE
L8-1C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
L8-2C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
PHASE 3 PRESENCE LOOP		
L3-1A LEADING EDGE (6'X6')	7' IN FRONT OF STOP BAR	CENTERED IN LANE
L3-1B LEADING EDGE (6'X6')	35+46.5	CENTERED IN LANE
L3-1C LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
L3-1D LEADING EDGE (6'X6')	30' FROM STOP BAR	CENTERED IN LANE
SOUTHBOUND		
STOP LINE @ GUTTER	36+70.8	55.6' LT
STOP LINE @ CENTERLINE	36+70.2	13.7' LT
PHASE 4 PRESENCE LOOP		
L4-1A LEADING EDGE (6'X6')	36+71.6	CENTERED IN LANE
L4-2A LEADING EDGE (6'X6')	36+71.7	CENTERED IN LANE
PHASE 4 PULSE LOOP		
L4-1B LEADING EDGE (6'X6')	260' FROM STOP BAR	CENTERED IN LANE
L4-2B LEADING EDGE (6'X6')	260' FROM STOP BAR	CENTERED IN LANE
L4-1C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
L4-2C LEADING EDGE (6'X6')	100' FROM CROSSWALK	CENTERED IN LANE
PHASE 7 PRESENCE LOOP		
L7-1A LEADING EDGE (6'X6')	7' IN FRONT OF STOP BAR	CENTERED IN LANE
L7-1B LEADING EDGE (6'X6')	36+75.5	CENTERED IN LANE
L7-1C LEADING EDGE (6'X6')	15' FROM STOP BAR	CENTERED IN LANE
L7-1D LEADING EDGE (6'X6')	30' FROM STOP BAR	CENTERED IN LANE

NOTES

1. ALL SIGNAL HEADS WILL BE 12" WITH LOUVERED BACK PLATES AND YELLOW HOUSING

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8330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W 43RD ST
TRAFFIC SIGNAL POLE
SCHEDULE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 730 OF 1067	

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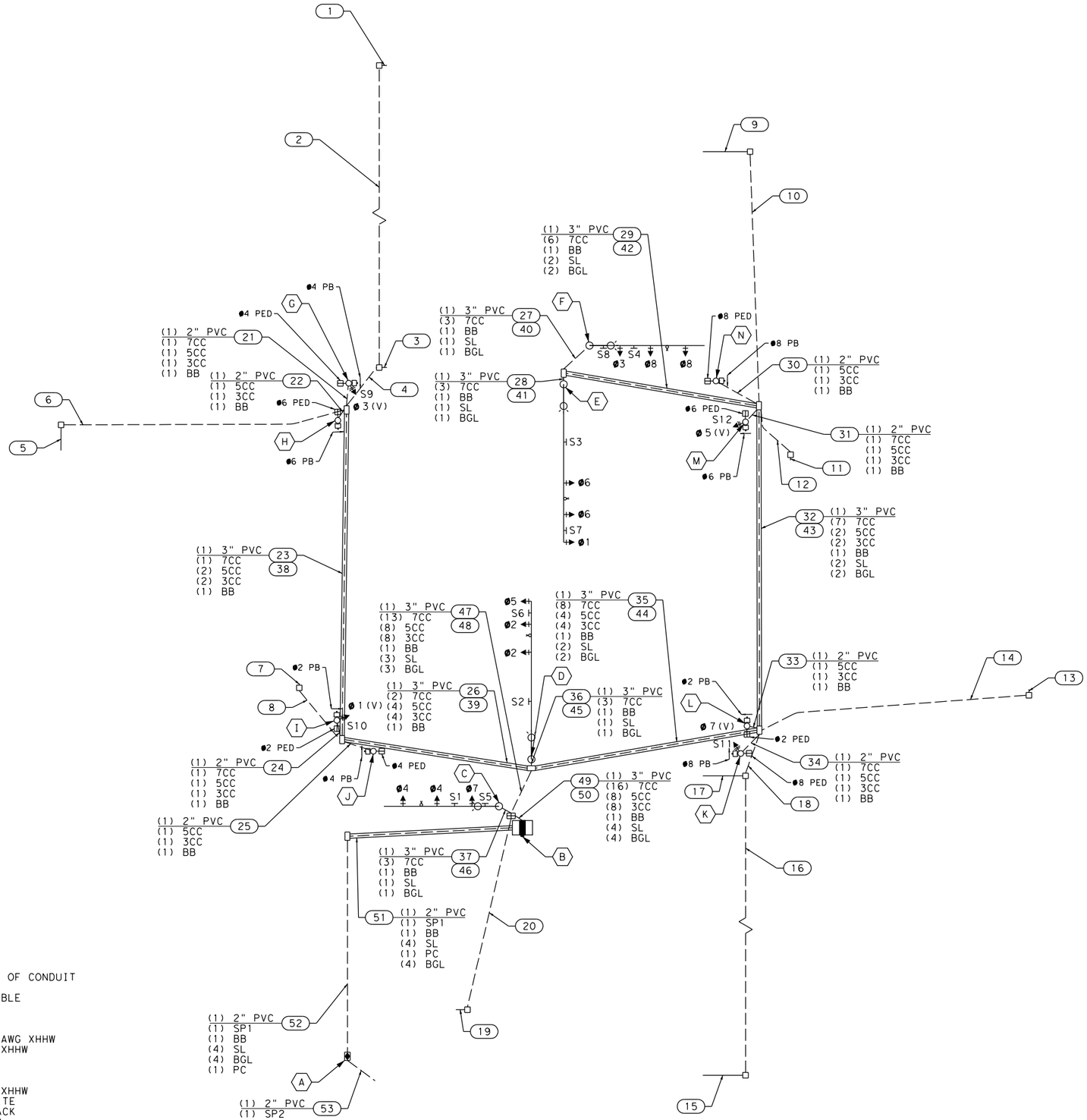

HIGH VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
(X) = NUMBER OF CABLES
CC = #14 AWG SOLID CONDUCTOR CABLE
BB = BARE BOND, #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SP = SIGNAL POWER (SEE NOTES)
BGL = BARE GROUND LIGHTING #12 AWG XHHW
SL = STREET LIGHTING 2-#10 AWG XHHW
PC = PHOTO CELL 2-#10 AWG XHHW

NOTES:
SP1 SHALL CONSIST OF: 6-#4 AWG XHHW
2 - WHITE
1 - BLACK
1 - RED
2 - GREEN

SP2 SHALL CONSIST OF: 3-#4 AWG XHHW WIRE WITH GROUND

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Texas Registered Engineering Firm F-23290

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W 43RD ST
CABLE SCHEMATIC

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 731 OF 1067	

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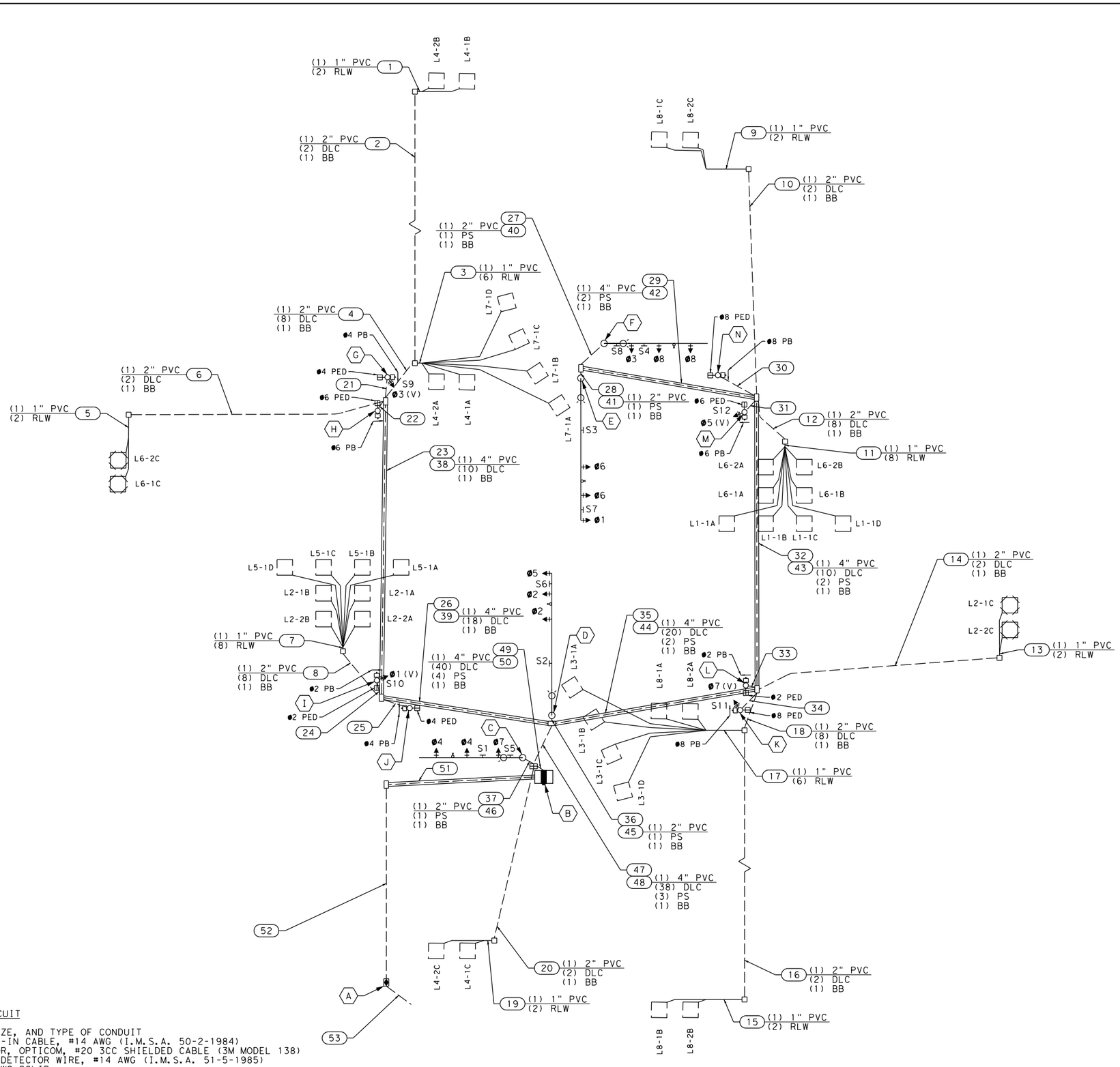

0′ 20′ 40′
SCALE IN FEET

LOW VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
DLC = DETECTOR LEAD-IN CABLE, #14 AWG (I.M.S.A. 50-2-1984)
PS = PRE-EMPT SENSOR, OPTICOM, #20 3CC SHIELDED CABLE (3M MODEL 138)
RLW = ROADWAY LOOP DETECTOR WIRE, #14 AWG (I.M.S.A. 51-5-1985)
BB = BARE BOND #8 AWG SOLID

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W 43RD ST
CABLE SCHEMATIC

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 732 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\Traffic\Sheets\5 LV Cable Schematic.dgn

ELECTRICAL SCHEDULE

ITEM	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16*	17*
SIGNAL POWER	1/C-#4 THHN															6	6	6
	1/C-#8 BARE BOND															1	1	1
OPTICOM	3/C		1	1	1	2	2	2		1	1	1	2	2	4			
WIMAX	CAT 5E-#24 AWG														1			
VIVDS CABLE	3/C-#16 AWG	1	1	1	2	2	2	2				1	1	1	4			
VIVDS POWER	RG-59 COAX	1	1	1	2	2	2	2				1	1	1	4			
VEHICLE SIGNAL	7/C-#14 AWG**		1	2	2	3	4	5	1	2	3	3	4	5	10			
PED SIGNAL	5/C-#14 AWG	2	2	2	4	4	4	4				2	2	2	8			
CONDUITS	2" RMC														2	1	1	
	2" PVC																	1

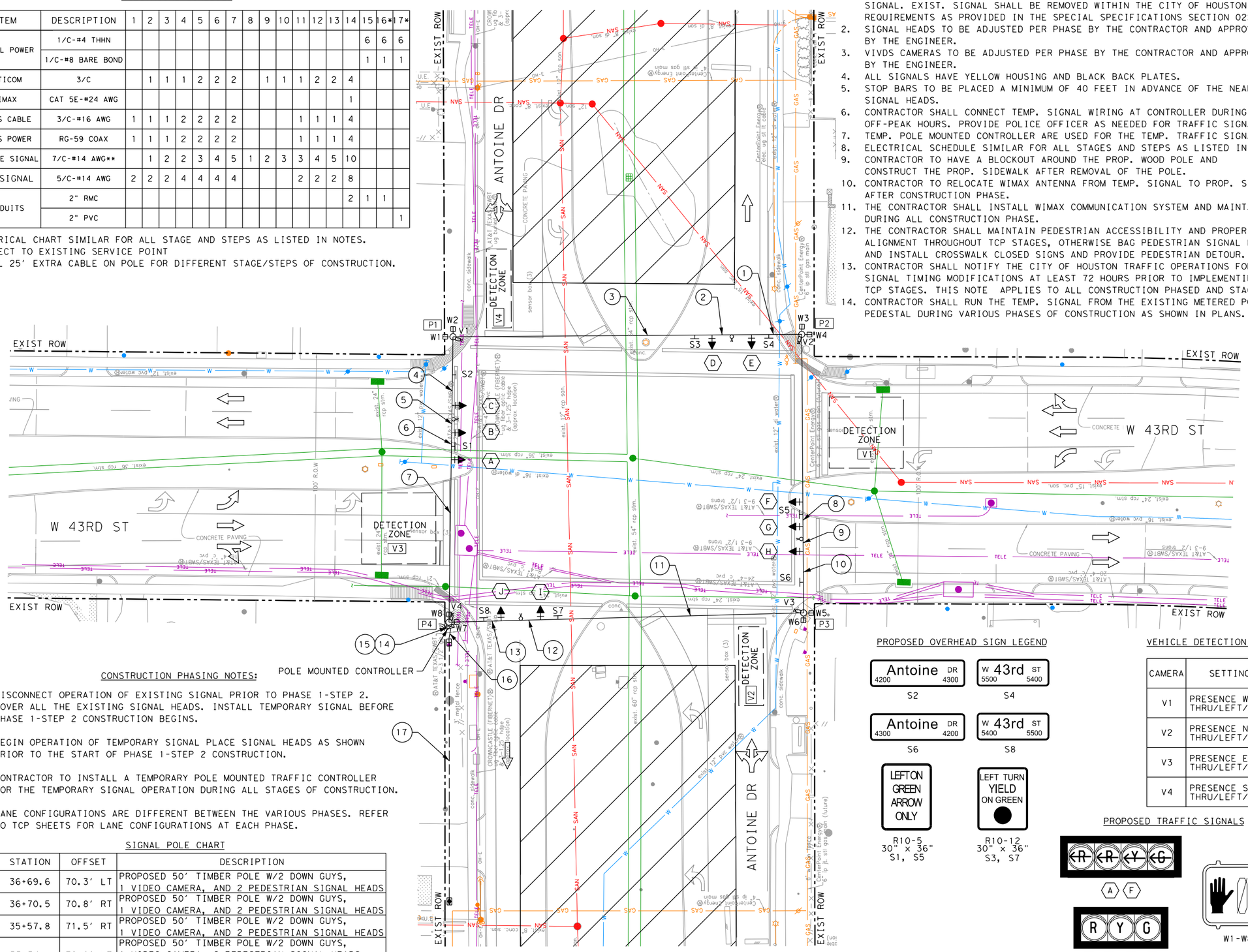
ELECTRICAL CHART SIMILAR FOR ALL STAGE AND STEPS AS LISTED IN NOTES.
*CONNECT TO EXISTING SERVICE POINT
**COIL 25' EXTRA CABLE ON POLE FOR DIFFERENT STAGE/STEPS OF CONSTRUCTION.

NOTES:

1. THE TEMP. SIGNAL SHALL BE FULLY OPERATIONAL PRIOR TO REMOVAL OF EXIST. SIGNAL. EXIST. SIGNAL SHALL BE REMOVED WITHIN THE CITY OF HOUSTON REQUIREMENTS AS PROVIDED IN THE SPECIAL SPECIFICATIONS SECTION 02221.
2. SIGNAL HEADS TO BE ADJUSTED PER PHASE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. VIVDS CAMERAS TO BE ADJUSTED PER PHASE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
4. ALL SIGNALS HAVE YELLOW HOUSING AND BLACK BACK PLATES.
5. STOP BARS TO BE PLACED A MINIMUM OF 40 FEET IN ADVANCE OF THE NEAREST SIGNAL HEADS.
6. CONTRACTOR SHALL CONNECT TEMP. SIGNAL WIRING AT CONTROLLER DURING OFF-PEAK HOURS. PROVIDE POLICE OFFICER AS NEEDED FOR TRAFFIC SIGNAL.
7. TEMP. POLE MOUNTED CONTROLLER ARE USED FOR THE TEMP. TRAFFIC SIGNAL.
8. ELECTRICAL SCHEDULE SIMILAR FOR ALL STAGES AND STEPS AS LISTED IN NOTES.
9. CONTRACTOR TO HAVE A BLOCKOUT AROUND THE PROP. WOOD POLE AND CONSTRUCT THE PROP. SIDEWALK AFTER REMOVAL OF THE POLE.
10. CONTRACTOR TO RELOCATE WIMAX ANTENNA FROM TEMP. SIGNAL TO PROP. SIGNAL AFTER CONSTRUCTION PHASE.
11. THE CONTRACTOR SHALL INSTALL WIMAX COMMUNICATION SYSTEM AND MAINTAIN DURING ALL CONSTRUCTION PHASE.
12. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESSIBILITY AND PROPER SIGNAL ALIGNMENT THROUGHOUT TCP STAGES, OTHERWISE BAG PEDESTRIAN SIGNAL HEADS AND INSTALL CROSSWALK CLOSED SIGNS AND PROVIDE PEDESTRIAN DETOUR.
13. CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON TRAFFIC OPERATIONS FOR ANY SIGNAL TIMING MODIFICATIONS AT LEAST 72 HOURS PRIOR TO IMPLEMENTING THE TCP STAGES. THIS NOTE APPLIES TO ALL CONSTRUCTION PHASED AND STAGES.
14. CONTRACTOR SHALL RUN THE TEMP. SIGNAL FROM THE EXISTING METERED POWER PEDESTAL DURING VARIOUS PHASES OF CONSTRUCTION AS SHOWN IN PLANS.

LEGEND

- TCP PHASE 1 - STEP 2
- PROPOSED VEHICLE SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- STREET NAME SIGN
- POLE NUMBER
- TIMBER POLE
- TEMPORARY CONTROLLER
- PROPOSED METERED POWER PEDESTAL
- PULL BOX - TYPE C
- PRE-EMPT SENSOR
- VIDEO CAMERA
- WIMAX ANTENNA
- CONDUIT
- TEMPORARY TRAFFIC FLOW


EXIST ROW
ANTOINE DR
W 43RD ST
DETECTION ZONE
V1
V2
V3
V4
P1
P2
P3
P4
W1
W2
W3
W4
W5
W6
W7
W8
S1
S2
S3
S4
S5
S6
S7
S8
POLE MOUNTED CONTROLLER
CONCRETE PAVING
CONCRETE
SAN
GAS
TELE
W
CenterPoint Energy
AT&T TEXAS/SWBT
exist. 24" rcp sim.
exist. 16" pvc water
exist. 12" water
exist. 15" pvc san.
exist. 54" rcp sim.
exist. 60" rcp sim.
exist. 36" rcp sim.
exist. 12" pvc san.
exist. 8" conc. san.
exist. 12" pvc water
exist. 12" gas main
exist. 8" gas main
exist. 4" gas main
exist. 2" gas main
exist. 6" gas main
exist. 12" gas main
exist. 24" rcp sim.
exist. 12" rcp san.
exist. 8" rcp sim.
exist. 24" rcp sim.
exist. 15" pvc san.
exist. 16" pvc water
exist. 24" rcp sim.
exist. 12" water
exist. 12" pvc water
exist. 12" rcp san.
exist. 12" rcp sim.
exist. 12" pvc

Plotted on: 12/4/2025 1:27:11 PM *Cowser

ELECTRICAL SCHEDULE

ITEM	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18*	19*
SIGNAL POWER	1/C-#4 THHN																	6	6	6
	1/C-#8 BARE BOND																	1	1	1
OPTICOM	3/C		1	1	1	1	2	2	2		1	1	1	1	2	2	4			
WIMAX	CAT 5E-#24 AWG																1			
VIVDS CABLE	3/C-#16 AWG	1	1	1	1	2	2	2	2				1	1	1	1	4			
VIVDS POWER	RG-59 COAX	1	1	1	1	2	2	2	2				1	1	1	1	4			
VEHICLE SIGNAL	7/C-#14 AWG**		1	2	3	3	4	5	6	1	2	3	3	4	5	6	12			
PED SIGNAL	5/C-#14 AWG	2	2	2	2	4	4	4	4				2	2	2	2	8			
CONDUITS	2" RMC																	2	1	1
	2" PVC																			1

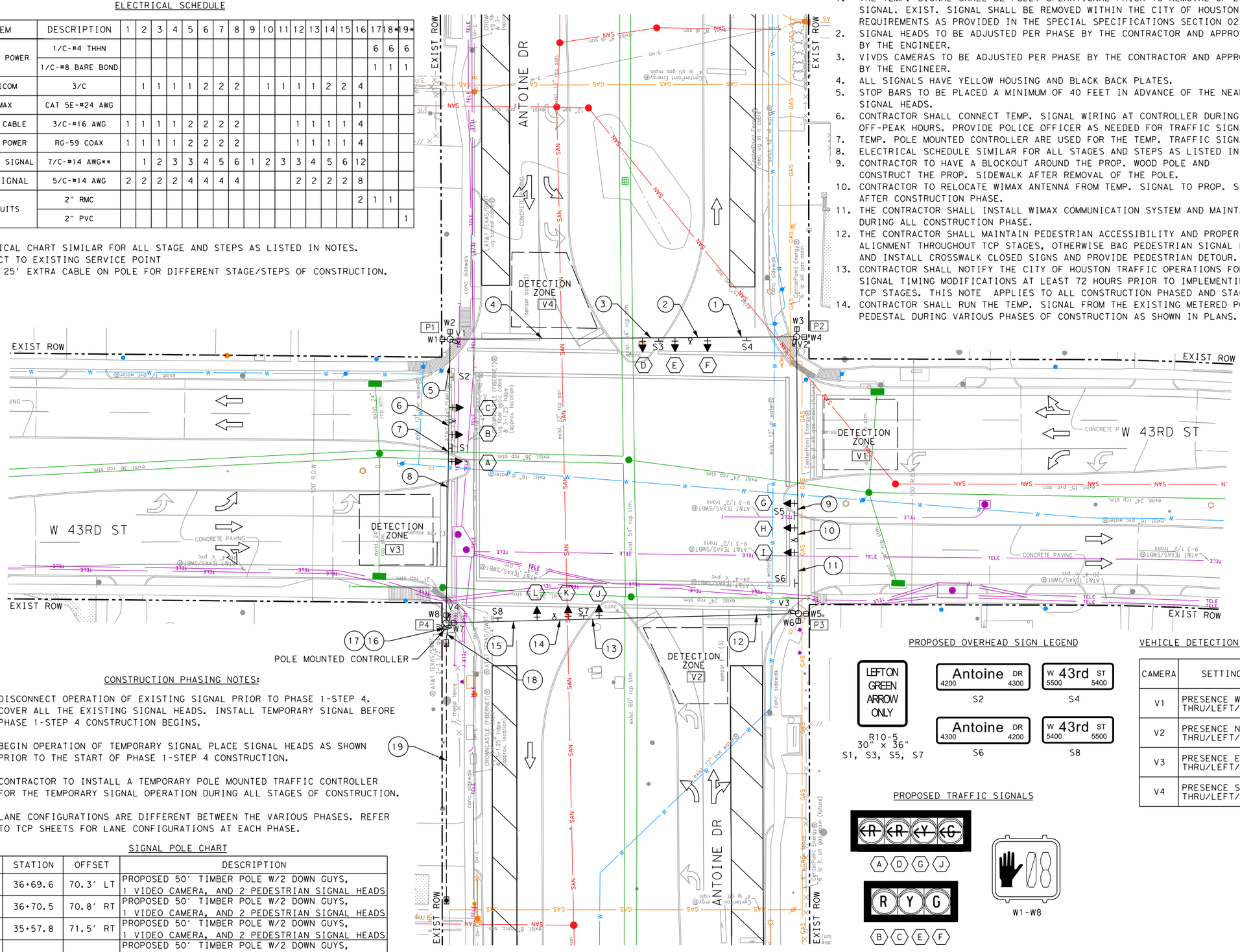
ELECTRICAL CHART SIMILAR FOR ALL STAGE AND STEPS AS LISTED IN NOTES.
*CONNECT TO EXISTING SERVICE POINT
**COIL 25' EXTRA CABLE ON POLE FOR DIFFERENT STAGE/STEPS OF CONSTRUCTION.

NOTES:

1. THE TEMP. SIGNAL SHALL BE FULLY OPERATIONAL PRIOR TO REMOVAL OF EXIST. SIGNAL. EXIST. SIGNAL SHALL BE REMOVED WITHIN THE CITY OF HOUSTON REQUIREMENTS AS PROVIDED IN THE SPECIAL SPECIFICATIONS SECTION 02221.
2. SIGNAL HEADS TO BE ADJUSTED PER PHASE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. VIVDS CAMERAS TO BE ADJUSTED PER PHASE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
4. ALL SIGNALS HAVE YELLOW HOUSING AND BLACK BACK PLATES.
5. STOP BARS TO BE PLACED A MINIMUM OF 40 FEET IN ADVANCE OF THE NEAREST SIGNAL HEADS.
6. CONTRACTOR SHALL CONNECT TEMP. SIGNAL WIRING AT CONTROLLER DURING OFF-PEAK HOURS. PROVIDE POLICE OFFICER AS NEEDED FOR TRAFFIC SIGNAL.
7. TEMP. POLE MOUNTED CONTROLLER ARE USED FOR THE TEMP. TRAFFIC SIGNAL.
8. ELECTRICAL SCHEDULE SIMILAR FOR ALL STAGES AND STEPS AS LISTED IN NOTES.
9. CONTRACTOR TO HAVE A BLOCKOUT AROUND THE PROP. WOOD POLE AND CONSTRUCT THE PROP. SIDEWALK AFTER REMOVAL OF THE POLE.
10. CONTRACTOR TO RELOCATE WIMAX ANTENNA FROM TEMP. SIGNAL TO PROP. SIGNAL AFTER CONSTRUCTION PHASE.
11. THE CONTRACTOR SHALL INSTALL WIMAX COMMUNICATION SYSTEM AND MAINTAIN DURING ALL CONSTRUCTION PHASE.
12. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESSIBILITY AND PROPER SIGNAL ALIGNMENT THROUGHOUT TCP STAGES, OTHERWISE BAG PEDESTRIAN SIGNAL HEADS AND INSTALL CROSSWALK CLOSED SIGNS AND PROVIDE PEDESTRIAN DETOUR.
13. CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON TRAFFIC OPERATIONS FOR ANY SIGNAL TIMING MODIFICATIONS AT LEAST 72 HOURS PRIOR TO IMPLEMENTING THE TCP STAGES. THIS NOTE APPLIES TO ALL CONSTRUCTION PHASED AND STAGES.
14. CONTRACTOR SHALL RUN THE TEMP. SIGNAL FROM THE EXISTING METERED POWER PEDESTAL DURING VARIOUS PHASES OF CONSTRUCTION AS SHOWN IN PLANS.

LEGEND

- TCP PHASE 1 - STEP 4
- PROPOSED VEHICLE SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- STREET NAME SIGN
- POLE NUMBER
- TIMBER POLE
- TEMPORARY CONTROLLER
- PROPOSED METERED POWER PEDESTAL
- PULL BOX - TYPE C
- PRE-EMPT SENSOR
- VIDEO CAMERA
- WIMAX ANTENNA
- CONDUIT
- TEMPORARY TRAFFIC FLOW



0' 20' 40'
SCALE IN FEET

CONSTRUCTION PHASING NOTES:

1. DISCONNECT OPERATION OF EXISTING SIGNAL PRIOR TO PHASE 1-STEP 4. COVER ALL THE EXISTING SIGNAL HEADS. INSTALL TEMPORARY SIGNAL BEFORE PHASE 1-STEP 4 CONSTRUCTION BEGINS.
2. BEGIN OPERATION OF TEMPORARY SIGNAL PLACE SIGNAL HEADS AS SHOWN PRIOR TO THE START OF PHASE 1-STEP 4 CONSTRUCTION.
3. CONTRACTOR TO INSTALL A TEMPORARY POLE MOUNTED TRAFFIC CONTROLLER FOR THE TEMPORARY SIGNAL OPERATION DURING ALL STAGES OF CONSTRUCTION.
4. LANE CONFIGURATIONS ARE DIFFERENT BETWEEN THE VARIOUS PHASES. REFER TO TCP SHEETS FOR LANE CONFIGURATIONS AT EACH PHASE.

SIGNAL POLE CHART

POLE	STATION	OFFSET	DESCRIPTION
P1	36+69.6	70.3' LT	PROPOSED 50' TIMBER POLE W/2 DOWN GUYS, 1 VIDEO CAMERA, AND 2 PEDESTRIAN SIGNAL HEADS
P2	36+70.5	70.8' RT	PROPOSED 50' TIMBER POLE W/2 DOWN GUYS, 1 VIDEO CAMERA, AND 2 PEDESTRIAN SIGNAL HEADS
P3	35+57.8	71.5' RT	PROPOSED 50' TIMBER POLE W/2 DOWN GUYS, 1 VIDEO CAMERA, AND 2 PEDESTRIAN SIGNAL HEADS
P4	35+54.1	72.0' LT	PROPOSED 50' TIMBER POLE W/2 DOWN GUYS, 1 VIDEO CAMERA, 2 PEDESTRIAN SIGNAL HEADS, POLE MOUNTED CONTROLLER, AND WIMAX ANTENNA

STATION AND OFFSET ARE BASED ON CENTERLINE OF ANTOINE DR

PROPOSED OVERHEAD SIGN LEGEND

LEFTON GREEN ARROW ONLY
R10-5
30" x 36"
S1, S3, S5, S7

Antoine DR 4200 4300 — S2
W 43rd ST 5500 5400 — S4
Antoine DR 4300 4200 — S6
W 43rd ST 5400 5500 — S8

PROPOSED TRAFFIC SIGNALS

VEHICLE DETECTION CHART

CAMERA	SETTINGS
V1	PRESENCE WB THRU/LEFT/RIGHT
V2	PRESENCE NB THRU/LEFT/RIGHT
V3	PRESENCE EB THRU/LEFT/RIGHT
V4	PRESENCE SB THRU/LEFT/RIGHT

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 • Bellaire, TX 77401
713.777.5337

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147989
12/4/2025
60% SUBMITTAL
QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
ANTOINE DR AT W 43RD ST
TEMPORARY SIGNAL LAYOUT
PHASE 1 - STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 734 OF 1067	

No.	DATE	REVISIONS	APP.

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Plot Driver:$PLTDRVL$

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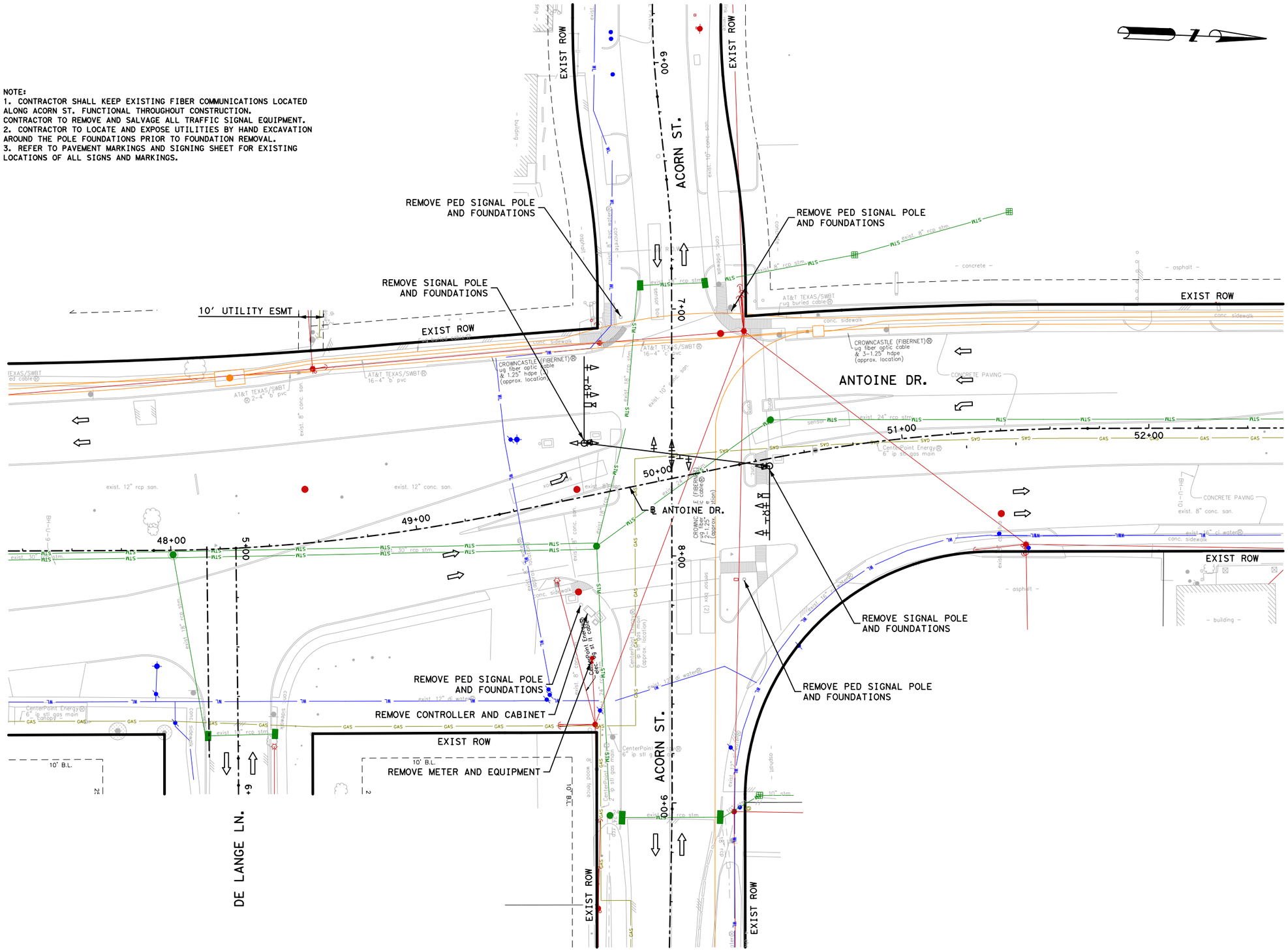
NOTE:
1. CONTRACTOR SHALL KEEP EXISTING FIBER COMMUNICATIONS LOCATED ALONG ACORN ST. FUNCTIONAL THROUGHOUT CONSTRUCTION. CONTRACTOR TO REMOVE AND SALVAGE ALL TRAFFIC SIGNAL EQUIPMENT.
2. CONTRACTOR TO LOCATE AND EXPOSE UTILITIES BY HAND EXCAVATION AROUND THE POLE FOUNDATIONS PRIOR TO FOUNDATION REMOVAL.
3. REFER TO PAVEMENT MARKINGS AND SIGNING SHEET FOR EXISTING LOCATIONS OF ALL SIGNS AND MARKINGS.



EXISTING LEGEND

- EXISTING POLE WITH MAST ARM
- EXISTING SIGNAL HEAD WITH BACK PLATE
- EXISTING PEDESTRIAN SIGNAL
- EXISTING PUSH BUTTON
- EXISTING OPTICOM PRE-EMPT SENSOR
- EXISTING 2070L CONTROLLER W/ 340 CABINET, BATTERY BACK UP AND GPS MODULE
- EXISTING METER PEDESTAL SERVICE
- WIMAX, COMPLETE IN PLACE
- S1 EXISTING OVERHEAD STREET NAME SIGN (S1-S3)

0' 20' 40'
SCALE IN FEET

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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Designer
91874
3/10/2026
Date
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RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING CONDITION
TRAFFIC SIGNAL LAYOUT
ANTOINE DR. @ ACORN ST.

SHEET 01 OF 01

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 735 OF 1067	

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GENERAL ITS NOTE:
THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION. INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION / ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION / ITS SECTION FOR QUESTIONS AT 713.881.3172.

DESIGN & POSTED SPEED
ANTOINE = 35 MPH
ACORN = 30 MPH

TRAFFIC SIGNAL SIGNING NOTES:
1. ALL EXISTING SIGNS SHALL BE INVENTORIED AND DOCUMENTED PER CITY OF HOUSTON DRAWING NO. 01509-01.

LEGEND

- PROPOSED POLE WITH MAST ARM
- PROPOSED PEDESTRIAN POLE
- PROPOSED SIGNAL HEAD
- PROPOSED SIGNAL HEAD WITH BACK PLATE
- PROPOSED PEDESTRIAN SIGNAL
- PROPOSED PUSH BUTTON
- PROPOSED PULL BOX (TY A)
- PROPOSED PULL BOX (TY B)
- PROPOSED PULL BOX (TY C)
- PROPOSED PULL BOX (TY B) W/ EXTENSION
- PROPOSED SIGNAL CONDUIT (TRENCH)
- PROPOSED SIGNAL CONDUIT (BORE)
- PROPOSED OPTICOM PRE-EMPT SENSOR
- PROPOSED LUMINAIRE
- PROPOSED 2070L CONTROLLER W/ 340 CABINET, BATTERY BACK UP AND GPS MODULE
- PROPOSED METER PEDESTAL SERVICE
- PROPOSED CABLE RUN (SEE ELECTRICAL CHART)
- PROPOSED OVERHEAD STREET NAME SIGN (S1-S3)

BUTTON Ø2
BUTTON Ø4
PED Ø2 & Ø4
PED Ø4 & Ø6
BUTTON Ø6
BUTTON Ø8
PED Ø6 & Ø8
PED Ø2 & Ø8
100' FROM CROSSWALK
260' TO STOP BAR
EXIST ROW
ACORN ST.
ANTOINE DR.
DE LANGE LN.
CROWNCASTLE (FIBERNET)® 48 ug fiber optic cable & 1.25" hdpe (3) (approx. location)
AT&T TEXAS/SWBT ug buried cable®
CenterPoint Energy® 6" lp str gas main
L4-2A, L4-1A, L4-2B, L4-1B, L4-2C, L4-1C, L7-1D, L7-1A, L7-1B, L7-1C, L8-1C, L8-2C, L3-1A, L3-1B, L3-1C, L3-1D, L8-1A, L8-2A, L8-1B, L8-2B, L2-1A, L2-1B, L2-1C, L6-1A, L6-1B, L6-1C
47+00, 48+00, 49+00, 50+00, 51+00, 52+00, 53+00
P1, P2, P3, P4, S1, S2, S3, S4, S6, S7, S8, Ø1, Ø2, Ø3, Ø4, Ø5, Ø6, Ø7, Ø8

NOTE:
1. CONTRACTOR TO COORDINATE EXACT PLACEMENT, LOCATION AND ADJUSTMENT OF LOOP VEHICLE DETECTION IN THE FIELD.
2. CONTRACTOR TO LOCATE AND EXPOSE UTILITIES BY HAND EXCAVATION AROUND THE POLE FOUNDATIONS PRIOR TO FOUNDATION INSTALLATION. ANY POLE FOUNDATION ALTERNATE LOCATION DUE TO UTILITY CONFLICT SHALL BE COORDINATED WITH THE ENGINEER.

S1 = REINSTALL STREET NAME SIGN, "ANTOINE DR", BLOCK#'S 4900 AND 5000
S2 = REINSTALL STREET NAME SIGN, "ACORN ST", BLOCK#'S 5600 AND 5500
S3 = REINSTALL STREET NAME SIGN, "ANTOINE DR", BLOCK#'S 5000 AND 4900
S4 = REINSTALL STREET NAME SIGN, "ACORN ST", BLOCK#'S 5500 AND 5600
S5 = R10-12 (30" X 36") SIGN, "LEFT ON GREEN ARROW ONLY"
S6 = R10-5 (30" X 36") SIGN, "LEFT ON GREEN ARROW ONLY"
S7 = R10-12 (30" X 36") SIGN, "LEFT ON GREEN ARROW ONLY"
S8 = R10-5 (30" X 36") SIGN, "LEFT ON GREEN ARROW ONLY"

PROPOSED POWER SOURCE NOTE:
EXISTING CENTERPOINT POWER POLE WITH PROPOSED 2" RMC RISER AND WEATHERHEAD FOR CONNECTION TO CENTERPOINT POWER SOURCE.

PROPOSED TRAFFIC SIGNAL PHASING

Ø5 & Ø2	Ø2 & Ø6	Ø1 & Ø6	Ø3 & Ø8	Ø4 & Ø8	Ø7 & Ø4
Ø2 PED, Ø2, Ø5	Ø2 PED, Ø6 PED, Ø2, Ø6	Ø1, Ø6, Ø6 PED	Ø3, Ø4, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7

0' 20' 40'
SCALE IN FEET

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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TRAFFIC SIGNAL LAYOUT ANTOINE DR @ ACORN ST

SHEET 01 OF 01

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO. 736 OF 1067	

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POLE NUMBER	POLE TYPE	MAST ARMS (LF) SIGNAL	MAST ARMS (LF) LUM	LUMINAIRE TYPE	SIGNAL HEADS MOUNT	SIGNAL HEADS HEADS	PED PB & SIGN	ATTACHMENTS	LOCATIONS	STANDARDS
Ⓒ P4 S7 S3 11′	HOU 1	30′	15′	106 watt system max led cobra head luminaire	2-ASTRO BRAC, 2 PED, 1-SIDE OF POLE	2-H3 1-V3L 2-CDP		PRE-EMPT SIGN: S3-ANTOINE DR S7-R10-12	BY ENGINEER IN FIELD @ APPROX STA 49+54.00 OFFSET 49.86′ RT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓓ	PED 5′						POLARA NAVIG R10-3E(L)		BY ENGINEER IN FIELD @ APPROX STA 49+62.00 OFFSET 45.98′ RT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓔ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 49+47.00 OFFSET 39.008′ RT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓕ S8 P1 S4 11′ 11′	HOU 2	50′	15′	106 watt system max led cobra head luminaire	3-ASTRO BRAC, 2-PED	2-H3 1-H3L 2-CDP		PRE-EMPT SIGN: S4-ACORN ST S8-R10-5	BY ENGINEER IN FIELD @ APPROX STA 49+89.00 OFFSET 63.71′ LT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓖ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 49+79.00 OFFSET 53.15′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓗ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 49+99.00 OFFSET 67.58′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓘ P2 S5 S1 11′	HOU 1	30′	15′	106 watt system max led cobra head luminaire	2-ASTRO BRAC, 2 PED, 1-SIDE OF POLE	2-H3 1-V3L 2-CDP		PRE-EMPT SIGN: S1-ANTOINE DR S5-R10-12	BY ENGINEER IN FIELD @ APPROX STA 50+45.00 OFFSET 56.58′ LT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓙ	PED 5′						POLARA NAVIG R10-3E(L)		BY ENGINEER IN FIELD @ APPROX STA 50+54.00 OFFSET 51.65′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓚ S6 P3 S2 11′ 11′	HOU 2	50′	15′	106 watt system max led cobra head luminaire	3-ASTRO BRAC, 2-PED	2-H3 1-H3L 2-CDP		PRE-EMPT SIGN: S2-ACORN ST S6-R10-5	BY ENGINEER IN FIELD @ APPROX STA 50+33.00 OFFSET 47.68′ RT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓛ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 50+23.00 OFFSET 47.87′ RT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓜ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 50+32.00 OFFSET 44.63′ RT BL ANTOINE DR	02893-02 02893-03 02893-07

CABINET ANTOINE DR	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATIONS	STANDARDS
Ⓐ	ITS 340	2070LX CONTROLLER UNIT W/2070-1C CPU MODULE WITH GPS SERIAL COMMUNICATIONS MODULE & UPS BATTERY BACK-UP SYSTEM	3-POLE STREET LIGHTING CONTACTOR	✳ STANDARD SPEC'S 16730,16731,16732 16733, 16734 & 16785	BY ENGINEER IN FIELD @ APPROX STA 49+58.50 OFFSET 55.00′ RT BL ANTOINE DR	02893-10C
Ⓑ	METER PEDESTAL SERVICE UL TYPE 3R	METERED SERVICE 1-60, 1-30 AMP SINGLE POLE BREAKERS			BY ENGINEER IN FIELD @ APPROX STA 49+59.00 OFFSET 61.50′ RT BL ANTOINE DR.	02893-14

NOTE:
THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE NECESSARY CONDUIT, CONDUIT RISER, WIRING, WEATHERHEAD AND ALL INCIDENTALS NECESSARY AS REQUIRED BY THE POWER COMPANY FOR ROUTING OF THE SERVICE CONDUCTORS FROM THE METERED PEDESTAL SERVICE TO THE POINT OF SERVICE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE ELECTRIC SERVICE CONNECTION WITH THE POWER COMPANY.

STOP LINE AND LOOP DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION ANTOINE DR	OFFSET
NORTHBOUND		
STOP LINE @ GUTTER	49+53.00	34.0′ RT
STOP LINE @ MEDIAN	49+53.00	5.0′ LT
PHASE 3 PRESENCE LOOP 1A	49+61.00	5.0′ RT
PHASE 3 PRESENCE LOOP 1B	49+46.00	6.0′ RT
PHASE 3 PRESENCE LOOP 1C	49+31.00	6.0′ RT
PHASE 3 PRESENCE LOOP 1D	49+16.00	6.0′ RT
PHASE 8 PRESENCE LOOP 1A	49+46.00	17.0′ RT
PHASE 8 PRESENCE LOOP 2A	49+46.00	29.0′ RT
PHASE 8 PULSE LOOP 1B	46+95.00	38.0′ RT
PHASE 8 PULSE LOOP 2B	46+95.00	50.0′ RT
PHASE 8 PULSE LOOP 1C	51+45.00	14.0′ RT
PHASE 8 PULSE LOOP 2C	51+45.00	26.0′ RT

STOP LINE AND LOOP DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION ANTOINE DR	OFFSET
SOUTHBOUND		
STOP LINE @ GUTTER	50+50.00	39.0′ LT
STOP LINE @ MEDIAN	50+45.00	5.0′ LT
PHASE 7 PRESENCE LOOP 1A	50+38.00	11.0′ LT
PHASE 7 PRESENCE LOOP 1B	50+53.00	9.0′ LT
PHASE 7 PRESENCE LOOP 1C	50+67.00	7.5′ LT
PHASE 7 PRESENCE LOOP 1D	50+82.00	6.0′ LT
PHASE 4 PRESENCE LOOP 1A	50+56.00	20.0′ LT
PHASE 4 PRESENCE LOOP 2A	50+55.00	32.0′ LT
PHASE 4 PULSE LOOP 1B	53+08.00	14.0′ LT
PHASE 4 PULSE LOOP 2B	53+08.00	26.0′ LT
PHASE 4 PULSE LOOP 1C	48+71.00	36.0′ LT
PHASE 4 PULSE LOOP 2C	48+72.00	48.0′ LT

ITEM BY DIRECTION	STATION ACORN ST	OFFSET
EASTBOUND		
STOP LINE @ GUTTER	7+04.00	11.5′ RT
STOP LINE @ MEDIAN	7+04.00	0.5′ LT
PHASE 2 PRESENCE LOOP 1A	6+99.00	6.0′ RT
PHASE 2 PRESENCE LOOP 1B	6+89.00	7.0′ RT
PHASE 2 PRESENCE LOOP 1C	9+20.00	9.0′ RT

ITEM BY DIRECTION	STATION ACORN ST	OFFSET
WESTBOUND		
STOP LINE @ GUTTER	8+21.00	19.5′ LT
STOP LINE @ MEDIAN	8+21.00	0.0′ RT
PHASE 6 PRESENCE LOOP 1A	8+25.00	10.0′ LT
PHASE 6 PRESENCE LOOP 1B	8+40.00	10.0′ LT
PHASE 6 PRESENCE LOOP 1C	6+03.00	7.0′ LT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

POLE SCHEDULE
ANTOINE DR @ ACORN ST

SHEET 01 OF 01

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DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 737 OF 1067	

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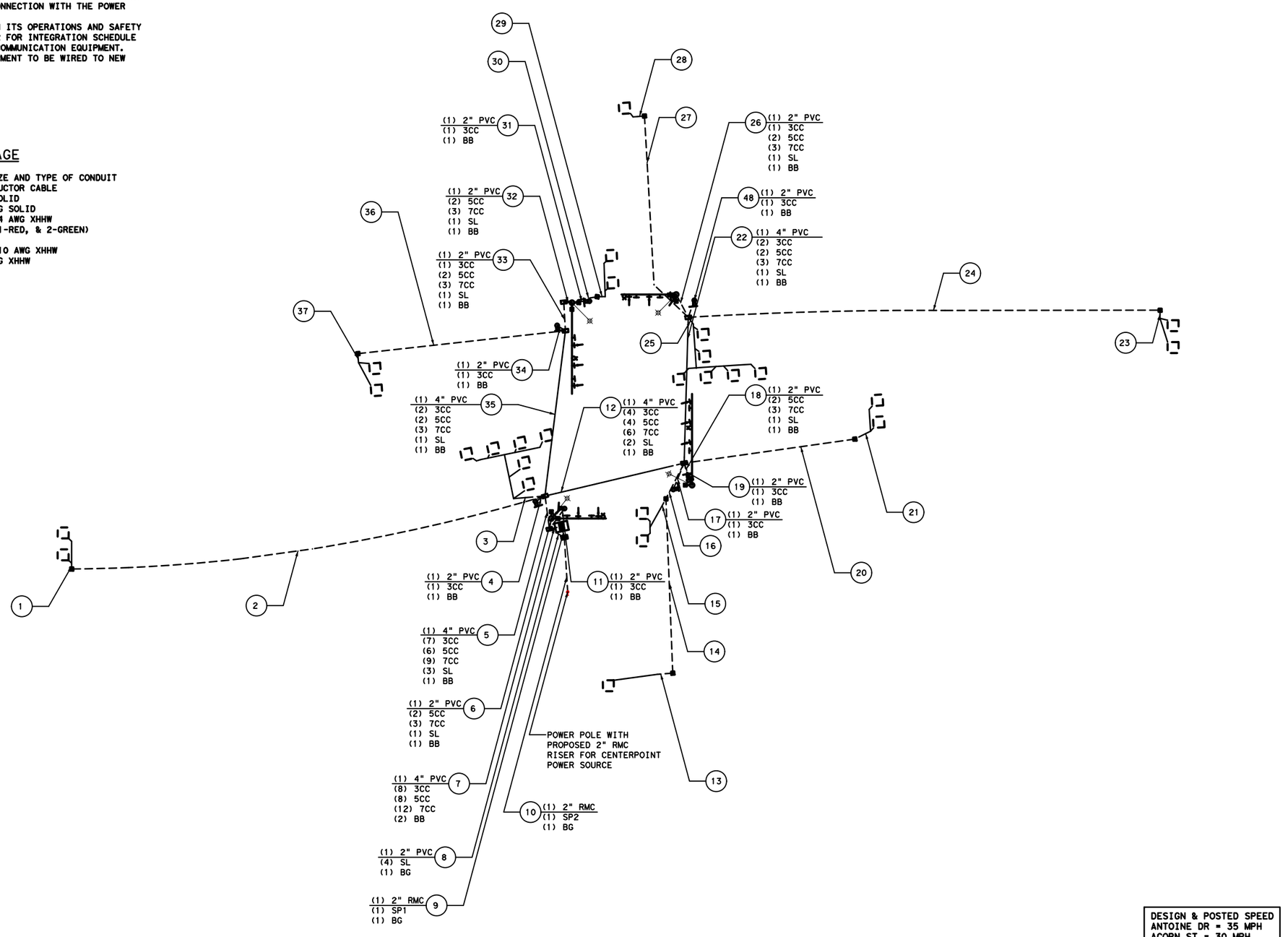
NOTE:
1. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE NECESSARY CONDUIT, CONDUIT RISER, WIRING, WEATHERHEAD AND ALL INCIDENTALS NECESSARY AS REQUIRED BY THE POWER COMPANY FOR ROUTING OF THE SERVICE CONDUCTORS FROM THE METERED PEDESTAL SERVICE TO THE POINT OF SERVICE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE ELECTRIC SERVICE CONNECTION WITH THE POWER COMPANY.
2. CONTACT CITY OF HOUSTON ITS OPERATIONS AND SAFETY SECTION AT 713-881-3052 FOR INTEGRATION SCHEDULE AND/OR SALVAGE OF ANY COMMUNICATION EQUIPMENT.
3. ALL COMMUNICATION EQUIPMENT TO BE WIRED TO NEW CABINET.

HIGH VOLTAGE

(1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
CC = #14 AWG SOLID CONDUCTOR CABLE
BB = BARE BOND #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SP1 = SIGNAL POWER, 6-#4 AWG XHHW
(2-WHITE, 1-BLACK, 1-RED, & 2-GREEN)
SP2 = 4 - #4 AWG XHHW
SL = STREET LIGHTING, #10 AWG XHHW
PC = PHOTO CELL, #10 AWG XHHW



DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
ACORN ST = 30 MPH

0' 30' 60'
SCALE IN FEET

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Houston, Texas 77027
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Texas Registered Engineering Firm F-3401

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HIGH VOLTAGE CABLE SCHEMATIC ANTOINE DR @ ACORN ST

SHEET 01 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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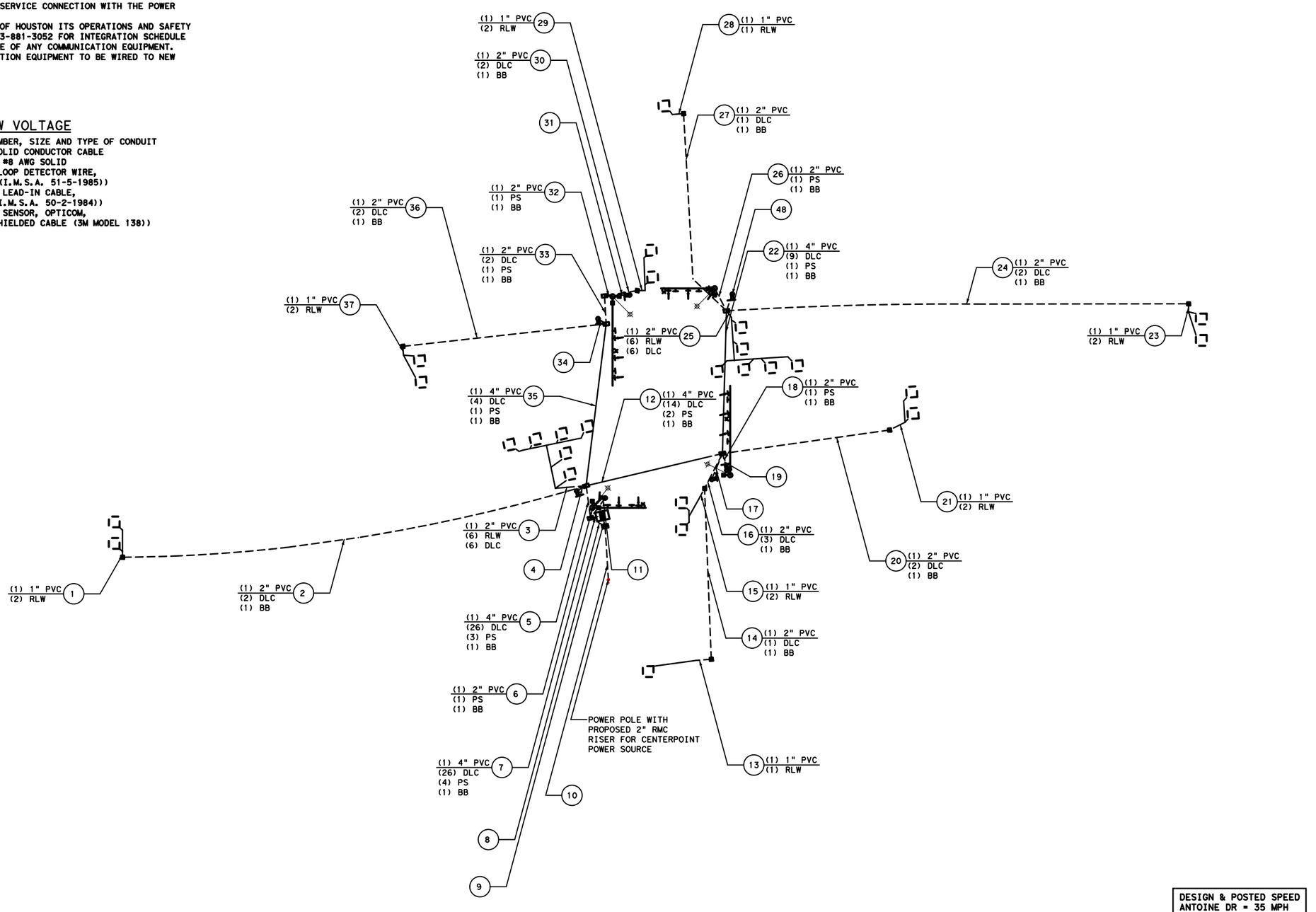
NOTE:
1. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE NECESSARY CONDUIT, CONDUIT RISER, WIRING, WEATHERHEAD AND ALL INCIDENTALS NECESSARY AS REQUIRED BY THE POWER COMPANY FOR ROUTING OF THE SERVICE CONDUCTORS FROM THE METERED PEDESTAL SERVICE TO THE POINT OF SERVICE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE ELECTRIC SERVICE CONNECTION WITH THE POWER COMPANY.
2. CONTACT CITY OF HOUSTON ITS OPERATIONS AND SAFETY SECTION AT 713-881-3052 FOR INTEGRATION SCHEDULE AND/OR SALVAGE OF ANY COMMUNICATION EQUIPMENT.
3. ALL COMMUNICATION EQUIPMENT TO BE WIRED TO NEW CABINET.

LOW VOLTAGE

(1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
CC = #14 AWG SOLID CONDUCTOR CABLE
BB = BARE BOND #8 AWG SOLID
RLW = (ROADWAY LOOP DETECTOR WIRE, #14 AWG (I.M.S.A. 51-5-1985))
DLC = (DETECTOR LEAD-IN CABLE, #14 AWG (I.M.S.A. 50-2-1984))
PS = (PRE-EMPT SENSOR, OPTICOM, #20 3CC SHIELDED CABLE (3M MODEL 138))



DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
ACORN ST = 30 MPH

0' 30' 60'
SCALE IN FEET

Texas Department of Transportation ©2026

RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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JEFFREY ROBERT LEUGERS
91874
3/10/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

LOW VOLTAGE CABLE SCHEMATIC ANTOINE DR @ ACORN ST

SHEET 02 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 739 OF 1067	

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EXISTING LEGEND

- EXISTING POLE WITH MAST ARM
- EXISTING SIGNAL HEAD WITH BACK PLATE
- EXISTING PEDESTRIAN SIGNAL
- EXISTING PUSH BUTTON
- EXISTING OPTICOM PRE-EMPT SENSOR
- EXISTING 2070L CONTROLLER W/ 340 CABINET, BATTERY BACK UP AND GPS MODULE
- EXISTING METER PEDESTAL SERVICE
- WIMAX, COMPLETE IN PLACE
- S1 EXISTING OVERHEAD STREET NAME SIGN (S1-S3)

REMOVE CONTROLLER AND CABINET

REMOVE SIGNAL POLE AND FOUNDATIONS

REMOVE AND RELOCATE EXISTING WIMAX TO TEMPORARY POLE TPXX SEE TEMPORARY SIGNAL FOR PINEMONT

REMOVE SIGNAL POLE AND FOUNDATIONS

REMOVE SIGNAL POLE AND FOUNDATIONS

REMOVE SIGNAL POLE AND FOUNDATION

REMOVE SIGNAL POLE AND FOUNDATION

REMOVE METER AND EQUIPMENT

REMOVE SIGNAL POLE AND FOUNDATION

ABANDONE LOOP DETECTORS

HARDWAY ST. (W)

HARDWAY ST. (E)

ANTOINE DR.

ANTOINE DR.

PINEMONT DR

BROOM ST.

EXIST ROW

EXIST ROW

EXIST ROW

EXIST ROW

LOT 1A

LOT 1B

5+00

63+00

64+00

65+00

66+00

67+00

68+00

7+00

10+00

11+00

12+00

13+00

0' 20' 40'
SCALE IN FEET

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

EXISTING CONDITION TRAFFIC SIGNAL LAYOUT ANTOINE DR. @ PINEMONT DR.

SHEET 01 OF 01

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 740 OF 1067	

GENERAL ITS NOTE:
THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION. INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION / ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION / ITS SECTION FOR QUESTIONS AT 713.881.3172.

NOTE:
1. CONTRACTOR TO COORDINATE EXACT PLACEMENT, LOCATION AND ADJUSTMENT OF LOOP VEHICLE DETECTION IN THE FIELD.
2. CONTRACTOR TO LOCATE AND EXPOSE UTILITIES BY HAND EXCAVATION AROUND THE POLE FOUNDATIONS PRIOR TO FOUNDATION INSTALLATION. ANY POLE FOUNDATION ALTERNATE LOCATION DUE TO UTILITY CONFLICT SHALL BE COORDINATED WITH THE ENGINEER.

DESIGN & POSTED SPEED
ANTOINE = 35 MPH
PINEMONT DR = 40 MPH

TRAFFIC SIGNAL SIGNING NOTES:
1. ALL EXISTING SIGNS SHALL BE INVENTORIED AND DOCUMENTED PER CITY OF HOUSTON DRAWING NO. 01509-01.

PED Ø2 & Ø4
BUTTON Ø2
BUTTON Ø4
PED Ø4 & Ø6
BUTTON Ø6

LEGEND

- PROPOSED POLE WITH MAST ARM
- PROPOSED PEDESTRIAN POLE
- A PROPOSED SIGNAL HEAD
- A PROPOSED SIGNAL HEAD WITH BACK PLATE
- W4 PROPOSED PEDESTRIAN SIGNAL
- Pb4 PROPOSED PUSH BUTTON
- PROPOSED PULL BOX (TY A)
- PROPOSED PULL BOX (TY B)
- PROPOSED PULL BOX (TY C)
- PROPOSED PULL BOX (TY B) W/ EXTENSION
- PROPOSED SIGNAL CONDUIT (TRENCH)
- PROPOSED SIGNAL CONDUIT (BORE)
- 01 PROPOSED OPTICOM PRE-EMPT SENSOR
- PROPOSED LUMINAIRE
- PROPOSED 2070L CONTROLLER W/ 340 CABINET, BATTERY BACK UP AND GPS MODULE
- PROPOSED METER PEDESTAL SERVICE
- 1 PROPOSED CABLE RUN (SEE ELECTRICAL CHART)
- S1 PROPOSED OVERHEAD STREET NAME SIGN (S1-S3)

MATCHLINE STA 9+60
MATCHLINE STA 12+20
MATCHLINE STA 62+40
HARDWAY ST. (W)
HARDWAY ST. (E)
ANTOINE DR.
PINEMONT DR
EXIST ROW
BROOM ST.
100' FROM CROSSWALK
280' TO STOP BAR
SEE DETAIL "A"
DETAIL "A"
10' B.L.
LOT 1A
LOT 1B
LOT 38A
LOT 38B

PROPOSED TRAFFIC SIGNAL PHASING

Ø5 & Ø2	Ø2 & Ø6	Ø1 & Ø6	Ø3 & Ø8	Ø4 & Ø8	Ø7 & Ø4
Ø2 PED, Ø2 Ø2, Ø5	Ø2 PED, Ø6, Ø6 PED, Ø2 Ø2	Ø1, Ø6 Ø6, Ø6 PED	Ø3, Ø3, Ø8, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø4, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø4, Ø7, Ø7

S1 = REINSTALL STREET NAME SIGN, "ANTOINE DR", BLOCK#'S 5200 AND 5300
S2 = REINSTALL STREET NAME SIGN, "PINEMONT DR", BLOCK#'S 5800 AND 5700
S3 = REINSTALL STREET NAME SIGN, "ANTOINE DR", BLOCK#'S 5300 AND 5200
S4 = REINSTALL STREET NAME SIGN, "PINEMONT DR", BLOCK#'S 5700 AND 5800
S5 = R10-5 (24" X 30") SIGN, "LEFT ON GREEN ARROW ONLY"
S6 = R10-5 (24" X 30") SIGN, "LEFT ON GREEN ARROW ONLY"
S7 = R10-5 (24" X 30") SIGN, "LEFT ON GREEN ARROW ONLY"
S8 = R10-5 (24" X 30") SIGN, "LEFT ON GREEN ARROW ONLY"

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation ©2026

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Houston, Texas 77027
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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED TRAFFIC SIGNAL LAYOUT ANTOINE DR. @ PINEMONT DR.

SHEET 01 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 741 OF 1067	

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Plot Driver:c:\pw*work\rsh*pw\pateb\d0607461\ANTOINE DR.pltcfg
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LEGEND

- PROPOSED POLE WITH MAST ARM
- PROPOSED PEDESTRIAN POLE
- A PROPOSED SIGNAL HEAD
- A PROPOSED SIGNAL HEAD WITH BACK PLATE
- W4 PROPOSED PEDESTRIAN SIGNAL
- Pb4 PROPOSED PUSH BUTTON
- PROPOSED PULL BOX (TY A)
- PROPOSED PULL BOX (TY B)
- PROPOSED PULL BOX (TY C)
- PROPOSED PULL BOX (TY B) W/ EXTENSION
- WIMAX, COMPLETE IN PLACE
- PROPOSED SIGNAL CONDUIT (TRENCH)
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- 01 PROPOSED OPTICOM PRE-EMPT SENSOR
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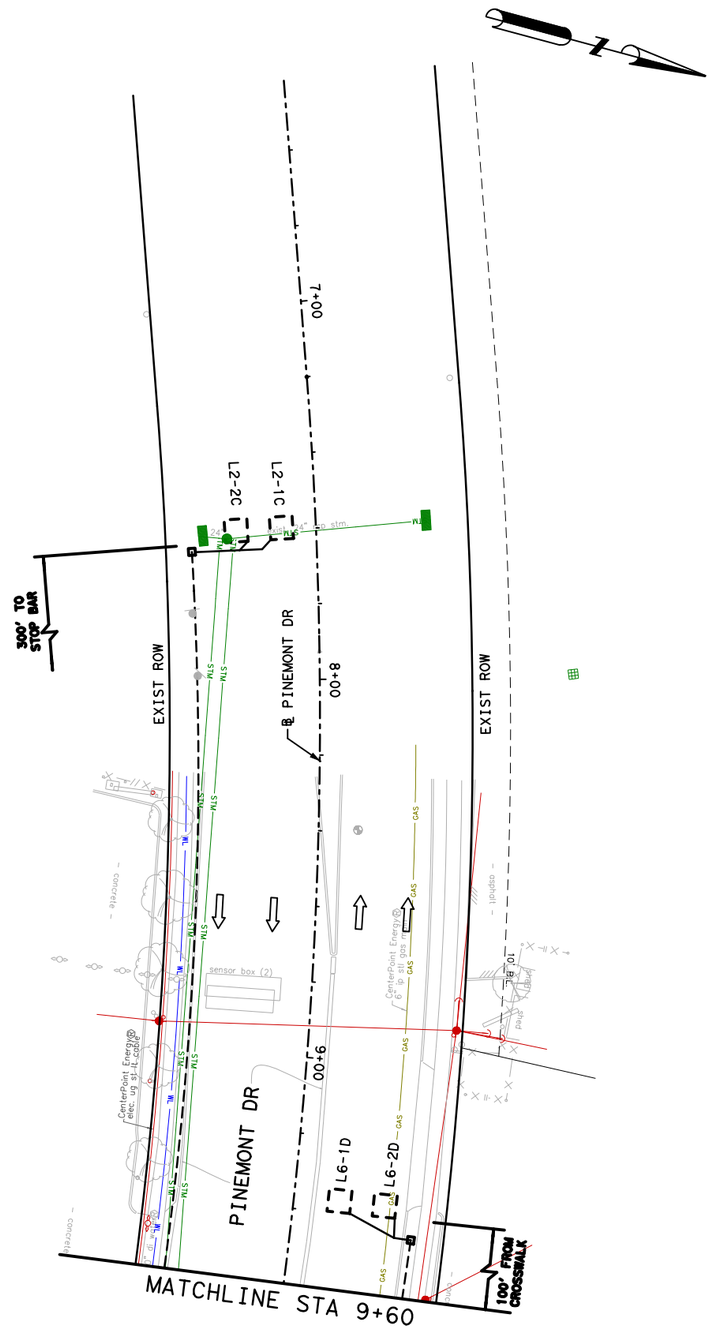
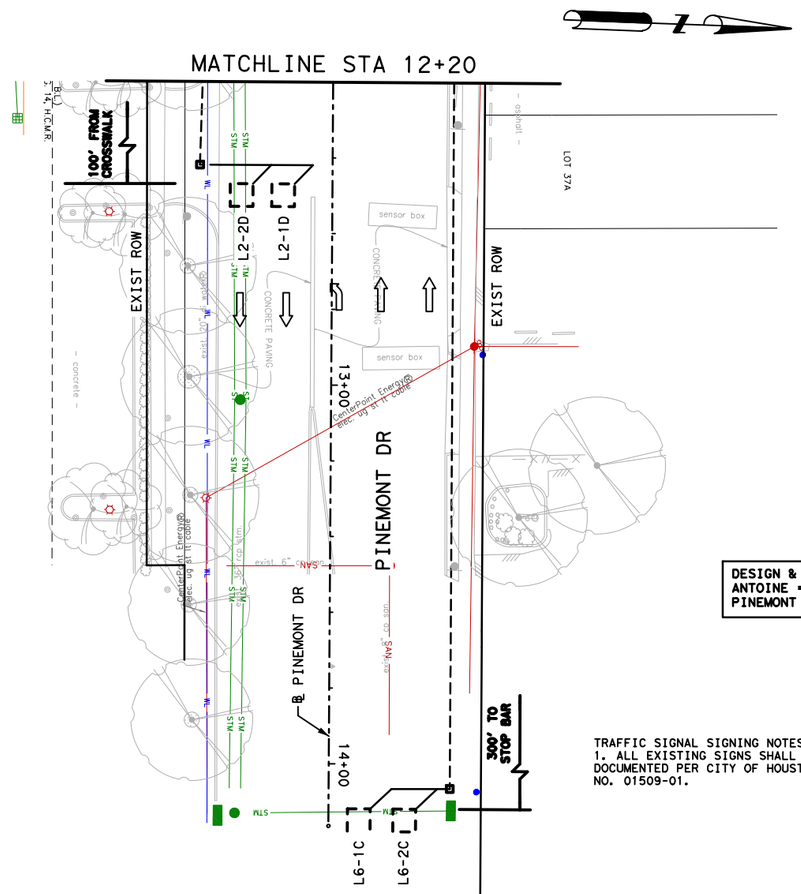
- PROPOSED METER PEDESTAL SERVICE
- 1 PROPOSED CABLE RUN (SEE ELECTRICAL CHART)
- S1 PROPOSED OVERHEAD STREET NAME SIGN (S1-S3)





DESIGN & POSTED SPEED
ANTOINE = 35 MPH
PINEMONT DR = 40 MPH

TRAFFIC SIGNAL SIGNING NOTES:
1. ALL EXISTING SIGNS SHALL BE INVENTORIED AND DOCUMENTED PER CITY OF HOUSTON DRAWING NO. 01509-01.

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2. CONTRACTOR TO LOCATE AND EXPOSE UTILITIES BY HAND EXCAVATION AROUND THE POLE FOUNDATIONS PRIOR TO FOUNDATION INSTALLATION. ANY POLE FOUNDATION ALTERNATE LOCATION DUE TO UTILITY CONFLICT SHALL BE COORDINATED WITH THE ENGINEER.

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
PROPOSED TRAFFIC SIGNAL LAYOUT
ANTOINE DR. @ PINEMONT DR.
(SHEET 2 OF 2)

SHEET 02 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 742 OF 1067	

Design Filename: pw:\\rsandh-pw.bentley.com:rsandh-pw-01\Documents\Transportation\Projects\10124862000_CoH_Antoine_Drive_Paving_Drainage\03.00 Project Execution\03.05 Design\Signal\RSH_P

POLE NUMBER	POLE TYPE	MAST ARMS (LF) SIGNAL	MAST ARMS (LF) LUM	LUMINAIRE TYPE	SIGNAL HEADS MOUNT	SIGNAL HEADS HEADS	PED PB & SIGN	ATTACHMENTS	LOCATIONS	STANDARDS
Ⓒ S7 P4 S3 (11′ 11′)	HOU 2	50′	15′	106 watt system max led cobra head luminaire	3-ASTRO BRAC, 2 PED, 1-SIDE OF POLE	2-H3 1-H3L 1-V3L 2-CDP		PRE-EMPT SIGN: S3-ANTOINE DR S7-R10-5	BY ENGINEER IN FIELD @ APPROX STA 64+56.21 OFFSET 52.24′ RT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓓ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 64+63.39 OFFSET 58.52′ RT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓔ S8 P1 S4 (11′ 11′ 11′)	HOU 2	55′	15′	106 watt system max led cobra head luminaire	4-ASTRO BRAC, 2 PED, 1-SIDE OF POLE	2-H3 2-H3L 1-V3L 2-CDP		PRE-EMPT SIGN: S4-PINEMONT DR S8-R10-5	BY ENGINEER IN FIELD @ APPROX STA 64+58.28 OFFSET 56.81′ LT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓕ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 64+53.77 OFFSET 52.20′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓖ	PED 5′						POLARA NAVIG R10-3E(L)		BY ENGINEER IN FIELD @ APPROX STA 64+63.31 OFFSET 61.22′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓗ S5 P2 S1 (11′ 11′)	HOU 2	50′	15′	106 watt system max led cobra head luminaire	3-ASTRO BRAC, 2 PED, 1-SIDE OF POLE	2-H3 1-H3L 1-V3L 2-CDP		PRE-EMPT SIGN: S1-ANTOINE DR S5-R10-5	BY ENGINEER IN FIELD @ APPROX STA 65+53.04 OFFSET 56.22′ LT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓘ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 65+48.10 OFFSET 59.06′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓙ	PED 5′						POLARA NAVIG R10-3E(L)		BY ENGINEER IN FIELD @ APPROX STA 65+54.56 OFFSET 51.87′ LT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓚ S6 P3 S2 (11′ 11′ 11′)	HOU 2	55′	15′	106 watt system max led cobra head luminaire	4-ASTRO BRAC, 2 PED, 1-SIDE OF POLE	2-H3 2-H3L 1-V3L 2-CDP		PRE-EMPT SIGN: S2-PINEMONT DR S6-R10-5	BY ENGINEER IN FIELD @ APPROX STA 65+54.79 OFFSET 54.91′ RT BL ANTOINE DR	02893-02 02893-03 02893-04A&B 02893-05 02893-09
Ⓛ	PED 5′						POLARA NAVIG R10-3E(R)		BY ENGINEER IN FIELD @ APPROX STA 65+55.95 OFFSET 51.62′ RT BL ANTOINE DR	02893-02 02893-03 02893-07
Ⓜ	PED 5′						POLARA NAVIG R10-3E(L)		BY ENGINEER IN FIELD @ APPROX STA 65+47.68 OFFSET 58.81′ RT BL ANTOINE DR	02893-02 02893-03 02893-07

CABINET ANTOINE DR	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATIONS	STANDARDS
Ⓐ	ITS 340	2070LX CONTROLLER UNIT W/2070-1C CPU MODULE WITH GPS SERIAL COMMUNICATIONS MODULE & UPS BATTERY BACK-UP SYSTEM	3-POLE STREET LIGHTING CONTACTOR	✳ STANDARD SPEC'S 16730, 16731, 16732 16733, 16734 & 16785	BY ENGINEER IN FIELD @ APPROX STA 65+49.48 OFFSET 54.01′ RT BL ANTOINE DR	02893-10C
Ⓑ	METER PEDESTAL SERVICE UL TYPE 3R	METERED SERVICE 1-60, 1-30 AMP SINGLE POLE BREAKERS			BY ENGINEER IN FIELD @ APPROX STA 49+59.00 OFFSET 61.50′ RT BL ANTOINE DR.	02893-14

NOTE:
THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE NECESSARY CONDUIT, CONDUIT RISER, WIRING, WEATHERHEAD AND ALL INCIDENTALS NECESSARY AS REQUIRED BY THE POWER COMPANY FOR ROUTING OF THE SERVICE CONDUCTORS FROM THE METERED PEDESTAL SERVICE TO THE POINT OF SERVICE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE ELECTRIC SERVICE CONNECTION WITH THE POWER COMPANY.

STOP LINE AND LOOP DETECTOR LOCATIONS		
ITEM BY DIRECTION	STATION ANTOINE DR	OFFSET
NORTHBOUND		
STOP LINE @ GUTTER	65+55.00	39.0′ RT
STOP LINE @ MEDIAN	64+55.00	9.0′ LT
PHASE 3 PRESENCE LOOP 1A	64+63.00	2.5′ LT
PHASE 3 PRESENCE LOOP 2A	64+63.00	9.5′ RT
PHASE 3 PRESENCE LOOP 1B	64+48.00	2.5′ LT
PHASE 3 PRESENCE LOOP 2B	64+48.00	9.5′ RT
PHASE 3 PRESENCE LOOP 1C	64+33.00	2.5′ LT
PHASE 3 PRESENCE LOOP 2C	64+33.00	9.5′ RT
PHASE 3 PRESENCE LOOP 1D	64+18.00	2.5′ LT
PHASE 3 PRESENCE LOOP 2D	64+18.00	9.5′ RT
PHASE 8 PRESENCE LOOP 1A	64+49.00	21.0′ RT
PHASE 8 PRESENCE LOOP 2A	64+49.00	32.0′ RT
PHASE 8 PULSE LOOP 1B	61+91.00	14.0′ RT
PHASE 8 PULSE LOOP 2B	61+91.00	26.0′ RT
PHASE 8 PULSE LOOP 1C	66+57.00	21.0′ RT
PHASE 8 PULSE LOOP 2C	66+57.00	32.0′ RT

STOP LINE AND LOOP DETECTOR LOCATIONS		
ITEM BY DIRECTION	STATION ANTOINE DR	OFFSET
SOUTHBOUND		
STOP LINE @ GUTTER	65+57.00	9.0′ RT
STOP LINE @ MEDIAN	65+57.00	39.0′ LT
PHASE 7 PRESENCE LOOP 1A	65+49.00	2.5′ LT
PHASE 7 PRESENCE LOOP 2A	65+49.00	9.5′ RT
PHASE 7 PRESENCE LOOP 1B	65+64.00	2.5′ LT
PHASE 7 PRESENCE LOOP 2B	65+64.00	9.5′ RT
PHASE 7 PRESENCE LOOP 1C	65+79.00	2.5′ LT
PHASE 7 PRESENCE LOOP 2C	65+79.00	9.5′ RT
PHASE 7 PRESENCE LOOP 1D	65+94.00	2.5′ LT
PHASE 7 PRESENCE LOOP 2D	65+94.00	9.5′ RT
PHASE 4 PRESENCE LOOP 1A	65+64.00	21.0′ LT
PHASE 4 PRESENCE LOOP 2A	65+64.00	32.0′ LT
PHASE 4 PULSE LOOP 1B	68+22.00	19.0′ LT
PHASE 4 PULSE LOOP 2B	68+22.00	31.0′ LT
PHASE 4 PULSE LOOP 1C	63+56.00	21.0′ LT
PHASE 4 PULSE LOOP 2C	63+56.00	33.0′ LT

ITEM BY DIRECTION	STATION ACORN ST	OFFSET
EASTBOUND		
STOP LINE @ GUTTER	10+28.00	31.0′ RT
STOP LINE @ MEDIAN	10+28.00	5.0′ LT
PHASE 5 PRESENCE LOOP 1A	10+36.00	0.0′ RT
PHASE 5 PRESENCE LOOP 1B	10+21.00	1.0′ RT
PHASE 5 PRESENCE LOOP 1C	10+06.00	9.0′ RT
PHASE 5 PRESENCE LOOP 1D	9+91.00	1.5′ RT
PHASE 2 PRESENCE LOOP 1A	10+22.00	13.0′ RT
PHASE 2 PRESENCE LOOP 2A	10+22.00	25.0′ RT
PHASE 2 PRESENCE LOOP 1B	10+07.00	13.5′ RT
PHASE 2 PRESENCE LOOP 2B	10+07.00	25.0′ RT
PHASE 2 PULSE LOOP 1C	7+60.00	9.0′ RT
PHASE 2 PULSE LOOP 2C	7+60.00	21.0′ RT
PHASE 2 PULSE LOOP 1D	12+50.00	13.0′ RT
PHASE 2 PULSE LOOP 2D	12+50.00	24.0′ RT

ITEM BY DIRECTION	STATION ACORN ST	OFFSET
WESTBOUND		
STOP LINE @ GUTTER	11+51.00	30.0′ LT
STOP LINE @ MEDIAN	11+51.00	6.0′ RT
PHASE 1 PRESENCE LOOP 1A	11+44.00	0.0′ RT
PHASE 1 PRESENCE LOOP 1B	11+59.00	0.0′ RT
PHASE 1 PRESENCE LOOP 1C	11+74.00	0.0′ RT
PHASE 1 PRESENCE LOOP 1D	11+89.00	0.0′ RT
PHASE 6 PRESENCE LOOP 1A	11+59.00	11.0′ LT
PHASE 6 PRESENCE LOOP 2A	11+59.00	21.0′ LT
PHASE 6 PRESENCE LOOP 1B	11+74.00	11.0′ LT
PHASE 6 PRESENCE LOOP 2B	11+74.00	21.0′ LT
PHASE 6 PULSE LOOP 1C	14+15.00	8.0′ LT
PHASE 6 PULSE LOOP 2C	14+15.00	20.0′LT
PHASE 6 PULSE LOOP 1D	9+38.00	12.0′ LT
PHASE 6 PULSE LOOP 2D	9+37.00	24.00′LT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

POLE SCHEDULE
ANTOINE DR @ PINEMONT DR

SHEET 01 OF 01

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 743 OF 1067	

Plotted on: 3/10/2026 11:14:50 AM by teb
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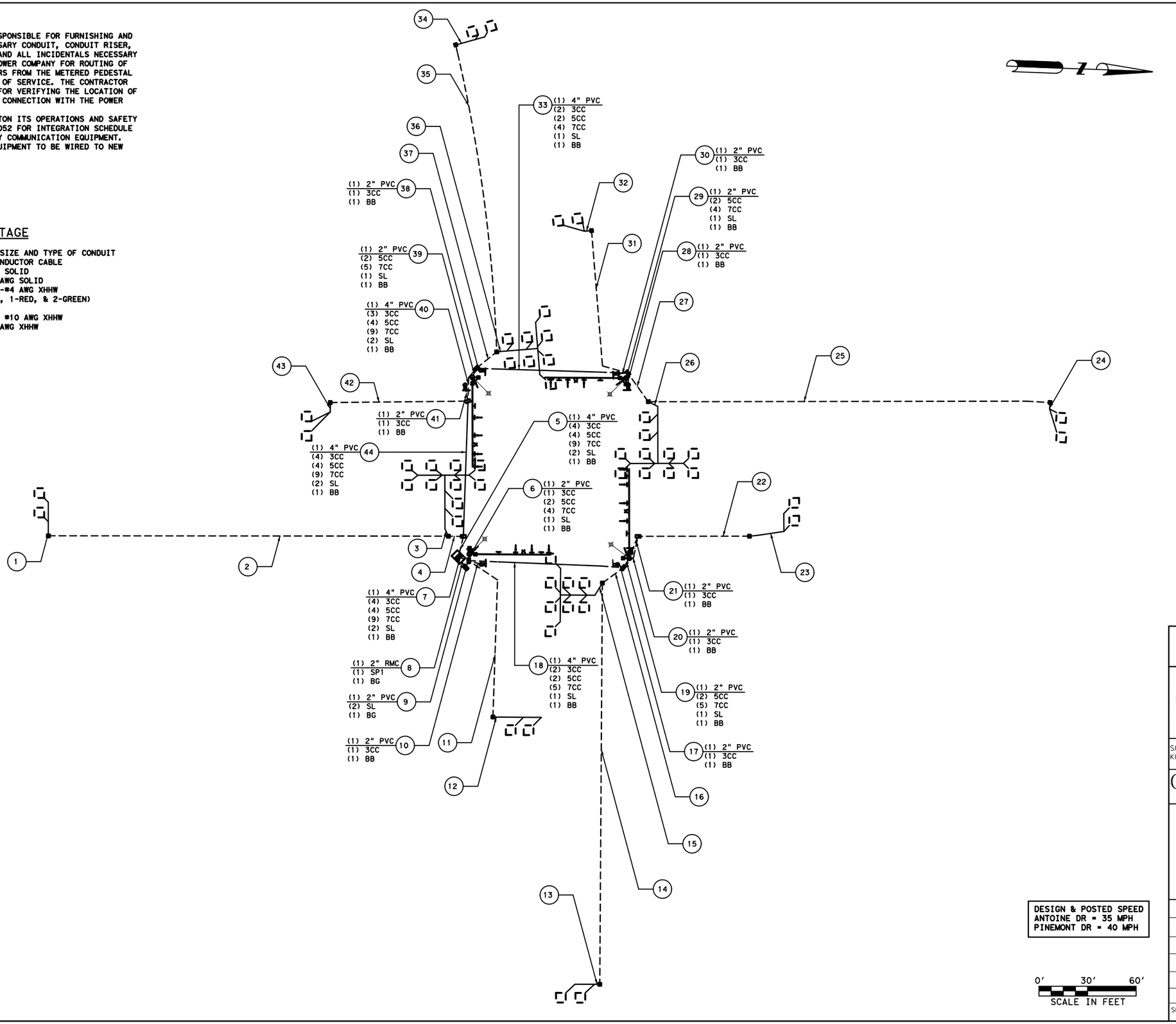
2. CONTACT CITY OF HOUSTON ITS OPERATIONS AND SAFETY SECTION AT 713-881-3052 FOR INTEGRATION SCHEDULE AND/OR SALVAGE OF ANY COMMUNICATION EQUIPMENT.
3. ALL COMMUNICATION EQUIPMENT TO BE WIRED TO NEW CABINET.

HIGH VOLTAGE

(1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
CC = #14 AWG SOLID CONDUCTOR CABLE
BB = BARE BOND #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SP1 = SIGNAL POWER, 6-#4 AWG XHHW
(2-WHITE, 1-BLACK, 1-RED, & 2-GREEN)
SP2 = 4 - #4 AWG XHHW
SL = STREET LIGHTING, #10 AWG XHHW
PC = PHOTO CELL, #10 AWG XHHW



DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
PINEMONT DR = 40 MPH

0' 30' 60'
SCALE IN FEET

Texas Department of Transportation ©2026

RS&H®
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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91874
3/10/2026
60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

HIGH VOLTAGE CABLE SCHEMATIC
ANTOINE DR @ PINEMONT DR

SHEET 01 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 744 OF 1067	

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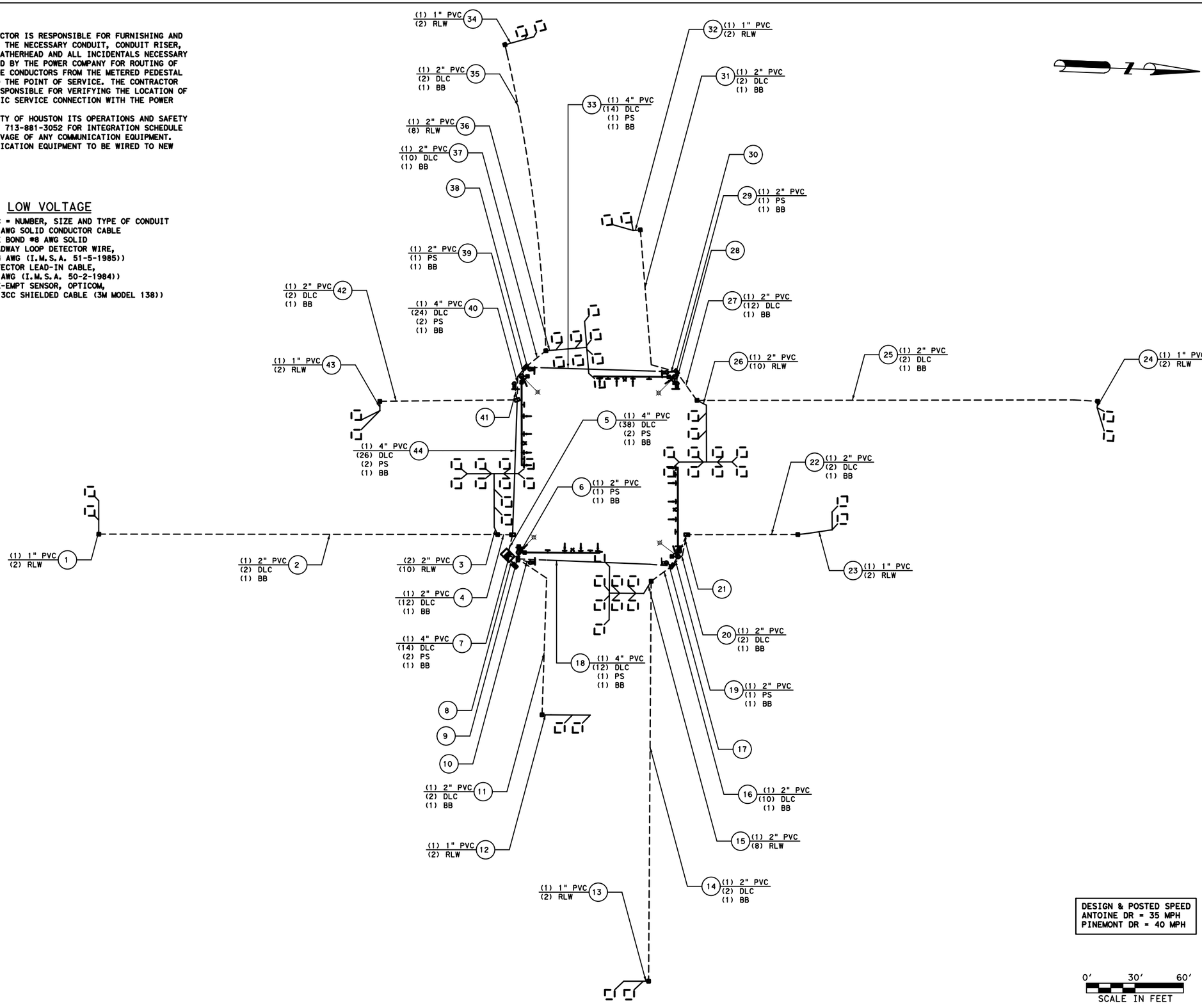
NOTE:
1. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE NECESSARY CONDUIT, CONDUIT RISER, WIRING, WEATHERHEAD AND ALL INCIDENTALS NECESSARY AS REQUIRED BY THE POWER COMPANY FOR ROUTING OF THE SERVICE CONDUCTORS FROM THE METERED PEDESTAL SERVICE TO THE POINT OF SERVICE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE ELECTRIC SERVICE CONNECTION WITH THE POWER COMPANY.
2. CONTACT CITY OF HOUSTON ITS OPERATIONS AND SAFETY SECTION AT 713-881-3052 FOR INTEGRATION SCHEDULE AND/OR SALVAGE OF ANY COMMUNICATION EQUIPMENT.
3. ALL COMMUNICATION EQUIPMENT TO BE WIRED TO NEW CABINET.

LOW VOLTAGE

(1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
CC = #14 AWG SOLID CONDUCTOR CABLE
BB = BARE BOND #8 AWG SOLID
RLW = (ROADWAY LOOP DETECTOR WIRE, #14 AWG (I.M.S.A. 51-5-1985))
DLC = (DETECTOR LEAD-IN CABLE, #14 AWG (I.M.S.A. 50-2-1984))
PS = (PRE-EMPT SENSOR, OPTICOM, #20 3CC SHIELDED CABLE (3M MODEL 138))



DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
PINEMONT DR = 40 MPH

0' 30' 60'
SCALE IN FEET

Texas Department of Transportation ©2026

RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

LOW VOLTAGE
CABLE SCHEMATIC
ANTOINE DR @ PINEMONT DR

SHEET 02 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 745 OF 1067	

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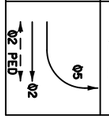
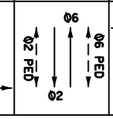
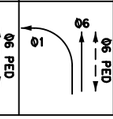
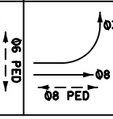
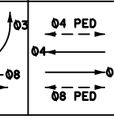
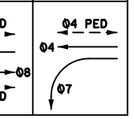
TEMPORARY POLE AND CONTROLLER LOCATIONS				
TP #	POLE TYPE	B.L. STA.	LOCATION	ATTACHMENTS
1	TIMBER	STA 50+00	66.0' LT	50' TIMBER POLE, WIMAX, TEMP VIVD W/ POLE MOUNTED CABINET & ELECTRICAL SERVICE
2	TIMBER	STA 50+44	60.0' LT	50' TIMBER POLE, TEMP VIVD
3	TIMBER	STA 55+23	48.5' RT	50' TIMBER POLE, TEMP VIVD
4	TIMBER	STA 49+60	47.0' RT	50' TIMBER POLE, TEMP VIVD
CONTROLLER		STA 50+00	70.5' LT	EXISTING 2070 HC-ITS CONTROLLER IN A POLE MOUNTED CABINET

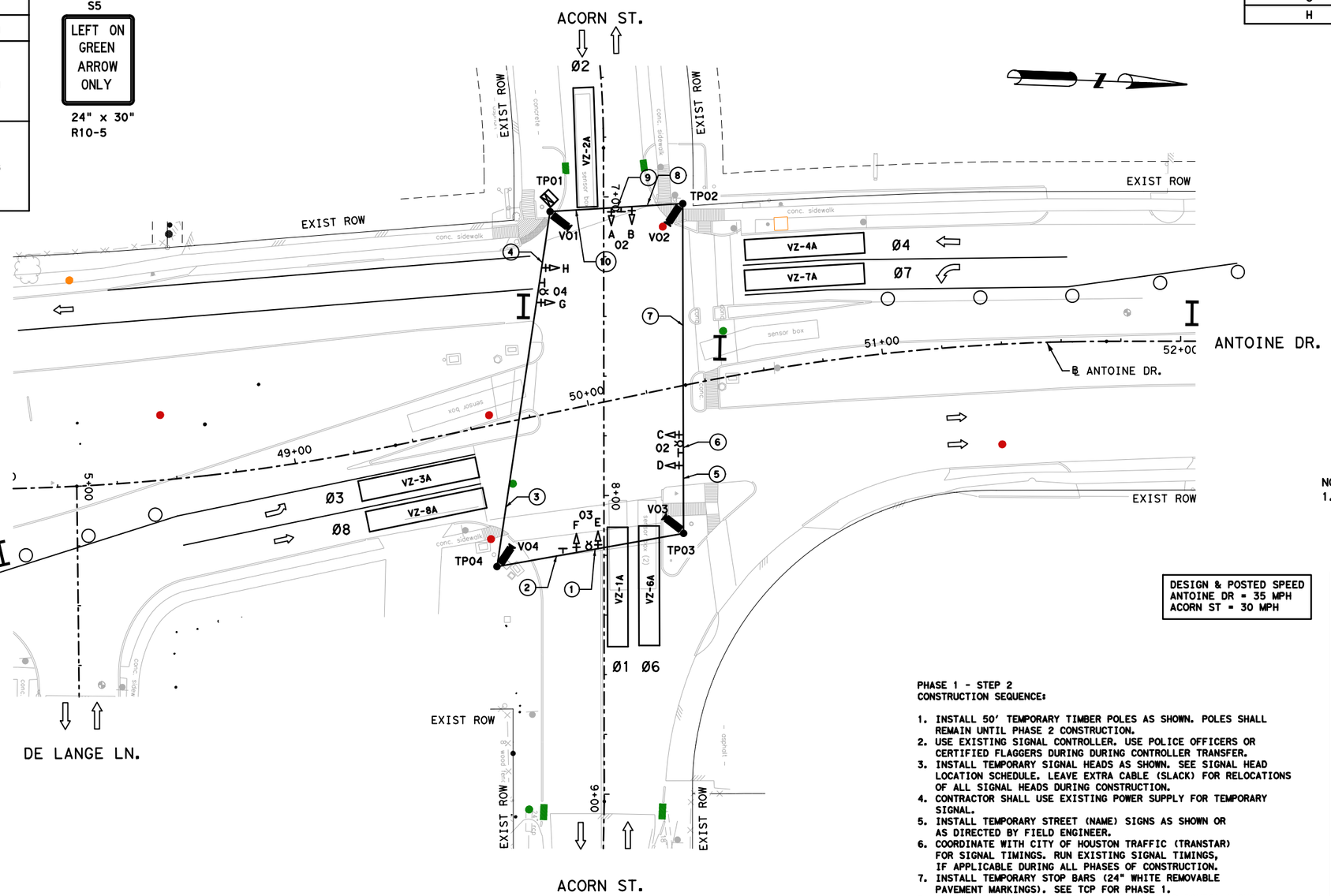
TEMPORARY SIGNAL HEAD SCHEDULE	
SIGNAL HEAD	DESIGNATION
12" HORIZONTAL (R Y G)	TEMPORARY B, D, F, H
12" HORIZONTAL (R Y G)	TEMPORARY A, C, E, G

TEMPORARY SIGNS
S1 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1300 AND 1400
S2 = STREET NAME SIGN, "Acorn St", BLOCK#'S 10100 AND 10000
S3 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1400 AND 1300
S4 = STREET NAME SIGN, "Acorn St", BLOCK#'S 10000 AND 10100

S5
LEFT ON GREEN ARROW ONLY
24" x 30"
R10-5

TEMPORARY TRAFFIC SIGNAL PHASING					
Ø2	Ø2 & Ø6	Ø1 & Ø6	Ø3 & Ø8	Ø4 & Ø8	Ø7 & Ø4
					

TEMP. SIGNAL HEAD LOCATION SCHEDULE PHASE 1 STEP 1		
SIGNAL HEAD	B.L. STA.	LOCATION
A	50+20	63.0' LT
B	50+31	63.0' LT
C	50+30	16.0' RT
D	50+27	27.0' RT
E	50+00	48.0' RT
F	49+88	47.5' RT
G	49+90	36.0' LT
H	49+95	47.0' LT



TEMPORARY SIGNAL WIRING LEGEND ELECTRICAL CHART					
①	* 1 - 7/C #14 AWG	XX LF			
②	* 1 - 3/C #20 SHIELDED 2 - 7/C #14 AWG	XX LF XX LF			
③	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF			
④	* 2 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF			
⑤	1 - 3/C #20 AWG	XX LF			
⑥	* 1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 1 - 7/C #14 AWG	XX LF XX LF XX LF			
⑦	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF	⑨	* 2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
⑧	1 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF	⑩	2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 4 - 7/C #14 AWG	XX LF XX LF XX LF

* EXTRA CABLE FOR RELOCATION OF SIGNAL HEADS DURING OTHER PHASES OF CONSTRUCTION.

DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
ACORN ST = 30 MPH

PHASE 1 - STEP 2
CONSTRUCTION SEQUENCE:

1. INSTALL 50' TEMPORARY TIMBER POLES AS SHOWN. POLES SHALL REMAIN UNTIL PHASE 2 CONSTRUCTION.
2. USE EXISTING SIGNAL CONTROLLER. USE POLICE OFFICERS OR CERTIFIED FLAGGERS DURING DURING CONTROLLER TRANSFER.
3. INSTALL TEMPORARY SIGNAL HEADS AS SHOWN. SEE SIGNAL HEAD LOCATION SCHEDULE. LEAVE EXTRA CABLE (SLACK) FOR RELOCATIONS OF ALL SIGNAL HEADS DURING CONSTRUCTION.
4. CONTRACTOR SHALL USE EXISTING POWER SUPPLY FOR TEMPORARY SIGNAL.
5. INSTALL TEMPORARY STREET (NAME) SIGNS AS SHOWN OR AS DIRECTED BY FIELD ENGINEER.
6. COORDINATE WITH CITY OF HOUSTON TRAFFIC (TRANSTAR) FOR SIGNAL TIMINGS. RUN EXISTING SIGNAL TIMINGS, IF APPLICABLE DURING ALL PHASES OF CONSTRUCTION.
7. INSTALL TEMPORARY STOP BARS (24" WHITE REMOVABLE PAVEMENT MARKINGS). SEE TCP FOR PHASE 1.
8. REMOVE AND SALVAGE ALL PULL BOXES (GROUND BOXES) ALONG PHASE 1 CONSTRUCTION.

GENERAL ITS NOTE:
THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION. INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION / ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION / ITS SECTION FOR QUESTIONS AT 713.881.3172.

NOTE:
1. TEMPORARY SIGNAL IS INCIDENTAL TO TRAFFIC CONTROL.

0' 20' 40
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TEMPORARY SIGNAL LAYOUT
ANTOINE AT ACORN ST
PHASE I

SHEET 01 OF 04

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 746 OF 1067	

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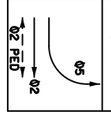
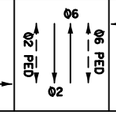
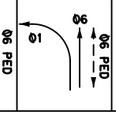
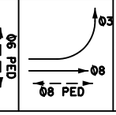
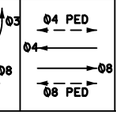
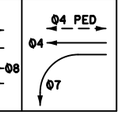
TEMPORARY POLE AND CONTROLLER LOCATIONS				
TP #	POLE TYPE	B.L. STA.	LOCATION	ATTACHMENTS
1	TIMBER	STA 50+00	66.0' LT	50' TIMBER POLE, WIMAX, TEMP VIVD W/ POLE MOUNTED CABINET & ELECTRICAL SERVICE
2	TIMBER	STA 50+44	60.0' LT	50' TIMBER POLE, TEMP VIVD
3	TIMBER	STA 55+23	48.5' RT	50' TIMBER POLE, TEMP VIVD
4	TIMBER	STA 49+60	47.0' RT	50' TIMBER POLE, TEMP VIVD
CONTROLLER		STA 50+00	70.5' LT	EXISTING 2070 HC-ITS CONTROLLER IN A POLE MOUNTED CABINET

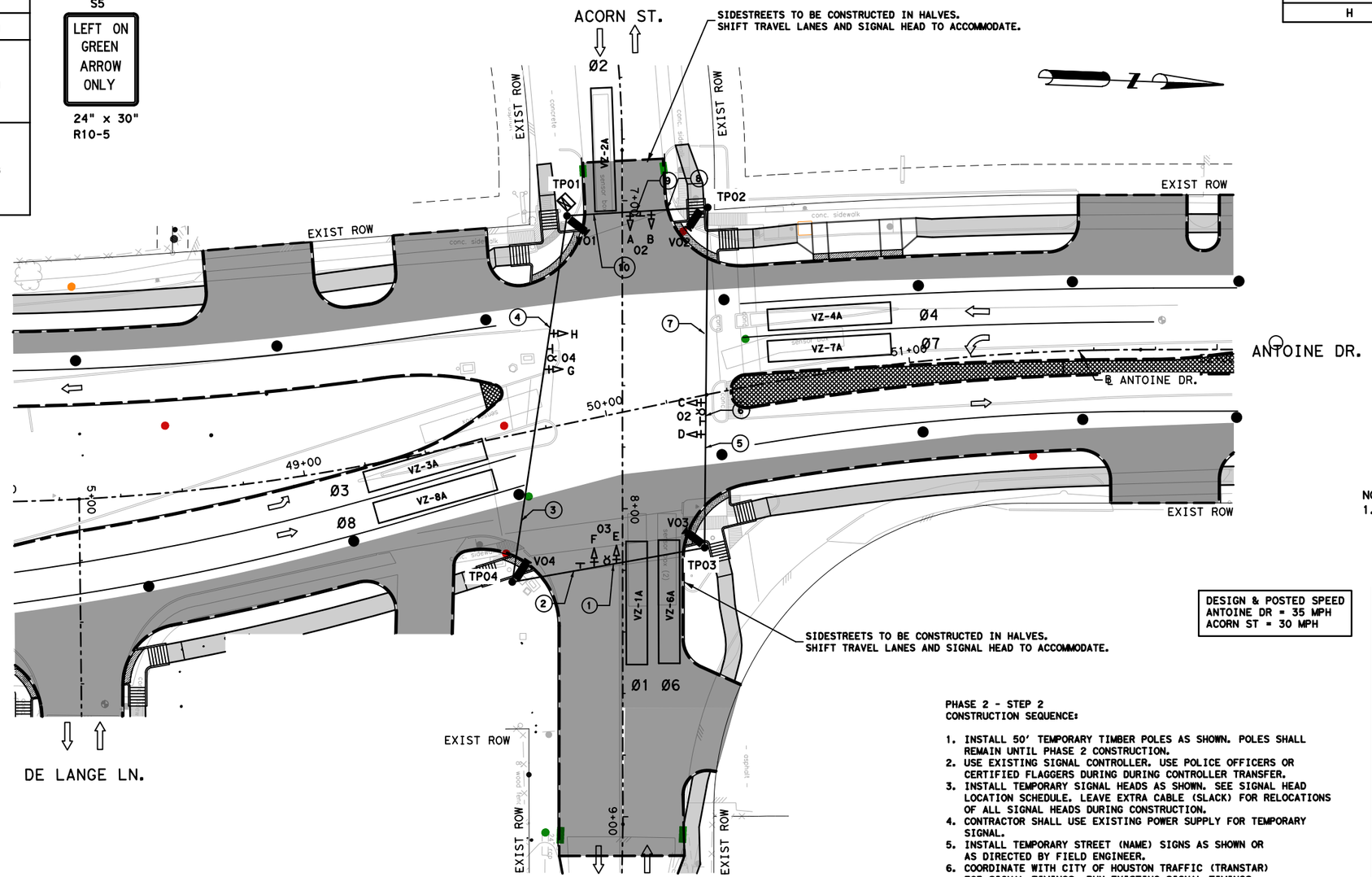
TEMPORARY SIGNAL HEAD SCHEDULE	
SIGNAL HEAD	DESIGNATION
12" HORIZONTAL (R Y G)	TEMPORARY B, D, F, H
12" HORIZONTAL (R Y G)	TEMPORARY A, C, E, G

TEMPORARY SIGNS
S1 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1300 AND 1400
S2 = STREET NAME SIGN, "Acorn St", BLOCK#'S 10100 AND 10000
S3 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1400 AND 1300
S4 = STREET NAME SIGN, "Acorn St", BLOCK#'S 10000 AND 10100

S5
LEFT ON GREEN ARROW ONLY
24" x 30"
R10-5

TEMPORARY TRAFFIC SIGNAL PHASING					
Ø2	Ø2 & Ø6	Ø1 & Ø6	Ø3 & Ø8	Ø4 & Ø8	Ø7 & Ø4
					

TEMP. SIGNAL HEAD LOCATION SCHEDULE PHASE 1 STEP 1		
SIGNAL HEAD	B.L. STA.	LOCATION
A	50+20	63.0' LT
B	50+31	63.0' LT
C	50+32	1.5' RT
D	50+30	12.5' RT
E	50+00	48.0' RT
F	49+88	47.5' RT
G	49+83	19.0' LT
H	49+87	30.0' LT



NOTE:
1. TEMPORARY SIGNAL IS INCIDENTAL TO TRAFFIC CONTROL.

0' 20' 40
SCALE IN FEET

DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
ACORN ST = 30 MPH

TEMPORARY SIGNAL WIRING LEGEND ELECTRICAL CHART

1	* 1 - 7/C #14 AWG	XX LF
2	* 1 - 3/C #20 SHIELDED 2 - 7/C #14 AWG	XX LF XX LF
3	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
4	* 2 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
5	1 - 3/C #20 AWG	XX LF
6	* 1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 1 - 7/C #14 AWG	XX LF XX LF XX LF
7	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
8	1 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
9	* 2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
10	2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 4 - 7/C #14 AWG	XX LF XX LF XX LF

* EXTRA CABLE FOR RELOCATION OF SIGNAL HEADS DURING OTHER PHASES OF CONSTRUCTION.

PHASE 2 - STEP 2
CONSTRUCTION SEQUENCE:

1. INSTALL 50' TEMPORARY TIMBER POLES AS SHOWN. POLES SHALL REMAIN UNTIL PHASE 2 CONSTRUCTION.
2. USE EXISTING SIGNAL CONTROLLER. USE POLICE OFFICERS OR CERTIFIED FLAGGERS DURING DURING CONTROLLER TRANSFER.
3. INSTALL TEMPORARY SIGNAL HEADS AS SHOWN. SEE SIGNAL HEAD LOCATION SCHEDULE. LEAVE EXTRA CABLE (SLACK) FOR RELOCATIONS OF ALL SIGNAL HEADS DURING CONSTRUCTION.
4. CONTRACTOR SHALL USE EXISTING POWER SUPPLY FOR TEMPORARY SIGNAL.
5. INSTALL TEMPORARY STREET (NAME) SIGNS AS SHOWN OR AS DIRECTED BY FIELD ENGINEER.
6. COORDINATE WITH CITY OF HOUSTON TRAFFIC (TRANSTAR) FOR SIGNAL TIMINGS. RUN EXISTING SIGNAL TIMINGS, IF APPLICABLE DURING ALL PHASES OF CONSTRUCTION.
7. INSTALL TEMPORARY STOP BARS (24" WHITE REMOVABLE PAVEMENT MARKINGS). SEE TCP FOR PHASE 1.
8. REMOVE AND SALVAGE ALL PULL BOXES (GROUND BOXES) ALONG PHASE 1 CONSTRUCTION.

GENERAL ITS NOTE:
THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION. INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION / ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION / ITS SECTION FOR QUESTIONS AT 713.881.3172.

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KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TEMPORARY SIGNAL LAYOUT
ANTOINE AT ACORN ST
PHASE 2

SHEET 02 OF 04

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 747 OF 1067	

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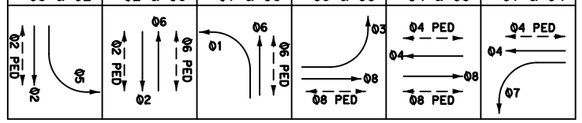
TEMPORARY POLE AND CONTROLLER LOCATIONS				
TP #	POLE TYPE	B.L. STA.	LOCATION	ATTACHMENTS
1	TIMBER	STA 64+60	57.5 LT	50' TIMBER POLE, WIMAX, TEMP VIVD W/ POLE MOUNTED CABINET & ELECTRICAL SERVICE
2	TIMBER	STA 65+50	56.5 LT	50' TIMBER POLE, TEMP VIVD
3	TIMBER	STA 65+50	55.5 RT	50' TIMBER POLE, TEMP VIVD
4	TIMBER	STA 64+60	56.0 RT	50' TIMBER POLE, TEMP VIVD
CONTROLLER		STA 64+62	60.5 LT	EXISTING 2070 HC-ITS CONTROLLER IN A POLE MOUNTED CABINET

TEMPORARY SIGNAL HEAD SCHEDULE	
SIGNAL HEAD	DESIGNATION
12" HORIZONTAL (R Y G)	TEMPORARY B, C, E, G, H, K
12" HORIZONTAL (R Y G)	TEMPORARY A, D, F, J

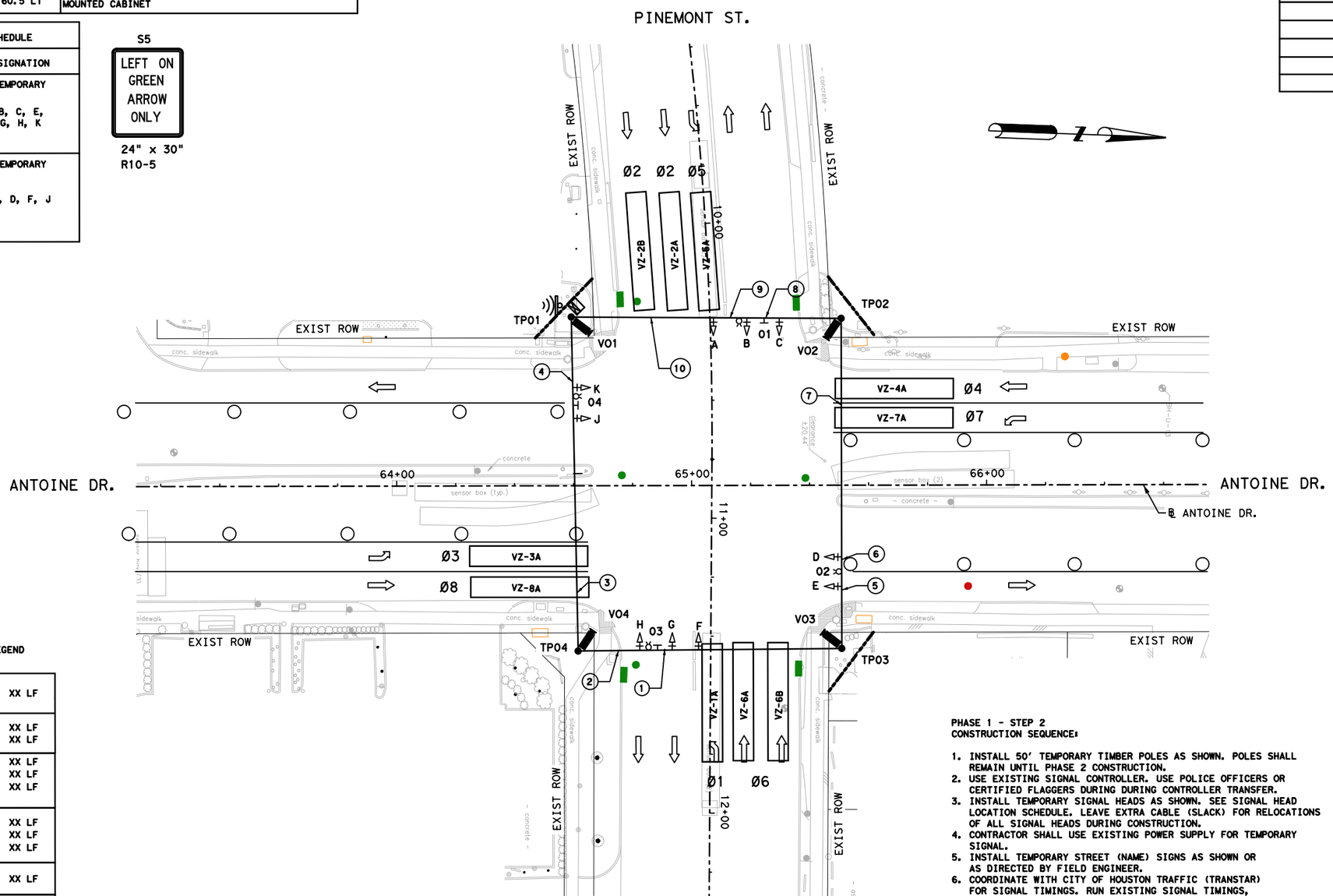
TEMPORARY SIGNS
S1 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1300 AND 1400
S2 = STREET NAME SIGN, "Pinemont St", BLOCK#'S 10100 AND 10000
S3 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1400 AND 1300
S4 = STREET NAME SIGN, "Pinemont St", BLOCK#'S 10000 AND 10100

S5
LEFT ON GREEN ARROW ONLY
24" x 30"
R10-5

TEMPORARY TRAFFIC SIGNAL PHASING



TEMP. SIGNAL HEAD LOCATION SCHEDULE PHASE 1 STEP 2		
SIGNAL HEAD	B.L. STA.	LOCATION
A	65+07	57.0' LT
B	65+18	57.0' LT
C	65+29	57.0' LT
D	65+50	22.0' RT
E	65+50	24.0' RT
F	65+02	56.0' RT
G	64+91	56.0' RT
H	64+80	56.0' RT
J	64+60	23.0' LT
K	64+60	34.0' LT



DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
PINEMONT ST = 30 MPH

NOTE:
1. TEMPORARY SIGNAL IS INCIDENTAL TO TRAFFIC CONTROL.

0' 20' 40
SCALE IN FEET

TEMPORARY SIGNAL WIRING LEGEND
ELECTRICAL CHART

①	* 1 - 7/C #14 AWG	XX LF
②	* 1 - 3/C #20 SHIELDED 2 - 7/C #14 AWG	XX LF XX LF
③	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
④	* 2 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
⑤	1 - 3/C #20 AWG	XX LF
⑥	* 1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 1 - 7/C #14 AWG	XX LF XX LF XX LF
⑦	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
⑧	1 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
⑨	* 2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
⑩	2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 4 - 7/C #14 AWG	XX LF XX LF XX LF

* EXTRA CABLE FOR RELOCATION OF SIGNAL HEADS DURING OTHER PHASES OF CONSTRUCTION.

PHASE 1 - STEP 2
CONSTRUCTION SEQUENCE:

1. INSTALL 50' TEMPORARY TIMBER POLES AS SHOWN. POLES SHALL REMAIN UNTIL PHASE 2 CONSTRUCTION.
2. USE EXISTING SIGNAL CONTROLLER. USE POLICE OFFICERS OR CERTIFIED FLAGGERS DURING DURING CONTROLLER TRANSFER.
3. INSTALL TEMPORARY SIGNAL HEADS AS SHOWN. SEE SIGNAL HEAD LOCATION SCHEDULE. LEAVE EXTRA CABLE (SLACK) FOR RELOCATIONS OF ALL SIGNAL HEADS DURING CONSTRUCTION.
4. CONTRACTOR SHALL USE EXISTING POWER SUPPLY FOR TEMPORARY SIGNAL.
5. INSTALL TEMPORARY STREET (NAME) SIGNS AS SHOWN OR AS DIRECTED BY FIELD ENGINEER.
6. COORDINATE WITH CITY OF HOUSTON TRAFFIC (TRANSTAR) FOR SIGNAL TIMINGS. RUN EXISTING SIGNAL TIMINGS, IF APPLICABLE DURING ALL PHASES OF CONSTRUCTION.
7. INSTALL TEMPORARY STOP BARS (24" WHITE REMOVABLE PAVEMENT MARKINGS). SEE TCP FOR PHASE 1.
8. REMOVE AND SALVAGE ALL PULL BOXES (GROUND BOXES) ALONG PHASE 1 CONSTRUCTION.

GENERAL ITS NOTE:
THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION. INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION / ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION / ITS SECTION FOR QUESTIONS AT 713.881.3172.

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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TEMPORARY SIGNAL LAYOUT ANTOINE DR. AT PINEMONT ST PHASE 1

SHEET 03 OF 04

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 748 OF 1067	

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TEMPORARY POLE AND CONTROLLER LOCATIONS				
TP #	POLE TYPE	B.L. STA.	LOCATION	ATTACHMENTS
1	TIMBER	STA 64+60	57.5 LT	50' TIMBER POLE, WIMAX, TEMP VIVD W/ POLE MOUNTED CABINET & ELECTRICAL SERVICE
2	TIMBER	STA 65+50	56.5 LT	50' TIMBER POLE, TEMP VIVD
3	TIMBER	STA 65+50	55.5 RT	50' TIMBER POLE, TEMP VIVD
4	TIMBER	STA 64+60	56.0 RT	50' TIMBER POLE, TEMP VIVD
CONTROLLER		STA 64+62	60.5 LT	EXISTING 2070 HC-ITS CONTROLLER IN A POLE MOUNTED CABINET

TEMPORARY SIGNAL HEAD SCHEDULE	
SIGNAL HEAD	DESIGNATION
12" HORIZONTAL (R Y G)	TEMPORARY B, C, E, G, H, K
12" HORIZONTAL (R Y G)	TEMPORARY A, D, F, J

S5

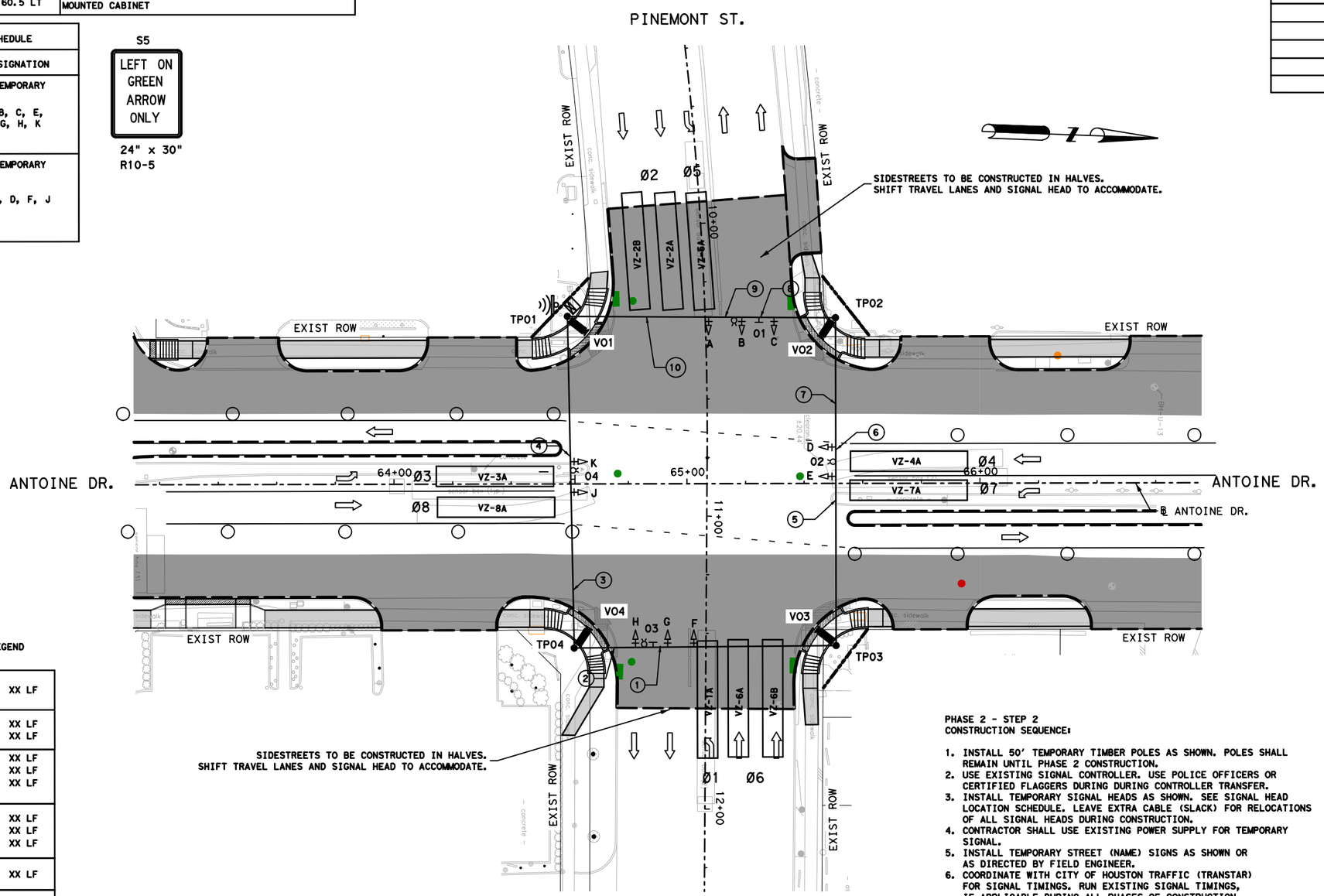
LEFT ON GREEN ARROW ONLY

24" x 30"
R10-5

TEMPORARY SIGNS
S1 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1300 AND 1400
S2 = STREET NAME SIGN, "Pinemont St", BLOCK#'S 10100 AND 10000
S3 = STREET NAME SIGN, "Antoine Dr", BLOCK#'S 1400 AND 1300
S4 = STREET NAME SIGN, "Pinemont St", BLOCK#'S 10000 AND 10100

TEMPORARY TRAFFIC SIGNAL PHASING					
Ø5 & Ø2	Ø2 & Ø6	Ø1 & Ø6	Ø3 & Ø8	Ø4 & Ø8	Ø7 & Ø4
Ø2 PED, Ø5	Ø6, Ø2 PED, Ø2, Ø6 PED	Ø6, Ø1, Ø6 PED	Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7

TEMP. SIGNAL HEAD LOCATION SCHEDULE PHASE 1 STEP 2		
SIGNAL HEAD	B.L. STA.	LOCATION
A	65+07	57.0' LT
B	65+18	57.0' LT
C	65+29	57.0' LT
D	65+50	13.0' RT
E	65+50	2.0' RT
F	65+02	56.0' RT
G	64+91	56.0' RT
H	64+80	56.0' RT
J	64+60	3.0' RT
K	64+60	8.0' LT



DESIGN & POSTED SPEED
ANTOINE DR = 35 MPH
PINEMONT ST = 30 MPH

NOTE:
1. TEMPORARY SIGNAL IS INCIDENTAL TO TRAFFIC CONTROL.

0' 20' 40
SCALE IN FEET

TEMPORARY SIGNAL WIRING LEGEND
ELECTRICAL CHART

①	* 1 - 7/C #14 AWG	XX LF
②	* 1 - 3/C #20 SHIELDED 2 - 7/C #14 AWG	XX LF XX LF
③	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
④	* 2 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
⑤	1 - 3/C #20 AWG	XX LF
⑥	* 1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 1 - 7/C #14 AWG	XX LF XX LF XX LF
⑦	1 - 3/C #20 SHIELDED 1 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
⑧	1 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 2 - 7/C #14 AWG	XX LF XX LF XX LF
⑨	* 2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 3 - 7/C #14 AWG	XX LF XX LF XX LF
⑩	2 - 3/C #20 SHIELDED 2 - 3/C #20 AWG 4 - 7/C #14 AWG	XX LF XX LF XX LF

* EXTRA CABLE FOR RELOCATION OF SIGNAL HEADS DURING OTHER PHASES OF CONSTRUCTION.

PHASE 2 - STEP 2
CONSTRUCTION SEQUENCE:

1. INSTALL 50' TEMPORARY TIMBER POLES AS SHOWN. POLES SHALL REMAIN UNTIL PHASE 2 CONSTRUCTION.
2. USE EXISTING SIGNAL CONTROLLER. USE POLICE OFFICERS OR CERTIFIED FLAGGERS DURING DURING CONTROLLER TRANSFER.
3. INSTALL TEMPORARY SIGNAL HEADS AS SHOWN. SEE SIGNAL HEAD LOCATION SCHEDULE. LEAVE EXTRA CABLE (SLACK) FOR RELOCATIONS OF ALL SIGNAL HEADS DURING CONSTRUCTION.
4. CONTRACTOR SHALL USE EXISTING POWER SUPPLY FOR TEMPORARY SIGNAL.
5. INSTALL TEMPORARY STREET (NAME) SIGNS AS SHOWN OR AS DIRECTED BY FIELD ENGINEER.
6. COORDINATE WITH CITY OF HOUSTON TRAFFIC (TRANSTAR) FOR SIGNAL TIMINGS. RUN EXISTING SIGNAL TIMINGS, IF APPLICABLE DURING ALL PHASES OF CONSTRUCTION.
7. INSTALL TEMPORARY STOP BARS (24" WHITE REMOVABLE PAVEMENT MARKINGS). SEE TCP FOR PHASE 1.
8. REMOVE AND SALVAGE ALL PULL BOXES (GROUND BOXES) ALONG PHASE 1 CONSTRUCTION.

GENERAL ITS NOTE:
THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION. INFRASTRUCTURE INCLUDES, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHES, WIMAX, BLUETOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION / ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION / ITS SECTION FOR QUESTIONS AT 713.881.3172.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TEMPORARY SIGNAL LAYOUT
ANTOINE DR. AT PINEMONT ST
PHASE 2

SHEET 04 OF 04

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N-100030-0GEC-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 749 OF 1067	

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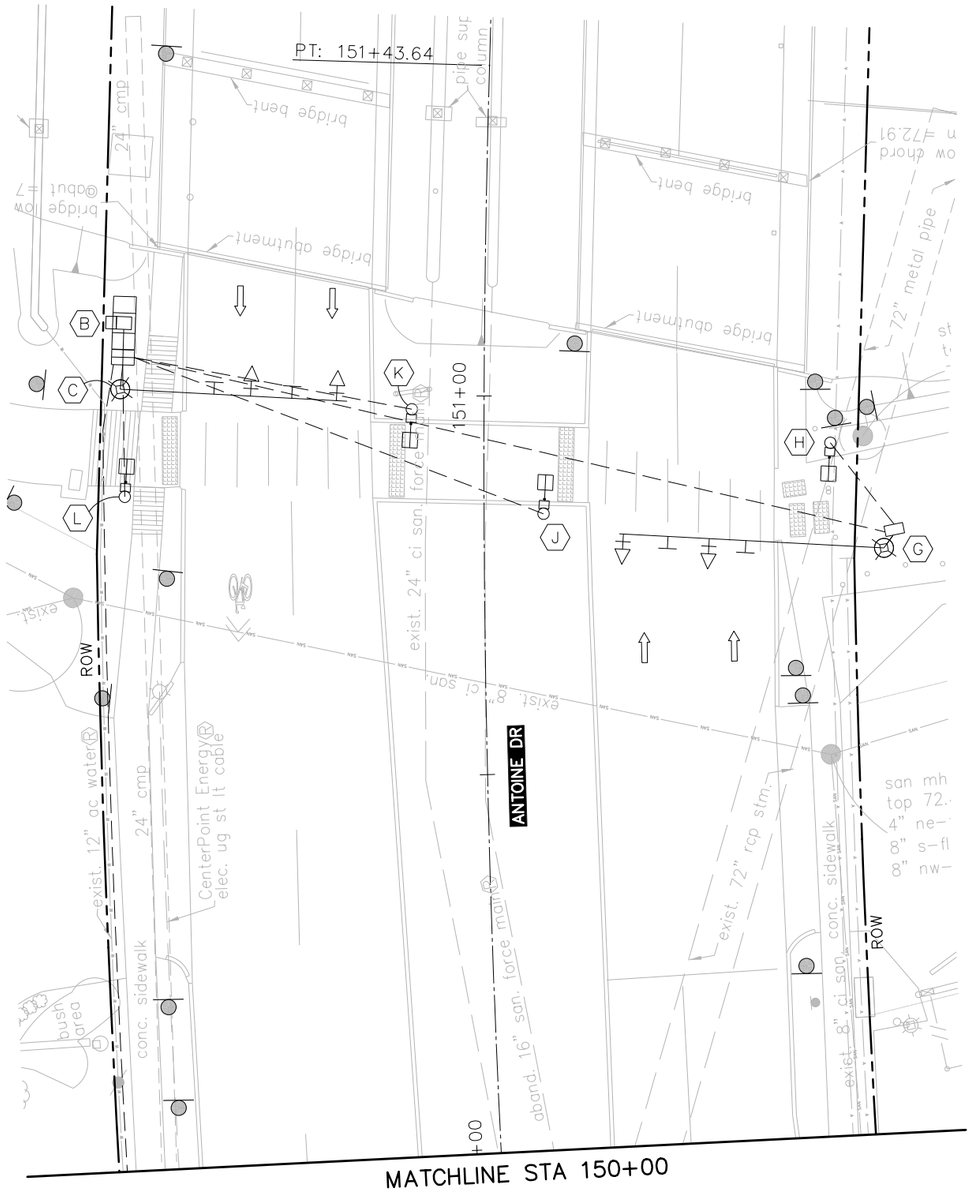

EXISTING SPEED LIMIT

ANTOINE DR = 30 MPH

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 10' 20'

SCALE IN FEET

Texas Department of Transportation

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91759
Registered Professional
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Date

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT WHITE OAK BAYOU TRAIL EXISTING PEDESTRIAN HYBRID BEACON LAYOUT SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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SHEET NO. 750 OF 1067	

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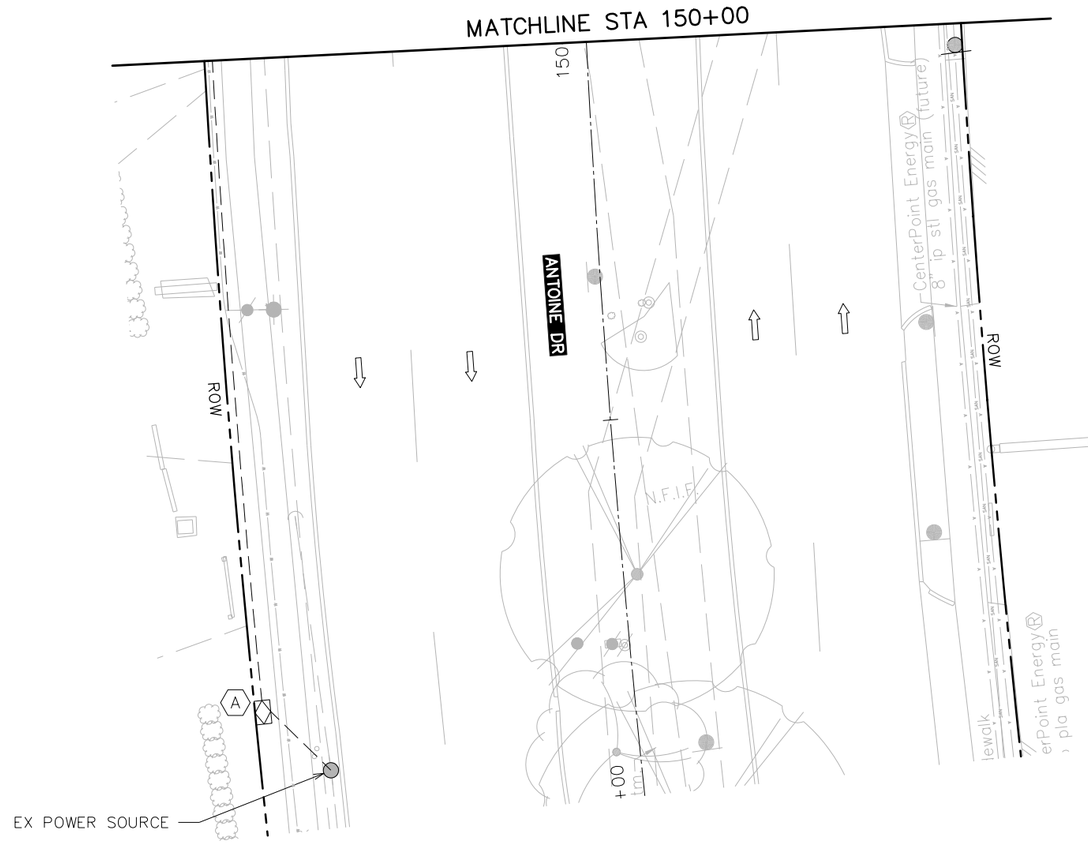
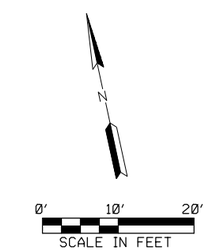
LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE





EXISTING SPEED LIMIT
ANTOINE DR = 30 MPH

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91759
Registration Number
3/9/2026
Date
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT WHITE OAK BAYOU TRAIL EXISTING PEDESTRIAN HYBRID BEACON LAYOUT SHEET 2 OF 2

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EXISTING SIGNAL HEAD SCHEDULE

12" LED HAWK SIGNAL HEAD
TO REMAIN



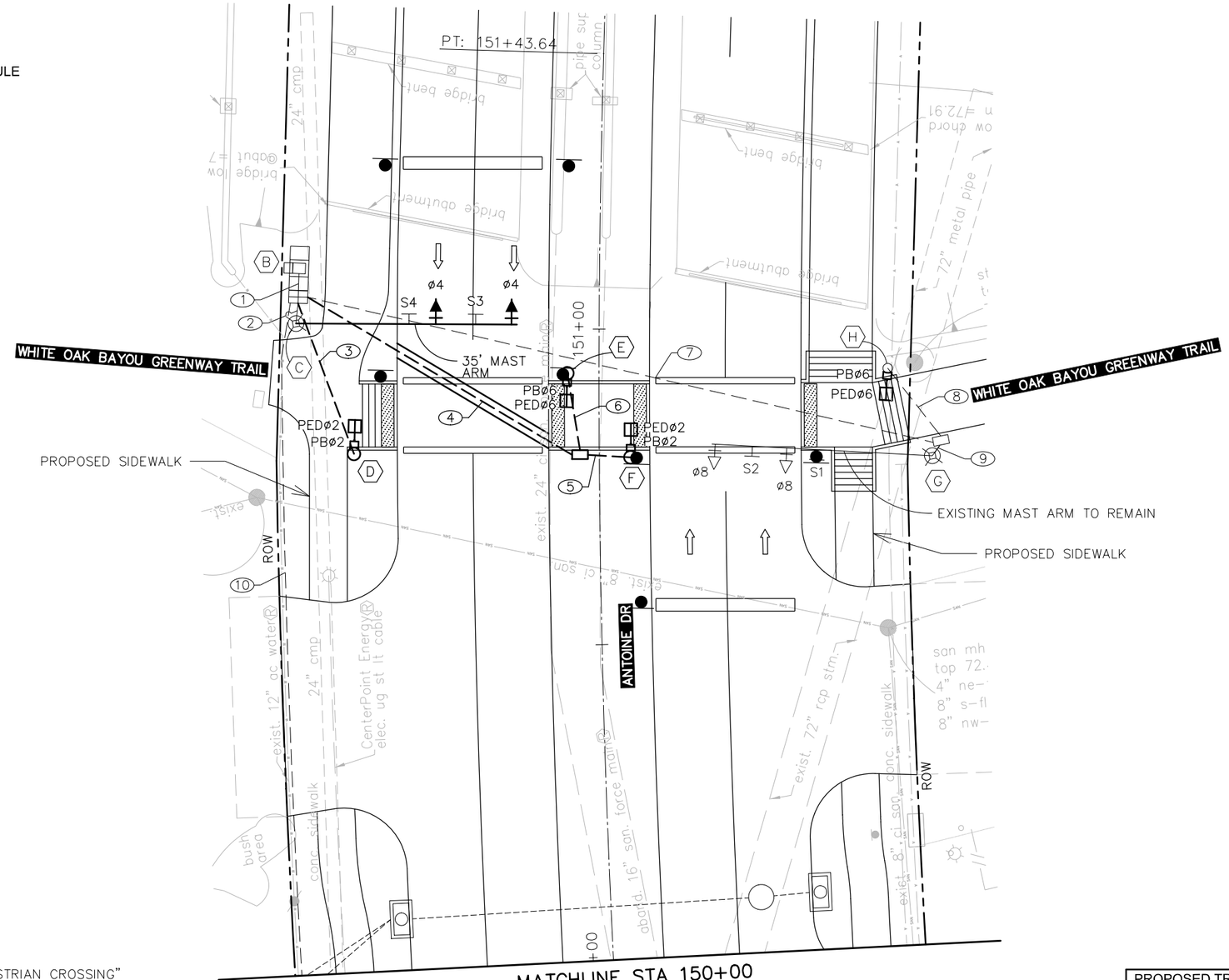
ø8

PROPOSED SIGNAL HEAD SCHEDULE

12" LED HAWK SIGNAL HEAD



ø4



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0′ 10′ 20′
SCALE IN FEET

EXISTING SIGN SCHEDULE

S1 = EXIST W11-2 (HAWK) "PEDESTRIAN CROSSING" (YELLOW/GREEN FLOURESCENT) TO REMAIN
S2 = EXIST R10-23 (COH) "CROSSWALK STOP ON RED" TO REMAIN
S3 = EXIST R10-23 (COH) "CROSSWALK STOP ON RED" TO BE RELOCATED
S4 = EXIST W11-2 (HAWK) "PEDESTRIAN CROSSING" (YELLOW/GREEN FLOURESCENT) TO BE RELOCATED

PROPOSED TRAFFIC SIGNAL PHASING	
Ø2 + Ø6	Ø4 + Ø8
Ø6 PED Ø2 PED	Ø8 Ø4

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT WHITE OAK BAYOU TRAIL PROPOSED PEDESTRIAN HYBRID BEACON LAYOUT SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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ROWAIDAH AYOUB	
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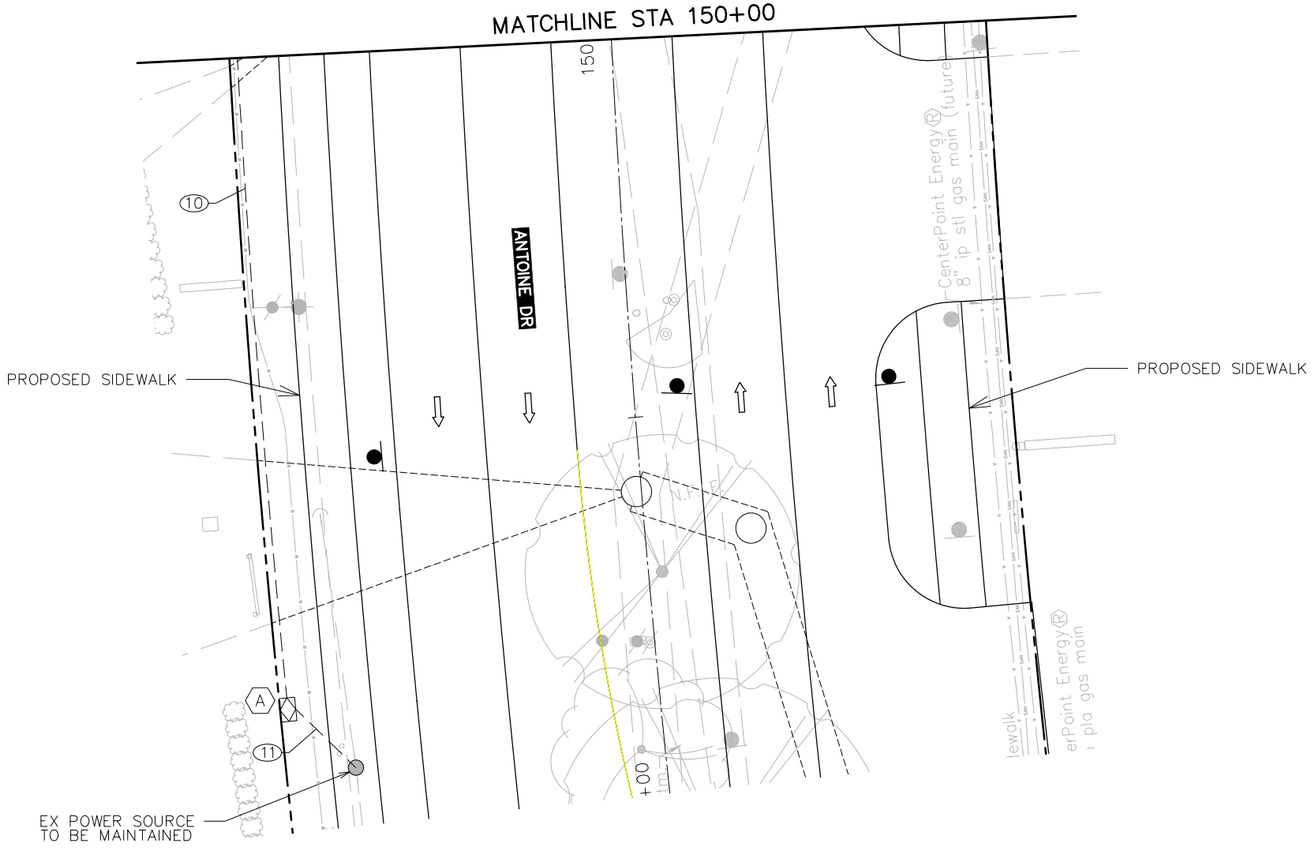

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 10' 20'
SCALE IN FEET

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT WHITE OAK BAYOU TRAIL PROPOSED PEDESTRIAN HYBRID BEACON LAYOUT SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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SHEET NO. 753 OF 1067	

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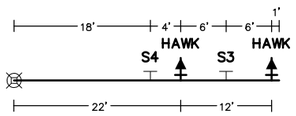
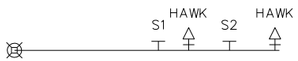
POLE SCHEDULE

POLE NUMBER	POLE TYPE	ATTACHMENTS STRAIN	ATTACHMENTS LUMIN	SIGNALS MTG.	SIGNALS FACE	LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
C 	EXIST	35' MAST ARM	–	2-ASTROBRAC	2-HAWK	EXISTING	–	EXISTING ARM TO BE REPLACED WITH PROP 35' ARM ON EXISTING POLE RELOCATE SIGN 3 – EXIST R10-23 (COH) RELOCATE SIGN 4 – EXIST W11-2 (HAWK) "PEDESTRIAN CROSSING" (YELLOW/GREEN FLOURESCENT)	EXISTING	02582-01 02582-02 02582-03 02893-01 01554-11
D	15' PED POLE	–	–	1-PED	1-CDP	–	POLARA NAVIGATOR R10-3e(L)	–	ANTOINE DR STA 150+80.5 OFF 38.9' LT	02893-01 02465-02 02582-01
E	15' PED POLE	–	–	1-PED	1-CDP	–	POLARA NAVIGATOR R10-3e(L)	–	ANTOINE DR STA 150+93.0 OFF 5.0' LT	02893-01 02465-02 02582-01
F	15' PED POLE	–	–	1-PED	1-CDP	–	POLARA NAVIGATOR R10-3e(L)	–	ANTOINE DR STA 150+79.7 OFF 4.9' RT	02893-01 02465-02 02582-01
G 	EXIST	EXIST 35' MAST ARM	–	–	–	EXISTING	–	SIGN 1 – EXIST W11-2 (HAWK) "PEDESTRIAN CROSSING" (YELLOW/GREEN FLOURESCENT) SIGN 2 – EXIST R10-23 (COH)	EXISTING	–
H	EXIST	–	–	1-PED	1-CDP	–	POLARA NAVIGATOR R10-3e(L)	–	EXISTING	02893-01 02582-01
J	REMOVE									
K	REMOVE									
L	REMOVE									

TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
A	EXISTING METER	–	–	–	EXISTING	–
B	EXISTING CABINET W/ BBU	–	–	–	EXISTING	–

Texas Department of Transportation

tei Planning + Design
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HOUSTON, TX 77002

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT
WHITE OAK BAYOU TRAIL
PEDESTRIAN HYBRID BEACON
POLE SCHEDULE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 754 OF 1067	

Pen Table: TEI_Color.tbl
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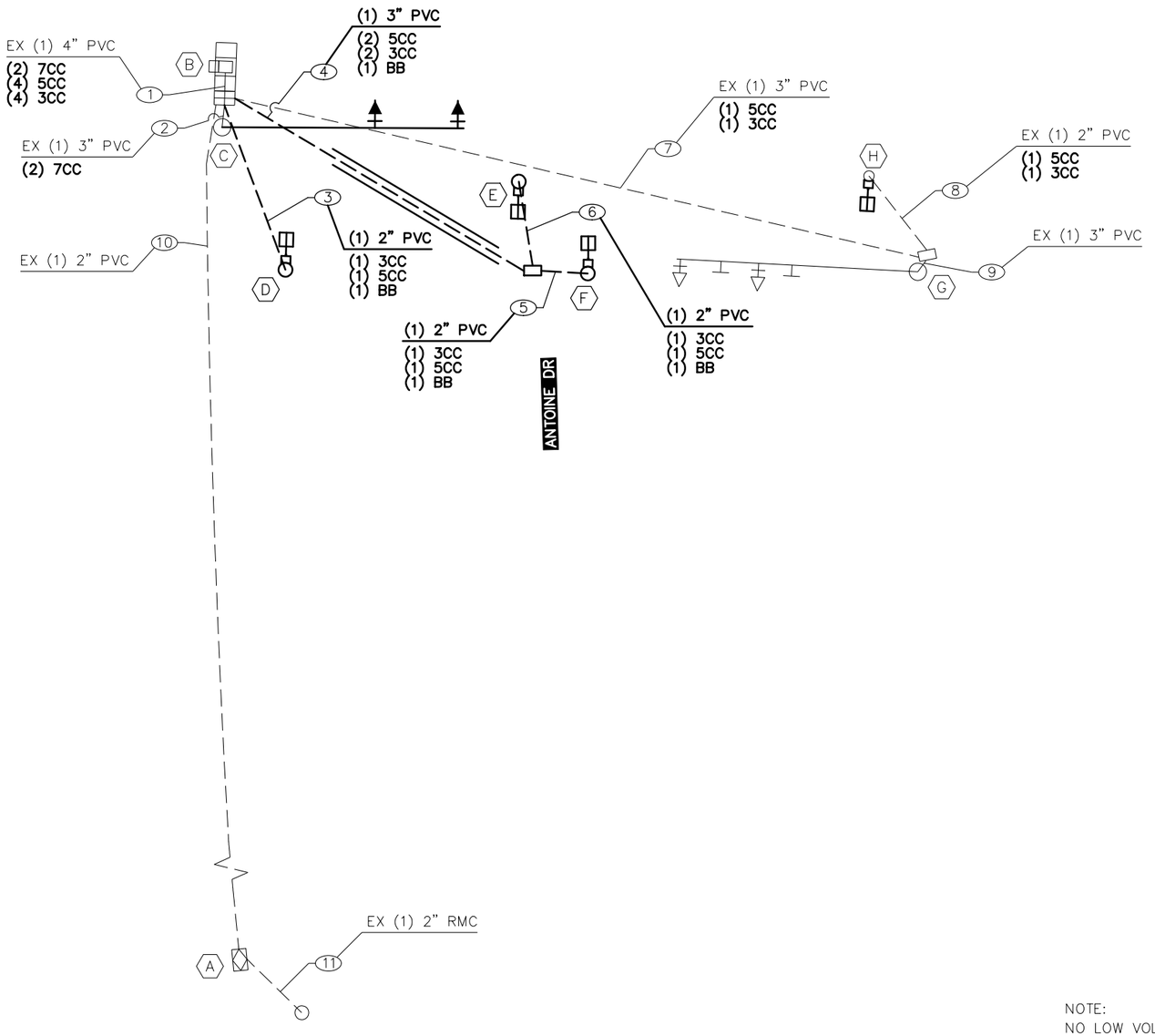
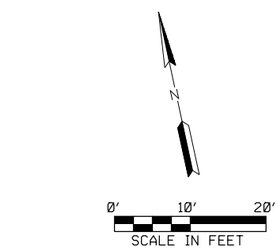
HIGH VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
(X) = NUMBER OF CABLES (SIGNAL)
CC = #14 AWG SOLID CONDUCTOR CABLE
SL = STREET LIGHTING, 2-#10 AWG XHHW
BB = BARE BOND #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SLG = STREET LIGHT GROUNDING FOR LUMINAIRE #12 AWG XHHW
SP = SIGNAL POWER (SEE NOTES BELOW)
PC = PHOTO CELL, #10 AWG XHHW

NOTE:
SP1 SHALL CONSIST OF: 6 – #4 AWG XHHW
2 – WHITE,
1 – BLACK
1 – RED,
2 – GREEN

SP2 SHALL CONSIST OF: 3 – #4 AWG XHHW





LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

NOTE:
NO LOW VOLTAGE CIRCUIT FOR THIS INTERSECTION

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT
WHITE OAK BAYOU TRAIL
HIGH VOLTAGE WIRING LAYOUT
SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 755 OF 1067	

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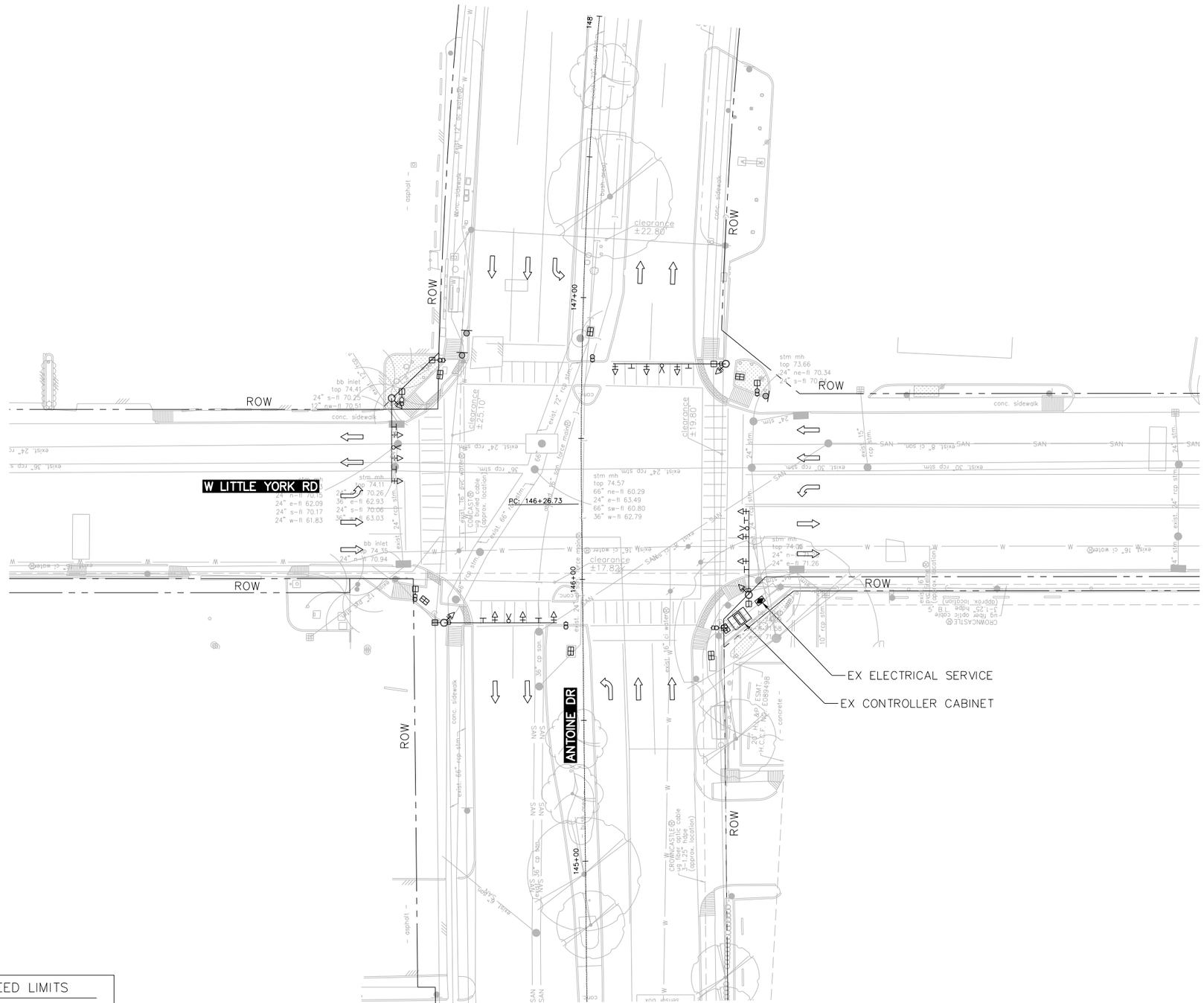

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

EXISTING SPEED LIMITS

ANTOINE DRIVE = 30 MPH
W LITTLE YORK ROAD = 35 MPH

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Registered Professional
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD EXISTING CONDITIONS SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 756 OF 1067	

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PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD

R Y G

ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

R Y G

ø1, ø3, ø5, ø7

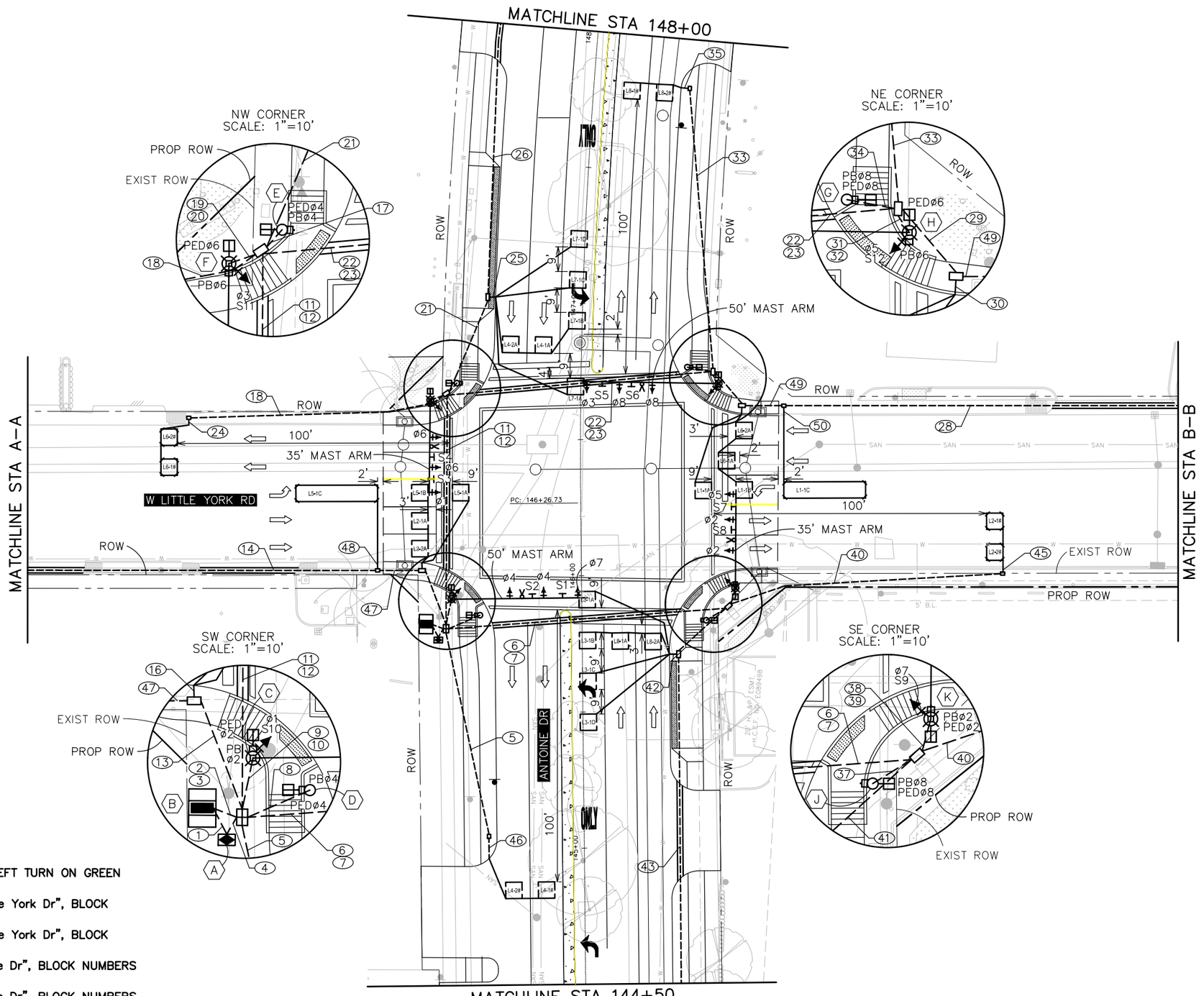
3-SECTION VERTICAL
12" LED V3L
SIGNAL HEAD

R Y G

ø1, ø3
ø5, ø7

LEFT ON GREEN ARROW ONLY

S9, S10
S11, S12



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

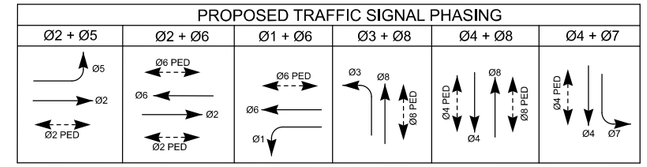
0' 20' 40'
SCALE IN FEET

PROPOSED SIGN SCHEDULE

S1, S3, S5, S7 = R10-5 "LEFT TURN ON GREEN ARROW ONLY"
S2 = STREET NAME "W Little York Dr", BLOCK NUMBERS 5700 AND 5800
S6 = STREET NAME "W Little York Dr", BLOCK NUMBERS 5800 AND 5700
S4 = STREET NAME "Antoine Dr", BLOCK NUMBERS 6900 AND 7000
S8 = STREET NAME "Antoine Dr", BLOCK NUMBERS 7000 AND 6900

DESIGN SPEEDS FOR LOOP DETECTOR SET BACK
ANTOINE DR = 30 MPH
W LITTLE YORK RD = 35 MPH

PROPOSED TRAFFIC SIGNAL PHASING



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT
W LITTLE YORK RD
PROPOSED SIGNAL LAYOUT
SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 757 OF 1067	

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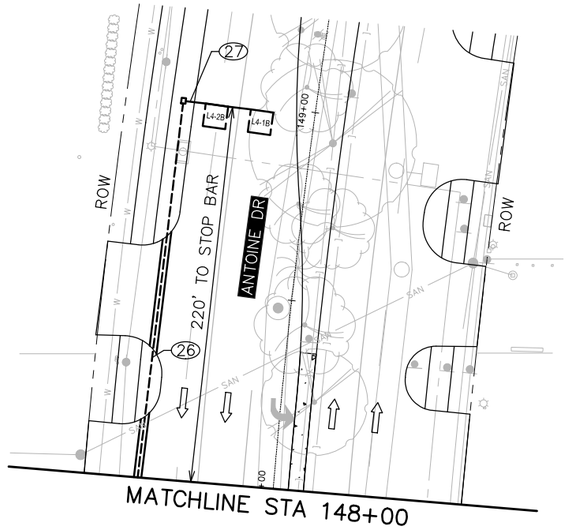

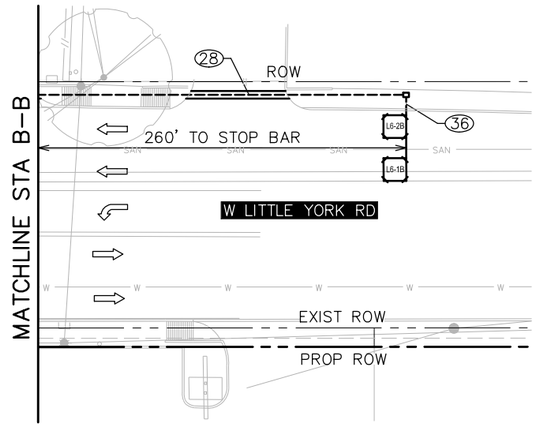

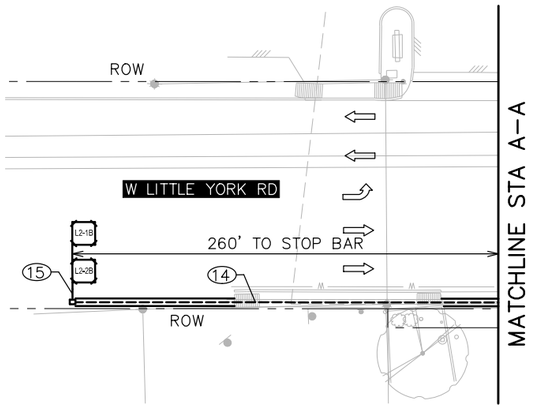

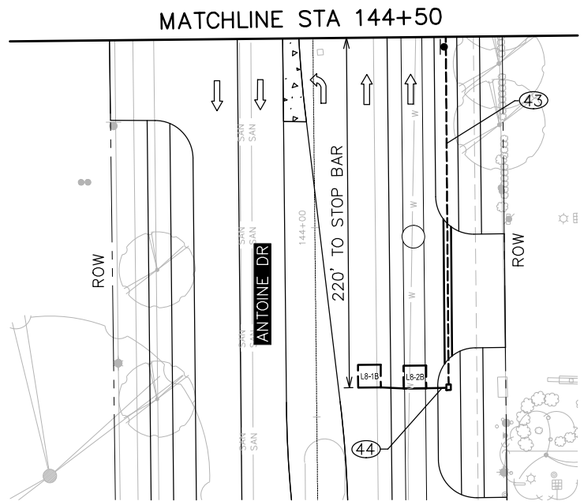

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

DESIGN SPEEDS FOR
LOOP DETECTOR SET BACK
ANTOINE DR = 30 MPH
W LITTLE YORK RD = 35 MPH

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W LITTLE YORK RD PROPOSED SIGNAL LAYOUT SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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ROWAIDAH AYOUB	
SHEET NO. 758 OF 1067	

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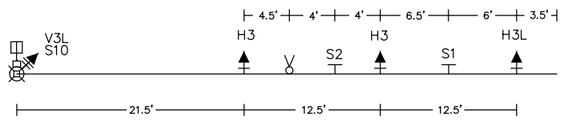
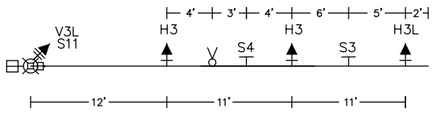
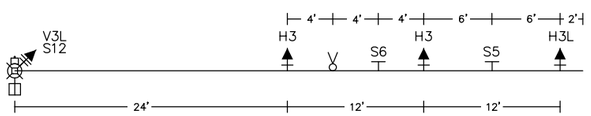
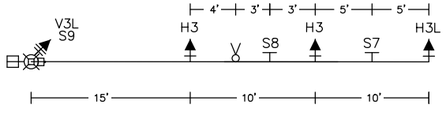
POLE SCHEDULE

POLE NUMBER	POLE TYPE	ATTACHMENTS		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS		STANDARDS
		STRAIN	LUMIN	MTG.	FACE					
C 	TYPE 2	50' MAST ARM	YES	3–ASTROBRAC 1–SIDE OF POLE 1–PED	2–H3 1–H3L 1–V3L 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(L)	SIGN 1 – R10–5 (30"x36") SIGN 2 – STREET NAME PRE–EMPT SENSOR SIGN 10 – R10–5 (30"x36")	ANTOINE DR STA 145+91.9 OFF 47.82' LT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
D	15' PED POLE	–	–	1–PED	1–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 145+85.9 OFF 37.4' LT	02893–01 02465–02 02582–01
E 	15' PED POLE	–	–	1–PED	1–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 146+70.1 OFF 45.6' LT	02893–01 02465–02 02582–01
F 	TYPE 1	35' MAST ARM	YES	3–ASTROBRAC 1–SIDE OF POLE 1–PED	2–H3 1–H3L 1–V3L 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	SIGN 3 – R10–5 (30"x36") SIGN 4 – STREET NAME PRE–EMPT SENSOR SIGN 11 – R10–5 (30"x36")	ANTOINE DR STA 146+64.0 OFF 55.2' LT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
G	15' PED POLE	–	–	1–PED	1–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 146+77.3 OFF 39.0' RT	02893–01 02465–02 02582–01
H 	TYPE 2	50' MAST ARM	YES	3–ASTROBRAC 1–SIDE OF POLE 1–PED	2–H3 1–H3L 1–V3L 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(L)	SIGN 5 – R10–5 (30"x36") SIGN 6 – STREET NAME PRE–EMPT SENSOR SIGN 12 – R10–5 (30"x36")	ANTOINE DR STA 146+71.3 OFF 50.5' RT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
J 	15' PED POLE	–	–	1–PED	1–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 145+83.2 OFF 45.6' RT	02893–01 02465–02 02582–01
K 	TYPE 1	35' MAST ARM	YES	3–ASTROBRAC 1–SIDE OF POLE 1–PED	2–H3 1–H3L 1–V3L 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	SIGN 7 – R10–5 (30"x36") SIGN 8 – STREET NAME PRE–EMPT SENSOR SIGN 9 – R10–5 (30"x36")	ANTOINE DR STA 145+94.9 OFF 56.4' RT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11

TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
A 	UL TYPE 3R	METERED SERVICE PEDESTAL WITH 30 AMP & 60 AMP CIRCUIT BREAKERS STREET LIGHTS PHOTOCELL TO ADD TO SERVICE PANEL	–	–	ANTOINE DR STA 145+77.0 OFF 52.8' LT (CENTER)	02893–02
B 	TYPE 340 ITS	2070LX CONTROLLER WITH 2070–1C CPU MODULE, GPS SERIAL COMMUNICATIONS MODULE, AND UPS/BBU	–	–STANDARD SPECS 16730, 16731 –UNINTERRUPTED POWER SUPPLLY STANDARD SPEC 16732 –GPS SERIAL COMMUNICATION MODULE STANDARD SPEC 16785 –CELLULAR COMMUNICATION COMMUNICATION INSTALLATION DETAILS	ANTOINE DR STA 145+82.9 OFF 57.2' LT (CENTER)	16730–03

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT
W LITTLE YORK RD
SIGNAL SCHEDULE
SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 759 OF 1067	

Pen Table: TEI_Color.tbl
Plot Driver: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine-West Gulf Bank Signal Design\04 Design\03 References and Resources\Bluebeam PDF_Color.bpd
11:28:35 AM _USER_ 3/9/2026
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\W Little York Pole Schedule.dgn

DETECTION ZONES		
ITEM BY DIRECTION	LOCATION	OFFSET
EASTBOUND		
PH 2 CALL ZONE L2-1# LEADING EDGE (6'x6')	195' DOWNSTREAM OF THRU LANE STOP LINE	
PH 2 CALL ZONE L2-2# LEADING EDGE (6'x6')		
PH 5 CALL ZONE L5-1A LEADING EDGE (6'x6')	4' DOWNSTREAM OF STOP LINE	
PH 5 CALL ZONE L5-1B LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 5 CALL ZONE L5-1C LEADING EDGE (6'x30')	25' UPSTREAM OF STOP LINE	CENTERED IN LANE
PH 2 CALL ZONE L2-1A LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 2 CALL ZONE L2-2A LEADING EDGE (6'x6')		
PH 2 CALL ZONE L2-1B LEADING EDGE (6'x6')	260' UPSTREAM OF STOP LINE	
PH 2 CALL ZONE L2-2B LEADING EDGE (6'x6')		
WESTBOUND		
PH 6 CALL ZONE L6-1# LEADING EDGE (6'x6')	195' DOWNSTREAM OF STOP LINE	
PH 6 CALL ZONE L6-2# LEADING EDGE (6'x6')		
PH 1 CALL ZONE L1-1A LEADING EDGE (6'x6')	4' DOWNSTREAM OF STOP LINE	
PH 1 CALL ZONE L1-1B LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 1 CALL ZONE L1-1C LEADING EDGE (6'x30')	25' UPSTREAM OF STOP LINE	CENTERED IN LANE
PH 6 CALL ZONE L6-1A LEADING EDGE (6'x6')	0' UPSTREAM OF STOP LINE	
PH 6 CALL ZONE L6-2A LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 6 CALL ZONE L6-1B LEADING EDGE (6'x6')	260' UPSTREAM OF STOP LINE	
PH 6 CALL ZONE L6-2B LEADING EDGE (6'x6')		
NORTHBOUND		
PH 8 CALL ZONE L8-1# LEADING EDGE (6'x6')	192' DOWNSTREAM OF STOP LINE	
PH 8 CALL ZONE L8-2# LEADING EDGE (6'x6')		
PH 3 CALL ZONE L3-1A LEADING EDGE (6'x6')	4' DOWNSTREAM OF STOP LINE	
PH 3 CALL ZONE L3-1B LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 3 CALL ZONE L3-1C LEADING EDGE (6'x6')	20' UPSTREAM OF STOP LINE	
PH 3 CALL ZONE L3-1D LEADING EDGE (6'x6')	35' UPSTREAM OF STOP LINE	CENTERED IN LANE
PH 8 CALL ZONE L8-1A LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 8 CALL ZONE L8-2A LEADING EDGE (6'x6')		
PH 8 CALL ZONE L8-1B LEADING EDGE (6'x6')	220' UPSTREAM OF STOP LINE	
PH 8 CALL ZONE L8-2B LEADING EDGE (6'x6')		
SOUTHBOUND		
PH 4 CALL ZONE L4-1# LEADING EDGE (6'x6')	188' DOWNSTREAM OF LINE	
PH 4 CALL ZONE L4-2# LEADING EDGE (6'x6')		
PH 7 CALL ZONE L7-1A LEADING EDGE (6'x6')	4' DOWNSTREAM OF STOP LINE	
PH 7 CALL ZONE L7-1B LEADING EDGE (6'x6')	15' UPSTREAM OF STOP LINE	
PH 7 CALL ZONE L7-1C LEADING EDGE (6'x6')	30' UPSTREAM OF STOP LINE	
PH 7 CALL ZONE L7-1D LEADING EDGE (6'x6')	45' UPSTREAM OF STOP LINE	CENTERED IN LANE
PH 4 CALL ZONE L4-1A LEADING EDGE (6'x6')	5' UPSTREAM OF STOP LINE	
PH 4 CALL ZONE L4-2A LEADING EDGE (6'x6')		
PH 4 CALL ZONE L4-1B LEADING EDGE (6'x6')	220' UPSTREAM OF STOP LINE	
PH 4 CALL ZONE L4-2B LEADING EDGE (6'x6')		

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81758
Registered Engineer
3/9/2026
Date
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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT
W LITTLE YORK RD
SIGNAL SCHEDULE
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 760 OF 1067	

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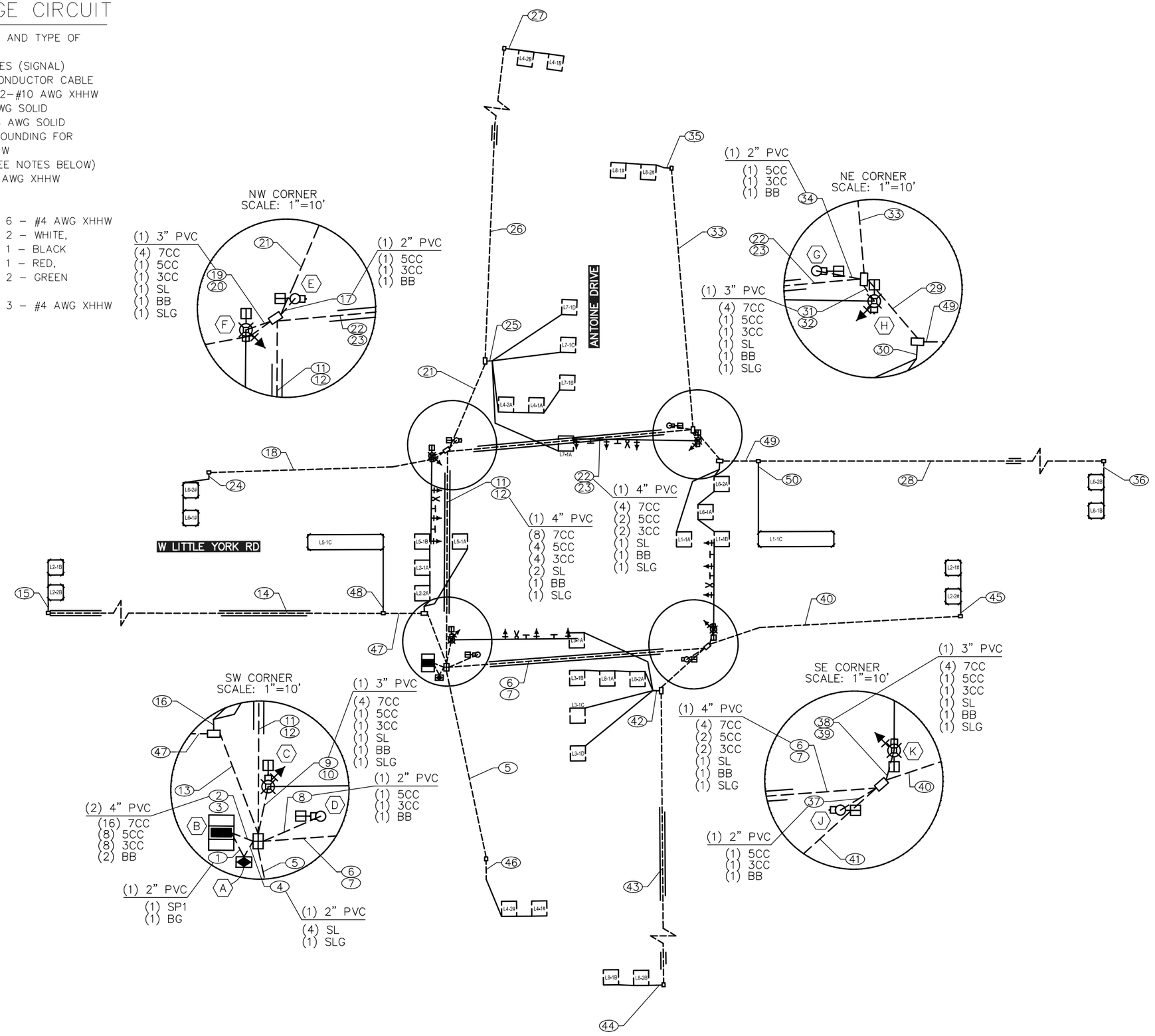
HIGH VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
(X) = NUMBER OF CABLES (SIGNAL)
CC = #14 AWG SOLID CONDUCTOR CABLE
SL = STREET LIGHTING, 2-#10 AWG XHHW
BB = BARE BOND #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SLG = STREET LIGHT GROUNDING FOR LUMINAIRE #12 AWG XHHW
SP = SIGNAL POWER (SEE NOTES BELOW)
PC = PHOTO CELL, #10 AWG XHHW

NOTE:
SP1 SHALL CONSIST OF: 6 - #4 AWG XHHW
2 - WHITE,
1 - BLACK
1 - RED,
2 - GREEN

SP2 SHALL CONSIST OF: 3 - #4 AWG XHHW



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX - TYPE A
- PULL BOX - TYPE B
- PULL BOX - TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT
W LITTLE YORK RD
HIGH VOLTAGE LAYOUT
SHEET 1 OF 1

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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 761 OF 1067	

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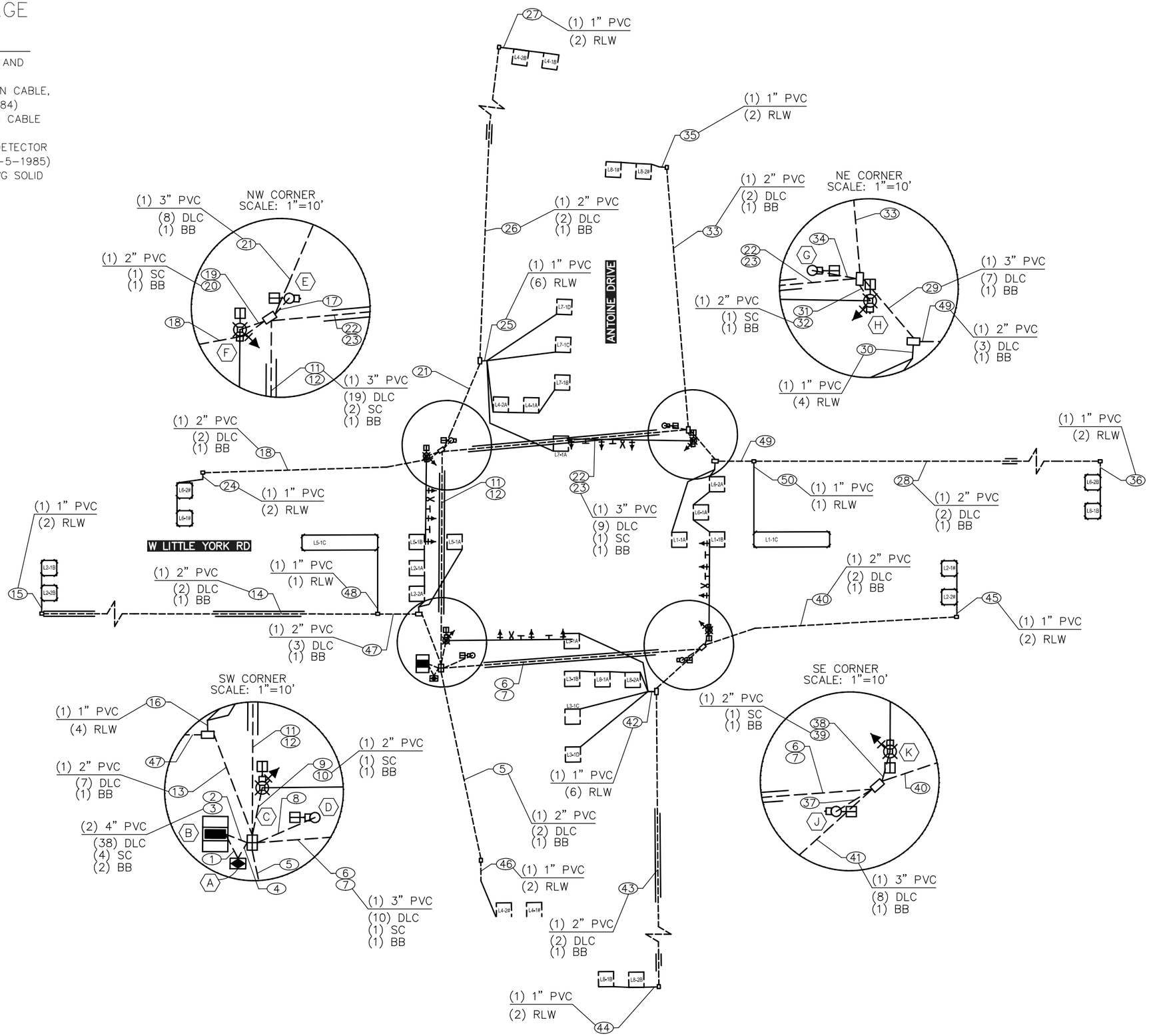
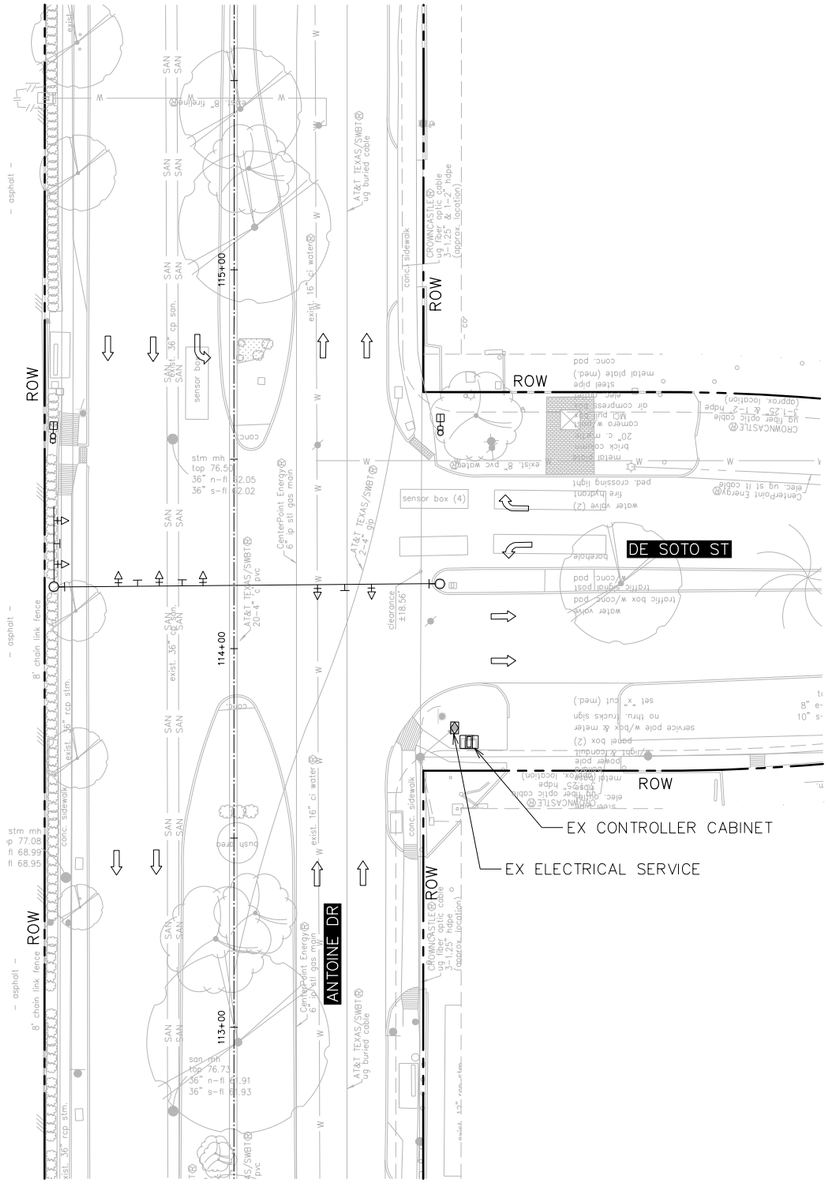
LOW VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
DLC = DETECTOR LEAD-IN CABLE, #14 AWG (IMSA 50-2-1984)
SC = #20 3CC-SHIELDED CABLE (3M MODEL 138)
RLW = ROADWAY LOOP DETECTOR WIRE, #14 AWG (IMSA 51-5-1985)
BB = BARE BOND #8 AWG SOLID


ANTOINE DRIVE
W LITTLE YORK RD
NW CORNER SCALE: 1"=10'
NE CORNER SCALE: 1"=10'
SW CORNER SCALE: 1"=10'
SE CORNER SCALE: 1"=10'
(1) 1" PVC (2) RLW
(1) 2" PVC (2) DLC (1) BB
(1) 3" PVC (8) DLC (1) BB
(1) 2" PVC (1) SC (1) BB
(1) 3" PVC (19) DLC (2) SC (1) BB
(1) 1" PVC (6) RLW
(1) 3" PVC (9) DLC (1) SC (1) BB
(1) 3" PVC (7) DLC (1) BB
(1) 2" PVC (3) DLC (1) BB
(1) 1" PVC (4) RLW
(1) 1" PVC (1) RLW
(1) 2" PVC (2) DLC (1) BB
(1) 1" PVC (2) RLW
(1) 2" PVC (1) RLW
(1) 2" PVC (3) DLC (1) BB
(1) 1" PVC (2) RLW
(1) 2" PVC (7) DLC (1) BB
(2) 4" PVC (38) DLC (4) SC (2) BB
(1) 3" PVC (10) DLC (1) SC (1) BB
(1) 2" PVC (1) SC (1) BB
(1) 2" PVC (2) DLC (1) BB
(1) 1" PVC (6) RLW
(1) 2" PVC (2) DLC (1) BB
(1) 1" PVC (2) RLW
(1) 1" PVC (2) RLW
(1) 3" PVC (8) DLC (1) BB
(1) 2" PVC (1) SC (1) BB
(1) 1" PVC (2) RLW
(1) 2" PVC (2) DLC (1) BB
(1) 1" PVC (2) RLW
(1) 2" PVC (2) DLC (1) BB
(1) 1" PVC (2) RLW
(1) 1" PVC (2) RLW
(1) 2" PVC (2) DLC (1) BB
(1) 1" PVC (2) RLW
(1) 1" PVC (2) RLW
(1) 2" PVC (2) DLC (1) BB



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0′ 20′ 40′

SCALE IN FEET

EXISTING SPEED LIMITS

ANTOINE DRIVE = 35 MPH
DE SOTO STREET = 30 MPH

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST EXISTING CONDITIONS SHEET SHEET 1 OF 1

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CITY OF HOUSTON PM	
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PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø4, ø6, ø8

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



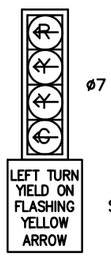
ø1

4-SECTION HORIZONTAL
12" LED H4LF SIGNAL HEAD



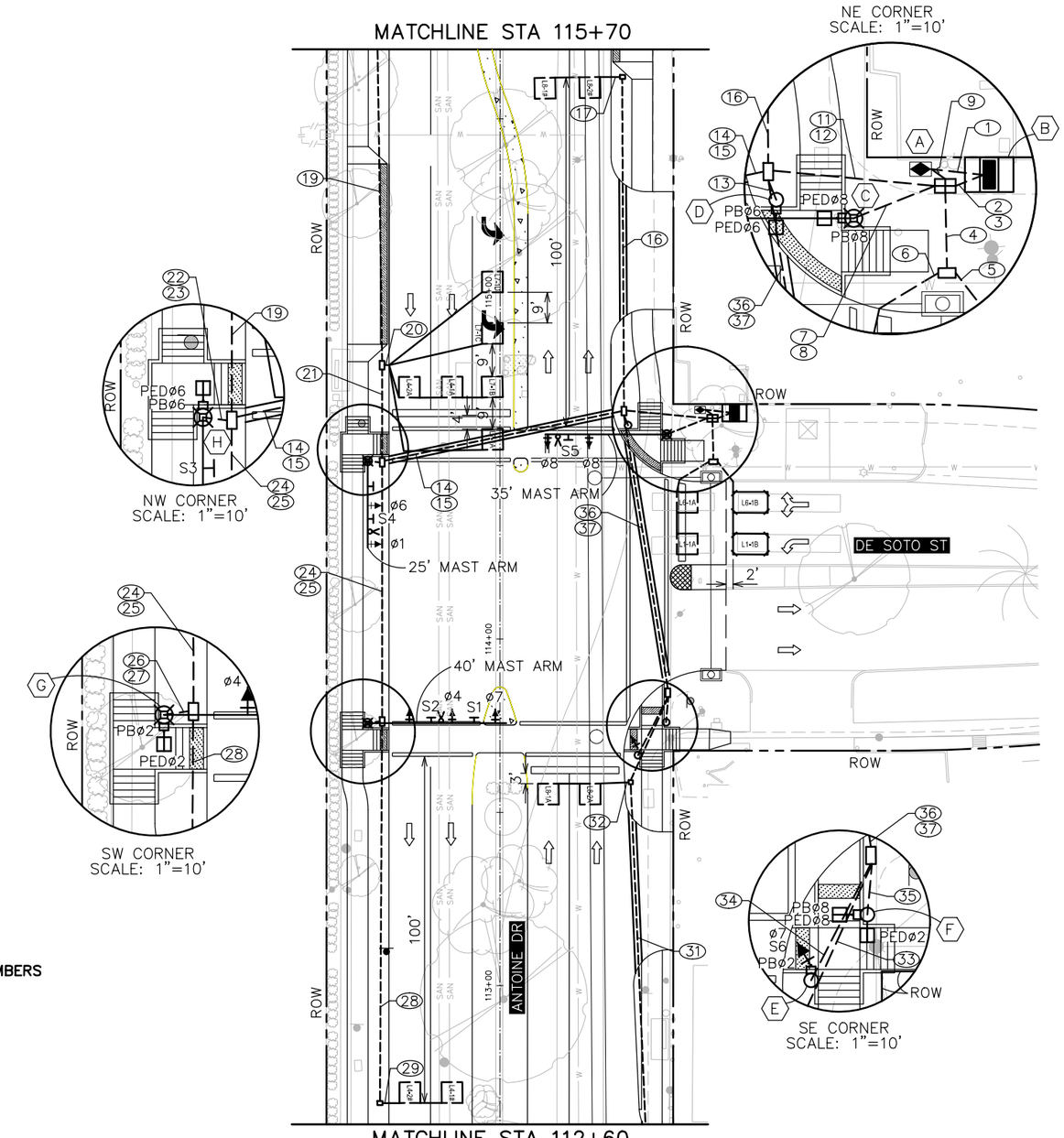
ø7

4-SECTION VERTICAL
12" LED V4LF
SIGNAL HEAD



ø7

S6



PROPOSED SIGN SCHEDULE

S1, S6 = R10-17T "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
S2 = STREET NAME "De Soto St", BLOCK NUMBERS 5600 AND [BLANK]
S3 = STREET NAME "Antoine Dr", BLOCK NUMBERS 5900 AND 6000
S4 = R3-8LLR(CUSTOM)
S5 = STREET NAME "De Soto St", BLOCK NUMBERS [BLANK] AND 5600

DESIGN SPEEDS FOR LOOP DETECTOR SET BACK

ANTOINE DR = 35 MPH
DE SOTO ST = 30 MPH

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

PROPOSED TRAFFIC SIGNAL PHASING

Ø2 PED + Ø6 PED	Ø1 + Ø6	Ø4 + Ø8	Ø4 + Ø7
Ø6 PED, Ø2 PED	Ø6, Ø1	Ø8, Ø7, Ø4, Ø8 PED	Ø4, Ø7

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CITY OF HOUSTON
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ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST
PROPOSED SIGNAL LAYOUT
SHEET 1 OF 2

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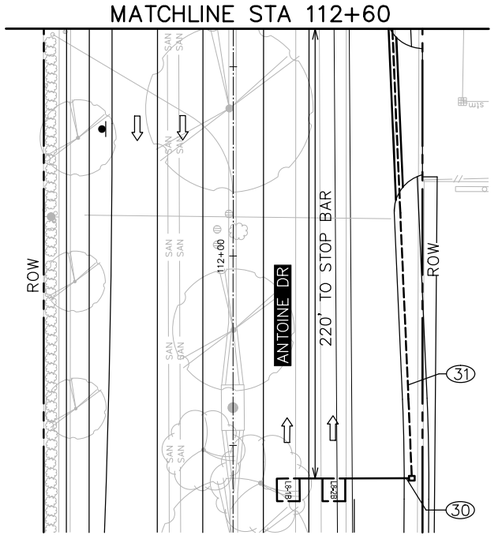

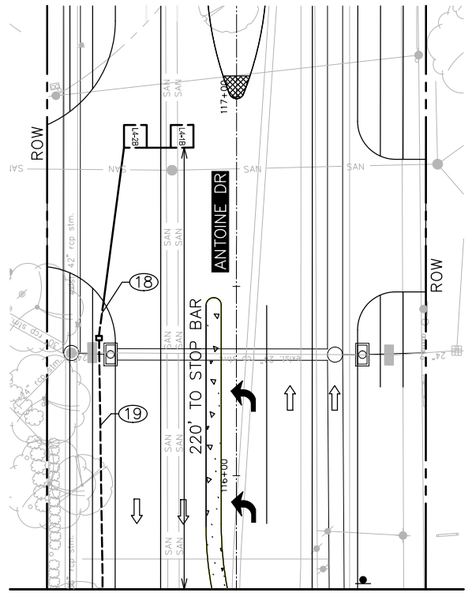

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

DESIGN SPEEDS FOR
LOOP DETECTOR SET BACK
ANTOINE DR = 35 MPH
DE SOTO ST = 30 MPH

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Registration Number
3/9/2026
Date
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST
PROPOSED SIGNAL LAYOUT
SHEET 2 OF 2

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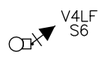
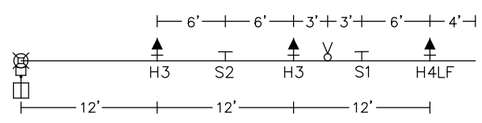
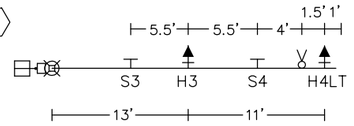
POLE SCHEDULE

POLE NUMBER	POLE TYPE	ATTACHMENTS		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		STRAIN	LUMIN	MTG.	FACE					
(C) 	TYPE 1	35' MAST ARM	YES	2–ASTROBRAC 1–PED	2–H3 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	S5 – STREET NAME PRE–EMPT SENSOR	ANTOINE DR STA 114+59.0 OFF 48.1' RT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
(D) 	15' PED POLE	–	–	1–PED	1–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 114+61.7 OFF 36.9' RT	02893–01 02465–02 02582–01
(E) 	20' TRAFFIC SIGNAL POLE	–	–	1–SIDE OF POLE	1–V4LF	–	POLARA NAVIGATOR R10–3e(R)	S6 – R10–17T (30"x36")	ANTOINE DR STA 113+66.5 OFF 39.8' RT	02893–01 02582–01 02582–02 02582–03 02465–01
(F) 	15' PED POLE	–	–	2–PED	2–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 113+76.0 OFF 47.9' RT	02893–01 02465–02 02582–01
(G) 	TYPE 2	40' MAST ARM	YES	3–ASTROBRAC 1–PED	2–H3 1–H4LF 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	S1 – R10–17T (30"x36") S2 – STREET NAME PRE–EMPT SENSOR	ANTOINE DR STA 113+75.7 OFF 38.2' LT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
(H) 	TYPE 1	25' MAST ARM	YES	2–ASTROBRAC 1–PED	1–H3 1–H4LT 1–CDP	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(L)	S3 – STREET NAME S4 – R3–8LLR(CUSTOM) (48"x30") PRE–EMPT SENSOR	ANTOINE DR STA 114+51.3 OFF 38.1' LT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11

TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A) 	UL TYPE 3R	METERED SERVICE PEDESTAL WITH 30 AMP & 60 AMP CIRCUIT BREAKERS STREET LIGHTS PHOTOCELL TO ADD TO SERVICE PANEL	–	–	ANTOINE DR STA 114+66.1 OFF 57.7' RT (CENTER)	02893–02
(B) 	TYPE 340 ITS	2070LX CONTROLLER WITH 2070–1C CPU MODULE, GPS SERIAL COMMUNICATIONS MODULE, AND UPS/BBU	–	–STANDARD SPECS 16730, 16731 –UNINTERRUPTED POWER SUPPLLY STANDARD SPEC 16732 –GPS SERIAL COMMUNICATION MODULE STANDARD SPEC 16785 –CELLULAR COMMUNICATION COMMUNICATION INSTALLATION DETAILS	ANTOINE DR STA 114+65.3 OFF 67.6' RT (CENTER)	16730–03

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST SIGNAL SCHEDULE SHEET 1 OF 2

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DRAWING SCALE	
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DETECTION ZONES		
ITEM BY DIRECTION	LOCATION	OFFSET
WESTBOUND		
PH 6 CALL ZONE L6-1A LEADING EDGE (6'x6')	0' UPSTREAM OF STOP LINE	CENTERED IN LANE
PH 1 CALL ZONE L1-1A LEADING EDGE (6'x6')	0' UPSTREAM OF STOP LINE	
PH 6 CALL ZONE L6-1B LEADING EDGE (6'x10')	16' UPSTREAM OF STOP LINE	
PH 1 CALL ZONE L1-1B LEADING EDGE (6'x10')	16' UPSTREAM OF STOP LINE	
NORTHBOUND		
PH 8 CALL ZONE L8-1# LEADING EDGE (6'x6') PH 8 CALL ZONE L8-2# LEADING EDGE (6'x6')	200' DOWNSTREAM OF STOP LINE	CENTERED IN LANE
PH 8 CALL ZONE L8-1A LEADING EDGE (6'x6') PH 8 CALL ZONE L8-2A LEADING EDGE (6'x6')	3' UPSTREAM OF STOP LINE	
PH 8 CALL ZONE L8-1B LEADING EDGE (6'x6') PH 8 CALL ZONE L8-2B LEADING EDGE (6'x6')	220' UPSTREAM OF STOP LINE	
SOUTHBOUND		
PH 4 CALL ZONE L4-1# LEADING EDGE (6'x6') PH 4 CALL ZONE L4-2# LEADING EDGE (6'x6')	200' DOWNSTREAM OF STOP LINE	CENTERED IN LANE
PH 7 CALL ZONE L7-1A LEADING EDGE (6'x6')	4' DOWNSTREAM OF STOP LINE	
PH 7 CALL ZONE L7-1B LEADING EDGE (6'x6') PH 4 CALL ZONE L4-1A LEADING EDGE (6'x6') PH 4 CALL ZONE L4-2A LEADING EDGE (6'x6')	3' UPSTREAM OF STOP LINE	
PH 7 CALL ZONE L7-1C LEADING EDGE (6'x6')	18' UPSTREAM OF STOP LINE	
PH 7 CALL ZONE L7-1D LEADING EDGE (6'x6')	33' UPSTREAM OF STOP LINE	
PH 4 CALL ZONE L4-1B LEADING EDGE (6'x6') PH 4 CALL ZONE L4-2B LEADING EDGE (6'x6')	220' UPSTREAM OF STOP LINE	

Texas Department of Transportation

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TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

INTERIM REVIEW ONLY
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BRADLEY G. EAVES
Registered Professional Engineer
91759
3/9/2026
Date

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST
SIGNAL SCHEDULE
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 767 OF 1067	

Pen Table: TEI_Color.tbl
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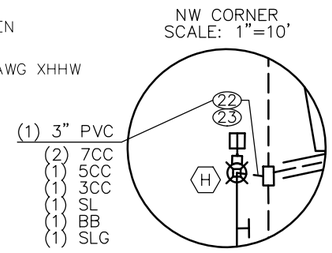
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\De Soto Pole Schedule Sheet 02.dgn

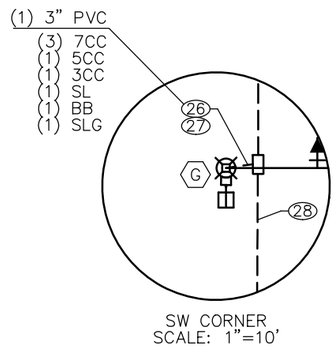
HIGH VOLTAGE CIRCUIT

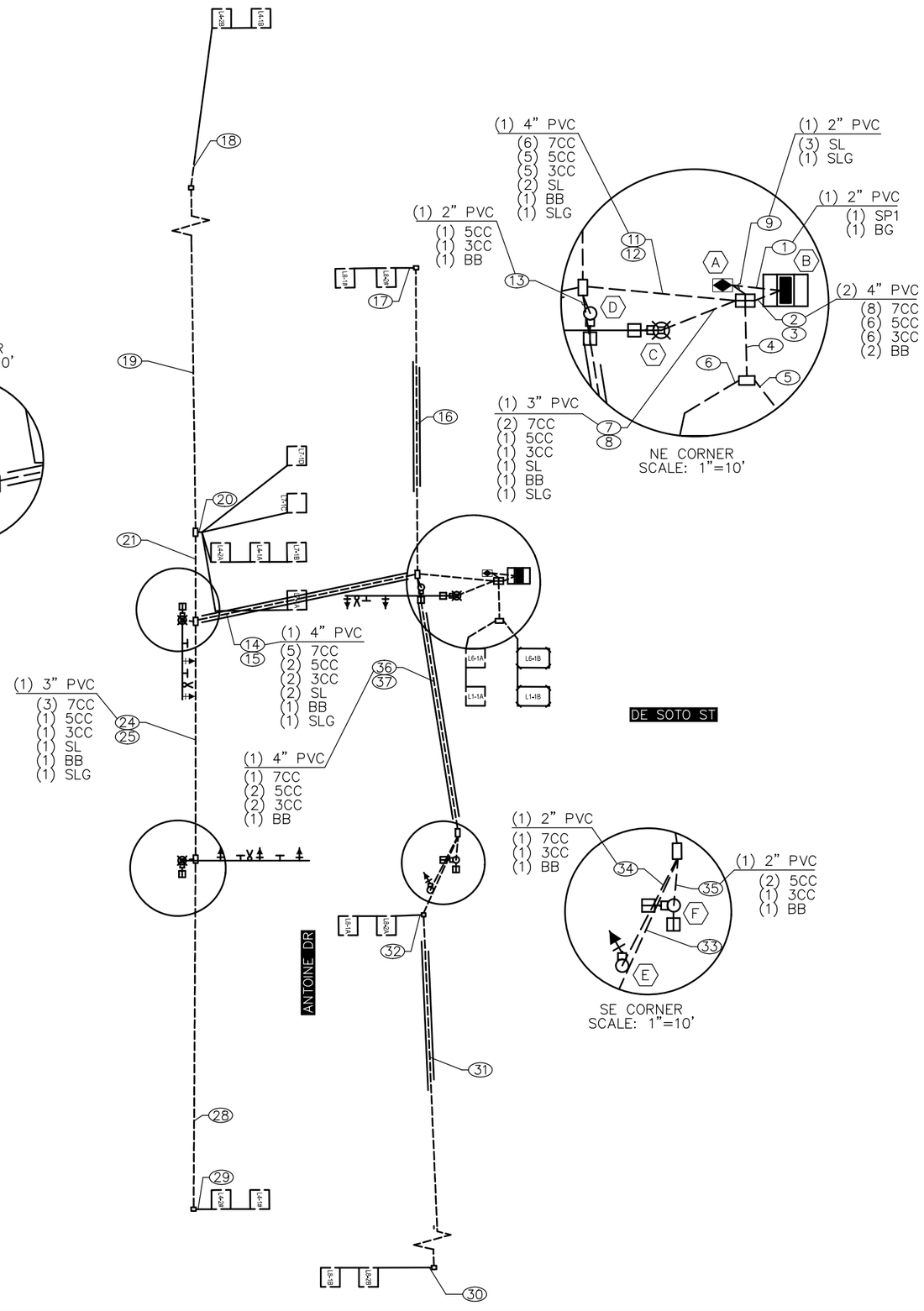
(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
(X) = NUMBER OF CABLES (SIGNAL)
CC = #14 AWG SOLID CONDUCTOR CABLE
SL = STREET LIGHTING, 2-#10 AWG XHHW
BB = BARE BOND #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SLG = STREET LIGHT GROUNDING FOR LUMINAIRE #12 AWG XHHW
SP = SIGNAL POWER (SEE NOTES BELOW)
PC = PHOTO CELL, #10 AWG XHHW

NOTE:
SP1 SHALL CONSIST OF: 6 - #4 AWG XHHW
2 - WHITE,
1 - BLACK
1 - RED,
2 - GREEN

SP2 SHALL CONSIST OF: 3 - #4 AWG XHHW

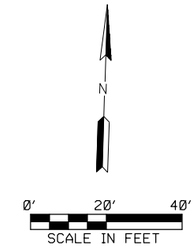






LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX - TYPE A
- PULL BOX - TYPE B
- PULL BOX - TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST
HIGH VOLTAGE LAYOUT
SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 768 OF 1067	

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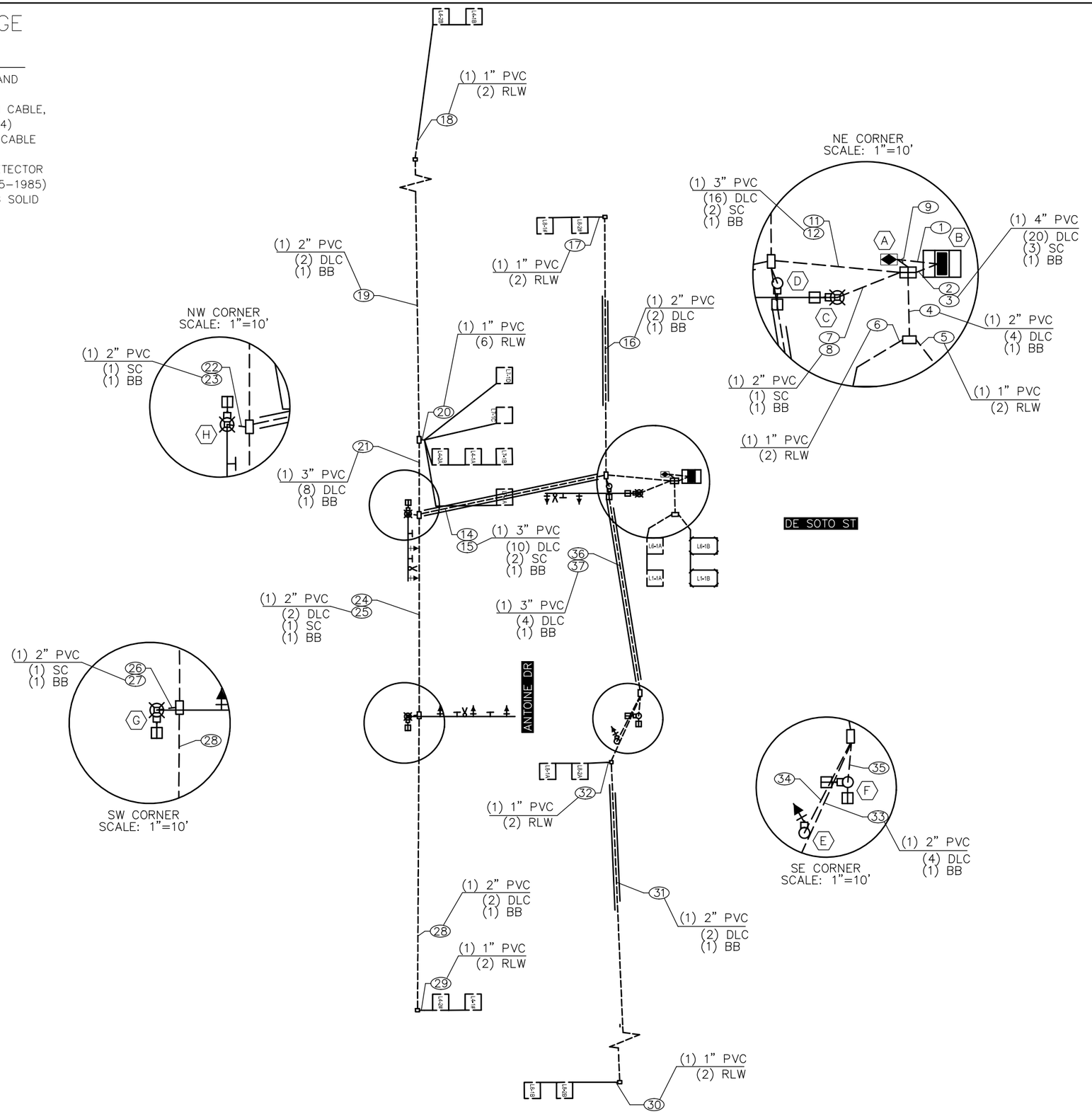
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\De Soto St High Voltage Wiring Sheet 01.dgn

LOW VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
DLC = DETECTOR LEAD-IN CABLE, #14 AWG (IMSA 50-2-1984)
SC = #20 3CC-SHIELDED CABLE (3M MODEL 138)
RLW = ROADWAY LOOP DETECTOR WIRE, #14 AWG (IMSA 51-5-1985)
BB = BARE BOND #8 AWG SOLID



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST
LOW VOLTAGE LAYOUT
SHEET 1 OF 1

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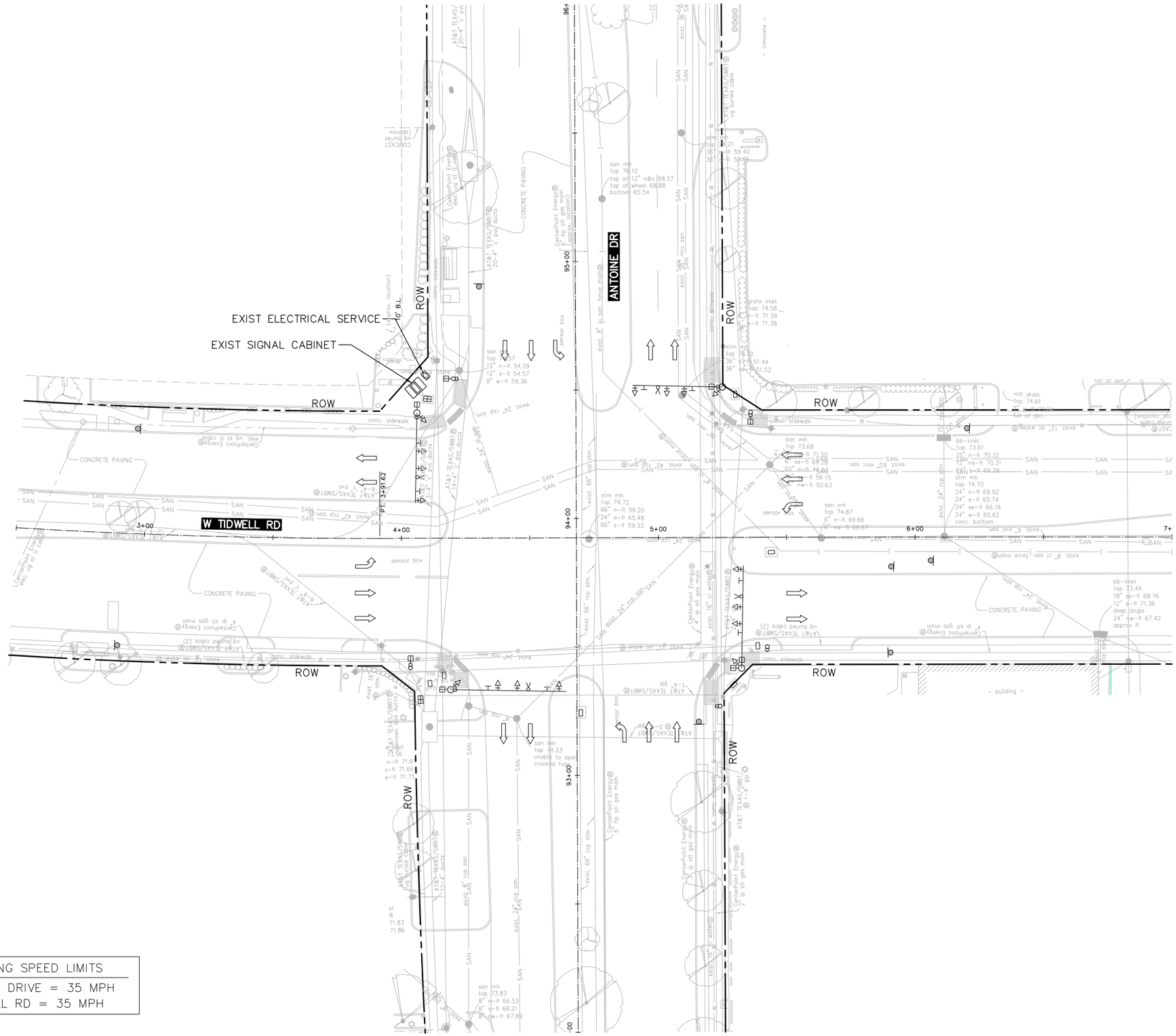

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
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- PULL BOX – TYPE A
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- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

EXISTING SPEED LIMITS

ANTOINE DRIVE = 35 MPH
TIDWELL RD = 35 MPH

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD
EXISTING CONDITIONS
SHEET 1 OF 1

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PROPOSED SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL 12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL 12" LED H3L SIGNAL HEAD



ø3, ø7

3–SECTION HORIZONTAL 12" LED H3T SIGNAL HEAD



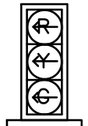
ø10

4–SECTION HORIZONTAL 12" LED H4TR SIGNAL HEAD



ø10

3–SECTION VERTICAL 12" LED V3L SIGNAL HEAD



ø1, ø3, ø5, ø7

S8, S11, S14, S17

4–SECTION VERTICAL 12" LED V4TR SIGNAL HEAD



ø10

PROPOSED SIGNAL HEAD SCHEDULE (CONT'D)

3–SECTION VERTICAL 12" LED V3L SIGNAL HEAD



ø3, ø7

S1, S12

S18, S19

LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
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- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
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- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

MATCHLINE STA 96+00

MATCHLINE STA 2+50

MATCHLINE STA 7+00

MATCHLINE STA 92+00

EXIST ROW

PROP ROW

ROW

ANTOINE DR

W TIDWELL RD

55' MAST ARM

50' MAST ARM

45' MAST ARM

NW CORNER SCALE: 1"=10'

NE CORNER SCALE: 1"=10'

SW CORNER SCALE: 1"=10'

SE CORNER SCALE: 1"=10'

ONLY ONLY

N

0' 20' 40'

SCALE IN FEET

PROPOSED SIGN SCHEDULE

S1, S8, S9, S11, S12, S14, S15, S17 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = R3–8TTR(CUSTOM) LANE ASSIGNMENT SIGN
S3, S7 = R10–11a "NO TURN ON RED"
S4 = STREET NAME "W Tidwell Rd", BLOCK NUMBERS 5600 AND 5700
S5 = R3–6R LANE ASSIGNMENT SIGN
S6 = R3–2 NO LEFT TURN SIGN
S10 = STREET NAME "Antoine Dr", BLOCK NUMBERS 5700 AND 5800
S13 = STREET NAME "W Tidwell Rd", BLOCK NUMBERS 5700 AND 5600
S16 = STREET NAME "Antoine Dr", BLOCK NUMBERS 5800 AND 5700
S18, S19 = R3–8LL(CUSTOM) LANE ASSIGNMENT SIGN

DESIGN SPEEDS FOR VIDEO DETECTION ZONES

ANTOINE DR = 35 MPH
W TIDWELL RD = 35 MPH

PROPOSED TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø2 + Ø6	Ø1 + Ø6	Ø3 + Ø8	Ø8 + Ø10	Ø4 + Ø8	Ø4 + Ø7
Ø5, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø1	Ø3, Ø8, Ø8 PED	Ø8, Ø8 PED, Ø10	Ø4 PED, Ø8, Ø8 PED, Ø4	Ø4 PED, Ø4, Ø7

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ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD PROPOSED SIGNAL LAYOUT SHEET 1 OF 2

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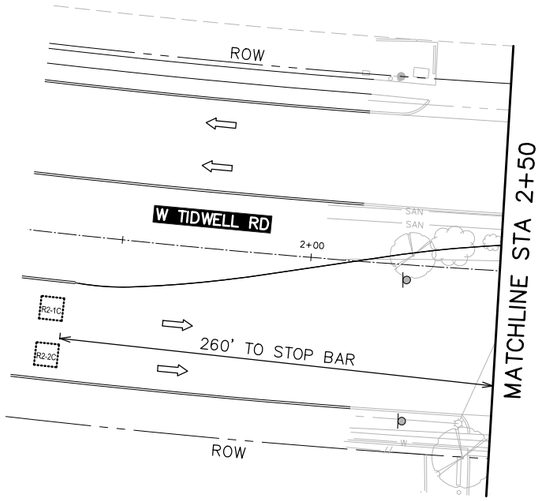
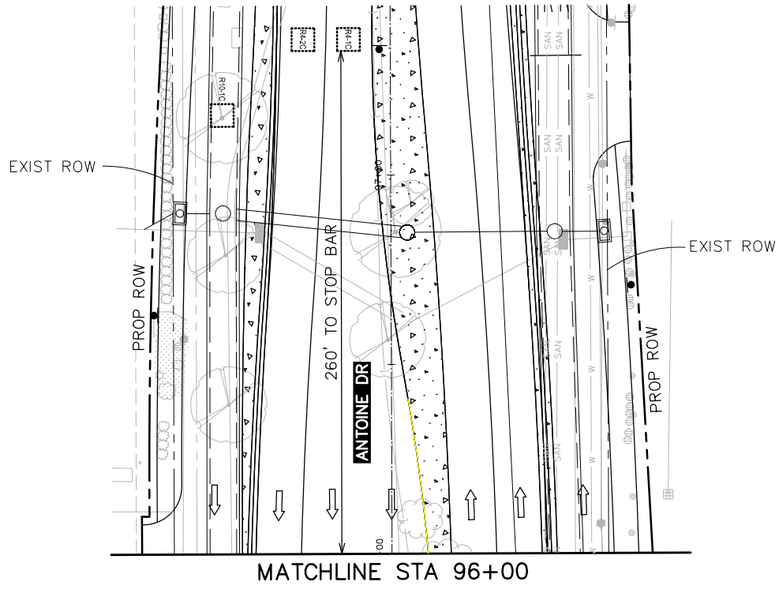
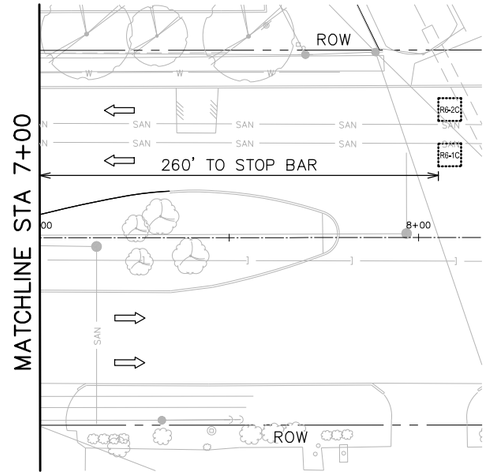
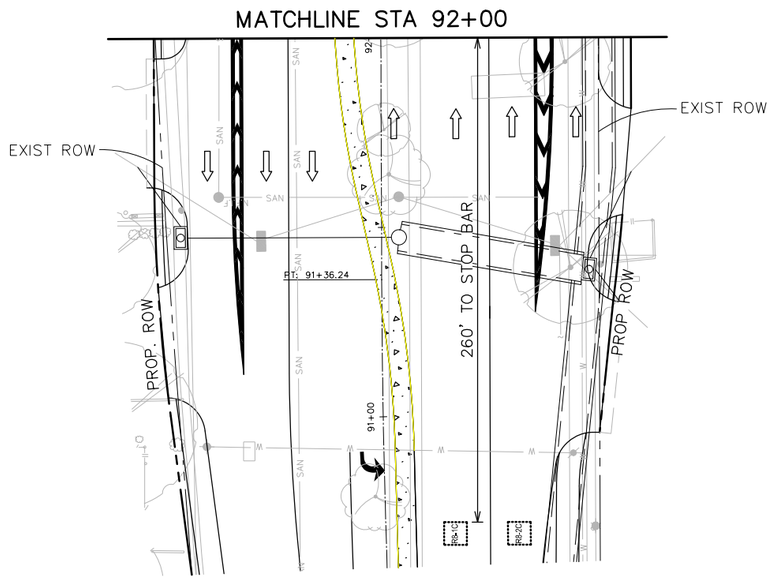
DESIGN SPEEDS FOR
VIDEO DETECTION ZONES

ANTOINE DR = 35 MPH
W TIDWELL RD = 35 MPH



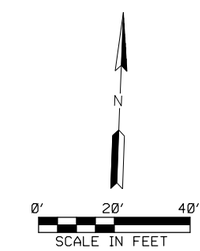






LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE



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ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD
PROPOSED SIGNAL LAYOUT
SHEET 2 OF 2

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SHEET NO. 772 OF 1067	

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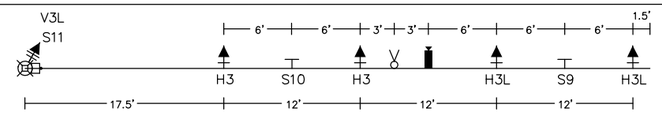
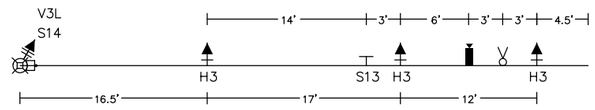
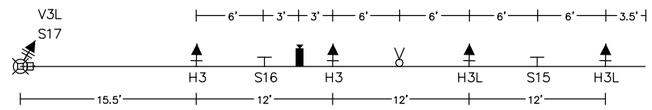
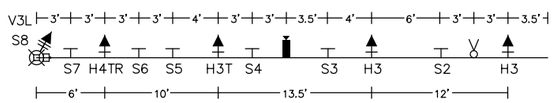
POLE SCHEDULE

POLE NUMBER	POLE TYPE	ATTACHMENTS		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		STRAIN	LUMIN	MTG.	FACE					
(C) 	TYPE 2	55' MAST ARM	YES	4–ASTROBRAC 1–SIDE OF POLE	2–H3 2–H3L 1–V3L	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	SIGN 9 – R10–5 (30"x36") VIVDS PRE–EMPT SENSOR SIGN 10 – STREET NAME SIGN 11 – R10–5 (30"x36")	ANTOINE DR STA 94+43.4 OFF 74.6' LT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
(D) 	20' TRAFFIC SIGNAL POLE	–	–	1–SIDE OF POLE 2–PED	1–V4TR 2–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 94+50.8 OFF 66.6' LT	02893–01 02582–01 02582–02 02582–03 02465–01 02465–02
(E) 	15' PED POLE	–	–	2–PED	2–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 94+47.2 OFF 73.0' RT	02893–01 02465–02 02582–01
(F) 	TYPE 2	50' MAST ARM	YES	3–ASTROBRAC 1–SIDE OF POLE	3–H3 1–V3L	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	PRE–EMPT SENSOR VIVDS SIGN 13 – STREET NAME SIGN 14 – R10–5 (30"x36")	ANTOINE DR STA 94+61.2 OFF 67.8' RT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
(G) 	TYPE 2	55' MAST ARM	YES	4–ASTROBRAC 1–SIDE OF POLE	2–H3 2–H3L 1–V3L	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	SIGN 15 – R10–5 (30"x36") SIGN 16 – STREET NAME PRE–EMPT SENSOR VIVDS SIGN 17 – R10–5 (30"x36")	ANTOINE DR STA 93+40.5 OFF 74.1' RT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
(H) 	15' PED POLE	–	–	2–PED	2–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 93+32.8 OFF 67.7' RT	02893–01 02465–02 02582–01
(I) 	TYPE 2	45' MAST ARM	YES	4–ASTROBRAC 1–SIDE OF POLE	2–H3 1–H3T 1–H4TR 1–V3L	106 WATT SYSTEM MAX LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3e(R)	PRE–EMPT SENSOR SIGN 2 – R3–8TTR(CUSTOM) (36"x30") SIGN 3 – R10–11a (36"x48") VIVDS SIGN 4 – STREET NAME SIGN 5 – R3–6R (30"x36") SIGN 6 – R3–2 (36"x36") SIGN 7 – R10–11a (36"x48") SIGN 8 – R10–5 (30"x36")	ANTOINE DR STA 93+27.2 OFF 60.0' LT	02893–01 02582–01 02582–02 02582–03 02465–01 01554–11
(J) 	15' PED POLE	–	–	2–PED	2–CDP	–	POLARA NAVIGATOR R10–3e(L)	–	ANTOINE DR STA 93+40.8 OFF 69.3' LT	02893–01 02465–02 02582–01
(K) 	20' TRAFFIC SIGNAL POLE	–	–	1–SIDE OF POLE	1–V3L	–	–	SIGN 12 – R10–5 (30"x36") SIGN 19 – R3–8LL(CUSTOM) (36"x30")	ANTOINE DR STA 94+61.1 OFF 14.0' RT	02893–01 02582–01 02582–02 02582–03 02465–01
(L) 	20' TRAFFIC SIGNAL POLE	–	–	1–SIDE OF POLE	1–V3L	–	–	SIGN 1 – R10–5 (30"x36") SIGN 18 – R3–8LL(CUSTOM) (36"x30")	ANTOINE DR STA 93+27.6 OFF 10.0' LT	02893–01 02582–01 02582–02 02582–03 02465–01

TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A) 	UL TYPE 3R	METERED SERVICE PEDESTAL WITH 30 AMP & 60 AMP CIRCUIT BREAKERS STREET LIGHTS PHOTOCELL TO ADD TO SERVICE PANEL	–	–	ANTOINE DR STA 94+52.0 OFF 70.0' LT (CENTER)	02893–02
(B) 	TYPE 340 ITS	2070LX CONTROLLER WITH 2070–1C CPU MODULE, GPS SERIAL COMMUNICATIONS MODULE, AND UPS/BBU	–	–STANDARD SPECS 16730, 16731 –UNINTERRUPTED POWER SUPPLLY STANDARD SPEC 16732 –GPS SERIAL COMMUNICATION MODULE STANDARD SPEC 16785 –CELLULAR COMMUNICATION COMMUNICATION INSTALLATION DETAILS	ANTOINE DR STA 94+48.3 OFF 76.5' LT (CENTER)	16730–03

Texas Department of Transportation

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712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD SIGNAL SCHEDULE SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 773 OF 1067	

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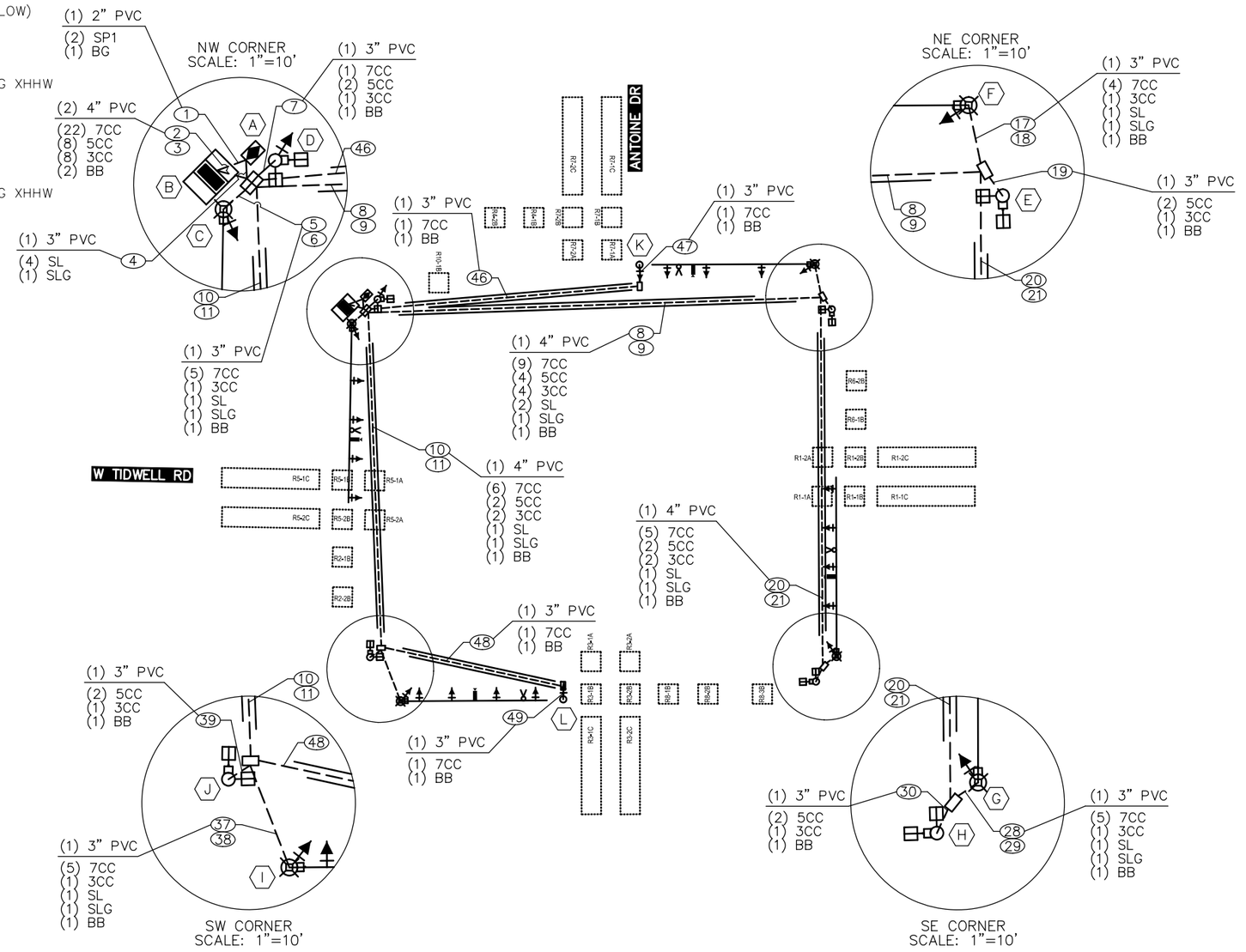
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Tidwell Pole Schedule.dgn

HIGH VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
(X) = NUMBER OF CABLES (SIGNAL)
CC = #14 AWG SOLID CONDUCTOR CABLE
SL = STREET LIGHTING, 2–#10 AWG XHHW
BB = BARE BOND #8 AWG SOLID
BG = BARE GROUND, #8 AWG SOLID
SLG = STREET LIGHT GROUNDING FOR LUMINAIRE #12 AWG XHHW
SP = SIGNAL POWER (SEE NOTES BELOW)
PC = PHOTO CELL, #10 AWG XHHW

NOTE:
SP1 SHALL CONSIST OF: 6 – #4 AWG XHHW
2 – WHITE,
1 – BLACK
1 – RED,
2 – GREEN

SP2 SHALL CONSIST OF: 3 – #4 AWG XHHW



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

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Registered Professional Engineer
91759
License Number
3/9/2026
Date
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD
HIGH VOLTAGE LAYOUT
SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 774 OF 1067	

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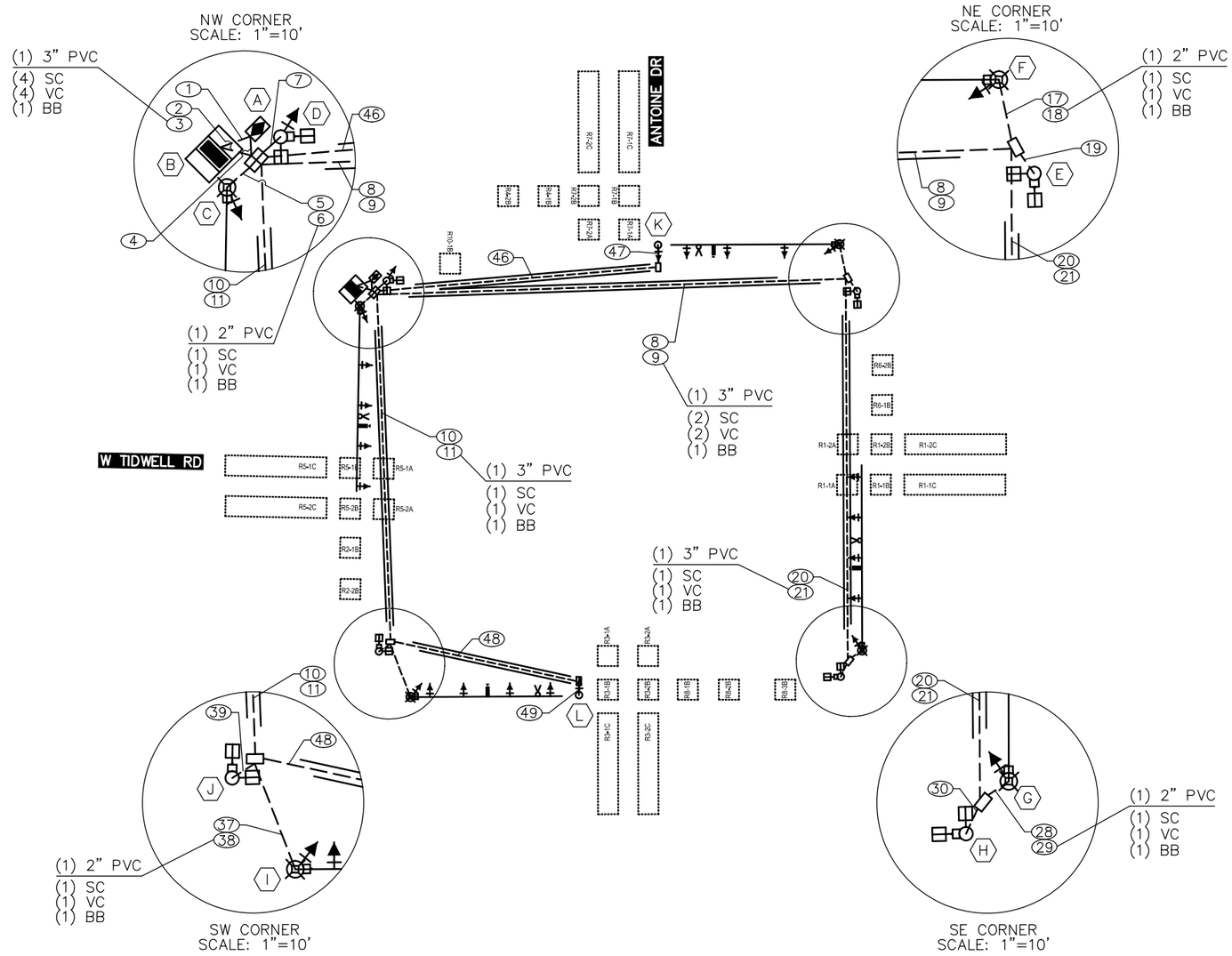
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Tidwell High Voltage Layout.dgn

LOW VOLTAGE CIRCUIT

(X)Y"C = NUMBER, SIZE, AND TYPE OF CONDUIT
SC = #20 3CC-SHIELDED CABLE (3M MODEL 138)
VC = VIVDS CABLE
BB = BARE BOND #8 AWG SOLID



LEGEND

- SIGNAL HEAD W/ BACKPLATE
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PEDESTAL POLE
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- CONDUIT (BORE)
- LUMINAIRE
- MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD
LOW VOLTAGE LAYOUT
SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 775 OF 1067	

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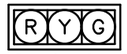
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Tidwell Low Voltage Layout.dgn

SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL 12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL 12" LED H3L SIGNAL HEAD



ø1, ø5, ø7

4-SECTION HORIZONTAL 12" LED H4TL SIGNAL HEAD



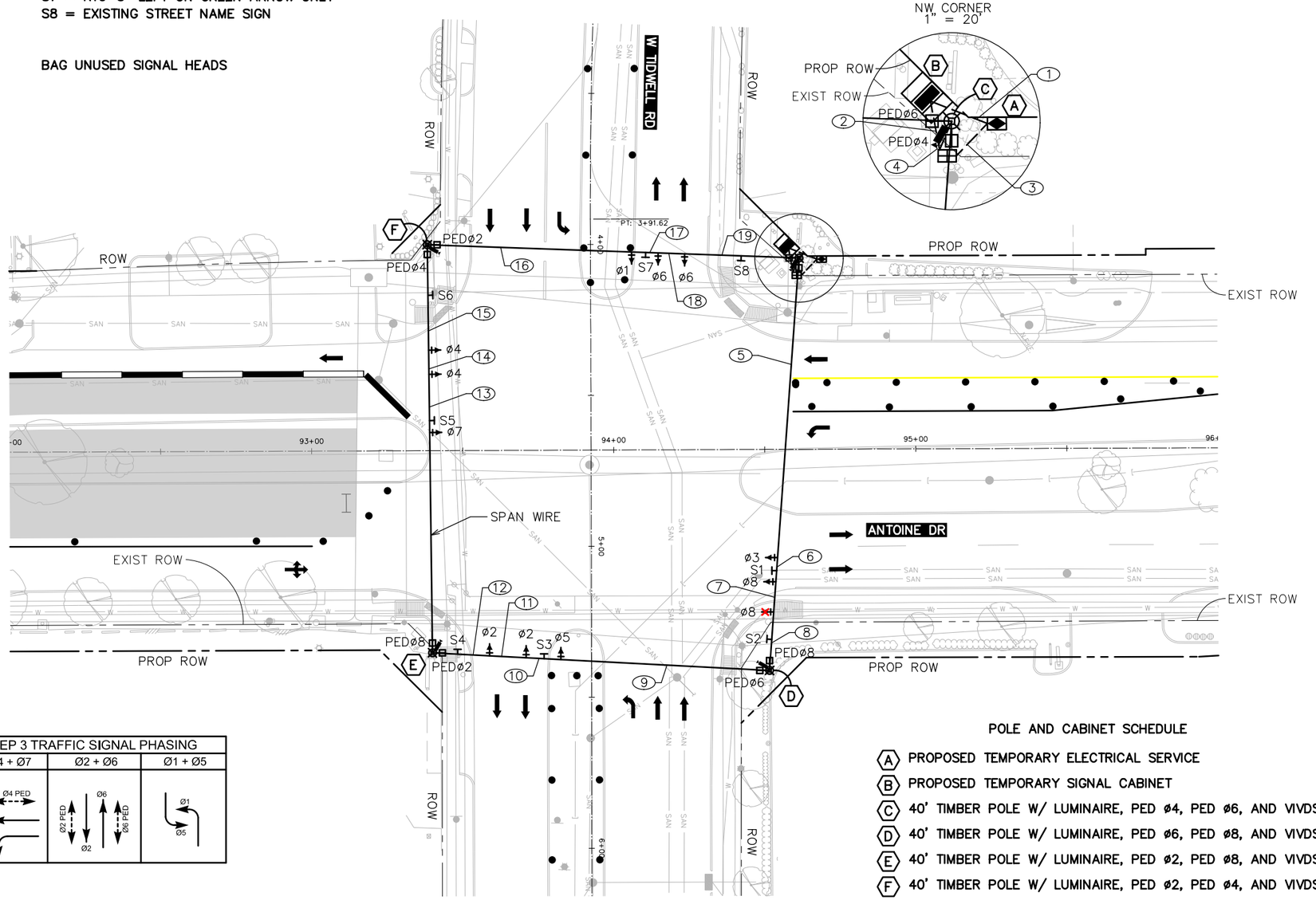
ø3

SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG UNUSED SIGNAL HEADS

POLE NUMBER	LOCATION
A	STA 94+69.1 OFF 63.0' LT
B	STA 94+57.5 OFF 67.3' LT
C	STA 94+61.6 OFF 63.4' LT
D	STA 94+51.3 OFF 73.2' RT
E	STA 93+39.8 OFF 67.0' RT
F	STA 93+38.5 OFF 68.2' LT



PHASE 1 STEP 3 TRAFFIC SIGNAL PHASING

ITEM	RUN NUMBER	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

(A) PROPOSED TEMPORARY ELECTRICAL SERVICE
(B) PROPOSED TEMPORARY SIGNAL CABINET
(C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
(D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
(E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
(F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT PHASE 1 STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 776 OF 1067	

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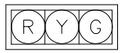
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 1.dgn

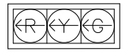
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø5, ø7

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD

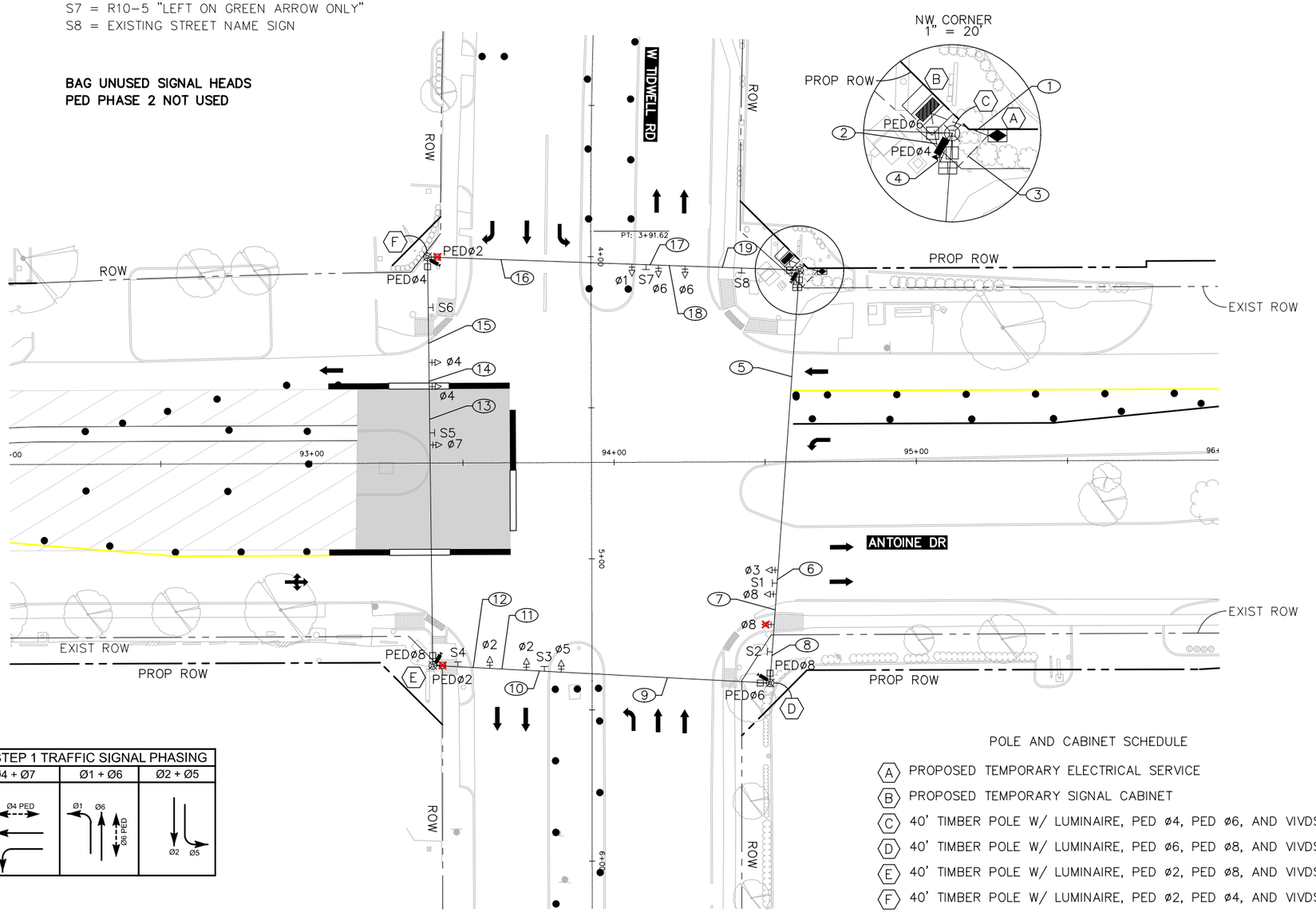


ø3

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG UNUSED SIGNAL HEADS
PED PHASE 2 NOT USED



INTERSECTION STEP 1 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø5
Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7	Ø1, Ø6, Ø6 PED	Ø2, Ø5

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			12	12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1	1																	
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																	
	3 INCH PVC			1	1															
	4 INCH PVC																			

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

POLE AND CABINET SCHEDULE

(A) PROPOSED TEMPORARY ELECTRICAL SERVICE
(B) PROPOSED TEMPORARY SIGNAL CABINET
(C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
(D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
(E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
(F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

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Registration Number
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Date
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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD
TEMPORARY SIGNAL LAYOUT
INTERSECTION STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 777 OF 1067	

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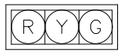
11:29:24 AM _USER_ 3/9/2026
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 2.dgn

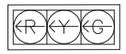
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø5, ø7

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø3

EXISTING SIGN SCHEDULE

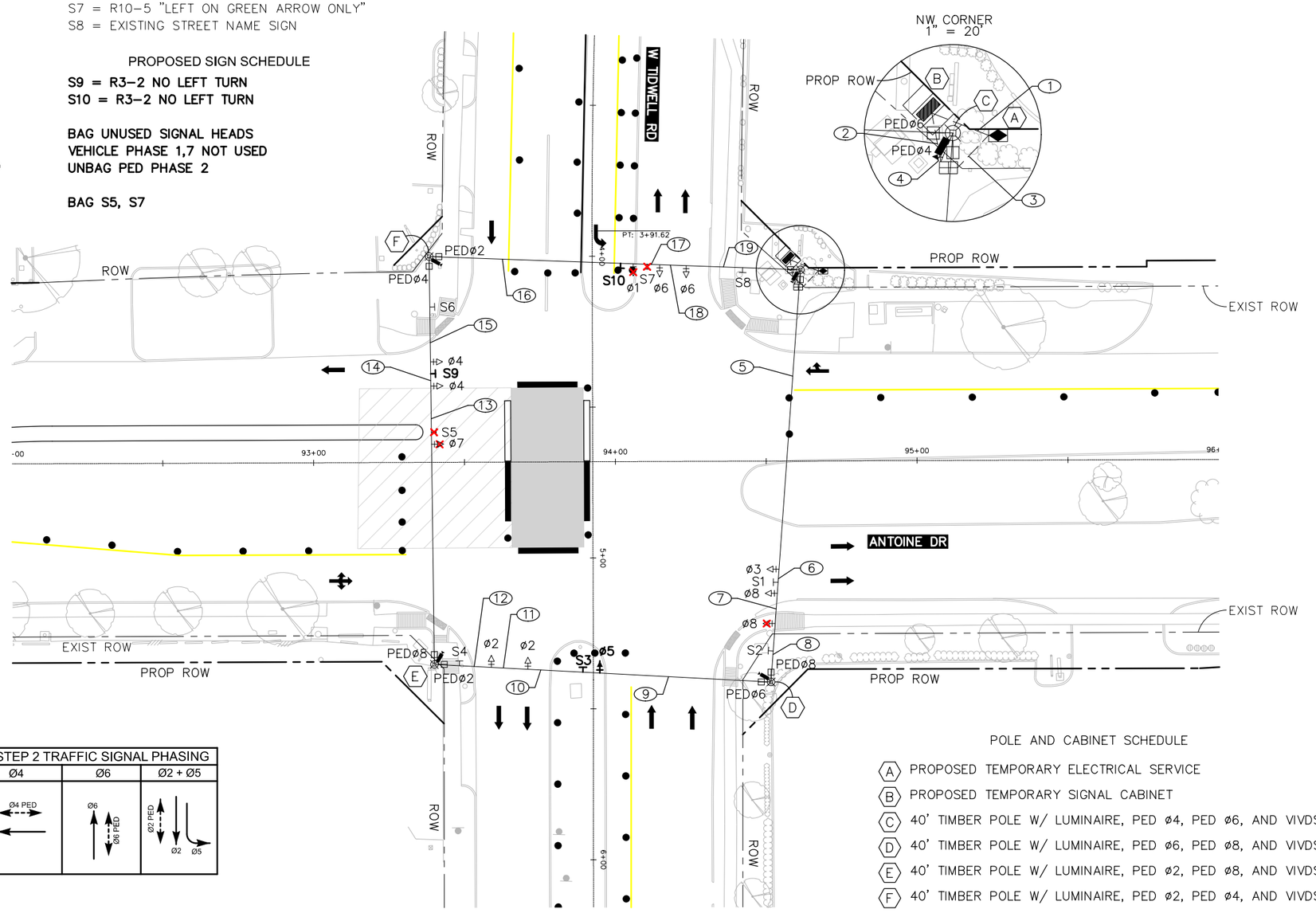
S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

PROPOSED SIGN SCHEDULE

S9 = R3-2 NO LEFT TURN
S10 = R3-2 NO LEFT TURN

BAG UNUSED SIGNAL HEADS
VEHICLE PHASE 1,7 NOT USED
UNBAG PED PHASE 2

BAG S5, S7



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 2 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4	Ø6	Ø2 + Ø5
Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4	Ø6, Ø6 PED	Ø2 PED, Ø2, Ø5

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			12	12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1	1																	
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																	
	3 INCH PVC			1	1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

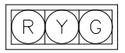
ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 778 OF 1067	

Pen Table: TEI_Color.tbl
Plot Driver: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine-West Gulf Bank Signal Design\04 Design\03 References and Resources\Plot Driver\PDF_Color.pltdrv 3/9/2026 11:29:26 AM _USER_
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 3.dgn

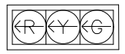
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø5, ø7

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN
S9 = R3-2 NO LEFT TURN
S10 = R3-2 NO LEFT TURN

PROPOSED SIGN SCHEDULE

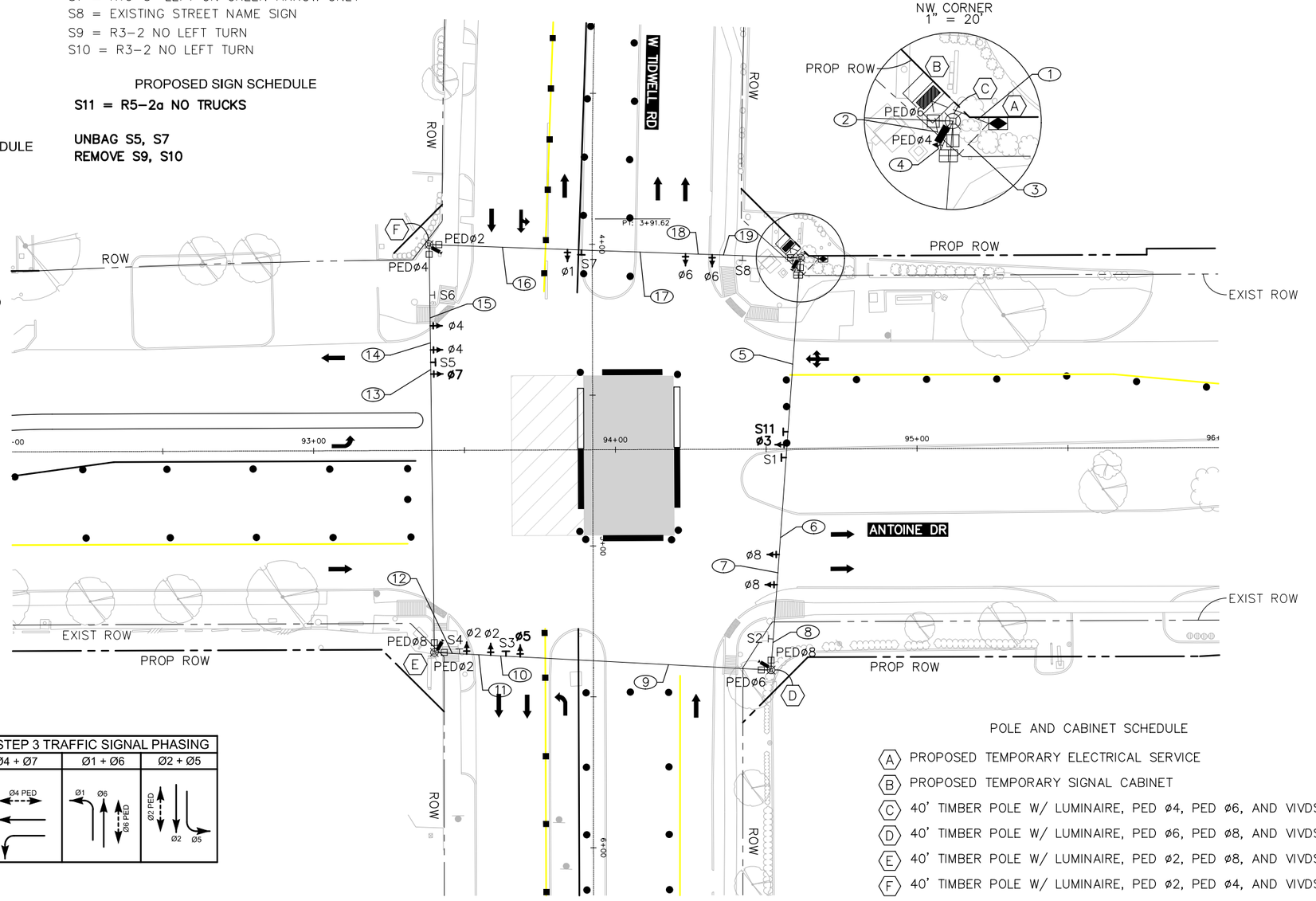
S11 = R5-2a NO TRUCKS

UNBAG S5, S7
REMOVE S9, S10

REMOVE PHASE 3 H4TL SIGNAL HEAD & REPLACE WITH H3L

REMOVE PHASE 5,7 H3L SIGNAL HEAD & REPLACE WITH H4TL

UNBAG PHASE 1 H3L SIGNAL HEAD



NW CORNER
1" = 20'

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 3 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø5
Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7	Ø1, Ø6, Ø6 PED	Ø2 PED, Ø2, Ø5

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			12	12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1	1																	
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																	
	3 INCH PVC			1	1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
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Texas Department of Transportation

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 779 OF 1067	

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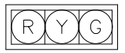
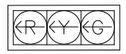
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø7

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø5

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø1

EXISTING SIGN SCHEDULE

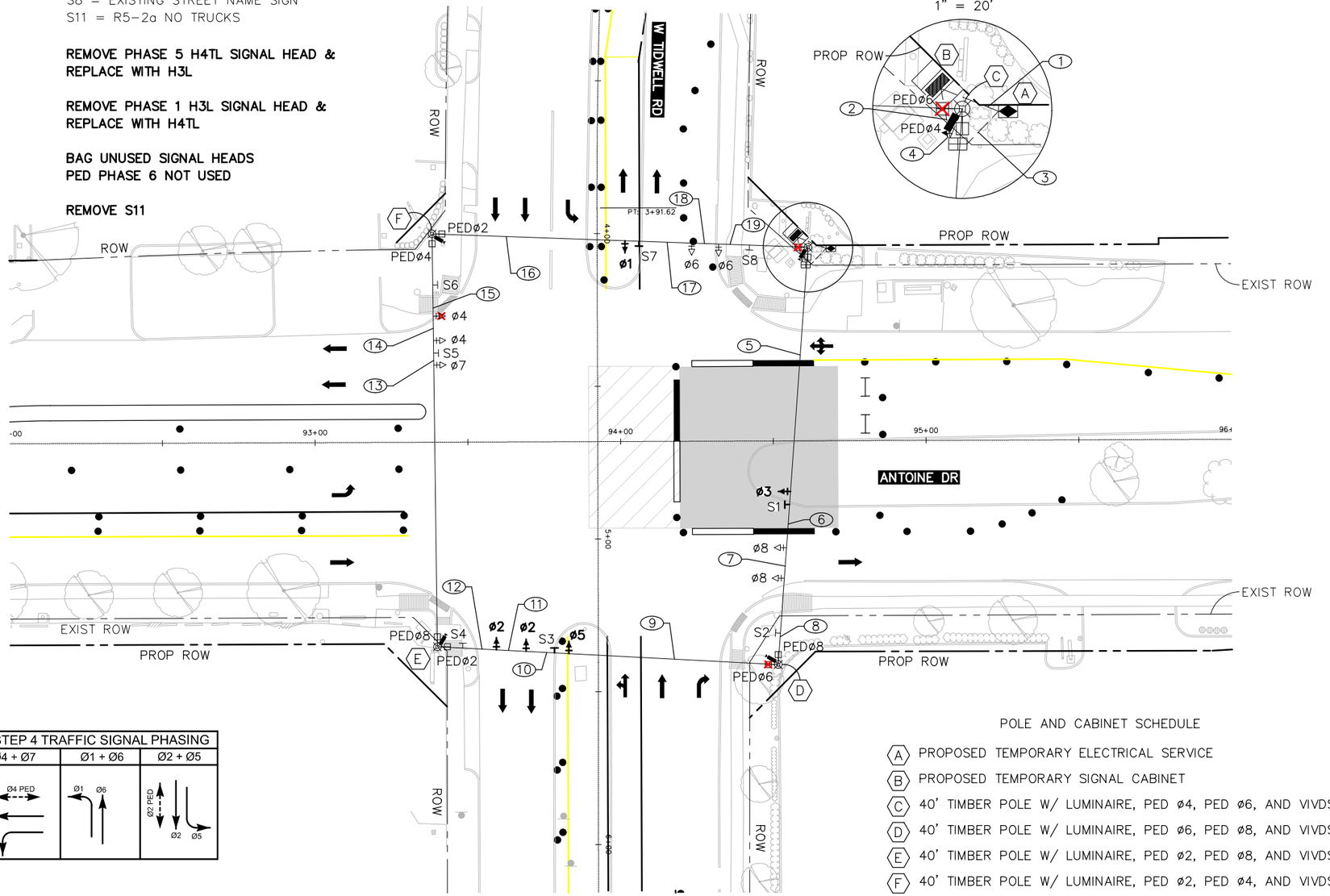
S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN
S11 = R5-2a NO TRUCKS

REMOVE PHASE 5 H4TL SIGNAL HEAD & REPLACE WITH H3L

REMOVE PHASE 1 H3L SIGNAL HEAD & REPLACE WITH H4TL

BAG UNUSED SIGNAL HEADS
PED PHASE 6 NOT USED

REMOVE S11



INTERSECTION STEP 4 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø5
Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7	Ø1, Ø6	Ø2 PED, Ø2, Ø5

POLE AND CABINET SCHEDULE

(A) PROPOSED TEMPORARY ELECTRICAL SERVICE
(B) PROPOSED TEMPORARY SIGNAL CABINET
(C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
(D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
(E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
(F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			12	12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1	1																	
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																	
	3 INCH PVC			1	1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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BRADLEY G. EAVES
Printed Name
91759
Registration Number
3/9/2026
Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 780 OF 1067	

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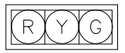
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 5.dgn

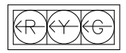
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3, ø5

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



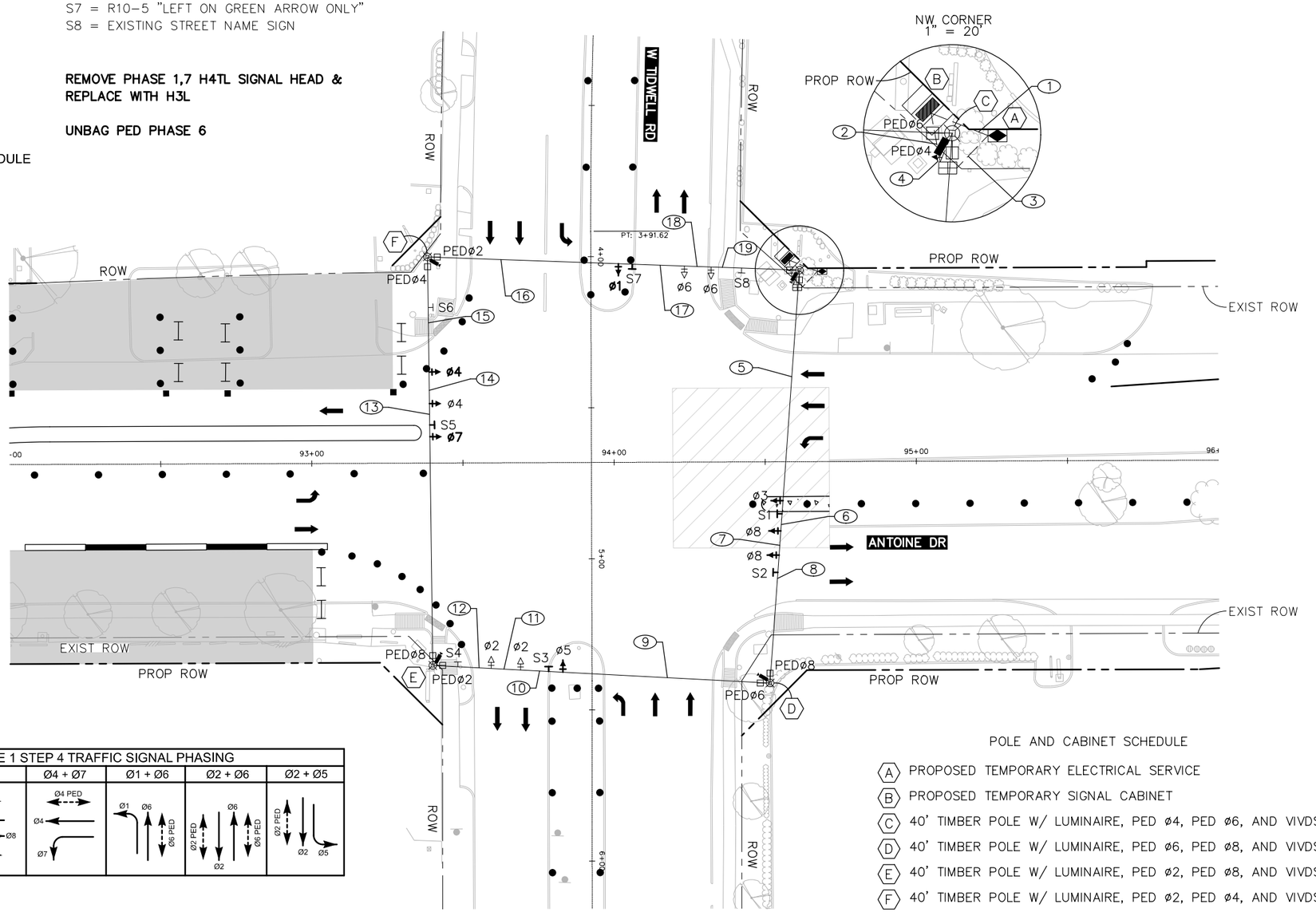
ø1, ø7

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

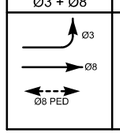
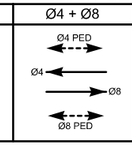
REMOVE PHASE 1,7 H4TL SIGNAL HEAD & REPLACE WITH H3L

UNBAG PED PHASE 6



NW CORNER
1" = 20'

PHASE 1 STEP 4 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø6	Ø2 + Ø5
					

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LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			12	12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1	1																	
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																	
	3 INCH PVC			1	1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

(A) PROPOSED TEMPORARY ELECTRICAL SERVICE
(B) PROPOSED TEMPORARY SIGNAL CABINET
(C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
(D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
(E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
(F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
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TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
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- MAST ARM SIGN
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- CONTROLLER CABINET WITH BBU
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N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT PHASE 1 STEP 4

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ROWAIDAH AYOUB	
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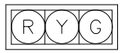
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3, ø5, ø7

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



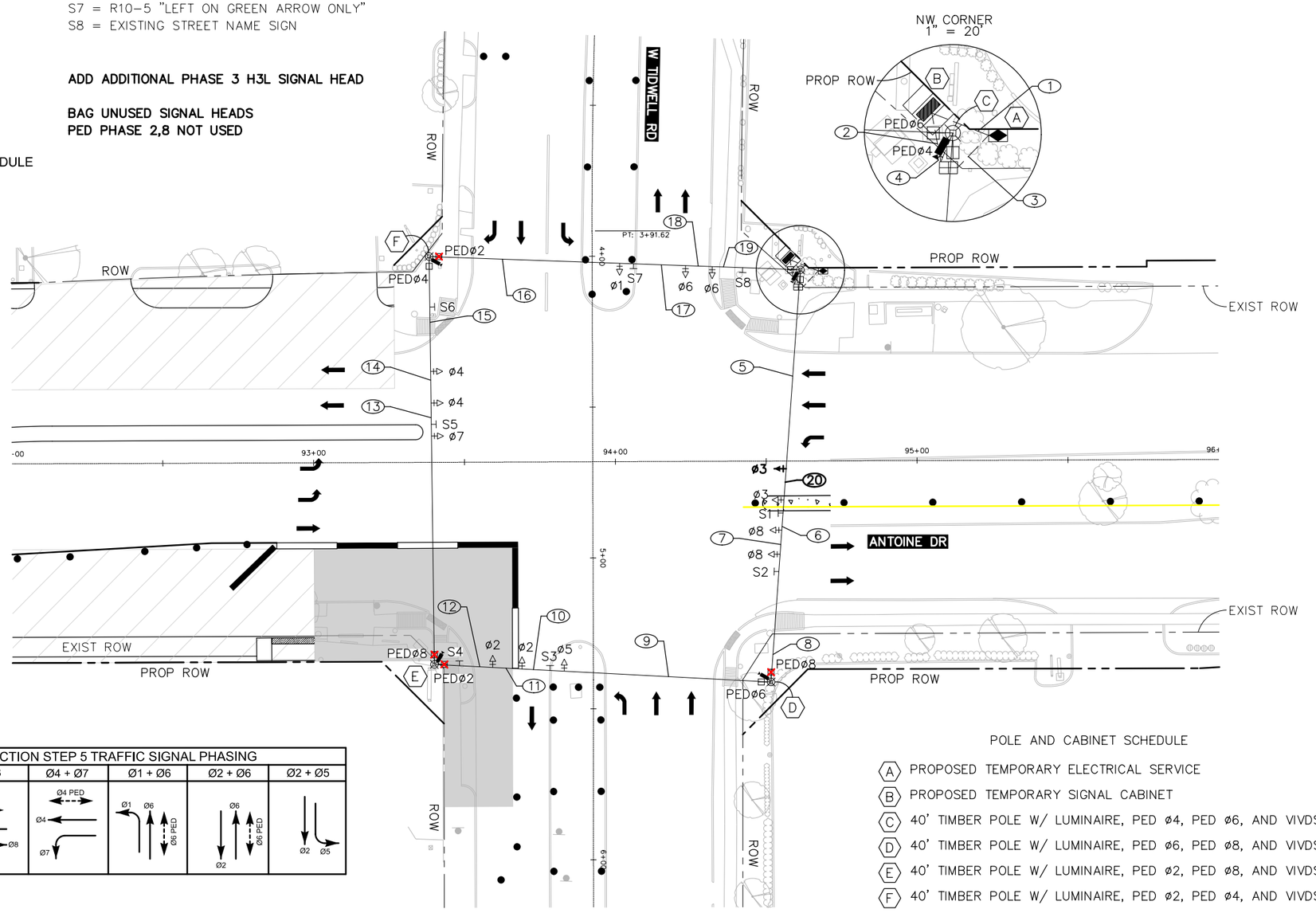
ø3

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

ADD ADDITIONAL PHASE 3 H3L SIGNAL HEAD

BAG UNUSED SIGNAL HEADS
PED PHASE 2,8 NOT USED



INTERSECTION STEP 5 TRAFFIC SIGNAL PHASING					
Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø6	Ø2 + Ø5
Ø3, Ø8	Ø4 PED, Ø4, Ø8	Ø4 PED, Ø4, Ø7	Ø1, Ø6, Ø6 PED	Ø6, Ø6 PED, Ø2	Ø2, Ø5

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	**2**
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																				
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	**4**
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			**13**	**13**	**7**	5	4	3	3	2	1		1	2	3	3	4	5	6	**6**
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																
POWER	SIGNAL POWER (SEE NOTE)	1	1																		
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	**2**
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	**SPAN**
	2 INCH PVC	1	1																		
	3 INCH PVC			1	1																
	4 INCH PVC																				

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 782 OF 1067	

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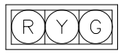
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 7.dgn

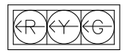
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3, ø5

PROPOSED SIGNAL HEAD SCHEDULE

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



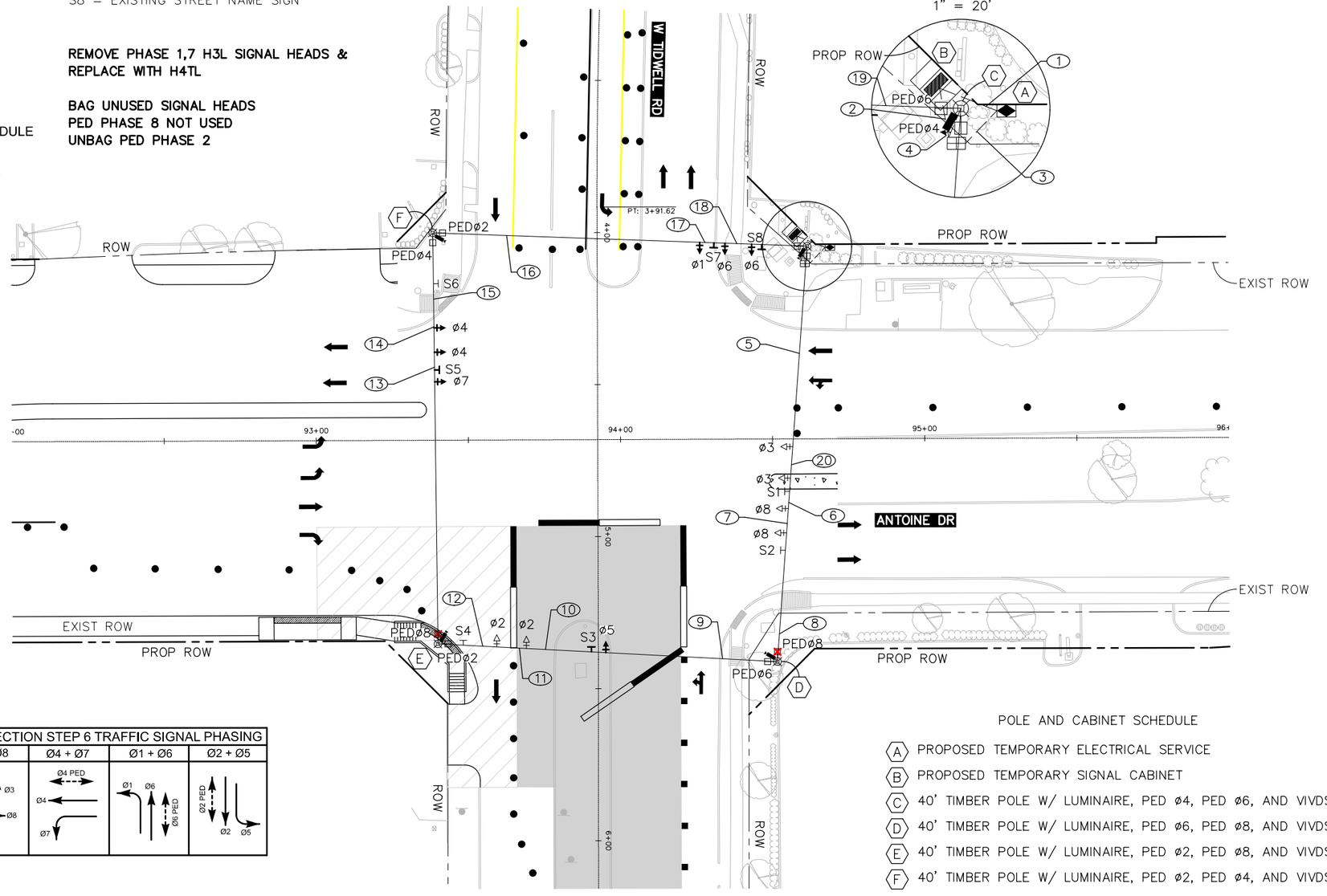
ø1, ø7

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

REMOVE PHASE 1,7 H3L SIGNAL HEADS & REPLACE WITH H4TL

BAG UNUSED SIGNAL HEADS
PED PHASE 8 NOT USED
UNBAG PED PHASE 2



INTERSECTION STEP 6 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø5
Ø3, Ø8	Ø4 PED, Ø4, Ø7	Ø1, Ø6, Ø6 PED	Ø2 PED, Ø2, Ø5

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																				
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			13	13	7	5	4	3	3	2	1		1	2	3	3	4	5	6	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																
POWER	SIGNAL POWER (SEE NOTE)	1	1																		
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																		
	3 INCH PVC			1	1																
	4 INCH PVC																				

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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3/9/2026
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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 783 OF 1067	

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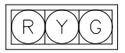
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gouge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 8.dgn

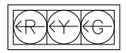
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3, ø5

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



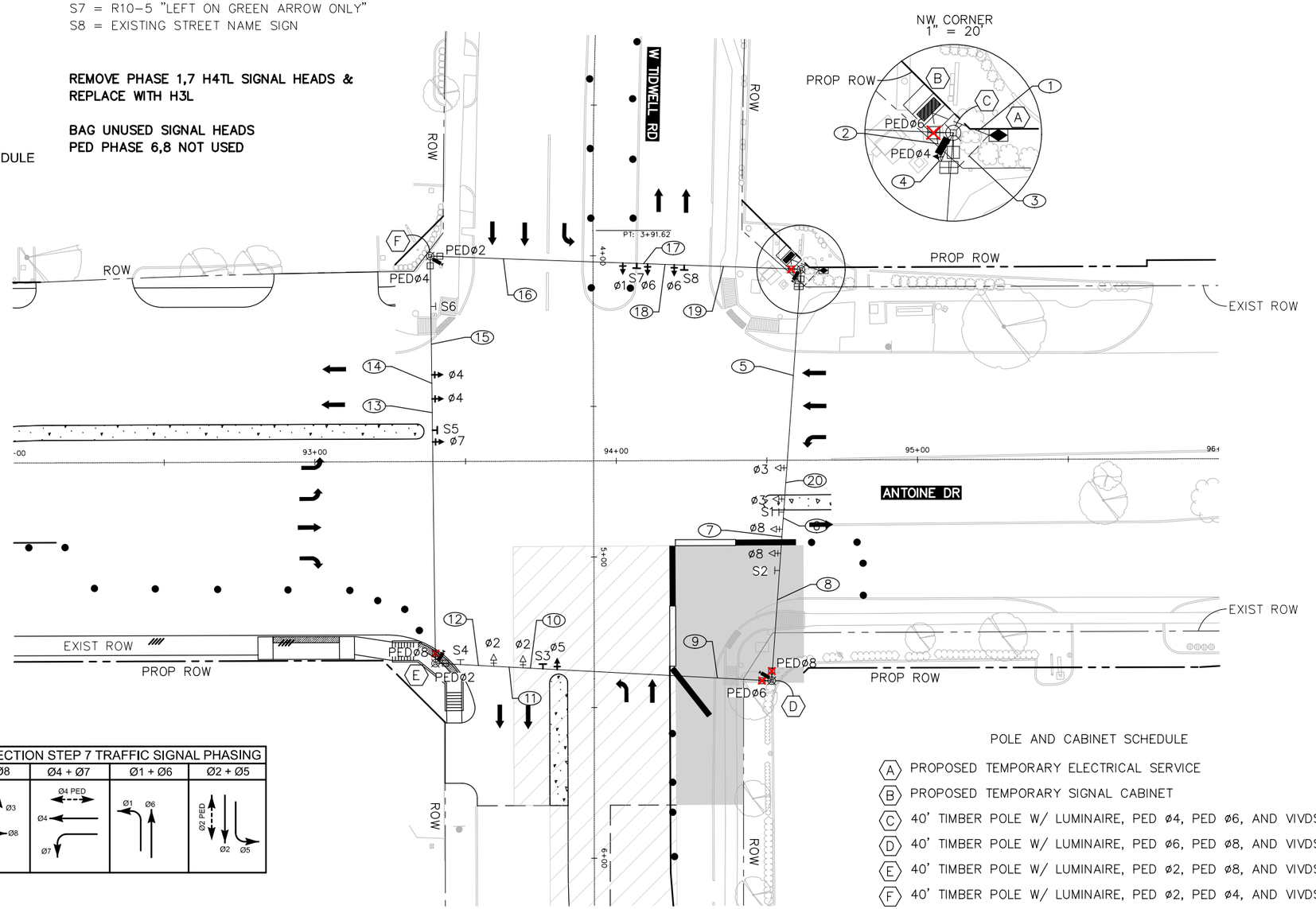
ø1, ø7

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

REMOVE PHASE 1,7 H4TL SIGNAL HEADS & REPLACE WITH H3L

BAG UNUSED SIGNAL HEADS
PED PHASE 6,8 NOT USED



NW CORNER
1" = 20'

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

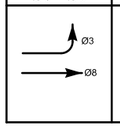
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 7 TRAFFIC SIGNAL PHASING

ø3 + ø8	ø4 + ø7	ø1 + ø6	ø2 + ø5
			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																				
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			13	13	7	5	4	3	3	2	1		1	2	3	3	4	5	6	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																
POWER	SIGNAL POWER (SEE NOTE)	1	1																		
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																		
	3 INCH PVC			1	1																
	4 INCH PVC																				

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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91759
3/9/2026

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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 7

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 784 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 9.dgn

EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD

(R Y G)

ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

(~~R~~ ~~Y~~ ~~G~~)

ø1, ø3, ø5, ø7

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD

(R Y G)

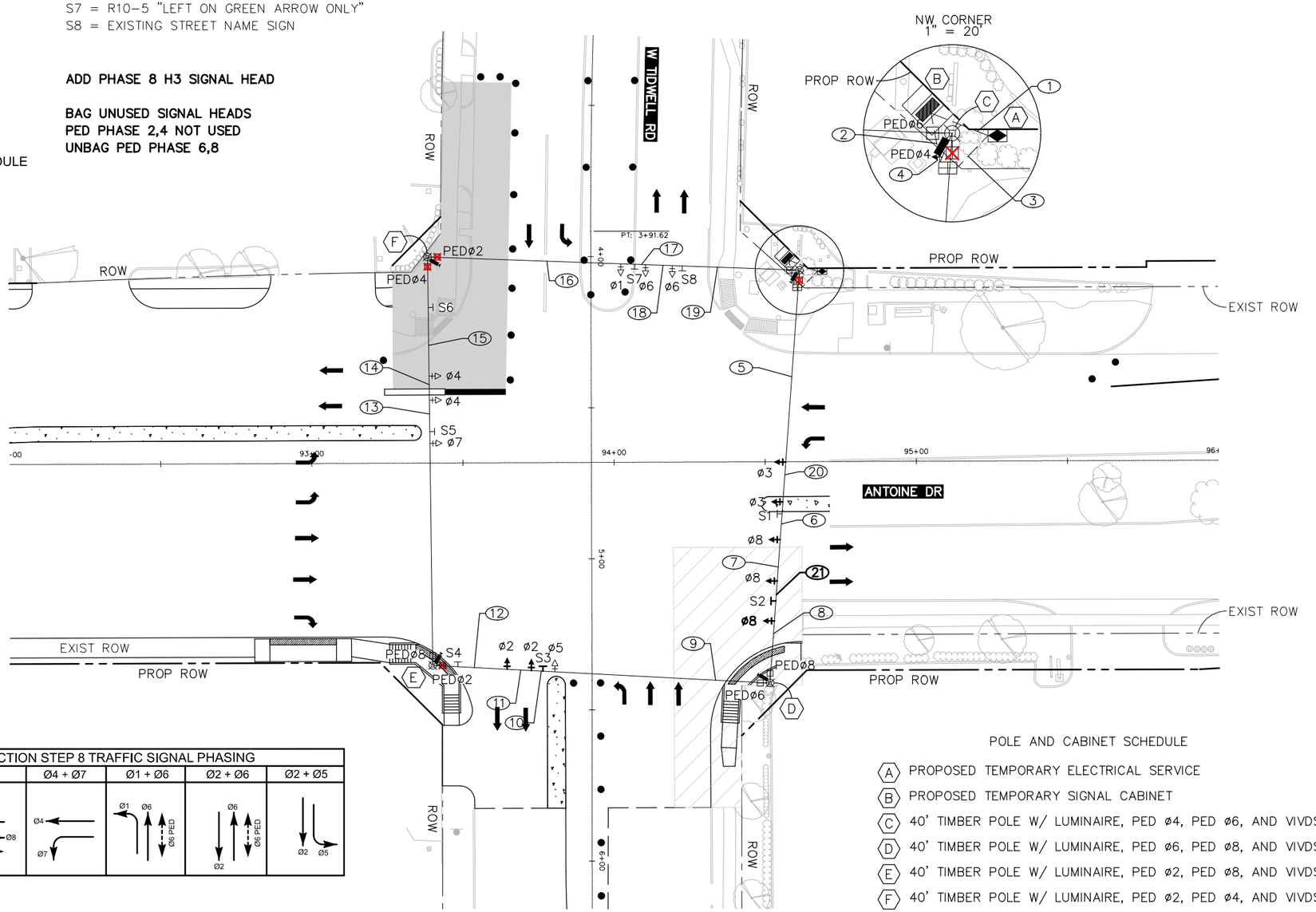
ø8

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

ADD PHASE 8 H3 SIGNAL HEAD

BAG UNUSED SIGNAL HEADS
PED PHASE 2,4 NOT USED
UNBAG PED PHASE 6,8



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 8 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø6	Ø2 + Ø5
Ø3, Ø8, Ø8 PED	Ø4, Ø8, Ø8 PED	Ø4, Ø7	Ø1, Ø6, Ø6 PED	Ø6, Ø6 PED, Ø2	Ø2, Ø5

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2	**2**
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																					
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4	**4**
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			**14**	**14**	**8**	**6**	**5**	3	3	2	1		1	2	3	3	4	5	6	**7**	**4**
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																	
POWER	SIGNAL POWER (SEE NOTE)	1	1																			
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2	**2**
CONDUIT	1 INCH PVC																					
	2 INCH PVC	1	1			SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	**SPAN**
	3 INCH PVC			1	1																	
	4 INCH PVC																					

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 785 OF 1067	

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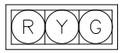
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 10.dgn

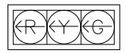
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

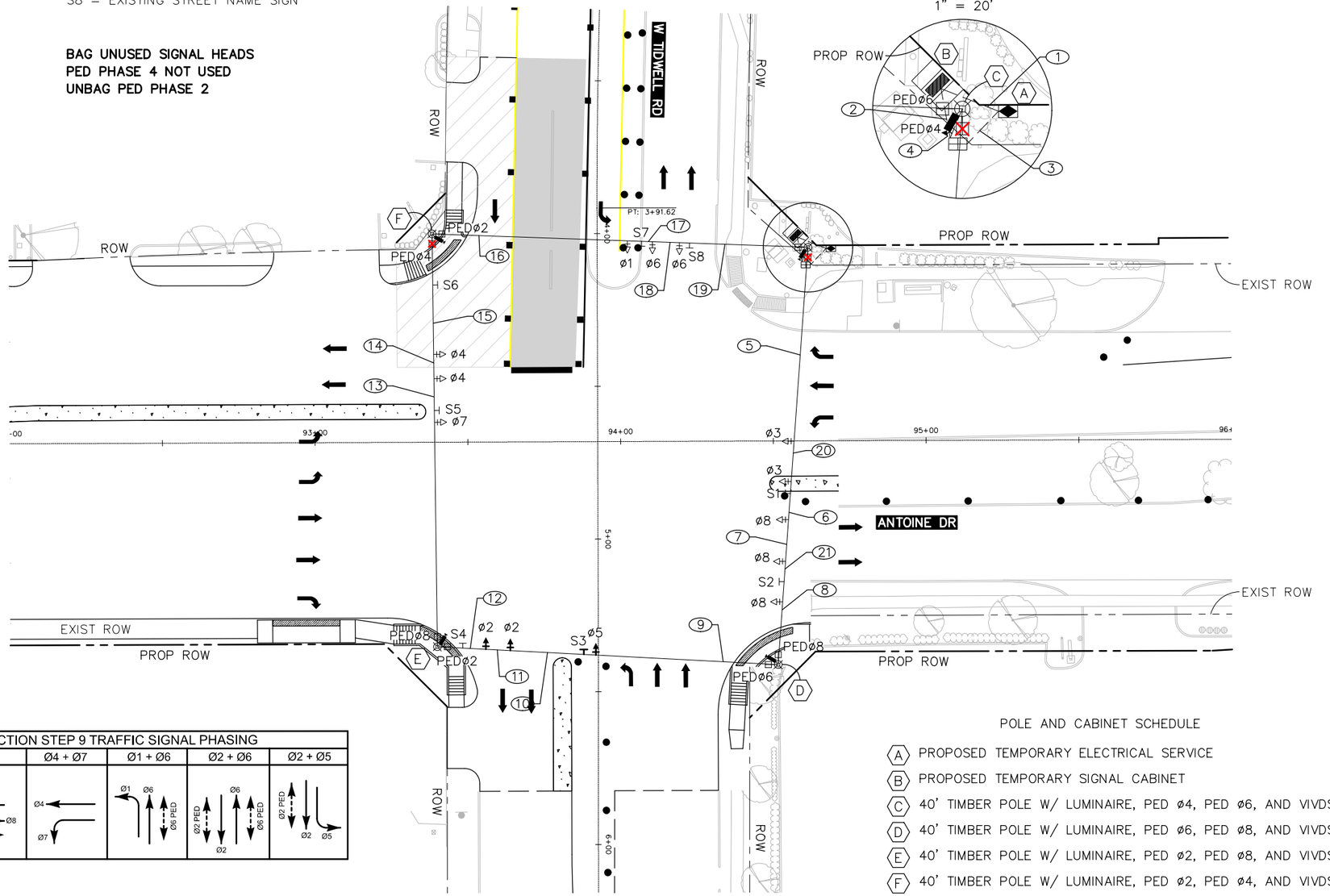


ø1, ø3, ø5, ø7

EXISTING SIGN SCHEDULE

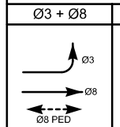
S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG UNUSED SIGNAL HEADS
PED PHASE 4 NOT USED
UNBAG PED PHASE 2



NW CORNER
1" = 20'

INTERSECTION STEP 9 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø6	Ø2 + Ø5
					

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																					
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4	4
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			14	14	8	6	5	3	3	2	1		1	2	3	3	4	5	6	7	4
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																	
POWER	SIGNAL POWER (SEE NOTE)	1	1																			
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2	2
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																			
	3 INCH PVC			1	1																	
	4 INCH PVC																					

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

POLE AND CABINET SCHEDULE

(A) PROPOSED TEMPORARY ELECTRICAL SERVICE
(B) PROPOSED TEMPORARY SIGNAL CABINET
(C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
(D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
(E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
(F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 786 OF 1067	

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EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD

R Y G

ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

~~R~~ ~~Y~~ ~~G~~

ø1, ø3, ø7

PROPOSED SIGNAL HEAD SCHEDULE

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD

R Y G G

ø5

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

REMOVE PHASE 5 H3L SIGNAL HEAD & REPLACE WITH H4TL

BAG UNUSED SIGNAL HEADS
PED PHASE 4 NOT USED

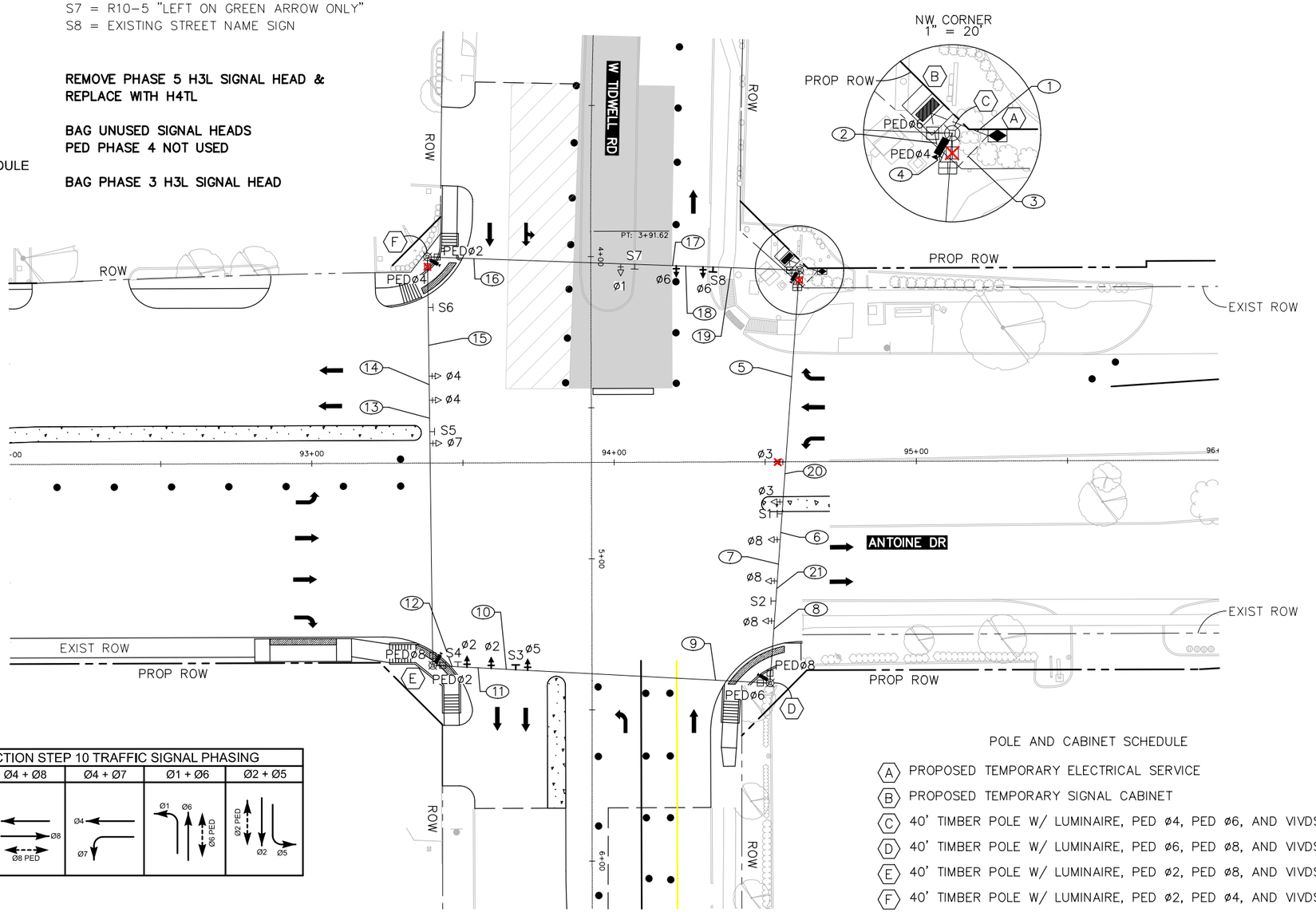
BAG PHASE 3 H3L SIGNAL HEAD

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE



INTERSECTION STEP 10 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø5
Ø3, Ø8, Ø8 PED	Ø4, Ø8, Ø8 PED	Ø4, Ø7	Ø1, Ø6, Ø6 PED	Ø2 PED, Ø2, Ø5

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																					
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4	4
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			14	14	8	6	5	3	3	2	1		1	2	3	3	4	5	6	7	4
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																	
POWER	SIGNAL POWER (SEE NOTE)	1	1																			
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2	2
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																			
	3 INCH PVC			1	1																	
	4 INCH PVC																					

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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BRADLEY G. EAVES
Printed Name
91759
Registration Number
3/9/2026
Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 787 OF 1067	

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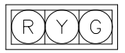
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 13.dgn

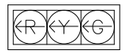
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3, ø7

PROPOSED SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø5

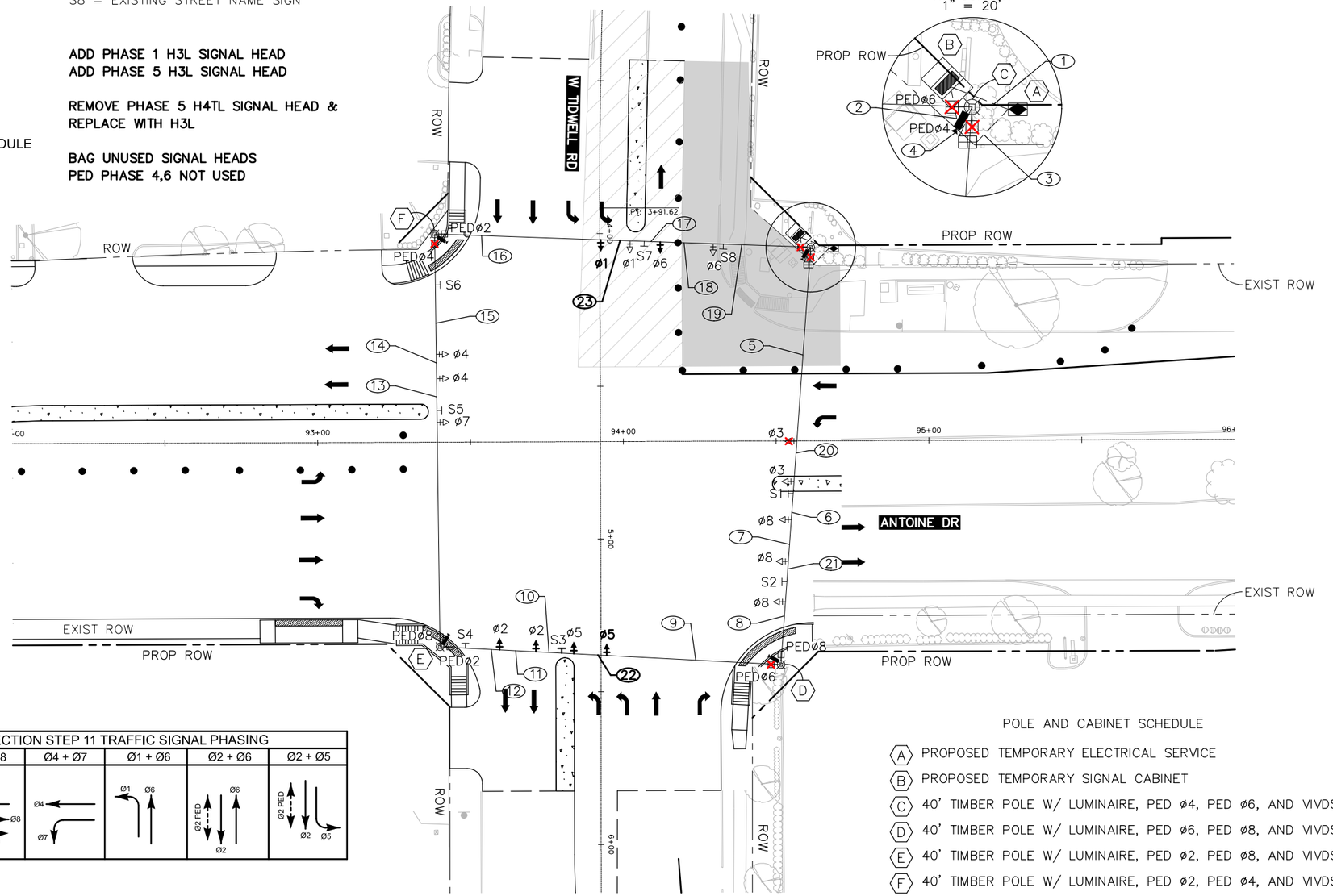
EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

ADD PHASE 1 H3L SIGNAL HEAD
ADD PHASE 5 H3L SIGNAL HEAD

REMOVE PHASE 5 H4TL SIGNAL HEAD & REPLACE WITH H3L

BAG UNUSED SIGNAL HEADS
PED PHASE 4,6 NOT USED



INTERSECTION STEP 11 TRAFFIC SIGNAL PHASING					
ø3 + ø8	ø4 + ø8	ø4 + ø7	ø1 + ø6	ø2 + ø6	ø2 + ø5
ø3, ø8 PED	ø4, ø8 PED	ø4, ø7	ø1, ø6	ø6, ø2 PED, ø2	ø2, ø2 PED, ø5

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2	2	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																							
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4	4	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			16	16	9	7	6	4	4	2	1		1	2	3	3	5	6	7	8	5	3	4
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																			
POWER	SIGNAL POWER (SEE NOTE)	1	1																					
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2	2	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																					
	3 INCH PVC			1	1																			
	4 INCH PVC																							

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

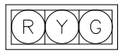
ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 788 OF 1067	

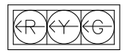
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3, ø5, ø7

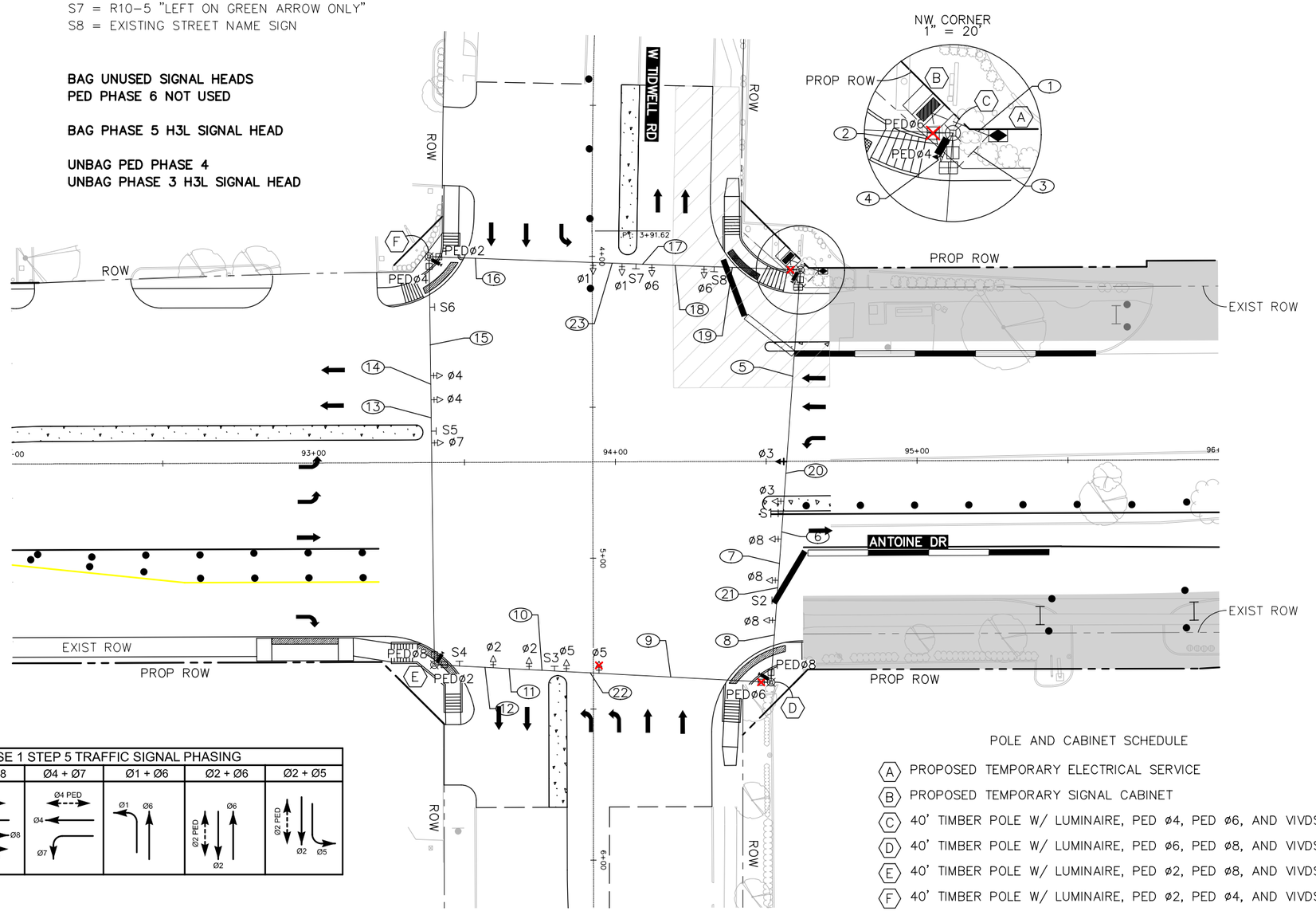
EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG UNUSED SIGNAL HEADS
PED PHASE 6 NOT USED

BAG PHASE 5 H3L SIGNAL HEAD

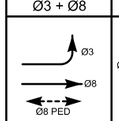
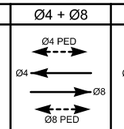
UNBAG PED PHASE 4
UNBAG PHASE 3 H3L SIGNAL HEAD



NW CORNER
1" = 20'

0' 20' 40'
SCALE IN FEET

PHASE 1 STEP 5 TRAFFIC SIGNAL PHASING

Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø6	Ø2 + Ø5
					

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2	2	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																							
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4	4	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			16	16	9	7	6	4	4	2	1		1	2	3	3	5	6	7	8	5	3	4
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																			
POWER	SIGNAL POWER (SEE NOTE)	1	1																					
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2	2	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																					
	3 INCH PVC			1	1																			
	4 INCH PVC																							

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT PHASE 1 STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 789 OF 1067	

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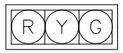
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 14.dgn

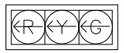
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3, ø5

PROPOSED SIGNAL HEAD SCHEDULE

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø7

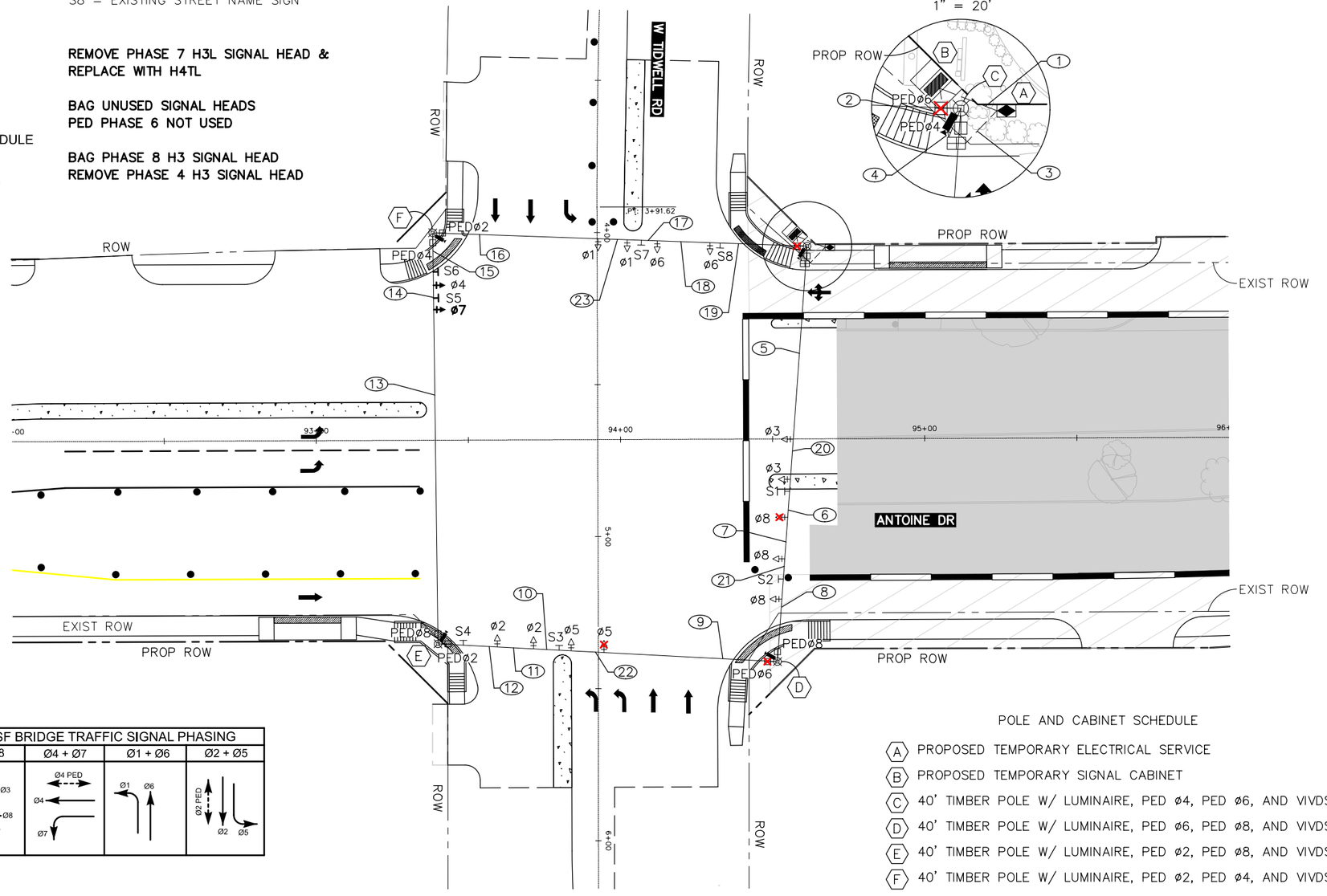
EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

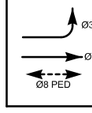
REMOVE PHASE 7 H3L SIGNAL HEAD & REPLACE WITH H4TL

BAG UNUSED SIGNAL HEADS
PED PHASE 6 NOT USED

BAG PHASE 8 H3 SIGNAL HEAD
REMOVE PHASE 4 H3 SIGNAL HEAD



NW CORNER
1" = 20'

BNSF BRIDGE TRAFFIC SIGNAL PHASING			
Ø3 + Ø8	Ø4 + Ø7	Ø1 + Ø6	Ø2 + Ø5
			

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW	4			4	2	2	2	2	1	1	1	1				1	1	1	1	2	2	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																							
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE			8	8	4	4	4	4	2	2	2	2				2	2	2	2	4	4	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE			**15**	**15**	9	7	6	4	4	2	1			**1**	**2**	**2**	**4**	**5**	**6**	8	5	3	**3**
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1																			
POWER	SIGNAL POWER (SEE NOTE)	1	1																					
VIVDS CABLE	PER MANUFACTURER			4	4	2	2	2	2	1	1	1	1				1	1	1	1	2	2	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1	1																					
	3 INCH PVC			1	1																			
	4 INCH PVC																							

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø4, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

N

Ø' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
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712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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91759
3/9/2026

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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT W TIDWELL RD TEMPORARY SIGNAL LAYOUT BNSF BRIDGE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 790 OF 1067	

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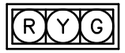
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gouge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\Tidwell Temp Signal Layout Sheet 15.dgn

SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø5, ø7

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



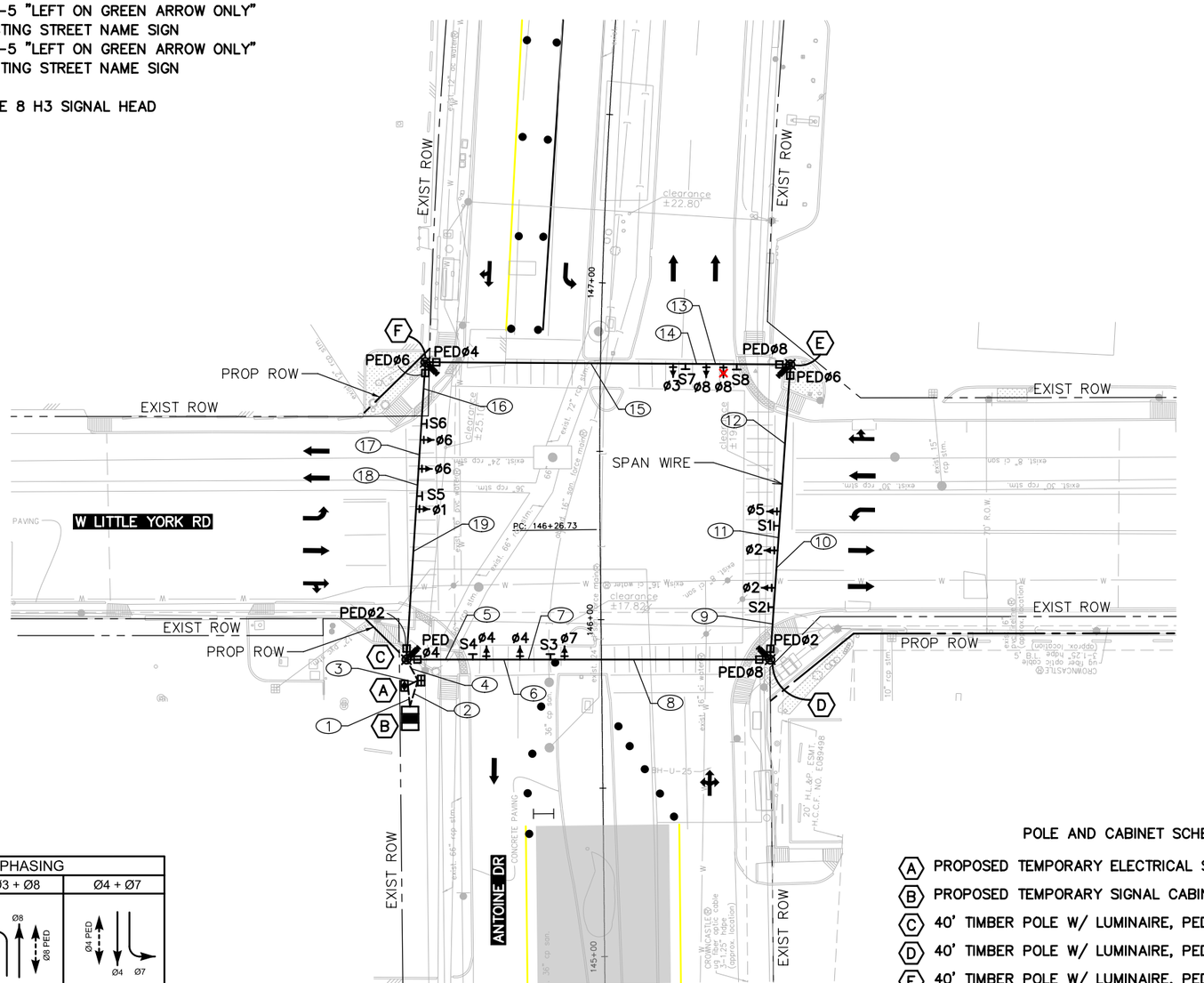
ø3

SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 8 H3 SIGNAL HEAD

POLE NUMBER	LOCATION
A	STA 145+81.0 OFF 58.6' LT
B	STA 145+71.3 OFF 57.0' LT
C	STA 145+88.2 OFF 57.9' LT
D	STA 145+88.2 OFF 50.1' RT
E	STA 146+76.1 OFF 56.4' RT
F	STA 146+76.1 OFF 52.0' LT



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
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- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

PHASE 1 STEP 6 TRAFFIC SIGNAL PHASING				
ø2 + ø5	ø2 + ø6	ø1 + ø6	ø3 + ø8	ø4 + ø7
ø5, ø2, ø2 PED	ø6 PED, ø6, ø2, ø2 PED	ø6 PED, ø6, ø1	ø3, ø8, ø8 PED	ø4 PED, ø4, ø7

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT PHASE I STEP 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 791 OF 1067	

Pen Table: TEI_Color.tbl
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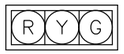
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 01 - Phase I Step 6 - Temp Signal Layout Sheet 1.dgn

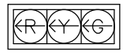
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø7

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø3

PROPOSED SIGNAL HEAD SCHEDULE

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø1, ø5

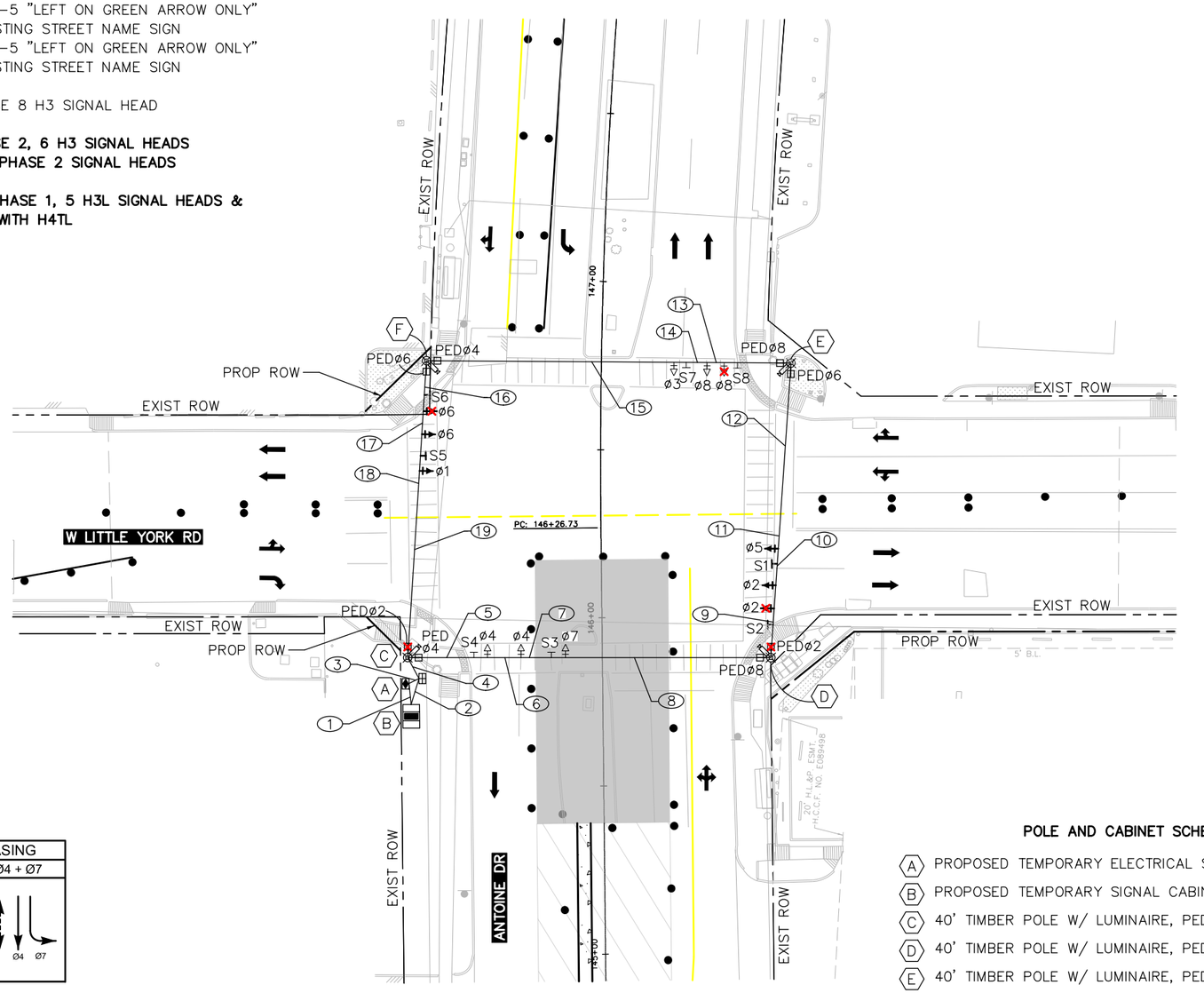
EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 8 H3 SIGNAL HEAD

BAG PHASE 2, 6 H3 SIGNAL HEADS
BAG PED PHASE 2 SIGNAL HEADS

REMOVE PHASE 1, 5 H3L SIGNAL HEADS & REPLACE WITH H4TL



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

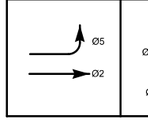
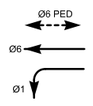
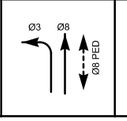
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 1 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1+ Ø6	Ø3 + Ø8	Ø4 + Ø7
			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1		1																
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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BRADLEY G. EAVES
91759
3/9/2026
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 792 OF 1067	

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Plot Driver: E:\TEI Planning+Design Dropbox\Clients\Gouge Engineering\COH Antoine-West Gulf Bank Signal Design\04 Design\03 References and Resources\Plot\HPGL_PDF_Color.pltcfg 3/9/2026 11:29:54 AM _USER_
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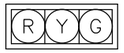
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 03 - Intersection Step 2 - Temp Signal Layout Sheet.dgn

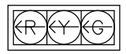
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø7

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø1, ø3, ø5

EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 8 H3 SIGNAL HEAD

PROPOSED SIGN SCHEDULE

S9 = R3–2 "NO LEFT TURN"
S10 = R3–2 "NO LEFT TURN"
S11 = R3–2 "NO LEFT TURN"

BAG PHASE 7 H3L SIGNAL HEAD
BAG PHASE 1, 5 H4TL SIGNAL HEADS

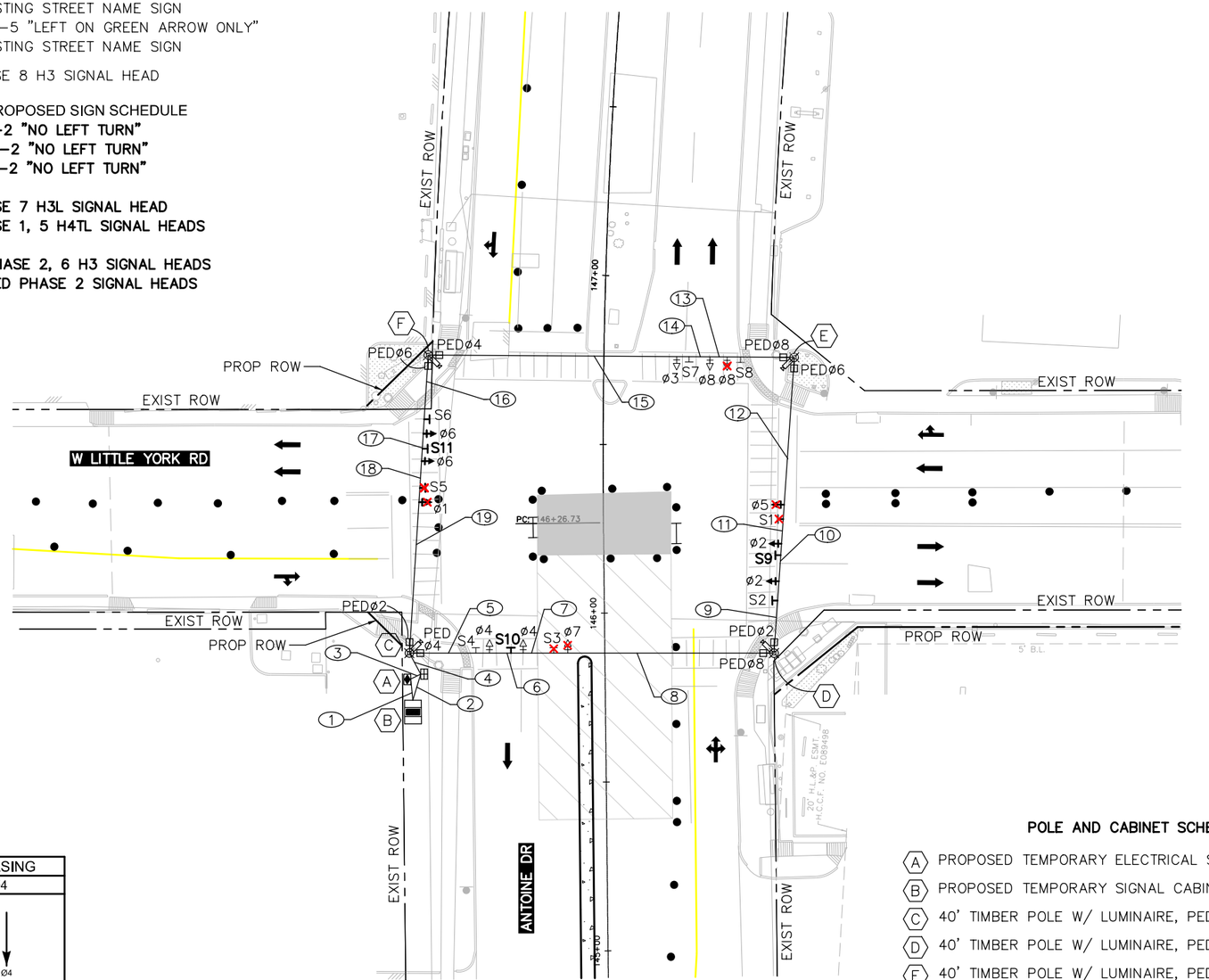
UNBAG PHASE 2, 6 H3 SIGNAL HEADS
UNBAG PED PHASE 2 SIGNAL HEADS

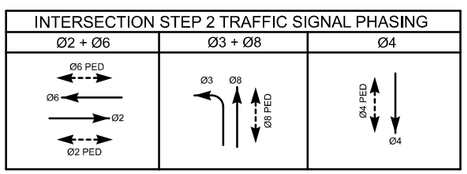
TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE



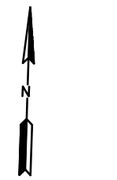


POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.



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ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 2

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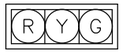
SHEET NO. 793 OF 1067	

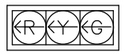
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø7

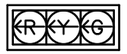
4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø5

PROPOSED SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3

EXISTING SIGN SCHEDULE

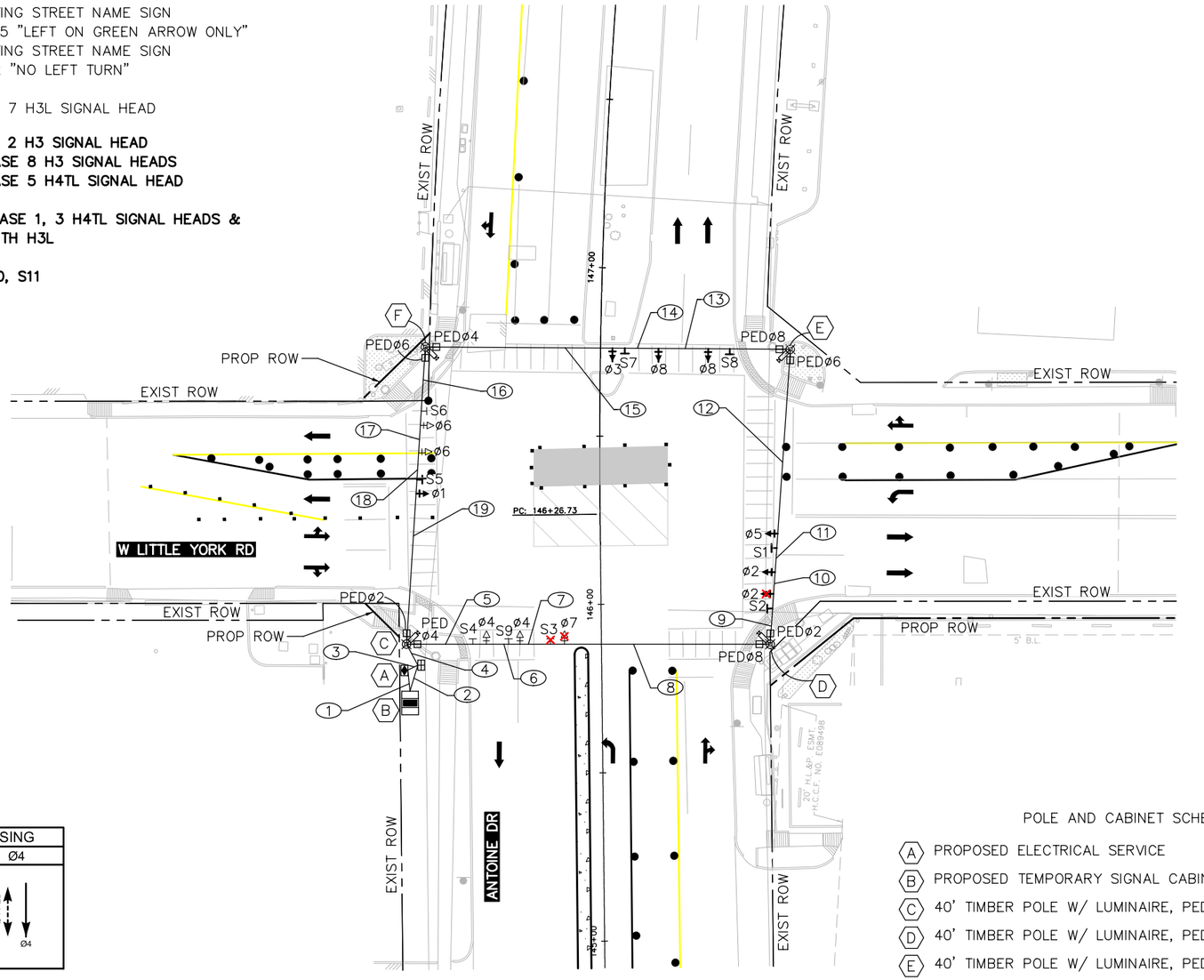
S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN
S9 = R3–2 "NO LEFT TURN"

BAG PHASE 7 H3L SIGNAL HEAD

BAG PHASE 2 H3 SIGNAL HEAD
UNBAG PHASE 8 H3 SIGNAL HEADS
UNBAG PHASE 5 H4TL SIGNAL HEAD

REMOVE PHASE 1, 3 H4TL SIGNAL HEADS & REPLACE WITH H3L

REMOVE S10, S11



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 1 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4
Ø5, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø1	Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4

POLE AND CABINET SCHEDULE

- (A) PROPOSED ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
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ROWAIDAH AYOUB	
SHEET NO. 794 OF 1067	

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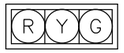
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 04 - Intersection Step 3 - Temp Signal Layout Sheet.dgn

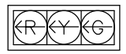
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



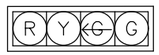
ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø5

PROPOSED SIGNAL HEAD SCHEDULE

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø7

EXISTING SIGN SCHEDULE

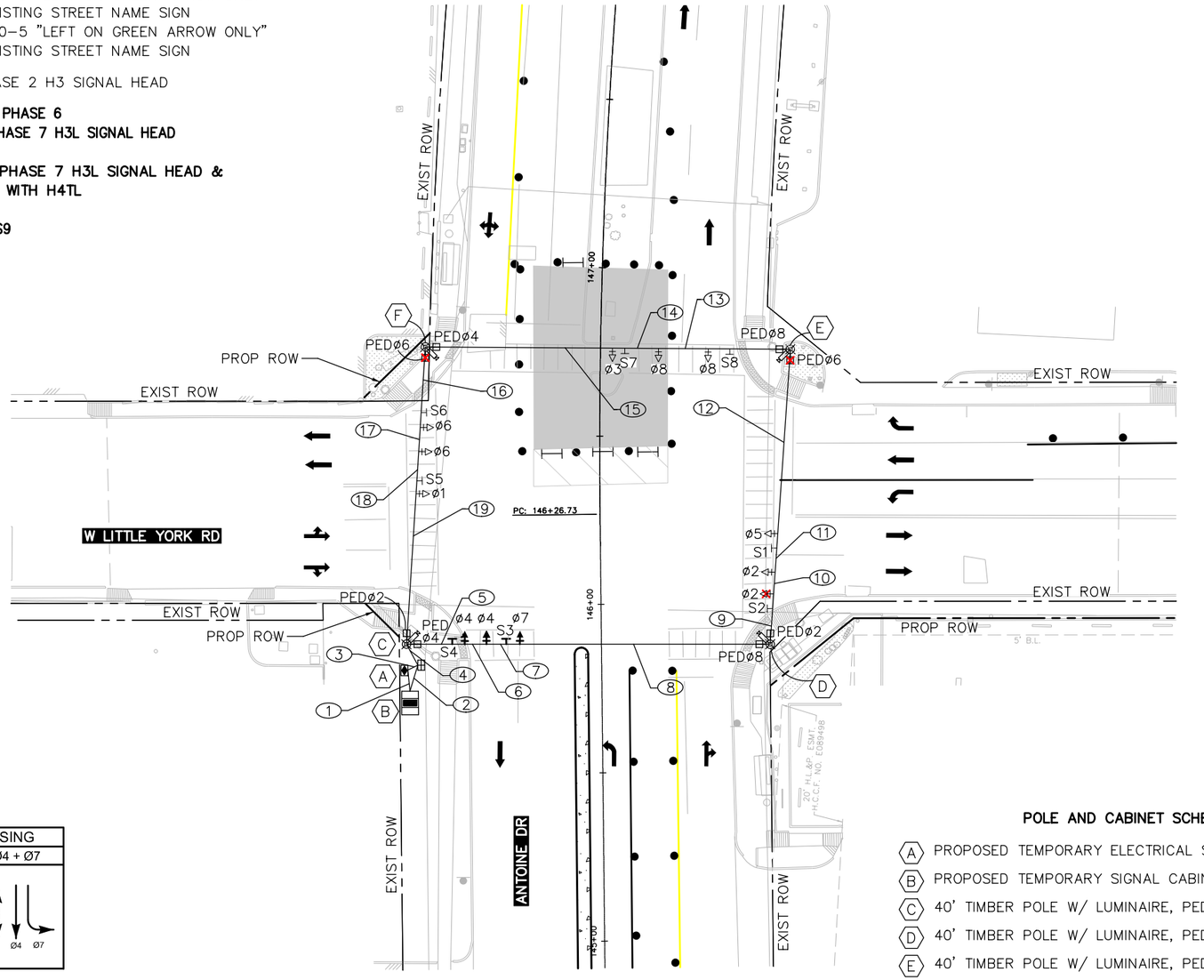
S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 2 H3 SIGNAL HEAD

BAG PED PHASE 6
UNBAG PHASE 7 H3L SIGNAL HEAD

REMOVE PHASE 7 H3L SIGNAL HEAD & REPLACE WITH H4TL

REMOVE S9



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 4 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø7
Ø5, Ø2, Ø2 PED	Ø6, Ø1	Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
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2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
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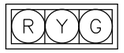
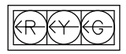
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



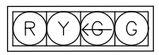
ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø7

PROPOSED SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø5

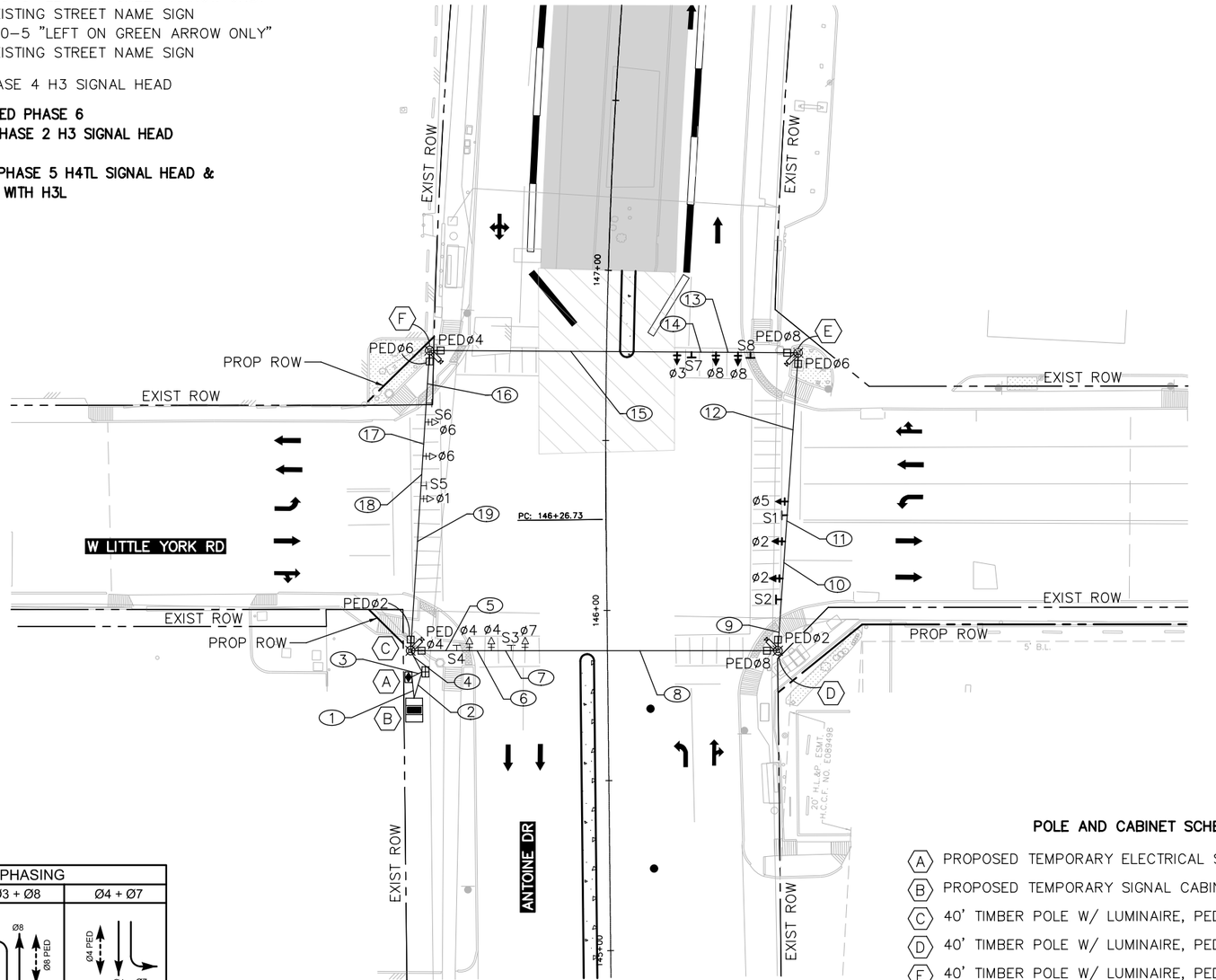
EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 4 H3 SIGNAL HEAD

UNBAG PED PHASE 6
UNBAG PHASE 2 H3 SIGNAL HEAD

REMOVE PHASE 5 H4TL SIGNAL HEAD & REPLACE WITH H3L



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

PHASE 1 STEP 7 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø2 + Ø6	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø7
Ø5, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø1	Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT PHASE 1 STEP 7

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 796 OF 1067	

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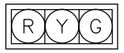
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 07 - Phase 2 Step 3 - Temp Signal Layout Sheet 7.dgn

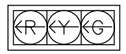
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3, ø5

PROPOSED SIGNAL HEAD SCHEDULE

4–SECTION HORIZONTAL
12" LED H4LF SIGNAL HEAD

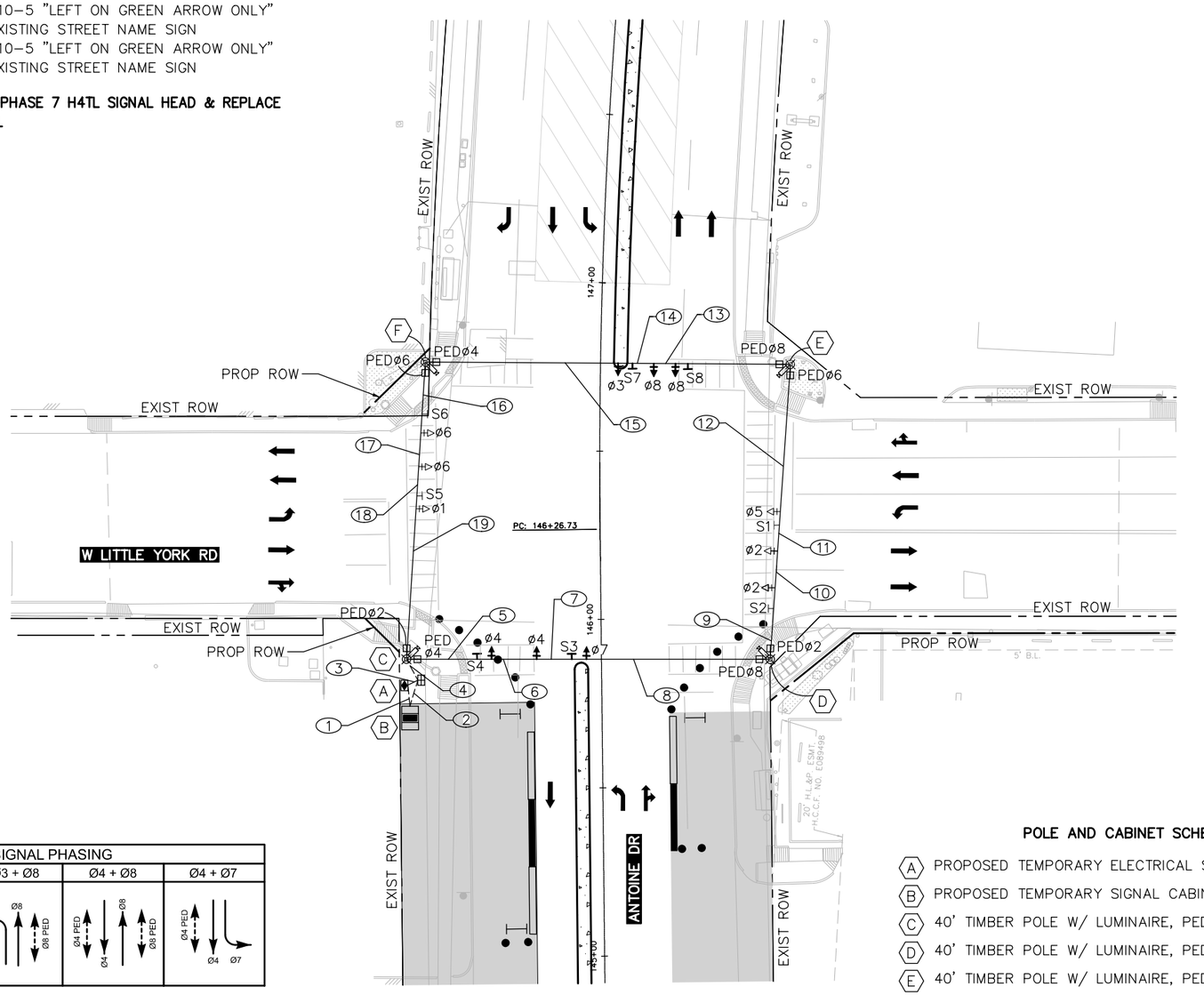


ø7

EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

REMOVE PHASE 7 H4TL SIGNAL HEAD & REPLACE WITH H3L



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

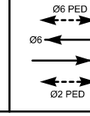
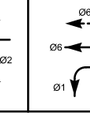
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

PHASE 2 STEP 3 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø2 + Ø6	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7
					

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Registered Professional Engineer
91759
License Number
State
3/9/2026
Date

TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT PHASE 2 STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 797 OF 1067	

EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD

(R Y G)

ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

(R Y G)

ø3, ø7

PROPOSED SIGNAL HEAD SCHEDULE

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD

(R Y G G)

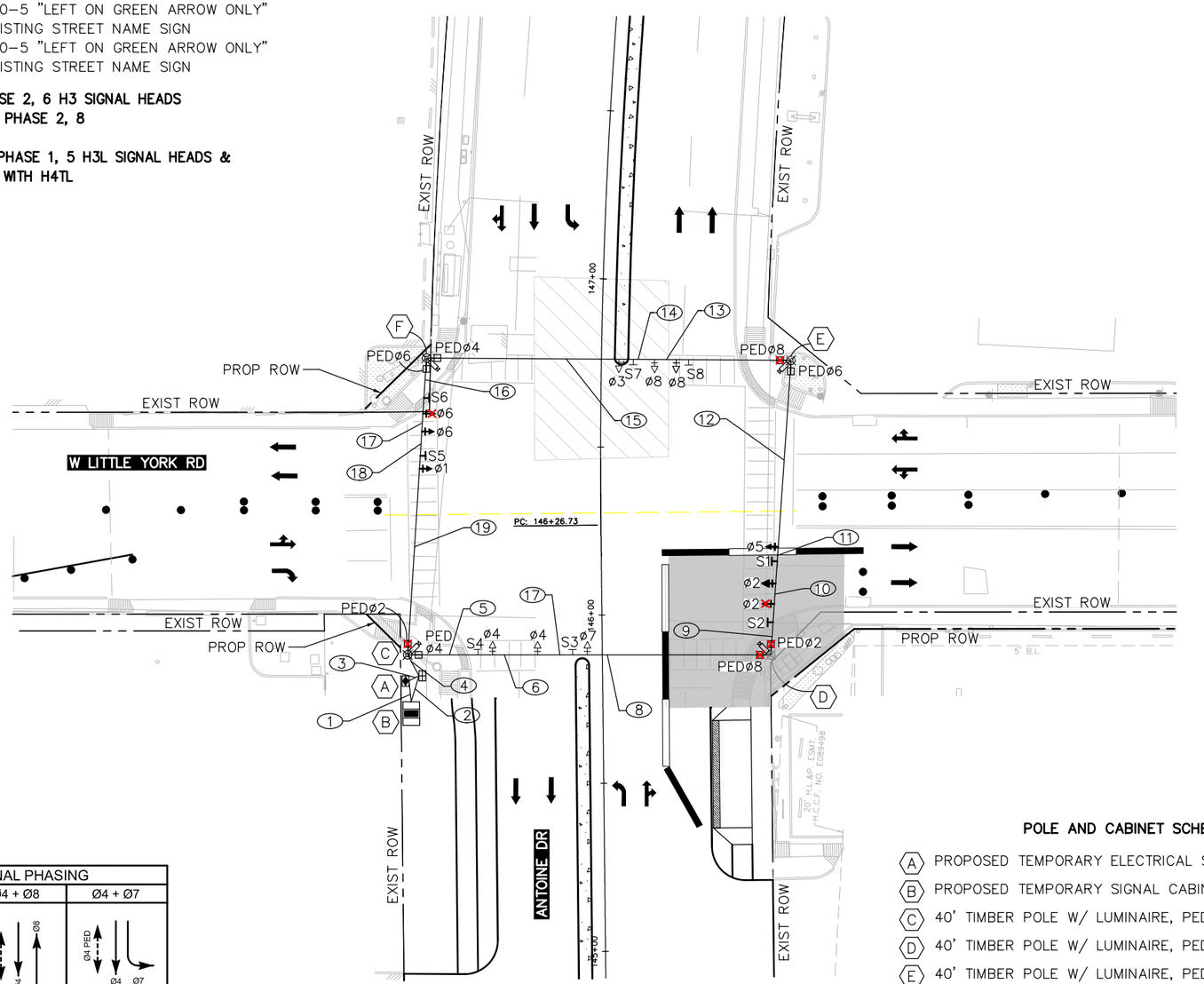
ø1, ø5

EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 2, 6 H3 SIGNAL HEADS
BAG PED PHASE 2, 8

REMOVE PHASE 1, 5 H3L SIGNAL HEADS & REPLACE WITH H4TL



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 5 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7
Ø5, Ø2	Ø6 PED, Ø6, Ø1	Ø3, Ø8	Ø4 PED, Ø4, Ø8	Ø4 PED, Ø4, Ø7

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1		1																
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 798 OF 1067	

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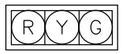
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 08 - Intersection Step 5 - Temp Signal Layout Sheet.dgn

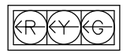
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3, ø7

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø1

PROPOSED SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø5

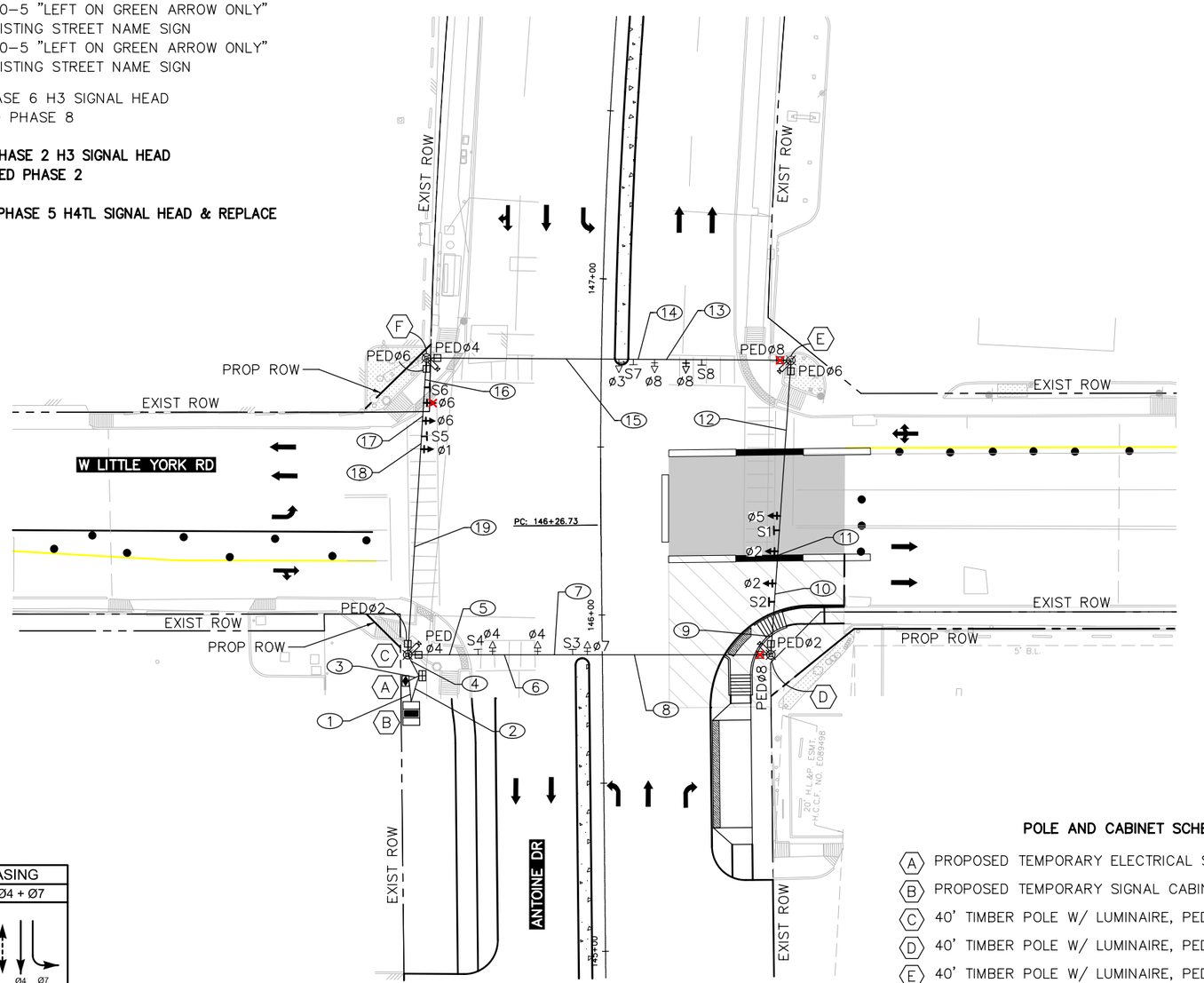
EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 6 H3 SIGNAL HEAD
BAG PED PHASE 8

UNBAG PHASE 2 H3 SIGNAL HEAD
UNBAG PED PHASE 2

REMOVE PHASE 5 H4TL SIGNAL HEAD & REPLACE WITH H3L



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 6 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø7
Ø5, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø1	Ø3, Ø8	Ø4 PED, Ø4, Ø7

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1		1																
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 799 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 09 - Intersection Step 6 - Temp Signal Layout Sheet.dgn

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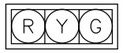
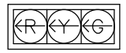
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3, ø5, ø7

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



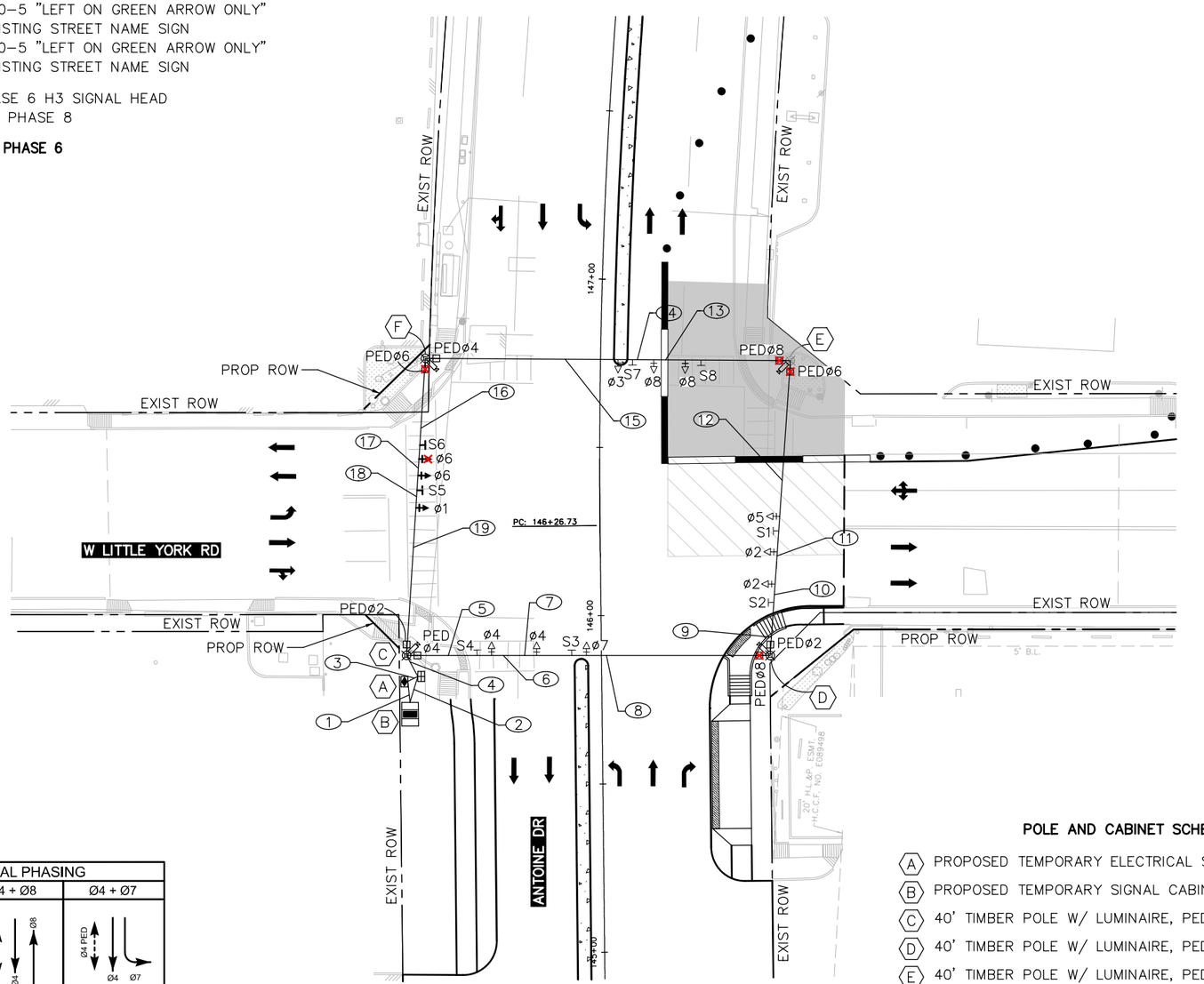
ø1

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PHASE 6 H3 SIGNAL HEAD
BAG PED PHASE 8

BAG PED PHASE 6



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

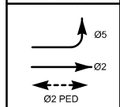
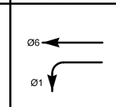
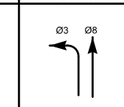
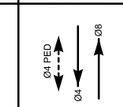
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 7 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7
				

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1		1																
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

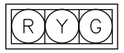
ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 7

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 800 OF 1067	

Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 10 - Intersection Step 7 - Temp Signal Layout Sheet.dgn

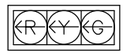
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø3, ø7

PROPOSED SIGNAL HEAD SCHEDULE

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø5

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1

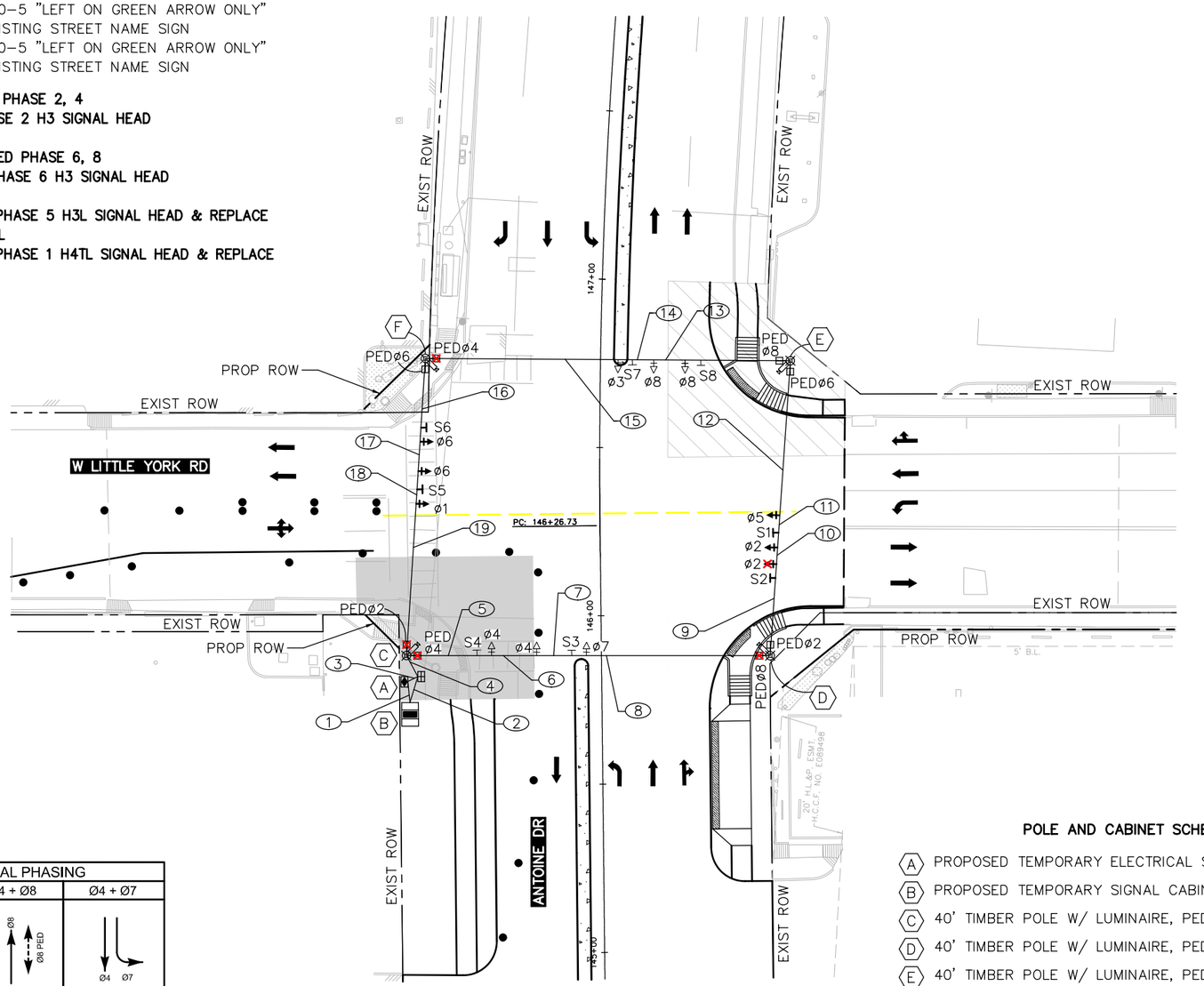
EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PED PHASE 2, 4
BAG PHASE 2 H3 SIGNAL HEAD

UNBAG PED PHASE 6, 8
UNBAG PHASE 6 H3 SIGNAL HEAD

REMOVE PHASE 5 H3L SIGNAL HEAD & REPLACE WITH H4TL
REMOVE PHASE 1 H4TL SIGNAL HEAD & REPLACE WITH H3L



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

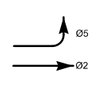
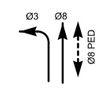
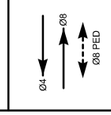
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 8 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7
				

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1		1																
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 801 OF 1067	

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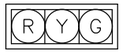
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 12 - Intersection Step 9 - Temp Signal Layout Sheet.dgn

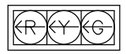
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3-SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3, ø7

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



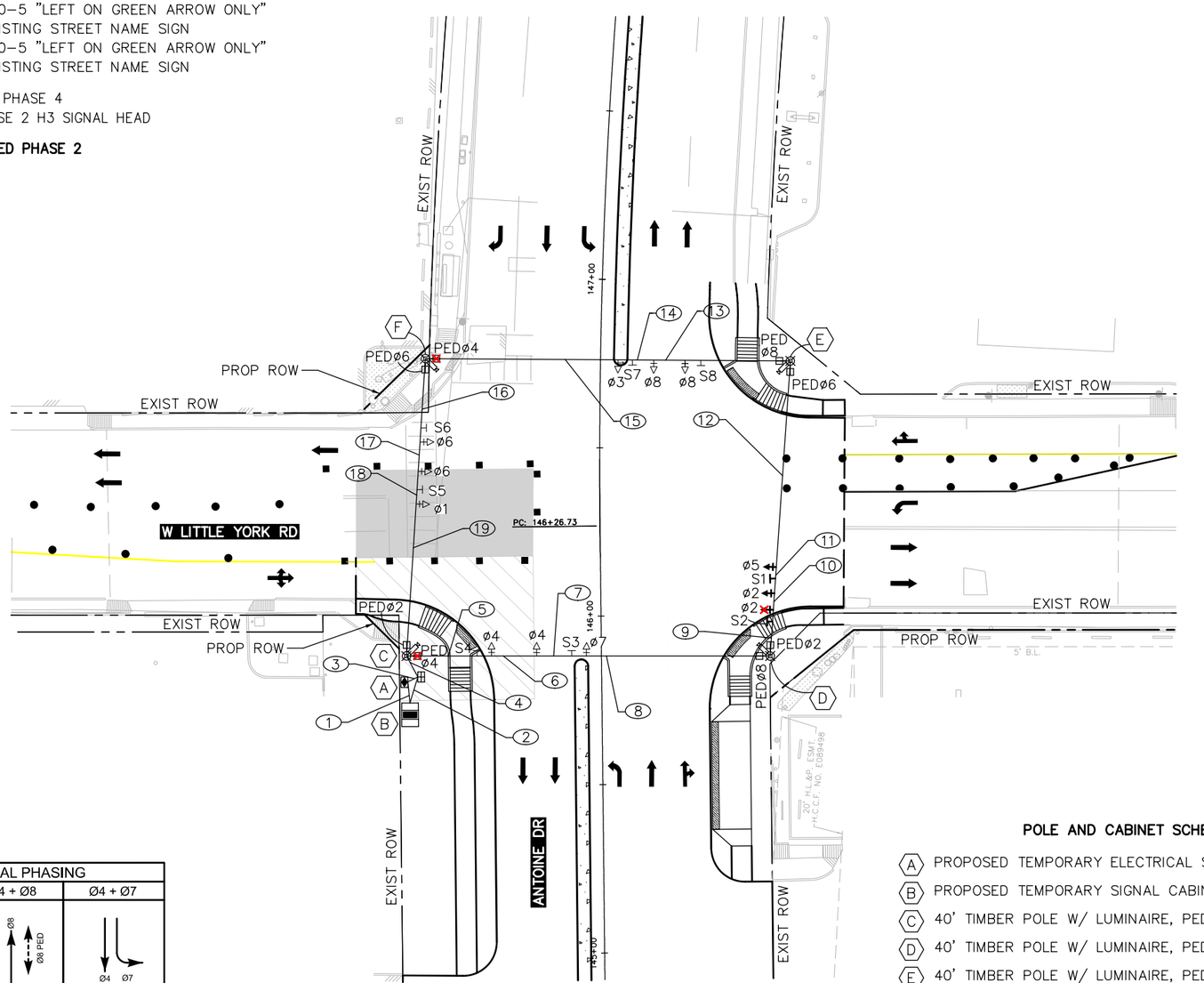
ø5

EXISTING SIGN SCHEDULE

S1 = R10-5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10-5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10-5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

BAG PED PHASE 4
BAG PHASE 2 H3 SIGNAL HEAD

UNBAG PED PHASE 2



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

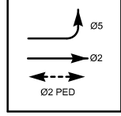
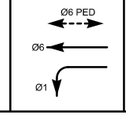
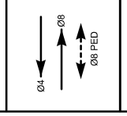
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 9 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7
				

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC	1		1																
	3 INCH PVC		1		1															
	4 INCH PVC																			

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

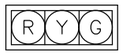
ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 9

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 802 OF 1067	

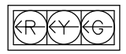
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD



ø1, ø3

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø5

PROPOSED SIGNAL HEAD SCHEDULE

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



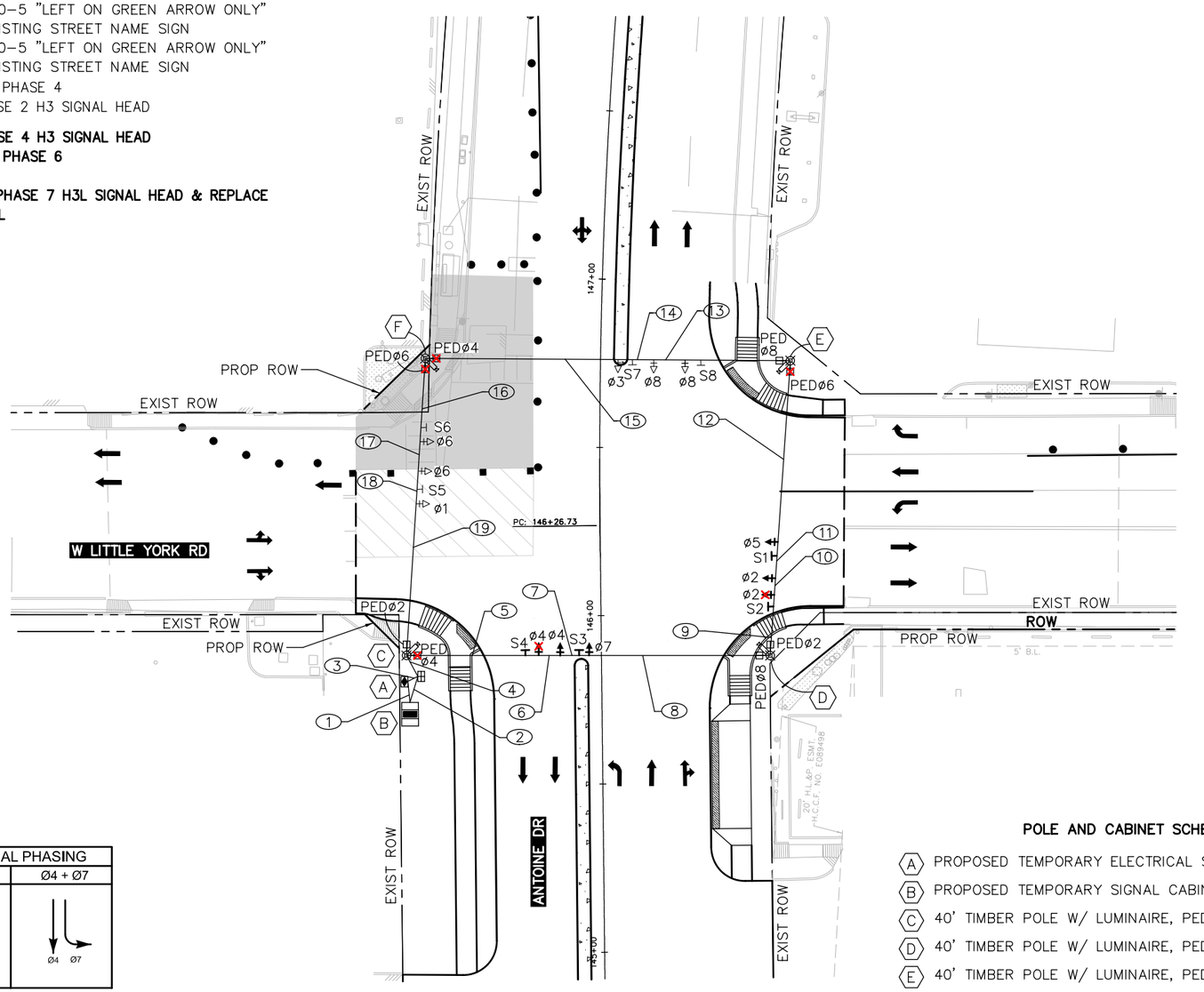
ø7

EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN
BAG PED PHASE 4
BAG PHASE 2 H3 SIGNAL HEAD

BAG PHASE 4 H3 SIGNAL HEAD
BAG PED PHASE 6

REMOVE PHASE 7 H3L SIGNAL HEAD & REPLACE WITH H4TL



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION STEP 10 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø7
Ø5, Ø2, Ø2 PED	Ø6, Ø1	Ø3, Ø8, Ø8 PED	Ø4, Ø7

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT INTERSECTION STEP 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 803 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 13 - Intersection Step 10 - Temp Signal Layout Sheet.dgn

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Plot Driver: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine-West Gulf Bank Signal Design\04 Design\03 References and Resources\Plot Styles\PDF_Color.ctb 3/9/2026 11:30:23 AM _USER_

Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\W Little York 14 - Phase 2 Step 4 - Temp Signal Layout Sheet 14.dgn

EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD

(R Y G)

ø2, ø4, ø6, ø8

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

(R Y G)

ø1, ø3

PROPOSED SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3L SIGNAL HEAD

(R Y G)

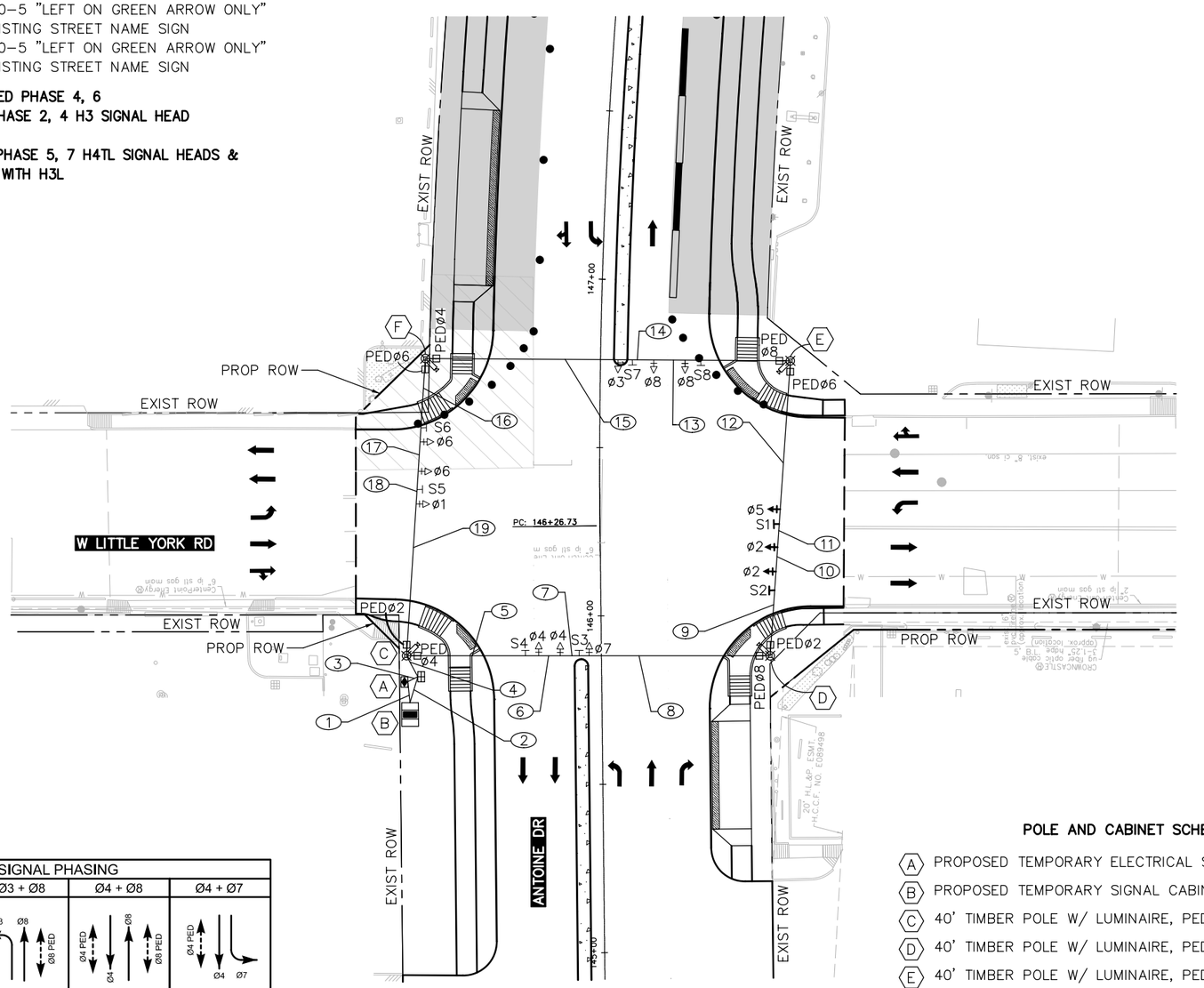
ø5, ø7

EXISTING SIGN SCHEDULE

S1 = R10–5 "LEFT ON GREEN ARROW ONLY"
S2 = EXISTING STREET NAME SIGN
S3 = R10–5 "LEFT ON GREEN ARROW ONLY"
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"
S6 = EXISTING STREET NAME SIGN
S7 = R10–5 "LEFT ON GREEN ARROW ONLY"
S8 = EXISTING STREET NAME SIGN

UNBAG PED PHASE 4, 6
UNBAG PHASE 2, 4 H3 SIGNAL HEAD

REMOVE PHASE 5, 7 H4TL SIGNAL HEADS & REPLACE WITH H3L



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

PHASE 2 STEP 4 TRAFFIC SIGNAL PHASING

Ø2 + Ø5	Ø2 + Ø6	Ø1 + Ø6	Ø3 + Ø8	Ø4 + Ø8	Ø4 + Ø7
Ø5, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø2, Ø2 PED	Ø6 PED, Ø6, Ø1	Ø3, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø8, Ø8 PED	Ø4 PED, Ø4, Ø7

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø2, AND VIVDS
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø8, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø4, PED ø6, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	2	2	2	2	1	1	1	1				1	1	1	1
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE																			
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE		8		8	4	4	4	4	2	2	2	2				2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE		12		12	6	5	4	3	3	2	1		1	2	3	3	4	5	6
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1															
POWER	SIGNAL POWER (SEE NOTE)	1		1																
VIVDS CABLE	PER MANUFACTURER		4		4	2	2	2	2	1	1	1	1				1	1	1	1
CONDUIT	1 INCH PVC																			
	2 INCH PVC	1		1		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1		1															
	4 INCH PVC																			

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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Registered Professional Engineer
91759
License Number
3/9/2026
Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DRIVE AT W LITTLE YORK RD TEMPORARY SIGNAL LAYOUT PHASE 2 STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 804 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\De Soto Temp Signal Layout Sheet 1.dgn

SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø4, ø6, ø8

4–SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø7

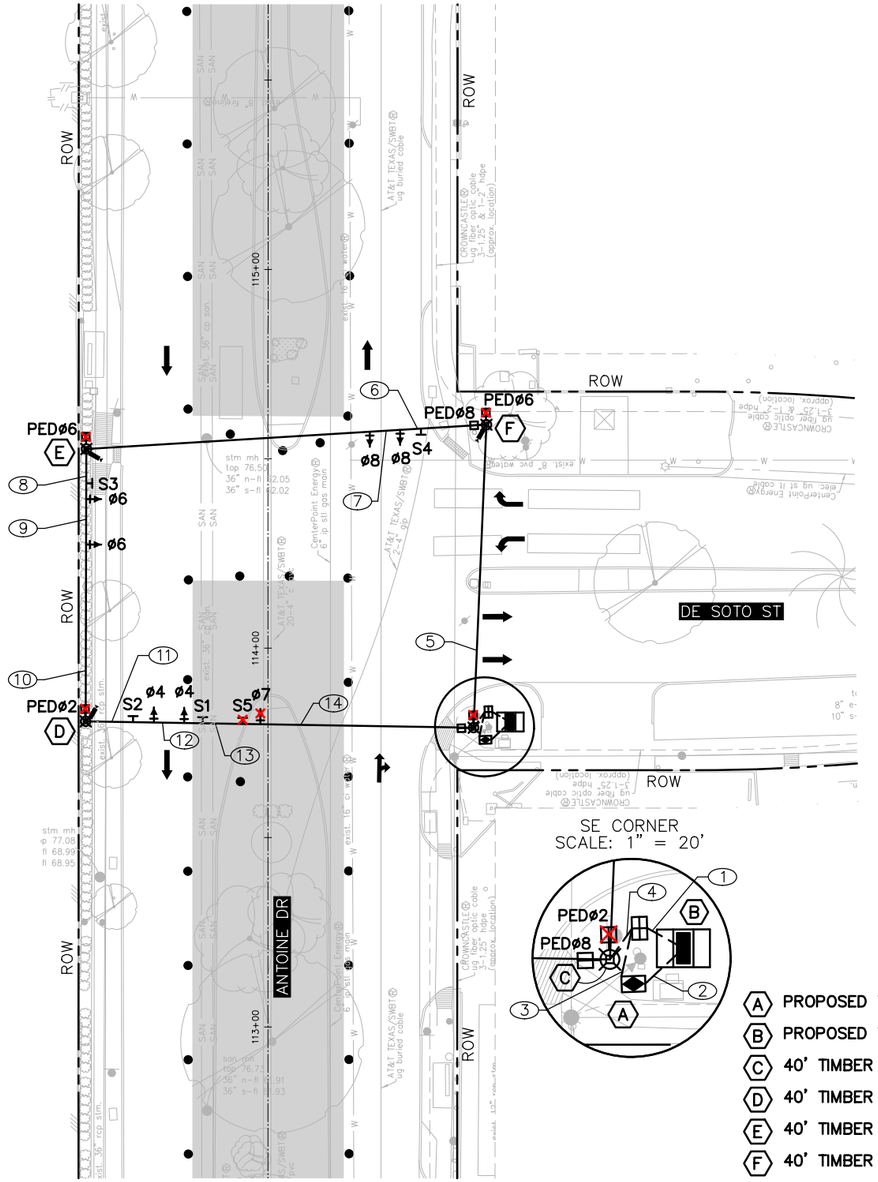
SIGN SCHEDULE

S1 = R3–2 "NO LEFT TURN"
S2 = EXISTING STREET NAME SIGN
S3 = EXISTING STREET NAME SIGN
S4 = EXISTING STREET NAME SIGN
S5 = R10–5 "LEFT ON GREEN ARROW ONLY"

BAG UNUSED SIGNAL HEADS

VEHICLE PHASE 7 NOT USED
PED PHASE 2,6 NOT USED

BAG S5



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0′ 20′ 40′
SCALE IN FEET

POLE NUMBER	LOCATION
A	STA 113+75.8 OFF 57.4' RT
B	STA 113+80.5 OFF 64.0' RT
C	STA 113+79 OFF 54.3' RT
D	STA 113+80.7 OFF 48.2' LT
E	STA 114+52.6 OFF 48.0' LT
F	STA 114+59 OFF 57.7' RT

INTERSECTION PHASE 1 STEP 1
TRAFFIC SIGNAL PHASING

Ø6	Ø4 + Ø8
Ø6 Ø6	Ø8 Ø4 Ø8 PED

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS

ITEM	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	1			1	1	1	2	2	2	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE														
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE	6			6	2			1	1	1	2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE	7			7	2	2	1		1	2	2	3	4	5
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1										
POWER	SIGNAL POWER (SEE NOTE)		2												
VIVDS CABLE	PER MANUFACTURER	3			3	1			1	1	1	2	2	2	2
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC														
	3 INCH PVC		1	1											
	4 INCH PVC	1			1										

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

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Registered Professional Engineer
3/9/2026
Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST TEMPORARY SIGNAL LAYOUT INTERSECTION PHASE 1 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 805 OF 1067	

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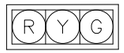
Plot Driver: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine-West Gulf Bank Signal Design\04 Design\03 References and Resources\Plot Styles\PDF_Color.ctb 3/9/2026 11:30:28 AM _USER_

EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø4, ø6, ø8

4-SECTION HORIZONTAL
12" LED H4TL SIGNAL HEAD



ø7

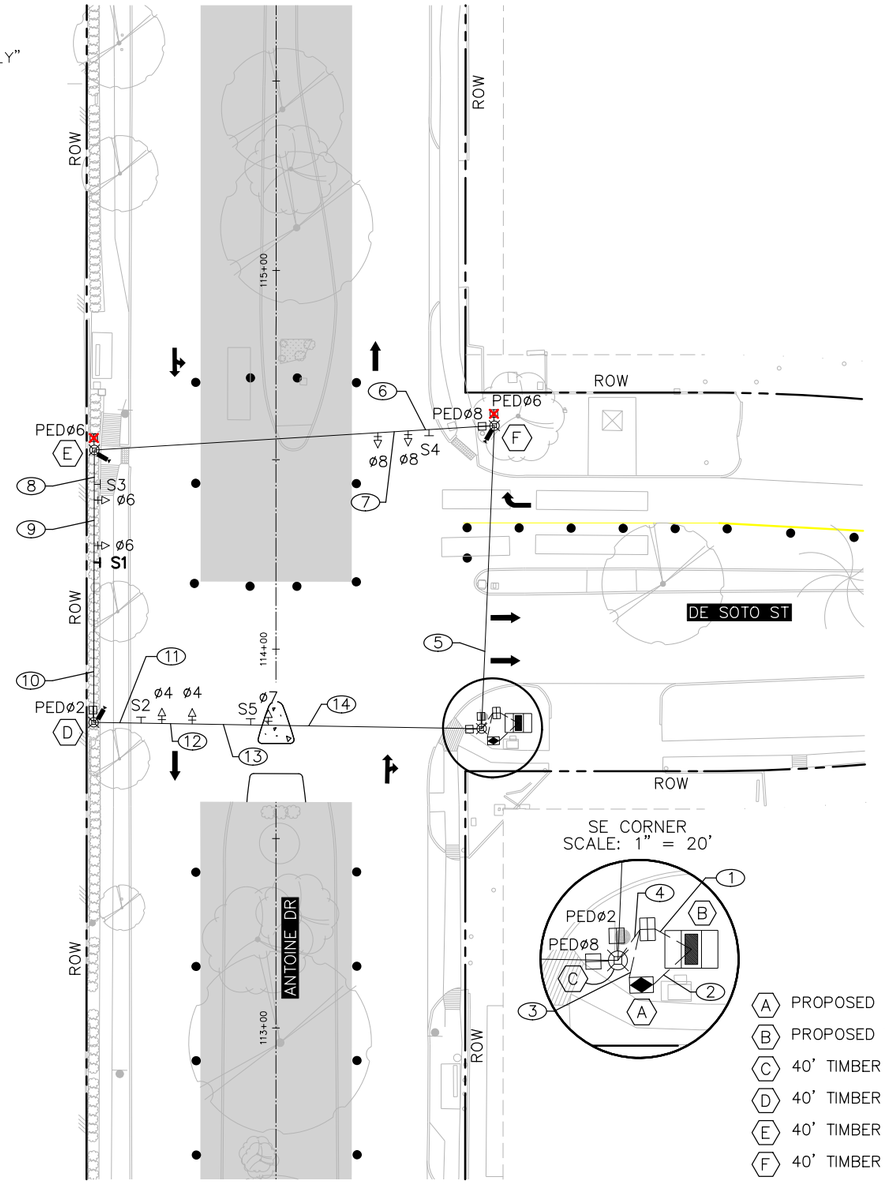
EXISTING SIGN SCHEDULE

S1 = R3-2 "NO LEFT TURN"
S2 = EXISTING STREET NAME SIGN
S3 = EXISTING STREET NAME SIGN
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"

BAG UNUSED SIGNAL HEADS
PED PHASE 6 NOT USED

UNBAG PED PHASE 2
UNBAG PHASE 7 H4TL SIGNAL HEAD

UNBAG S5
RELOCATE S1 TO WEST SPAN



SE CORNER
SCALE: 1" = 20'

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

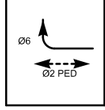
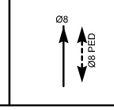
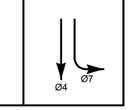
LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

INTERSECTION PHASE 1 STEP 2 TRAFFIC SIGNAL PHASING

Ø6 + Ø2 PED	Ø8	Ø4 + Ø7
		

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	1			1	1	1	2	2	2	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE														
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE	6			6	2			1	1	1	2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE	7			7	2	2	1		1	2	2	3	4	5
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1										
POWER	SIGNAL POWER (SEE NOTE)		2												
VIVDS CABLE	PER MANUFACTURER	3			3	1			1	1	1	2	2	2	2
CONDUIT	1 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	2 INCH PVC														
	3 INCH PVC		1	1											
	4 INCH PVC	1			1										

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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BRADLEY G. EAVES
91759
Registered Professional Engineer
3/9/2026
Date

TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

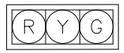
ANTOINE DR AT DE SOTO ST TEMPORARY SIGNAL LAYOUT INTERSECTION PHASE 1 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 806 OF 1067	

Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\De Soto Temp Signal Layout Sheet 2.dgn

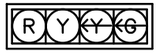
EXISTING SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø4, ø6, ø8

4-SECTION HORIZONTAL
12" LED H4LF SIGNAL HEAD



ø7

EXISTING SIGN SCHEDULE

S1 = R3-2 "NO LEFT TURN"
S2 = EXISTING STREET NAME SIGN
S3 = EXISTING STREET NAME SIGN
S4 = EXISTING STREET NAME SIGN
S5 = R10-5 "LEFT ON GREEN ARROW ONLY"

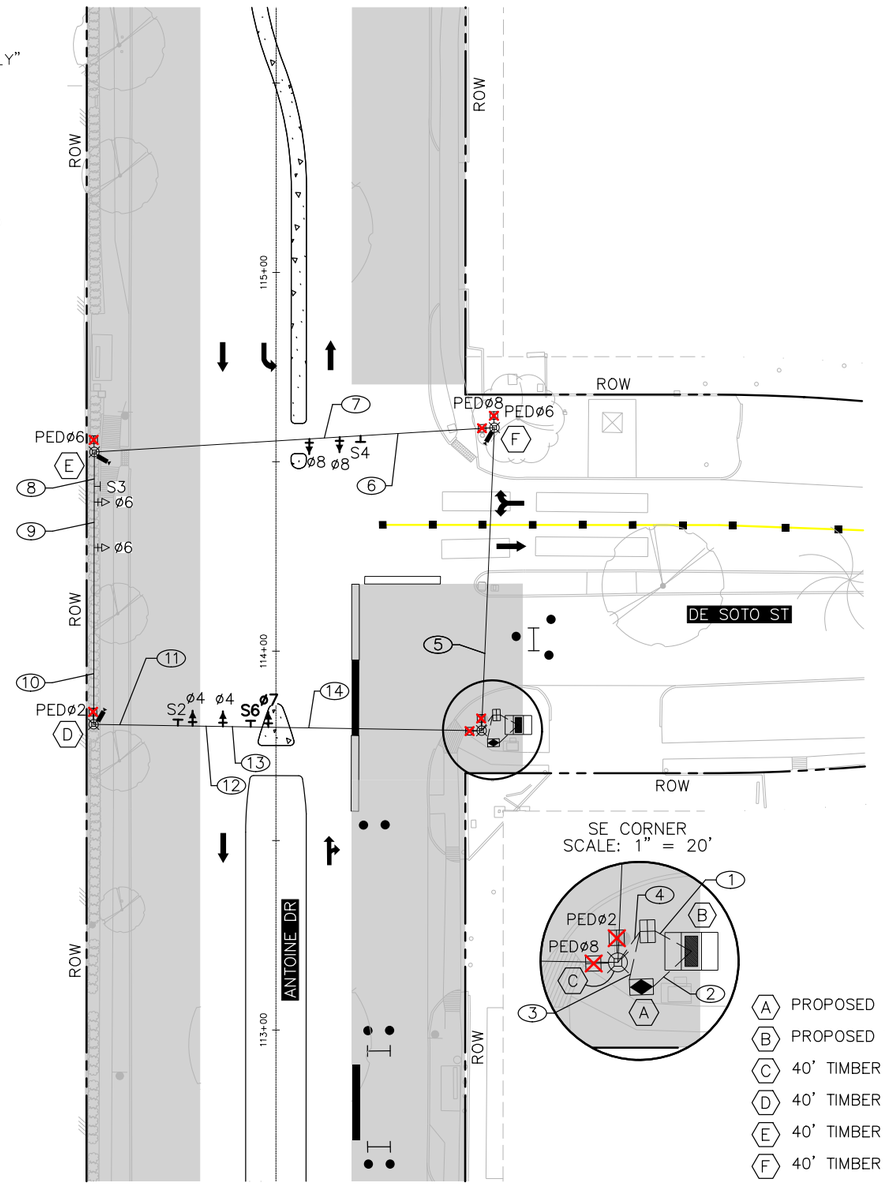
PROPOSED SIGN SCHEDULE

S6 = R10-17T "LEFT TURN YIELD ON FLASHING YELLOW ARROW"

REMOVE PHASE 7 H4TL SIGNAL HEAD AND REPLACE WITH H4LF

BAG UNUSED SIGNAL HEADS
PED PHASE 2,6,8 NOT USED

REMOVE S1, S5



TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

ø' 20' 40'
SCALE IN FEET

INTERSECTION PHASE 2 STEP 1 TRAFFIC SIGNAL PHASING

ø6	ø4 + ø8
ø6 ø6	ø8 ø7 ø4

POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	1			1	1	1	2	2	2	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE														
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE	6			6	2			1	1	1	2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE	7			7	2	2	1		1	2	2	3	4	5
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1										
POWER	SIGNAL POWER (SEE NOTE)		2												
VIVDS CABLE	PER MANUFACTURER	3			3	1			1	1	1	2	2	2	2
CONDUIT	1 INCH PVC														
	2 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1	1											
	4 INCH PVC	1			1										

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
3. EXISTING STREET NAME SIGNS TO BE RELOCATED FROM EXISTING MAST ARM.
4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
5. PED PHASE RECALL ACTIVE DURING ALL CONSTRUCTION PHASES.
6. TEMPORARY SIGNAL CABINET TO BE INSTALLED FOR TEMPORARY TRAFFIC SIGNAL.
7. CONTRACTOR TO COORDINATE ELECTRICAL SERVICE FOR TEMPORARY TRAFFIC SIGNAL.

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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BRADLEY G. EAVES
91759
Registered Professional Engineer
3/9/2026
Date

TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST TEMPORARY SIGNAL LAYOUT INTERSECTION PHASE 2 STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 807 OF 1067	

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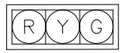
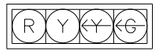
EXISTING SIGNAL HEAD SCHEDULE

3–SECTION HORIZONTAL
12" LED H3 SIGNAL HEAD



ø4, ø6, ø8

4–SECTION HORIZONTAL
12" LED H4LF SIGNAL HEAD

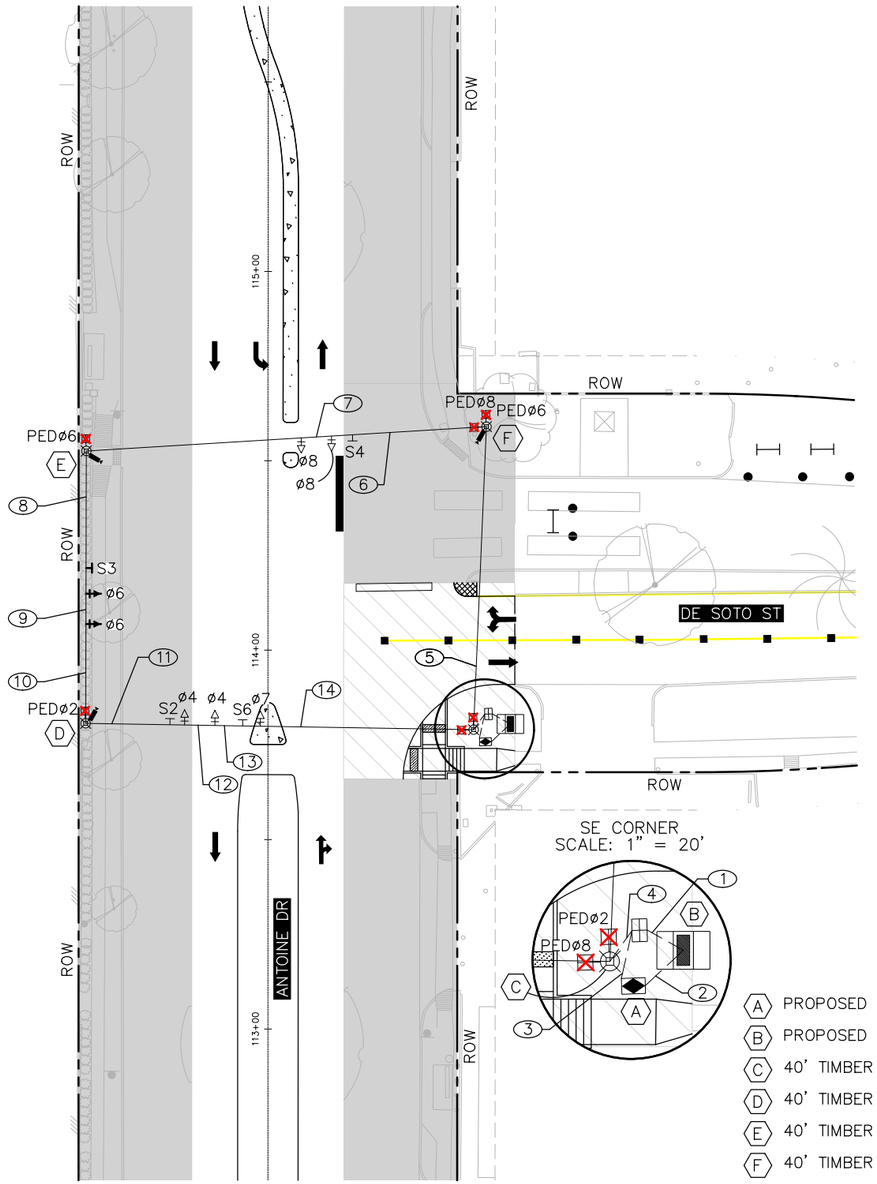


ø7

EXISTING SIGN SCHEDULE

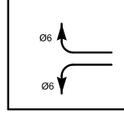
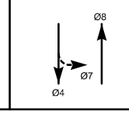
S2 = EXISTING STREET NAME SIGN
S3 = EXISTING STREET NAME SIGN
S4 = EXISTING STREET NAME SIGN
S6 = R10–17T "LEFT TURN YIELD ON FLASHING YELLOW ARROW"

BAG UNUSED SIGNAL HEADS
PED PHASE 2,6,8 NOT USED



SE CORNER
SCALE: 1" = 20'

INTERSECTION PHASE 2 STEP 1
TRAFFIC SIGNAL PHASING

Ø6	Ø4 + Ø8
	

ITEM	RUN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
LUMINAIRE & SIGN LIGHT	2 #10 AWG XHHW			4	4	1			1	1	1	2	2	2	2
PUSH BUTTON	3CC #14 AWG SOLID CONDUCTOR CABLE														
PED. SIGNAL	5CC #14 AWG SOLID CONDUCTOR CABLE	6			6	2			1	1	1	2	2	2	2
VEH. SIGNAL	7CC #14 AWG SOLID CONDUCTOR CABLE	7			7	2	2	1		1	2	2	3	4	5
GROUND BARE	BARE BOND #8 AWG SOLID	1	1	1	1										
POWER	SIGNAL POWER (SEE NOTE)		2												
VIVDS CABLE	PER MANUFACTURER	3			3	1			1	1	1	2	2	2	2
CONDUIT	1 INCH PVC														
	2 INCH PVC					SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
	3 INCH PVC		1	1											
	4 INCH PVC	1			1										

NOTES:
1. PAIRED SIGNAL HEADS TO BE 8' APART.
2. EXISTING SIGNAL TO REMAIN OPERATIONAL UNTIL TEMPORARY SIGNAL IS OPERATIONAL.
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4. VIVDS DETECTION ZONES TO BE ADJUSTED FOR EACH PHASE.
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POLE AND CABINET SCHEDULE

- (A) PROPOSED TEMPORARY ELECTRICAL SERVICE
- (B) PROPOSED TEMPORARY SIGNAL CABINET
- (C) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, PED ø8
- (D) 40' TIMBER POLE W/ LUMINAIRE, PED ø2, AND VIVDS
- (E) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, AND VIVDS
- (F) 40' TIMBER POLE W/ LUMINAIRE, PED ø6, PED ø8, AND VIVDS

TCP LEGEND

- WORK ZONE
- COMPLETED WORK
- TEMP ASPHALT
- CONSTRUCTION BARREL
- CONSTRUCTION BARRICADE

LEGEND

- SIGNAL HEAD TO REMAIN IN PLACE
- PROPOSED/RELOCATED SIGNAL HEAD
- BAGGED SIGNAL HEAD
- VIVDS DETECTOR
- OPTICOM
- POLE W/ MAST ARM
- PEDESTRIAN SIGNAL HEAD
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- CONDUIT (TRENCH)
- LUMINAIRE
- MAST ARM SIGN
- BAGGED MAST ARM SIGN
- CONTROLLER CABINET WITH BBU
- ELECTRICAL SERVICE

N

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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91759
3/9/2026

TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ANTOINE DR AT DE SOTO ST
TEMPORARY SIGNAL LAYOUT
INTERSECTION PHASE 2 STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 808 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Temp Signal Sheets\De Soto Temp Signal Layout Sheet 4.dgn

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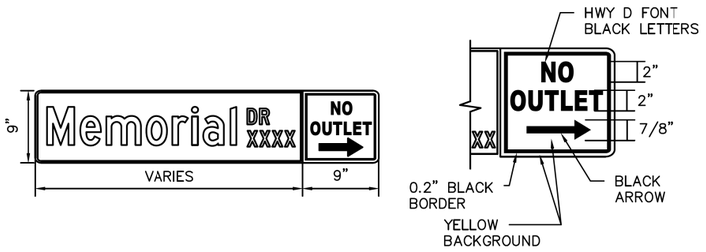
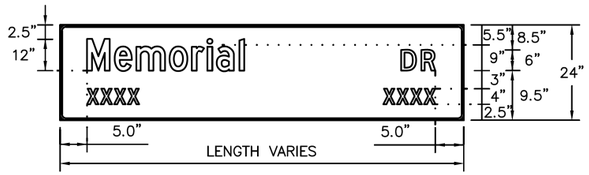
POST MOUNTED STREET NAME SIGN W/ NO OUTLET SIGN



D3 – POST MOUNTED STREET NAME SIGN



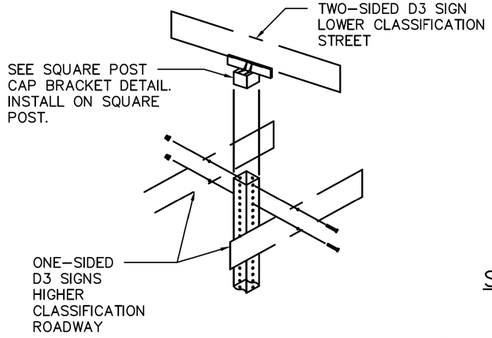
OVERHEAD STREET NAME SIGN DETAIL



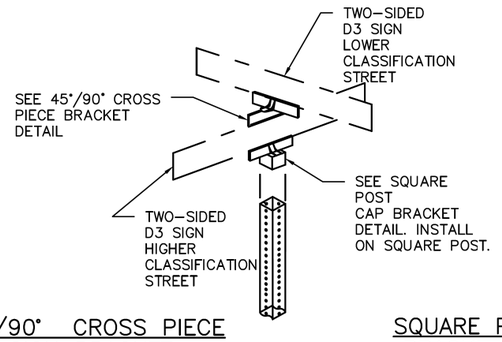
D3 – STREET NAME SIGN

	POST–MOUNTED SIGN	OVERHEAD SIGN
HEIGHT	9"	24"
LENGTH	30" MIN 48" MAX 6" INCREMENTS OF LENGTH	10" MAX 2' INCREMENT OF LENGTH
THICKNESS	0.125"	0.080"
SUBSTREATE	ALLUMINUM ALLOY, 5052–H38 (ASTM B–209)	
SIGN FACE MATERIALS	GREEN FILM OVER DIAMOND GRADE VIP SHEETING	
LEGENDS AND SYMBOLS	HIGHWAY GOTHIC SERIES D (USUAL) HIGHWAY GOTHIC SERIES C OR B FOR MAXIMUM LENGTH SIGN BLACK	
COLOR	LETTERS–WHITE REFLECTIVE BORDER–WHITE REFLECTIVE BACKGROUND–GREEN REFLECTIVE	

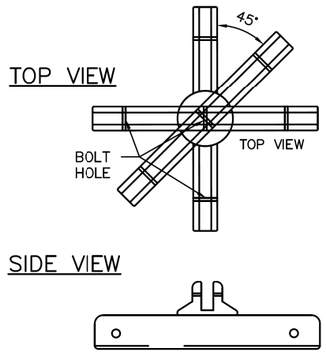
D3 SIGNS GREATER THAN 42" PLATES IN LENGTH



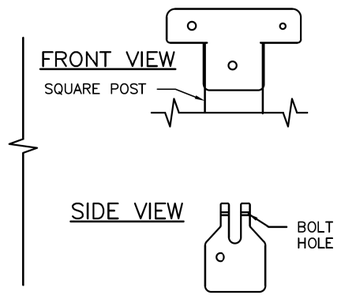
D3 SIGNS LESS THAN OR EQUAL TO 42" PLATES IN LENGTH



45°/90° CROSS PIECE SIGN BRACKET



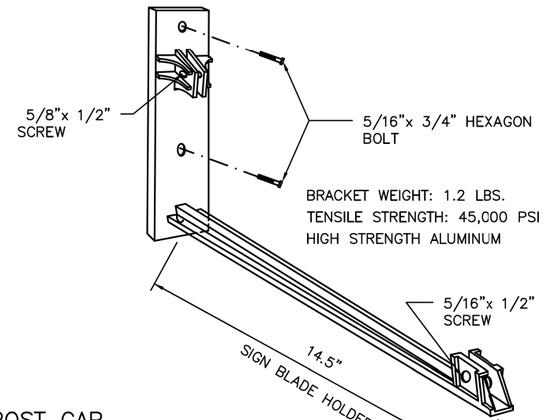
SQUARE POST CAP BRACKET DETAILS



NOTES:

1. TYPICAL SIGN PLATE SHOULD BE 30" MAX.
2. LONGER SIGN PLATE MUST BE APPROVED BY THE CITY TRAFFIC ENGINEER.

SIGNAL POLE MOUNTING DETAIL



CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET NAME SIGN AND SIGN MOUNTING

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukait Kanwar 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01554–03

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET NAME SIGN
AND SIGN MOUNTING DETAIL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 809 OF 1067	

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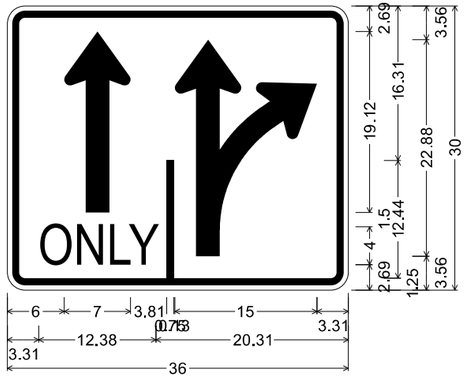
Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Detail Sheets\COH Detail sheet 01 - Street Name Sign and Sign Mounting.dgn

R3-8TTR(CUSTOM)

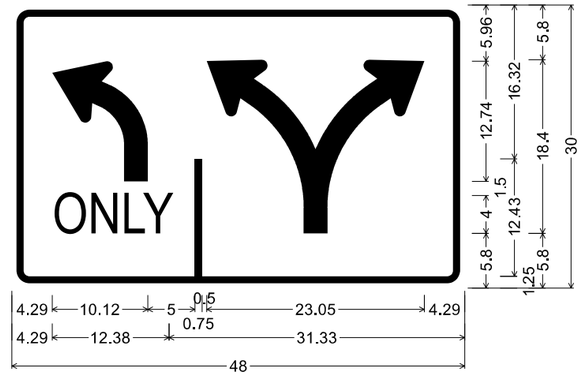


1.88" Radius, 0.75" Border, 0.50" Indent, Black on White;
S h=19.125, s=2.5;
"ONLY", D 50% spacing;
BR ir=13.25, s=2.5;
Table of distances between letter and object lefts

6.00	10.81	0.88	15.00	3.31

3.31	O 3.29	N 3.15	L 2.56	Y 3.38	20.31

R3-8LLR(CUSTOM)

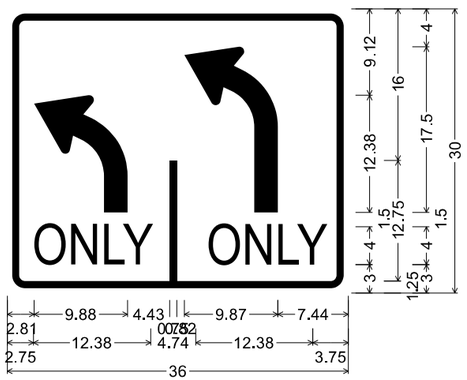


1.88" Radius, 0.75" Border, 0.50" Indent, Black on White;
L ir=4.5, s=2.5; "ONLY", D 50% spacing;
Table of distances between letter and object lefts

4.29	15.12	1.25	23.05	4.29

4.29	O 3.28	N 3.16	L 2.56	Y 3.38	31.33

R3-8LL(CUSTOM)



1.88" Radius, 0.75" Border, 0.50" Indent, Black on White;
L ir=4.25, s=2.5; "ONLY", D 50% spacing;
L ir=4.25, s=2.5; "ONLY", D 50% spacing;
Table of distances between letter and object lefts

2.81	14.31	1.57	9.87	7.44

2.75	O 3.28	N 3.16	L 2.56	Y

8.12	O 3.29	N 3.15	L 2.57	Y 3.37	3.75

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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BRADLEY G. EAVES
Registered Professional Engineer
91759
Registration Number
3/9/2026
Date

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CUSTOM SIGNS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 810 OF 1067	

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REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
STOP	R1-1	36x36
YIELD	R1-2	36x36x36
ALL WAY PLAQUE	R1-3P	18x6
YIELD HERE TO PEDISTRIANS	R1-5a	36x48
EXCEPT RIGHT TURN (PLAQUE)	R1-10P(1)	24x18
EXCEPT BUSES (PLAQUE)	R1-10P(2)	24x18
SPEED LIMIT	R2-1	30x36
MINIMUM SPEED LIMIT (PLAQUE)	R2-4P	24x30
NO RIGHT TURNS	R3-1	36x36
NO LEFT TURNS	R3-2	36x36
NO U-TURNS	R3-4	36x36
LEFT/RIGHT TURN ONLY	R3-5	30x36
THRU ONLY	R3-5a	30x36
LEFT TURN/THRU	R3-6	30x36
LEFT/RIGHT LANE MUST TURN LEFT/RIGHT	R3-7	36x36
ADVANCE INTERSECTION LANE CONTROL (VARIES)	R3-8	VARIESx30
TWO-WAY LEFT TURN ONLY (OVERHEAD)	R3-9a	30x36
TWO-WAY LEFT TURN LANE (POST MOUNTED)	R3-9b	24x36
BEGIN	R3-9cP	30x12
END	R3-9dP	30x12
REVERSIBLE LANE CONTROL (SYMBOL)	R3-9e	108x48
REVERSIBLE LANE CONTROL (POST MOUNTED)	R3-9f	36x54
ADVANCE REVERSIBLE LANE CONTROL TRANSITION	R3-9g,9h	108x36
END REVERSIBLE LANE	R3-9i	108x48
BIKE LANE	R3-17	24x18
SLOWER TRAFFIC KEEP RIGHT	R4-3	24x30
BEGIN RIGHT TURN LANE YIELD TO BIKES	R4-4	36x30
KEEP RIGHT	R4-7	24x30
KEEP LEFT	R4-8	24x30
DO NOT DRIVE ON SHOULDER	R4-17	24x30
DO NOT PASS ON SHOULDER	R4-18	24x30
DO NOT ENTER	R5-1	36x36
WRONG WAY	R5-1a	42x30
NO TRUCKS (SYMBOL)	R5-2(1)	24x24
NO THRU TRUCKS (TEXT)	R5-2(2)	24x30
ONE WAY (LONG)	R6-1	54x18
ONE WAY	R6-2	30x36
ROUNDABOUT DIRECTIONAL (2 CHEVRONS)	R6-4	30x24
ROUNDABOUT CIRCULATION (PLAQUE)	R6-5P	30x30
BEGIN ONE WAY	R6-6	30x36
END ONE WAY	R6-7	30x36
PARKING RESTRICTION (ARROW)	R7-2(1)	12x18
PARKING RESTRICTION (TO CORNER)	R7-2(2)	12x18
PARKING RESTRICTION (BUS ZONE)	R7-2(3)	12x18

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
PARKING RESTRICTION (VALET ZONE)	R7-2(4)	12x18
PARKING RESTRICTION (PEAK PERIOD)	R7-2(5)	12x18
PARKING RESTRICTION (EMERGENCY VEH. ONLY)	R7-2(6)	12x18
PARKING RESTRICTION (TAXI ZONE)	R7-2(7)	12x18
PARKING RESTRICTION (NO STOPPING OR STANDING)	R7-2(8)	12x18
PARKING RESTRICTION (JITNEY STOP)	R7-2(9)	12x18
PARKING RESTRICTION (PED-CAB ZONE)	R7-2(10)	12x18
PARKING RESTRICTION (LIMO ZONE)	R7-2(11)	12x18
PARKING RESTRICTION (COMMERCIAL VEH. ZONE)	R7-2(12)	12x18
PARKING RESTRICTION (FED/CITY AUTHORIZED VEH. ONLY)	R7-2(13)	12x18
PARKING RESTRICTION (U.S. MARSHAL PARKING ONLY)	R7-2(14)	12x18
PARKING RESTRICTION (EMERGENCY)	R7-2(15)	12x18
PARKING TIME LIMIT (VARIES)	R7-108	12x18
HANDICAPPED PARKING	R7-8T	12x18
TOW AWAY ZONE (PLAQUE)	R7-201P	12x6
PARKING METER (COH)	R7-110	12x18
ON TRACKS (PLAQUE)	R8-3eP	24x18
CROSS ONLY AT CROSSWALKS (SYMBOL)	R9-2	12x18
NO PEDESTRIAN CROSSING (SYMBOL)	R9-3	18x18
NO PEDESTRIAN CROSSING	R9-3a	12x18
PEDESTRIAN CROSSING	R9-8	36x18
SIDEWALK CLOSED	R9-9	24x12
SIDEWALK CLOSED-USE OTHER SIDE	R9-10	24x12
SIDEWALK CLOSED CROSS HERE	R9-11a	24x12
PUSH BUTTON FOR PEDESTRIAN CROSSING	R10-3e	9x15
LEFT ON GREEN ARROW ONLY	R10-5	30x36
STOP HERE ON RED	R10-6	24x36
DO NOT BLOCK INTERSECTION	R10-7	24x30
LEFT/RIGHT TURN SIGNAL	R10-10	30x36
NO TURN ON ROAD (TEXT)	R10-11a	36x48
LEFT TURN YIELD ON GREEN	R10-12	30x36
CROSSWALK, STOP ON RED	R10-23	24x30
KEEP OFF MEDIAN	R11-1	24x30
ROAD CLOSED	R11-2	48x30
ROAD CLOSED LOCAL TRAFFIC ONLY	R11-3a	60x30
BRIDGE OUT LOCAL TRAFFIC ONLY	R11-3b	60x30
ROAD CLOSED TO THRU TRAFFIC	R11-4	60x30
WEIGHT LIMIT XX TONS	R12-1	24x30
AXLE WEIGHT LIMIT XX TONS/LBS	R12-2	24x30
NO TRUCKS OVER XX TONS/LBS EMPTY WEIGHT	R12-3	24x36
WEIGHT LIMIT XX TONS PER AXLE XX TONS GROSS	R12-4	36x24
LOAD ZONED BRIDGE	R12aT	VARIESx36
TRUCK ROUTE	R14-1	24x18
GRADE CROSSING (CROSSBUCK)	R15-1	48x9
NUMBER OF TRACKS (PLAQUE)	R15-2P	27x18

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
RIGHT ANGLE TURN	CW1-1	36X36
HORIZONTAL CURVE	CW1-2	36X36
REVERSE RIGHT ANGLE TURNS	CW1-3	36X36
REVERSE HORIZONTAL CURVES	CW1-4	36X36
REVERSE CURVE (2 LANES)	CW1-4b	36X36
REVERSE CURVE (MORE THAN 2 LANES)	CW1-4c	36X36
ONE-DIRECTION LARGE ARROW	CW1-6	48X24
UPWARD SLOPING ARROW	CW1-6aT	36X36
CHEVRON	CW1-8	18X24
STOP AHEAD	CW3-1	36X36
SIGNAL AHEAD	CW3-3	36X36
BE PREPARED TO STOP	CW3-4	36X36
ROAD NARROWS	CW5-1	36X36
NARROW BRIDGE	CW5-2	36X36
TWO-WAY TRAFFIC FLOW	CW6-3	36X36
TWO-WAY TRAFFIC	CW6-4	12X18
BUMP	CW8-1	36X36
DIP	CW8-2	36X36
SOFT SHOULDER	CW8-4	36X36
TRUCK CROSSING	CW8-6	36X36
ROUGH ROAD	CW8-8	36X36
UNEVEN LANES	CW8-11	36X36
LEFT LANE ENDS	CW9-1(1)	36X36
RIGHT LANE ENDS	CW9-1(2)	36X36
DOUBLE ARROW	CW12-1	30X30
ADVISORY SPEED (PLAQUE)	CW13-1P	24X24
XX FEET (PLAQUE)	CW16-2P	24X18
AHEAD (PLAQUE)	CW16-3	24X12
ROAD WORK AHEAD	CW2C-1	36X36
DETOUR AHEAD	CW2C-2	36X36
ROAD CLOSED AHEAD	CW2C-3	36X36
ONE LANE ROAD	CW2C-4	36X36
LEFT LANE CLOSED	CW2C-5(1)	36X36
RIGHT LANE CLOSED	CW2C-5(2)	36X36
FLAGGER (SYMBOL)	CW2C-7	36X36
NARROW LANES AHEAD	CW2C-8T	36X36
SHOULDER WORK AHEAD	CW21-5	36X36
UTILITY WORK AHEAD	CW21-7	36X36
DOUBLE REVERSE CURVE (1 LANE)	CW24-1	36X36
DOUBLE REVERSE CURVE (2 LANE)	CW24-1a	36X36
DOUBLE REVERSE CURVE (3 LANE)	CW24-1b	36X36
END ROAD WORK	G20-2	36X18
DETOUR WITH ARROWS	M4-9	30X24
END DETOUR	M4-8a	24X18
PEDESTRIAN DETOUR	M4-9b	30X24
DETOUR	M4-10	48X18

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A3DC41057282453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-08

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CITY OF HOUSTON SIGNS

SHEET 1 OF 2

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
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Texas 91759 Registered Engineer
3/9/2026 Date
TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TYPICAL CITY OF HOUSTON SIGNS
SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 811 OF 1067	

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WARNING SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
RIGHT ANGLE TURN CURVE	W1-1	30x30
RIGHT ANGLE TURN WITH SPEED LIMIT	W1-1a	36x36
HORIZONTAL CURVE	W1-2	30x30
HORIZONTAL CURVE WITH SPEED LIMIT	W1-2a	36x36
REVERSE RIGHT ANGLE TURN	W1-3	30x30
REVERSE HORIZONTAL CURVE	W1-4	30x30
WINDING ROAD	W1-5	30x30
ONE DIRECTION LARGE ARROW	W1-6	48x24
TWO DIRECTION LARGE ARROW	W1-7	48x24
CHEVRON ALIGNMNET	W1-8	18x24
HAIRPIN CURVE	W1-11	30x30
TRUCK ROLLOVER	W1-13	36x36
CROSS ROAD	W2-1	30x30
SIDE STREET T-INTERSECTION (SYMBOL)	W2-2	30x30
T- INTERSECTION (SYMBOL)	W2-4	30x30
Y- INTERSECTION (SYMBOL)	W2-5	30x30
ROUNDABOUT (SYMBOL)	W2-6	30x30
STOP AHEAD	W3-1	30x30
SIGNAL AHEAD	W3-3	30x30
REDUCED SPEED LIMIT AHEAD	W3-5	36x36
MERGE	W4-1	36x36
LANE ENDS	W4-2	36x36
ADDED LANE	W4-3	36x36
CROSS TRAFFIC DOES NOT STOP (PLAQUE)	W4-4P	24x12
ROAD NARROWS	W5-1	36x36
NARROW BRIDGE	W5-2	36x36
DIVIDED HIGHWAY	W6-1	36x36
DIVIDED HIGHWAY ENDS	W6-2	36x36
TWO WAY TRAFFIC (SYMBOL)	W6-3	36x36
BUMP	W8-1	30x30
DIP	W8-2	30x30
PAVEMENT ENDS	W8-3	36x36
SOFT SHOULDER	W8-4	36x36
TRUCK CROSSING	W8-6	36x36
LOOSE GRAVEL	W8-7	36x36
ROUGH ROAD	W8-8	36x36
UNEVEN LANES	W8-11	36x36
WATCH FOR ICE ON BRIDGE	W8-13T	36x36
SHOULDER DROP-OFF (SYMBOL)	W8-17	30x30
SHOULDER DROP-OFF (PLAQUE)	W8-17P	24x18

WARNING SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
FLOOD GAUGE	W8-19	12X72
NO SHOULDER	W8-23	36x36
SHOULDER ENDS	W8-25	36x36
LEFT LANE ENDS	W9-1(1)	36x36
RIGHT LANE ENDS	W9-1(2)	36x36
LANE ENDS MERGE LEFT	W9-2(1)	36x36
LANE ENDS MERGE RIGHT	W9-2(2)	36x36
GRADE CROSSING ADVANCE WARNING	W10-1	30 DIA
NO TRAIN HORN	W10-9	36x36
NO TRAIN HORN (PLAQUE)	W10-9P	30x24
BICYCLE	W11-1	30x30
PEDESTRIAN	W11-2	36x36
EMERGENGY VEHICLE	W11-8	30x30
HANDICAPPED	W11-9	30x30
TRUCK	W11-10	30x30
EMERGENGY SIGNAL AHEAD (PLAQUE)	W11-12P	36x30
BICYCLE/PEDESTRIAN	W11-15	30x30
TRAIL CROSSING (PLAQUE)	W11-15P	24x18
DOUBLE ARROW	W12-1	30x30
LOW CLEARANCE WITH ARROWS	W12-2	36x36
LOW CLEARANCE	W12-2a	78x24
LOADED ZONED BRIDGE	W12-5T	36x36
ADVISORY SPEED (PLAQUE)	W13-1P	18x18
NO OUTLET	W14-2	24x24
NO OUTLET WITH ARROW	W14-2a	36x6
SHARE THE ROAD (PLAQUE)	W16-1P	18x24
XX FEET (PLAQUE)	W16-2P	24x18
NEXT XX FEET (PLAQUE)	W16-4P	30x24
SUPPLEMENTAL LEFT ARROW (PLAQUE)	W16-5P(1)	24x18
SUPPLEMENTAL RIGHT ARROW (PLAQUE)	W16-5P(2)	24x18
DIAGONAL ARROW (PLAQUE)	W16-7P	24x12
AHEAD (PLAQUE)	W16-9P	24x12
WHEN FLASHING (PLAQUE)	W16-13F	24x18
ROUNDABOUT (PLAQUE)	W16-17	24x12
SPEED HUMP	W17-1	30x30
TYPE 3 OBJECT MARKER (LEFT)	OM3-L	12x36
TYPE 3 OBJECT MARKER (RIGHT)	OM3-R	12x36
TYPE 3 OBJECT MARKER (CENTER)	OM3-C	12x36
TYPE 4 OBJECT MARKER	OM4-1	18x18

BICYCLE SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
STOP	R1-1	18x18
STREET NAME	D3-1	VARIESx6
YIELD	R1-2	18x18x18
TO REQUEST GREEN WAIT ON SYMBOL	R10-22	12x18
YIELD TO PEDESTRIAN	R9-6	18x18
NO PARKING BIKE LANE	R7-9	12x18
BIKE ROUTE	D11-1	24x18
BIKE ROUTE TO DOWNTOWN	D11-1c	24x18
BIKE SIGN AUXILARY SIGNS	M4-', M4-14	12x6
BICYCLE ROUTE ROUTE ARROW SIGNS	M5-',2; M6-',2,3,4,5,6,7	12x9
WALK YOUR BIKE (CUSTOM SIGN)	R9-8 CoH	12x18
YIELD TO PED/BIKE (CUSTOM SIGN)	R1-5PB	36x36
TURNING VEHICLES YIELD TO PED/BIKE (CUSTOM SIGN)	R10-15PB	36x36
STOP FOR PED/BIKE (CUSTOM SIGN)	R1-5PBb	36x36
TURNING VEHICLES STOP FOR PED/BIKE (CUSTOM SIGN)	R10-15PBa	36x36
CROSSWALK STOP ON RED (CUSTOM SIGN)	R10-23 (CoH)	42x30
PEDESTRAIN CROSSING (CUSTOM SIGN)	W11-2 (HAWK)	48x30
LOOK BOTH WAYS (CUSTOM SIGN)	W4-4Pa (BIKE) W4-4Pb (BIKE)	VARIES
TURN WIDE (CUSTOM SIGN)	R3-8 (BIKE)	30x36
BIKE MERGE AHEAD (CUSTOM SIGN)	W11-1 (MERGE)	36x36

SCHOOL SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
SCHOOL	S1-1(FYG)	36x36
X:XX TO X:XX AM AND PM (PLAQUE)	S4-1P	24x10
SCHOOL (PLAQUE)	S4-3P(FYG)	24x8
WHEN FLASHING (PLAQUE)	S4-4P	24x10
REDUCED SCHOOL SPEED LIMIT AHEAD	S4-5a(FYG)	36x36
SCHOOL SPEED LIMIT XX WHEN FLASHING	S5-1(FYG)	24x48
END SCHOOL ZONE	S5-2	24x30
END SCHOOL ZONE (PLAQUE)	S5-2aTP	24x10
CELL PHONE USE PROHIBITED	S7-1T	24x18
TURN ARROW (PLAQUE)	SW16-5P(FYG)	24x12
ADVANCE TURN ARROW (PLAQUE)	SW16-6P(FYG)	24x12
DIAGONAL ARROW (PLAQUE)	SW16-7P(FYG)	24x12
AHEAD (PLAQUE)	S16-9P(FYG)	24x12

FYG- FLUORESCENT YELLOW-GREEN BACKGROUND COLOR

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APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01554-09

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CITY OF HOUSTON SIGNS

SHEET 2 OF 2

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TYPICAL CITY OF HOUSTON SIGNS
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 812 OF 1067	

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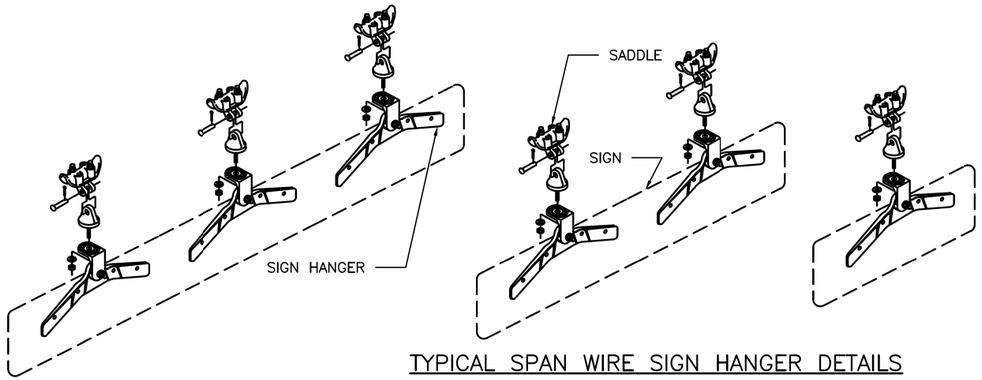
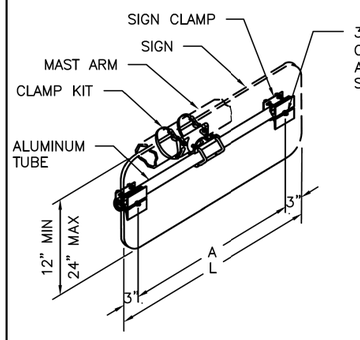


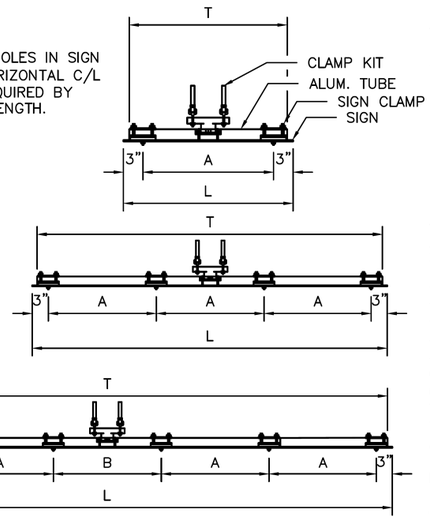
TYPICAL SPAN WIRE SIGN HANGER DETAILS



NOTES:

1. CONTRACTOR SHALL USE PELCO PARTS OR AN APPROVED EQUAL.
2. CONTRACTOR SHALL FURNISH ALL HARDWARE FOR A COMPLETE INSTALLATION.
3. THE 90 DEGREE SPAN WIRE CLAMPS (SADDLES) ARE ATTACHED TO TETHERS (SWAY CABLES).
4. CONTRACTOR SHALL FURNISH ONE (1) ADJUSTABLE FREE SWINGING SIGN HANGER PER STREET NAME SIGN SMALLER THAN 3'–0". SIGNS 3'–0" TO 6'–0" REQUIRE TWO (2) HANGERS. SIGNS LARGER THAN 6'–0" REQUIRE THREE (3) HANGERS.
5. SEE SIGN MOUNTING SERIES FOR STREET NAME SIGN DETAILS.





TYPICAL MAST ARM SIGN MOUNT DETAILS

SIGNS (1'–6" TO 3'–0" LONG)

SIGN LENGTH (L)	TUBE LENGTH (T)	A
1'–6"	16"	12"
2'–0"	22"	18"
2'–6"	28"	24"
3'–0"	34"	30"

MAXIMUM SIGN HEIGHT: 48"

SIGNS (3'–6" TO 8'–0" LONG)

SIGN LENGTH (L)	TUBE LENGTH (T)	A
3'–6"	40"	12"
4'–0"	46"	14"
4'–6"	52"	16"
5'–0"	58"	18"
5'–6"	64"	20"
6'–0"	70"	22"
6'–6"	76"	24"
7'–0"	82"	26"
7'–6"	88"	28"
8'–0"	94"	30"

MAXIMUM SIGN HEIGHT: 24"

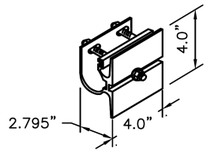
SIGNS (8'–6" TO 10'–0" LONG)

SIGN LENGTH (L)	TUBE LENGTH (T)	A	B
8'–6"	100"	19"	20"
9'–0"	106"	20"	22"
9'–6"	112"	21"	24"
10'–0"	118"	22"	26"

MAXIMUM SIGN HEIGHT: 16"

SIGN SQUARE FOOTAGE NOT TO EXCEED ROTATIONAL RESISTANCE CAPACITY DEFINED BY MOUNTING HARDWARE MANUFACTURER.

GUSSETED TUBE CROSS SECTION



SIGN CLAMP DETAIL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

OVERHEAD STREET NAME SIGN MOUNTING DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 8EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01554–11

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

OVERHEAD STREET NAME SIGN MOUNTING DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 813 OF 1067	

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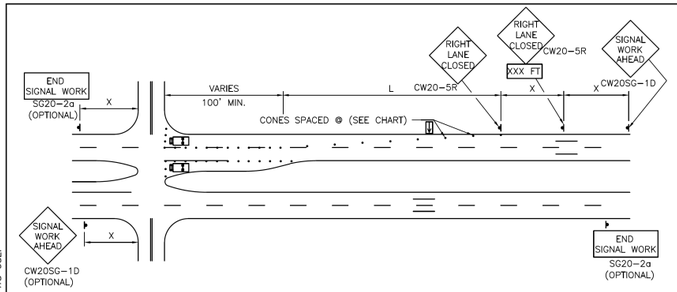
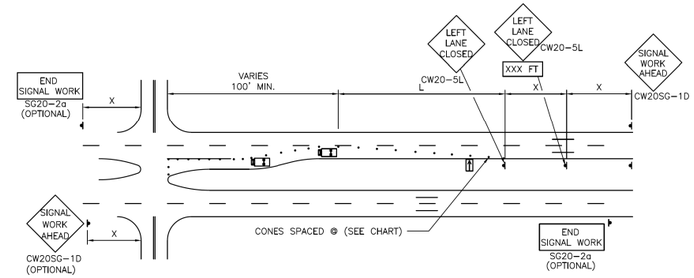
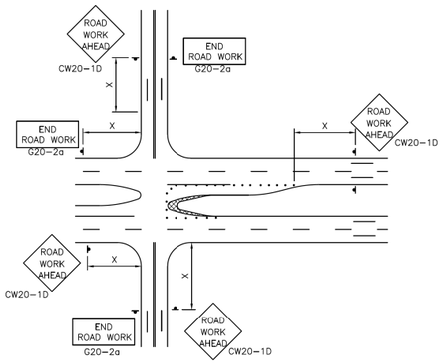


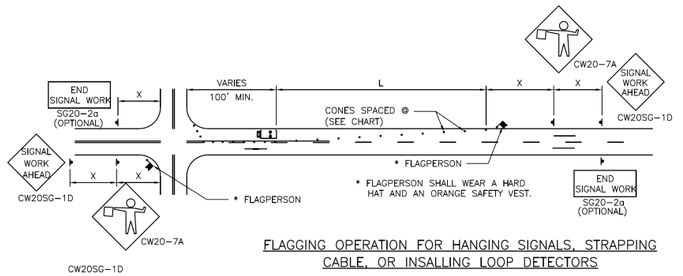
ONE LANE CLOSURE W/ RIGHT LANE AND/OR LEFT TURN LANE CLOSED



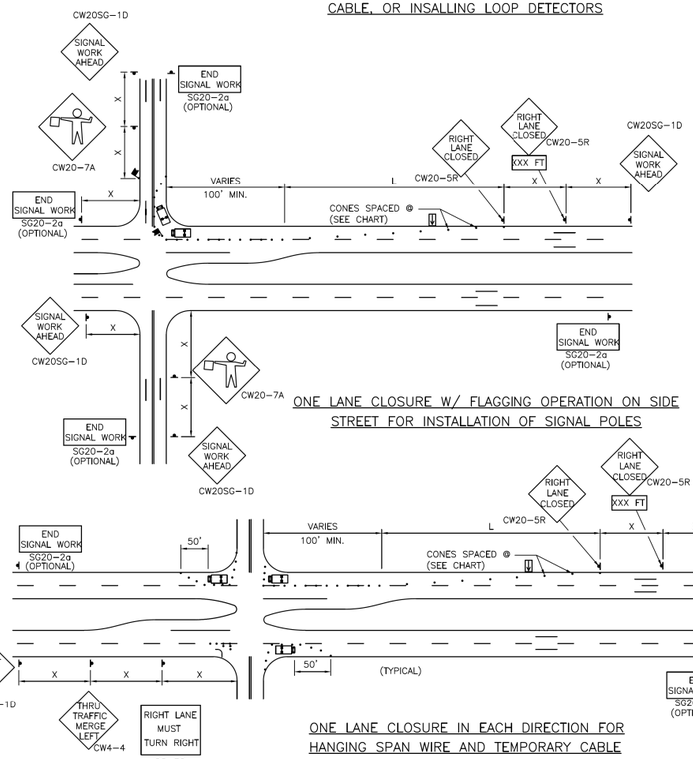
ONE LANE CLOSURE W/ LEFT LANE AND/OR LEFT TURN LANE CLOSED



MEDIAN NOSE MODIFICATION



FLAGGING OPERATION FOR HANGING SIGNALS, STRAPPING CABLE, OR INSALLING LOOP DETECTORS



ONE LANE CLOSURE W/ FLAGGING OPERATION ON SIDE STREET FOR INSTALLATION OF SIGNAL POLES

ONE LANE CLOSURE IN EACH DIRECTION FOR HANGING SPAN WIRE AND TEMPORARY CABLE

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.
2. THE MINIMUM LANE WIDTH ALLOWED IS 10 FEET. THE MINIMUM BUFFER ZONE BETWEEN THE WORK ZONE AND ADJACENT TRAFFIC IS 2 FEET.
3. FLORESCENT ORANGE SHALL BE THE BACKGROUND COLOR ON ALL WORK ZONE SIGNS.
4. THE CONTRACTOR SHALL REMOVE ADVANCE SIGNS WHEN NO CONSTRUCTION OPERATIONS ARE UNDERWAY.
5. OBSTRUCTIONS OR HAZARDS AT THE WORK AREA SHALL BE CLEARLY MARKED AND DELINEATED AT ALL TIMES.
6. ALL HOLES, TRENCHES OR OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY LIGHTS OR OTHER PROTECTIVE DEVICES.
7. TRENCHES SHALL BE COVERED OR SURROUNDED WITH ORANGE PLASTIC CONSTRUCTION FENCE AS DIRECTED BY THE ENGINEER.
8. FLAGGER AND FCW20-7a SIGN MAY BE REQUIRED ACCORDING TO FIELD CONDITIONS.
9. VEHICLES PARKED IN ROADWAY SHALL BE EQUIPPED WITH TWO STROBES.

LEGEND:

HEAVY WORK VEHICLE

FLASHING ARROW PANEL

TYPICAL TRANSITION LENGTHS

SUGGESTED MAXIMUM SPACING OF DEVICES

POSTED SPEED	FORMULA	MINIMUM DESIRABLE TAPER LENGTHS **			SUGGESTED MAXIMUM SPACING OF DEVICE		MINIMUM SIGN SPACING X DISTANCE
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT	
30	$L=WS^2/60$	150'	165'	180'	30'	60'–75'	120'
35		205'	225'	245'	35'	70'–90'	160'
40		265'	295'	320'	40'	80'100'	240'
45	L=WS	450'	495'	540'	45'	90'–110'	320'
50		500'	550'	600'	50'	100'–125'	400'
55		550'	605'	660'	55'	100'–140'	500'
60		600'	660'	720'	60'	120'–150'	600'

** TAPER LENGTHS HAVE BEEN ROUNDED OFF
L=LENGTH OF TAPER (FT.)
W=WIDTH OF OFFSET (FT.)
S=POSTED SPEED(MPH)

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanawar 6EF8B0C647F1475...	DocuSigned by: LEHANG NGUYEN 60A2BEFDA7584CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A83C4108728345...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-13

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

	FOR CITY OF HOUSTON USE ONLY
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NOT TO SCALE	

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 814 OF 1067	

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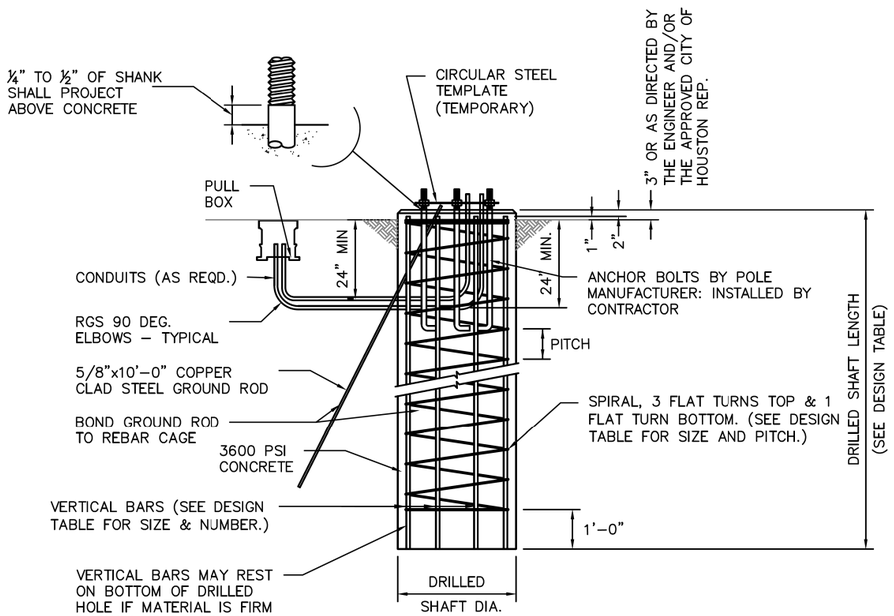
FOUDATION DESIGN TABLE									
POLE MARK	DRILLED SHAFT DIA.	REINFORCING STEEL		DRILLED SHAFT LENGTH FT.	BOLT CIRCLE DIA.	FOUNDATION DESIGN LOADS (1)			TYPICAL APPLICATION
		VERT. BARS	SPIRAL & PITCH			MOMENT K–FT.	SHEAR KIPS	TORQUE K–FT.	
HOU 1	30"	8–#9 BAR	#3 BAR @9"	14'–0"	18"	72.2	3.4	51.9	MAST ARM ASSEMBLY (25'–35') IN COHESIVE SOILS
HOU 2	30"	8–#9 BAR	#3 BAR @9"	18'–0"	18"	89.9	4.0	98.0	MAST ARM ASSEMBLY (40'–55') IN COHESIVE SOILS MAST ARM ASSEMBLY (25'–55') IN NON–COHESIVE SOILS

FOUNDATION DESIGN TABLE NOTES:

(1) FOUNDATION DESIGN LOADS ARE THE ALLOWABLE MOMENTS, SHEARS AND TORQUES AT THE TOP OF THE FOUNDATION.

(2) CONSTRUCT IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION SECTION 02465, "DRILLED SHAFT FOUNDATIONS".

(3) FOUNDATION DESIGN IS BASED UPON AN UNDRAINED SHEAR STRENGTH OF 1500 PSF FOR COHESIVE SOILS AND A TEXAS CONE PENETROMETER MINIMUM OF 10 BLOWS/FOOT IN NON–COHESIVE SOILS. WHERE COHESIVE AND NON–COHESIVE LAYERS EXIST WITHIN THE SPECIFIED SHAFT LENGTH, THE NON–COHESIVE SOILS SHALL GOVERN. LOWER SOIL PARAMETERS WILL REQUIRE A SPECIAL DESIGN.



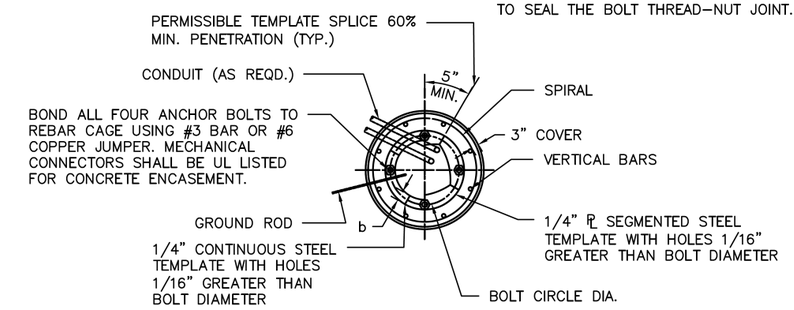
FOUNDATION DETAILS

GENERAL NOTES:

1. DESIGN IS FOR CITY OF HOUSTON STANDARD TRAFFIC SIGNAL MAST ARM SUPPORT STRUCTURES BY VALMONT INDUSTRIES, INC.
2. DESIGN CONFORMS TO 2001 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND INTERIM REVISIONS THERETO FOR A 90 MPH WIND ZONE WITH A 1.3 GUST FACTOR AND ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318–02).
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
4. CONCRETE SHALL BE 6 SACK, 3600 PSI.
5. ALL ANCHOR BOLTS SHALL BE GALVANIZED THE ENTIRE LENGTH OF BOLT. EXPOSED NUTS AND WASHERS SHALL ALSO BE GALVANIZED.

INSTALLATION PROCEDURE

THREADS OF ANCHOR BOLTS SHALL BE COATED WITH PIPE JOINT COMPOUND PRIOR TO INSTALLATION OF UPPER NUTS WHEN ERECTING POLE. AFTER POLE IS PLUMBED AND IN PERMANENT ALIGNMENT, THE EXPOSED THREADS OF PAINTED BOLTS SHALL BE CLEANED AND AN ADDITIONAL COATING OF ZINC–RICH PAINT APPLIED TO SEAL THE BOLT THREAD–NUT JOINT.



TOP VIEW

NOTE:

1. b = MINIMUM STEEL TEMPLATE WIDTH EQUAL TO TWO TIMES ANCHOR BOLT DIAMETER.
2. STEEL TEMPLATE MAY BE OF CONTINUOUS WIDTH OR SEGMENTED WIDTH.
3. SEE FOUNDATION DESIGN TABLE FOR BOLT CIRCLE DIAMETER.
4. BOLTS SHOULD BE CHECKED FOR PLUMB AFTER CONCRETE IS POURED AND BEFORE INITIAL SET.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRILLED SHAFT FOUNDATIONS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...
CITY ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

EFF DATE: NOV–27–2023 | DWG NO: 02465–01

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

DRILLED SHAFT FOUNDATIONS DETAIL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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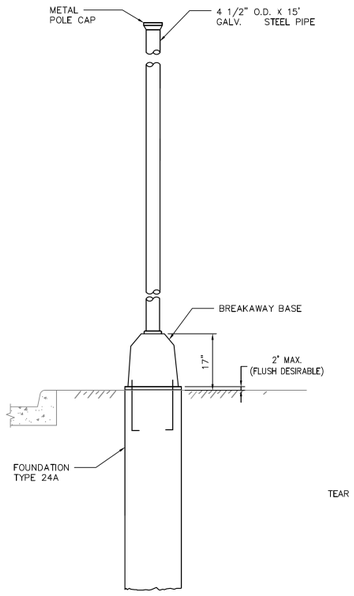
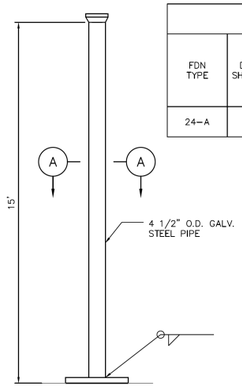




PEDESTAL POLE

FOUNDATION DESIGN TABLE										
FDN TYPE	DRILLED SHAFT DIA.	REINFORCING STEEL		DRILLED SHAFT LENGTH FT	ANCHOR BOLT DESIGN (SEE NOTE 5)				FOUNDATION DESIGN LOAD (SEE NOTE 6)	
		VERT. BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER 10 BLOWS/ FT	ANCHOR BOLT DIA.	FY (KSI)	BOLT CIR. DIA.	ANCHOR TYPE	MOMENT K-FT	SHEAR KIPS
24-A	24"	4-#5 BARS	#2 BAR AT 12"	6	3/4"	36	*13"	1	10	1

* 10 1/2" B.C. FOR PUSH BUTTON POLE

ANCHOR BOLT & TEMPLATE SIZES						
BOLT DIA. IN.	**BOLT LENGTH	TOP THREAD	BOTT. THREAD	BOLT CIRCLE	R_2	R_1
3/4"	1'-6"	3"	–	13"	7 1/8"	5 5/8"

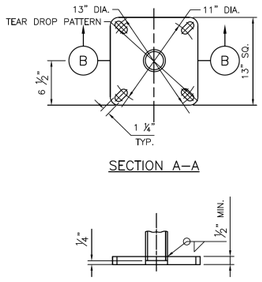
** MIN DIMENSIONS GIVEN, LONGER BOLTS ARE ACCEPTABLE.

GENERAL NOTES

1. DESIGN CONFORMS TO 1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS AND INTERIM REVISIONS THERETO.
2. CONCRETE SHALL BE CLASS A OR C.
3. THREADS FOR ANCHOR BOLTS AND NUTS SHALL BE ROLLED OR CUT THREADS OF UNIFIED NATIONAL COARSE THREAD SERIES EXCEPT FOR A193B7 BOLTS WHICH SHALL HAVE 8 PITCH THREAD SERIES. BOLTS AND NUTS SHALL HAVE CLASS 2A AND 2B FIT TOLERANCES. GALVANIZED NUTS SHALL BE TAPPED AFTER GALVANIZING.
4. ANCHOR BOLTS THAT ARE 1" IN DIAMETER OR LESS SHALL CONFORM TO ASTM A36. GALVANIZE ALL ANCHOR BOLTS UNLESS OTHERWISE NOTED. EXPOSED NUTS SHALL BE GALVANIZED OR COATED WITH ZINC-RICH PAINT. WASHERS SHALL BE GALVANIZED. TEMPLATES AND EMBEDED NUTS NEED NOT BE GALVANIZED.
5. ANCHOR BOLT DESIGN DEVELOPS THE FOUNDATION CAPACITY GIVEN UNDER FOUNDATION DESIGN LOADS.
6. FOUNDATION DESIGN LOADS ARE THE ALLOWABLE MOMENTS AND SHEARS AT THE BASE OF THE STRUCTURE.
7. ANCHOR BOLT ASSEMBLY INSTALLATION PROCEDURE

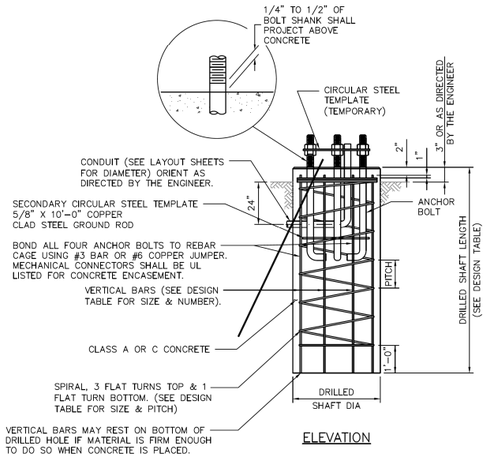
7.1. THREADS OF ANCHOR BOLTS SHALL BE COATED WITH PIPE JOINT COMPOUND PRIOR TO INSTALLATION OF UPPER NUTS WHEN ERECTING POLE. AFTER POLE IS PLUMBED AND IN PERMANENT ALIGNMENT, THE EXPOSED THREADS OF PAINTED BOLTS SHALL BE CLEANED AND AN ADDITIONAL COATING OF ZINC-RICH PAINT APPLIED TO SEAL THE BOLT THREAD-NUT JOINT.

8. DETAILS DEPICTED ON THIS SHEET SHOW A TYPICAL PEDESTAL POLE ASSEMBLY WITH A DRILLED SHAFT FOUNDATION.
9. USE 24 IN. DRILLED SHAFT FOUNDATION AS SHOWN.
10. PROVIDE BREAKAWAY FUSE HOLDER WITH DOUBLE-POLE HOUSING. ENSURE FUSE HOLDER IS POLARIZED, WATER-RESISTANT, UL RECOGNIZED, AND RATED FOR 30A MAXIMUM CURRENT CAPACITY AT 600V OR LESS. PROVIDE BREAKAWAY FUSE HOLDER FROM MANUFACTURERS PRE-QUALIFIED BY TXDOT TRAFFIC OPERATIONS DIVISION. SEE https://www.txdot.gov/business/resources/materials/material-producer-list.html FOR LIST OF PRE-QUALIFIED MANUFACTURERS. CATEGORY IS "ROADWAY ILLUMINATION AND ELECTRICAL SUPPLIES." PROVIDE 10 AMP TIME DELAY FUSES.
11. POLE SHAFT SHALL BE ONE PIECE. ALUMINUM CONDUIT WILL NOT DEVELOP THE NECESSARY STRENGTH AND WILL NOT BE ALLOWED. IN HIGH WINDS, USE A POLE AND BASE COLLAR ASSEMBLY TO ADD STRENGTH AND PREVENT LOOSENING ON CONNECTION.
12. PER MANUFACTURER'S RECOMMENDATIONS, ENGAGE ALL THREADS ON THE PEDESTAL POLE BASE AND PIPE UNLESS THE PIPE IS FULLY SEATED INTO BASE.
13. PROVIDE NON-FUSED WATERTIGHT BREAKAWAY ELECTRICAL CONNECTORS FOR BREAKAWAY POLES (BUSSMANN HET, LITTELFUSE LET, FERRAZ-SHAWMUT FEBN, OR APPROVED EQUAL).
14. PROVIDE SIGNAL HEADS AND MOUNTING AS SHOWN ELSEWHERE ON THE PLANS.



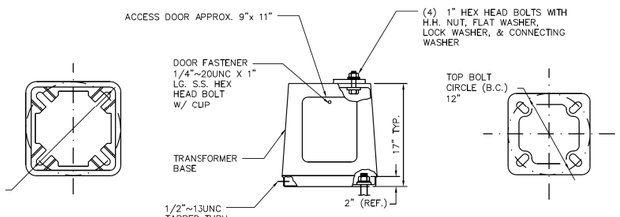
SECTION A-A

SECTION B-B



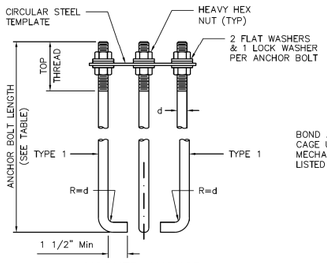
ELEVATION

FOUNDATION DETAILS

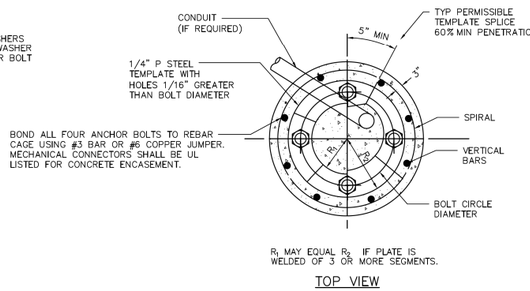


BOTTOM PLAN ELEVATION TOP PLAN

BREAKAWAY BASE DETAILS



HOOKED ANCHOR (TYPE 1)



R_1 MAY EQUAL R_2 IF PLATE IS WELDED OF 3 OR MORE SEGMENTS.

TOP VIEW

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APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02465-02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PEDESTAL/PUSHBUTTON POLE DRILLED SHAFT FOUNDATION

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HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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TEI Planning + Design Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PEDESTAL/PUSHBUTTON POLE DRILLED SHAFT FOUNDATION DETAIL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 816 OF 1067	

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Detail Sheets\COH Detail sheet 10 - Pedestal I Pushbutton Pole Drilled Shaft Foundation.dgn

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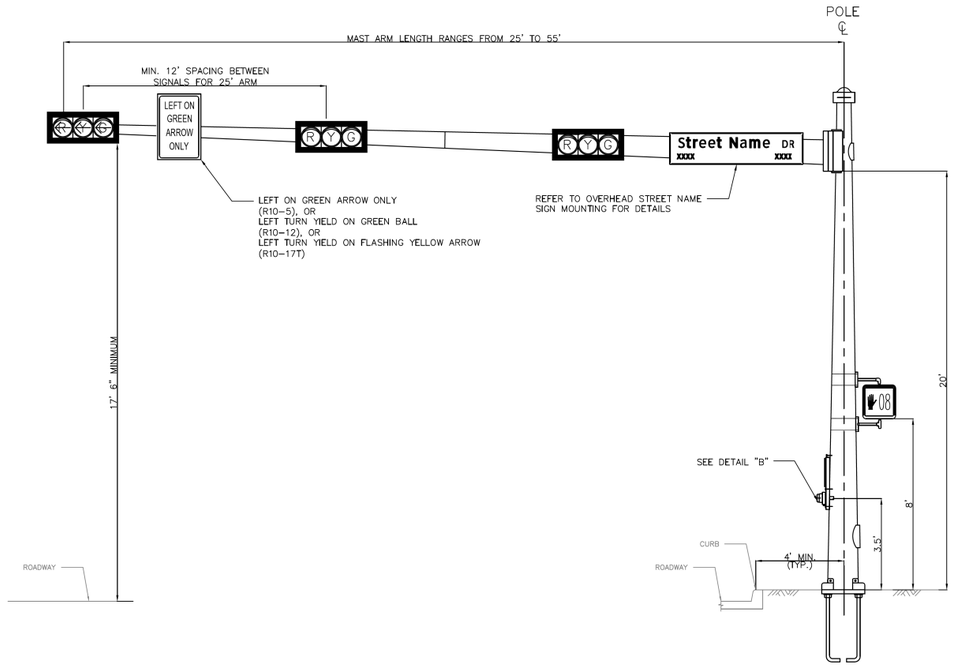
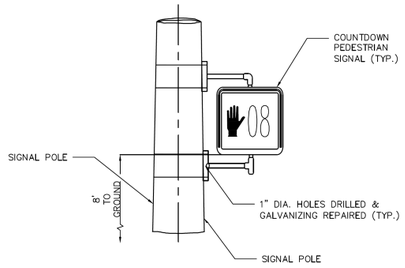




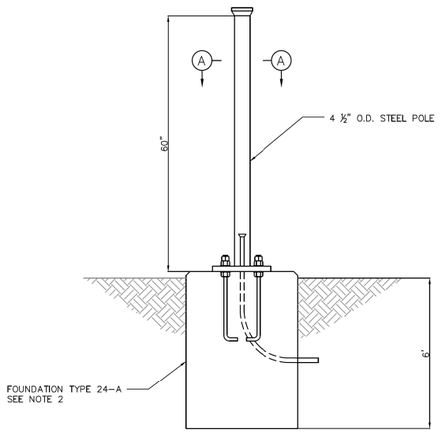
DETAIL "A"

TYPICAL PEDESTRIAN SIGNAL HEAD ON TRAFFIC POLE



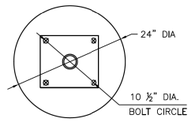
DETAIL "B"

2-WIRE POLARA NAVIGATOR PUSH BUTTON STATION WITH R10-3e SIGN

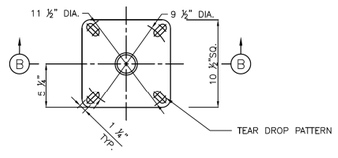


ELEVATION VIEW

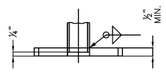
PEDESTRIAN PUSH BUTTON POLE



FOUNDATION PLAN



SECTION A-A



SECTION B-B

NOTE:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS STATED ON CITY OF HOUSTON STANDARD DETAIL 02465-02 "PEDESTAL/PUSH BUTTON POLE DRILLED SHAFT FOUNDATION".
2. REFER TO CITY OF HOUSTON STANDARD DETAIL 02465-02 "PEDESTAL/PUSHBTTON POLE DRILLED SHAFT FOUNDATION" FOR ANCHOR BOLT DETAILS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukai Kauwar	DocuSigned by: HANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02582-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL MAST ARM/POLE FIXTURE CONFIGURATION

	FOR CITY OF HOUSTON USE ONLY
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Texas Department of Transportation

tei Planning + Design
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3/9/2026
Date

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Detail Sheets\COH Detail sheet 11 - Typical Mast Arm I Pole Fixture Configuration.dgn

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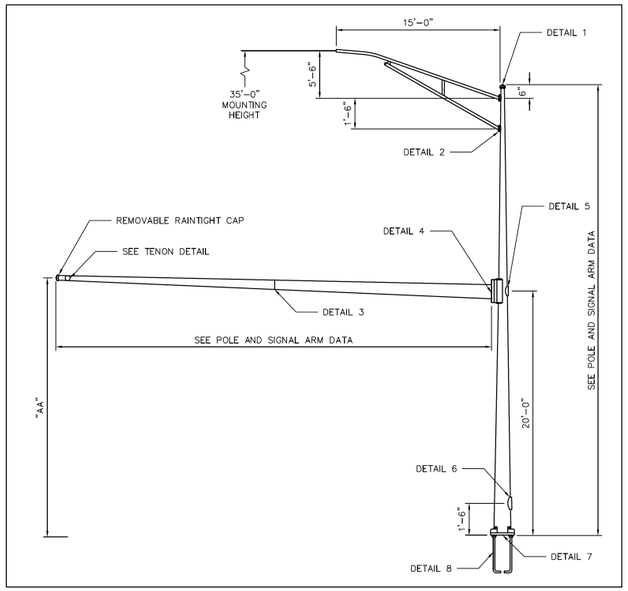
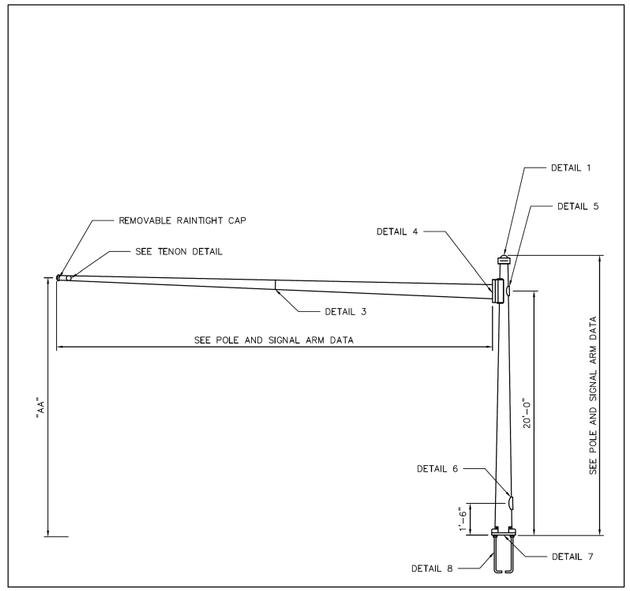
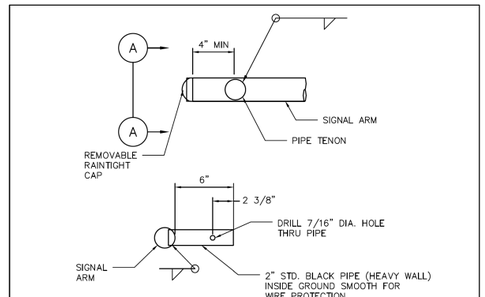






SECTION A–A

TENON DETAIL

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. ARMS SHALL BE VISUALLY INSPECTED IN 5 TO 20 MPH WIND CONDITIONS AFTER SIGNAL HEAD INSTALLATION AND, IF VERTICAL MOVEMENTS WITH A TOTAL EXCURSION (MAXIMUM POSITIVE TO MAXIMUM NEGATIVE) OF MORE THAN APPROXIMATELY 8 INCHES ARE OBSERVED AT ARM TIP, DAMPING DEVICES OR OTHER MEANS SHALL BE FITTED TO THE ARM(S). THE NECESSARY DAMPING DEVICE(S) OR OTHER REMEDIAL MEASURES SHALL BE AS RECOMMENDED BY THE CONTRACTOR. EXCESSIVE VIBRATIONS SHALL NOT BE ALLOWED TO CONTINUE FOR MORE THAN 2 DAYS.

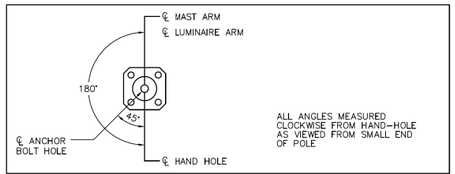
VIBRATION DISCLAIMER

POLE AND MAST ARM DATA

DESIGNATION KEY			POLE TUBE						POLE BASE				ANCHOR BOLT				SIGNAL ARM TUBE				
POLE SERIES	POLE TYPE	SIGNAL ARM SPAN (FT)	BASE DIA. (IN)	TOP DIA. (IN) WITH LUM ARM	TOP DIA. (IN) WITHOUT LUM ARM	LENGTH (FT) WITH LUM ARM	LENGTH (FT) WITHOUT LUM ARM	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE / SLOT "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	SPAN (FT)	TIP HEIGHT "AA" (FT)
HOU	1	25	13.00	8.80	10.00	30.00	21.50	3	19.00	18.00	2.25	2.50	2.25	89.00	7.00	9.00	8.00	3.50	7	25.00	20.2
		30															9.00	4.80	7	30.00	20.3
		35															10.00	5.10	7	35.00	20.3
HOU	2	40	13.00	8.80	10.00	30.00	21.50	0.375									10.50	4.90	7	40.00	20.3
		45															10.14	3.84	3	45.00	20.4
		50															11.00	4.00	3	50.00	20.4
		55															11.50	4.16	DET 3	55.00	20.5

MATERIAL DATA					
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFT – 3 GAUGE	A595 GR.A	55	MAST ARM CONN. BOLTS	F3125 GR A325*	
POLE SHAFT – 0.375"	A572 GR.55	55	LUM. ARM CONN. BOLTS	SAE GR.5	36
MAST ARM SHAFT	A595 GR.A	55	ANCHOR BOLTS	F1554 GR.55	55
LUMINAIRE ARM SHAFT	2" SCH. 80 PIPE		GALVANIZING	A123 & A153	
ARM ATTACHMENT PLATE	A36	36			
BASEPLATE	A36	36			

*LUBRICATE IN FIELD IF NECESSARY IN LIEU OF THE REQUIREMENTS IN F3125 GR.A325.



RADIAL INDEX

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DocuSigned by: Sulal Kauwar	DocuSigned by: LONG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Stahlbock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02582–02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TRAFFIC SIGNAL STRUCTURES

SHEET 01 OF 02

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Texas Department of Transportation

tei Planning + Design
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TRAFFIC SIGNAL STRUCTURES
SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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Design Filename: E:\TEI Planning+Design Dropbox\Clients\Gauge Engineering\COH Antoine Design\04 Design\02 Plansheets\Detail Sheets\COH Detail sheet 12 - Traffic Signal Structures (Sheet 1 of 2).dgn

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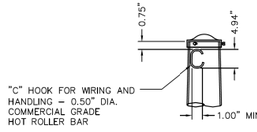
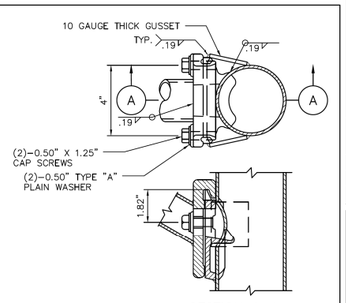
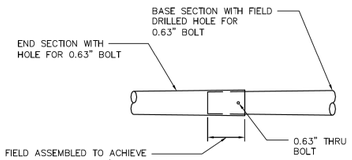


DETAIL 1 | POLE TOP

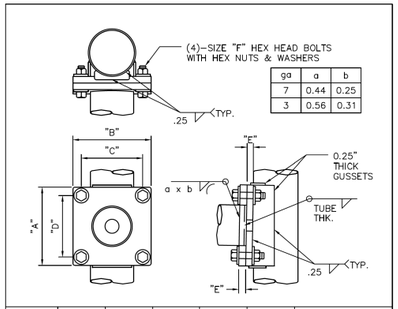


DETAIL 2 | LUMINAIRE ARM ATTACHMENT



ITEM	BASE SECTION		END SECTION	
	LENGTH	GAUGE	LENGTH	GAUGE
55.00'	26.42'	3	30.71'	7

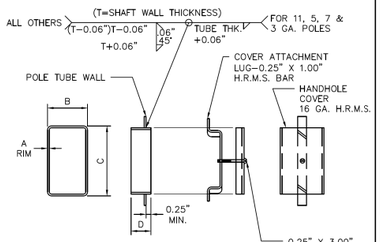
DETAIL 3 | SIGNAL ARM SLIP JOINT



ga	a	b
7	0.44	0.25
3	0.56	0.31

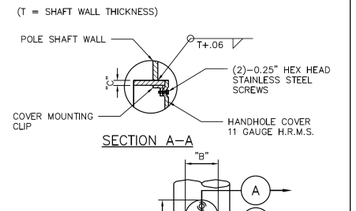
POLE TYPE	"A"	"B"	"C"	"D"	"E"	"F"
1	17.75"	17.75"	14.50"	14.50"	1.50"	1.25" X 4.50"
2	18.75"	18.75"	15.00"	15.00"	1.75"	1.50" X 5.25"

DETAIL 4 | SIGNAL ARM ATTACHMENT



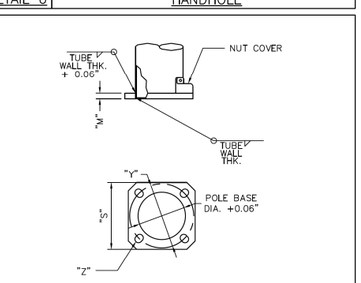
POLE TYPE	A	B	C	D
1	7 GA.	3.00"	5.00"	1.50"
2	0.50"	4.00"	6.00"	2.50"

DETAIL 5 | HANDHOLE

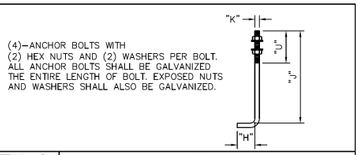


POLE TYPE	A	B	C
1	7.56"	5.19"	0.280"
2	7.31"	5.63"	0.432"

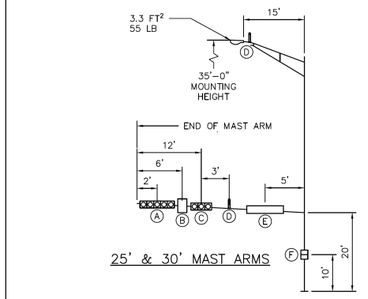
DETAIL 6 | HANDHOLE



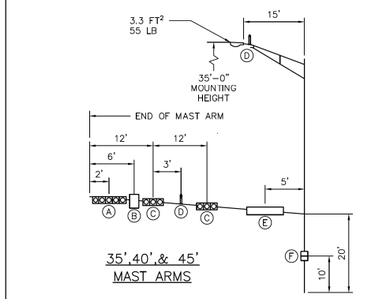
DETAIL 7 | POLE BASE



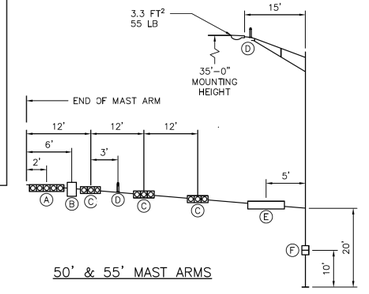
DETAIL 8 | ANCHOR BOLT



25' & 30' MAST ARMS



35',40',& 45' MAST ARMS



50' & 55' MAST ARMS

DESIGN NOTE:

DESIGNS ARE BASED ON THE LOADING CHART SHOWN ON THIS DRAWING AND ARE IN ACCORDANCE WITH MATERIALS AND ALLOWABLE STRESS REQUIREMENTS OF THE 1994 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" FOR A 90 MPH WIND ZONE WITH A 1.3 GUST FACTOR.

DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)
Ⓐ	12"–5 SEC. SIGNAL WITH BACKPLATES	13.33	96
Ⓑ	30" X 36" SIGNAL ARM MOUNTED SIGN	7.50	15
Ⓒ	12"–3 SEC. SIGNAL WITH BACKPLATES	8.67	53
Ⓓ	VIVDS CAMERA	1.00	15
Ⓔ	24" X 72" STREET NAME SIGN	12.00	30
Ⓕ	PEDESTRIAN SIGNAL	4.00	40

MAXIMUM LOADING INFORMATION

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APPROVED BY: DocuSigned by: Carol Haddock –A3DC41051C9E3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02582–03

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SHEET 02 OF 02

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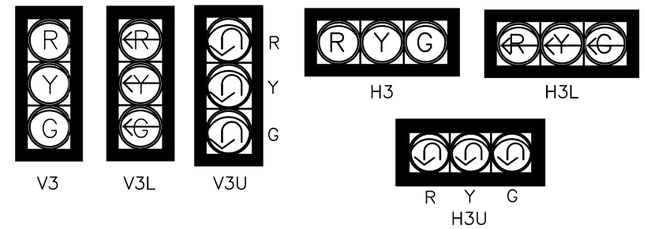
	NEW	EXISTING
TRAFFIC SIGNAL POLE	○	○
PEDESTAL POLE	○	○
POLE W/MAST ARM	○———	○———
VEHICLE SIGNAL HEAD	↓	↓
VEHICLE SIGNAL HEAD W/BACK PLATE	↓	↓
PEDESTRIAN SIGNAL HEAD	▭	▭
PEDESTRIAN PUSH BUTTON	▭	▭
PULL BOX – TYPE A	◇	◇
PULL BOX – TYPE B	▭	▭
PULL BOX – TYPE C	⊞	⊞
PULL BOX – TYPE B W/EXTENSION	⊠	⊠
CONDUIT	———	———
VIDEO DETECTION CAMERA	▭	▭
PRE–EMPT SENSOR	⚷	⚷
LUMINAIRE	⊗	⊗
LUMINAIRE W/PHOTO CELL	⊗	⊗
CONTROLLER CABINET	▮	▮
METERED POWER PEDESTAL	◈	◈
POLE MOUNTED METER	●—	○—
FIBER OPTIC CONDUIT	—FO—	—FO—
MAST ARM SIGN	⊥	⊥

SIGNAL TYPES



NOTE:

ALL TRAFFIC SIGNAL HEAD TYPES HAVE 12–INCH LENSES.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

HARDWARE LEGENDS

(SCALE: NOT TO SCALE)

APPROVED BY:

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CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02893–01

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
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Printed Name
91759
Registration Number
3/9/2026
Date
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Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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HARDWARE LEGENDS

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CITY OF HOUSTON PM	
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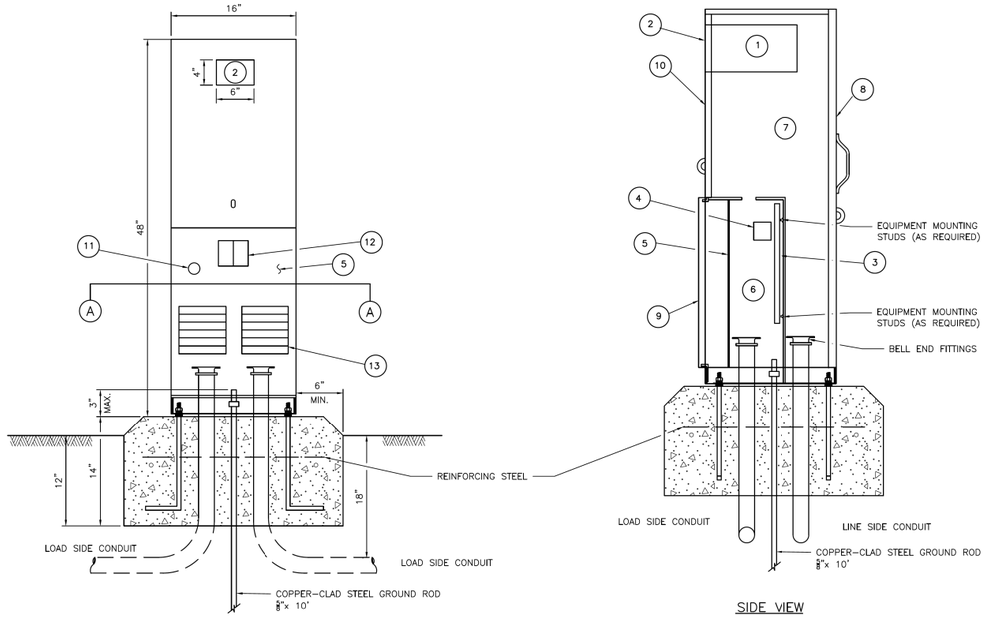
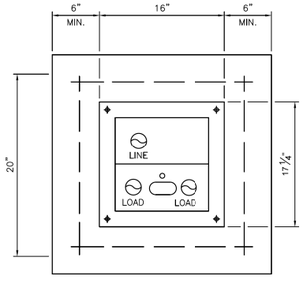


NOTE: ELLS IN FOUNDATION ARE RIGID METAL, SIZE CALLED FOR ON THE PLANS. EXTENSION CONDUITS FROM THESE ELLS MAY BE PVC, PROVIDED ENDS OF RIGID METAL CONDUITS ARE MORE THAN 2 IN. BELOW TOP OF CONCRETE FOUNDATION. WHERE EXTENSION CONDUITS ARE METAL, GROUNDING BUSHING MUST BE INSTALLED AND A BONDING JUMPER PROPERLY TERMINATED.

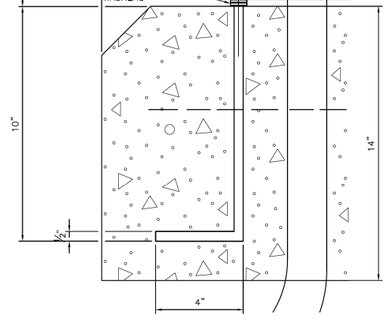
FRONT VIEW

SIDE VIEW

TY C SHOWN, TY A SIMILAR EXCEPT THAT TY A SHALL HAVE INDIVIDUAL CIRCUIT BREAKERS MOUNTED ON AN EQUIPMENT MOUNTING PANEL. CB HANDLES SHALL PROTRUDE THROUGH HINGED DEADFRONT TRIM.



SECTION A-A



ANCHOR BOLT DETAIL

GENERAL NOTES:

1. THE PEDESTAL SERVICE SHALL BE UL TYPE 3R, AND SHALL BE CONSTRUCTED OF A MINIMUM OF 12 GAUGE STAINLESS STEEL OR ALUMINUM AS REQUIRED. STAINLESS STEEL SHALL NOT BE PAINTED. FOR ALUMINUM, THE FINISH SHALL BE AN ELECTROSTATIC APPLIED POLY-URETHANE BAKED ON POWDER, LIGHT GREEN IN COLOR, OR COLOR AS SHOWN ELSEWHERE AND AS APPROVED BY THE ENGINEER. THE FRONT OF THE INTERIOR DEAD FRONT TRIM SHALL BE PERMANENTLY LABELED, "DANGER HIGH VOLTAGE" WITH OSHA STYLE LABEL. THE EXTERIOR OF THE PEDESTAL SERVICE DOOR SHALL BE PERMANENTLY LABELED WITH A PLACARD AS TO ITS USE (I.E. ROADWAY LIGHTING, TRAFFIC SIGNALS, ETC.). PLACARD SHALL BE NEAT AND PROFESSIONAL IN APPEARANCE. LETTERING SHALL BE 1" MINIMUM HEIGHT.
2. UTILITY ACCESS DOOR SHALL HAVE STAINLESS STEEL PIANO HINGE AND PROVISIONS FOR PADLOCKING.
3. PEDESTAL DOOR SHALL HAVE STAINLESS STEEL PIANO HINGE AND STAINLESS STEEL LATCH WITH PROVISIONS FOR PADLOCKING.
4. METER ACCESS SHALL BE HINGED AND CAPABLE OF PADLOCKING.
5. ALL MOUNTING HARDWARE AND INSTALLATION DETAILS OF SERVICES SHALL BE IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL UTILITY COMPANY AND OBTAINING THEIR APPROVAL OF PEDESTAL DETAILS PRIOR TO MAKING SUBMITTAL TO THE CITY AND PRIOR TO CONSTRUCTING THE ELECTRICAL PEDESTAL SERVICE. ANY CHANGES REQUIRED BY THE UTILITY COMPANY SHALL BE NOTED ON THE SUBMITTALS.
6. METER SOCKET SHALL BE A MINIMUM OF 100 AMP RATING AND SHALL COMPLY WITH THE LOCAL UTILITY REQUIREMENTS.
7. PHOTOELECTRIC CONTROL SHALL MEET THE REQUIREMENTS AS SHOWN ON ED(5). SHIELD TO CONTROL STRAY LIGHT IS ALLOWABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER OPERATION OF THE PHOTO-ELECTRIC CONTROL. THE CONTRACTOR SHALL MOVE AND/OR ADJUST OR SHIELD THE PHOTOCELL FROM STRAY OR AMBIENT NIGHTTIME LIGHT OR SHALL MAKE ANY OTHER ADJUSTMENTS REQUIRED FOR PROPER OPERATION. THE PHOTOCELL SHALL FACE NORTH WHEN PRACTICABLE. UNLESS OTHERWISE SHOWN ON THE PLANS, THE PHOTOCELL SHALL TURN ON THE ILLUMINATION SYSTEM AT 1.0 +(−) 0.5 FOOTCANDLE AND TURN OFF THE ILLUMINATION SYSTEM AT TWO FOOTCANDLES HIGHER THAN TURN ON.
8. THE CONTROL STATION (H-O-A SWITCH) SHALL BE AS SHOWN ON TxDOT STANDARD ED(5) EXCEPT THAT H-O-A SWITCH OPERATING HANDLE SHALL PROTRUDE THROUGH HINGED DEADFRONT TRIM AND NEMA 1 ENCLOSURE WILL NOT BE REQUIRED.
9. CONCRETE FOR PEDESTAL SERVICE FOUNDATION SHALL BE CLASS A OR C , AND SHALL BE IN ACCORDANCE WITH TxDOT ITEM 420, "CONCRETE STRUCTURES", EXCEPT THAT CONCRETE WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL.
10. REINFORCING STEEL SHALL BE #4 REBAR IN ACCORDANCE WITH TxDOT ITEM 440, "REINFORCING STEEL".
11. ANCHOR BOLTS SHALL BE A36M55 IN ACCORDANCE WITH ITEM 449, "ANCHOR BOLTS". ANCHOR BOLTS SHALL BE ½ INCH X 12 INCHES X 4 INCHES (DIA. X LENGTH X HOOK LENGTH).
12. ALL CONDUIT AND CONDUCTORS ATTACHED TO THE PEDESTAL SERVICE AND WITHIN 12 INCHES OF THE PEDESTAL SERVICE WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE PEDESTAL SERVICE. ALL SERVICE CONDUIT AND CONDUCTORS FROM THE UTILITY COMPANY TRANSFORMER TO A POINT 12 INCHES FROM THE THE PEDESTAL SERVICE SHALL BE PAID FOR SEPARATELY. SERVICE CONDUIT SHALL BE THE SIZE AND TYPE AS SHOWN IN THE ELECTRICAL SERVICE DATA.
13. DIMENSIONS MAY VARY TO ACCOMODATE REQUIRED EQUIPMENT, UTILITY COMPANY REQUIREMENTS, OR MANUFACTURER'S STANDARD EQUIPMENT DIMENSIONS. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, SIX (6) COPIES OF BROCHURES AND/OR DRAWINGS OF THE PEDESTAL SERVICE TO BE SUPPLIED, INCLUDING ACTUAL DIMENSIONS, AND A PAINT COLOR SAMPLE.
14. A SEPARATE ENCLOSURE AS SHOWN ON TxDOT STANDARD ED(4) OR ED(5) FOR PHOTOCELL SHALL NOT BE USED FOR PEDESTAL SERVICES. PHOTOCELL SHALL BE INSTALLED AS SHOWN HERE.
15. THE PEDESTAL DOOR SHALL HAVE A MECHANICALLY ATTACHED DATA POCKET ON THE INSIDE. POCKET SHALL BE EITHER METAL OR THERMOPLASTIC AND SHALL MEASURE AT LEAST 12 INCHES BY 12 INCHES. THE CONTRACTOR SHALL PREPARE AND SUBMIT A SCHEMATIC DRAWING UNIQUE TO AN INDIVIDUAL SERVICE. THE APPROVED DRAWING SHALL BE LAMINATED AND PLACED IN THE DOCUMENT POCKET OF THE SERVICE AT THE TIME OF SHIPMENT TO THE JOB SITE. ALL APPLICABLE WIRING DIAGRAMS AND PLAN SHEET LAYOUTS FOR ALL EQUIPMENT AND BRANCH BREAKER CIRCUITS SUPPLIED BY THAT SERVICE SHALL ALSO BE LAMINATED AND PLACED IN THE DOCUMENT POCKET PRIOR TO SHIPPING.
16. GROUND ROD CLAMP TO BE UL LISTED FOR DIRECT BURIAL. ALL NON-CONDUCTIVE COATING TO BE REMOVED FROM GROUND ROD WIRE TO BE #6 AWG SOLID COPPER. METAL CONDUIT ELLS TO HAVE GROUNDING BUSHING AND BONDING JUMPERS CORRECTLY INSTALLED.
17. ALL CONDUITS ENTERING ENCLOSURES FROM UNDERGROUND MUST BE SEALED. SILICONE SHALL NOT BE ALLOWED.
18. ALL CONDUCTORS SHALL BE MEGGED AND PULL TESTED. TRAFFIC SIGNAL CABLE NOT TO BE MEGGED AFTER CONNECTION, AS ELECTRONICS WILL BE DAMAGED.
19. TOP OF CONCRETE FOUNDATION TO BE FINISHED IN A NEAT AND WORKMAN LIKE MANNER. IF LEVELING WASHERS ARE USED, NO MORE THAN ⅛ IN. HEIGHT SHALL BE USED AT ANY ONE CORNER. MAXIMUM DIP OR RISE IN FOUNDATION IS NOT TO EXCEED ⅛ IN PER FOOT. WHEN PROPERLY INSTALLED, TOP OF SERVICE ENCLOSURE SHALL READ LEVEL FRONT TO BACK AND SIDE TO SIDE WITHIN ¼ IN. ROCKING OR MOVEMENT OF THE SERVICE ENCLOSURE SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE STATE.
20. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE ALLOWED ON PS TYPE SERVICES.

LEGEND:

1. METER SOCKET, (WHEN REQUIRED)
2. METER SOCKET 4" x 6" PLEXIGLASS WINDOW INSTALLED IN THE LID.
3. EQUIPMENT MOUNTING PANEL
4. PHOTO ELECTRIC CONTROL WINDOW, (WHEN REQUIRED)
5. HINGED DEADFRONT TRIM
6. LOAD SIDE CONDUIT AREA
7. LINE SIDE CONDUIT AREA
8. UTILITY ACCESS DOOR, WITH HANDLE
9. PEDESTAL DOOR
10. HINGED METER ACCESS
11. CONTROL STATION (H-O-A SWITCH)
12. MAIN DISCONNECT
13. BRANCH CIRCUIT BREAKERS

APPROVED BY:	APPROVED BY:
DocuSigned by: Sulad Kawar	DocuSigned by: LIHENG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02893-02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

ELECTRICAL SERVICE SUPPORT PEDESTAL SERVICE TYPE PS

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Texas Department of Transportation

tei Planning + Design
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ELECTRICAL SERVICE SUPPORT PEDESTAL DETAIL

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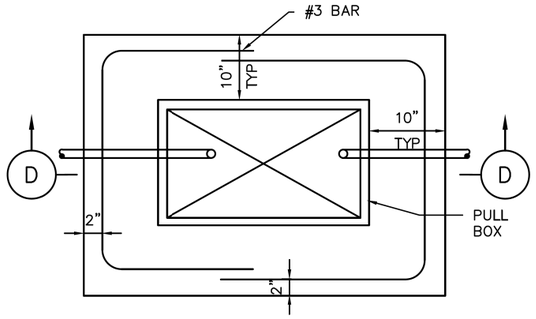
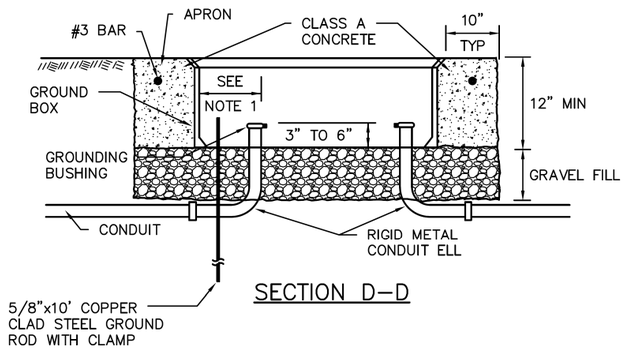


PLAN VIEW

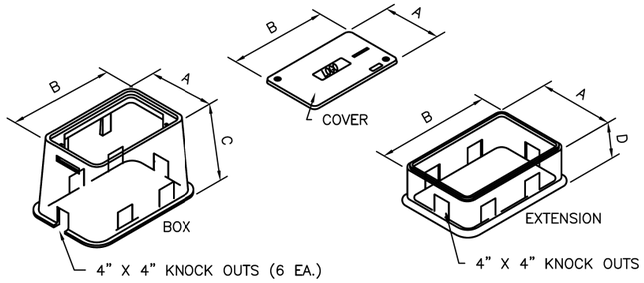


SECTION D–D

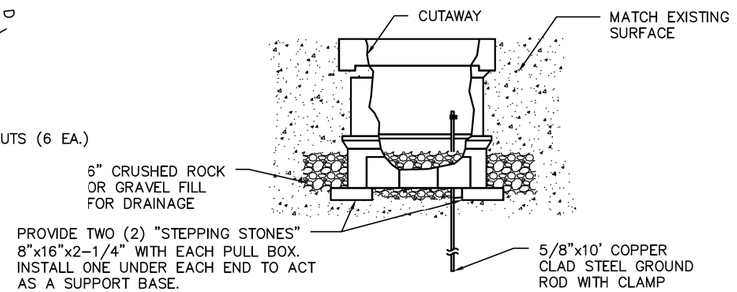
APRON FOR PULL BOXES

NOTES:

1. FINAL POSITION OF END OF CONDUIT SHALL NOT EXCEED ONE–HALF THE DISTANCE TO THE SIDE OF BOX OPPOSITE THE CONDUIT ENTRY.
2. PLACE GRAVEL "UNDER" THE BOX, NOT "IN" THE BOX. GRAVEL SHOULD NOT ENCROACH ON THE INTERIOR VOLUME OF THE BOX.
3. INSTALL BUSHING ON THE UPPER END OF ALL ELLS.
4. PROVIDE A 5/8" GROUND ROD IN ALL PULL BOXES AND CONNECT IT TO ANY AND ALL EQUIPMENT GROUNDING CONDUCTORS USING A LISTED CONNECTOR.
5. MAINTAIN SUFFICIENT SPACE BETWEEN ALL CONDUITS SO AS TO ALLOW FOR PROPER INSTALLATION OF BUSHINGS.
6. ALL CONDUITS SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
7. ALL CONDUITS INSTALLED IN THE GROUND BOX SHALL BE SEALED AFTER COMPLETION OF CONDUCTOR INSTALLATION AND ANY REQUIRED PULL TESTS. SILICONE SHALL NOT BE USED AS THE SEALANT.



NOMINAL DIMENSIONS FOR TRAFFIC SIGNAL PULL BOXES				
TYPE	A	B	C	D
DETECTOR TYPE A	13"	18"	24"	12"
TRAFFIC SIGNAL TYPE B	17"	30"	24"	12"
COMMUNICATION TYPE C	26"	38"	24"	12"



SIDE VIEW
ELECTRICAL PULL BOX ASSEMBLY

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PULL BOXES

(SCALE: NOT TO SCALE)

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DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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PULL BOXES DETAIL

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AS NOTED	
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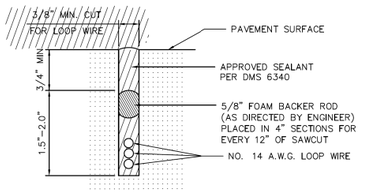
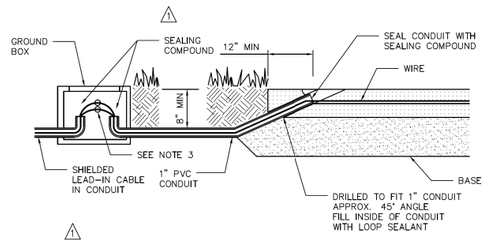
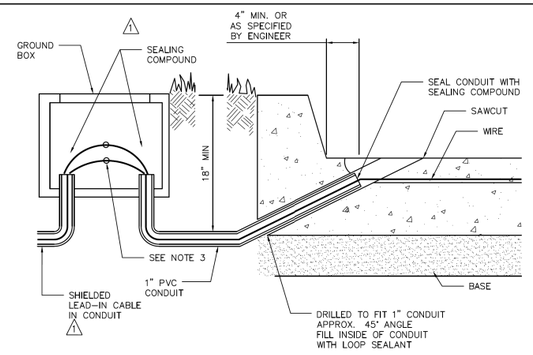


LOOP SAW CUT CROSS-SECTION

* SAWCUTS IN BRIDGE DECKS ARE TYPICALLY 1" DEPTH MAXIMUM SAWCUTS IN BRIDGE DECKS AND ACROSS EXPANSION JOINTS SHALL BE AS APPROVED BY ENGINEER



TYPICAL LEAD IN CONFIGURATION (WITHOUT CURBING)



TYPICAL LEAD IN CONFIGURATION (WITH CURBING)

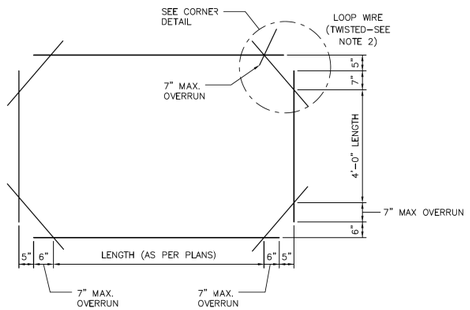
GENERAL NOTES:

1. THE PAVEMENT CUT IS TO BE MADE WITH A CONCRETE SAW TO NEAT LINES AND LOOSE MATERIAL REMOVED. THE CUT SHALL BE CLEAN AND DRY WHEN THE WIRE AND SEALING COMPOUND IS PLACED.
2. LOOP WIRE SHALL BE 14 AWG STRANDED TYPE XHHW. WIRE FROM THE LOOP TO THE GROUND BOX SHALL BE TWISTED A MINIMUM OF 5 TURNS PER FOOT. NO SPLICES SHALL BE PERMITTED IN THE LOOP OR IN THE RUN TO THE GROUND BOX.
3. THE HOME RUN CABLE FROM THE PULL BOX TO THE CONTROLLER SHALL BE IMSA 50-2 SHIELDED CABLE AND SHALL BE SOLDERED TO THE LOOP WIRE. THE SOLDER JOINTS SHALL BE SEALED WITH SCOTCHCAST 3R OTHER METHOD ACCEPTABLE TO THE ENGINEER. THE SHIELD SHALL BE GROUNDED ONLY AT THE CONTROLLER END. LOOP HOME RUN CABLE SHALL BE TWO CONDUCTOR 14 AWG SHIELDED, TYPE XHHW.
4. ALL WIRE PLACED IN THE SAW CUT SHALL BE SEALED BY FULLY ENCAPSULATING IT IN A SEALANT ACCEPTABLE TO THE ENGINEER. SEALING COMPOUND SHALL BE IN ACCORDANCE WITH DMS 6340.
5. THE LOOP LOCATION, CONFIGURATION AND NUMBER OF TURNS SHALL BE AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RECOMMENDED NUMBER OF TURNS FOR LOOP DETECTORS

LOOPS PERIMETER SIZE (FT.)	NUMBER OF TURNS	APPROXIMATE LOOP SIZES INCLUDED
24' or Less	3 or 4	5' x 5', 6' x 6'
25' - 110'	2 or 3	6' x 10', 6' x 45'
110' or More	1 or 2	6' x 50' or Longer

6. A SEPARATE SAW CUT SHALL BE MADE FROM EACH LOOP TO THE EDGE OF PAVEMENT OR AS SPECIFIED BY THE ENGINEER.
7. SPLICES BETWEEN THE LOOP LEAD-IN CABLE AND LOOP DETECTOR SHALL BE MADE ONLY IN THE GROUND BOX NEAR THE LOOP IT IS SERVING.
8. CIRCULAR LOOPS MAY USE PREWOUND LOOPS ENCASED IN CONTINUOUS PVC TUBING. SAWCUT WIDTH MAY BE ADJUSTED TO ACCOMMODATE TUBING.
9. THE LEAD-IN WIRE IN THE CIRCULAR LOOP SHALL BE COILED AT THE 3 INCH DRILLED CORNER TO REDUCE BENDING STRESS.
10. LOOP DUCT MAY BE USED AS SPECIFIED BY ENGINEER. FOR ADDITIONAL INFORMATION REFER TO "TEXAS TRAFFIC SIGNAL DETECTOR" MANUAL, TTI REPORT 1163-1.
11. ROUND CORNERS OF ACUTE ANGLES TO PREVENT DAMAGE TO CONDUCTORS.
12. INSTALL 3 TURNS WHEN ONLY ONE TYPE D LOOP IS ON A SINGLE CHANNEL. INSTALL 5 TURNS WHEN ONE TYPE D IS CONNECTED W/3-6'X6' LOOPS ON. A SINGLE CHANNEL.



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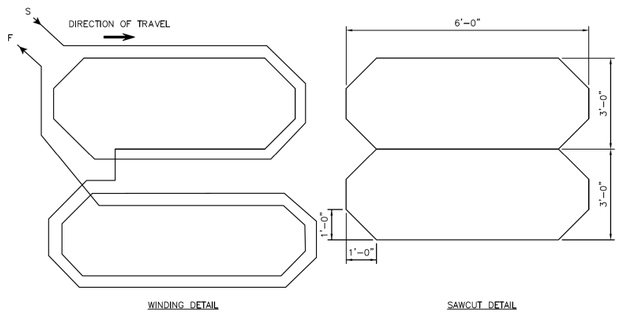
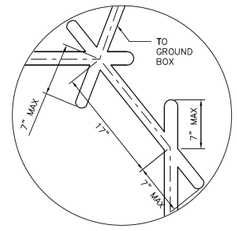


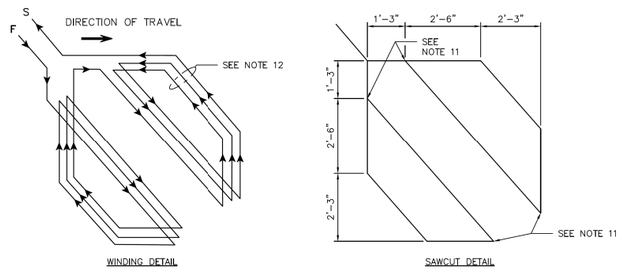
QUADRUPOLE (Q) TYPE LOOP DETECTOR CONFIGURATION



RECTANGULAR & HEXIGON LOOP
SAWCUT CORNER DETAIL
7" OVERRUN BASED ON
24" DIAMETER SAW BLADE

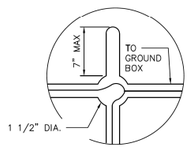
QUADRAPOLE

TYPICAL VEHICULAR LOOP DETECTOR LAYOUT
(AS SPECIFIED IN PLANS)



DIAGONAL SLASHED (D) TYPE LOOP DETECTOR CONFIGURATION

TYPICAL BICYCLE LOOP DETECTOR LAYOUT
(AS SPECIFIED IN PLANS. SEE PAVEMENT MARKINGS DETAILS FOR LOCATION RELATIVE TO BICYCLE SYMBOL)



RECTANGULAR & HEXIGON LOOP (ALT.)
DRILLED CORNER DETAIL

TYPICAL CORNER DETAILS

APPROVED BY:	APPROVED BY:
Docusigned by: Sulail Kauwar	Docusigned by: LEANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 16727-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

LOOP DETECTOR INSTALLATION DETAILS

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
712 MAIN STREET, SUITE #950
HOUSTON, TX 77002

SURVEYED BY:
KUO & ASSOCIATES, INC.

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

LOOP DETECTOR INSTALLATION DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 823 OF 1067	

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DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5

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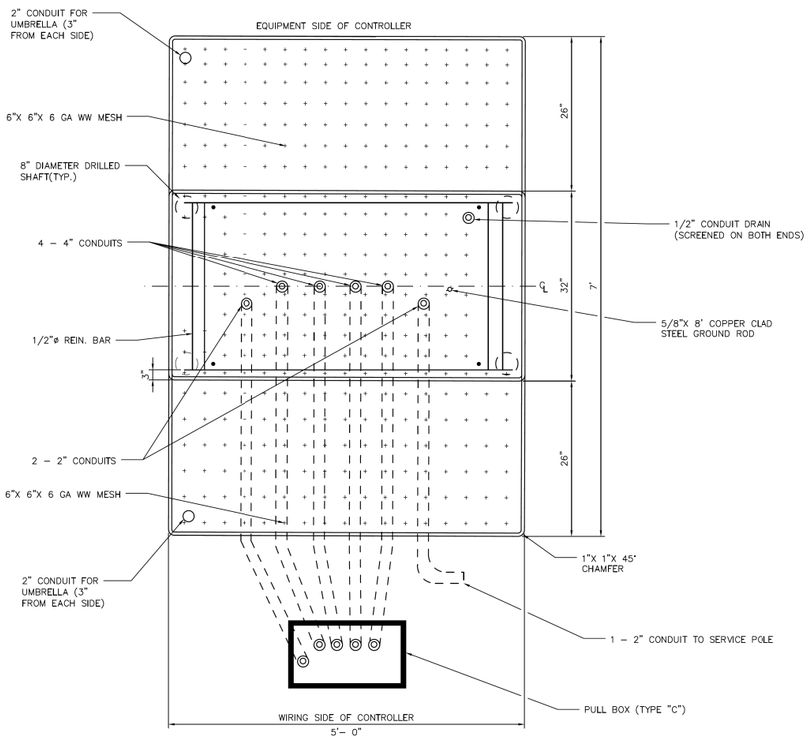
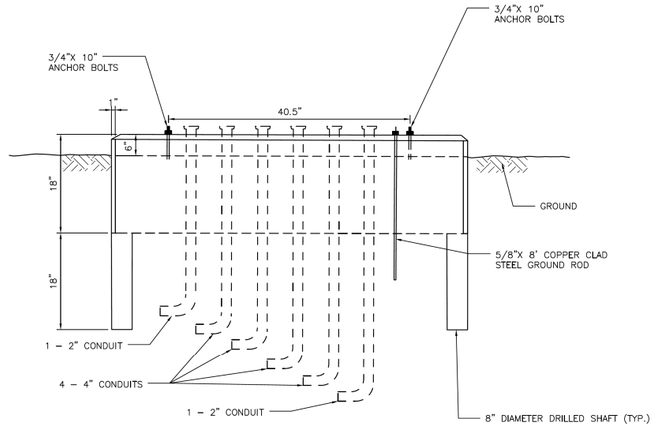
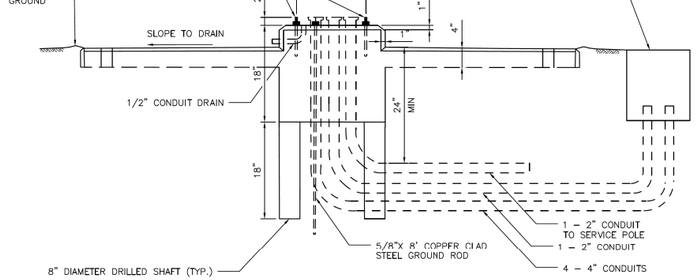


MODEL ITS 340 AND ACT 350i DETAIL
TOP VIEW



MODEL ITS 340 AND 350i DETAIL
FRONT VIEW



MODEL ITS 340 AND 350i DETAIL
SIDE VIEW

NOTES:

1. ALL CONCRETE TO BE IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION SECTION 03310.
2. SET THE TOP OF THE STEP OF THE CONTROLLER FOUNDATION NO LOWER THAN THE LEVEL OF THE PAVEMENT SURFACE. ANY NECESSARY ADJUSTMENT SHALL BE APPROVED BY THE ENGINEER.
3. CENTER THE CABINET ON THE FOUNDATION.
4. THE FOUNDATION SHALL BE SUPPORTED BY UNDISTURBED SOIL OR BY SOIL THAT HAS BEEN COMPACTED TO 90% PROCTOR DENSITY IN 6" LIFTS.
5. ALL CONDUIT ELBOWS TO BE RGS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukai Kanwar 82F880CA41F5478...	DocuSigned by: LONG NGUYEN 8A3E7D47D67B4C5...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Hubbuch A33C410B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 16730–03

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONTROLLER FOUNDATIONS

SHEET 3 OF 3

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
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Texas Department of Transportation

tei Planning + Design
TEXAS PE FIRM REG. #F-3158
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HOUSTON, TX 77002

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TEI Planning + Design
Texas Registered Engineering Firm F-3158

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CONTROLLER FOUNDATIONS DETAIL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 824 OF 1067	

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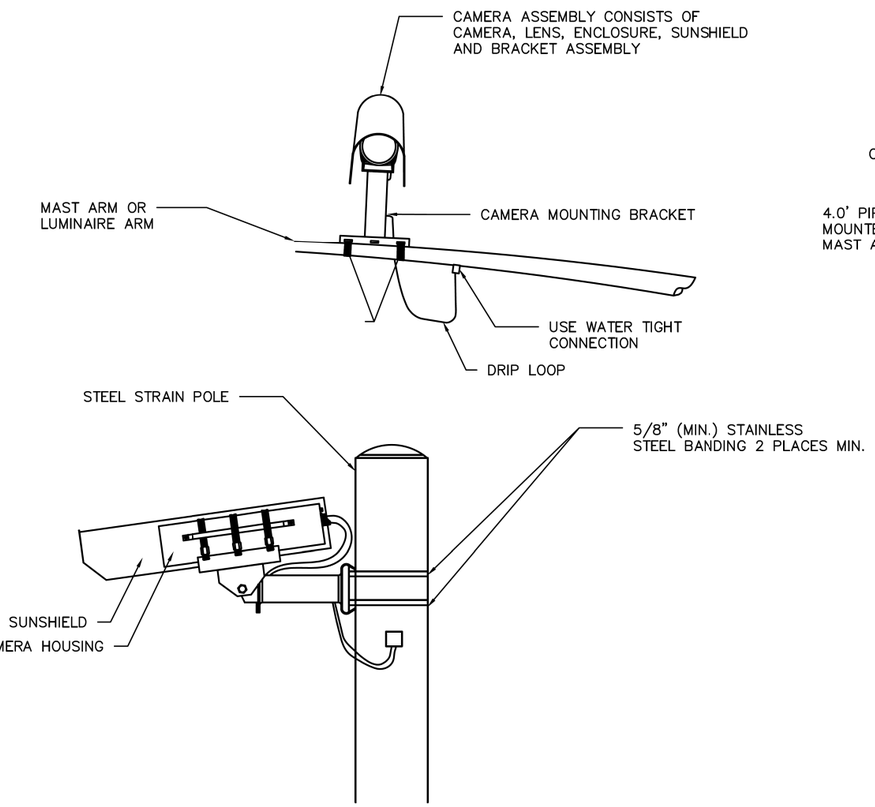
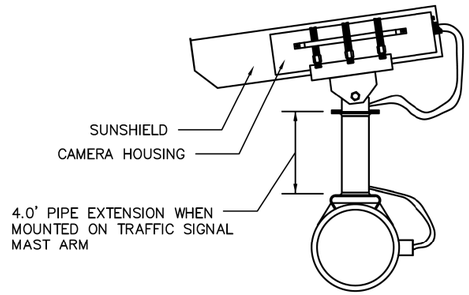
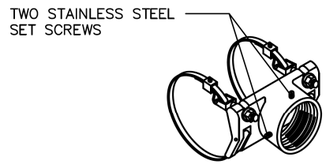


POLE MOUNT



SIDE VIEW



BAND MOUNT BRACKET DETAIL

NOTES:

1. VIDEO DETECTION PROCESSOR UNIT SHALL BE INSTALLED INSIDE CONTROLLER CABINET.
2. VIDEO DETECTION CAMERA & BRACKET SHALL BE INSTALLED AS DETAILED OR AS DIRECTED BY THE VIDEO DETECTION SUPPLIER.
3. CAMERAS SHALL BE MOUNTED AS FAR OVER THE ROADWAY AS POSSIBLE.
4. 5/8" (MIN.) STAINLESS STEEL BANDING MATERIAL SHALL BE USED TO INSTALL CAMERA MOUNTS.
5. WHEN AIMING CAMERA, HORIZON SHALL NOT BE VISIBLE IN THE FIELD OF VIEW.
6. CAMERA ENCLOSURE ASSEMBLY SHALL BE ROTATABLE AFTER INSTALLATION TO PROVIDE PROPER ALIGNMENT.
7. ALL CABLE ENTRY AND EXIT POINTS IN THE MAST ARM AND/OR POLES SHALL BE WATER TIGHT.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

VIDEO CAMERA MOUNTING DETAILS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 16742-01

Texas Department of Transportation

tei Planning + Design
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HOUSTON, TX 77002

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Licensed
91759
Registered Professional
3/9/2026
Date
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Texas Registered Engineering Firm F-3158

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

VIDEO CAMERA MOUNTING DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 825 OF 1067	

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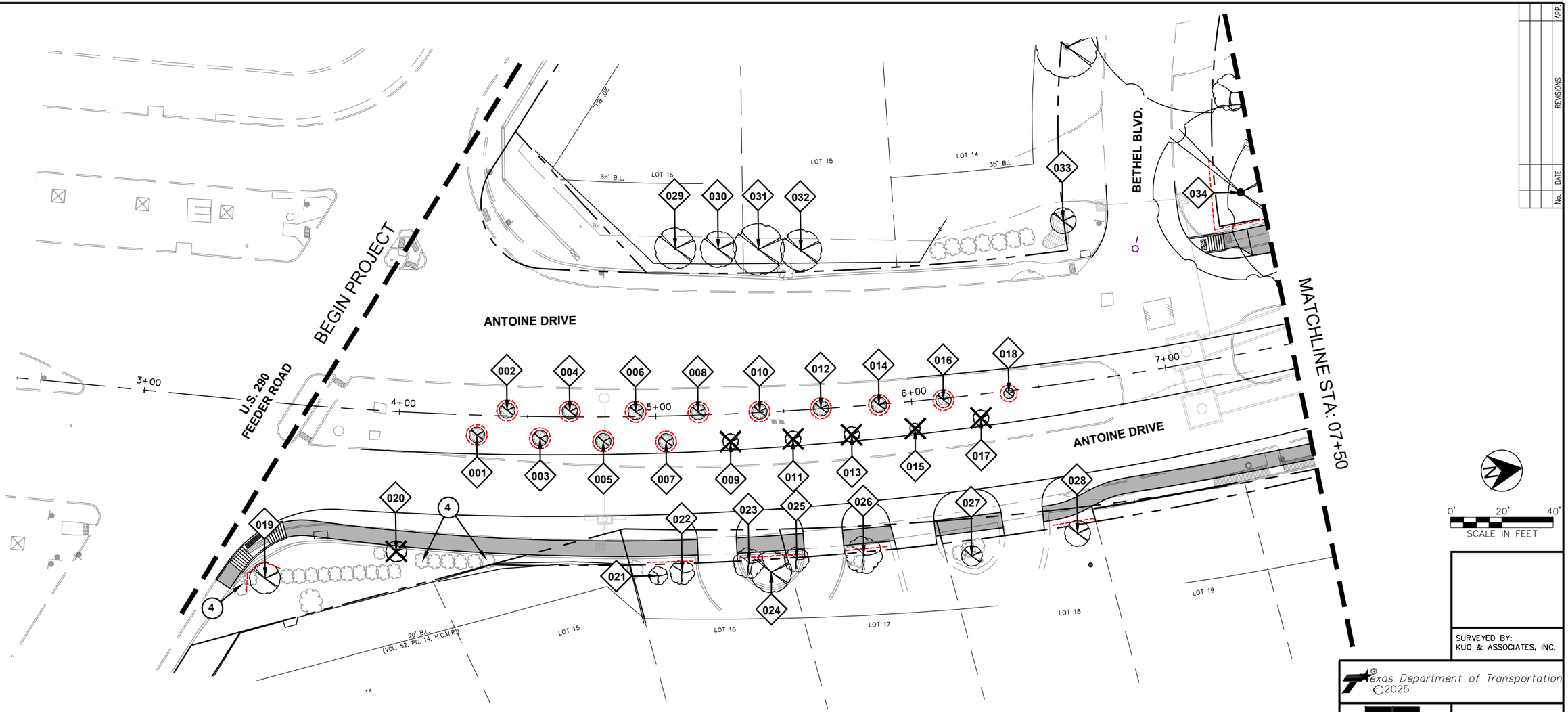

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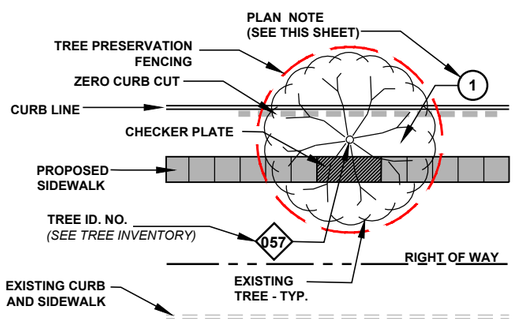

PRESERVED TREE DIAGRAM

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.
B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
G. PROPOSED TREE SHALL BE PLANTED A MINIMUM OF 5'-0" FROM BACK OF CURB AND NO CLOSER THAN 20' O.C. FROM EACH OTHER. TREE MITIGATION PLACEMENT DISTANCES FROM MEDIAN TIP ENDS SHALL BE 50'-0" AT NON-SIGNALIZED INTERSETIONS, ADN 75'-0" AT SIGNALIZED INTERSECTIONS.
H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING
I. CONTRACTOR TO SUBMIT MEANS AND METHODS OF WATERING PROCEDURES FOR NEWLY PLANTED TREES TO ARBORIST FOR REVIEW AND APPROVAL.
J. CONTRACTOR TO WARRANT, PROVIDE WATER, AND MAINTENANCE FOR ALL NEWLY PLANTED TREES FOR A PERIOD OF TWO (2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION TO SUSTAIN HEALTH OF TREE. (INCIDENTAL TO 02915 -TREE PLANTING AND NOT PAID FOR SEPARATELY.)
K. CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND ALL EXISTING TREES REGARDLESS OF SPECIFIC MEASURES THAT ARE NOTED ON THESE PLANS AND DETAILS AT ALL TIMES AND TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, SPECIFICALLY 01562.

GENERAL NOTES

No.	DATE	REVISIONS	APP.

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8955 Katy Fwy, Suite 300
Houston, Texas 77024
T: 713-722-8897 F: 713-722-8048
◆Landscape Architecture◆
◆Land Planning◆ Urban Design◆

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

TREE PRESERVATION PLAN
SHEET 1 OF 10
(BEGIN PROJECT TO STA: 07+50)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 826 OF 1067	

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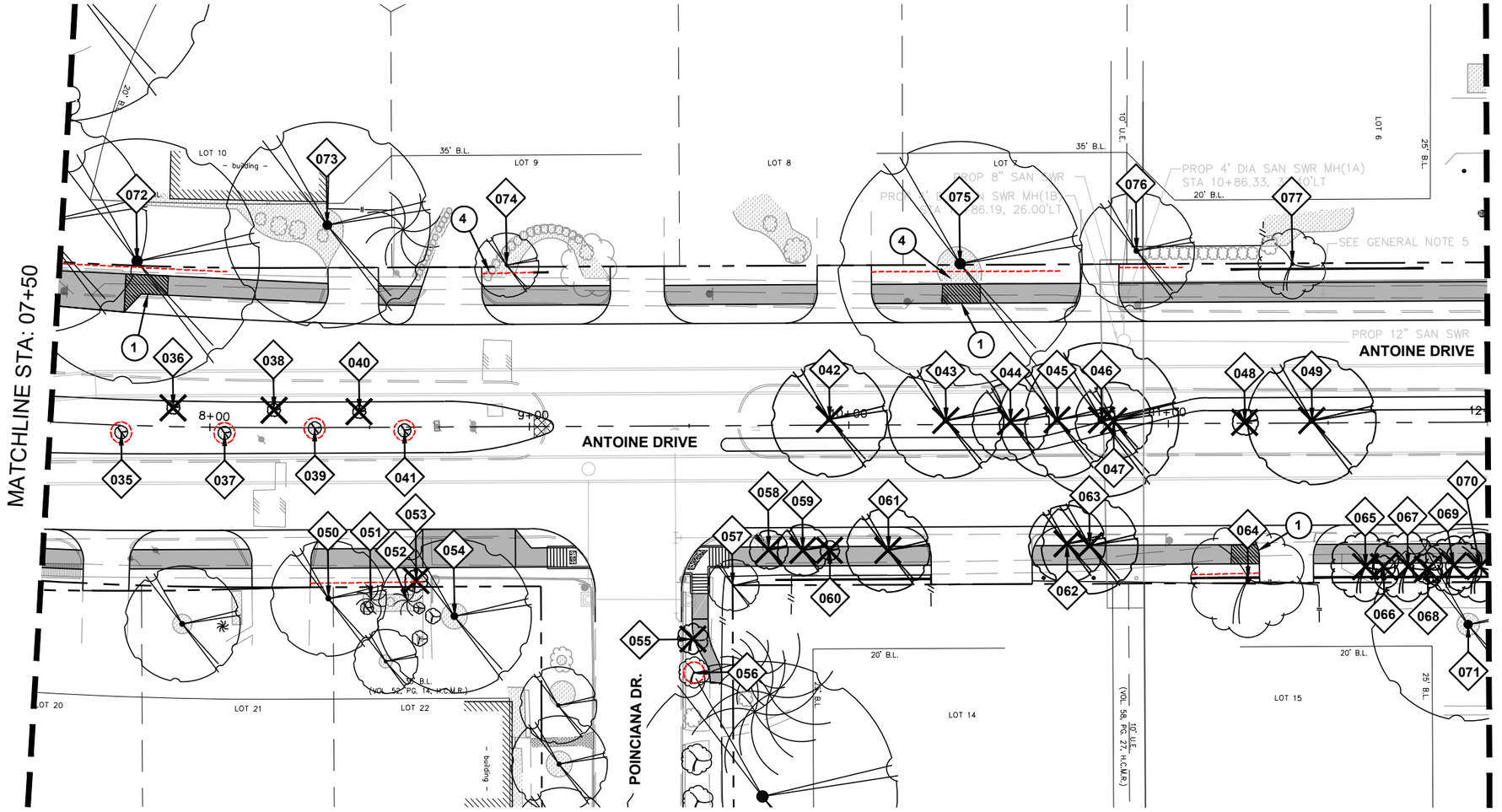

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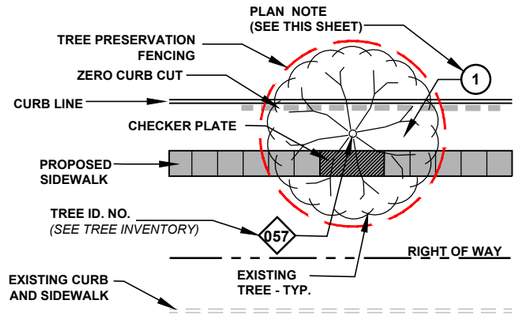

PRESERVED TREE DIAGRAM

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.

B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.

C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.

D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.

E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*

F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)

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H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING

I. CONTRACTOR TO SUBMIT MEANS AND METHODS OF WATERING PROCEDURES FOR NEWLY PLANTED TREES TO ARBORIST FOR REVIEW AND APPROVAL.

J. CONTRACTOR TO WARRANT, PROVIDE WATER, AND MAINTENANCE FOR ALL NEWLY PLANTED TREES FOR A PERIOD OF TWO (2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION TO SUSTAIN HEALTH OF TREE. (INCIDENTAL TO 02915 -TREE PLANTING AND NOT PAID FOR SEPARATELY.)

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GENERAL NOTES

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

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●Land Planning● Urban Design●

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

TREE PRESERVATION PLAN
SHEET 2 OF 10
(STA: 07+50 TO STA: 12+00)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 827 OF 1067	

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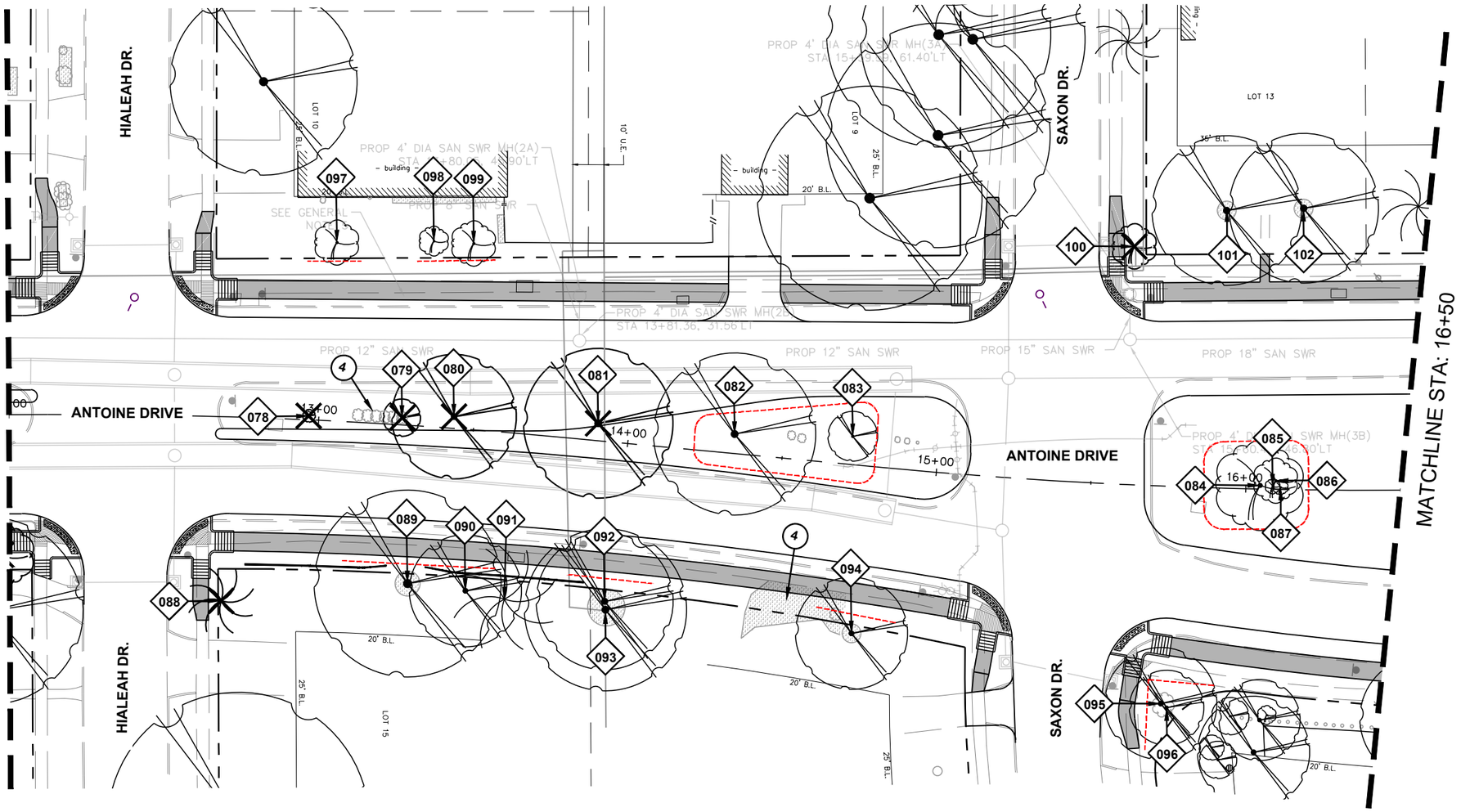

0' 20' 40'
SCALE IN FEET

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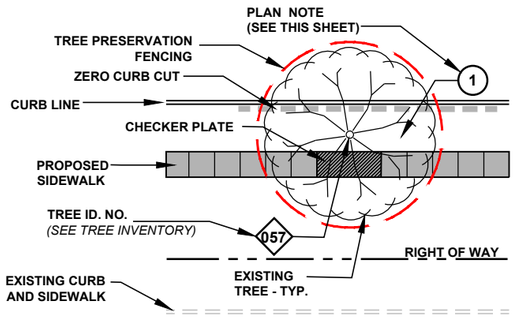

PRESERVED TREE DIAGRAM

PLAN NOTES

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

GENERAL NOTES

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B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
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◆Landscape Architecture◆
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

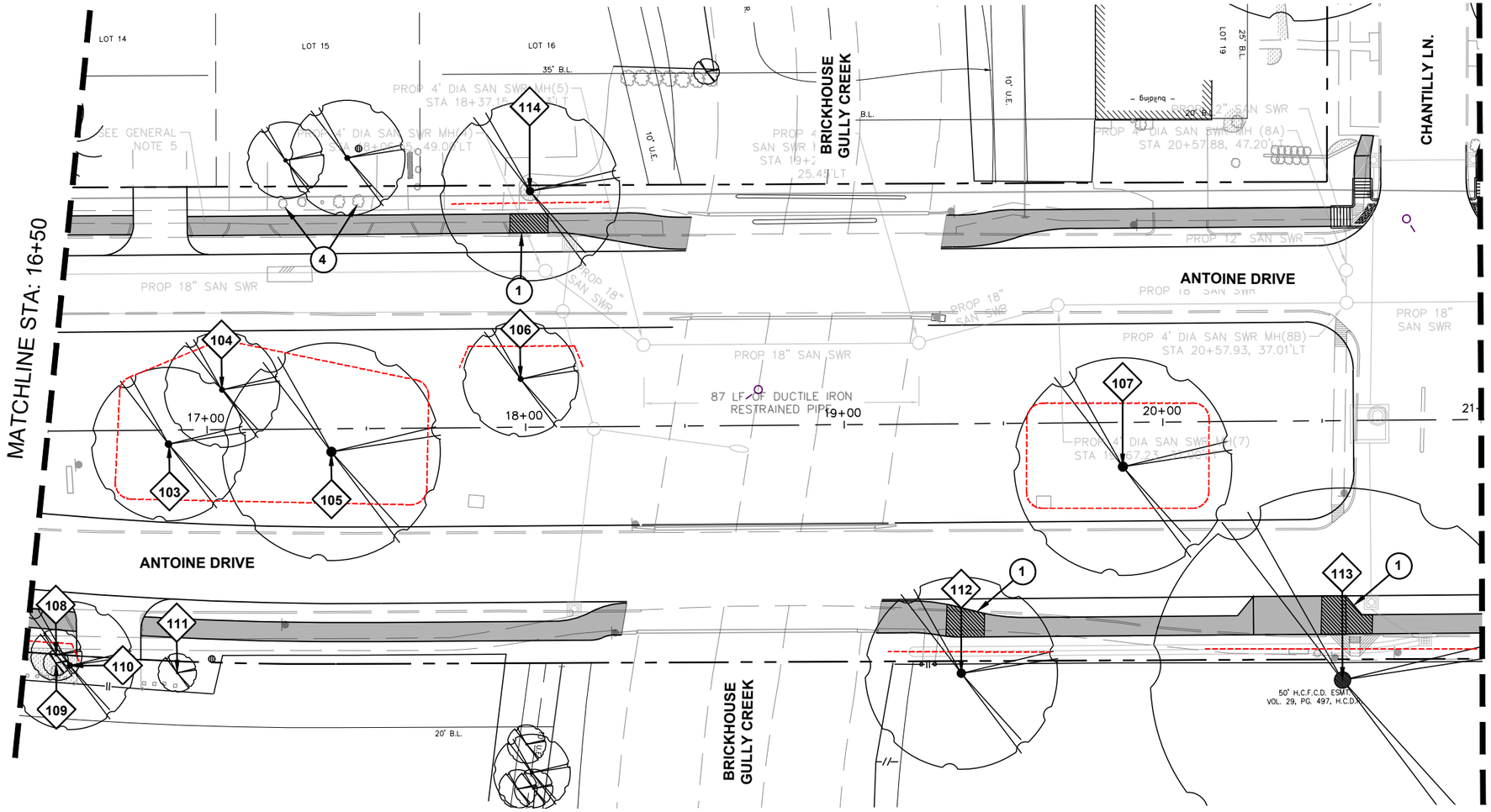
ANTOINE DRIVE (290 to Acorn St)

TREE PRESERVATION PLAN
SHEET 3 OF 10
(STA: 12+00 TO STA: 16+50)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 828 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Tables:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$



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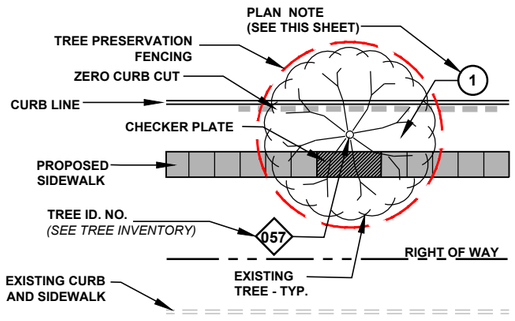

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0' 20' 40'
SCALE IN FEET

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ANTOINE DRIVE (290 to Acorn St)

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SHEET 4 OF 10
(STA: 16+50 TO STA: 21+00)

SHEET 00 OF 70

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N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 829 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
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Plot Driver:$PLTDRVL$
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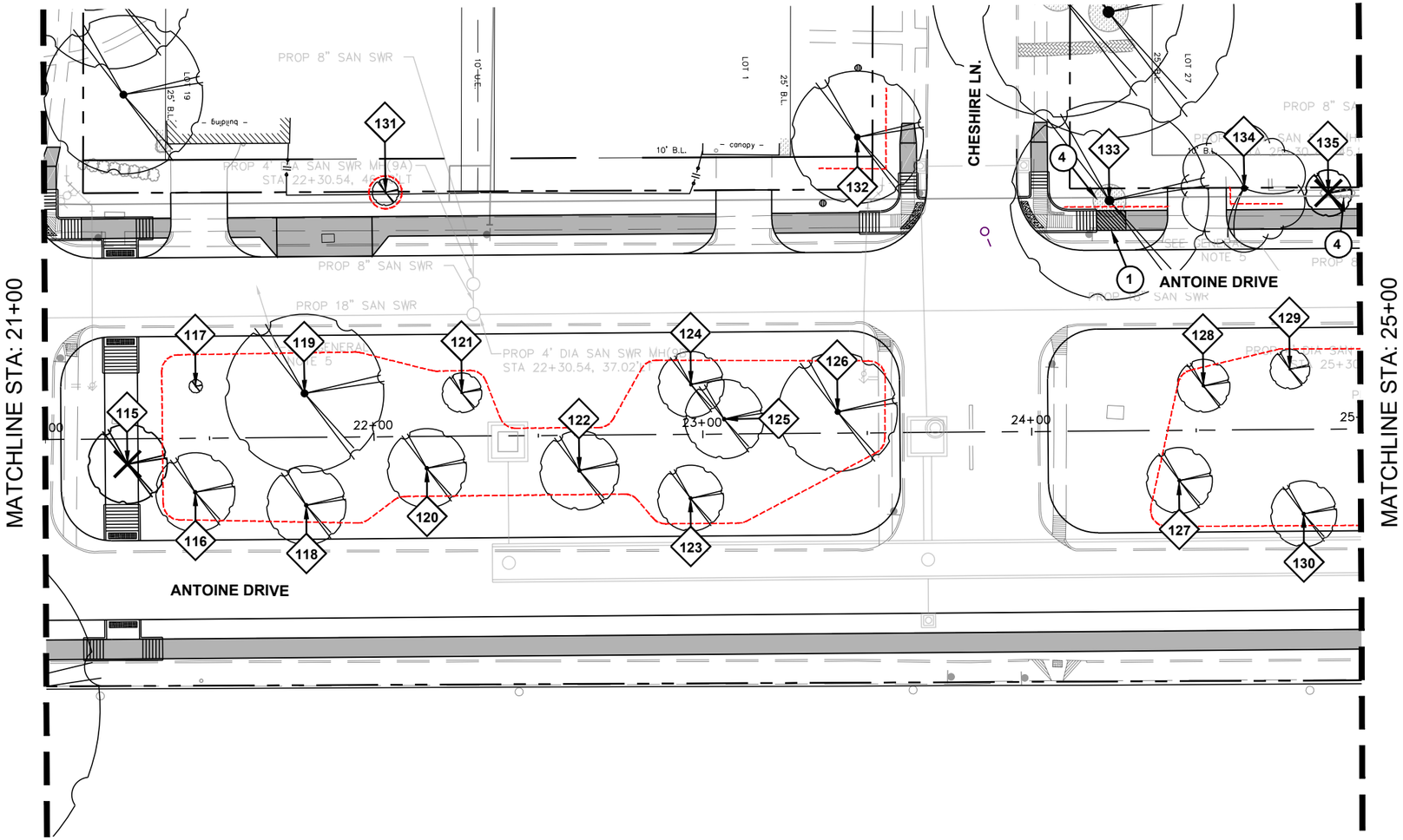

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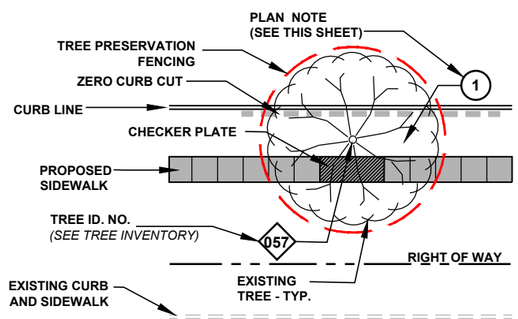

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SHEET 00 OF 70

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N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 830 OF 1067	

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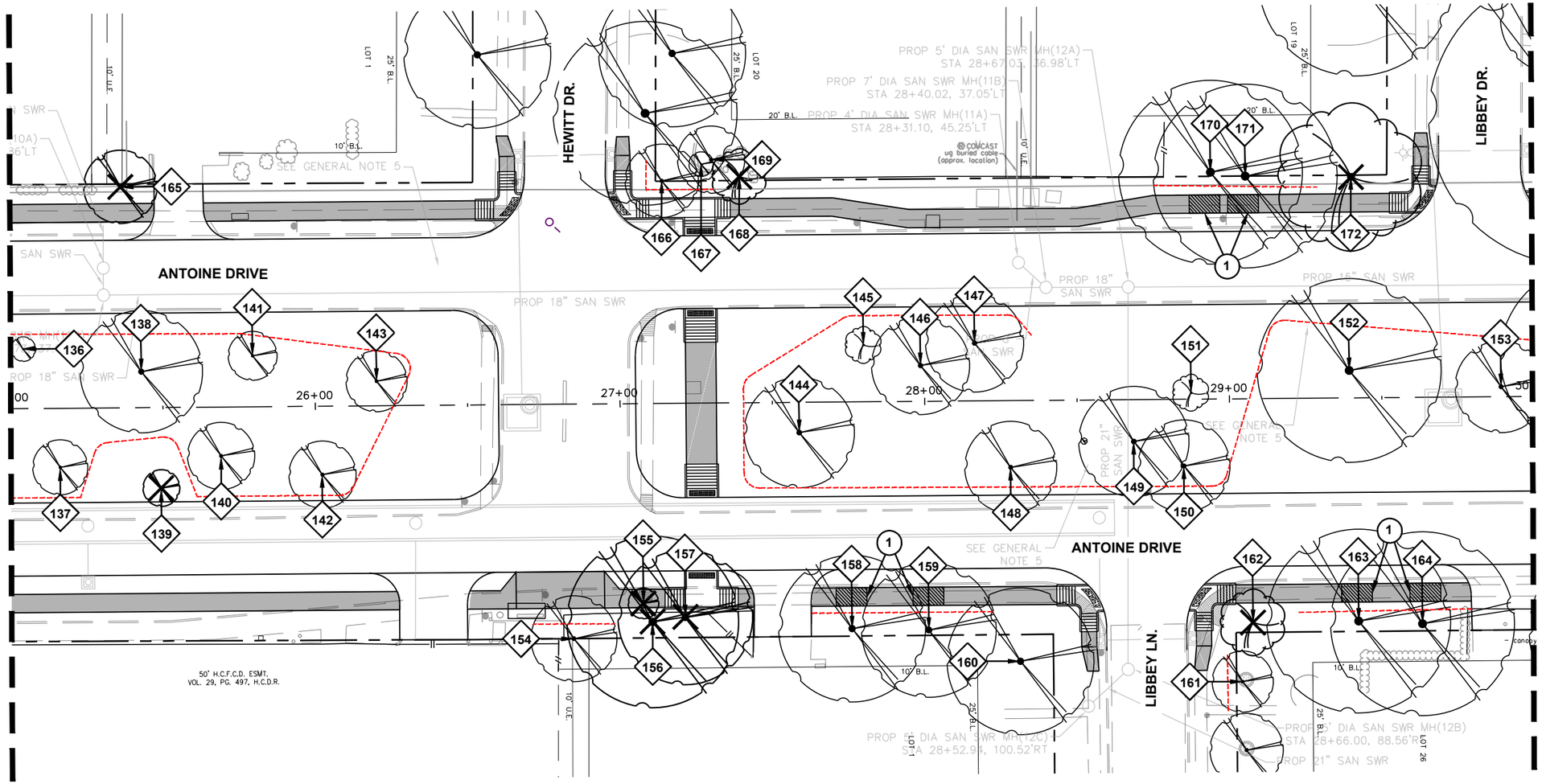

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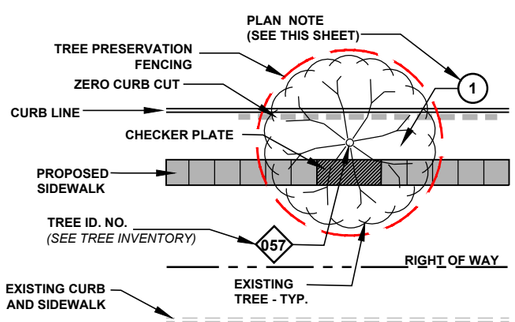

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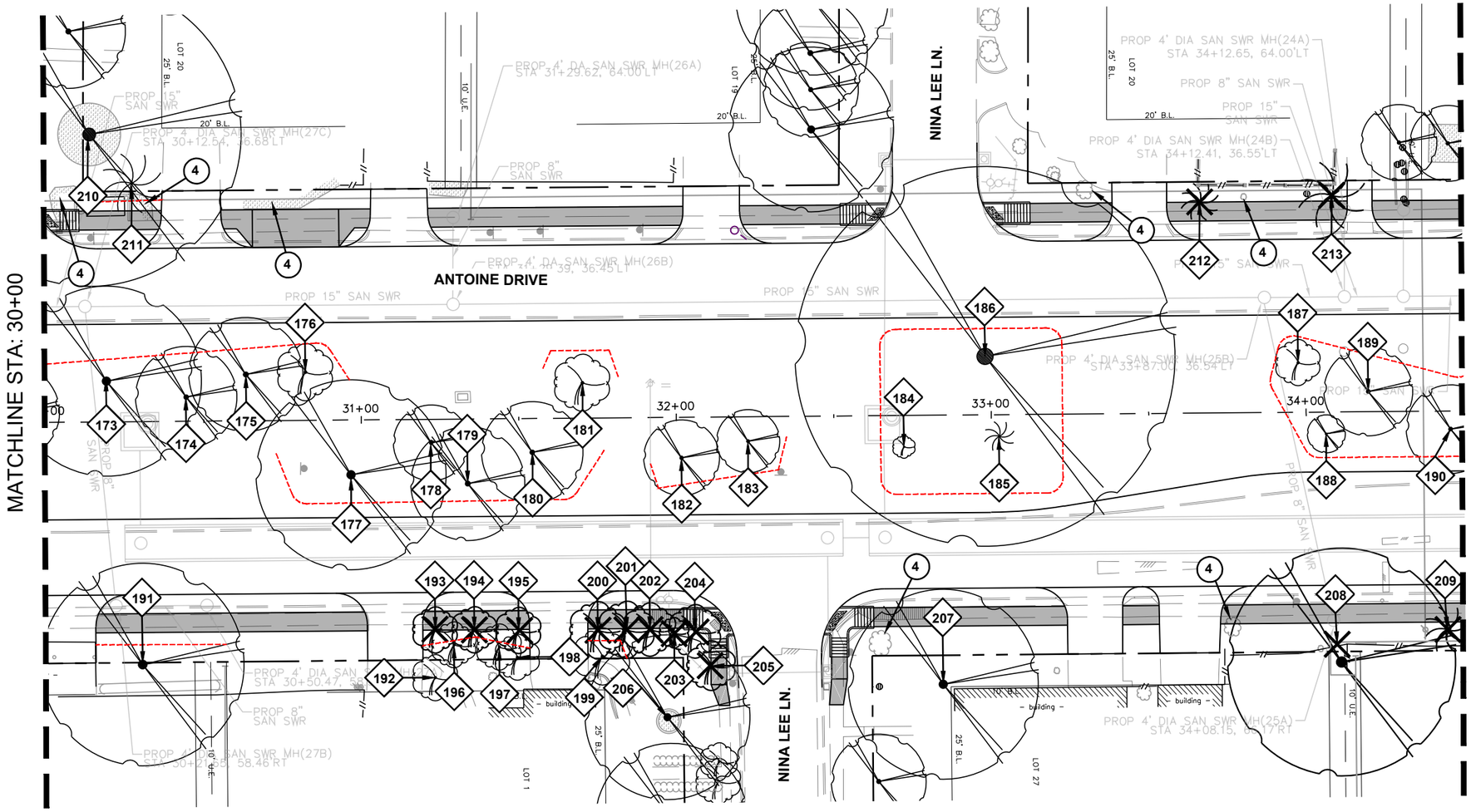

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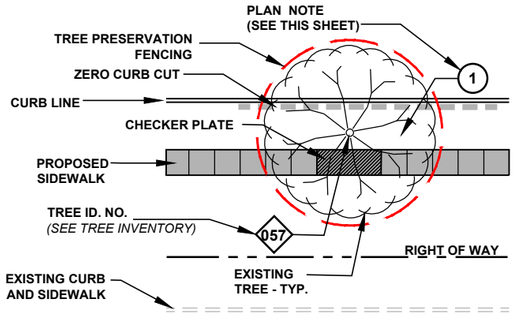

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SHEET 7 OF 10
(STA: 30+00 TO STA: 34+50)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 832 OF 1067	

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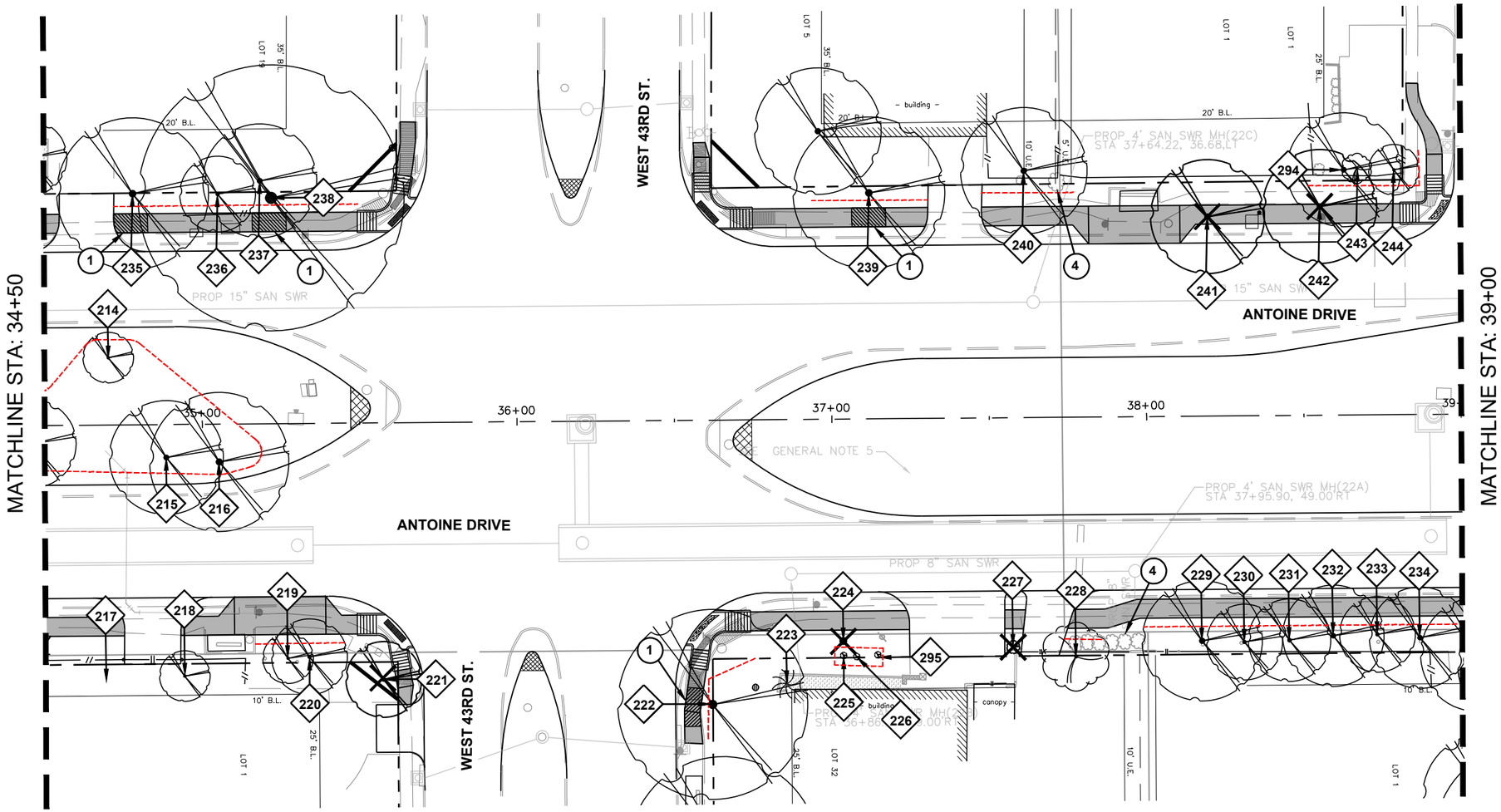

0' 20' 40'
SCALE IN FEET

60% CD SUBMITTAL

SURVEYED BY:
KUO & ASSOCIATES, INC.

Texas Department of Transportation
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8955 Katy Fwy, Suite 300
Houston, Texas 77024
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•Landscape Architecture•
•Land Planning• Urban Design•

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

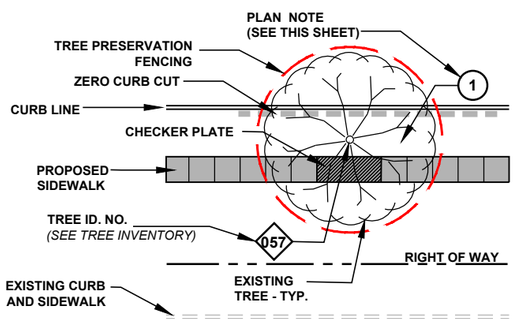
TREE PRESERVATION PLAN
SHEET 8 OF 10
(STA: 34+50 TO STA: 39+00)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 833 OF 1067	

No.	DATE	REVISIONS	APP.

PRESERVED TREE DIAGRAM



PLAN NOTES

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

GENERAL NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.
B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
G. PROPOSED TREE SHALL BE PLANTED A MINIMUM OF 5'-0" FROM BACK OF CURB AND NO CLOSER THAN 20' O.C. FROM EACH OTHER. TREE MITIGATION PLACEMENT DISTANCES FROM MEDIAN TIP ENDS SHALL BE 50'-0" AT NON-SIGNALIZED INTERSETIONS, ADN 75"-0" AT SIGNALIZED INTERSECTIONS.
H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING
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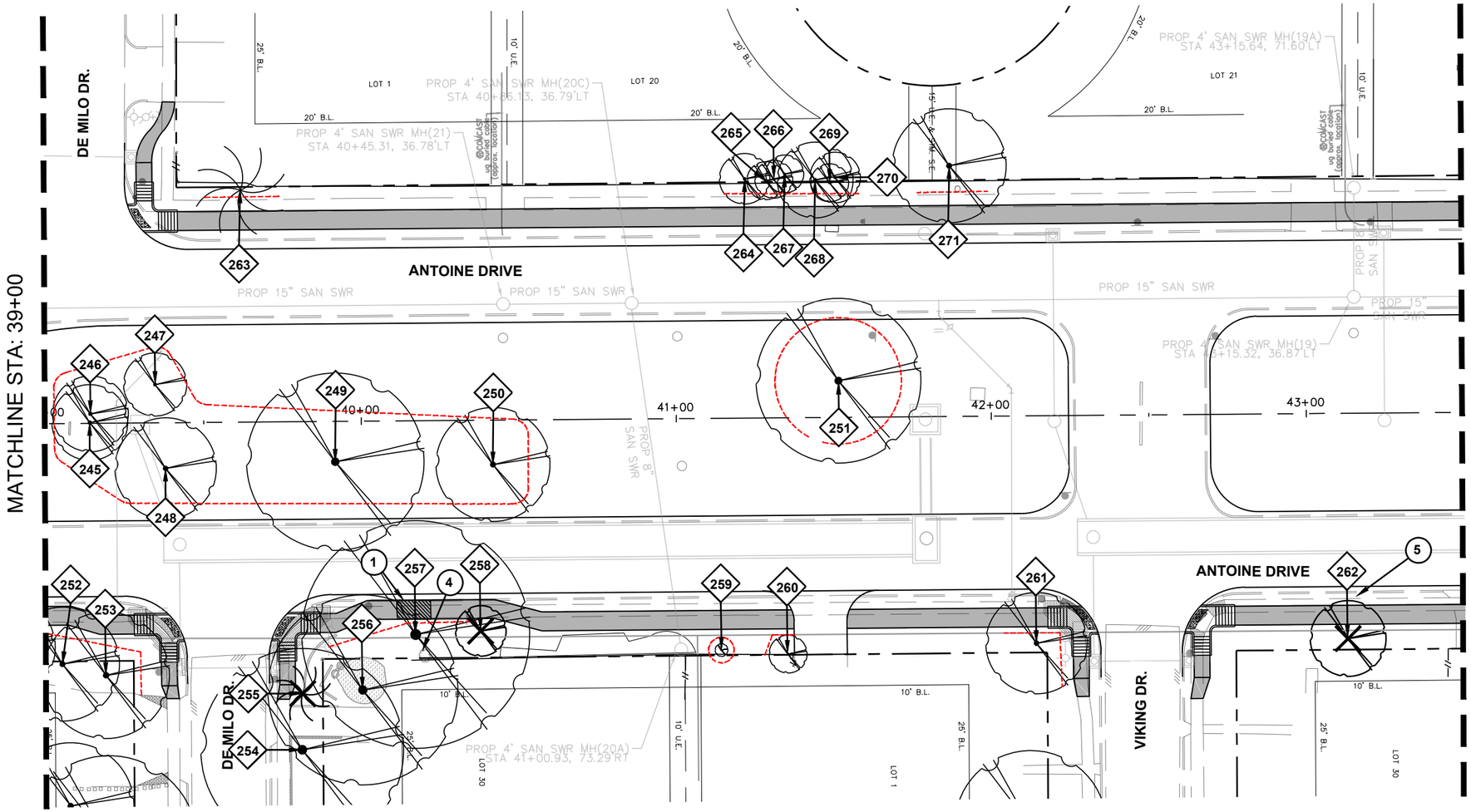

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0' 20' 40'
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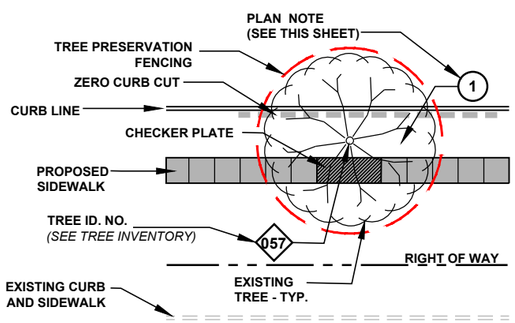

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REVISIONS

No.	DATE	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

TREE PRESERVATION PLAN
SHEET 9 OF 10
(STA: 39+00 TO STA: 43+50)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 834 OF 1067	

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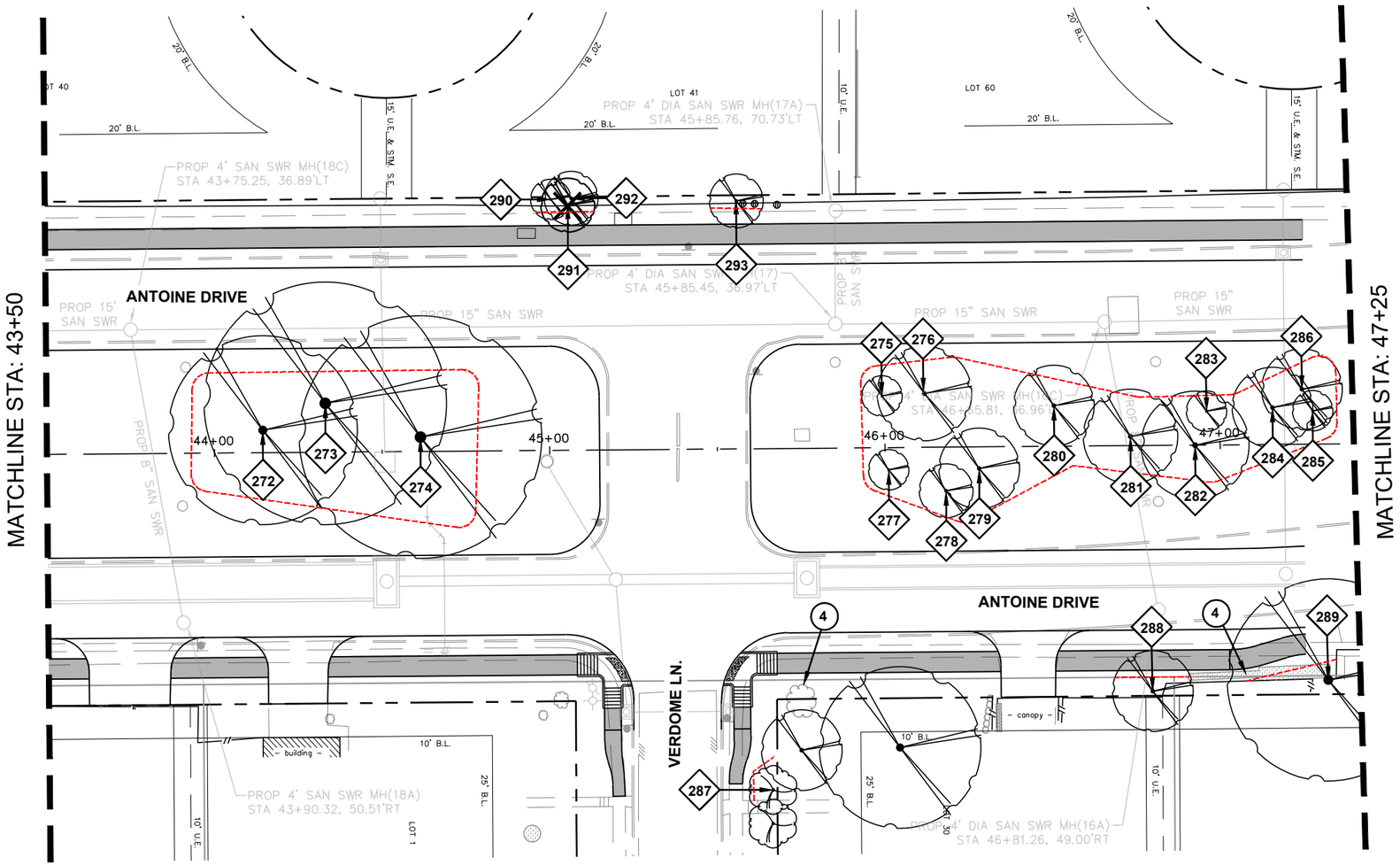

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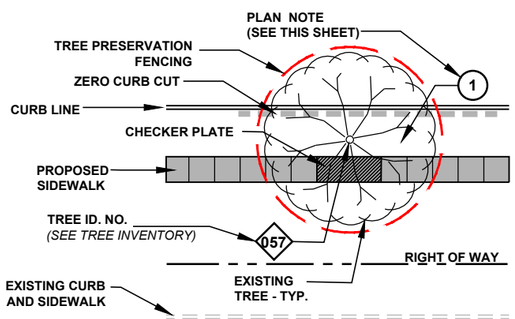

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GENERAL NOTES

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

TREE PRESERVATION PLAN
SHEET 10 OF 10
(STA: 43+50 TO STA: 47+25)

SHEET 00 OF 70

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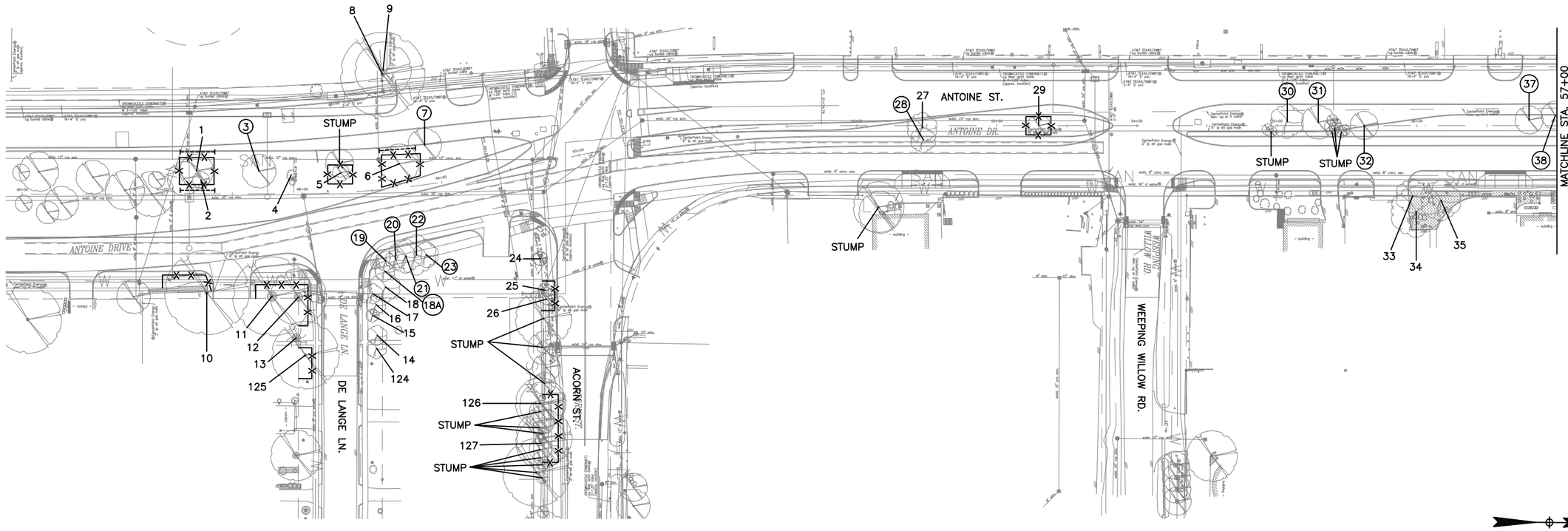

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Antoine Drive					
1	Median	17" Live Oak	Protected		Root prune for street, Fence, Clearance prune
2	Median	6" Bur Oak	Protected	Suppressed	Fence
3	Median	12" Live Oak	Protected	Remove for storm sewer	Remove tree, Provide 12" replacement/mitigation
4	Median	7" Redtip Photinia	Not Protected	Dead	
5	Median	6" Bur Oak	Protected		Fence
6	Median	14" Live Oak	Protected		Root prune for street, Fence, Clearance prune
7	Median	12" Live Oak	Protected	Remove for street widening	Remove tree, Provide 12" replacement/mitigation
8	N/A	17" Raintree	Not Protected	Private tree, Topped by CPE	
9	N/A	15" Raintree	Not Protected	Private tree, Topped by CPE	
10	5429 De Lange	37" Arizona Ash	Protected	Topped, Poor	Fence
11	5429 De Lange	23" Pecan	Protected	Topped, Poor	Fence
12	5429 De Lange	22" Pecan	Protected	Topped, Poor	Fence
13	5429 De Lange	14" Pine	Protected	Topped, Dead	
14	5430 De Lange	15" Crepe Myrtle	Not Protected		
15	5430 De Lange	10" Crepe Myrtle	Not Protected		
16	5430 De Lange	10" Crepe Myrtle	Not Protected		
17	5430 De Lange	11" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
18	5430 De Lange	16" Crepe Myrtle	Not Protected		
18A	5430 De Lange Ln	5" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
19	5430 De Lange	5" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
20	5430 De Lange	5" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
21	5430 De Lange	11" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
22	5430 De Lange	12" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
23	5430 De Lange	2" Crepe Myrtle	Not Protected	Remove for walk	Remove tree, No replacement/mitigation required
24	5430 De Lange	13" Sugarberry	Not Protected		
25	5430 De Lange	9" Sugarberry	Not Protected		
26	5430 De Lange	14" American Elm	Protected		Fence
27	Median	13" Crepe Myrtle	Not Protected		
28	Median	9" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
29	Median	5" Yaupon	Protected		Fence
30	Median	12" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
31	Median	11" Mexican White Oak	Protected	Remove for street widening	Remove tree, Provide 11" replacement/mitigation
32	Median	11" Lacebark Elm	Protected	Remove for street widening	Remove tree, No replacement/mitigation required
33	5050 Antoine	15" Crepe Myrtle	Not Protected	Private tree, Topped	
34	5050 Antoine	22" Crepe Myrtle	Not Protected	Private tree, Topped	
35	5050 Antoine	17" Crepe Myrtle	Not Protected	Private tree, Topped	
37	Median	10" Mexican White Oak	Protected	Remove for street widening	Remove tree, Provide 10" replacement/mitigation
38	Median	11" Mexican White Oak	Protected	Remove for street widening	Remove tree, Provide 11" replacement/mitigation

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on De Lange Lane					
124	5430 De Lange	14" Crepe Myrtle	Not Protected		
125	5429 De Lange	26" Water Oak	Protected	Topped, Poor	Fence
Trees on Acorn Street					
126	5430 De Lange	20" American Elm	Protected	Topped by CPE	Fence
127	5430 De Lange	25" Eastern Red Cedar	Protected	Topped by CPE	Fence

NOTE:

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TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ----- ROOT PRUNING TRENCH

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. ◦ Katy, Texas 77493
281–391–0022 ckoehl@koehlurbanforestry.com

APPROVED:

Texas Department of Transportation
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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PROTECTION PLAN

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AS NOTED	
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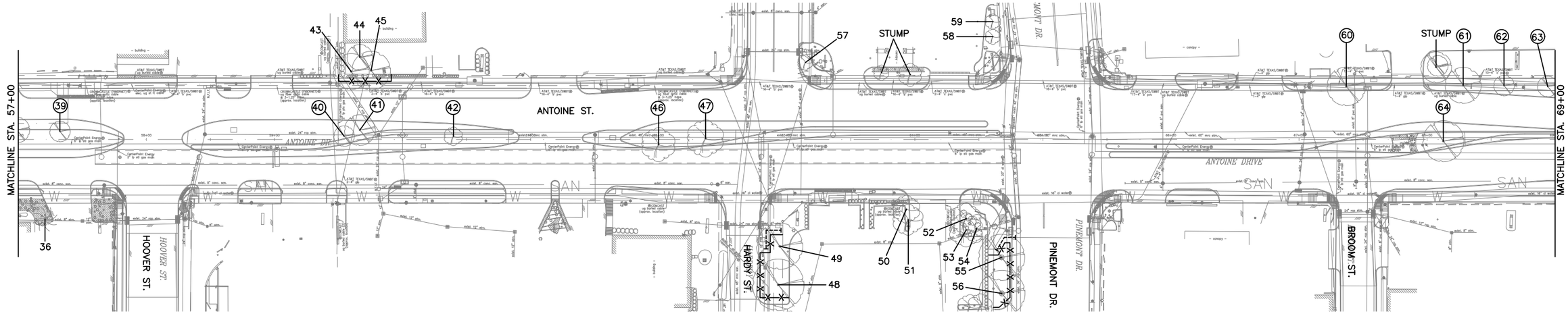

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- ⊢------⊣ — ROOT PRUNING TRENCH

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Trees on Antoine Drive					
36	5050 Antoine	13" Japanese Black Pine	Not Protected	Private tree	
39	Median	9" Bur Oak	Protected	Remove for street widening	Remove tree, Provide 9" replacement/mitigation
40	Median	9" Mexican White Oak	Protected	Remove for street widening	Remove tree, Provide 9" replacement/mitigation
41	Median	11" Bur Oak	Protected	Remove for street widening	Remove tree, Provide 11" replacement/mitigation
42	Median	4" Crepe Myrtle	Not Protected	Stump sprouts, Remove for street widening	Remove tree, No replacement/mitigation required
43	5137 Antoine	16" Live Oak	Not Protected	Private tree, Pruned by CPE	Fence
44	5137 Antoine	12" Live Oak	Not Protected	Private tree, Pruned by CPE	Fence
45	5137 Antoine	12" Live Oak	Not Protected	Private tree, Pruned by CPE	Fence
46	Median	13" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
47	Median	14" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
48	5212 Antoine	21" Live Oak	Protected		Hand dig for waterline bends and wet connection, Fence, Bore waterline, Root stimulate
49	5212 Antoine	19" Live Oak	Protected		Root prune for storm, Fence, Bore waterline, Root stimulate
50	5212 Antoine	11" Crepe Myrtle	Not Protected	Private tree, Topped	
51	5212 Antoine	14" Crepe Myrtle	Not Protected	Private tree, Topped	
52	5212 Antoine	4" Crepe Myrtle	Not Protected	Private tree, Topped	
53	5212 Antoine	9" Crepe Myrtle	Not Protected	Private tree, Topped	
54	5212 Antoine	11" Crepe Myrtle	Not Protected	Private tree, Topped	
55	5212 Antoine	19" Live Oak	Protected		Root prune for waterline fittings, Fence, Root stimulate
56	5212 Antoine	21" Live Oak	Protected		Fence
57	5025 Antoine	3" Crepe Myrtle	Not Protected		
58	5025 Antoine	2" Crepe Myrtle	Not Protected	Private tree, Topped	
59	5025 Antoine	2" Crepe Myrtle	Not Protected	Private tree, Topped	
60	5321 Antoine	15" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 15" replacement/mitigation
61	5375 Antoine	13" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 13" replacement/mitigation
62	5375 Antoine	8" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 8" replacement/mitigation
63	5375 Antoine	6" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 6" replacement/mitigation
64	Median	14" Mulberry	Protected	Trunk decay, Remove for street widening	Remove tree, No replacement/mitigation required

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APPROVED:

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

SURVEYED BY:
KUO & ASSOCIATES, INC.

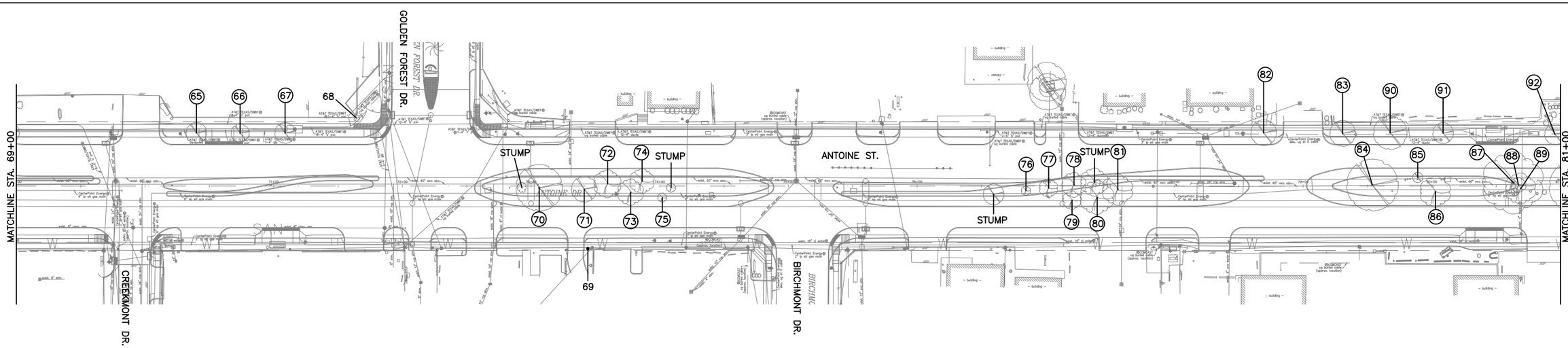
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 837 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table: $PENTBL$
Plot Driver: $PLTDRVL$
Design Filename: $FILEL$



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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Antoine Drive					
65	5377 Antoine	7" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 7" replacement/mitigation
66	5377 Antoine	7" Chinese Pistache	Protected	Remove for walk, 70% gone, Poor	Remove tree, No replacement/mitigation required
67	5377 Antoine	6" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 6" replacement/mitigation
68	5377 Antoine	12" Mulberry	Not Protected	Stump sprouts	Clearance prune
69	5322 Antoine	2" Mulberry	Not Protected		Clearance prune
70	Median	18" Mexican White Oak	Protected	Remove for street widening	Remove tree, Provide 18" replacement/mitigation
71	Median	2" Vitex	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
72	Median	13" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
73	Median	11" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
74	Median	12" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
75	Median	1" Crepe Myrtle	Not Protected	Stump sprouts, Remove for street widening	Remove tree, No replacement/mitigation required
76	Median	3" Crepe Myrtle	Not Protected	Brad Hendricks memorial tree, Remove for street widening	Remove tree, No replacement/mitigation required
77	Median	8" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
78	Median	12" Crepe Myrtle	Not Protected	Codominant, Remove for street widening	Remove tree, No replacement/mitigation required
79	Median	10" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
80	Median	14" Crepe Myrtle	Not Protected	Codominant, Remove for street widening	Remove tree, No replacement/mitigation required
81	Median	8" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
82	5555 Antoine	9" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 9" replacement/mitigation
83	5555 Antoine	10" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 10" replacement/mitigation
84	Median	19" Loquat Leafed Oak	Protected	Significant tree decay, Remove for street widening	Remove tree, No replacement/mitigation required
85	Median	5" Winged Elm	Protected	Remove for street widening	Remove tree, Provide 5" replacement/mitigation
86	Median	16" Crepe Myrtle	Not Protected	Codominant, Remove for street widening	Remove tree, No replacement/mitigation required
87	Median	12" Crepe Myrtle	Not Protected	Multitrunk, Remove for street widening	Remove tree, No replacement/mitigation required
88	Median	5" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
89	Median	3" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
89A	Median	18" Loquat Leafed Oak	Protected	Remove for street widening	Remove tree, Provide 18" replacement/mitigation
90	5555 Antoine	12" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 12" replacement/mitigation
91	5555 Antoine	7" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 7" replacement/mitigation
92	5555 Antoine	7" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 7" replacement/mitigation

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED JUNE 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. CN KOEHL URBAN FORESTRY, INC. HAS NOT BEEN CONTRACTED TO COMPLETE ANY TREE RISK ASSESSMENTS ON THIS PROJECT–THIS TPP INCLUDES PROTECTION MEASURES FOR SPECIES OF TREES PROTECTED BY APPLICABLE ORDINANCE ONLY. CN KOEHL URBAN FORESTRY, INC. DOES NOT GUARANTEE CONDITION OR STRUCTURAL INTEGRITY OF ANY TREES LOCATED ON OR ADJACENT TO THIS PROJECT.
3. IN AREA WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP WITH A DOT AND TREE NUMBER. ACCURACY OF REPRESENTED LOCATION IS NOT GUARANTEED BY CN KOEHL URBAN FORESTRY, INC.

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- ① — TREE TO BE REMOVED
- –X–X– TREE PROTECTION FENCE
- ROOT PRUNING TRENCH

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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PROTECTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 838 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
Pen Table: $PENTBLS$
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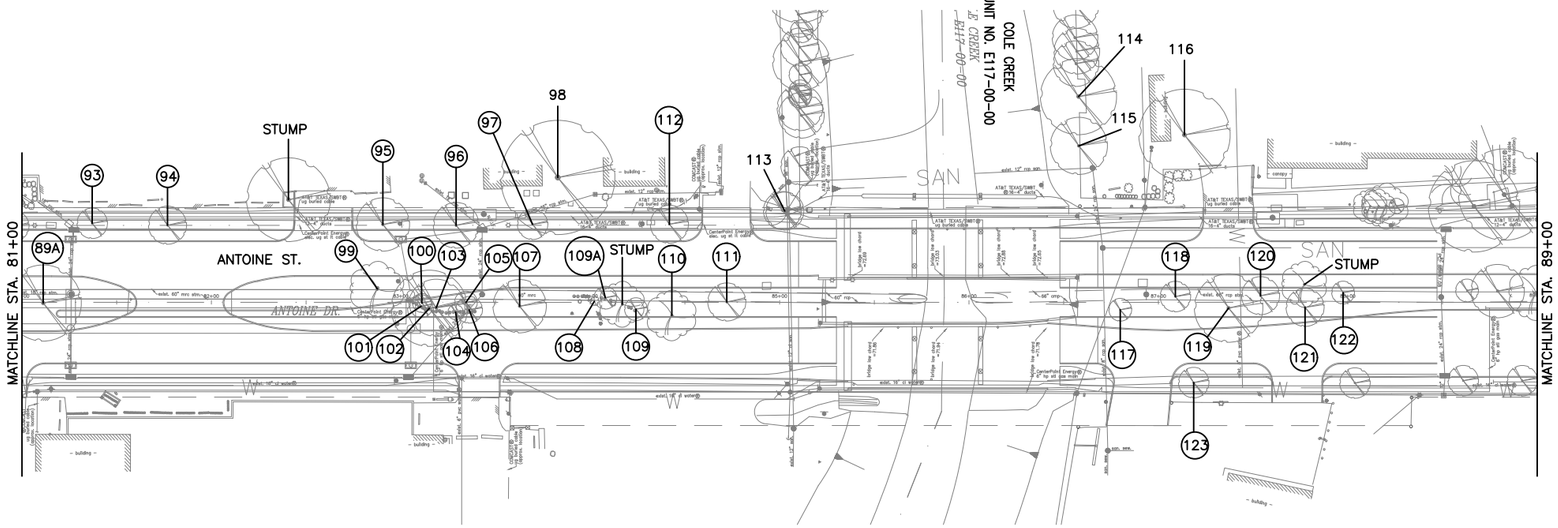

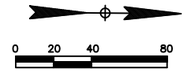

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Antoine Drive					
89A	Median	18" Loquat Leafed Oak	Protected	Remove for street widening	Remove tree, Provide 18" replacement/mitigation
93	5555 Antoine	9" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 9" replacement/mitigation
94	5555 Antoine	9" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 9" replacement/mitigation
95	5555 Antoine	12" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 12" replacement/mitigation
96	5555 Antoine	12" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 12" replacement/mitigation
97	5555 Antoine	10" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 10" replacement/mitigation
98	5555 Antoine	32" Arizona Ash	Not Protected	Trunk decay, Private tree	
99	Median	13" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
100	Median	7" Sugarberry	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
101	Median	9" Sugarberry	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
102	Median	16" Chinaberry	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
103	Median	6" Bradford Pear	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
104	Median	4" American Elm	Protected	Remove for street widening	Remove tree, Provide 4" replacement/mitigation
105	Median	10" Sugarberry	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
106	Median	10" Lacebark Elm	Protected	Remove for street widening	Remove tree, Provide 10" replacement/mitigation
107	Median	13" Mexican White Oak	Protected	Remove for street widening	Remove tree, Provide 13" replacement/mitigation
108	Median	9" Sugarberry	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
109	Median	6" Lacebark Elm	Protected	Trunk decay, Poor, Remove for street widening	Remove tree, No replacement/mitigation required
109A	Median	9" Mulberry	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
110	Median	16" Crepe Myrtle	Not Protected	Remove for street widening	Remove tree, No replacement/mitigation required
111	Median	10" Chinese Pistache	Protected	Large trunk cavity, Poor, Remove for street widening	Remove tree, No replacement/mitigation required
112	5555 Antoine	11" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 11" replacement/mitigation
113	5555 Antoine	17" Sugarberry	Not Protected	Codominant, Pruned by CPE	
114	5625 Antoine	18" Lacebark Elm	Not Protected	Private tree	
115	5625 Antoine	11" Lacebark Elm	Not Protected	Private tree	
116	5625 Antoine	25" Arizona Ash	Not Protected	Private tree	
117	Median	6" Trident Maple	Protected	Remove for street widening	Remove tree, Provide 6" replacement/mitigation
118	Median	7" Chinese Pistache	Protected	Remove for street widening	Remove tree, Provide 7" replacement/mitigation
119	Median	5" Holly	Protected	Remove for street widening	Remove tree, Provide 5" replacement/mitigation
120	Median	9" Trident Maple	Protected	Remove for street widening	Remove tree, Provide 9" replacement/mitigation
121	Median	8" Mexican Plum	Protected	Remove for street widening	Remove tree, Provide 8" replacement/mitigation
122	Median	5" Trident Maple	Protected	Remove for street widening	Remove tree, Provide 5" replacement/mitigation
123	5558 Antoine	7" Chinese Pistache	Protected	Remove for walk	Remove tree, Provide 7" replacement/mitigation

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED JUNE 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
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TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- –X–X– — TREE PROTECTION FENCE
- ⊢------⊣ — ROOT PRUNING TRENCH

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APPROVED:

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713-914-4455 FAX 713-914-0155

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PROTECTION PLAN

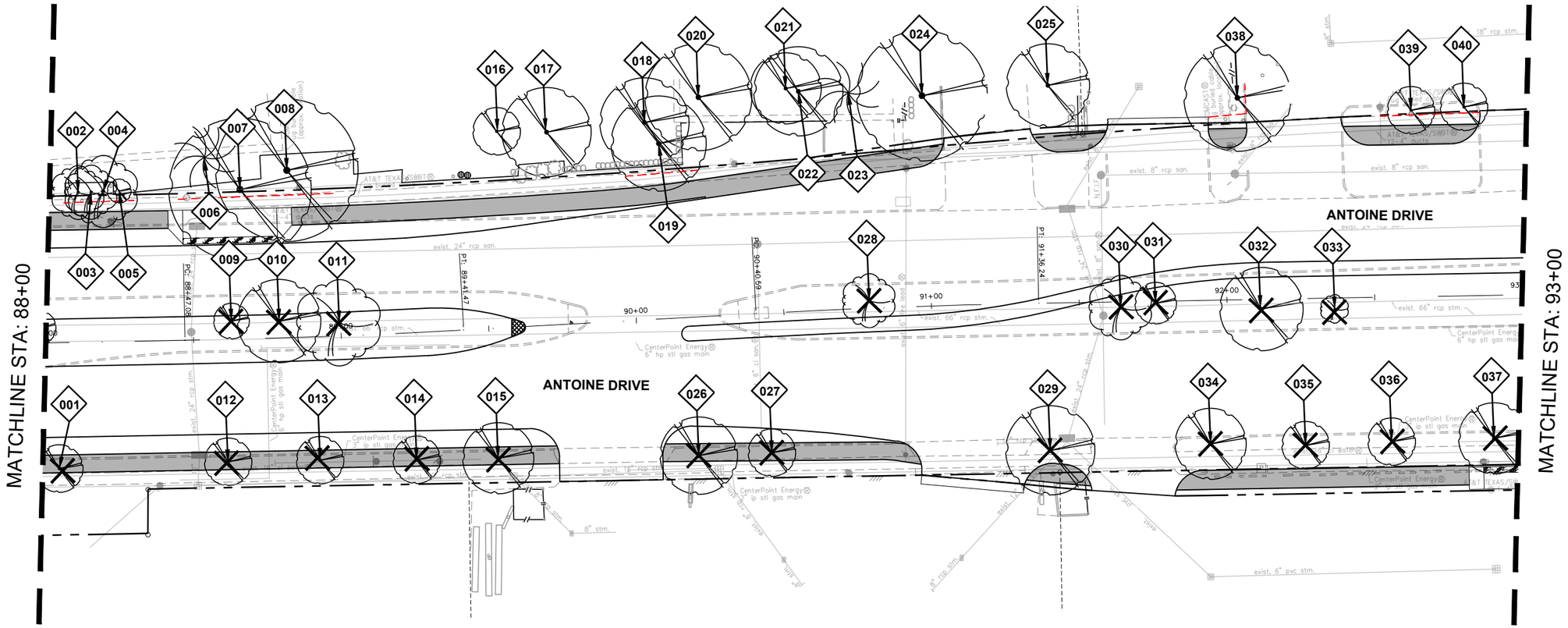
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 839 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$

Pen Table: $PENTBLS$
Plot Driver: $PLTDRVL$

Design Filename: $FILE$

Plotted on: $DATE$ $TIME$ $USER$


MATCHLINE STA: 88+00
MATCHLINE STA: 93+00
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PC: 88+47.08
PT: 89+41.47
PC: 90+40.69
PT: 91+36.24
90+00
91+00
92+00
exist. 24" rcp son.
exist. 66" rcp stm.
exist. 8" rcp son.
exist. 6" pvc stm.
exist. 18" rcp stm.
8" stm.
CenterPoint Energy
6" hp stl gas main
AT&T TEXAS/SWBT
exist. 4" cse
exist. 6" cse
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exist. 12" cse
exist. 24" cse
exist. 6" cl son
exist. 8" cl son
exist. 24" rcp stm
exist. 12" rcp stm
exist. 18" rcp stm
exist. 24" rcp son
exist. 8" rcp son
exist. 6" pvc stm
exist. 66" rcp stm
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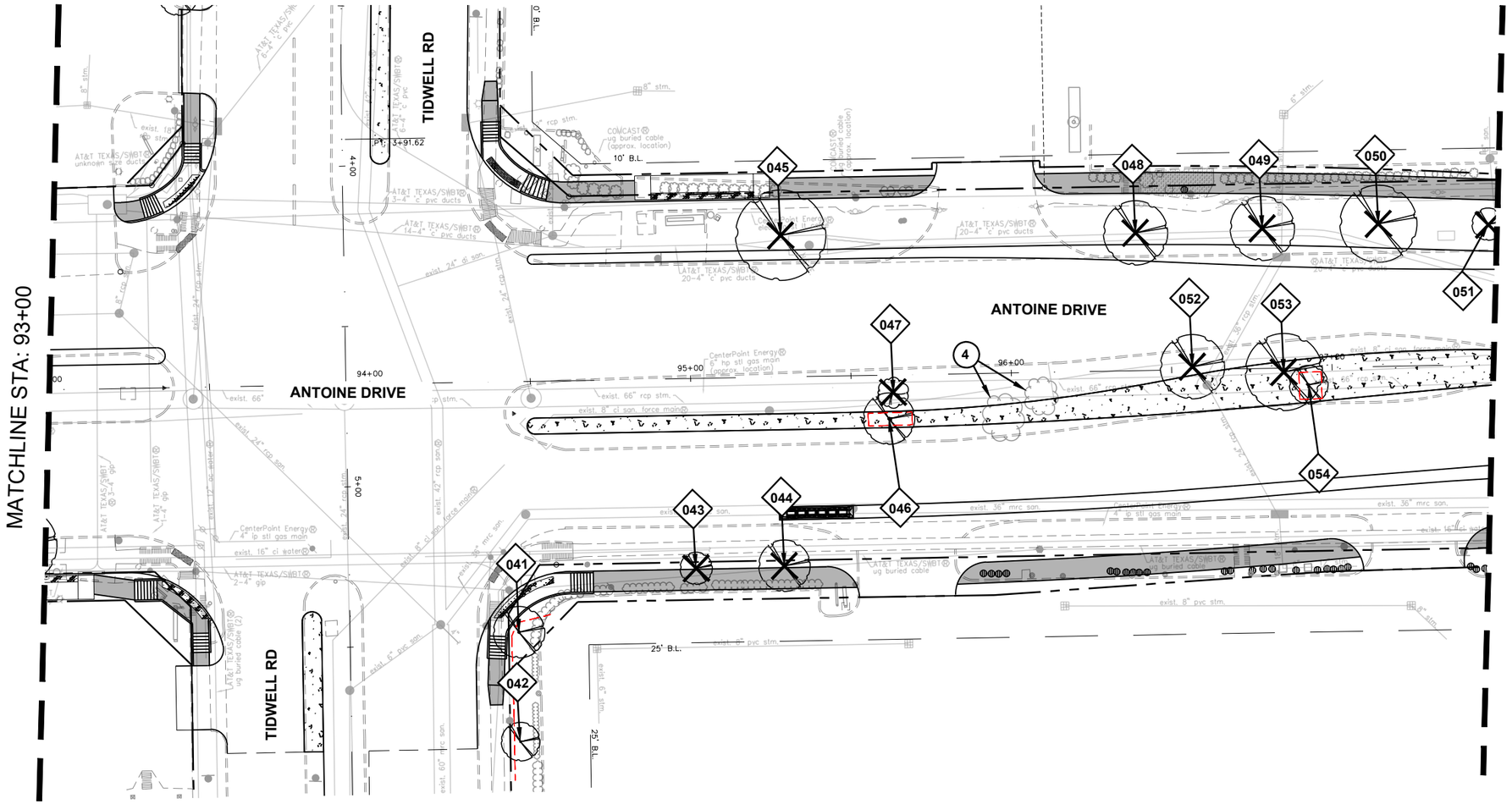
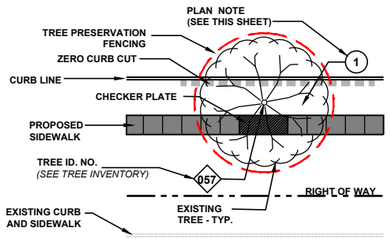


0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.
B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
G. PROPOSED TREE SHALL BE PLANTED A MINIMUM OF 5'-0" FROM BACK OF CURB AND NO CLOSER THAN 20' O.C. FROM EACH OTHER. TREE MITIGATION PLACEMENT DISTANCES FROM MEDIAN TIP ENDS SHALL BE 50'-0" AT NON-SIGNALIZED INTERSETIONS, ADN 75'-0" AT SIGNALIZED INTERSECTIONS.
H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING
I. CONTRACTOR TO SUBMIT MEANS AND METHODS OF WATERING PROCEDURES FOR NEWLY PLANTED TREES TO ARBORIST FOR REVIEW AND APPROVAL.
J. CONTRACTOR TO WARRANT, PROVIDE WATER, AND MAINTENANCE FOR ALL NEWLY PLANTED TREES FOR A PERIOD OF TWO (2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION TO SUSTAIN HEALTH OF TREE. (INCIDENTAL TO 02915 -TREE PLANTING AND NOT PAID FOR SEPARATELY.)
K. CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND ALL EXISTING TREES REGARDLESS OF SPECIFIC MEASURES THAT ARE NOTED ON THESE PLANS AND DETAILS AT ALL TIMES AND TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, SPECIFICALLY 01562.

GENERAL NOTES

No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 2 OF 17
(STA: 93+00 TO STA: 97+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 841 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
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Plot Driver: $PLTDRVL$
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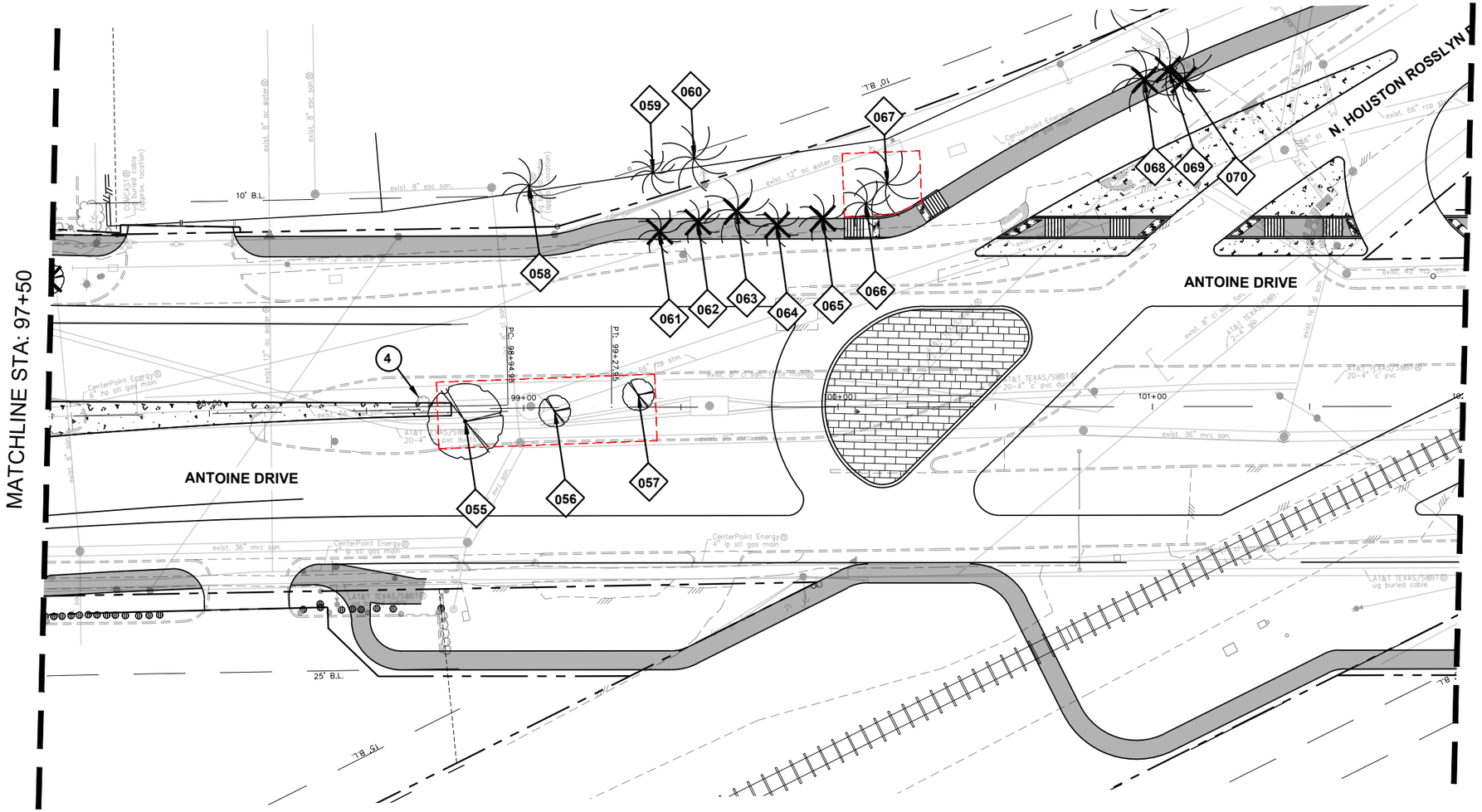
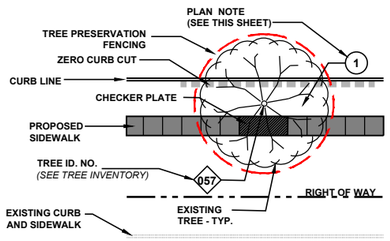


0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

PLAN NOTES

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

GENERAL NOTES

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B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
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Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

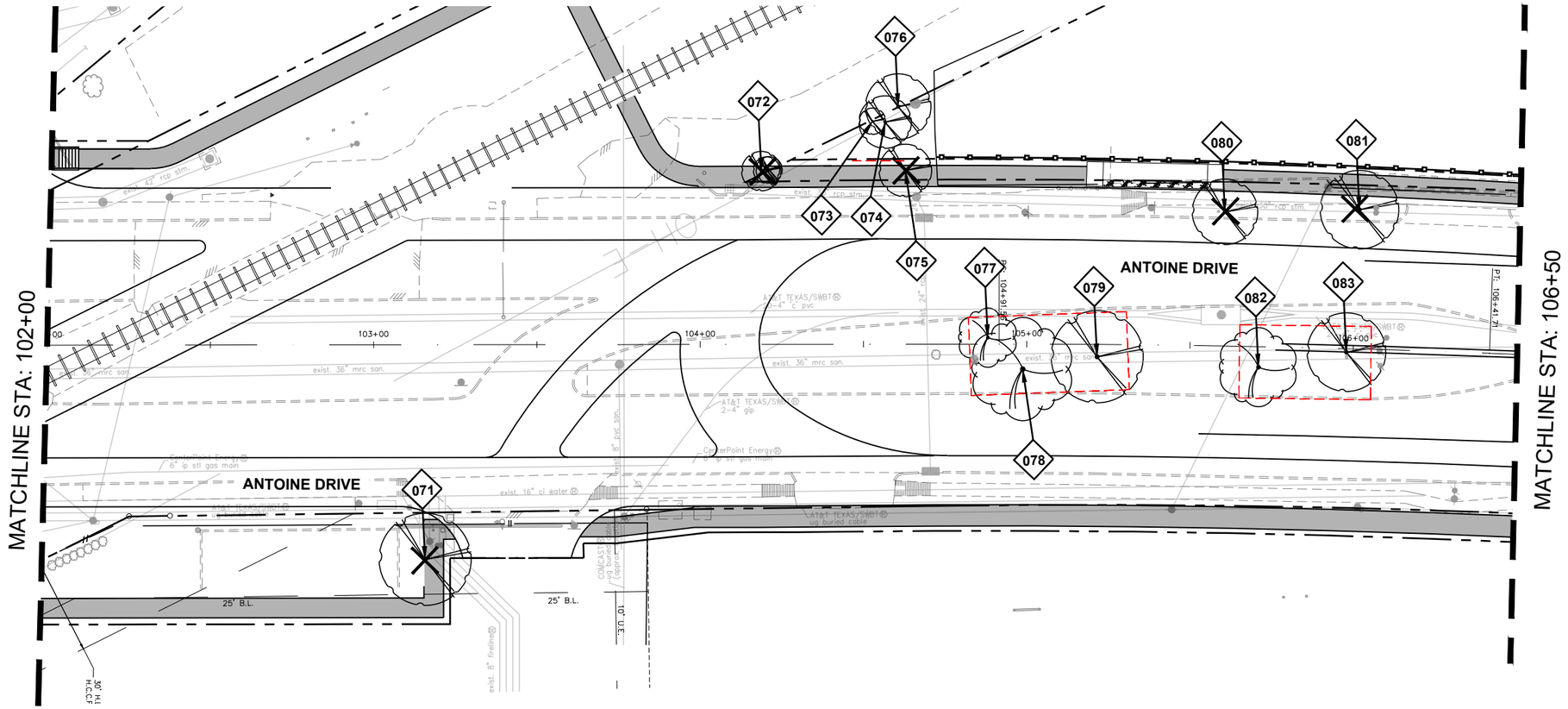
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 3 OF 17
(STA: 97+50 TO STA: 102+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 842 OF 1067	

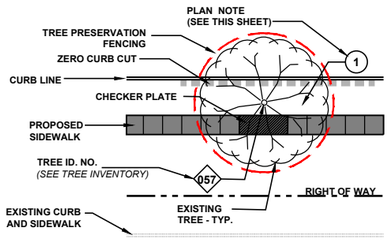
NO. DATE REVISIONS

Plotted on: $DATE$ $TIME$ $USER$
Pen Table: $PENTBL$
Plot Driver: $PLTDRVL$
Design Filename: $FILEL$



0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 4 OF 17
(STA: 102+00 TO STA: 106+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 843 OF 1067	

No. DATE REVISIONS APP'D

Plotted on: $DATE$ $TIME$ $USER$
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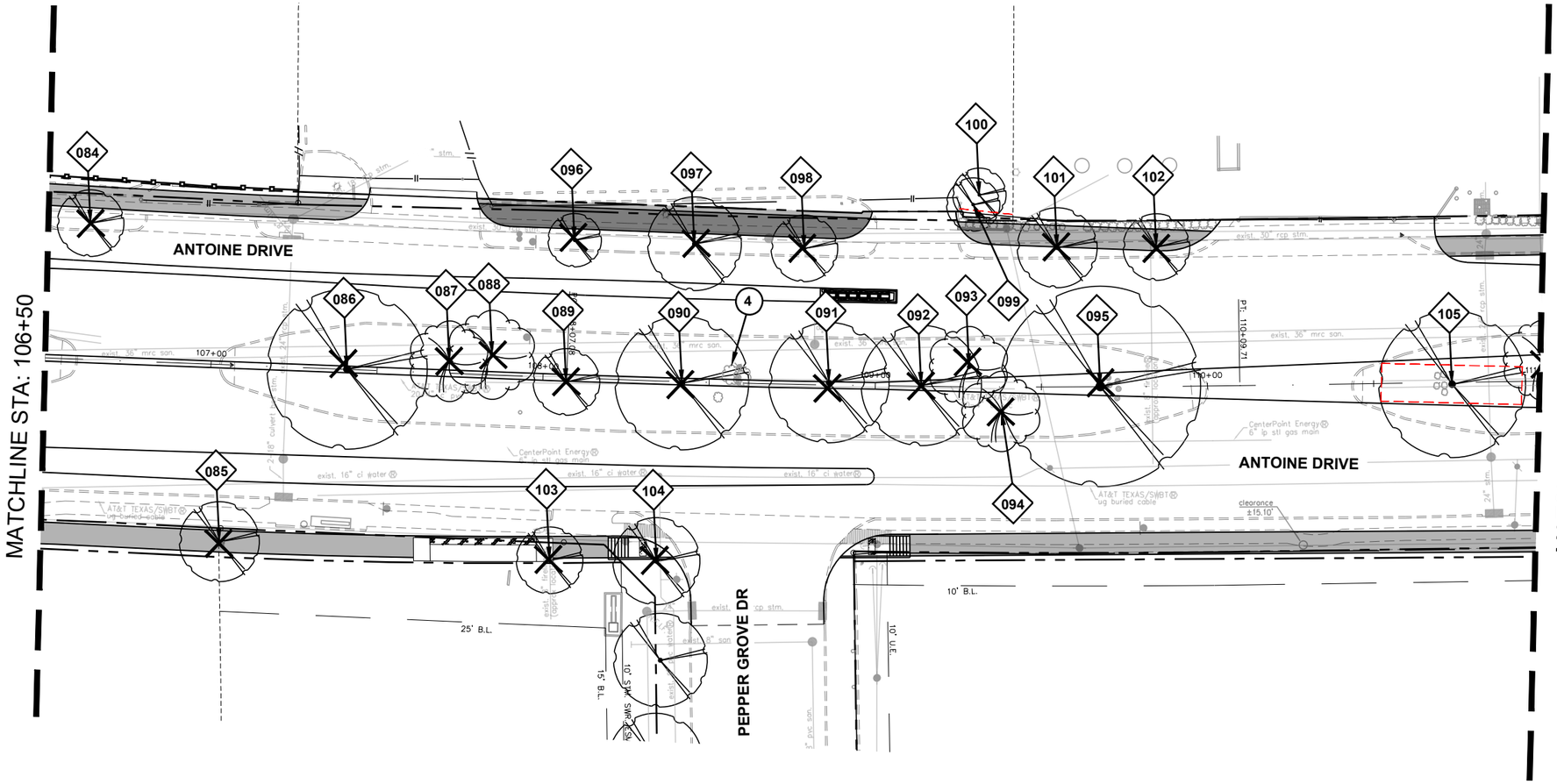
Plot Driver: $PLTDRVL$
Design Filename: $FILEL$

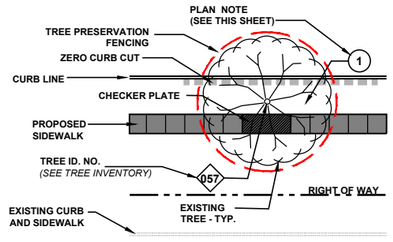
Plotted on: $DATE$ $TIME$ $USER$





0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 5 OF 17
(STA: 106+50 TO STA: 111+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 844 OF 1067	

No.	DATE	REVISIONS	APP'D

Pen Table: $PENTBL$
Plot Driver: $PLTDRVL$

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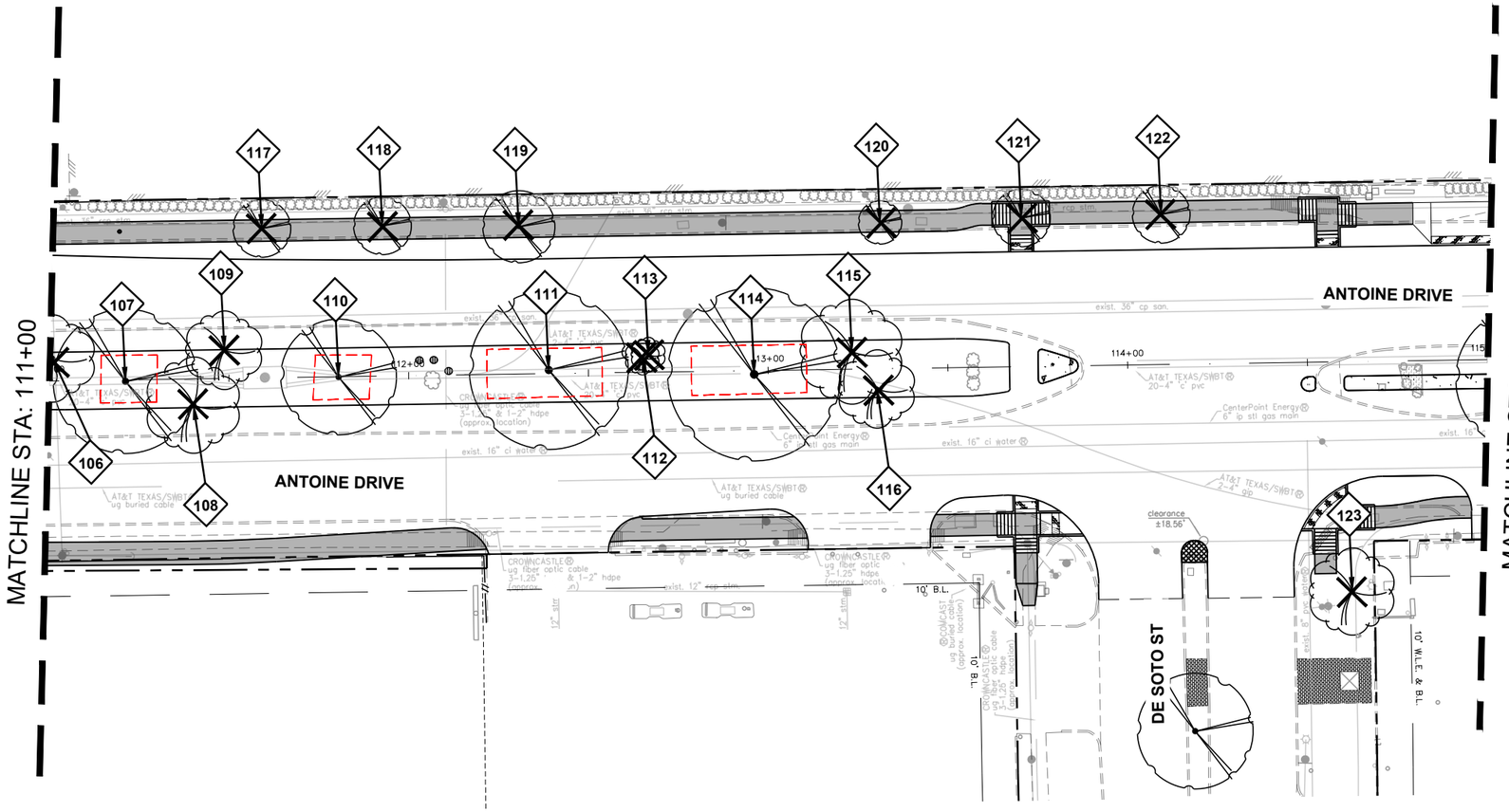
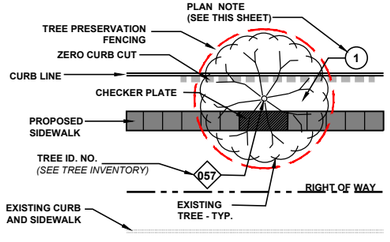


60% CD SUBMITTAL



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Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 6 OF 17
(STA: 111+00 TO STA: 115+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 845 OF 1067	

No. DATE REVISIONS APP'D

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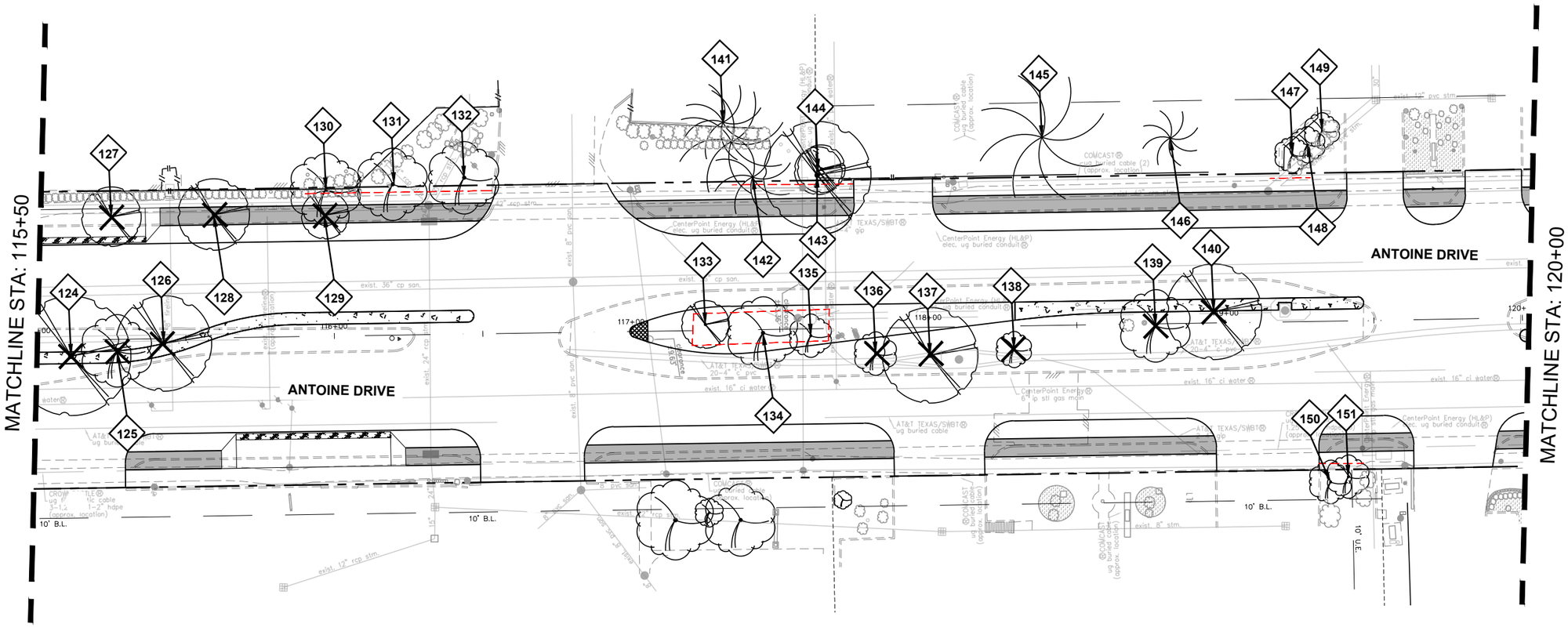

0' 40' 80'
SCALE IN FEET

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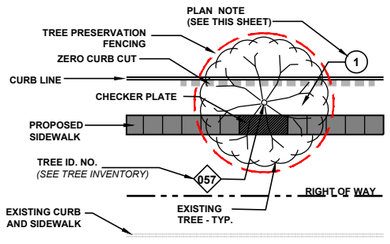

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TREE PRESERVATION PLAN
SHEET 7 OF 17
(STA: 115+50 TO STA: 120+00)

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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 846 OF 1067	

NO.	DATE	REVISIONS	APP'D

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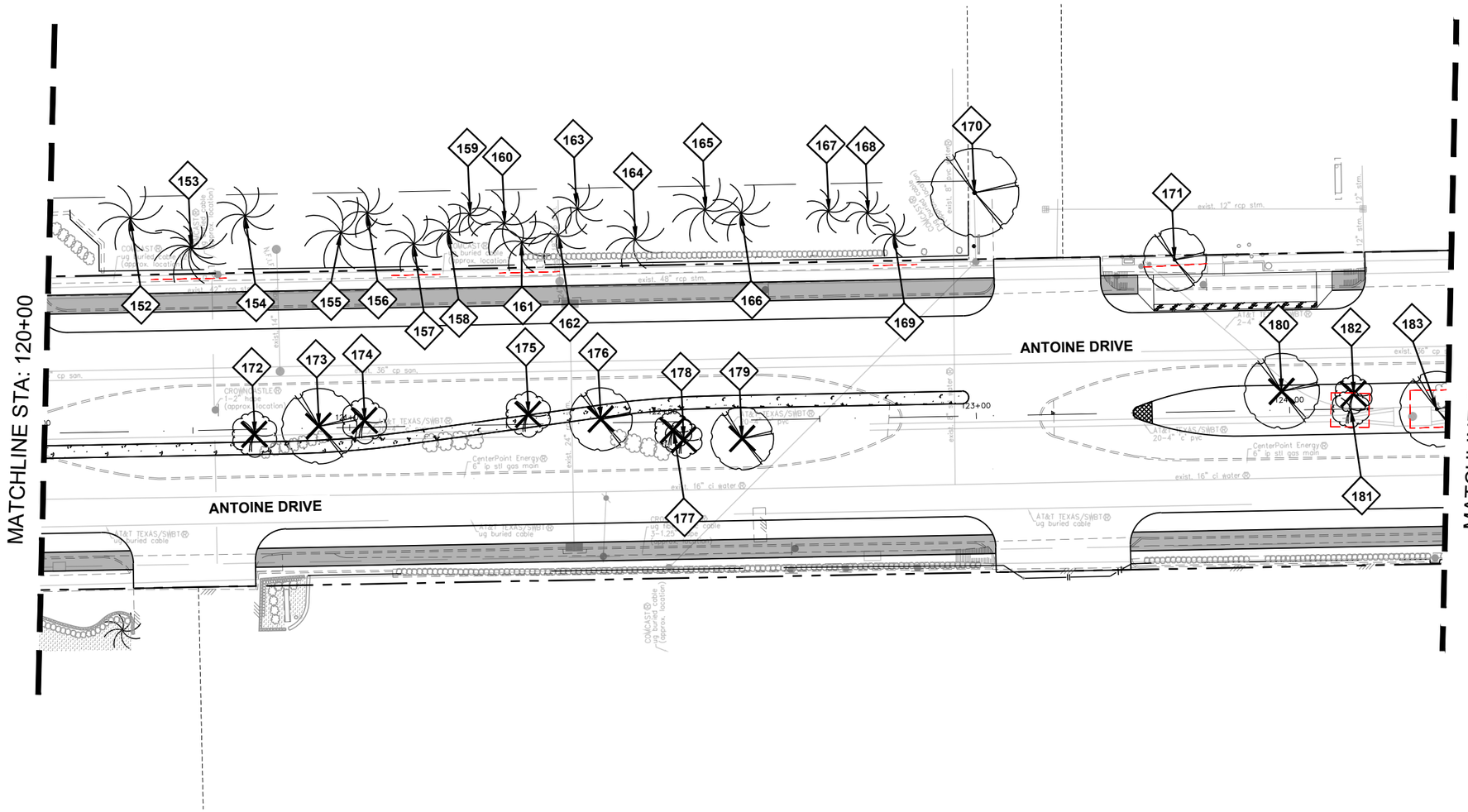
MATCHLINE STA: 120+00
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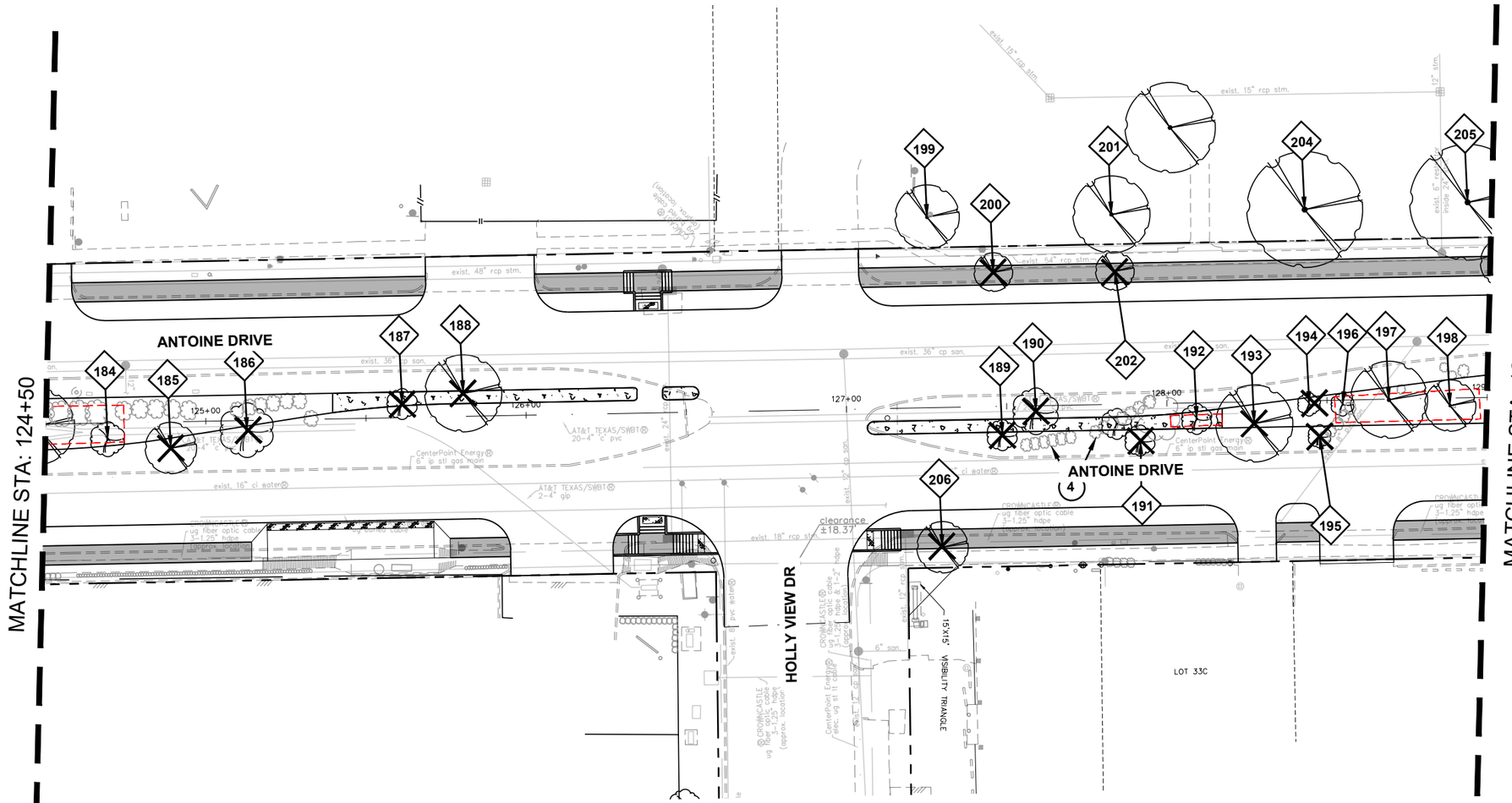
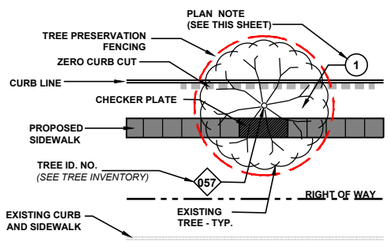
180
182
183
181
exist. 48" rcp stm.
exist. 12" rcp stm.
exist. 16" ci water
CONCAST
ug buried cable
(approx. location)
AT&T TEXAS/SWBT
ug buried cable
CenterPoint Energy
6" lp stl gas main
exist. 24" rcp
36" cp san.
exist. 8" pvc
20-4" ci pvc
2-4" ci pvc
exist. 12" cp san.
exist. 12" rcp stm.
exist. 14" rcp stm.
exist. 18" rcp stm.
exist. 24" rcp stm.
exist. 30" rcp stm.
exist. 36" rcp stm.
exist. 42" rcp stm.
exist. 48" rcp stm.
exist. 54" rcp stm.
exist. 60" rcp stm.
exist. 72" rcp stm.
exist. 84" rcp stm.
exist. 96" rcp stm.
exist. 108" rcp stm.
exist. 120" rcp stm.
exist. 132" rcp stm.
exist. 144" rcp stm.
exist. 156" rcp stm.
exist. 168" rcp stm.
exist.

Plotted on: $DATE$ $TIME$ $USER$



0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
8. ADD 15" REINFORCED CONCRETE WALL. SEE CIVIL DRAWINGS FOR DETAILS

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.

B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.

C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.

D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.

E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*

F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)

G. PROPOSED TREE SHALL BE PLANTED A MINIMUM OF 5'-0" FROM BACK OF CURB AND NO CLOSER THAN 20' O.C. FROM EACH OTHER. TREE MITIGATION PLACEMENT DISTANCES FROM MEDIAN TIP ENDS SHALL BE 50'-0" AT NON-SIGNALIZED INTERSECTIONS, ADN 75'-0" AT SIGNALIZED INTERSECTIONS.

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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

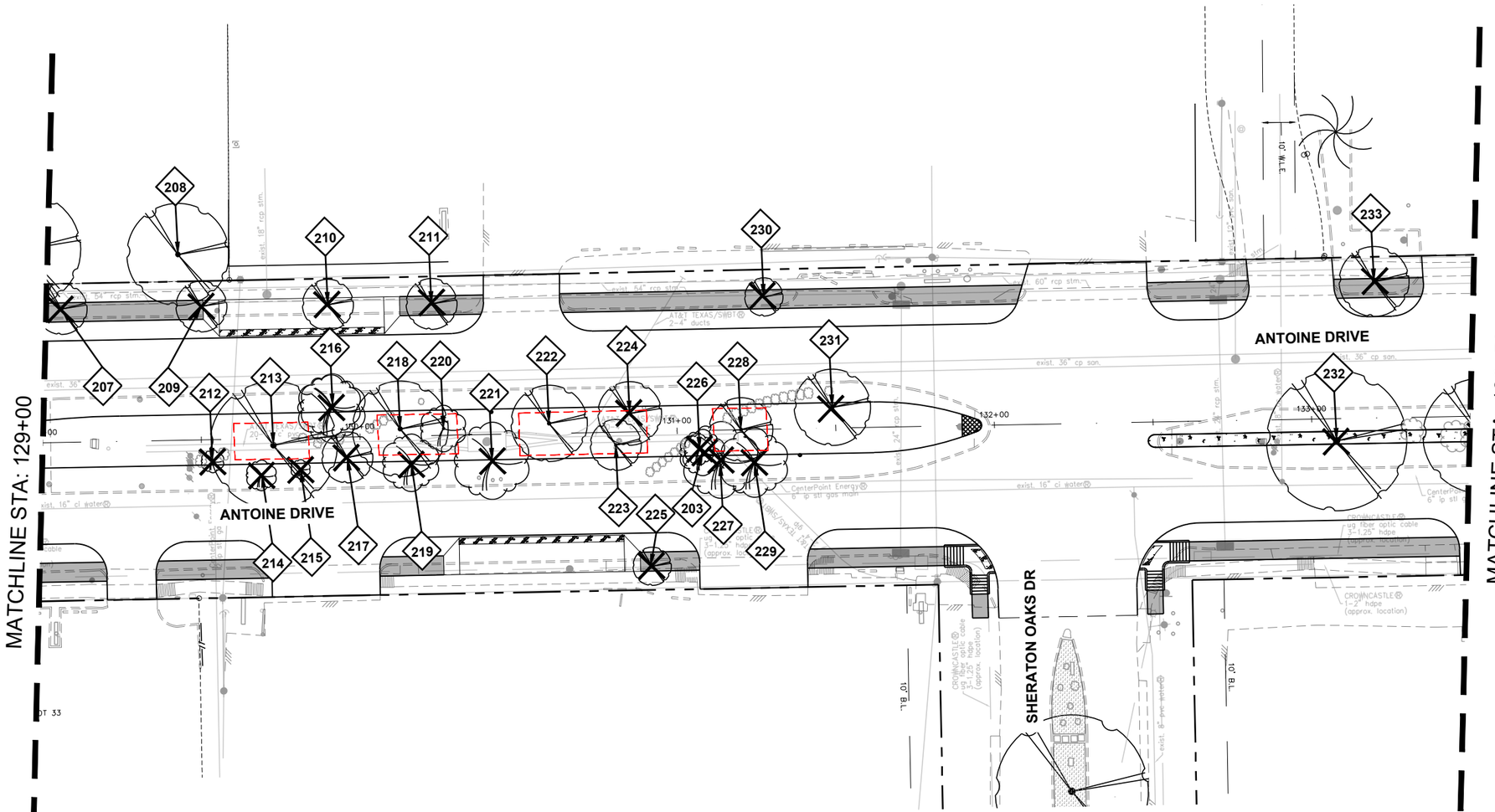
TREE PRESERVATION PLAN
SHEET 9 OF 17
(STA: 124+50 TO STA: 129+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 848 OF 1067	

Pen Table: $PENTBL$
Plot Driver: $PLTDRVL$

Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$



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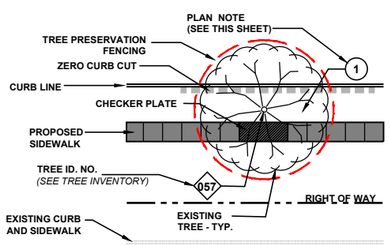
60% CD SUBMITTAL



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No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

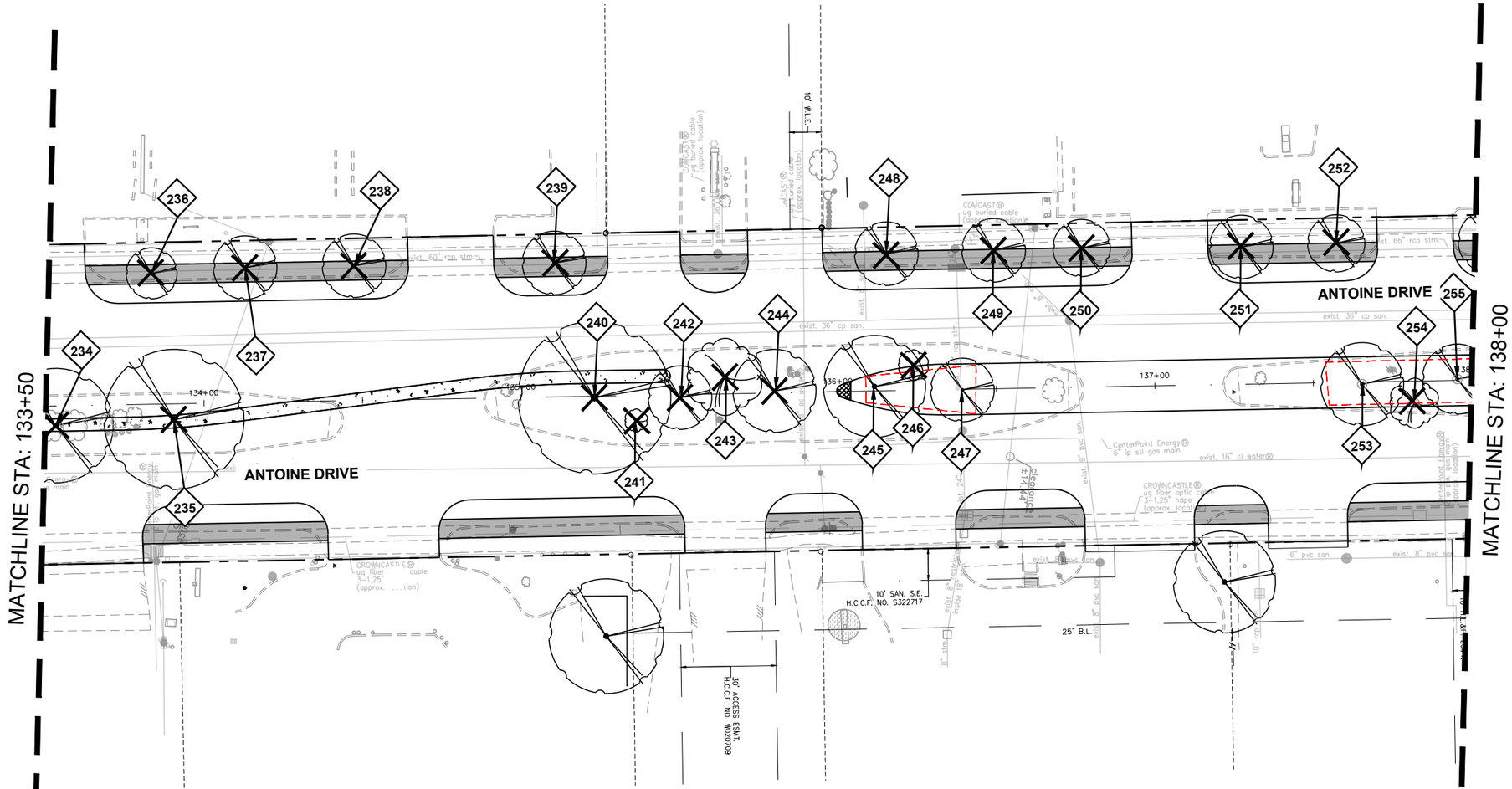
TREE PRESERVATION PLAN
SHEET 10 OF 17
(STA: 129+00 TO STA: 133+50)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO	849 OF 1067

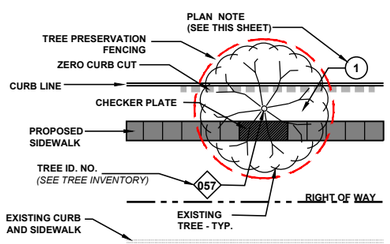
FOR CITY OF HOUSTON USE ONLY

Pen Table: $PENTBL$$
Plot Driver: $PLTDRVL$

Design Filename: $FILEL$



60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

PLAN NOTES

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Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 11 OF 17
(STA: 133+50 TO STA: 138+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 850 OF 1067	

No.	DATE	REVISIONS	APP'D

Plotted on: $DATE$ $TIME$ $USER$
Pen Table: $PENTBL$
Plot Driver: $PLTDRVL$
Design Filename: $FILE1$

Plotted on: $DATE$ $TIME$ $USER$

MATCHLINE STA: 138+00

MATCHLINE STA: 142+50

ANTOINE DRIVE

ANTOINE DRIVE

256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275

139+00 140+00 141+00 142+00

exist. 36" cp san.

exist. 36" rcp stm.

exist. 18" rcp stm.

exist. 16" ci water

exist. 8" cpu

exist. 12" stm.

exist. 8" pvc stm.

exist. 1f stm.

CenterPoint Energy 6" lp stl gas main

CENTERPOINT ENERGY NATURAL GAS CORP. ESMT

0' 40' 80'

SCALE IN FEET

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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SURVEYED BY:
KUO & ASSOCIATES, INC.

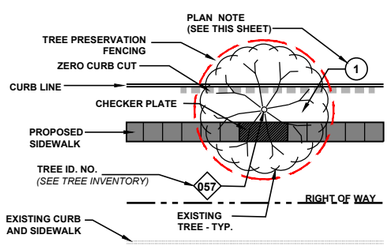
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 12 OF 17
(STA: 138+00 TO STA: 142+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 851 OF 1067	

PRESERVED TREE DIAGRAM



PLAN NOTES

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Pen Table: $PENTBLS$
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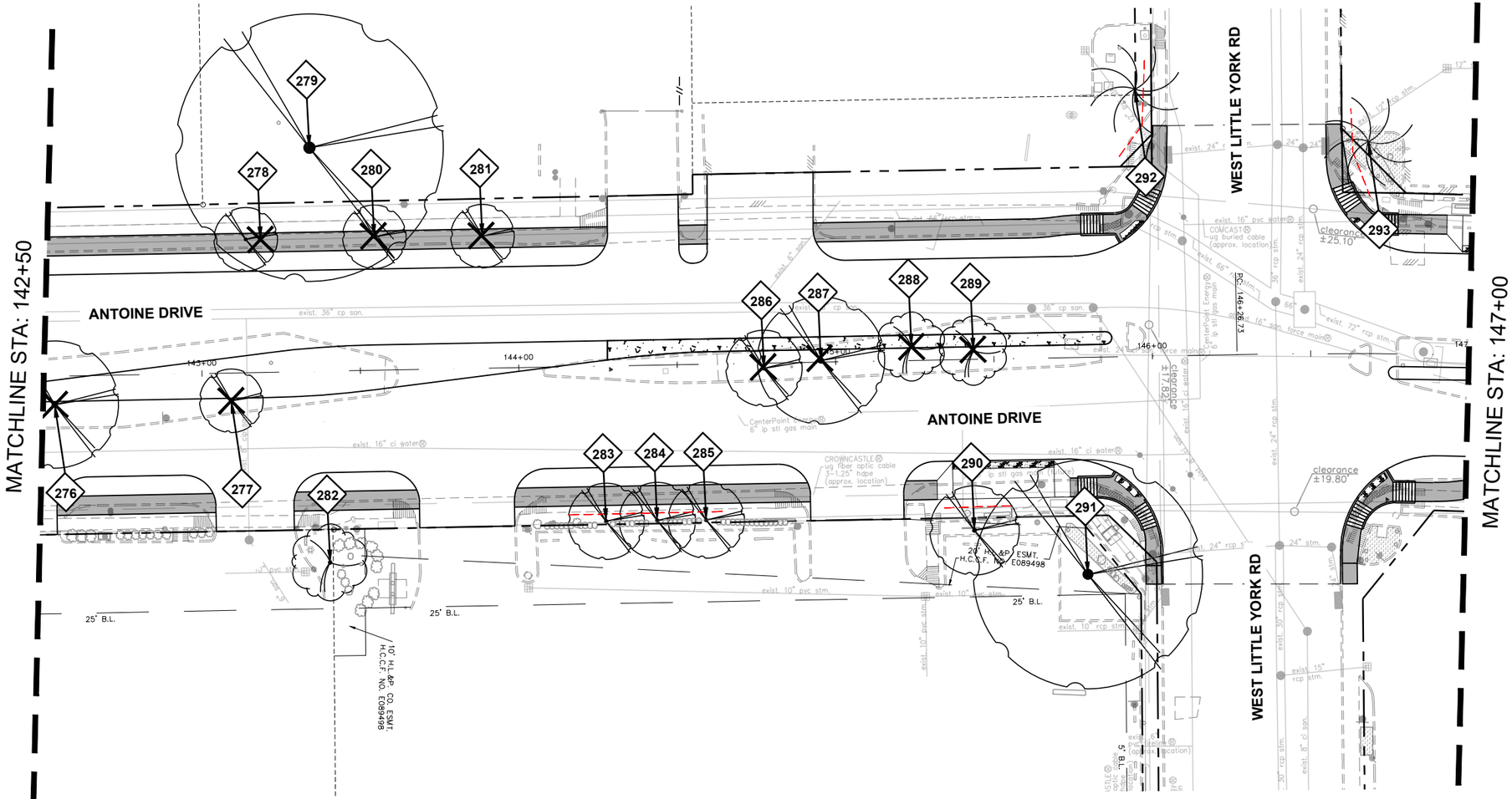
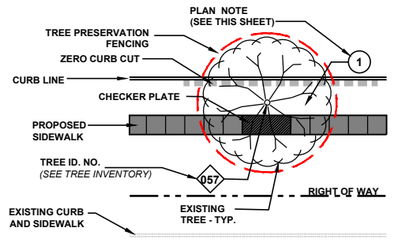


60% CD SUBMITTAL



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F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
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Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 13 OF 17
(STA: 142+50 TO STA: 147+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 852 OF 1067	

No.	DATE	REVISIONS	APP'D

Plotted on: $DATE$ $TIME$ $USER$
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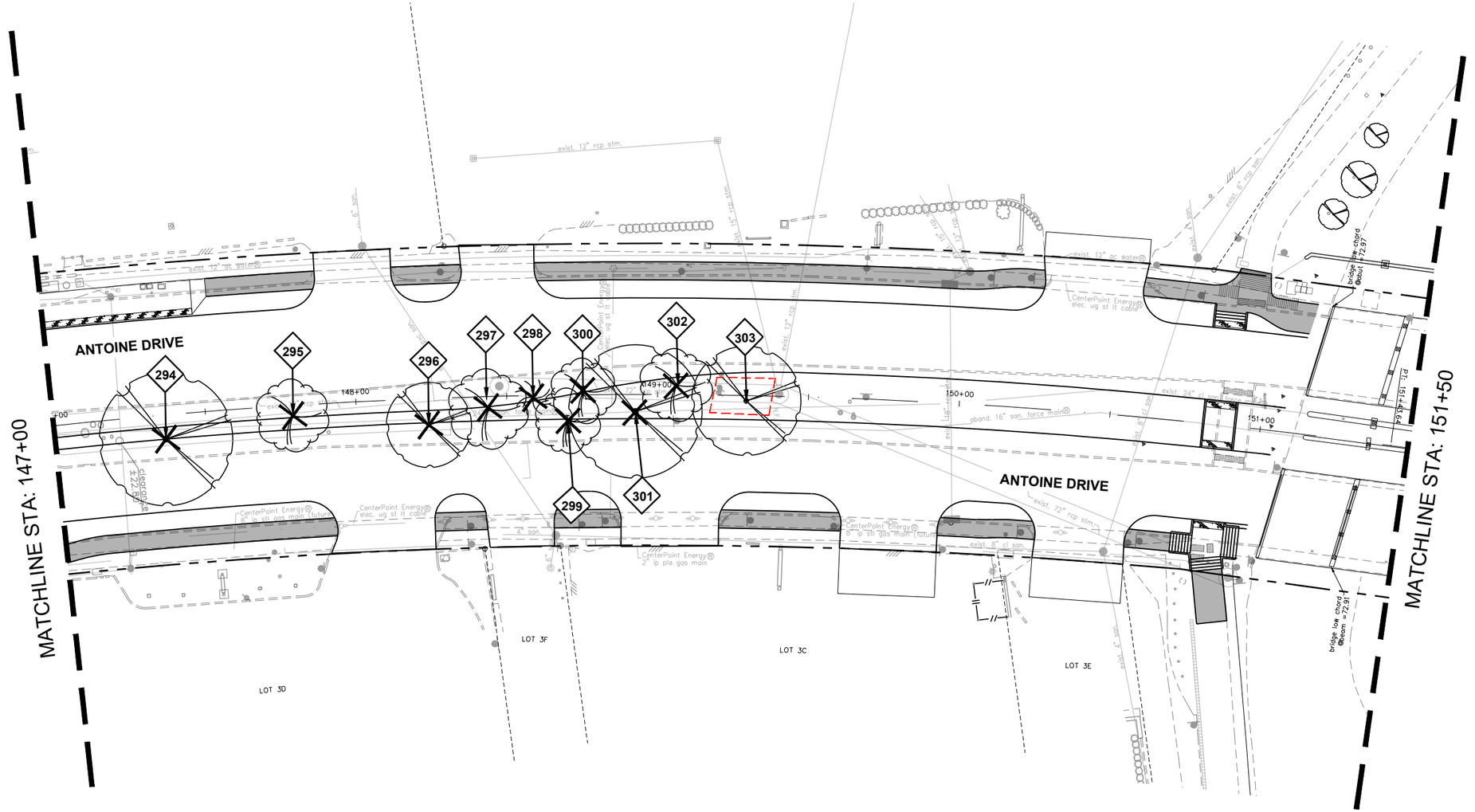
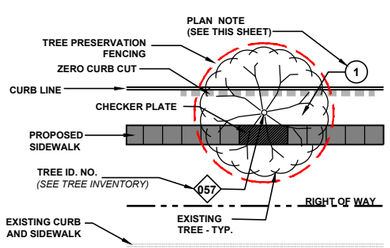
Plot Driver: $PLTDRVL$
Design Filename: $FILE$



60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

PLAN NOTES

1. PROVIDE CHECKER PLATE OVER ROOT FLARE **SEE TREE PRESERVATION DETAILS**
2. PROVIDE ZERO CURB CUT CONTINUOUS **SEE TREE PRESERVATION DETAILS**
3. UNDEVELOPED PROPERTY - TREE REMOVAL AREA - NO MITIGATION REQUIRED. (INCIDENTAL TO CLEARING AND GRUBBING AND NOT PAID FOR SEPARATELY. SEE ENGINEERING PLANS FOR MORE INFORMATION.)
4. REMOVE SHRUB(S) AS NEED TO ACCOMODATE PROPOSED IMPROVEMENTS (INCIDENTAL TO 01562)
5. REDUCE SIDEWALK WIDTH TO 4'-0" AND ADJUST PROPOSED SIDEWALK ("BUMP OUT") AT EXISTING TREE ROOT FLARE(INCIDENTAL AND NOT PAID FOR SEPARATELY) **SEE TREE PRESERVATION DETAILS**
6. PROVIDE 6" CURB AT BACK OF SIDEWALK.
7. PRESERVE EXISTING SHRUBS IN PLACE - NO TREATMENT.
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Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
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HOUSTON, TX 77079

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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 14 OF 17
(STA: 147+00 TO STA: 151+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 853 OF 1067	

NO.	DATE	REVISIONS	APP'D

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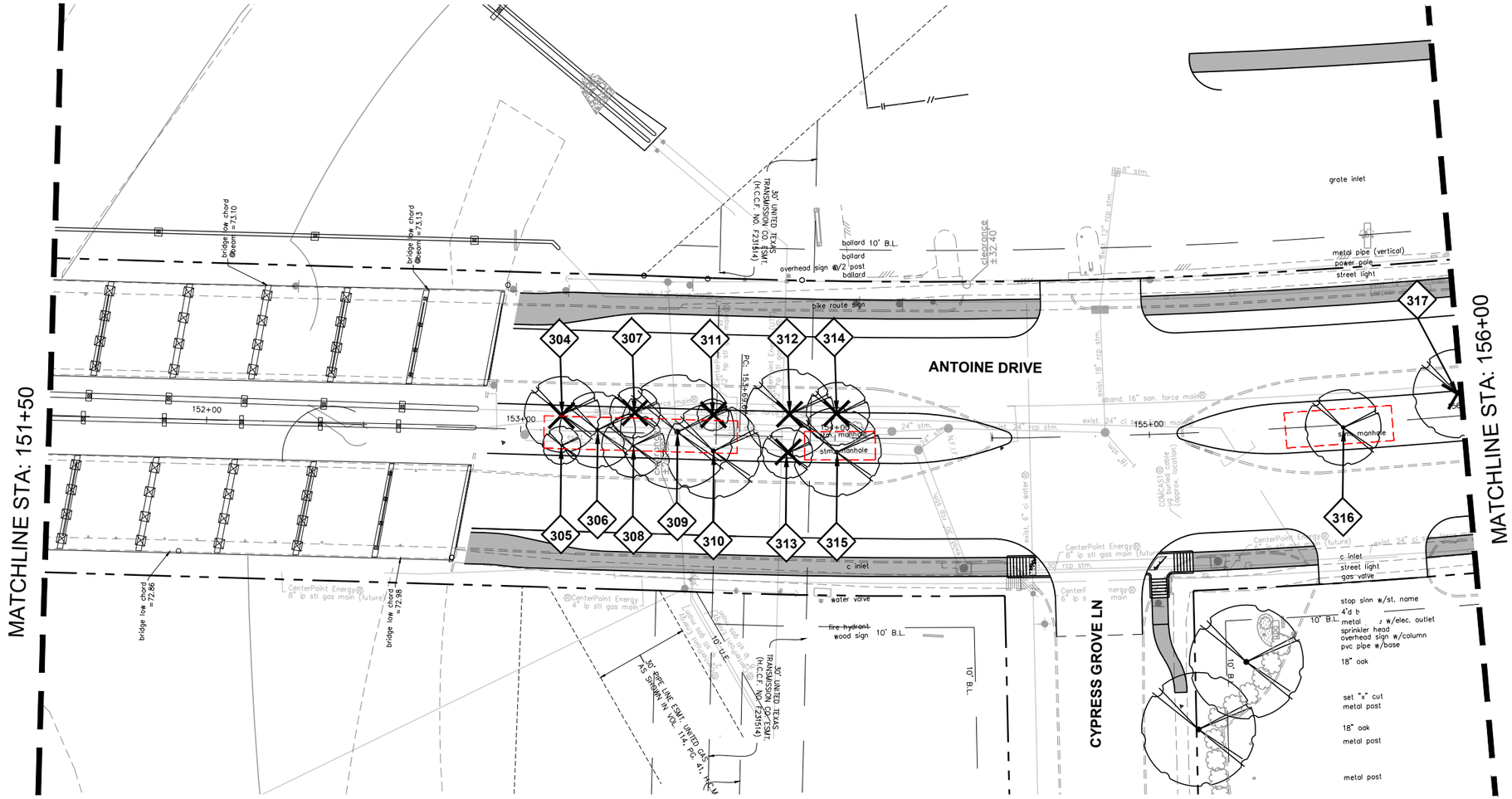

60% CD SUBMITTAL

No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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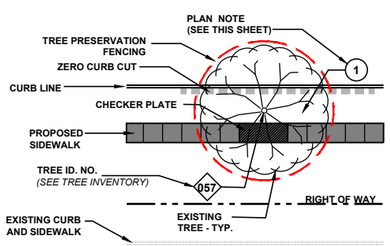
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 15 OF 17
(STA: 151+50 TO STA: 156+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 854 OF 1067	



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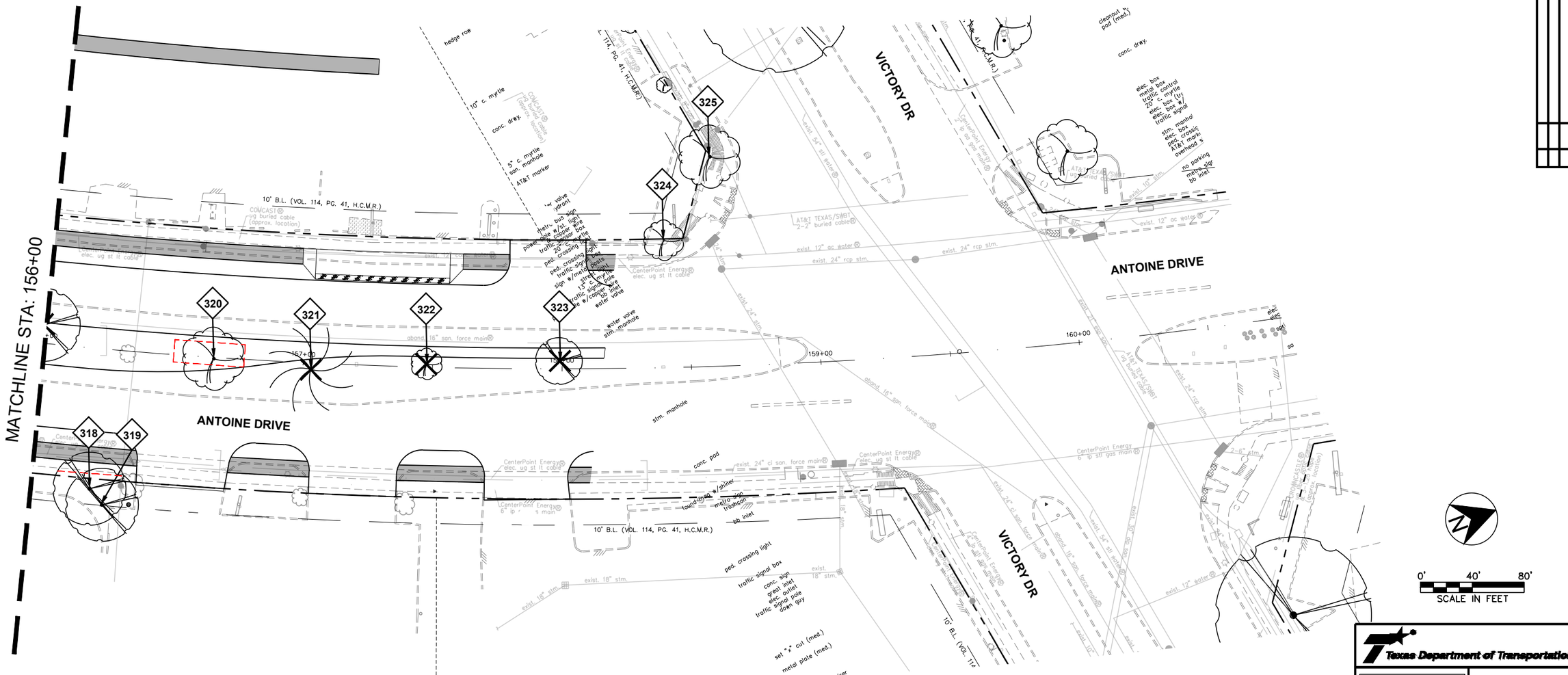
GENERAL NOTES



60% CD SUBMITTAL

NO.	DATE	REVISIONS	APP'D

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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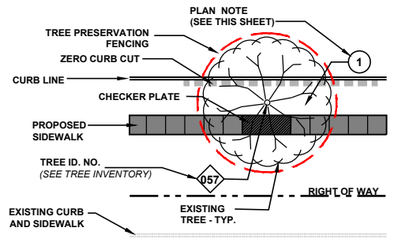
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION PLAN
SHEET 16 OF 17
(STA: 156+00 TO END PROJECT)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 855 OF 1067	

PRESERVED TREE DIAGRAM



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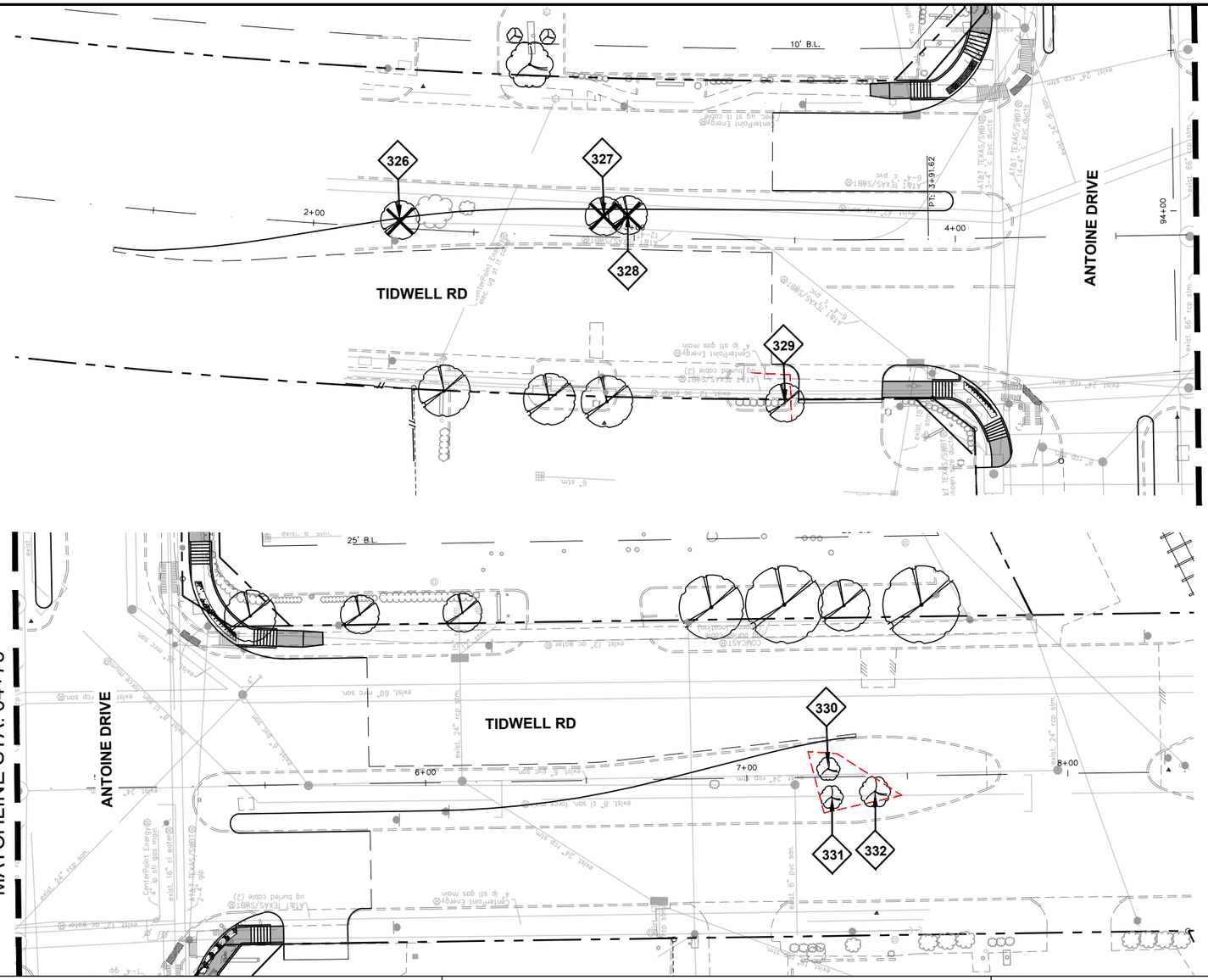

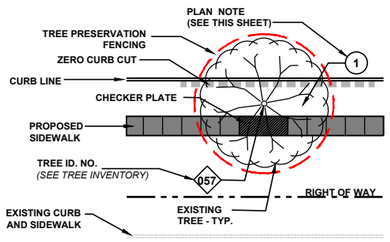

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No.	DATE	REVISIONS	APP.

N

0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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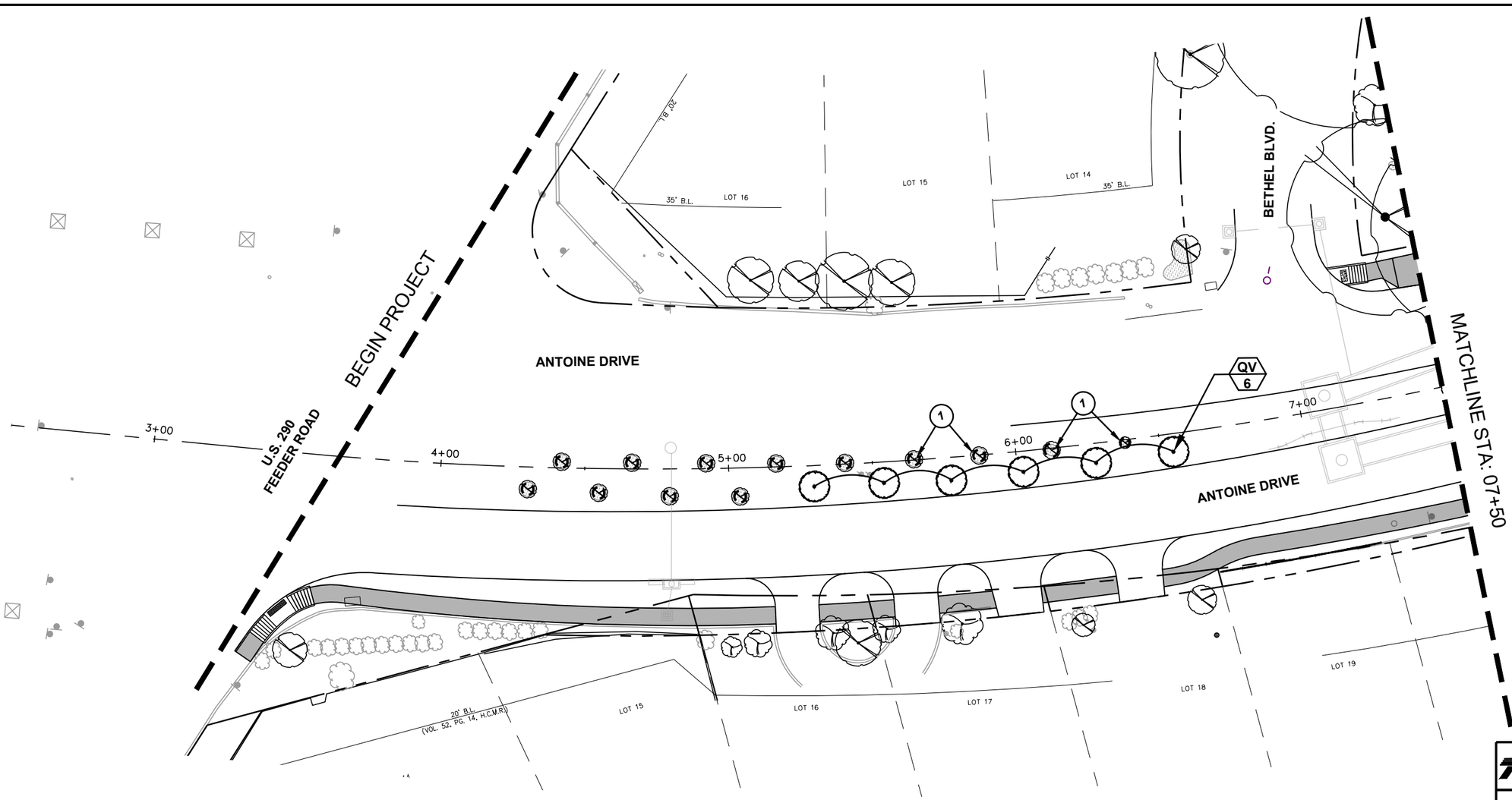
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

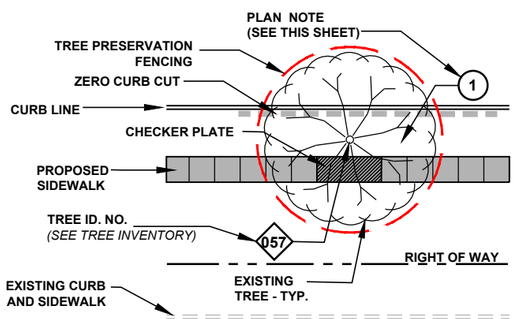
TREE PRESERVATION PLAN
SHEET 17 OF 17
(W TIDWELL ST)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 856 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$



60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 4" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL, **SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11**

PLANT QUANTITY — QV 5 — PLANT TYPE

***PROPOSED PLANTING:** CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER*

TYPE	ABR.	BOTANICAL NAME	COMMON NAME	PLANTED SIZE
	QV	QUERCUS VIRGINIANA	LIVE OAK	100 GAL, 4" CAL. MIN.
	UC	ULMUS CRASSIFOLIA	CEDAR ELM	100 GAL, 4" CAL. MIN.
	QT	QUERCUS TEXANA	NUTTAL OAK	100 GAL, 4" CAL. MIN.
	QL	QUERCUS LYRATA	OVERCUP OAK	100 GAL, 4" CAL. MIN.
	AR	ACER RUBRUM	RED MAPLE	100 GAL, 4" CAL. MIN.
X		REMOVE TREE (INCIDENTAL TO 01562)		

**SEE PLANT LIST ON TREE PRESERVATION DETAILS FOR MORE INFORMATION*

PLAN NOTES

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C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.

D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.

E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*

F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)

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GENERAL NOTES

No.	DATE	REVISIONS	APP.

N

0' 20' 40'
SCALE IN FEET

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◆Landscape Architecture◆
◆Land Planning◆ Urban Design◆

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

PLANTING PLAN
SHEET 1 OF 10
(BEGIN PROJECT TO STA: 07+50)

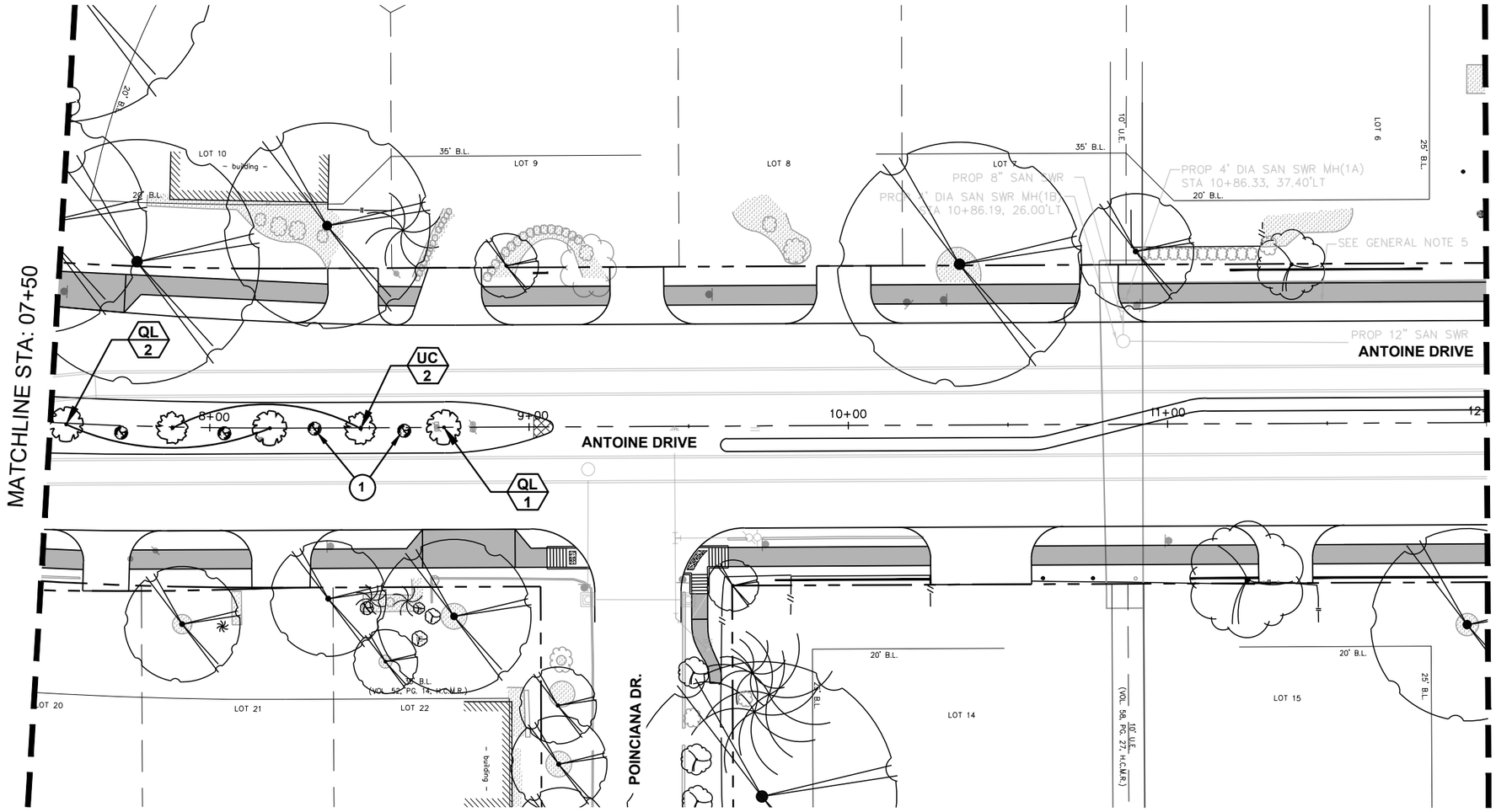
SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 857 OF 1067	

Pen Table:$PENTBL$
Plot Driver:$PLTDRVL$

Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$



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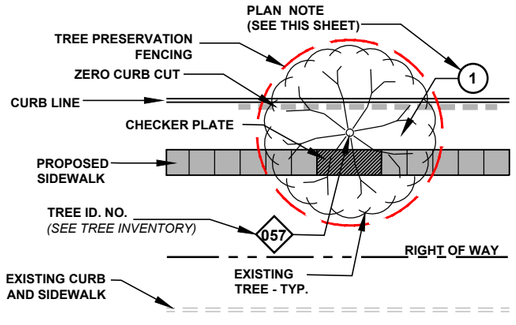

PRESERVED TREE DIAGRAM

1. 4" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL, **SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11**

PLANT QUANTITY — QV 5 — PLANT TYPE

PROPOSED PLANTING: ***CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER***

TYPE	ABR.	BOTANICAL NAME	COMMON NAME	PLANTED SIZE
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	AR	ACER RUBRUM	RED MAPLE	100 GAL, 4" CAL. MIN.
X		REMOVE TREE (INCIDENTAL TO 01562)		

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SHEET 00 OF 70

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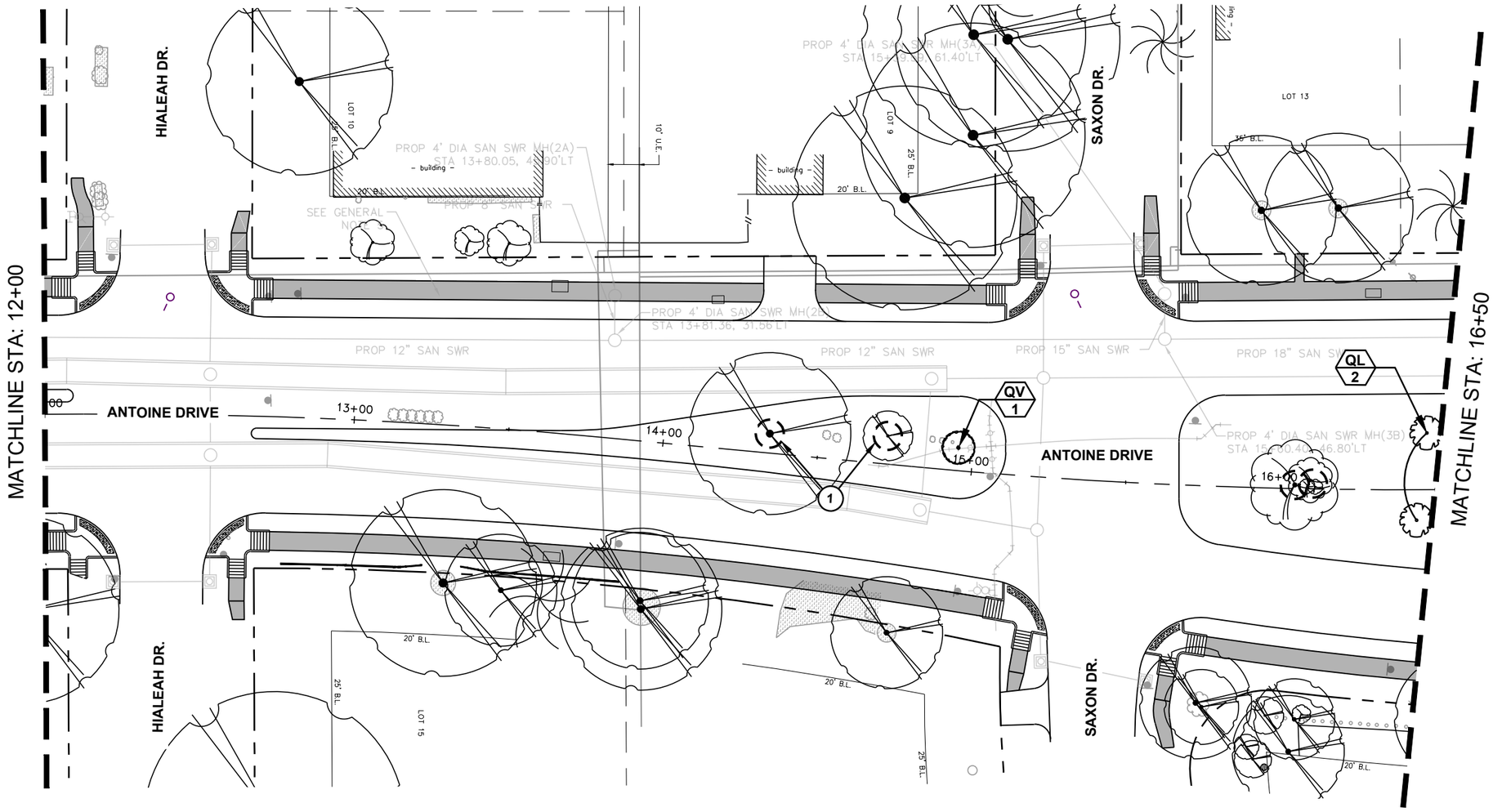

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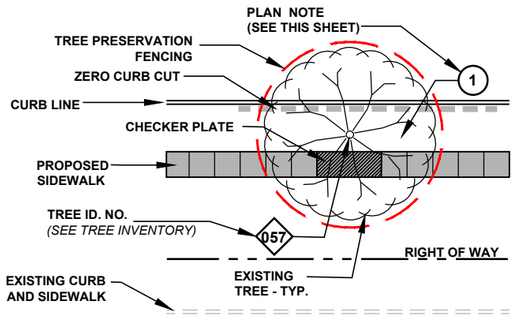

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GENERAL NOTES

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PLANTING PLAN
SHEET 3 OF 10
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SHEET 00 OF 70

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N-100030-0GEC-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 859 OF 1067	

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Plot Driver:$PLTDRVL$
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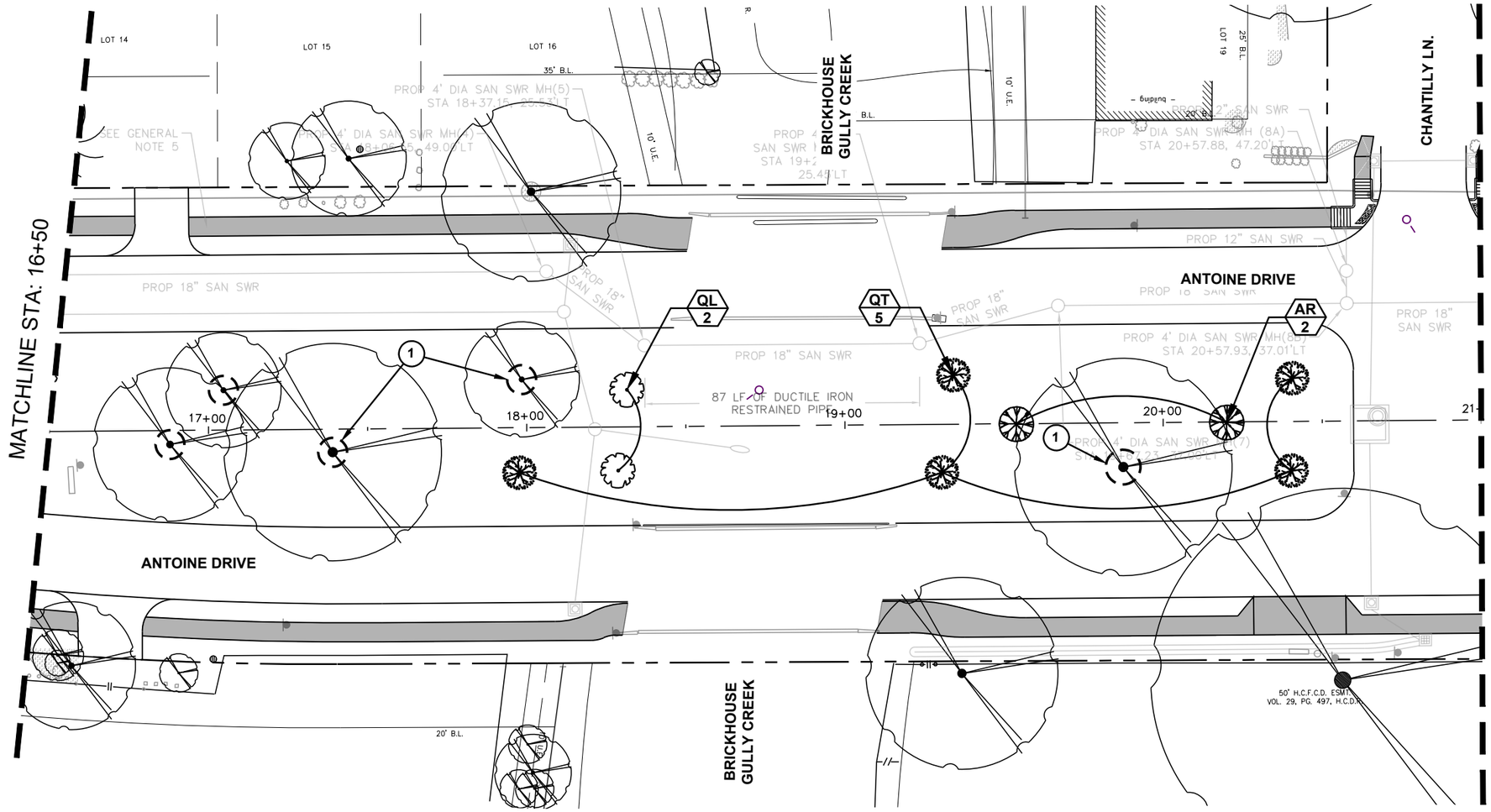

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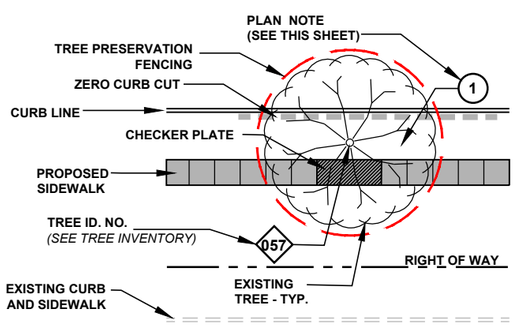

PRESERVED TREE DIAGRAM

1. 4" HARDWOOD BARK MULCH WITH SHEVEL EDGE AT EXISTING TREE, TYPICAL, **SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11**

PLANT TYPE / PLANT QUANTITY: QV 5

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No.	DATE	REVISIONS	APP.

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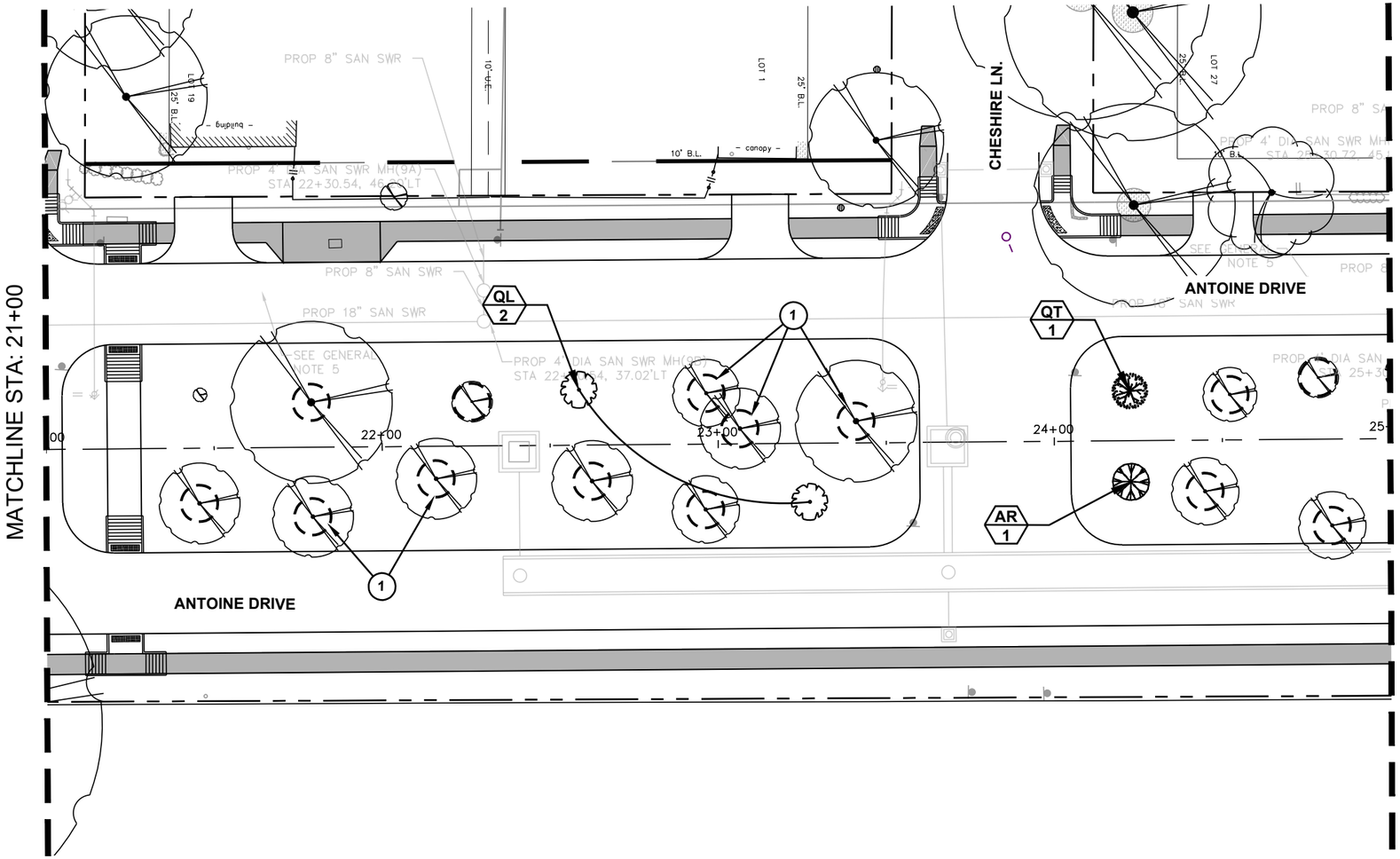

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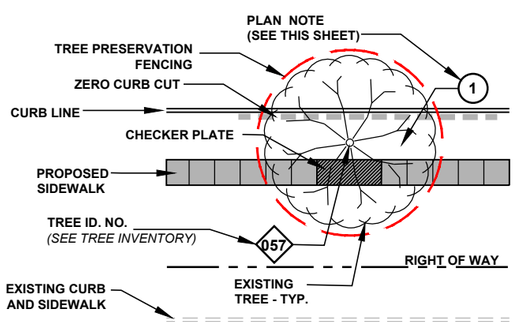

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PLANT TYPE — QV — *PLANT QUANTITY* — 5

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HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 861 OF 1067	

Plotted on: $DATE$ $TIME$ $USER$
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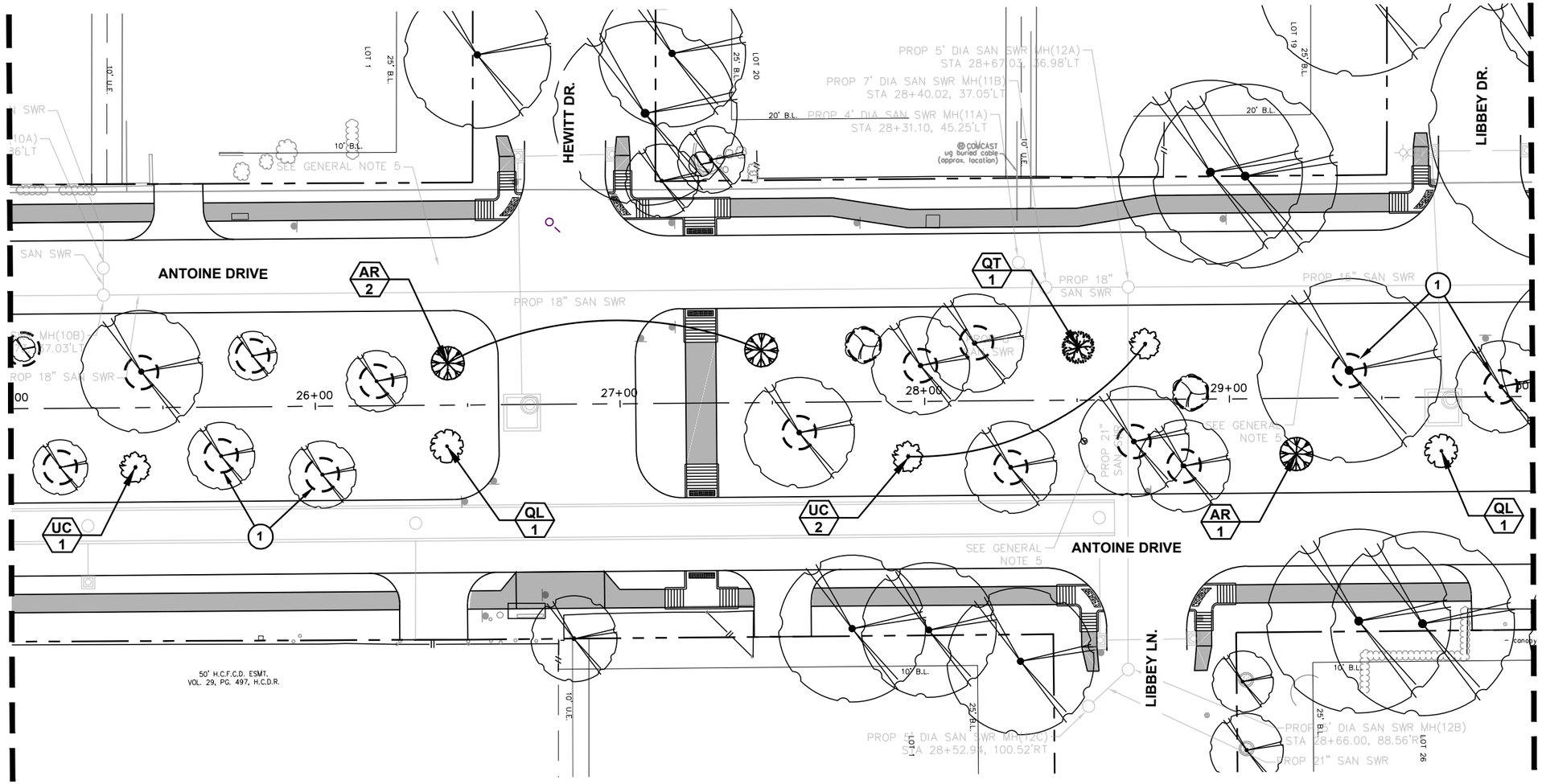

0' 20' 40'
SCALE IN FEET

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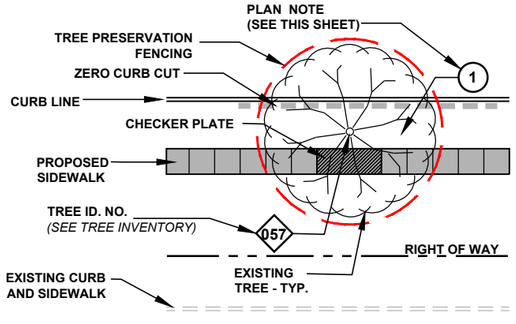
60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 4" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL, **SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11**

PLANT QUANTITY — QV 5 — PLANT TYPE

PROPOSED PLANTING: ***CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER***

TYPE	ABR.	BOTANICAL NAME	COMMON NAME	PLANTED SIZE
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	QT	QUERCUS TEXANA	NUTTAL OAK	100 GAL, 4" CAL. MIN.
	QL	QUERCUS LYRATA	OVERCUP OAK	100 GAL, 4" CAL. MIN.
	AR	ACER RUBRUM	RED MAPLE	100 GAL, 4" CAL. MIN.
X		REMOVE TREE (INCIDENTAL TO 01562)		

**SEE PLANT LIST ON TREE PRESERVATION DETAILS FOR MORE INFORMATION*

PLAN NOTES

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B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. **SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS** FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

PLANTING PLAN
SHEET 6 OF 10
(STA: 25+00 TO STA: 30+00)

SHEET 00 OF 70

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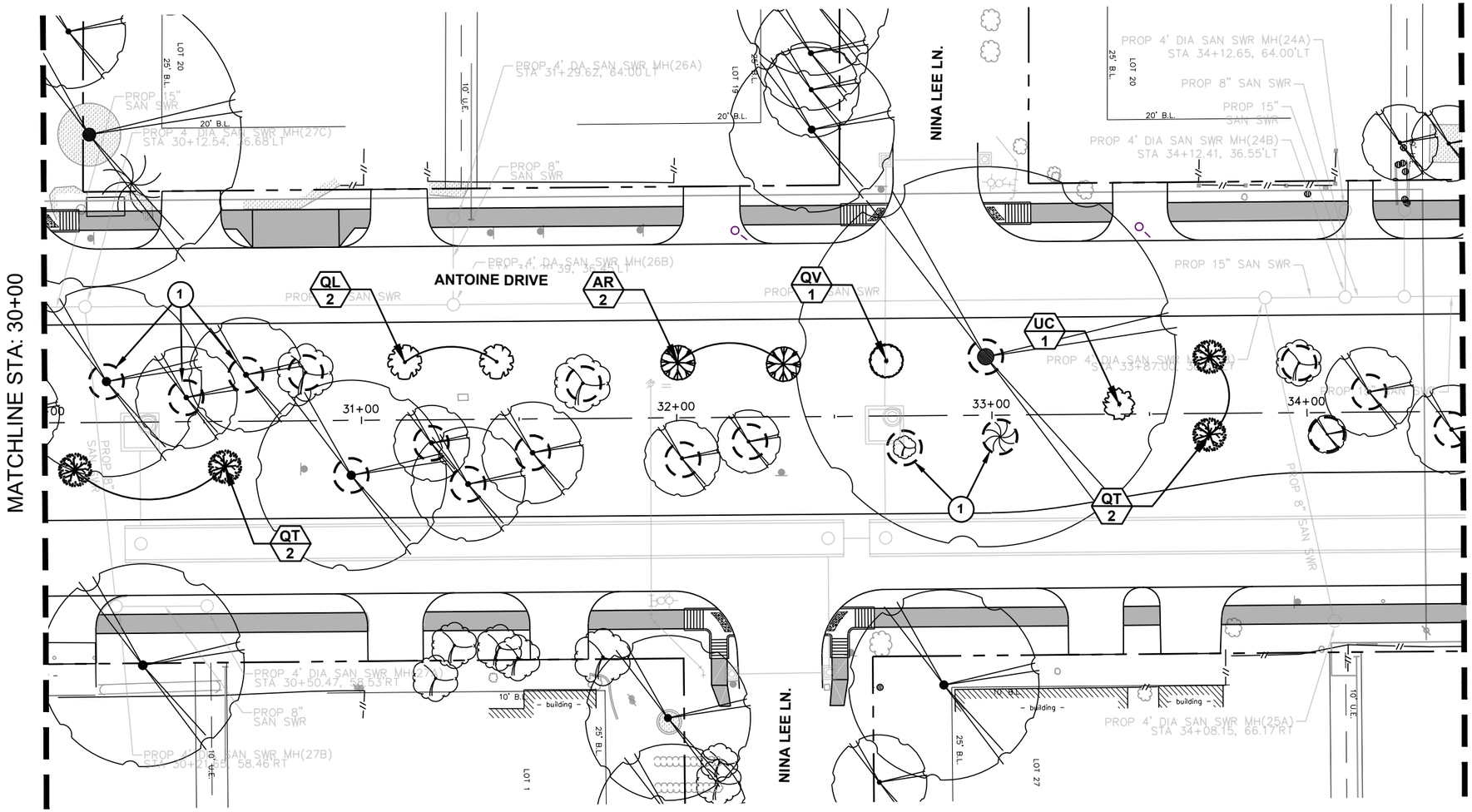

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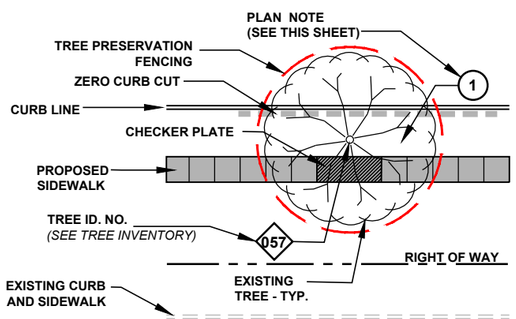

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE (290 to Acorn St)

PLANTING PLAN
SHEET 7 OF 10
(STA: 30+00 TO STA: 34+50)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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ROWAIDAH AYOUB	
SHEET NO. 863 OF 1067	

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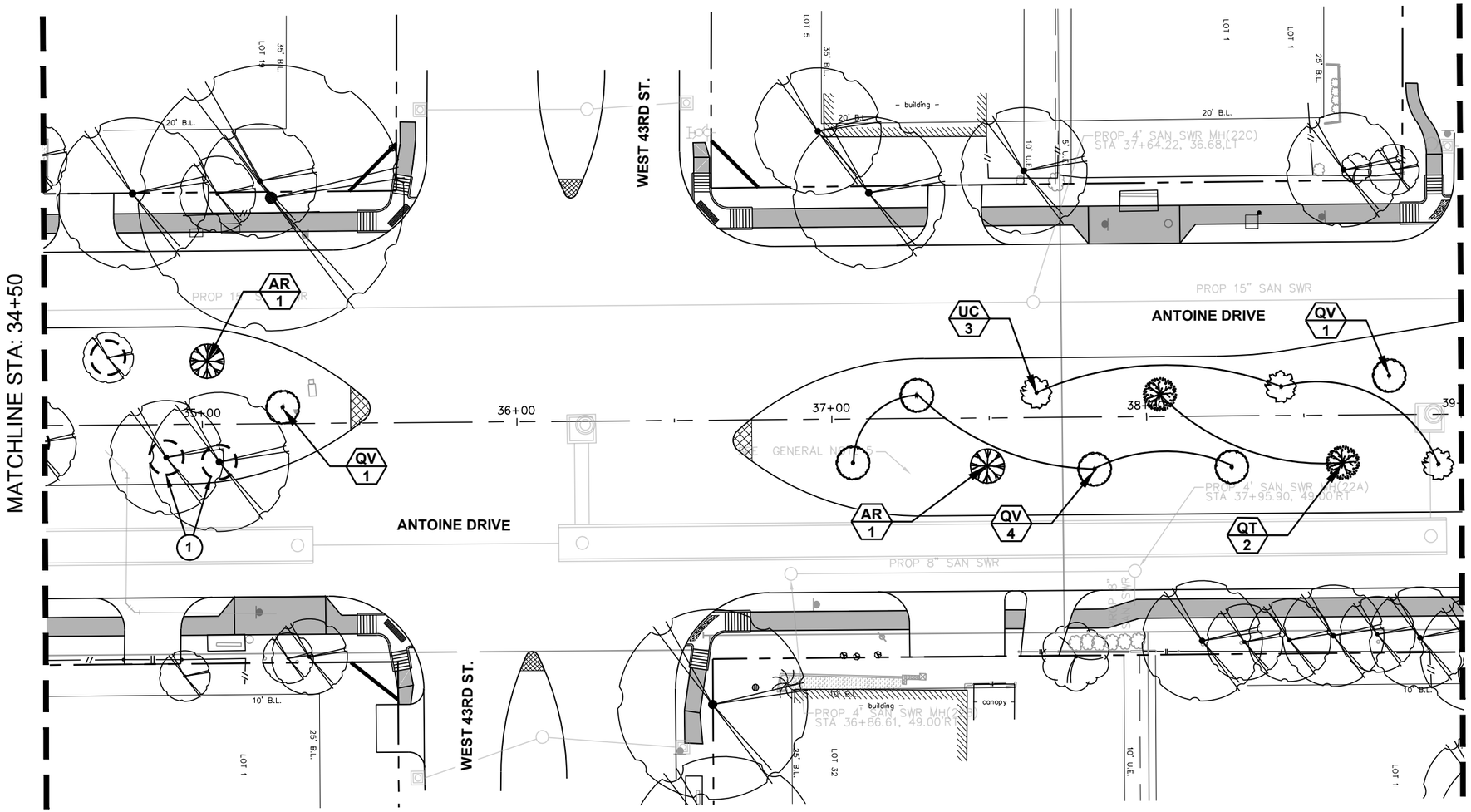

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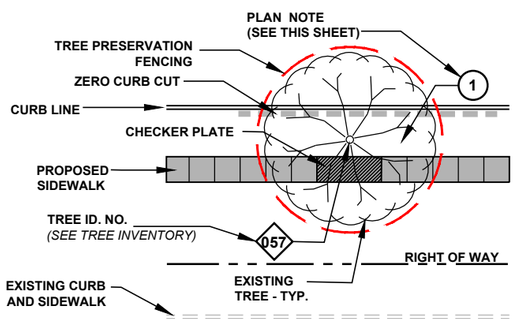

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CITY OF HOUSTON
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ANTOINE DRIVE (290 to Acorn St)

PLANTING PLAN
SHEET 8 OF 10
(STA: 34+50 TO STA: 39+00)

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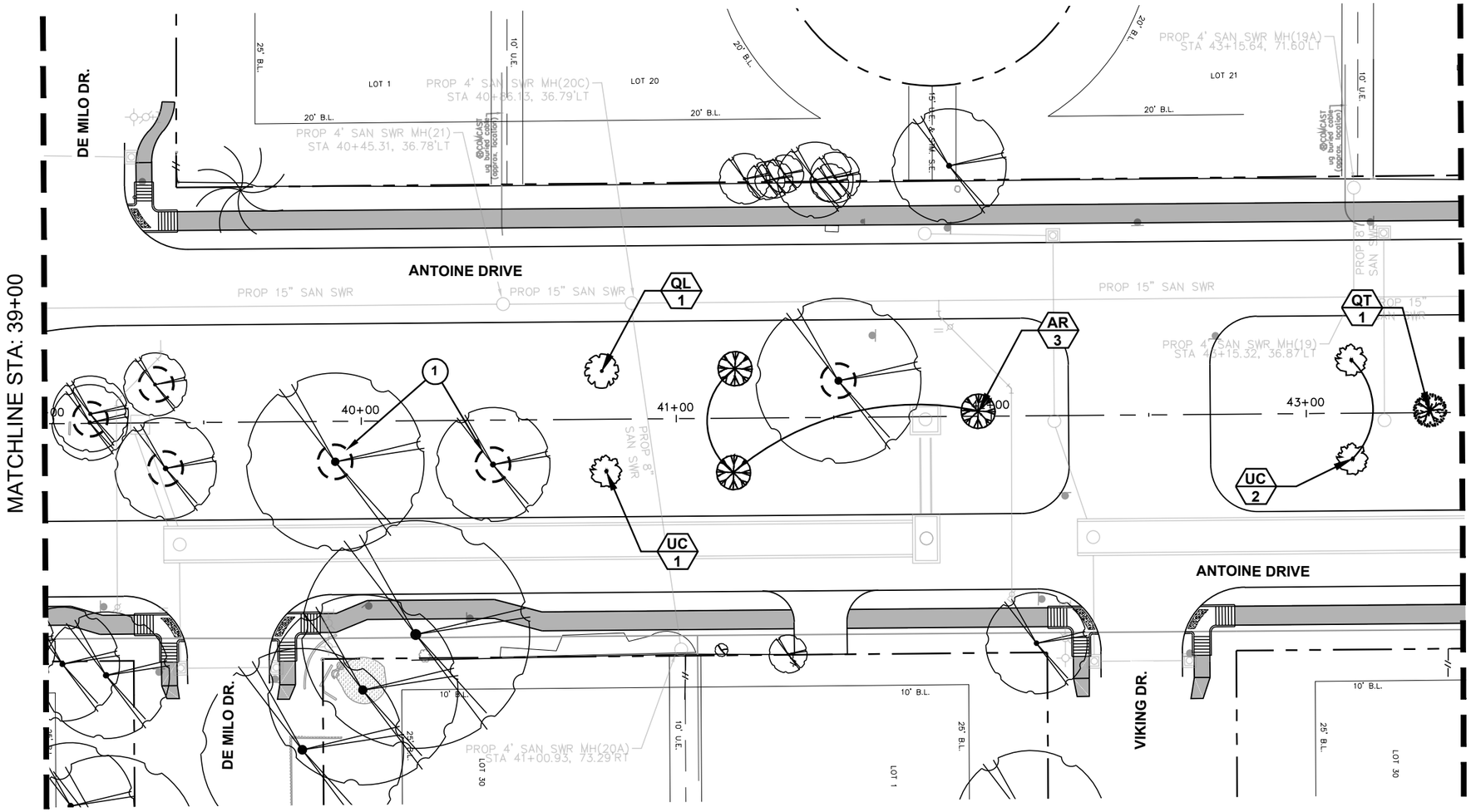

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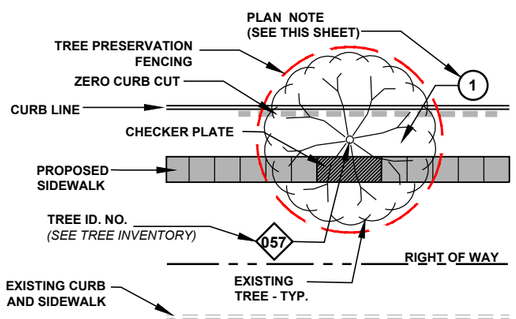

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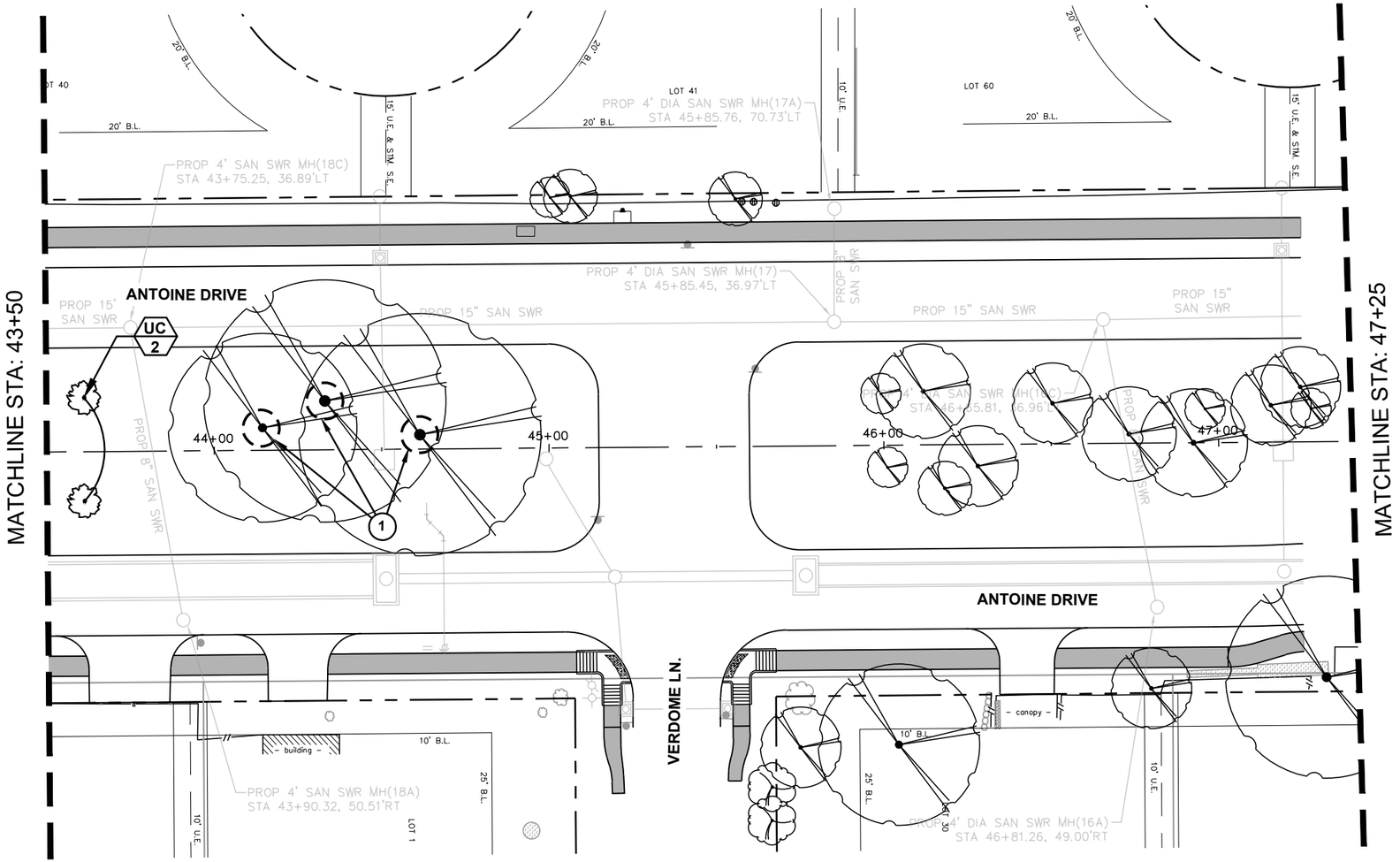

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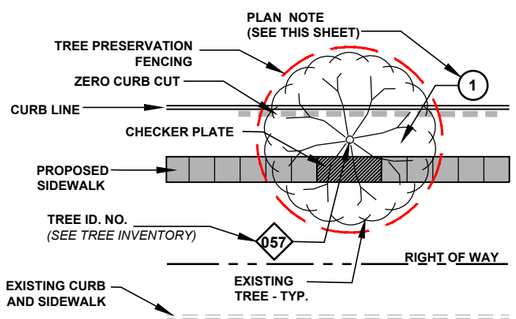

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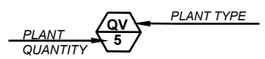

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No.	DATE	REVISIONS	APP.

SURVEYED BY:
KUO & ASSOCIATES, INC.

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M2L Associates Inc.
8955 Katy Fwy, Suite 300
Houston, Texas 77024
T: 713-722-8897 F: 713-722-8048
•Landscape Architecture• •Land Planning• Urban Design•

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS. LICENSE NO. 3436A.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

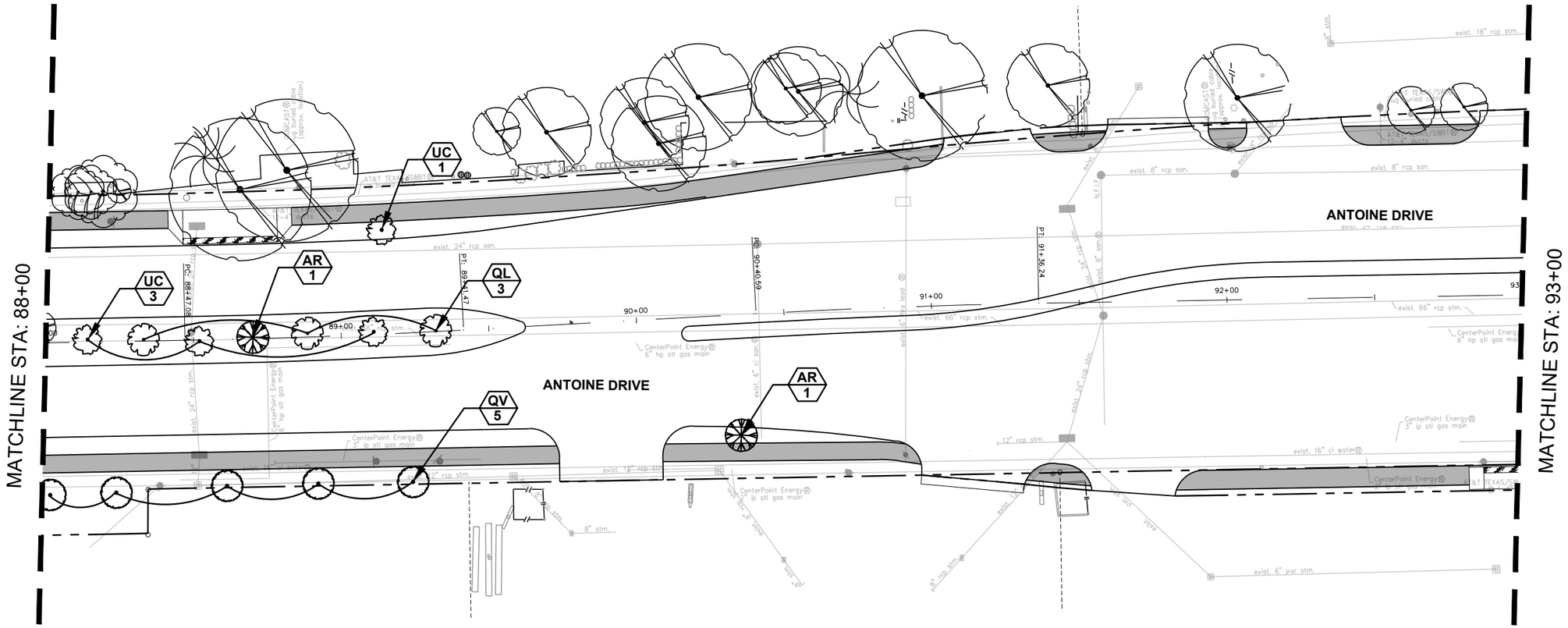
ANTOINE DRIVE (290 to Acorn St)

PLANTING PLAN
SHEET 10 OF 10
(STA: 43+50 TO STA: 47+25)

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 866 OF 1067	

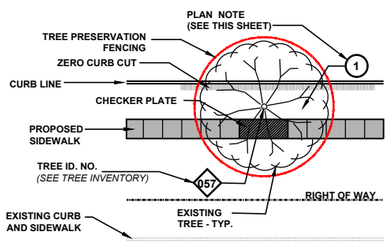
Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$



0' 40' 80'

SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY — QV 5 — PLANT TYPE

PROPOSED PLANTING: ***CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER***

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X		REMOVE TREE (INCIDENTAL TO 01562)		

**SEE PLANT LIST ON TREE PRESERVATION DETAILS FOR MORE INFORMATION*

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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

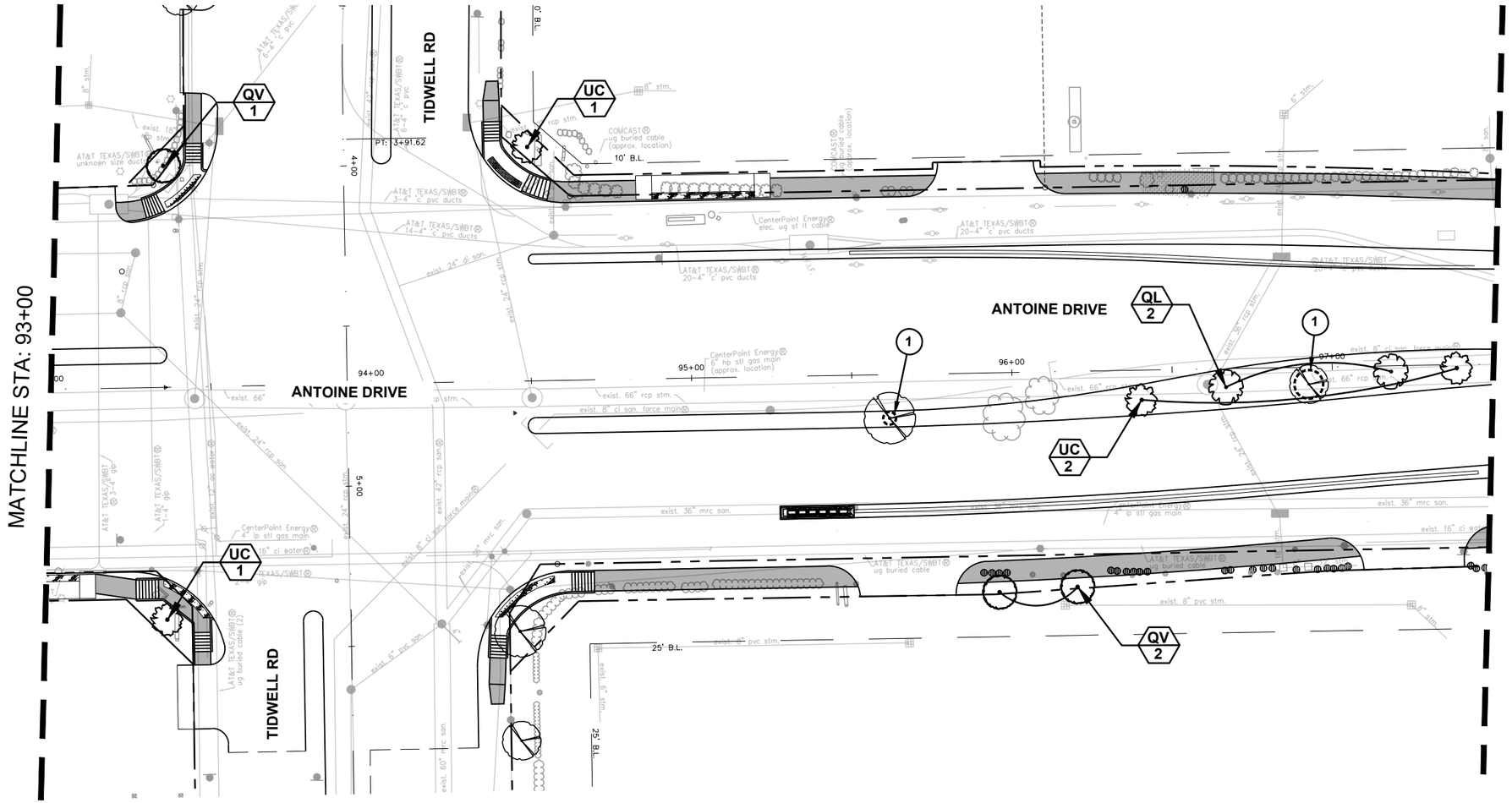
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 1 OF 16
(STA: 88+00 TO STA: 93+00)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO	867 OF 1067

FOR CITY OF HOUSTON USE ONLY

NO.	DATE	REVISIONS



0' 40' 80'
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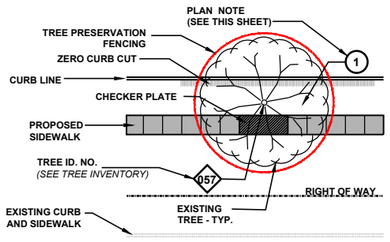

PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY QV 5 PLANT TYPE

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GENERAL NOTES

NO.	DATE	REVISIONS	APP'D

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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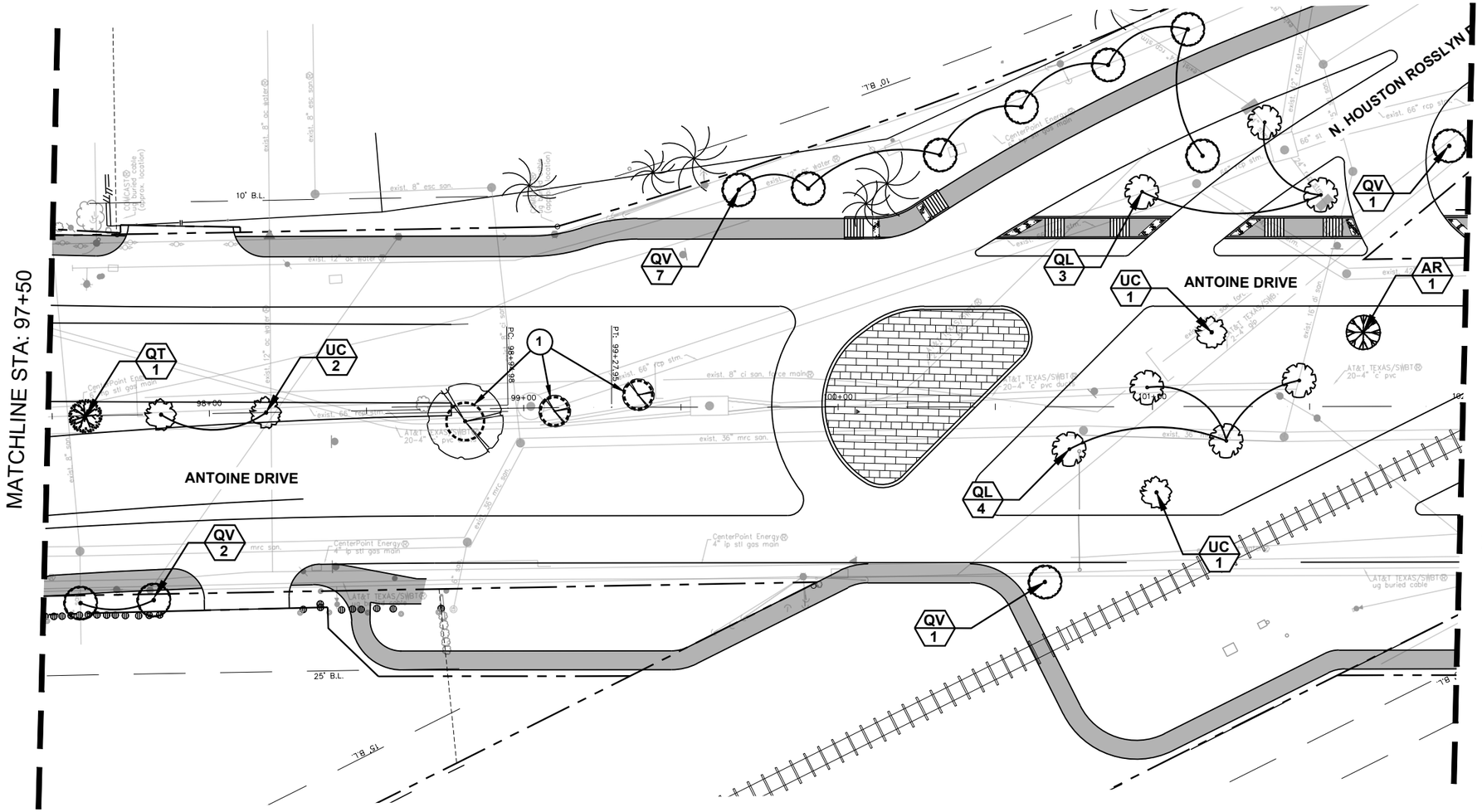
SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 2 OF 16
STA: 93+00 TO STA: 97+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 868	OF 1067



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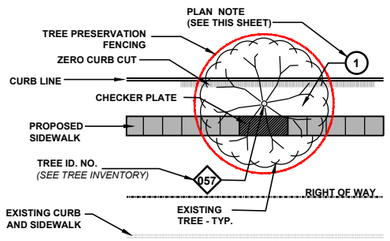

PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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SURVEYED BY:
KUO & ASSOCIATES, INC.

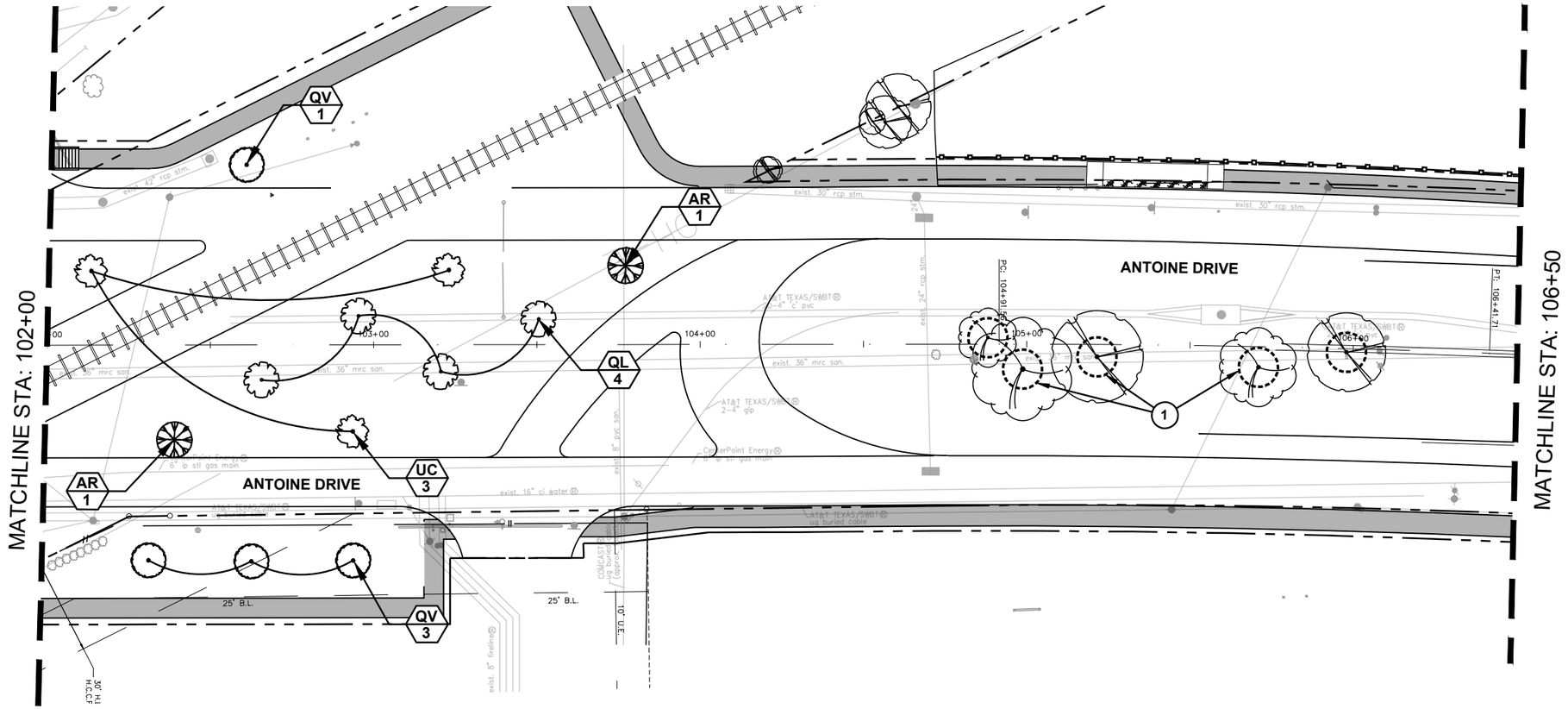
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 3 OF 16
(STA: 97+50 TO STA: 102+00)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO	869 OF 1067

FOR CITY OF HOUSTON USE ONLY



No.	DATE	REVISIONS	APP.

60% CD SUBMITTAL

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PLANTING PLAN
SHEET 4 OF 16
(STA: 102+00 TO STA: 106+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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SHEET NO 870 OF 1067	

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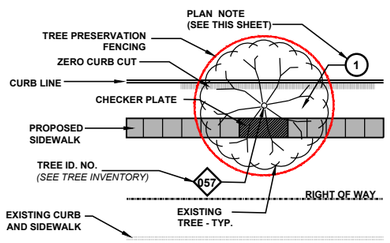

PLAN NOTES

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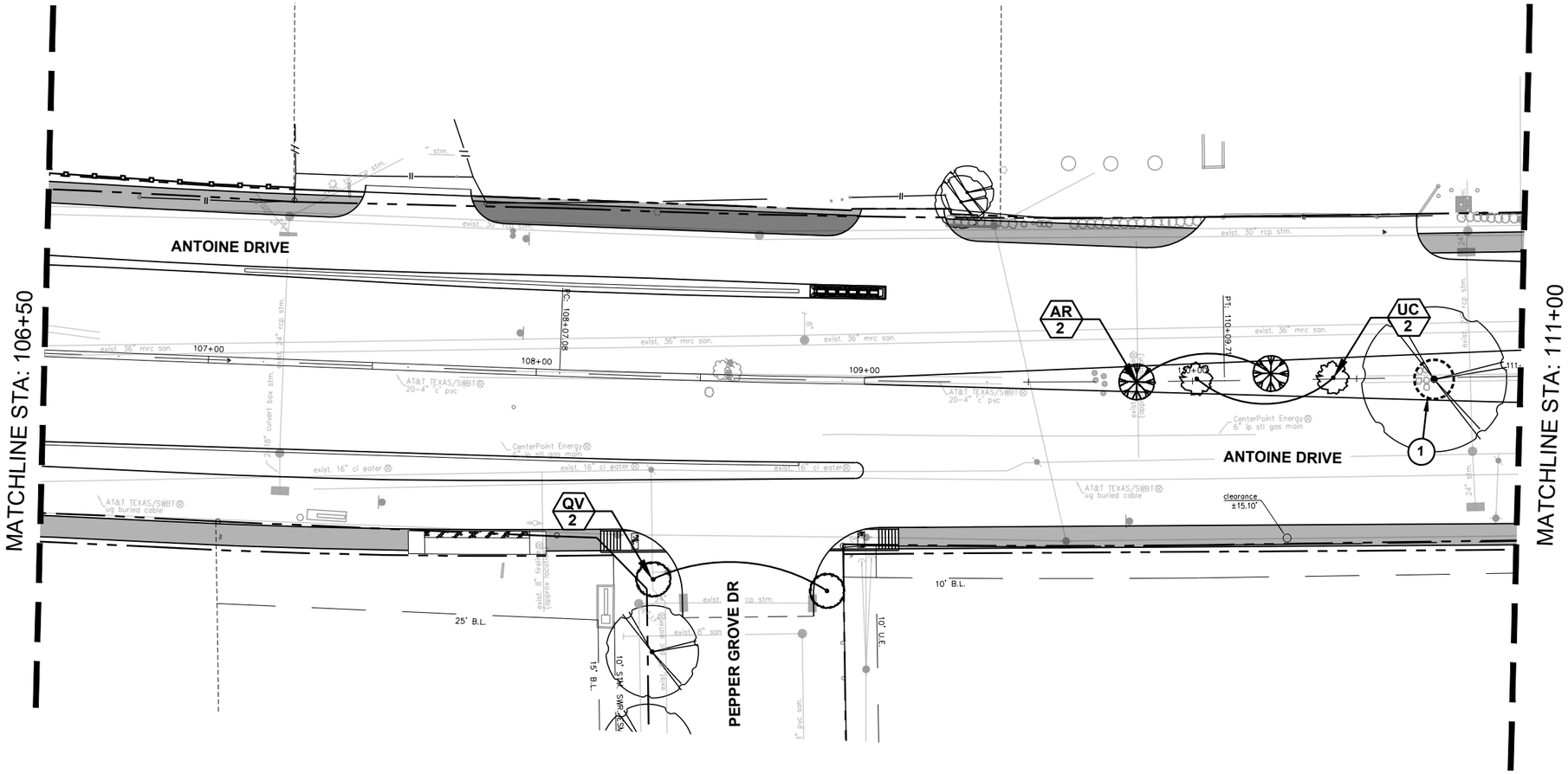
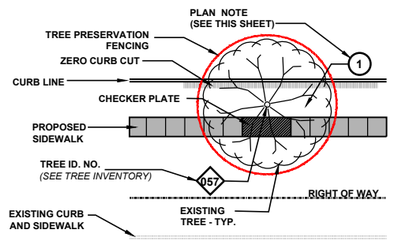


60% CD SUBMITTAL



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X		REMOVE TREE (INCIDENTAL TO 01562)		

**SEE PLANT LIST ON TREE PRESERVATION DETAILS FOR MORE INFORMATION*

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.
B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
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H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING
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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

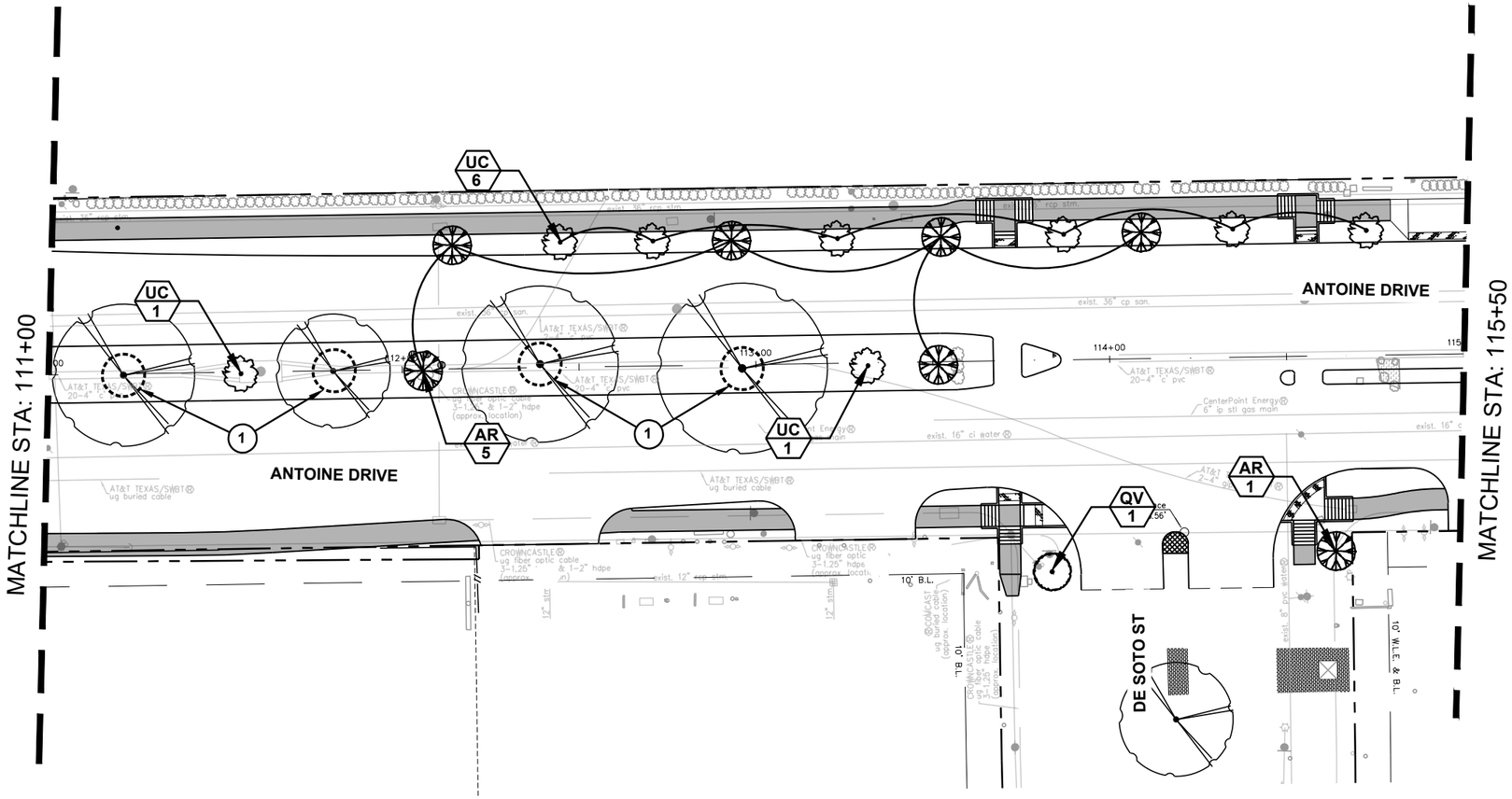
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 5 OF 16
(STA: 106+50 TO STA: 111+00)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO	871 OF 1067

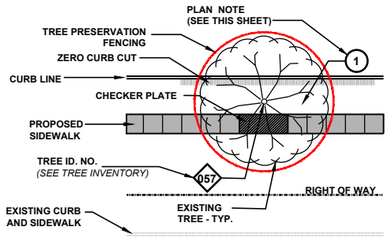
FOR CITY OF HOUSTON USE ONLY

NO.	DATE	REVISIONS	APP'D



0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY — QV 5 — PLANT TYPE

PROPOSED PLANTING: ***CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER***

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X		REMOVE TREE (INCIDENTAL TO 01562)		

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GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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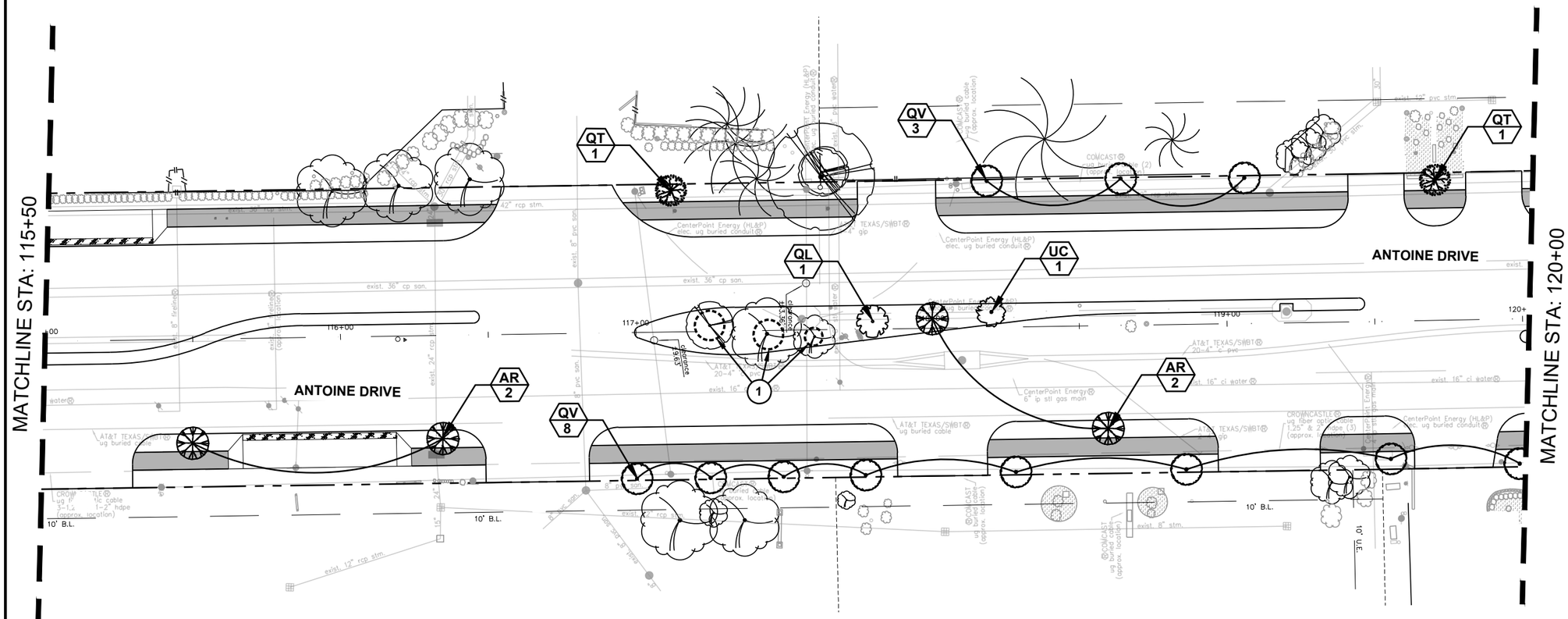
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

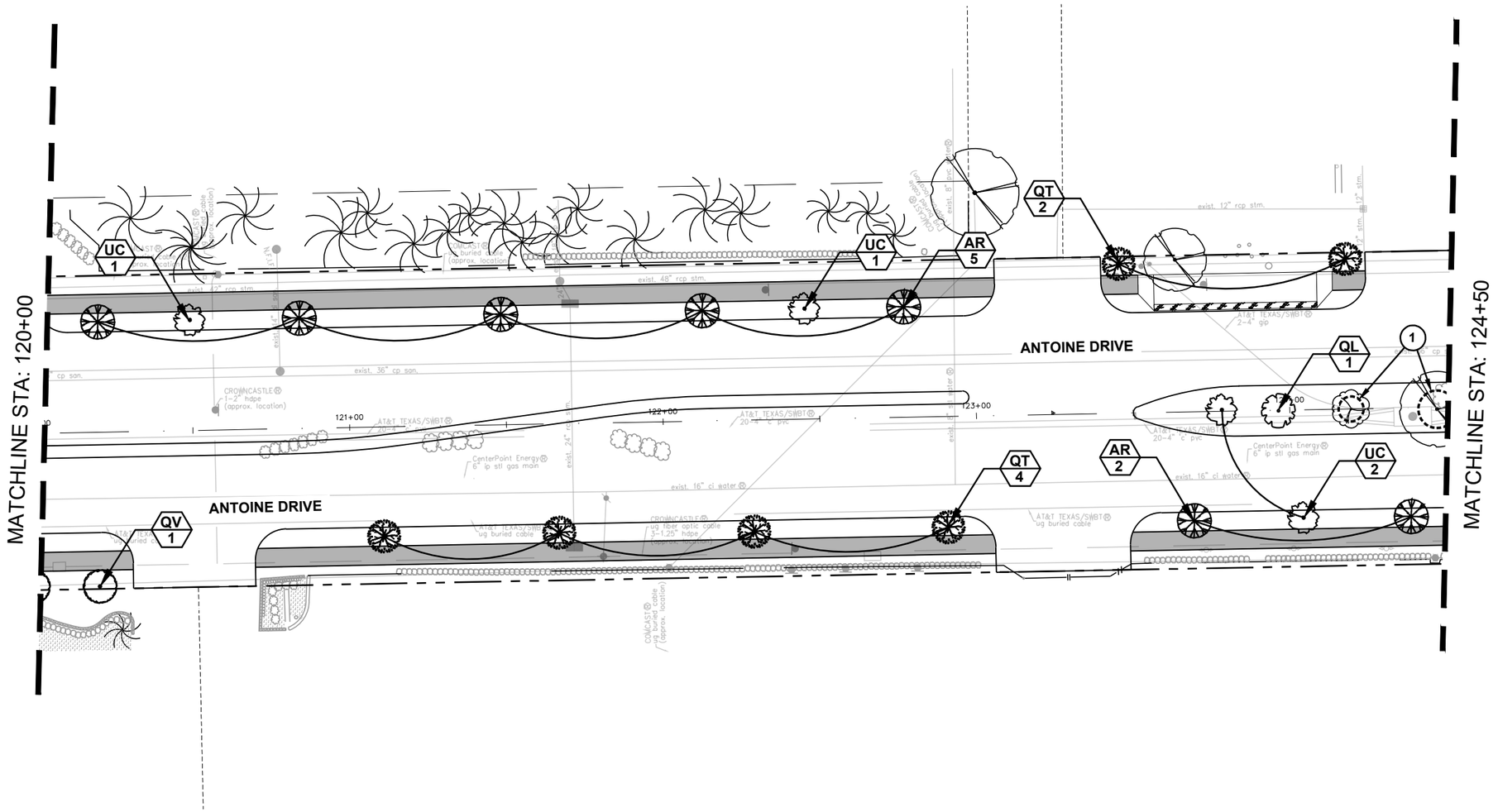
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 6 OF 16
(STA: 111+00 TO STA: 115+50)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 872 OF 1067	

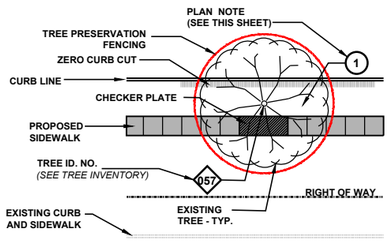
NO.	DATE	REVISIONS	APP'D


MATCHLINE STA: 115+50
MATCHLINE STA: 120+00
ANTOINE DRIVE
ANTOINE DRIVE
QT 1
QV 3
QT 1
QL 1
UC 1
AR 2
QV 8
AR 2
1
116+00
117+00
119+00
120+
10' B.L.
10' B.L.
10' B.L.
10' U.E.
exist. 36" cp san.
exist. 8" pvc san
exist. 24" rcp stm
exist. 42" rcp stm.
exist. 16" pvc stm
exist. 16" ci water
exist. 8" stm.
exist. 12" rcp stm
CenterPoint Energy (HL&P) elec. ug buried conduit
CenterPoint Energy 6" ip stl gas main
AT&T TEXAS/SWBT ug buried cable
AT&T TEXAS/SWBT 20-4" c pvc
COMCAST ug buried cable (approx. location)
CROWNCASTLE ug fiber optic duct 1.25" & 2" hdpe (3) (approx. location)
CROWNCASTLE ug 1" hdpe 1-1.2 (approx. location)
CROWNCASTLE ug 1" hdpe 1-2" hdpe (approx. location)
exist. 6" fireline
exist. 16" water
exist. 8" pvc san
exist. 12" rcp stm
exist. 8" pvc san
exist. 24" rcp stm
exist. 16" rcp stm
exist. 8" pvc san
exist. 8" pvc san
exist. 8" pvc san



0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

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GENERAL NOTES

NO.	DATE	REVISIONS	APP'D

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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SURVEYED BY:
KUO & ASSOCIATES, INC.

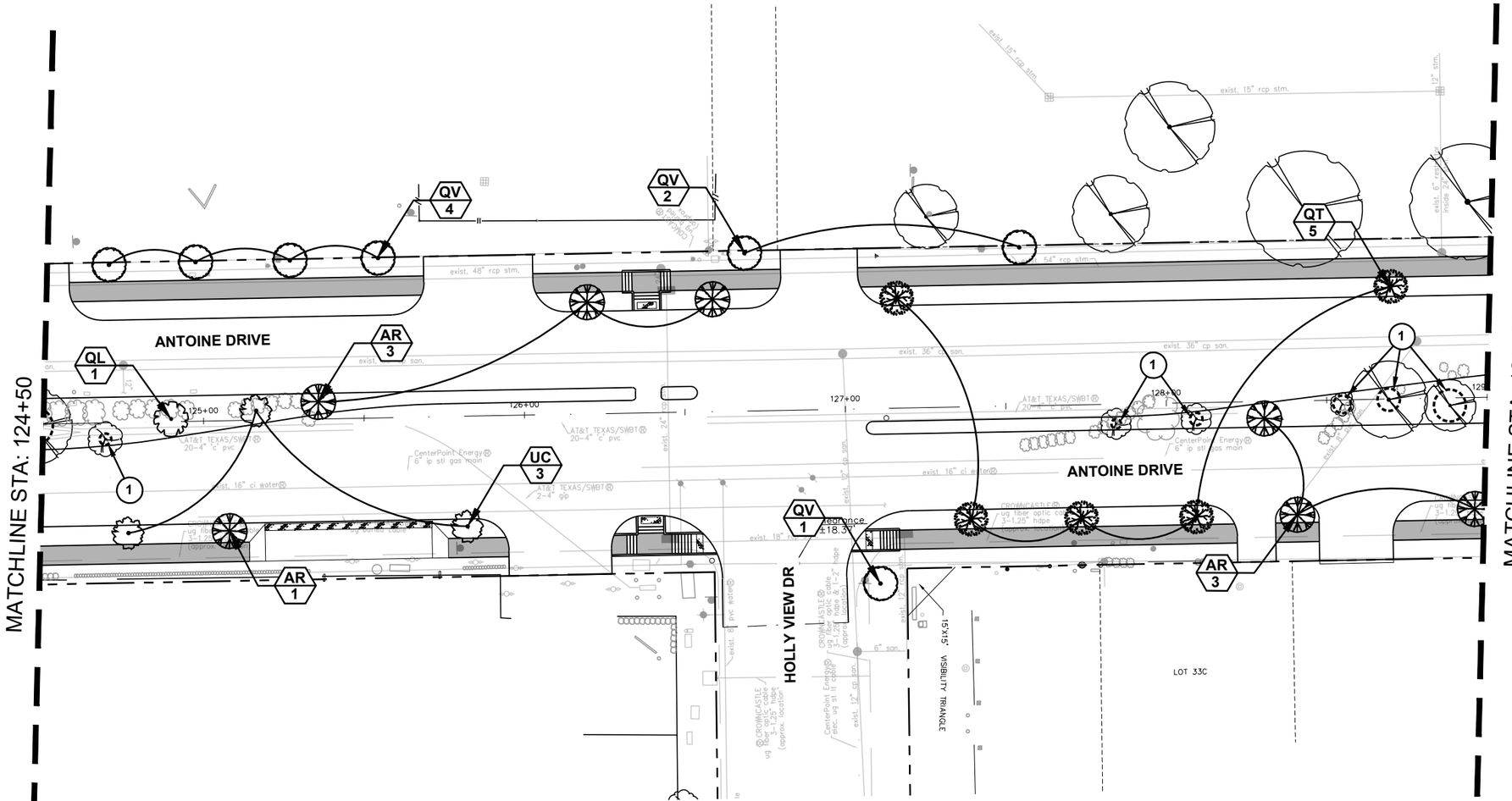
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

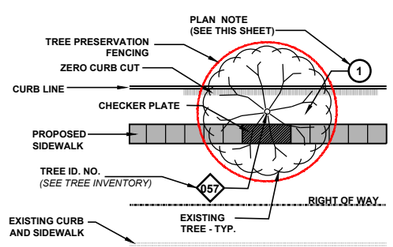
PLANTING PLAN
SHEET 8 OF 16
(STA: 120+00 TO STA: 124+50)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	874 OF 1067

FOR CITY OF HOUSTON USE ONLY



60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

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GENERAL NOTES

NO.	DATE	REVISIONS	APP'D

Texas Department of Transportation

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SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 9 OF 16
(STA: 124+50 TO STA: 129+00)

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N-100030-0GEC-3	
DRAWING SCALE	
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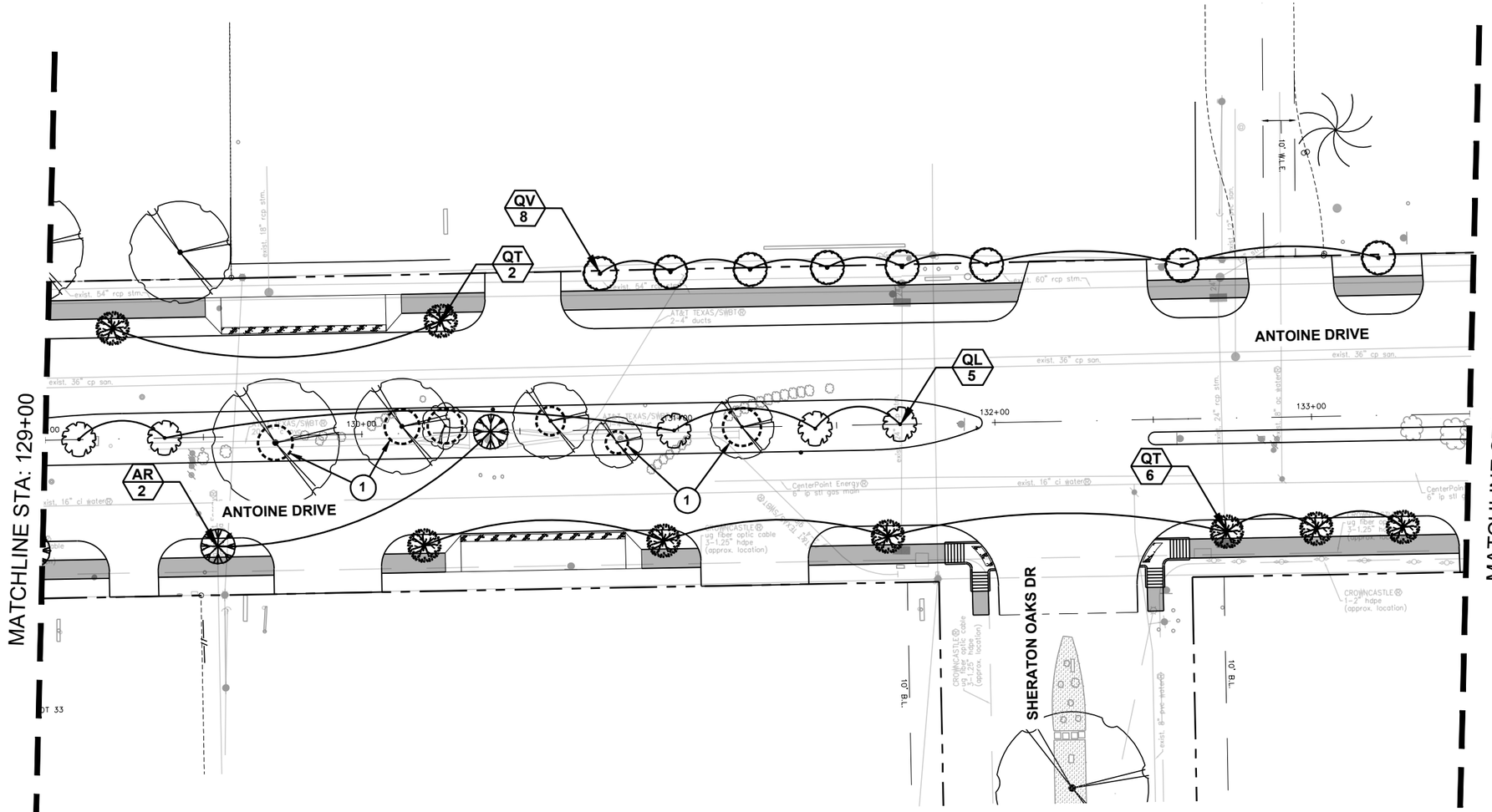
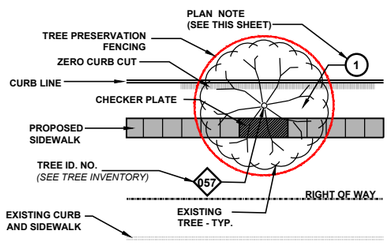
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 875 OF 1067	



60% CD SUBMITTAL



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11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

SURVEYED BY:
KUO & ASSOCIATES, INC.

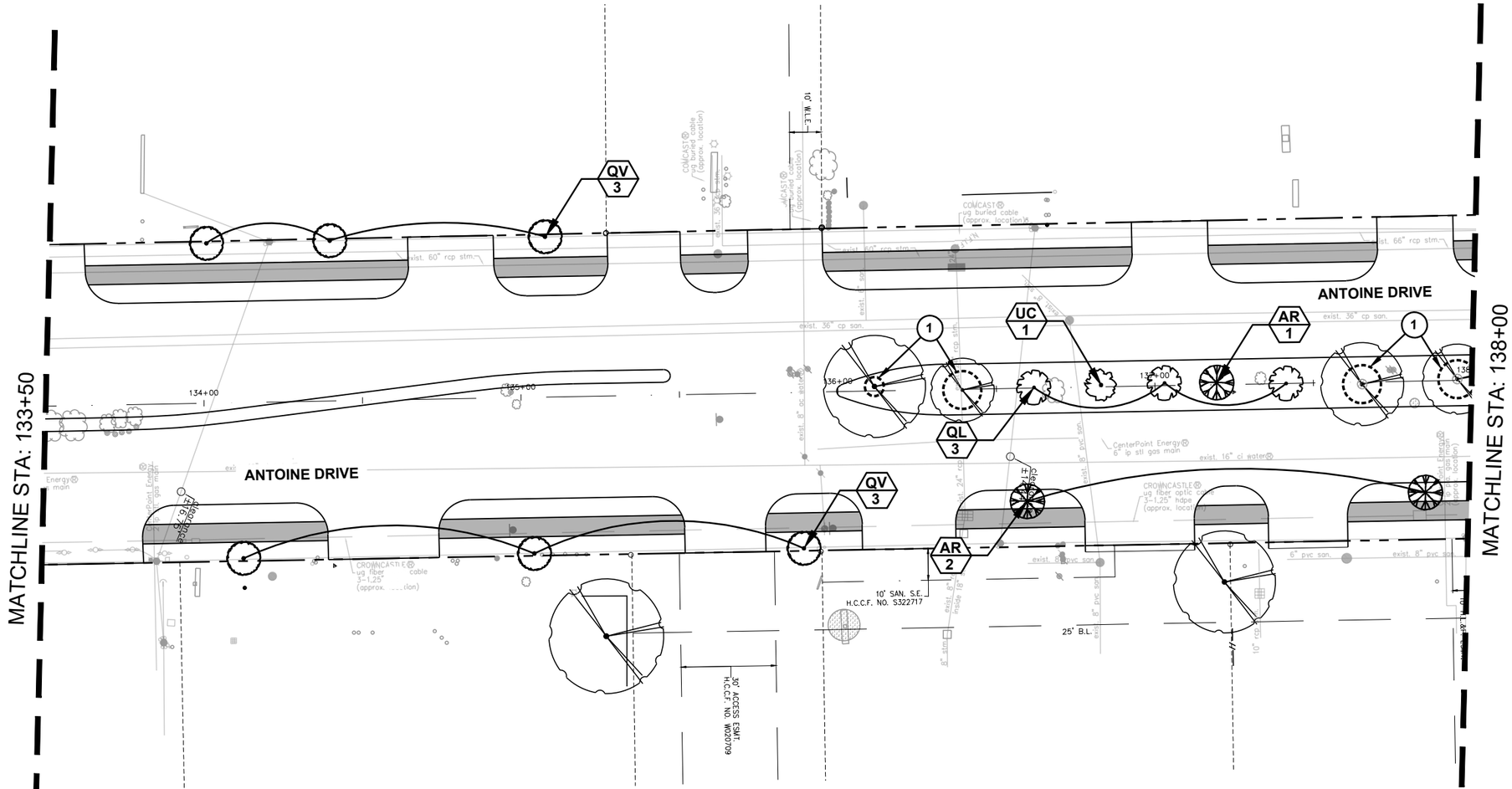
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

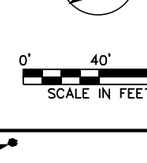
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 10 OF 16
(STA: 129+00 TO STA: 133+50)

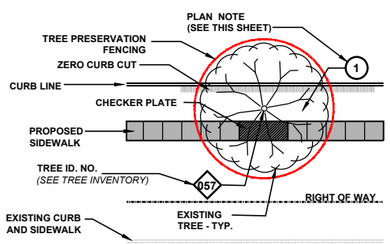
WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	876 OF 1067

FOR CITY OF HOUSTON USE ONLY





60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY — QV 5 — PLANT TYPE

PROPOSED PLANTING: ***CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER***

TYPE	ABR.	BOTANICAL NAME	COMMON NAME	PLANTED SIZE
	UC	ULMUS CRASSIFOLIA	CEDAR ELM	100 GAL, 4" CAL. MIN.
	QT	QUERCUS TEXANA	NUTTAL OAK	100 GAL, 4" CAL. MIN.
	AR	ACER RUBRUM	RED MAPLE	100 GAL, 4" CAL. MIN.
	QV	QUERCUS VIRGINIANA	LIVE OAK	200 GAL, 6" CAL. MIN.
	QL	QUERCUS LYRATA	OVERCUP OAK	200 GAL, 6" CAL. MIN.
X		REMOVE TREE (INCIDENTAL TO 01562)		

**SEE PLANT LIST ON TREE PRESERVATION DETAILS FOR MORE INFORMATION*

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.

B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.

C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.

D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.

E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*

F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)

G. PROPOSED TREE SHALL BE PLANTED A MINIMUM OF 5'-0" FROM BACK OF CURB AND NO CLOSER THAN 20' O.C. FROM EACH OTHER. TREE MITIGATION PLACEMENT DISTANCES FROM MEDIAN TIP ENDS SHALL BE 50'-0" AT NON-SIGNALIZED INTERSETIONS, ADN 75"-0" AT SIGNALIZED INTERSECTIONS.

H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING

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J. CONTRACTOR TO WARRANT, PROVIDE WATER, AND MAINTENANCE FOR ALL NEWLY PLANTED TREES FOR A PERIOD OF TWO (2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION TO SUSTAIN HEALTH OF TREE. (INCIDENTAL TO 02915 -TREE PLANTING AND NOT PAID FOR SEPARATELY.)

K. CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND ALL EXISTING TREES REGARDLESS OF SPECIFIC MEASURES THAT ARE NOTED ON THESE PLANS AND DETAILS AT ALL TIMES AND TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, SPECIFICALLY 01562.

GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
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HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 11 OF 16
(STA: 133+50 TO STA: 138+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
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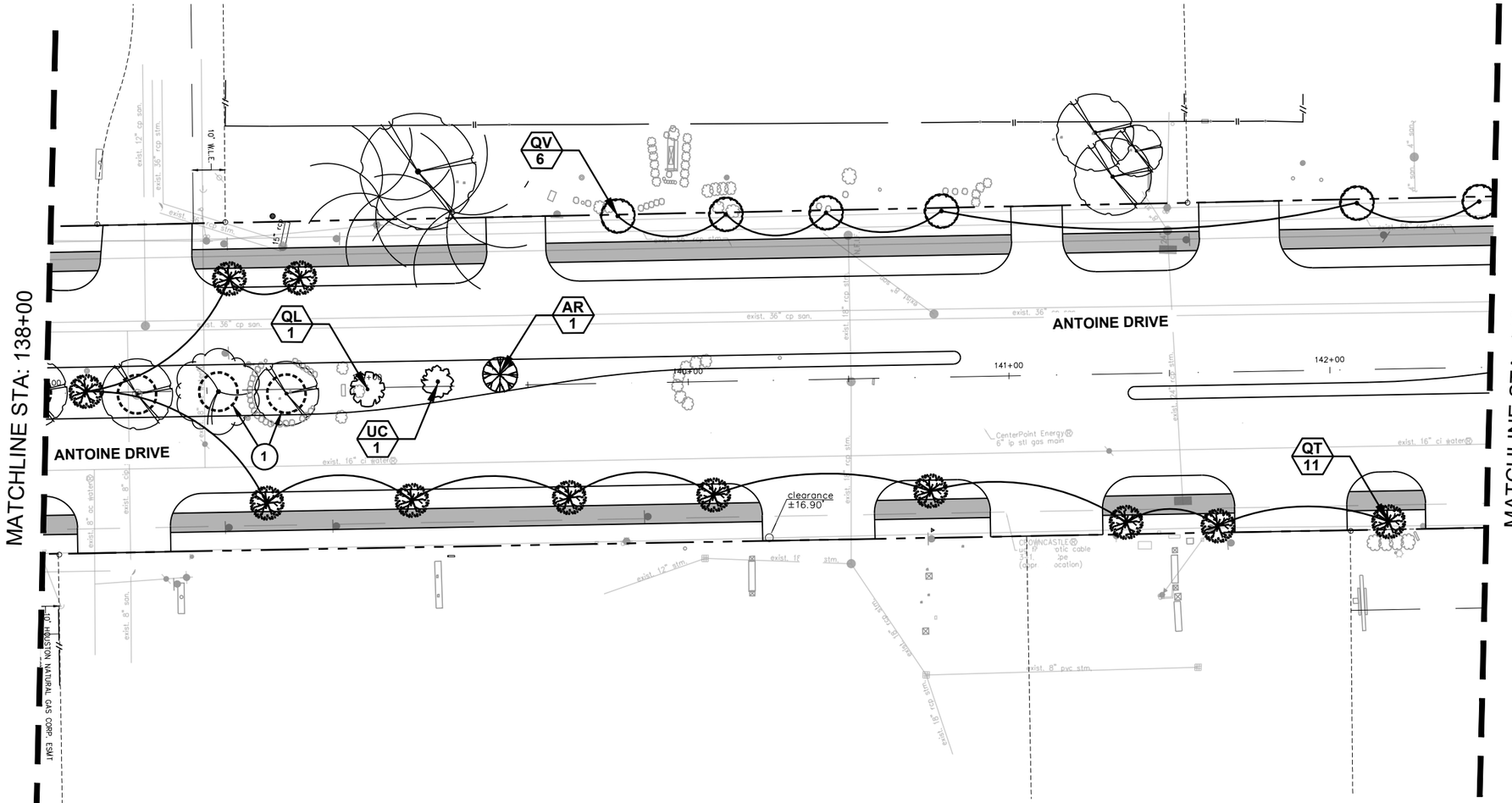
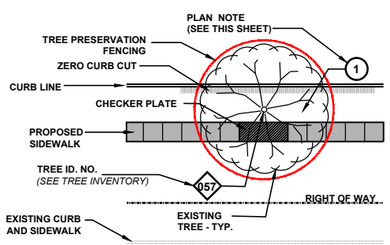
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 877 OF 1067	



0' 40' 80'
SCALE IN FEET

60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY — QV 5 — PLANT TYPE

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X		REMOVE TREE (INCIDENTAL TO 01562)		

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GENERAL NOTES

Texas Department of Transportation

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HOUSTON, TX 77079

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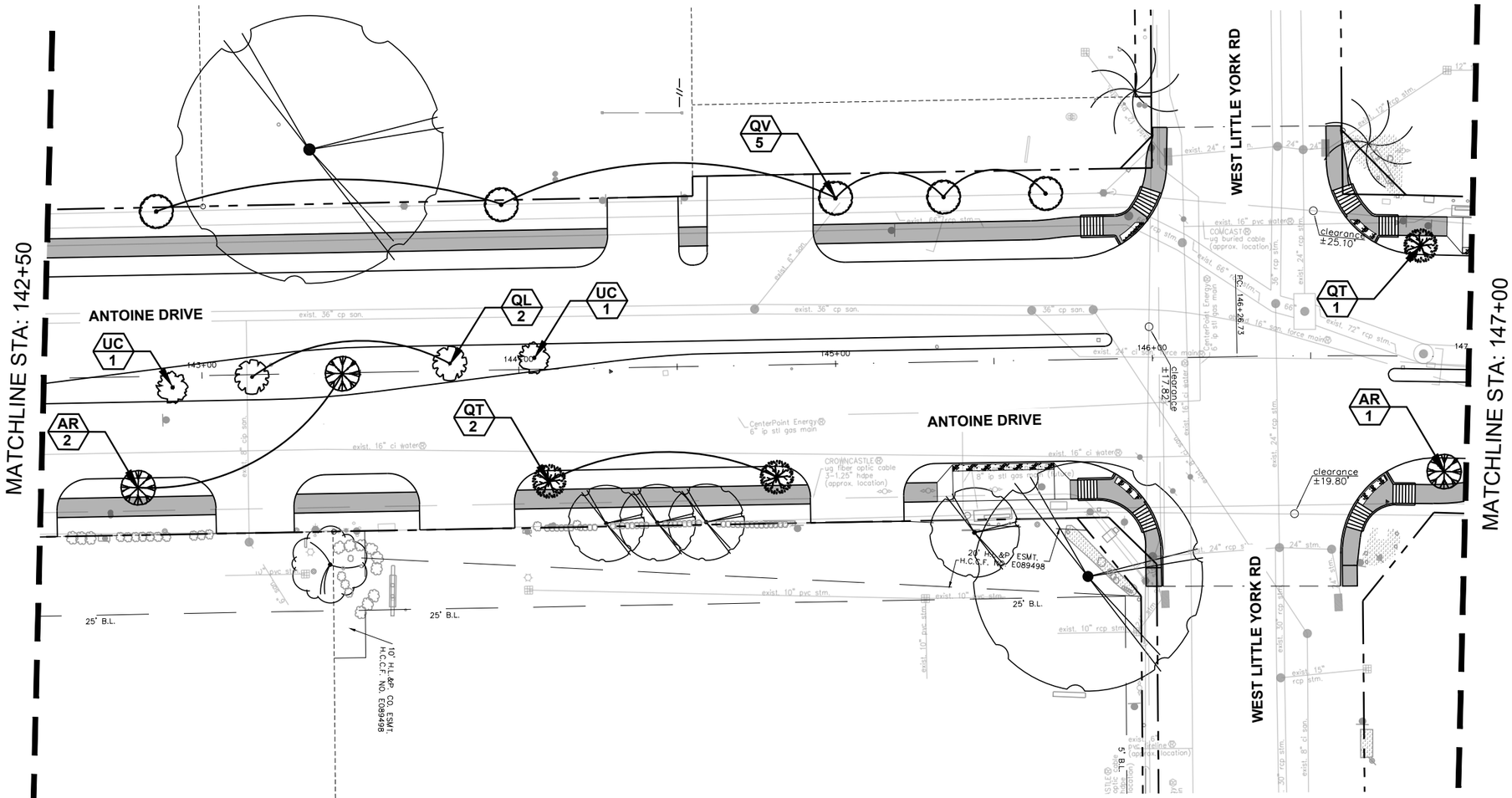
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 12 OF 16
(STA: 138+00 TO STA: 142+50)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO	878 OF 1067

FOR CITY OF HOUSTON USE ONLY



60% CD SUBMITTAL

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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PLANTING PLAN
SHEET 13 OF 16
(STA: 142+50 TO STA: 147+00)

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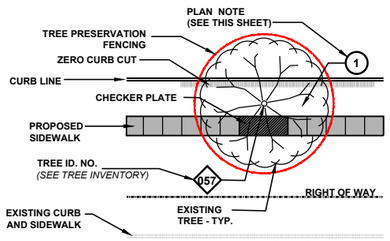
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 879 OF 1067	

PRESERVED TREE DIAGRAM



PLAN NOTES

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY QV 5 PLANT TYPE

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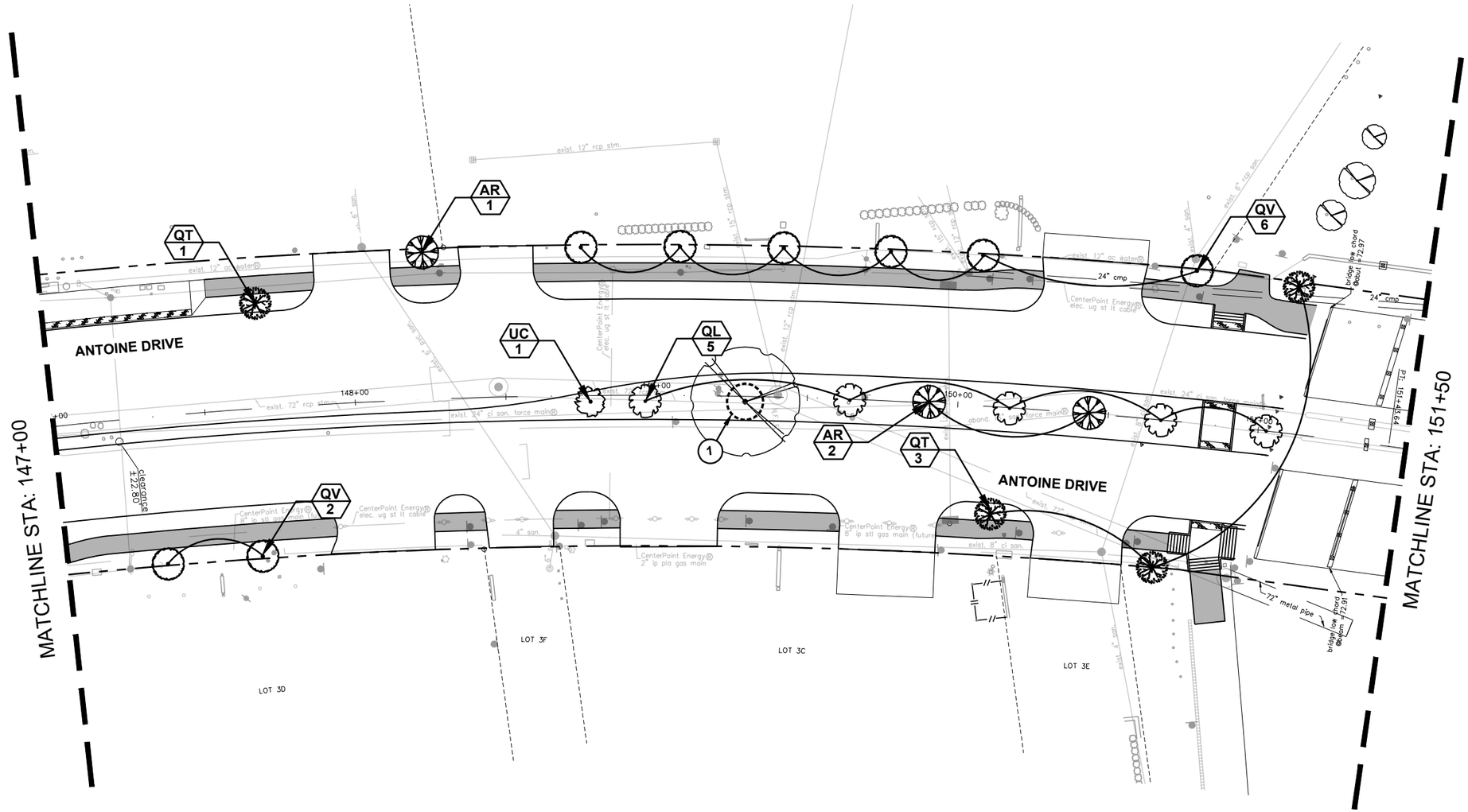

0' 40' 80'
SCALE IN FEET

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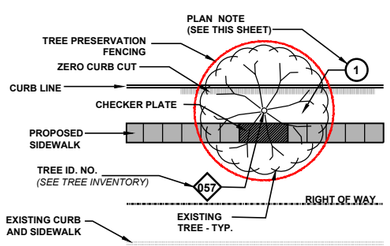

PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY — QV 5 — PLANT TYPE

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GENERAL NOTES

NO.	DATE	REVISIONS	APP'D

Texas Department of Transportation

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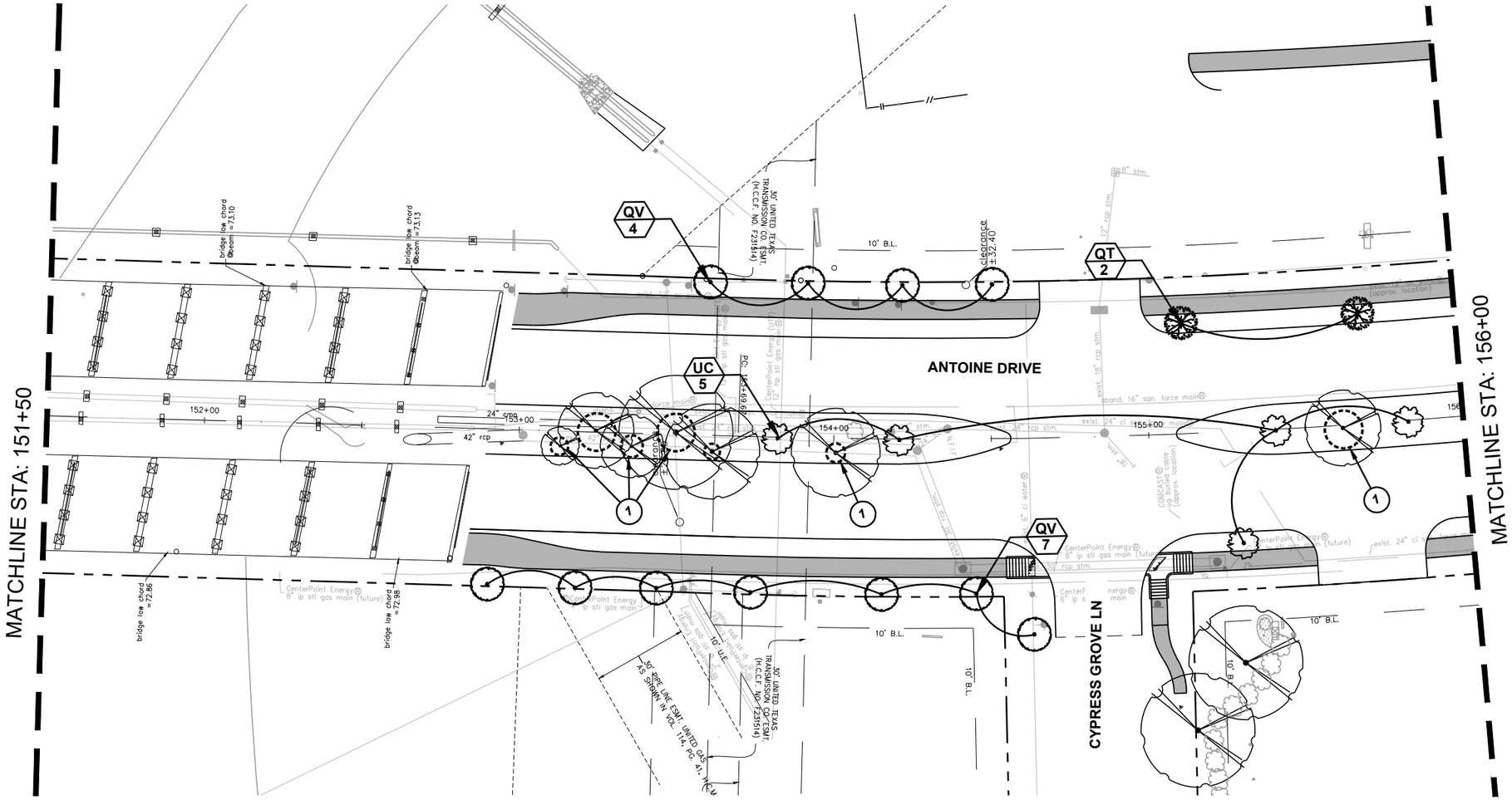

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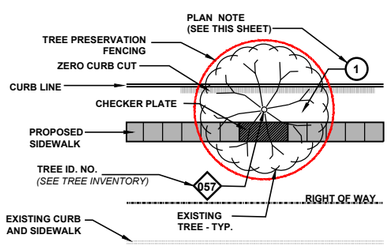
No.	DATE	REVISIONS	APP'D



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H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING
I. CONTRACTOR TO SUBMIT MEANS AND METHODS OF WATERING PROCEDURES FOR NEWLY PLANTED TREES TO ARBORIST FOR REVIEW AND APPROVAL.
J. CONTRACTOR TO WARRANT, PROVIDE WATER, AND MAINTENANCE FOR ALL NEWLY PLANTED TREES FOR A PERIOD OF TWO (2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION TO SUSTAIN HEALTH OF TREE. (INCIDENTAL TO 02915 -TREE PLANTING AND NOT PAID FOR SEPARATELY.)
K. CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND ALL EXISTING TREES REGARDLESS OF SPECIFIC MEASURES THAT ARE NOTED ON THESE PLANS AND DETAILS AT ALL TIMES AND TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, SPECIFICALLY 01562.

GENERAL NOTES

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

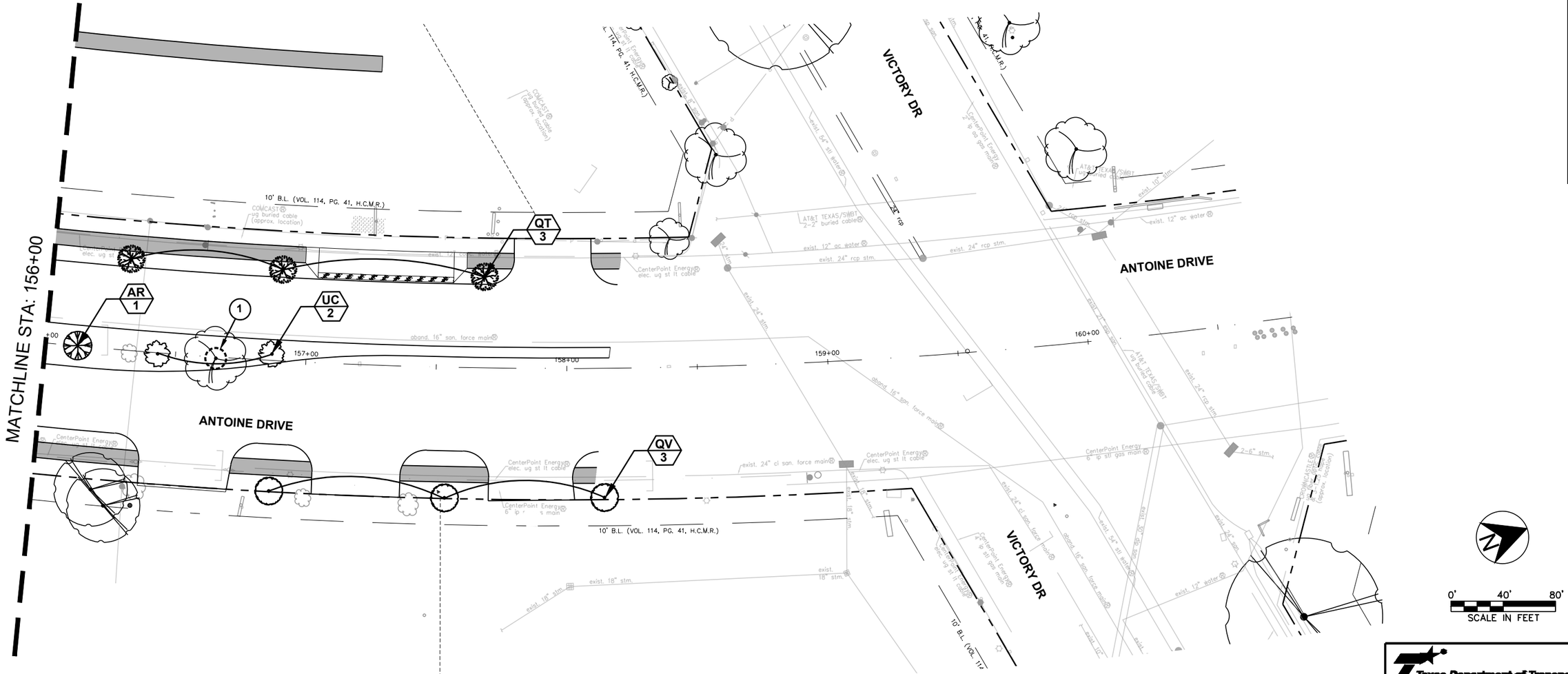
SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

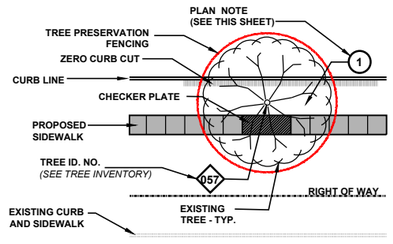
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 15 OF 16
(STA: 151+50 TO STA: 156+00)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO 881 OF 1067	



60% CD SUBMITTAL



PRESERVED TREE DIAGRAM

1. 9" HARDWOOD BARK MULCH WITH SHOVEL EDGE AT EXISTING TREE, TYPICAL SEE DETAIL #5, TREE PRESERVATION DETAIL SHEET 1 OF 11

PLANT QUANTITY QV 5 PLANT TYPE

PROPOSED PLANTING: ***CONTRACTOR SHALL MARK TREE LOCATIONS PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER***

TYPE	ABR.	BOTANICAL NAME	COMMON NAME	PLANTED SIZE
	UC	ULMUS CRASSIFOLIA	CEDAR ELM	100 GAL, 4" CAL. MIN.
	QT	QUERCUS TEXANA	NUTTAL OAK	100 GAL, 4" CAL. MIN.
	AR	ACER RUBRUM	RED MAPLE	100 GAL, 4" CAL. MIN.
	QV	QUERCUS VIRGINIANA	LIVE OAK	200 GAL, 6" CAL. MIN.
	QL	QUERCUS LYRATA	OVERCUP OAK	200 GAL, 6" CAL. MIN.
X		REMOVE TREE (INCIDENTAL TO 01562)		

**SEE PLANT LIST ON TREE PRESERVATION DETAILS FOR MORE INFORMATION*

PLAN NOTES

A. CONTRACTOR SHALL SEEK PRIOR APPROVAL FROM THE ARBORIST, CITY URBAN FORESTOR, AND CITY'S REPRESENTATIVE PRIOR TO INITIATION OF TREE REMOVAL AND/OR TREE PROTECTION ACTIVITIES WITHIN THE PROJECT SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HOUSTON.
B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT NO DAMAGE TO EXISTING TREES TO BE PROTECTED AND/OR THOSE THAT HAVE THEIR TRUNKS OUTSIDE OF THE PROJECT LIMITS BUT HAVE SIGNIFICANT BRANCH OVERHANG INTO THE PROJECT LIMITS.
C. THE CONTRACTOR SHALL NOT, AT ANY TIME, PARK CONSTRUCTION VEHICLES, MATERIALS, OR EQUIPMENT INSIDE OF THE TREE PROTECTION ZONE (TPZ) OF TREES TO BE PROTECTED.
D. SEE TREE PRESERVATION DETAILS AND SPECIFICATIONS FOR DISPOSITION AND CONDITIONAL TREATMENT OF TREES NOTED ON THE DRAWINGS.
E. ALL NOTED TREES ON DRAWINGS MAY REQUIRE ADDITIONAL CONDITIONAL TREATMENT OTHER THAN NOTED ON THE PLANS. ***SEE TREE INVENTORY AND TREE PRESERVATION DETAILS*** *(ALL TREE PRESERVATION WORK REQUIRED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)*
F. CONTRACTOR TO PROVIDE WATER, TREATMENT FOR BORERS AND OTHER INSECTICIDE TREATMENTS FOR TREES TO BE PRESERVED AS NEEDED PER ARBORISTS RECOMMENDATION. (INCIDENTAL TO 01562 AND 02915 AND NOT PAID FOR SEPARATELY.)
G. PROPOSED TREE SHALL BE PLANTED A MINIMUM OF 5'-0" FROM BACK OF CURB AND NO CLOSER THAN 20' O.C. FROM EACH OTHER. TREE MITIGATION PLACEMENT DISTANCES FROM MEDIAN TIP ENDS SHALL BE 50'-0" AT NON-SIGNALIZED INTERSETIONS, ADN 75'-0" AT SIGNALIZED INTERSECTIONS.
H. ALL TREE MITIGATION MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL THE PROPOSED TREES SHALL BE INCIDENTAL TO 02915 - TREE PLANTING
I. CONTRACTOR TO SUBMIT MEANS AND METHODS OF WATERING PROCEDURES FOR NEWLY PLANTED TREES TO ARBORIST FOR REVIEW AND APPROVAL.
J. CONTRACTOR TO WARRANT, PROVIDE WATER, AND MAINTENANCE FOR ALL NEWLY PLANTED TREES FOR A PERIOD OF TWO (2) YEARS FROM DATE OF SUBSTANTIAL COMPLETION TO SUSTAIN HEALTH OF TREE. (INCIDENTAL TO 02915 -TREE PLANTING AND NOT PAID FOR SEPARATELY.)
K. CONTRACTOR TO EXERCISE CAUTION WHEN WORKING AROUND ALL EXISTING TREES REGARDLESS OF SPECIFIC MEASURES THAT ARE NOTED ON THESE PLANS AND DETAILS AT ALL TIMES AND TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, SPECIFICALLY 01562.

GENERAL NOTES

NO.	DATE	REVISIONS	APP.

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

PLANTING PLAN
SHEET 16 OF 16
(STA: 156+00 TO STA: 160+50)

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO	882 OF 1067

FOR CITY OF HOUSTON USE ONLY

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
001	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
002	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
003	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
004	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
005	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
006	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
007	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
008	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
009	Median	Antoine Dr	Oak	3.0		Remove	A	Replace Inch For Inch
010	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
011	Median	Antoine Dr	Oak	3.0		Remove	A	Replace Inch For Inch
012	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
013	Median	Antoine Dr	Oak	3.0		Remove	A	Replace Inch For Inch
014	Median	Antoine Dr	Oak	2.0		Preserve	D, E	Preservation Treatment
015	Median	Antoine Dr	Oak	2.0	Poor	Remove	A	Replace Inch For Inch
016	Median	Antoine Dr	Oak	3.0		Preserve	D, E	Preservation Treatment
017	Median	Antoine Dr	Oak	2.0		Remove	A	Replace Inch For Inch
018	Median	Antoine Dr	Oak	2.0		Preserve	D, E	Preservation Treatment
019	East	Antoine Dr	Verify in Field	6.0		Preserve	D, E	Preservation Treatment
020	East	Antoine Dr	Verify in Field	4.0		Remove	A	
021	East	Antoine Dr	Crepe Myrtle	6.0		Preserve	D	Preservation Treatment
022	East	Antoine Dr	Crepe Myrtle	8.0		Preserve	D	Preservation Treatment
023	East	Antoine Dr	Crepe Myrtle	10.0		Preserve	D	Preservation Treatment
024	East	Antoine Dr	Magnolia	8.0		Preserve	D	Preservation Treatment
025	East	Antoine Dr	Crepe Myrtle	8.0		Preserve	D	Preservation Treatment
026	East	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
027	East	Antoine Dr	Magnolia	4.0		Preserve		No Treatment
028	East	Antoine Dr	Magnolia	5.0		Preserve	D	Preservation Treatment
029	West	Antoine Dr	Verify in Field	8.0		Preserve		No Treatment
030	West	Antoine Dr	Verify in Field	7.0		Preserve		No Treatment
031	West	Antoine Dr	Verify in Field	10.0		Preserve		No Treatment
032	West	Antoine Dr	Verify in Field	8.0		Preserve		No Treatment
033	West	Antoine Dr	Verify in Field	5.0		Preserve		No Treatment
034	West	Antoine Dr	Oak	34.0		Preserve	B, D	Preservation Treatment
035	Median	Antoine Dr	Oak	2.0		Preserve	D, E	Preservation Treatment
036	Median	Antoine Dr	Oak	2.0		Remove	A	Replace Inch For Inch
037	Median	Antoine Dr	Oak	2.0		Preserve	D, E	Preservation Treatment
038	Median	Antoine Dr	Oak	2.0		Remove	A	Replace Inch For Inch
039	Median	Antoine Dr	Oak	2.0		Preserve	D, E	Preservation Treatment
040	Median	Antoine Dr	Oak	2.0		Remove	A	Replace Inch For Inch
041	Median	Antoine Dr	Oak	2.0		Preserve	D, E	Preservation Treatment
042	Median	Antoine Dr	Oak	18.0		Remove	A	Replace Inch For Inch
043	Median	Antoine Dr	Oak	18.0		Remove	A	Replace Inch For Inch
044	Median	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
045	Median	Antoine Dr	Oak	18.0		Remove	A	Replace Inch For Inch
046	Median	Antoine Dr	Catalpa	24.0	Poor	Remove	A	No Replacement
047	Median	Antoine Dr	Oak	12.0	Poor	Remove	A	No Replacement
048	Median	Antoine Dr	Maple	4.0		Remove	A	Replace Inch For Inch
049	Median	Antoine Dr	Oak	20.0		Remove	A	Replace Inch For Inch
050	East	Antoine Dr	Oak	18.0		Preserve	B, D	Preservation Treatment
051	East	Antoine Dr	Palm	8.0		Preserve	D	Preservation Treatment
052	East	Antoine Dr	Palm	8.0		Preserve	D	Preservation Treatment
053	East	Antoine Dr	Crepe Myrtle	3.0		Remove	A	No Replacement
054	East	Antoine Dr	Oak	24.0		Preserve	E	Preservation Treatment
055	North	Poinciana Dr	Crepe Myrtle	9.0		Remove	A	No Replacement
056	North	Poinciana Dr	Crepe Myrtle	9.0		Preserve	D, E	Preservation Treatment
057	East	Antoine Dr	Cedar	8.0	Poor	Preserve		No Treatment
058	East	Antoine Dr	Oak	6.0		Remove	A	Replace Inch For Inch
059	East	Antoine Dr	Oak	8.0		Remove	A	Replace Inch For Inch
060	East	Antoine Dr	Verify in Field	3.0		Remove	A	
061	East	Antoine Dr	Oak	13.0		Remove	A	Replace Inch For Inch
062	East	Antoine Dr	Plum	12.0		Remove	A	No Replacement
063	East	Antoine Dr	Plum	15.0		Remove	A	No Replacement
064	East	Antoine Dr	Crepe Myrtle	30.0		Preserve	B, C, D, H	Preservation Treatment
065	East	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
066	East	Antoine Dr	Crepe Myrtle	6.0		Remove	A	No Replacement
067	East	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
068	East	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
069	East	Antoine Dr	Crepe Myrtle	15.0		Remove	A	No Replacement
070	East	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
071	East	Antoine Dr	Oak	30.0		Preserve	B	Preservation Treatment
072	West	Antoine Dr	Oak	38.0		Preserve	B, C, D, E, H	Preservation Treatment
073	West	Antoine Dr	Oak	32.0		Preserve	B	Preservation Treatment
074	West	Antoine Dr	Verify in Field	10.0		Preserve	B, D, E	Preservation Treatment
075	West	Antoine Dr	Oak	38.0		Preserve	B, C, D, E, H	Preservation Treatment
076	West	Antoine Dr	Magnolia	18.0		Preserve	D	Preservation Treatment
077	West	Antoine Dr	Crepe Myrtle	18.0		Preserve		No Treatment
078	Median	Antoine Dr	Verify in Field	2.0	Poor	Remove	A	No Replacement
079	Median	Antoine Dr	Elm	6.0		Remove	A	Replace Inch For Inch
080	Median	Antoine Dr	Oak	20.0		Remove	A	Replace Inch For Inch
081	Median	Antoine Dr	Oak	24.0		Remove	A	Replace Inch For Inch
082	Median	Antoine Dr	Oak	26.0		Preserve	B, D, E	Preservation Treatment
083	Median	Antoine Dr	Oak	8.0		Preserve	B, D, E	Preservation Treatment
084	Median	Antoine Dr	Crepe Myrtle	24.0		Preserve	D, E	Preservation Treatment
085	Median	Antoine Dr	Crepe Myrtle	4.0		Preserve	D, E	Preservation Treatment
086	Median	Antoine Dr	Crepe Myrtle	12.0		Preserve	D, E	Preservation Treatment
087	Median	Antoine Dr	Crepe Myrtle	4.0		Preserve	D, E	Preservation Treatment
088	North	Hialeah Dr	Pine	18.0		Remove	A	Replace Inch For Inch
089	East	Antoine Dr	Oak	30.0		Preserve	B, C, D, E	Preservation Treatment
090	East	Antoine Dr	Oak	18.0		Preserve	B, D	Preservation Treatment
091	East	Antoine Dr	Pine	28.0		Preserve		No Treatment
092	East	Antoine Dr	Verify in Field	22.0		Preserve	B, C, D, E	Preservation Treatment
093	East	Antoine Dr	Verify in Field	26.0		Preserve		No Treatment
094	East	Antoine Dr	Oak	18.0		Preserve	B, D	Preservation Treatment
095	East	Antoine Dr	Verify in Field			Preserve	B, C, D, E	Preservation Treatment
096	East	Antoine Dr	Verify in Field			Preserve	D	Preservation Treatment
097	West	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
098	West	Antoine Dr	Crepe Myrtle	8.0		Preserve	D	Preservation Treatment
099	West	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
100	North	Saxon Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
101	East	Antoine Dr	Oak	24.0		Preserve		No Treatment
102	West	Antoine Dr	Oak	24.0		Preserve		No Treatment
103	Median	Antoine Dr	Oak	24.0		Preserve	D	Preservation Treatment
104	Median	Antoine Dr	Oak	18.0		Preserve	D	Preservation Treatment
105	Median	Antoine Dr	Oak	34.0		Preserve	B, D	Preservation Treatment
106	Median	Antoine Dr	Pecan	18.0		Preserve	D	Preservation Treatment

TREE INVENTORY TREATMENT LEGEND

(ALL WORK CONTAINED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)

A. REMOVE TREE & STUMP GRIND, PROVIDE TOPSOIL BACKFILL AND COMPACT TO NATURAL GRADE (TOPSOIL INCIDENTAL)
B. MAINTENANCE PRUNING**: SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**
C. ROOT PRUNING: **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**
D. TREE PROTECTION FENCING: **SEE DETAIL 1 TREE PRESERVATION DETAIL SHEET 3 OF 11**
E. TREE BOARDING : **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 9 OF 11**
F. PROVIDE 3" MULCH OVER EXISTING TREE ROOTS WITHOUT COVERING ROOT FLARE (MIN. 5'-0" DIA. OR UP TO 6'-0" FROM **BASE OF TREE)**
G. REMOVE EXISTING SIDEWALK BY HAND IN TREE DRIPLINE, **NO** BACK HOES OR OTHER MOTORIZED EQUIPMENT IS TO BE USED.
H. CHECKER PLATE INSTALLATION **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 2 OF 11**
I. ZERO CURB CUT (COORDINATE WITH CIVIL ENGINEERING DRAWINGS, **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 6 OF 11**
J. ROOT SHAVING AS NEEDED OR DIRECTED BY ARBORIST OR COH URBAN FORESTER: **SEE SECTION 01562**
K. RAISED CONCRETE SIDEWALK OVER EXISTING ROOTS, **SEE DETAIL 2, TREE PRESERVATION DETAIL SHEET 2 OF 11**
L. ROOT BARRIER AT BACK OF CURB: **SEE DETAILS 1, TREE PRESERVATION DETAIL SHEET 10 OF 11 AND 11 OF 11**
M. TREE TRANSPLANTING (IF REQUIRED)
N. PIPE TRENCHING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 8 OF 11**
O. PIPE TUNNELING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 7 OF 11**
P. REDUCE SIDEWALK WIDTH TO 4'-0" AND/OR ALTER SIDEWALK ALIGNMENT WITH A "BUMP-OUT" TO ACHIEVE A MINIMUM 6'-0" FROM FACE OF EXISTING TREE TRUNK.
Q. PROVIDE ADDITIONAL TREE CANOPY PRUNING FOR TREES THAT HAVE CANOPIES EXTENDING INTO THE ROADWAY WORK OR OTHERWISE CONFLICT WITH PROPOSED CONSTRUCTION ACTIVITIES. TREE CANOPY PRUNING SHALL BE DONE ON ALL SIDES TO 'BALANCE' TREE AND NOT JUST ON THE SIDE OF THE CONSTRUCTION ACTIVITIES. WORK ON TREES OUTSIDE OF THE ROW THAT REQUIRE WORK SHALL BE COORDINATED WITH ADJACENT LAND OWNERS.
R. AIR SPADE ONLY (NO HAND DIGGING)
S. TREE CANOPY PRUNING FOR TEMPORARY LIGHTING OVERHEAD WIRE RUNS.

60% CD SUBMITTAL

No.	DATE	REVISIONS	APP'D

SURVEYED BY:
KUO & ASSOCIATES, INC.

Texas Department of Transportation
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M2L Associates Inc.
8995 Katy Fwy, Suite 300
Houston, Texas 77024
T: 713-722-8897 F: 713-722-8048
•Landscape Architecture•
•Land Planning• Urban Design•

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% REVIEW UNDER AUTHORITY OF MICHAEL MAUER, REGISTERED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 1 OF 3

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 883 1067	

1 TREE INVENTORY

NOT TO SCALE

Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
107	Median	Antoine Dr	Oak	34.0		Preserve	B, D	Preservation Treatment
108	East	Antoine Dr	Verify in Field	8.0		Preserve	B, D, E	Preservation Treatment
109	East	Antoine Dr	Verify in Field	4.0		Preserve	D	Preservation Treatment
110	East	Antoine Dr	Verify in Field	20.0		Preserve	B, D	Preservation Treatment
111	East	Antoine Dr	Verify in Field	6.0		Preserve		No Treatment
112	East	Antoine Dr	Oak	30.0		Preserve	B, C, D, E, H	Preservation Treatment
113	East	Antoine Dr	Oak	60.0		Preserve	B, C, D, E, H	Preservation Treatment
114	West	Antoine Dr	Oak	28.0		Preserve	B, C, D, E, H	Preservation Treatment
115	Median	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
116	Median	Antoine Dr	Willow	12.0		Preserve	D	Preservation Treatment
117	Median	Antoine Dr	Oak	2.0		Preserve	D	Preservation Treatment
118	Median	Antoine Dr	Oak	12.0		Preserve	D	Preservation Treatment
119	Median	Antoine Dr	Oak	24.0		Preserve	B, D	Preservation Treatment
120	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
121	Median	Antoine Dr	Oak	6.0		Preserve	D	Preservation Treatment
122	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
123	Median	Antoine Dr	Not Used	10.0		Preserve	D	Preservation Treatment
124	Median	Antoine Dr	Oak	10.0		Preserve	D	Preservation Treatment
125	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
126	Median	Antoine Dr	Verify in Field	18.0		Preserve	D	Preservation Treatment
127	Median	Antoine Dr	Verify in Field	10.0		Preserve	D	Preservation Treatment
128	Median	Antoine Dr	Oak	8.0		Preserve	D	Preservation Treatment
129	Median	Antoine Dr	Oak	6.0		Preserve	D	Preservation Treatment
130	Median	Antoine Dr	Verify in Field	10.0		Preserve	B, C, D, E	Preservation Treatment
131	West	Antoine Dr	Verify in Field	4.0		Preserve	D, E	Preservation Treatment
132	South	Cheshire Ln	Verify in Field	20.0		Preserve	B, D	Preservation Treatment
133	West	Antoine Dr	Oak	30.0		Preserve	B, C, D, E, H	Preservation Treatment
134	West	Antoine Dr	Crepe Myrtle	32.0		Preserve	B, D	Preservation Treatment
135	West	Antoine Dr	Pecan	7.0		Remove	A	Replace Inch For Inch
136	Median	Antoine Dr	Elm	4.0		Preserve	D	Preservation Treatment
137	Median	Antoine Dr	Elm	9.0		Preserve	D	Preservation Treatment
138	Median	Antoine Dr	Oak	20.0		Preserve	D	Preservation Treatment
139	Median	Antoine Dr	Oak	6.0		Remove	A	Replace Inch For Inch
140	Median	Antoine Dr	Elm	11.0		Preserve	D	Preservation Treatment
141	Median	Antoine Dr	Elm	8.0		Preserve	D	Preservation Treatment
142	Median	Antoine Dr	Elm	11.0		Preserve	D	Preservation Treatment
143	Median	Antoine Dr	Dead Maple	10.0		Preserve	D	Preservation Treatment
144	Median	Antoine Dr	Verify in Field	18.0		Preserve	D	Preservation Treatment
145	Median	Antoine Dr	Crepe Myrtle	10.0		Preserve	D	Preservation Treatment
146	Median	Antoine Dr	Verify in Field	16.0		Preserve	D	Preservation Treatment
147	Median	Antoine Dr	Verify in Field	16.0		Preserve	D	Preservation Treatment
148	Median	Antoine Dr	Oak	15.0		Preserve	D, E	Preservation Treatment
149	Median	Antoine Dr	Oak	18.0		Preserve	D	Preservation Treatment
150	Median	Antoine Dr	Oak	15.0		Preserve	D, E	Preservation Treatment
151	Median	Antoine Dr	Crepe Myrtle	10.0		Preserve		No Treatment
152	Median	Antoine Dr	Oak	30.0		Preserve	D	Preservation Treatment
153	Median	Antoine Dr	Oak	15.0		Preserve	D	Preservation Treatment
154	East	Antoine Dr	Hackberry	14.0		Preserve	B, D	Preservation Treatment
155	East	Antoine Dr	Hackberry	5.0		Remove	A	No Replacement
156	East	Antoine Dr	Pecan	28.0	Poor	Remove	A	No Replacement
157	East	Antoine Dr	Pecan	22.0	Poor	Remove	A	No Replacement
158	East	Antoine Dr	Oak	24.0		Preserve	B, C, D, E, H	Preservation Treatment
159	East	Antoine Dr	Oak	22.0		Preserve	B, C, D, E, H	Preservation Treatment
160	East	Antoine Dr	Verify in Field	24.0		Preserve		No Treatment
161	North	Libbey Ln	Cypress	10.0		Preserve	D	Preservation Treatment
162	East	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
163	East	Antoine Dr	Ash	30.0		Preserve	B, C, D, E, H	Preservation Treatment
164	East	Antoine Dr	Ash	30.0		Preserve	B, C, D, E, H	Preservation Treatment
165	West	Antoine Dr	Hackberry	12.0		Remove	A	No Replacement
166	West	Antoine Dr	Pecan	12.0		Preserve	B, C, D, E	Preservation Treatment
167	West	Antoine Dr	Verify in Field	4.0		Preserve	D	Preservation Treatment
168	West	Antoine Dr	Crepe Myrtle	15.0		Remove	A	No Replacement
169	West	Antoine Dr	Oak	11.0		Preserve		No Treatment
170	West	Antoine Dr	Verify in Field	30.0		Preserve	B, C, D, E, H	Preservation Treatment
171	West	Antoine Dr	Verify in Field	30.0		Preserve	B, C, D, E, H	Preservation Treatment
172	West	Antoine Dr	Crepe Myrtle	40.0		Remove	A	No Replacement
173	Median	Antoine Dr	Oak	30.0		Preserve	B, D	Preservation Treatment
174	Median	Antoine Dr	Oak	16.0		Preserve	D	Preservation Treatment
175	Median	Antoine Dr	Oak	18.0		Preserve	D	Preservation Treatment
176	Median	Antoine Dr	Crepe Myrtle	15.0		Preserve	D	Preservation Treatment
177	Median	Antoine Dr	Oak	30.0		Preserve	B, C, D, E	Preservation Treatment
178	Median	Antoine Dr	Oak	12.0		Preserve	D	Preservation Treatment
179	Median	Antoine Dr	Oak	18.0		Preserve	B, D	Preservation Treatment
180	Median	Antoine Dr	Oak	16.0		Preserve	D	Preservation Treatment
181	Median	Antoine Dr	Crepe Myrtle	15.0		Preserve	D	Preservation Treatment
182	Median	Antoine Dr	Oak	12.0		Preserve	D	Preservation Treatment
183	Median	Antoine Dr	Oak	10.0		Preserve	D	Preservation Treatment
184	Median	Antoine Dr	Crepe Myrtle	6.0		Preserve	D	Preservation Treatment
185	Median	Antoine Dr	Pine	8.0		Preserve	D	Preservation Treatment
186	Median	Antoine Dr	Oak	60.0		Preserve	B, C, D, E	Preservation Treatment
187	Median	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
188	Median	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
189	Median	Antoine Dr	Verify in Field	14.0		Preserve	D	Preservation Treatment
190	Median	Antoine Dr	Verify in Field	14.0		Preserve	D	Preservation Treatment
191	East	Antoine Dr	Oak	32.0		Preserve	B, C, D, E	Preservation Treatment
192	East	Antoine Dr	Oak	12.0		Preserve		No Treatment
193	East	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
194	East	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
195	East	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
196	East	Antoine Dr	Crepe Myrtle	12.0		Preserve	B, C, D, E	Preservation Treatment
197	East	Antoine Dr	Crepe Myrtle	12.0		Preserve	B, C, D, E	Preservation Treatment
198	East	Antoine Dr	Crepe Myrtle	12.0		Preserve	D, E	Preservation Treatment
199	East	Antoine Dr	Crepe Myrtle	15.0		Preserve	D, E	Preservation Treatment
200	East	Antoine Dr	Crepe Myrtle	15.0		Remove	A	No Replacement
201	East	Antoine Dr	Crepe Myrtle	15.0		Remove	A	No Replacement
202	East	Antoine Dr	Crepe Myrtle	14.0		Remove	A	No Replacement
203	East	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
204	East	Antoine Dr	Crepe Myrtle	14.0		Remove	A	No Replacement
205	South	Nina Lee Ln	Crepe Myrtle	13.0		Remove	A	No Replacement
206	East	Antoine Dr	Magnolia	26.0		Preserve		No Treatment
207	East	Antoine Dr	Cedar	30.0		Preserve	B	Preservation Treatment
208	East	Antoine Dr	Oak	36.0		Preserve	B, C, D, E	Preservation Treatment
209	East	Antoine Dr	Verify in Field	8.0		Preserve	C, D, E	Preservation Treatment
210	North	Libbey Ln	Oak	48.0		Preserve	B	Preservation Treatment
211	West	Antoine Dr	Pine	16.0		Preserve	D	Preservation Treatment
212	West	Antoine Dr	Palm	10.0		Remove	A	No Replacement

TREE INVENTORY TREATMENT LEGEND

(ALL WORK CONTAINED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)

A. REMOVE TREE & STUMP GRIND, PROVIDE TOPSOIL BACKFILL AND COMPACT TO NATURAL GRADE (TOPSOIL INCIDENTAL)

B. MAINTENANCE PRUNING**: SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**

C. ROOT PRUNING: **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**

D. TREE PROTECTION FENCING: **SEE DETAIL 1 TREE PRESERVATION DETAIL SHEET 3 OF 11**

E. TREE BOARDING : **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 9 OF 11**

F. PROVIDE 3" MULCH OVER EXISTING TREE ROOTS WITHOUT COVERING ROOT FLARE (MIN. 5'-0" DIA. OR UP TO 6'-0" FROM **BASE OF TREE)**

G. REMOVE EXISTING SIDEWALK BY HAND IN TREE DRIPLINE, **NO** BACK HOES OR OTHER MOTORIZED EQUIPMENT IS TO BE USED.

H. CHECKER PLATE INSTALLATION **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 2 OF 11**

I. ZERO CURB CUT (COORDINATE WITH CIVIL ENGINEERING DRAWINGS, **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 6 OF 11**

J. ROOT SHAVING AS NEEDED OR DIRECTED BY ARBORIST OR COH URBAN FORESTER: **SEE SECTION 01562**

K. RAISED CONCRETE SIDEWALK OVER EXISTING ROOTS, **SEE DETAIL 2, TREE PRESERVATION DETAIL SHEET 2 OF 11**

L. ROOT BARRIER AT BACK OF CURB: **SEE DETAILS 1, TREE PRESERVATION DETAIL SHEET 10 OF 11 AND 11 OF 11**

M. TREE TRANSPLANTING (IF REQUIRED)

N. PIPE TRENCHING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 8 OF 11**

O. PIPE TUNNELING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 7 OF 11**

P. REDUCE SIDEWALK WIDTH TO 4'-0" AND/OR ALTER SIDEWALK ALIGNMENT WITH A "BUMP-OUT" TO ACHIEVE A MINIMUM 6'-0" FROM FACE OF EXISTING TREE TRUNK.

Q. PROVIDE ADDITIONAL TREE CANOPY PRUNING FOR TREES THAT HAVE CANOPIES EXTENDING INTO THE ROADWAY WORK OR OTHERWISE CONFLICT WITH PROPOSED CONSTRUCTION ACTIVITIES. TREE CANOPY PRUNING SHALL BE DONE ON ALL SIDES TO 'BALANCE' TREE AND NOT JUST ON THE SIDE OF THE CONSTRUCTION ACTIVITIES. WORK ON TREES OUTSIDE OF THE ROW THAT REQUIRE WORK SHALL BE COORDINATED WITH ADJACENT LAND OWNERS.

R. AIR SPADE ONLY (NO HAND DIGGING)

S. TREE CANOPY PRUNING FOR TEMPORARY LIGHTING OVERHEAD WIRE RUNS.

No.	DATE	REVISIONS	APP.

SURVEYED BY:
KUO & ASSOCIATES, INC.

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•Land Planning• Urban Design•

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 2 OF 3

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 884 1067	

60% CD SUBMITTAL

1 TREE INVENTORY

NOT TO SCALE

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
213	West	Antoine Dr	Palm	18.0		Remove	A	No Replacement
214	Median	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
215	Median	Antoine Dr	Verify in Field	18.0		Preserve	B, C, D, E	Preservation Treatment
216	Median	Antoine Dr	Verify in Field	22.0		Preserve	B, C, D, E	Preservation Treatment
217	East	Antoine Dr	Verify in Field	36.0		Preserve		No Treatment
218	East	Antoine Dr	Verify in Field	8.0		Preserve		No Treatment
219	East	Antoine Dr	Verify in Field	8.0		Preserve	D, E	Preservation Treatment
220	East	Antoine Dr	Verify in Field	12.0		Preserve	B, D, E	Preservation Treatment
221	South	West 43rd St	Oak	12.0		Remove	A	Replace Inch For Inch
222	North	West 43rd St	Oak	30.0		Preserve	B, C, D, E, I	Preservation Treatment
223	East	Antoine Dr	Pine	8.0		Preserve		No Treatment
224	East	Antoine Dr	Stump	38.0		Remove	A	No Replacement
225	East	Antoine Dr	Verify in Field	1.0		Preserve	D	Preservation Treatment
226	East	Antoine Dr	Pine	1.0		Preserve	D	Preservation Treatment
227	East	Antoine Dr	Plum	2.0		Remove	A	No Replacement
228	East	Antoine Dr	Crepe Myrtle	18.0		Preserve	B, D	Preservation Treatment
229	East	Antoine Dr	Verify in Field	19.0		Preserve	B, C, D, E	Preservation Treatment
230	East	Antoine Dr	Verify in Field	12.0		Preserve	B, C, D, E	Preservation Treatment
231	East	Antoine Dr	Verify in Field	13.0		Preserve	B, C, D, E	Preservation Treatment
232	East	Antoine Dr	Verify in Field	16.0		Preserve	B, C, D, E	Preservation Treatment
233	East	Antoine Dr	Verify in Field	12.0		Preserve	B, C, D, E	Preservation Treatment
234	East	Antoine Dr	Verify in Field	16.0		Preserve	B, C, D, E	Preservation Treatment
235	West	Antoine Dr	Verify in Field	24.0		Preserve	B, C, D, E, H	Preservation Treatment
236	West	Antoine Dr	Verify in Field	12.0		Preserve	B, D, E	Preservation Treatment
237	West	Antoine Dr	Verify in Field	18.0		Preserve	B, D	Preservation Treatment
238	West	Antoine Dr	Verify in Field	42.0		Preserve	B, C, D, E, H	Preservation Treatment
239	West	Antoine Dr	Verify in Field	24.0		Preserve	B, C, D, E, H	Preservation Treatment
240	West	Antoine Dr	Magnolia	20.0		Preserve	B, D	Preservation Treatment
241	West	Antoine Dr	Tallow	18.0		Remove	A	No Replacement
242	West	Antoine Dr	Tallow	18.0		Remove	A	No Replacement
243	West	Antoine Dr	Crepe Myrtle	8.0		Preserve	D	Preservation Treatment
244	West	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
245	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
246	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
247	Median	Antoine Dr	Verify in Field	10.0		Preserve	D	Preservation Treatment
248	Median	Antoine Dr	Verify in Field	16.0		Preserve	D	Preservation Treatment
249	Median	Antoine Dr	Verify in Field	28.0		Preserve	B, D	Preservation Treatment
250	Median	Antoine Dr	Verify in Field	18.0		Preserve	D	Preservation Treatment
251	Median	Antoine Dr	Verify in Field	26.0		Preserve	D	Preservation Treatment
252	East	Antoine Dr	Verify in Field	18.0		Preserve	B, C, D, E	Preservation Treatment
253	East	Antoine Dr	Oak	20.0		Preserve	B, C, D, E	Preservation Treatment
254	North	De Milo Dr	Verify in Field	32.0		Preserve		No Treatment
255	North	De Milo Dr	Pine	15.0		Remove	A	Replace Inch For Inch
256	East	Antoine Dr	Oak	30.0		Preserve	B, D	Preservation Treatment
257	East	Antoine Dr	Verify in Field	36.0		Preserve	B, C, D, E, H	Preservation Treatment
258	East	Antoine Dr	Magnolia	8.0		Remove	A	Replace Inch For Inch
259	East	Antoine Dr	Tree Cluster	2.0		Preserve	D, E	Preservation Treatment
260	East	Antoine Dr	Hackberry	6.0		Preserve	D, E	Preservation Treatment
261	East	Antoine Dr	Verify in Field	16.0		Preserve	B, C, D, E	Preservation Treatment
262	East	Antoine Dr	Magnolia	12.0		Remove	A	Replace Inch For Inch
263	West	Antoine Dr	Pine	24.0		Preserve	C, D, E	Preservation Treatment
264	West	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
265	West	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
266	West	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
267	West	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
268	West	Antoine Dr	Verify in Field	12.0		Preserve	D, E	Preservation Treatment
269	West	Antoine Dr	Verify in Field	6.0		Preserve	D, E	Preservation Treatment
270	West	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
271	West	Antoine Dr	Verify in Field	18.0		Preserve	B, D	Preservation Treatment
272	Median	Antoine Dr	Verify in Field	28.0		Preserve	D	Preservation Treatment
273	Median	Antoine Dr	Verify in Field	36.0		Preserve	B, D	Preservation Treatment
274	Median	Antoine Dr	Verify in Field	36.0		Preserve	D	Preservation Treatment
275	Median	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
276	Median	Antoine Dr	Verify in Field	14.0		Preserve	D	Preservation Treatment
277	Median	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
278	Median	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
279	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
280	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
281	Median	Antoine Dr	Verify in Field	14.0		Preserve	D	Preservation Treatment
282	Median	Antoine Dr	Verify in Field	16.0		Preserve	D	Preservation Treatment
283	Median	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
284	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
285	Median	Antoine Dr	Verify in Field	6.0		Preserve	D	Preservation Treatment
286	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Preservation Treatment
287	North	Verdome Ln	Crepe Myrtle	12.0		Preserve	D, E	Preservation Treatment
288	East	Antoine Dr	Verify in Field	12.0		Preserve	B, D, E	Preservation Treatment
289	East	Antoine Dr	Verify in Field	30.0		Preserve	B, C, D, E	Preservation Treatment
290	West	Antoine Dr	Verify in Field	6.0		Preserve	D, E	Preservation Treatment
291	East	Antoine Dr	Verify in Field	8.0		Remove	A	
292	West	Antoine Dr	Verify in Field	8.0		Preserve	D, E	Preservation Treatment
293	West	Antoine Dr	Verify in Field	8.0		Preserve	D, E	Preservation Treatment
294	West	Antoine Dr	Birch	18.0		Preserve	B, D	Preservation Treatment
295	East	Antoine Dr	Crepe Myrtle	1.0		Preserve	D	Preservation Treatment

CITY OF HOUSTON PROTECTED TREE SUMMARY	
# of Trees Inventoried	295
# of Trees Greater than 20" caliper	62
# of Trees Greater than 1.5" caliper and on COH's Street Tree List	134

TREE INVENTORY TREATMENT LEGEND

(ALL WORK CONTAINED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)

A. REMOVE TREE & STUMP GRIND, PROVIDE TOPSOIL BACKFILL AND COMPACT TO NATURAL GRADE (TOPSOIL INCIDENTAL)
B. MAINTENANCE PRUNING**: SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**
C. ROOT PRUNING: **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**
D. TREE PROTECTION FENCING: **SEE DETAIL 1 TREE PRESERVATION DETAIL SHEET 3 OF 11**
E. TREE BOARDING : **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 9 OF 11**
F. PROVIDE 3" MULCH OVER EXISTING TREE ROOTS WITHOUT COVERING ROOT FLARE (MIN. 5'-0" DIA. OR UP TO 6'-0" FROM **BASE OF TREE)**
G. REMOVE EXISTING SIDEWALK BY HAND IN TREE DRIPLINE, **NO** BACK HOES OR OTHER MOTORIZED EQUIPMENT IS TO BE USED.
H. CHECKER PLATE INSTALLATION **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 2 OF 11**
I. ZERO CURB CUT (COORDINATE WITH CIVIL ENGINEERING DRAWINGS, **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 6 OF 11**
J. ROOT SHAVING AS NEEDED OR DIRECTED BY ARBORIST OR COH URBAN FORESTER: **SEE SECTION 01562**
K. RAISED CONCRETE SIDEWALK OVER EXISTING ROOTS, **SEE DETAIL 2, TREE PRESERVATION DETAIL SHEET 2 OF 11**
L. ROOT BARRIER AT BACK OF CURB: **SEE DETAILS 1, TREE PRESERVATION DETAIL SHEET 10 OF 11 AND 11 OF 11**
M. TREE TRANSPLANTING (IF REQUIRED)
N. PIPE TRENCHING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 8 OF 11**
O. PIPE TUNNELING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 7 OF 11**
P. REDUCE SIDEWALK WIDTH TO 4'-0" AND/OR ALTER SIDEWALK ALIGNMENT WITH A "BUMP-OUT" TO ACHIEVE A MINIMUM 6'-0" FROM FACE OF EXISTING TREE TRUNK.
Q. PROVIDE ADDITIONAL TREE CANOPY PRUNING FOR TREES THAT HAVE CANOPIES EXTENDING INTO THE ROADWAY WORK OR OTHERWISE CONFLICT WITH PROPOSED CONSTRUCTION ACTIVITIES. TREE CANOPY PRUNING SHALL BE DONE ON ALL SIDES TO 'BALANCE' TREE AND NOT JUST ON THE SIDE OF THE CONSTRUCTION ACTIVITIES. WORK ON TREES OUTSIDE OF THE ROW THAT REQUIRE WORK SHALL BE COORDINATED WITH ADJACENT LAND OWNERS.
R. AIR SPADE ONLY (NO HAND DIGGING)
S. TREE CANOPY PRUNING FOR TEMPORARY LIGHTING OVERHEAD WIRE RUNS.

60% CD SUBMITTAL

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 3 OF 3

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 885 1067	

1 TREE INVENTORY — NOT TO SCALE

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
001	East	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
002	West	Antoine Dr	Crepe Myrtle	15.0		Preserve	D, E	Preservation Treatment
003	West	Antoine Dr	Crepe Myrtle	15.0		Preserve	D, E	Preservation Treatment
004	West	Antoine Dr	Crepe Myrtle	20.0		Preserve	B, D, E	Preservation Treatment
005	West	Antoine Dr	Verify in Field	4.0		Preserve	D, E	Preservation Treatment
006	West	Antoine Dr	Pine	18.0		Preserve	D	Preservation Treatment
007	West	Antoine Dr	Verify in Field	24.0		Preserve	B, C, D, E	Preservation Treatment
008	West	Antoine Dr	Verify in Field	24.0		Preserve	B, D, E	Preservation Treatment
009	Median	Antoine Dr	Maple	6.0		Remove	A	Replace Inch For Inch
010	Median	Antoine Dr	Elm	14.0		Remove	A	Replace Inch For Inch
011	Median	Antoine Dr	Crepe Myrtle	24.0		Remove	A	No Replacement
012	East	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
013	East	Antoine Dr	Pecan	8.0	Poor	Remove	A	No Replacement
014	East	Antoine Dr	Verify in Field	8.0		Remove	A	Not There
015	East	Antoine Dr	Pecan	12.0		Remove	A	Replace Inch For Inch
016	West	Antoine Dr	Oak	8.0		Preserve		No Treatment
017	West	Antoine Dr	Oak	15.0		Preserve		No Treatment
018	West	Antoine Dr	Oak	15.0		Preserve		No Treatment
019	West	Antoine Dr	Verify in Field	16.0		Preserve	D, B	Preservation Treatment
020	West	Antoine Dr	Oak	20.0		Preserve		No Treatment
021	West	Antoine Dr	Oak	12.0		Preserve		No Treatment
022	West	Antoine Dr	Oak	15.0		Preserve		No Treatment
023	West	Antoine Dr	Pine	18.0		Preserve		No Treatment
024	West	Antoine Dr	Oak	22.0		Preserve		No Treatment
025	West	Antoine Dr	Oak	14.0		Preserve		No Treatment
026	East	Antoine Dr	Pecan	13.0		Remove	A	Replace Inch For Inch
027	East	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
028	Median	Antoine Dr	Crepe Myrtle	15.0		Remove	A	No Replacement
029	East	Antoine Dr	Pecan	15.0		Remove	A	Replace Inch For Inch
030	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
031	Median	Antoine Dr	Oak	7.0		Remove	A	Replace Inch For Inch
032	Median	Antoine Dr	Elm	14.0		Remove	A	Replace Inch For Inch
033	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
034	East	Antoine Dr	Pecan	12.0		Remove	A	Replace Inch For Inch
035	East	Antoine Dr	Pecan	8.0	Poor	Remove	A	No Replacement
036	East	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
037	East	Antoine Dr	Pecan	12.0		Remove	A	Replace Inch For Inch
038	West	Antoine Dr	Oak	18.0		Preserve	B, D, E	Preservation Treatment
039	West	Antoine Dr	Oak	8.0		Preserve	B, D, E	Preservation Treatment
040	West	Antoine Dr	Oak	8.0		Preserve	B, D, E	Preservation Treatment
041	North	West Tidwell Rd	Verify in Field	8.0		Preserve	B, C, D, E	Preservation Treatment
042	North	West Tidwell Rd	Verify in Field	6.0		Preserve	D	Preservation Treatment
043	East	Antoine Dr	Oak	5.0	Poor	Remove	A	No Replacement
044	East	Antoine Dr	Oak	8.0		Remove	A	Replace Inch For Inch
045	West	Antoine Dr	Pecan	14.0		Remove	A	Replace Inch For Inch
046	Median	Antoine Dr	Oak	8.0		Preserve	B, C, D, E	Preservation Treatment
047	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
048	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
049	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
050	West	Antoine Dr	Pecan	12.0		Remove	A	Replace Inch For Inch
051	West	Antoine Dr	Pecan	5.0		Remove	A	Replace Inch For Inch
052	Median	Antoine Dr	Oak	10.0		Remove	A	Replace Inch For Inch
053	Median	Antoine Dr	Elm	12.0		Remove	A	Replace Inch For Inch

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
054	Median	Antoine Dr	Redbud	6.0		Preserve	D	Preservation Treatment
055	Median	Antoine Dr	Elm	12.0		Preserve	D	Preservation Treatment
056	Median	Antoine Dr	Oak	5.0		Preserve	D	Preservation Treatment
057	Median	Antoine Dr	Live Oak	5.0		Preserve	D	Not There
058	West	Antoine Dr	Pine	15.0		Preserve		No Treatment
059	West	Antoine Dr	Pine	13.0		Preserve		No Treatment
060	West	Antoine Dr	Pine	18.0		Preserve		No Treatment
061	West	Antoine Dr	Pine	12.0		Remove	A	Replace Inch For Inch
062	West	Antoine Dr	Pine	12.0		Remove	A	Replace Inch For Inch
063	West	Antoine Dr	Pine	18.0		Remove	A	Replace Inch For Inch
064	West	Antoine Dr	Pine	12.0		Remove	A	Replace Inch For Inch
065	West	Antoine Dr	Pine	13.0		Remove	A	Replace Inch For Inch
066	West	Antoine Dr	Pine	13.0		Preserve	D, E	Preservation Treatment
067	West	Antoine Dr	Pine	18.0		Preserve	D, E	Preservation Treatment
068	West	Antoine Dr	Pine	10.0		Remove	A	Replace Inch For Inch
069	West	Antoine Dr	Pine	18.0		Remove	A	Replace Inch For Inch
070	West	Antoine Dr	Pine	12.0		Remove	A	Replace Inch For Inch
071	East	Antoine Dr	Oak	14.0		Remove	A	Replace Inch For Inch
072	West	Antoine Dr	Verify in Field	4.0		Remove	A	Not There
073	West	Antoine Dr	Verify in Field	4.0		Preserve	D	Preservation Treatment
074	West	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
075	West	Antoine Dr	Verify in Field	10.0		Remove	A	Not There
076	West	Antoine Dr	Verify in Field	8.0		Preserve		No Treatment
077	Median	Antoine Dr	Crepe Myrtle	15.0		Preserve	D	Preservation Treatment
078	Median	Antoine Dr	Crepe Myrtle	26.0		Preserve	D	Preservation Treatment
079	Median	Antoine Dr	Oak	14.0		Preserve	D	Preservation Treatment
080	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
081	West	Antoine Dr	Pecan	12.0		Remove	A	No Replacement
082	Median	Antoine Dr	Crepe Myrtle	20.0		Preserve	D	Preservation Treatment
083	Median	Antoine Dr	Verify in Field	12.0		Preserve	D	Not There
084	West	Antoine Dr	Pecan	10.0	Poor	Remove	A	No Replacement
085	East	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
086	Median	Antoine Dr	Oak	24.0		Remove	A	Replace Inch For Inch
087	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
088	Median	Antoine Dr	Crepe Myrtle	22.0		Remove	A	No Replacement
089	Median	Antoine Dr	Oak	10.0		Remove	A	Replace Inch For Inch
090	Median	Antoine Dr	Oak	20.0		Remove	A	Replace Inch For Inch
091	Median	Antoine Dr	Oak	18.0		Remove	A	Replace Inch For Inch
092	Median	Antoine Dr	Oak	18.0		Remove	A	Replace Inch For Inch
093	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
094	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
095	Median	Antoine Dr	Oak	30.0		Remove	A	Replace Inch For Inch
096	West	Antoine Dr	Pecan	8.0	Poor	Remove	A	No Replacement
097	West	Antoine Dr	Pecan	14.0		Remove	A	Replace Inch For Inch
098	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
099	West	Antoine Dr	Crepe Myrtle	8.0		Preserve	D, E	Preservation Treatment
100	West	Antoine Dr	Crepe Myrtle	8.0		Preserve	D, E	Preservation Treatment
101	West	Antoine Dr	Pecan	12.0		Remove	A	Replace Inch For Inch
102	West	Antoine Dr	Pecan	10.0	Poor	Remove	A	No Replacement
103	East	Antoine Dr	Live Oak	10.0		Remove	A	Replace Inch For Inch
104	East	Antoine Dr	Oak	13.0		Remove	A	Replace Inch For Inch
105	Median	Antoine Dr	Oak	22.0		Preserve	B, C, D, E	Preservation Treatment
106	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement

No.	DATE	REVISIONS	APP'D

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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SURVEYED BY:
KUO & ASSOCIATES, INC.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 886 / 1067	

1 TREE INVENTORY

NOT TO SCALE

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
107	Median	Antoine Dr	Oak	20.0		Preserve	B, C, D, E	Preservation Treatment
108	Median	Antoine Dr	Crepe Myrtle	22.0		Remove	A	No Replacement
109	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
110	Median	Antoine Dr	Oak	16.0		Preserve	B, D, E	Preservation Treatment
111	Median	Antoine Dr	Oak	22.0		Preserve	B, C, D, E	Preservation Treatment
112	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
113	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
114	Median	Antoine Dr	Oak	24.0		Preserve	B, C, D, E	Preservation Treatment
115	Median	Antoine Dr	Crepe Myrtle	24.0		Remove	A	No Replacement
116	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
117	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
118	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
119	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
120	West	Antoine Dr	Verify in Field	6.0		Remove	A	Not There
121	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
122	West	Antoine Dr	Verify in Field	8.0		Remove	A	Not There
123	East	Antoine Dr	Crepe Myrtle	20.0		Remove	A	Not There
124	Median	Antoine Dr	Live Oak	20.0		Remove	A	Replace Inch For Inch
125	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
126	Median	Antoine Dr	Live Oak	16.0		Remove	A	Replace Inch For Inch
127	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
128	West	Antoine Dr	Pecan	12.0		Remove	A	Replace Inch For Inch
129	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
130	West	Antoine Dr	Crepe Myrtle	20.0		Preserve	B, C, D, E	Preservation Treatment
131	West	Antoine Dr	Crepe Myrtle	20.0		Preserve	D, E	Preservation Treatment
132	West	Antoine Dr	Crepe Myrtle	20.0		Preserve	D, E	Preservation Treatment
133	Median	Antoine Dr	Oak	8.0		Preserve	D, E	Preservation Treatment
134	Median	Antoine Dr	Crepe Myrtle	20.0		Preserve	D, E	Preservation Treatment
135	Median	Antoine Dr	Crepe Myrtle	12.0		Preserve	C, D, E	Preservation Treatment
136	Median	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
137	Median	Antoine Dr	Elm	16.0		Remove	A	Replace Inch For Inch
138	Median	Antoine Dr	Crepe Myrtle	10.0		Remove	A	No Replacement
139	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
140	Median	Antoine Dr	Oak	16.0		Remove	A	Replace Inch For Inch
141	West	Antoine Dr	Pine	22.0		Preserve		No Treatment
142	West	Antoine Dr	Pine	22.0		Preserve	D	Preservation Treatment
143	West	Antoine Dr	Verify in Field	18.0	Poor	Preserve	D, B, E	Preservation Treatment
144	West	Antoine Dr	Verify in Field	8.0	Poor	Preserve	D	Preservation Treatment
145	West	Antoine Dr	Pine	36.0		Preserve		No Treatment
146	West	Antoine Dr	Pine	16.0		Preserve		No Treatment
147	West	Antoine Dr	Crepe Myrtle	10.0		Preserve	D	Preservation Treatment
148	West	Antoine Dr	Crepe Myrtle	10.0		Preserve		No Treatment
149	West	Antoine Dr	Crepe Myrtle	10.0		Preserve		No Treatment
150	East	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
151	East	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
152	West	Antoine Dr	Pine	12.0		Preserve		No Treatment
153	West	Antoine Dr	Pine	20.0		Preserve	D	Preservation Treatment
154	West	Antoine Dr	Pine	15.0		Preserve		No Treatment
155	West	Antoine Dr	Pine	20.0		Preserve		No Treatment
156	West	Antoine Dr	Pine	13.0		Preserve		No Treatment
157	West	Antoine Dr	Pine	16.0		Preserve	D	Preservation Treatment
158	West	Antoine Dr	Pine	14.0		Preserve		No Treatment
159	West	Antoine Dr	Pine	12.0		Preserve		No Treatment

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
160	West	Antoine Dr	Pine	18.0		Preserve		No Treatment
161	West	Antoine Dr	Pine	16.0		Preserve	D	Preservation Treatment
162	West	Antoine Dr	Pine	16.0		Preserve		No Treatment
163	West	Antoine Dr	Pine	12.0		Preserve		No Treatment
164	West	Antoine Dr	Pine	16.0		Preserve		No Treatment
165	West	Antoine Dr	Pine	18.0		Preserve		No Treatment
166	West	Antoine Dr	Pine	16.0		Preserve		No Treatment
167	West	Antoine Dr	Pine	12.0		Preserve		No Treatment
168	West	Antoine Dr	Pine	12.0		Preserve		No Treatment
169	West	Antoine Dr	Pine	12.0		Preserve	D	Preservation Treatment
170	West	Antoine Dr	Verify in Field	14.0		Preserve		No Treatment
171	West	Antoine Dr	Oak	10.0		Preserve	B, C, D, E	Preservation Treatment
172	Median	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
173	Median	Antoine Dr	Redbud	12.0		Remove	A	Replace Inch For Inch
174	Median	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
175	Median	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
176	Median	Antoine Dr	Oak	12.0		Remove	A	Not There
177	Median	Antoine Dr	Crepe Myrtle	10.0		Remove	A	No Replacement
178	Median	Antoine Dr	Crepe Myrtle	10.0		Remove	A	No Replacement
179	Median	Antoine Dr	Maple	10.0		Remove	A	Replace Inch For Inch
180	Median	Antoine Dr	Live Oak	12.0		Remove	A	Replace Inch For Inch
181	Median	Antoine Dr	Crepe Myrtle	10.0		Preserve	D, E	Preservation Treatment
182	Median	Antoine Dr	Crepe Myrtle	10.0		Remove	A	No Replacement
183	Median	Antoine Dr	Elm	12.0		Preserve	B, D, E	Preservation Treatment
184	Median	Antoine Dr	Crepe Myrtle	9.0		Preserve	D, E	Preservation Treatment
185	Median	Antoine Dr	Verify in Field	8.0		Remove	A	
186	Median	Antoine Dr	Crepe Myrtle	14.0		Remove	A	No Replacement
187	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
188	Median	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
189	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
190	Median	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
191	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
192	Median	Antoine Dr	Crepe Myrtle	8.0		Preserve	D, E	Preservation Treatment
193	Median	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
194	Median	Antoine Dr	Crepe Myrtle	6.0		Remove	A	No Replacement
195	Median	Antoine Dr	Crepe Myrtle	6.0		Remove	A	No Replacement
196	Median	Antoine Dr	Crepe Myrtle	6.0		Preserve	D, E	Preservation Treatment
197	Median	Antoine Dr	Verify in Field	12.0		Preserve	B, C, D, E	Preservation Treatment
198	Median	Antoine Dr	Verify in Field	8.0		Preserve	D	Preservation Treatment
199	West	Antoine Dr	Oak	10.0		Preserve		No Treatment
200	West	Antoine Dr	Pecan	6.0		Remove	A	Replace Inch For Inch
201	West	Antoine Dr	Verify in Field	12.0		Preserve		No Treatment
202	West	Antoine Dr	Pecan	6.0		Remove	A	Replace Inch For Inch
203	Median	Antoine Dr	Crepe Myrtle	10.0		Remove	A	No Replacement
204	West	Antoine Dr	Verify in Field	18.0		Preserve		No Treatment
205	West	Antoine Dr	Verify in Field	18.0		Preserve		No Treatment
206	East	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
207	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
208	West	Antoine Dr	Verify in Field	16.0		Preserve		No Treatment
209	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
210	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
211	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
212	Median	Antoine Dr	Crepe Myrtle	6.0		Remove	A	No Replacement

No.	DATE	BY/DES

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 2 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 887 / 1067	

1 TREE INVENTORY

NOT TO SCALE

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
213	Median	Antoine Dr	Verify in Field	20.0		Preserve	B, C, D, E	Preservation Treatment
214	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
215	Median	Antoine Dr	Crepe Myrtle	5.0		Remove	A	No Replacement
216	Median	Antoine Dr	Crepe Myrtle	16.0		Remove	A	No Replacement
217	Median	Antoine Dr	Oak	8.0		Remove	A	Replace Inch For Inch
218	Median	Antoine Dr	Oak	15.0		Preserve	B, C, D, E	Preservation Treatment
219	Median	Antoine Dr	Crepe Myrtle	15.0		Remove	A	No Replacement
220	Median	Antoine Dr	Crepe Myrtle	12.0		Preserve	D	Preservation Treatment
221	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
222	Median	Antoine Dr	Oak	12.0		Preserve	B, C, D, E	Preservation Treatment
223	Median	Antoine Dr	Verify in Field	8.0		Preserve	B, C, D, E	Preservation Treatment
224	Median	Antoine Dr	Verify in Field	10.0		Remove	A	
225	East	Antoine Dr	Verify in Field	6.0		Remove	A	Not There
226	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
227	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
228	Median	Antoine Dr	Oak	10.0		Preserve	D	Preservation Treatment
229	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
230	West	Antoine Dr	Verify in Field	6.0		Remove	A	Not There
231	Median	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
232	Median	Antoine Dr	Oak	22.0		Remove	A	Replace Inch For Inch
233	West	Antoine Dr	Oak	10.0		Remove	A	Replace Inch For Inch
234	Median	Antoine Dr	Verify in Field	18.0		Remove	A	Not There
235	Median	Antoine Dr	Oak	22.0		Remove	A	Replace Inch For Inch
236	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
237	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
238	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
239	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
240	Median	Antoine Dr	Oak	24.0		Remove	A	Not There
241	Median	Antoine Dr	Crepe Myrtle	6.0		Remove	A	No Replacement
242	Median	Antoine Dr	Oak	10.0	Poor	Remove	A	No Replacement
243	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
244	Median	Antoine Dr	Oak	13.0	Poor	Remove	A	No Replacement
245	Median	Antoine Dr	Oak	16.0		Preserve	B, C, D, E	Preservation Treatment
246	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
247	Median	Antoine Dr	Oak	10.0		Preserve	D	Preservation Treatment
248	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
249	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
250	West	Antoine Dr	Pecan	6.0		Remove	A	Replace Inch For Inch
251	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
252	West	Antoine Dr	Pecan	9.0		Remove	A	Replace Inch For Inch
253	Median	Antoine Dr	Oak	13.0		Preserve	B, D, E	Preservation Treatment
254	Median	Antoine Dr	Crepe Myrtle	13.0		Remove	A	No Replacement
255	Median	Antoine Dr	Oak	11.0		Preserve	B, D, E	Preservation Treatment
256	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
257	Median	Antoine Dr	Crepe Myrtle	8.0		Remove	A	No Replacement
258	Median	Antoine Dr	Oak	11.0		Preserve	D, E	Preservation Treatment
259	Median	Antoine Dr	Crepe Myrtle	12.0		Remove	A	No Replacement
260	Median	Antoine Dr	Crepe Myrtle	22.0		Preserve	B, D, E	Preservation Treatment
261	Median	Antoine Dr	Crepe Myrtle	16.0		Remove	A	No Replacement
262	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
263	Median	Antoine Dr	Oak	10.0		Preserve	D	Preservation Treatment
264	West	Antoine Dr	Pine	38.0		Preserve	D	Preservation Treatment
265	West	Antoine Dr	Oak	18.0		Preserve		No Treatment

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
266	West	Antoine Dr	Pine	42.0		Preserve	D, E	Preservation Treatment
267	Median	Antoine Dr	Elm	10.0		Remove	A	Replace Inch For Inch
268	Median	Antoine Dr	Pine	12.0		Remove	A	Replace Inch For Inch
269	Median	Antoine Dr	Pine	14.0		Remove	A	Replace Inch For Inch
270	Median	Antoine Dr	Pine	20.0		Remove	A	Replace Inch For Inch
271	West	Antoine Dr	Pecan	14.0		Remove	A	Replace Inch For Inch
272	West	Antoine Dr	Bald Cypress	12.0		Preserve		No Treatment
273	Median	Antoine Dr	Oak	22.0		Remove	A	Replace Inch For Inch
274	West	Antoine Dr	Pecan	14.0		Remove	A	Replace Inch For Inch
275	West	Antoine Dr	Pecan	5.0	Poor	Remove	A	No Replacement
276	Median	Antoine Dr	Oak	20.0		Remove	A	Replace Inch For Inch
277	Median	Antoine Dr	Oak	10.0		Remove	A	Replace Inch For Inch
278	West	Antoine Dr	Pecan	8.0		Remove	A	Replace Inch For Inch
279	West	Antoine Dr	Oak	42.0		Preserve	B	Preservation Treatment
280	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
281	West	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
282	East	Antoine Dr	Crepe Myrtle	12.0		Preserve		No Treatment
283	East	Antoine Dr	Oak	12.0		Preserve	B, C, D, E	Preservation Treatment
284	East	Antoine Dr	Oak	12.0		Preserve	B, C, D, E	Preservation Treatment
285	East	Antoine Dr	Oak	12.0		Preserve	B, C, D, E	Preservation Treatment
286	Median	Antoine Dr	Verify in Field	12.0		Remove	A	Not There
287	Median	Antoine Dr	Oak	20.0		Remove	A	Replace Inch For Inch
288	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	Not There
289	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	Not There
290	East	Antoine Dr	Oak	14.0		Preserve	B, D, E	Preservation Treatment
291	East	Antoine Dr	Oak	36.0		Preserve	B	Preservation Treatment
292	West	Antoine Dr	Palm	24.0		Preserve	D	Preservation Treatment
293	West	Antoine Dr	Palm	24.0		Preserve	D	Preservation Treatment
294	Median	Antoine Dr	Oak	22.0		Remove	A	Replace Inch For Inch
295	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
296	Median	Antoine Dr	Ash	14.0		Remove	A	Replace Inch For Inch
297	Median	Antoine Dr	Crepe Myrtle	22.0		Remove	A	No Replacement
298	Median	Antoine Dr	Pine	10.0		Remove	A	Replace Inch For Inch
299	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
300	Median	Antoine Dr	Crepe Myrtle	18.0		Remove	A	No Replacement
301	Median	Antoine Dr	Oak	22.0		Remove	A	Replace Inch For Inch
302	Median	Antoine Dr	Crepe Myrtle	20.0		Remove	A	No Replacement
303	Median	Antoine Dr	Oak	18.0		Preserve	B, D, E	Preservation Treatment
304	Median	Antoine Dr	Oak	12.0		Remove	A	Replace Inch For Inch
305	Median	Antoine Dr	Oak	6.0		Preserve	D, E	Preservation Treatment
306	Median	Antoine Dr	Elm	12.0		Preserve	B, D, E	Preservation Treatment
307	Median	Antoine Dr	Oak	8.0		Remove	A	Replace Inch For Inch
308	Median	Antoine Dr	Oak	10.0		Preserve	B, C, D, E	Preservation Treatment
309	Median	Antoine Dr	Elm	18.0		Preserve	D	Preservation Treatment
310	Median	Antoine Dr	Oak	15.0		Preserve	B, C, D, E	Preservation Treatment
311	Median	Antoine Dr	Oak	5.0		Remove	A	Replace Inch For Inch
312	Median	Antoine Dr	Oak	14.0		Remove	A	Replace Inch For Inch
313	Median	Antoine Dr	Oak	8.0		Remove	A	Replace Inch For Inch
314	Median	Antoine Dr	Pecan	10.0		Remove	A	Replace Inch For Inch
315	Median	Antoine Dr	Pecan	14.0		Preserve	B, C, D, E	Preservation Treatment
316	Median	Antoine Dr	Elm	12.0		Preserve	B, D, E	Preservation Treatment
317	Median	Antoine Dr	Chinese	14.0		Remove	A	
318	East	Antoine Dr	Oak	14.0		Preserve	B, D, E	Preservation Treatment

No.	DATE	REVISIONS

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 888 1067	

1 TREE INVENTORY

NOT TO SCALE

ID #	LOCATION	ROAD	SPECIES	DIA. (IN)	CONDITION	STATUS	TREATMENT	MITIGATION
319	East	Antoine Dr	Oak	14.0		Preserve		No Treatment
320	Median	Antoine Dr	Crepe Myrtle	20.0		Preserve	B, C, D, E	Preservation Treatment
321	Median	Antoine Dr	Pine	28.0		Remove	A	Not There
322	Median	Antoine Dr	Crepe Myrtle	10.0		Remove	A	No Replacement
323	Median	Antoine Dr	Pecan	9.0		Remove	A	Replace Inch For Inch
324	West	Antoine Dr	Crepe Myrtle	13.0		Preserve		No Treatment
325	West	Antoine Dr	Crepe Myrtle	20.0		Preserve		No Treatment
326	Median	West Tidwell Rd	Elm	6.0		Remove	A	Replace Inch For Inch
327	Median	West Tidwell Rd	Elm	7.0		Remove	A	Replace Inch For Inch
328	Median	West Tidwell Rd	Elm	7.0		Remove	A	Replace Inch For Inch
329	South	West Tidwell Rd	Live Oak	10.0		Preserve	D	Preservation Treatment
330	Median	West Tidwell Rd	Crepe Myrtle	4.0		Preserve	D	Preservation Treatment
331	Median	West Tidwell Rd	Crepe Myrtle	4.0		Preserve	D	Preservation Treatment
332	Median	West Tidwell Rd	Crepe Myrtle	6.0		Preserve	D	Preservation Treatment

TREE INVENTORY TREATMENT LEGEND

(ALL WORK CONTAINED HEREIN IS INCIDENTAL TO 01562 UNLESS OTHERWISE NOTED)

A. REMOVE TREE & STUMP GRIND, PROVIDE TOPSOIL BACKFILL AND COMPACT TO NATURAL GRADE (TOPSOIL INCIDENTAL)
B. MAINTENANCE PRUNING: **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**
C. ROOT PRUNING: **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 4 OF 11**
D. TREE PROTECTION FENCING: **SEE DETAIL 1 TREE PRESERVATION DETAIL SHEET 3 OF 11**
E. TREE BOARDING : **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 9 OF 11**
F. PROVIDE 3" MULCH OVER EXISTING TREE ROOTS WITHOUT COVERING ROOT FLARE (MIN. 5'-0" DIA. OR UP TO 6'-0" FROM **BASE OF TREE)**
G. REMOVE EXISTING SIDEWALK BY HAND IN TREE DRIPLINE, **NO** BACK HOES OR OTHER MOTORIZED EQUIPMENT IS TO BE USED.
H. CHECKER PLATE INSTALLATION **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 2 OF 11**
I. ZERO CURB CUT (COORDINATE WITH CIVIL ENGINEERING DRAWINGS, **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 6 OF 11**
J. ROOT SHAVING AS NEEDED OR DIRECTED BY ARBORIST OR COH URBAN FORESTER: **SEE SECTION 01562**
K. RAISED CONCRETE SIDEWALK OVER EXISTING ROOTS, **SEE DETAIL 2, TREE PRESERVATION DETAIL SHEET 2 OF 11**
L. ROOT BARRIER AT BACK OF CURB: **SEE DETAILS 1, TREE PRESERVATION DETAIL SHEET 10 OF 11 AND 11 OF 11**
M. TREE TRANSPLANTING (IF REQUIRED)
N. PIPE TRENCHING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 8 OF 11**
O. PIPE TUNNELING **SEE DETAIL 1, TREE PRESERVATION DETAIL SHEET 7 OF 11**
P. REDUCE SIDEWALK WIDTH TO 4'-0" AND/OR ALTER SIDEWALK ALIGNMENT WITH A "BUMP-OUT" TO ACHIEVE A MINIMUM 6'-0" FROM FACE OF EXISTING TREE TRUNK.
Q. PROVIDE ADDITIONAL TREE CANOPY PRUNING FOR TREES THAT HAVE CANOPIES EXTENDING INTO THE ROADWAY WORK OR OTHERWISE CONFLICT WITH PROPOSED CONSTRUCTION ACTIVITIES. TREE CANOPY PRUNING SHALL BE DONE ON ALL SIDES TO 'BALANCE' TREE AND NOT JUST ON THE SIDE OF THE CONSTRUCTION ACTIVITIES. WORK ON TREES OUTSIDE OF THE ROW THAT REQUIRE WORK SHALL BE COORDINATED WITH ADJACENT LAND OWNERS.
R. AIR SPADE ONLY (NO HAND DIGGING)
S. TREE CANOPY PRUNING FOR TEMPORARY LIGHTING OVERHEAD WIRE RUNS.

CITY OF HOUSTON PROTECTED TREE SUMMARY	
# of Trees Inventoried	332
# of Trees Greater than 20" caliper	29
# of Trees Greater than 1.5" caliper and on COH's Street Tree List	200

No.	DATE	REVISIONS

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION INVENTORY
SHEET 4 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 889 1067	

1 TREE INVENTORY — NOT TO SCALE

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE
009	Median Antoine Dr	Oak	3.0	3.0
011	Median Antoine Dr	Oak	3.0	3.0
013	Median Antoine Dr	Oak	3.0	3.0
015	Median Antoine Dr	Oak	2.0	0.0
017	Median Antoine Dr	Oak	2.0	2.0
020	East Antoine Dr	Verify in Field	4.0	
036	Median Antoine Dr	Oak	2.0	2.0
038	Median Antoine Dr	Oak	2.0	2.0
040	Median Antoine Dr	Oak	2.0	2.0
042	Median Antoine Dr	Oak	18.0	18.0
043	Median Antoine Dr	Oak	18.0	18.0
044	Median Antoine Dr	Oak	12.0	12.0
045	Median Antoine Dr	Oak	18.0	18.0
046	Median Antoine Dr	Catalpa	24.0	0.0
047	Median Antoine Dr	Oak	12.0	0.0
048	Median Antoine Dr	Maple	4.0	4.0
049	Median Antoine Dr	Oak	20.0	20.0
053	East Antoine Dr	Crepe Myrtle	3.0	0.0
055	North Poinciana Dr	Crepe Myrtle	9.0	0.0
058	East Antoine Dr	Oak	6.0	6.0
059	East Antoine Dr	Oak	8.0	8.0
060	East Antoine Dr	Verify in Field	3.0	
061	East Antoine Dr	Oak	13.0	13.0
062	East Antoine Dr	Plum	12.0	0.0
063	East Antoine Dr	Plum	15.0	0.0
065	East Antoine Dr	Crepe Myrtle	18.0	0.0
066	East Antoine Dr	Crepe Myrtle	6.0	0.0
067	East Antoine Dr	Crepe Myrtle	18.0	0.0
068	East Antoine Dr	Crepe Myrtle	8.0	0.0
069	East Antoine Dr	Crepe Myrtle	15.0	0.0
070	East Antoine Dr	Crepe Myrtle	18.0	0.0
078	Median Antoine Dr	Verify in Field	2.0	0.0
079	Median Antoine Dr	Elm	6.0	6.0
080	Median Antoine Dr	Oak	20.0	20.0
081	Median Antoine Dr	Oak	24.0	24.0
088	North Hialeah Dr	Pine	18.0	18.0
100	North Saxon Dr	Crepe Myrtle	12.0	0.0
115	Median Antoine Dr	Oak	12.0	12.0
135	West Antoine Dr	Pecan	7.0	7.0
139	Median Antoine Dr	Oak	6.0	6.0
155	East Antoine Dr	Hackberry	5.0	0.0
156	East Antoine Dr	Pecan	28.0	0.0

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE
193	East Antoine Dr	Crepe Myrtle	12.0	0.0
194	East Antoine Dr	Crepe Myrtle	12.0	0.0
195	East Antoine Dr	Crepe Myrtle	12.0	0.0
200	East Antoine Dr	Crepe Myrtle	15.0	0.0
201	East Antoine Dr	Crepe Myrtle	15.0	0.0
202	East Antoine Dr	Crepe Myrtle	14.0	0.0
203	East Antoine Dr	Crepe Myrtle	8.0	0.0
204	East Antoine Dr	Crepe Myrtle	14.0	0.0
205	South Nina Lee Ln	Crepe Myrtle	13.0	0.0
212	West Antoine Dr	Palm	10.0	0.0
213	West Antoine Dr	Palm	18.0	0.0
221	South West 43rd St	Oak	12.0	12.0
224	East Antoine Dr	Stump	38.0	0.0
227	East Antoine Dr	Plum	2.0	0.0
241	West Antoine Dr	Tallow	18.0	0.0
242	West Antoine Dr	Tallow	18.0	0.0
255	North De Milo Dr	Pine	15.0	15.0
258	East Antoine Dr	Magnolia	8.0	8.0
262	East Antoine Dr	Magnolia	12.0	12.0
291	East Antoine Dr	Verify in Field	8.0	

274 Inches = 69 4" Trees 46 6" Trees

TREE REMOVAL SUMMARY	
TOTAL TREE REPLACEMENT INCHES REQUIRED	274"
TOTAL QUANTITY OF 4" CAL. TREES REQUIRED	69
TOTAL QUANTITY OF 4" CAL. TREES PLANTED	69

60% CD SUBMITTAL

1 TREE INVENTORY

NOT TO SCALE

APP.
REVISIONS
DATE
No.

SURVEYED BY:
KUO & ASSOCIATES, INC.

Texas Department of Transportation
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M2L Associates Inc.
8955 Katy Fwy, Suite 300
Houston, Texas 77024
T: 713-722-8897 F: 713-722-8048
•Landscape Architecture•
•Land Planning• Urban Design•

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PRESERVATION & MITIGATION
REMOVAL SUMMARY
SHEET 1 OF 2

SHEET 00 OF 70

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1067	

890

Plotted on: $DATE$ $TIME$ $USER$

Tree Removal List

Tree No.	Location	Description	Replacement requirement
3	Median	12" Live Oak	12
7	Median	12" Live Oak	12
17	5430 De Lange	11" Crepe Myrtle	0
18A	5430 De Lange Ln	5" Crepe Myrtle	0
19	5430 De Lange	5" Crepe Myrtle	0
20	5430 De Lange	5" Crepe Myrtle	0
21	5430 De Lange	11" Crepe Myrtle	0
22	5430 De Lange	12" Crepe Myrtle	0
23	5430 De Lange	2" Crepe Myrtle	0
28	Median	9" Crepe Myrtle	0
30	Median	12" Crepe Myrtle	0
31	Median	11" Mexican White Oak	11
32	Median	11" Lacebark Elm	0
37	Median	10" Mexican White Oak	10
38	Median	11" Mexican White Oak	11
39	Median	9" Bur Oak	9
40	Median	9" Mexican White Oak	9
41	Median	11" Bur Oak	11
42	Median	4" Crepe Myrtle	0
46	Median	13" Crepe Myrtle	0
47	Median	14" Crepe Myrtle	0
60	5321 Antoine	15" Chinese Pistache	15
61	5375 Antoine	13" Chinese Pistache	13
62	5375 Antoine	8" Chinese Pistache	8
63	5375 Antoine	6" Chinese Pistache	6
64	Median	14" Mulberry	0
65	5377 Antoine	7" Chinese Pistache	7
66	5377 Antoine	7" Chinese Pistache	0
67	5377 Antoine	6" Chinese Pistache	6
70	Median	18" Mexican White Oak	18
71	Median	2" Vitex	0
72	Median	13" Crepe Myrtle	0
73	Median	11" Crepe Myrtle	0
74	Median	12" Crepe Myrtle	0
75	Median	1" Crepe Myrtle	0
76	Median	3" Crepe Myrtle	0
77	Median	8" Crepe Myrtle	0
78	Median	12" Crepe Myrtle	0
79	Median	10" Crepe Myrtle	0
80	Median	14" Crepe Myrtle	0
81	Median	8" Crepe Myrtle	0
82	5555 Antoine	9" Chinese Pistache	9
83	5555 Antoine	10" Chinese Pistache	10
84	Median	19" Loquat Leafed Oak	0
85	Median	5" Winged Elm	5
86	Median	16" Crepe Myrtle	0
87	Median	12" Crepe Myrtle	0
88	Median	5" Crepe Myrtle	0
89	Median	3" Crepe Myrtle	0
89A	Median	18" Loquat Leafed Oak	18
90	5555 Antoine	12" Chinese Pistache	12
91	5555 Antoine	7" Chinese Pistache	7
92	5555 Antoine	7" Chinese Pistache	7
93	5555 Antoine	9" Chinese Pistache	9
94	5555 Antoine	9" Chinese Pistache	9
95	5555 Antoine	12" Chinese Pistache	12
96	5555 Antoine	12" Chinese Pistache	12
97	5555 Antoine	10" Chinese Pistache	10
99	Median	13" Crepe Myrtle	0
100	Median	7" Sugarberry	0
101	Median	9" Sugarberry	0
102	Median	16" Chinaberry	0
103	Median	6" Bradford Pear	0
104	Median	4" American Elm	4
105	Median	10" Sugarberry	0
106	Median	10" Lacebark Elm	10
107	Median	13" Mexican White Oak	13
108	Median	9" Sugarberry	0
109	Median	6" Lacebark Elm	0
109A	Median	9" Mulberry	0
110	Median	16" Crepe Myrtle	0
111	Median	10" Chinese Pistache	0
112	5555 Antoine	11" Chinese Pistache	11
117	Median	6" Trident Maple	6
118	Median	7" Chinese Pistache	7
119	Median	5" Holly	5
120	Median	9" Trident Maple	9
121	Median	8" Mexican Plum	8
122	Median	5" Trident Maple	5
123	5558 Antoine	7" Chinese Pistache	7
		TOTAL REPLACEMENT INCHES REQUIRED	363

Tree Replacement List

Quantity	Caliper Size	Species	Container/Tree Spade size
		TOTAL REPLACEMENT INCHES INCLUDED IN PLAN	0

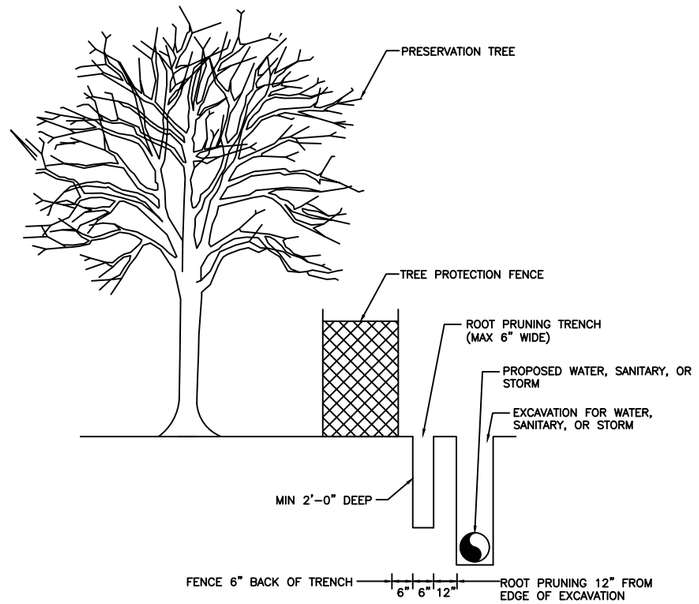
NOTE: Tree replacement locations are not shown on plans. Contractor must coordinate with City of Houston Urban Forestry and Houston Public Works prior to PURCHASING trees. This project may not have adequate room for all required replacement trees without creating regulatory sign or traffic/pedestrian visibility issues. Number of trees and planting locations will be determined by City of Houston Urban Forestry in construction phase. Trees that are planted are to be maintained and watered for 2 years following planting per standard spec 02915. Timing of planting may be delayed in periods of drought with mandatory water restrictions in place-timing to be coordinated with City of Houston Urban Forestry. Trees in esplanade groupings to be planted in common bed with 4" of hardwood mulch between trees.

Trees are to be maintained and watered for 2 years following planting per standard spec 02915. Timing of planting may be delayed in periods of drought with mandatory water restrictions in place-timing to be coordinated with City of Houston Forestry.

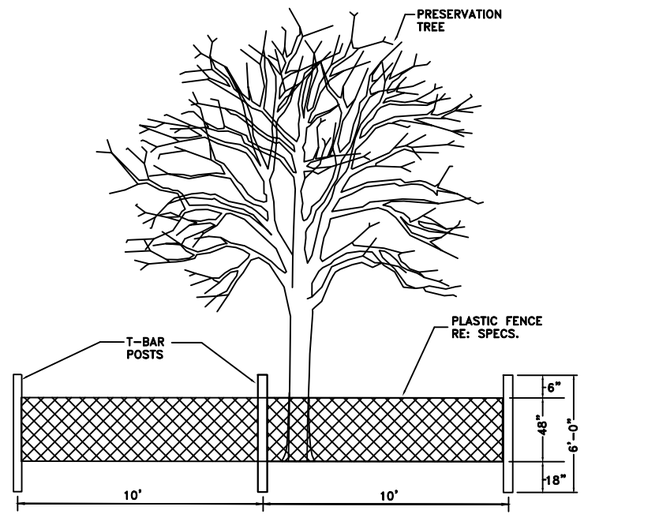
Tree replacement locations shall comply with Houston Public Works spec sections 02811, 02911, 02912, 02915, 02921 & 02922. In general trees along sides of street right of ways shall be no closer than 3' to back of curb or 20' from another tree. Trees in medians shall be no closer than 6' back of curb, 75' from an intersection, 50' to a median cut, or 20' from another tree. Contractor to coordinate locations with City Forestry and HPW prior to PURCHASING trees. All replacement trees called out on plans may not be planted on project relative to coordination with listed parties.

Cash Allowance Due Parks from HPW for Balance of Mitigation Not Planted on Project

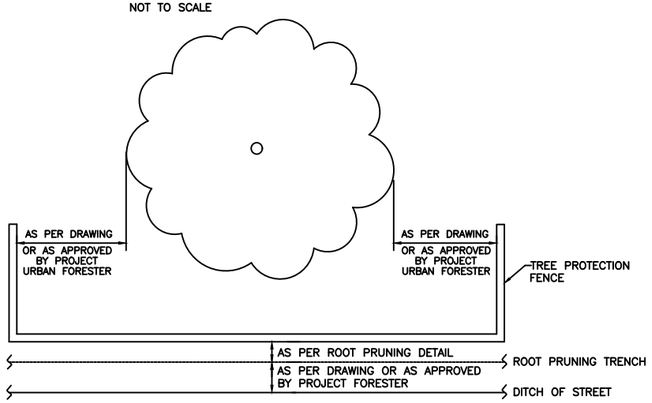
	Required Mitigation total	Mitigation rate/inch	
setback		$ 132.51	
0-5.99"	19	$ 302.12	$ 5,740.28
6-11.99"	207	$ 503.55	$ 104,234.85
12" +	137	$ 671.40	$ 91,981.80
		TOTAL REQUIRED MITIGATION FEE	$ 201,956.93



ROOT PRUNE FOR WATER, SANITARY, OR STORM LINE
NOT TO SCALE



TREE PROTECTION FENCING DETAIL A
NOT TO SCALE



TREE PROTECTION FENCING DETAIL B
NOT TO SCALE

Arboriculturally Significant Tree List

Tree No.	Location	Description
10	5429 De Lange	37" Arizona Ash
98	5555 Antoine	32" Arizona Ash
116	5625 Antoine	25" Arizona Ash
125	5429 De Lange	26" Water Oak
127	5430 De Lange	25" Eastern Red Cedar

Trees Identified by City of Houston Forestry/Parks & Recreation Department as Arboriculturally Significant are identified here and/or in treatment schedule included on TPP sheets. Arboriculturally Significant trees are to be pruned under direct supervision of City of Houston Forestry. Minimal pruning will be allowed for construction equipment access, and in some cases no pruning will be allowed. Contractor must review conditions around and/or under the canopy of Arboriculturally Significant trees and consider restrictions when preparing cost estimate and planning construction equipment that will be necessary to accomplish design installation with minimal to no tree pruning.

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. ◦ Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com

APPROVED:

Texas Department of Transportation
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

TREE PROTECTION PLAN

SHEET 5 OF 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 891 OF 1067	

Pen Table: $PENTBLS$
Plot Driver: $PLTDRVL$

Design Filename: $FILEL$

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE
001	East Antoine Dr	Pecan	8.0	8.0
009	Median Antoine Dr	Maple	6.0	6.0
010	Median Antoine Dr	Elm	14.0	14.0
011	Median Antoine Dr	Crepe Myrtle	24.0	0.0
012	East Antoine Dr	Pecan	8.0	8.0
013	East Antoine Dr	Pecan	8.0	0.0
014	East Antoine Dr	Verify in Field	8.0	0.0
015	East Antoine Dr	Pecan	12.0	12.0
026	East Antoine Dr	Pecan	13.0	13.0
027	East Antoine Dr	Pecan	8.0	8.0
028	Median Antoine Dr	Crepe Myrtle	15.0	0.0
029	East Antoine Dr	Pecan	15.0	15.0
030	Median Antoine Dr	Crepe Myrtle	18.0	0.0
031	Median Antoine Dr	Oak	7.0	7.0
032	Median Antoine Dr	Elm	14.0	14.0
033	Median Antoine Dr	Crepe Myrtle	8.0	0.0
034	East Antoine Dr	Pecan	12.0	12.0
035	East Antoine Dr	Pecan	8.0	0.0
036	East Antoine Dr	Pecan	8.0	8.0
037	East Antoine Dr	Pecan	12.0	12.0
043	East Antoine Dr	Oak	5.0	0.0
044	East Antoine Dr	Oak	8.0	8.0
045	West Antoine Dr	Pecan	14.0	14.0
047	Median Antoine Dr	Crepe Myrtle	8.0	0.0
048	West Antoine Dr	Pecan	10.0	10.0
049	West Antoine Dr	Pecan	10.0	10.0
050	West Antoine Dr	Pecan	12.0	12.0
051	West Antoine Dr	Pecan	5.0	5.0
052	Median Antoine Dr	Oak	10.0	10.0
053	Median Antoine Dr	Elm	12.0	12.0
061	West Antoine Dr	Pine	12.0	12.0
062	West Antoine Dr	Pine	12.0	12.0
063	West Antoine Dr	Pine	18.0	18.0
064	West Antoine Dr	Pine	12.0	12.0
065	West Antoine Dr	Pine	13.0	13.0
068	West Antoine Dr	Pine	10.0	10.0
069	West Antoine Dr	Pine	18.0	18.0
070	West Antoine Dr	Pine	12.0	12.0
071	East Antoine Dr	Oak	14.0	14.0
072	West Antoine Dr	Verify in Field	4.0	0.0
075	West Antoine Dr	Verify in Field	10.0	0.0
080	West Antoine Dr	Pecan	10.0	10.0

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE
088	Median Antoine Dr	Crepe Myrtle	22.0	0.0
089	Median Antoine Dr	Oak	10.0	10.0
090	Median Antoine Dr	Oak	20.0	20.0
091	Median Antoine Dr	Oak	18.0	18.0
092	Median Antoine Dr	Oak	18.0	18.0
093	Median Antoine Dr	Crepe Myrtle	20.0	0.0
094	Median Antoine Dr	Crepe Myrtle	20.0	0.0
095	Median Antoine Dr	Oak	30.0	30.0
096	West Antoine Dr	Pecan	8.0	0.0
097	West Antoine Dr	Pecan	14.0	14.0
098	West Antoine Dr	Pecan	10.0	10.0
101	West Antoine Dr	Pecan	12.0	12.0
102	West Antoine Dr	Pecan	10.0	0.0
103	East Antoine Dr	Live Oak	10.0	10.0
104	East Antoine Dr	Oak	13.0	13.0
106	Median Antoine Dr	Crepe Myrtle	20.0	0.0
108	Median Antoine Dr	Crepe Myrtle	22.0	0.0
109	Median Antoine Dr	Crepe Myrtle	18.0	0.0
112	Median Antoine Dr	Crepe Myrtle	8.0	0.0
113	Median Antoine Dr	Crepe Myrtle	8.0	0.0
115	Median Antoine Dr	Crepe Myrtle	24.0	0.0
116	Median Antoine Dr	Crepe Myrtle	18.0	0.0
117	West Antoine Dr	Pecan	8.0	8.0
118	West Antoine Dr	Pecan	8.0	8.0
119	West Antoine Dr	Pecan	10.0	10.0
120	West Antoine Dr	Verify in Field	6.0	0.0
121	West Antoine Dr	Pecan	8.0	8.0
122	West Antoine Dr	Verify in Field	8.0	0.0
123	East Antoine Dr	Crepe Myrtle	20.0	
124	Median Antoine Dr	Live Oak	20.0	20.0
125	Median Antoine Dr	Crepe Myrtle	20.0	0.0
126	Median Antoine Dr	Live Oak	16.0	16.0
127	West Antoine Dr	Pecan	10.0	10.0
128	West Antoine Dr	Pecan	12.0	12.0
129	West Antoine Dr	Pecan	8.0	8.0
136	Median Antoine Dr	Crepe Myrtle	12.0	0.0
137	Median Antoine Dr	Elm	16.0	16.0
138	Median Antoine Dr	Crepe Myrtle	10.0	0.0
139	Median Antoine Dr	Crepe Myrtle	20.0	0.0
140	Median Antoine Dr	Oak	16.0	16.0
172	Median Antoine Dr	Crepe Myrtle	12.0	0.0
173	Median Antoine Dr	Redbud	12.0	12.0

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE
179	Median Antoine Dr	Maple	10.0	10.0
180	Median Antoine Dr	Live Oak	12.0	12.0
182	Median Antoine Dr	Crepe Myrtle	10.0	0.0
185	Median Antoine Dr	Verify in Field	8.0	
186	Median Antoine Dr	Crepe Myrtle	14.0	0.0
187	Median Antoine Dr	Crepe Myrtle	8.0	0.0
188	Median Antoine Dr	Oak	12.0	12.0
189	Median Antoine Dr	Crepe Myrtle	8.0	0.0
190	Median Antoine Dr	Crepe Myrtle	12.0	0.0
191	Median Antoine Dr	Crepe Myrtle	8.0	0.0
193	Median Antoine Dr	Oak	12.0	12.0
194	Median Antoine Dr	Crepe Myrtle	6.0	0.0
195	Median Antoine Dr	Crepe Myrtle	6.0	0.0
200	West Antoine Dr	Pecan	6.0	6.0
202	West Antoine Dr	Pecan	6.0	6.0
203	Median Antoine Dr	Crepe Myrtle	10.0	0.0
206	East Antoine Dr	Pecan	8.0	8.0
207	West Antoine Dr	Pecan	8.0	8.0
209	West Antoine Dr	Pecan	8.0	8.0
210	West Antoine Dr	Pecan	8.0	8.0
211	West Antoine Dr	Pecan	8.0	8.0
212	Median Antoine Dr	Crepe Myrtle	6.0	0.0
214	Median Antoine Dr	Crepe Myrtle	8.0	0.0
215	Median Antoine Dr	Crepe Myrtle	5.0	0.0
216	Median Antoine Dr	Crepe Myrtle	16.0	0.0
217	Median Antoine Dr	Oak	8.0	8.0
219	Median Antoine Dr	Crepe Myrtle	15.0	0.0
221	Median Antoine Dr	Crepe Myrtle	20.0	0.0
224	Median Antoine Dr	Verify in Field	10.0	
225	East Antoine Dr	Verify in Field	6.0	0.0
226	Median Antoine Dr	Crepe Myrtle	8.0	0.0
227	Median Antoine Dr	Crepe Myrtle	20.0	0.0
229	Median Antoine Dr	Crepe Myrtle	18.0	0.0
230	West Antoine Dr	Verify in Field	6.0	0.0
231	Median Antoine Dr	Oak	12.0	12.0
232	Median Antoine Dr	Oak	22.0	22.0
233	West Antoine Dr	Oak	10.0	10.0
234	Median Antoine Dr	Verify in Field	18.0	0.0
235	Median Antoine Dr	Oak	22.0	22.0
236	West Antoine Dr	Pecan	8.0	8.0
237	West Antoine Dr	Pecan	10.0	10.0
238	West Antoine Dr	Pecan	10.0	10.0

1 TREE REMOVAL

NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION REMOVAL SUMMARY
SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 892 / 1067	

No.	DATE	APP.

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE
244	Median Antoine Dr	Oak	13.0	0.0
246	Median Antoine Dr	Crepe Myrtle	8.0	0.0
248	West Antoine Dr	Pecan	10.0	10.0
249	West Antoine Dr	Pecan	10.0	10.0
250	West Antoine Dr	Pecan	6.0	6.0
251	West Antoine Dr	Pecan	10.0	10.0
252	West Antoine Dr	Pecan	9.0	9.0
254	Median Antoine Dr	Crepe Myrtle	13.0	0.0
256	West Antoine Dr	Pecan	10.0	10.0
257	Median Antoine Dr	Crepe Myrtle	8.0	0.0
259	Median Antoine Dr	Crepe Myrtle	12.0	0.0
261	Median Antoine Dr	Crepe Myrtle	16.0	0.0
262	Median Antoine Dr	Crepe Myrtle	18.0	0.0
267	Median Antoine Dr	Elm	10.0	10.0
268	Median Antoine Dr	Pine	12.0	12.0
269	Median Antoine Dr	Pine	14.0	14.0
270	Median Antoine Dr	Pine	20.0	20.0
271	West Antoine Dr	Pecan	14.0	14.0
273	Median Antoine Dr	Oak	22.0	22.0
274	West Antoine Dr	Pecan	14.0	14.0
275	West Antoine Dr	Pecan	5.0	0.0
276	Median Antoine Dr	Oak	20.0	20.0
277	Median Antoine Dr	Oak	10.0	10.0
278	West Antoine Dr	Pecan	8.0	10.0
280	West Antoine Dr	Pecan	10.0	10.0
281	West Antoine Dr	Pecan	10.0	10.0
286	Median Antoine Dr	Verify in Field	12.0	0.0
287	Median Antoine Dr	Oak	20.0	20.0
288	Median Antoine Dr	Crepe Myrtle	18.0	0.0
289	Median Antoine Dr	Crepe Myrtle	18.0	0.0
294	Median Antoine Dr	Oak	22.0	22.0
295	Median Antoine Dr	Crepe Myrtle	20.0	0.0
296	Median Antoine Dr	Ash	14.0	14.0
297	Median Antoine Dr	Crepe Myrtle	22.0	0.0
298	Median Antoine Dr	Pine	10.0	10.0
299	Median Antoine Dr	Crepe Myrtle	18.0	0.0
300	Median Antoine Dr	Crepe Myrtle	18.0	0.0
301	Median Antoine Dr	Oak	22.0	22.0
302	Median Antoine Dr	Crepe Myrtle	20.0	0.0
304	Median Antoine Dr	Oak	12.0	12.0
307	Median Antoine Dr	Oak	8.0	8.0
311	Median Antoine Dr	Oak	5.0	5.0

ID #	LOCATION	SPECIES	CALIPER	REQ. REPLACE	1301 Inches =
322	Median Antoine Dr	Crepe Myrtle	10.0	0.0	
323	Median Antoine Dr	Pecan	9.0	9.0	
326	Median West Tidwell	Elm	6.0	6.0	
327	Median West Tidwell	Elm	7.0	7.0	
328	Median West Tidwell	Elm	7.0	7.0	

TREE REMOVAL SUMMARY	
TOTAL TREE REPLACEMENT INCHES REQUIRED	1301"
TOTAL QUANTITY OF 4" CAL. TREES PLANTED	135
TOTAL QUANTITY OF 6" CAL. TREES PLANTED	127

No.	DATE	BY	DESCRIPTION

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

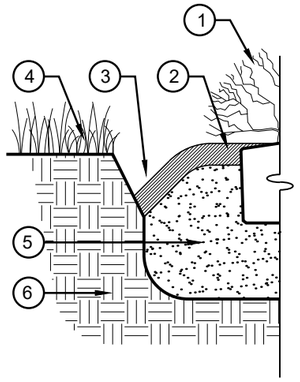
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION
REMOVAL SUMMARY
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 893 / 1067	

1 TREE REMOVAL

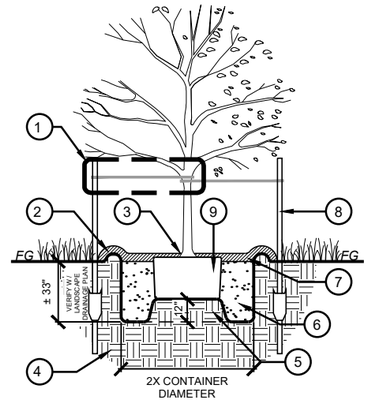
NOT TO SCALE



DETAIL NOTES:

1. PLANT MATERIAL
2. HARDWOOD BARK MULCH
3. SHOVEL CUT BED EDGE AT 45°-90° ANGLE, 6" DEEP
4. FINISH GRADE AT TURF
5. PLANTING BED MEDIA
6. UNDISTURBED SUBGRADE

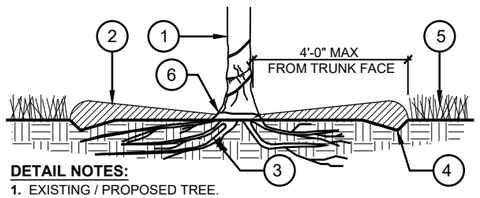
6 SHOVELED EDGE — NOT TO SCALE



DETAIL NOTES:

1. TREE TIE DETAIL, **SEE DETAIL #4, THIS SHEET**.
2. FORM RESERVOIR OF MULCH AND NATIVE SOIL (3" MIN./6" MAX. HEIGHT)
3. SET TOP OF ROOT FLARE ±3" ABOVE FINISHED GRADE
4. UNDISTURBED SUB-GRADE (TYPICAL).
5. PROVIDE 1'-0" TALL X 3'-0" DIA. COMPACTED SOIL LEDGE FOR ROOT BALL (SCARIFY BOTTOM AND SIDES OF TREE PIT).
6. PLANTING MIXTURE, SEE SPECIFICATIONS.
7. 4" (MIN.) MULCH TOP DRESSING
8. STEEL 'T' POST (2 MIN. PER TREE, STANDARD) PLACED A MINIMUM OF 2" FROM ROOTBALL.
9. ROOTBALL, SCARIFY AND LOOSEN ROOTS. SET TOP OF BALL/CONTAINER ± 2" ABOVE FINISHED GRADE.

3 TREE PLANTING — NOT TO SCALE



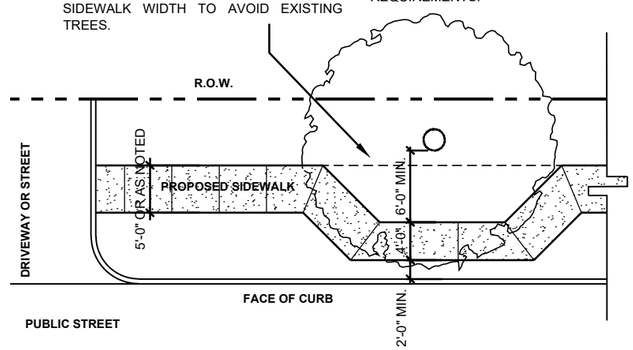
DETAIL NOTES:

1. EXISTING / PROPOSED TREE.
2. 4" (MIN.)HARDWOOD BARK MULCH TOP DRESSING, ***SEE SPECIFICATIONS***
3. EXISTING/UNDISTURBED SUB GRADE
4. SHOVEL CUT EDGE, **SEE DETAIL #6, THIS SHEET**.
5. EXISTING OR PROPOSED SOD/TURF.
6. NO MULCH OVER ROOT FLARE. TOP OF ROOT BALL SHOULD BE 1"-2" ABOVE GRADE PRIOR TO MULCHING.

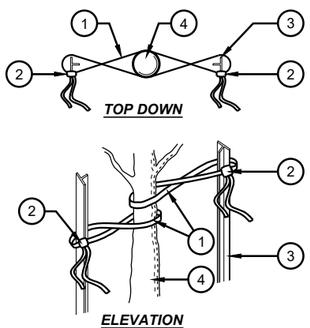
5 MULCH RING AT EXITING TREE — NOT TO SCALE

CONSULT ARBORIST, CITY URBAN FORESTOR, AND CITY REPRESENTAIVE PRIOR TO ADJUSTING PROPOSED SIDEWALK ALIGNMENT AND/OR REDUCING SIDEWALK WIDTH TO AVOID EXISTING TREES.

NOTE: SEE TREE PRESERVATION PLANS, DETAILS, AND INVENTORY FOR ADDITIONAL TREE PRESERVATION REQUIREMENTS.



2 SIDEWALK ALIGNMENT ADJUSTMENT AT EXISTING TREE — NOT TO SCALE



DETAIL NOTES:

1. 3/4" WIDE GREEN, FLAT WOVEN POLYPROPYLENE ARBORTIE
2. SECURE TO ARBORTIE T-POST WITH A KNOT.
3. STANDARD STEEL T-POST
4. TREE TRUNK

MANUFACTURER NOTES:
SPECIFIED ARBORTIE GREEN STAKING AND GUYING MATERIAL IS TO BE FLAT WOVEN POLYPROPYLENE MATERIAL, 3/4" WIDE 900LB, BREAK STRENGTH. ARBORTIE SHALL BE FASTENED TO STAKES IN A MANNER WHICH PERMITS TREE MOVEMENT AND SUPPORTS THE TREE.

4 TREE STAKING — NOT TO SCALE

PROPOSED PLANTING: *CONTRACTOR SHALL MARK TREE LOCATION PRIOR TO PLANTING FOR APPROVAL BY CITY FORESTER AND CITY ENGINEER.* ***SEE SPECIFICATIONS FOR TRUE CALIPER MEASUREMENT STANDARDS.***

SYM.	ABR.	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	NOTES	QTY.
	UC	ULMUS CRASSIFOLIA	CEDAR ELM	100 GAL. SINGLE TRUNK	4" CAL. MIN.	45
	QT	QUERCUS TEXANA	NUTTALL OAK	100 GAL. SINGLE TRUNK	4" CAL. MIN.	45
	AR	ACER RUBRUM	RED MAPLE	100 GAL. SINGLE TRUNK	4" CAL. MIN.	45
	QV	QUERCUS VIRGINIANA	LIVE OAK	200 GAL. SINGLE TRUNK	6" CAL. MIN.	92
	QL	QUERCUS LYRATA	OVERCUP OAK	200 GAL. SINGLE TRUNK	6" CAL. MIN.	35
X	REMOVE TREE (INCIDENTAL TO 01562)					
					TOTAL PROPOSED TREES	262

1 PLANT LIST — NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

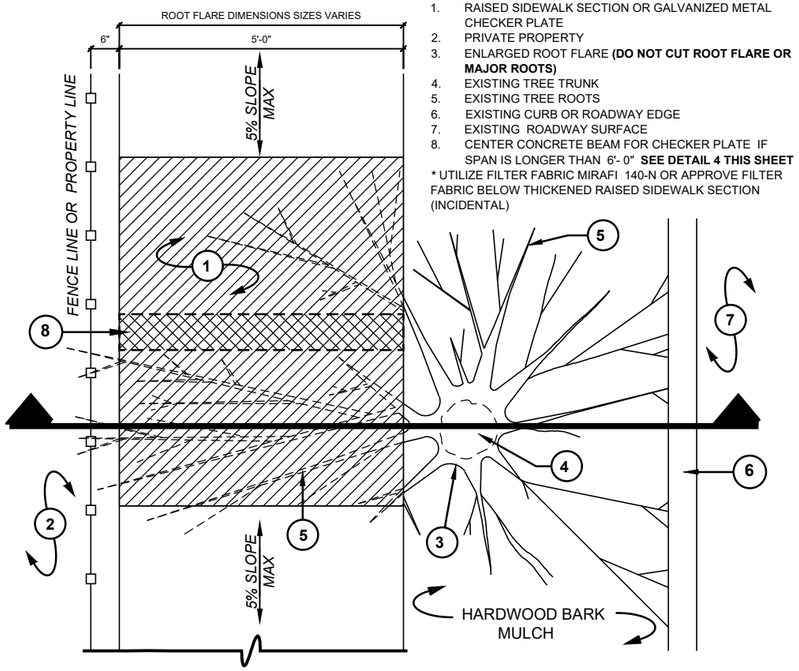
TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 1 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 894 / 1067	

DETAIL NOTES:

1. RAISED SIDEWALK SECTION OR GALVANIZED METAL CHECKER PLATE
2. PRIVATE PROPERTY
3. ENLARGED ROOT FLARE **(DO NOT CUT ROOT FLARE OR MAJOR ROOTS)**
4. EXISTING TREE TRUNK
5. EXISTING TREE ROOTS
6. EXISTING CURB OR ROADWAY EDGE
7. EXISTING ROADWAY SURFACE
8. CENTER CONCRETE BEAM FOR CHECKER PLATE IF SPAN IS LONGER THAN 6'- 0" **SEE DETAIL 4 THIS SHEET**

* UTILIZE FILTER FABRIC MIRAFI 140-N OR APPROVE FILTER FABRIC BELOW THICKENED RAISED SIDEWALK SECTION (INCIDENTAL)

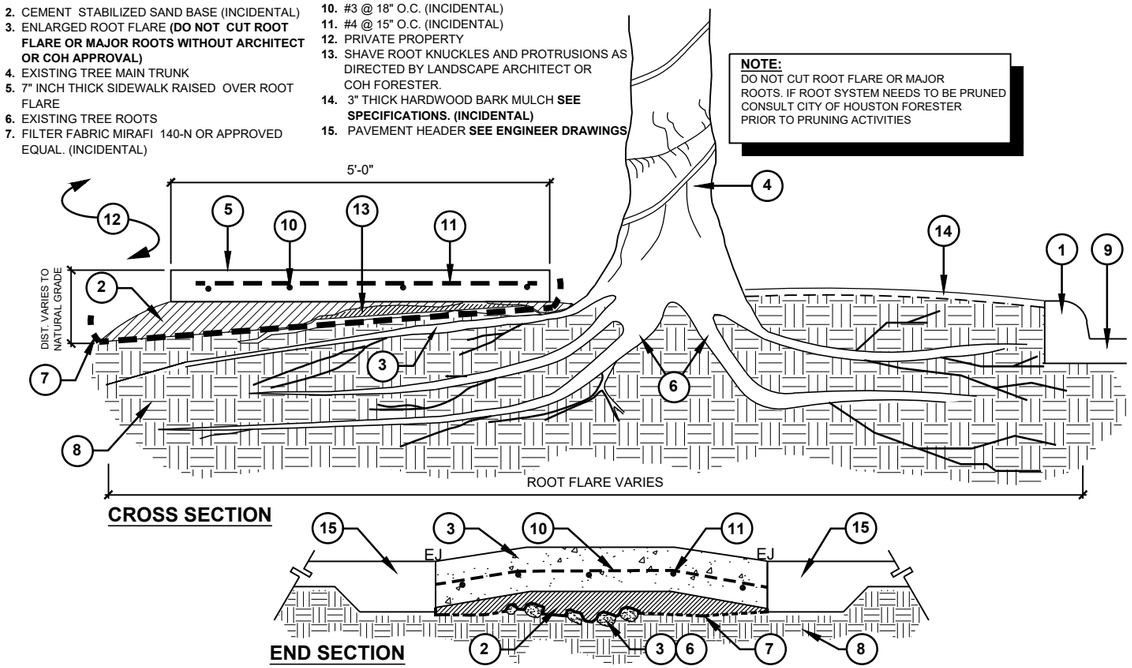


5 ROOT FLARE OVER SIDEWALK INSTALLATION DETAIL (PLAN VIEW) — NOT TO SCALE

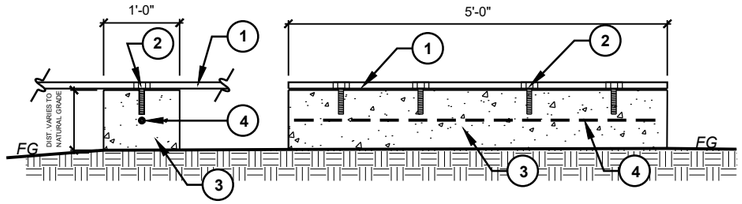
DETAIL NOTES:

1. EXISTING CURB OR ROADWAY EDGE
2. CEMENT STABILIZED SAND BASE (INCIDENTAL)
3. ENLARGED ROOT FLARE **(DO NOT CUT ROOT FLARE OR MAJOR ROOTS WITHOUT ARCHITECT OR COH APPROVAL)**
4. EXISTING TREE MAIN TRUNK
5. 7" INCH THICK SIDEWALK RAISED OVER ROOT FLARE
6. EXISTING TREE ROOTS
7. FILTER FABRIC MIRAFI 140-N OR APPROVED EQUAL. (INCIDENTAL)
8. UNDISTURBED SOIL
9. EXISTING ROADWAY SURFACE
10. #3 @ 18" O.C. (INCIDENTAL)
11. #4 @ 15" O.C. (INCIDENTAL)
12. PRIVATE PROPERTY
13. SHAVE ROOT KNUCKLES AND PROTRUSIONS AS DIRECTED BY LANDSCAPE ARCHITECT OR COH FORESTER.
14. 3" THICK HARDWOOD BARK MULCH **SEE SPECIFICATIONS. (INCIDENTAL)**
15. PAVEMENT HEADER **SEE ENGINEER DRAWINGS**

NOTE:
DO NOT CUT ROOT FLARE OR MAJOR ROOTS. IF ROOT SYSTEM NEEDS TO BE PRUNED CONSULT CITY OF HOUSTON FORESTER PRIOR TO PRUNING ACTIVITIES



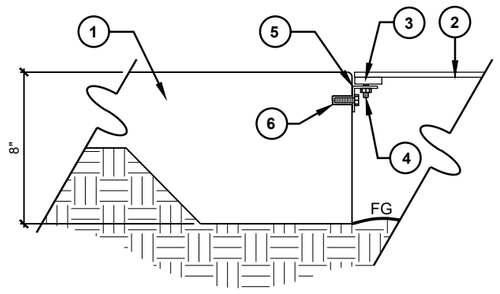
2 RAISED SIDEWALK OVER ROOT FLARE — NOT TO SCALE



DETAIL NOTES:

1. 3/8" GALVANIZED CHECKER PLATE, FOR ATTACHMENT TO SIDEWALK
2. PROVIDE FOUR (4) 1/2" VANDAL PROOF COUNTER SUNK CONCRETE ANCHOR BOLTS ON EACH SIDE
3. 3000 PSI CONCRETE
4. #4 REBAR HORIZONTAL CONTINUOUS. (INCIDENTAL)

4 CHECKER PLATE CENTER BEAM SUPPORT



DETAIL NOTES:

1. SIDEWALK CONCRETE HEADER AT PAVEMENT **SEE ENGINEER DRAWINGS**
2. 3/8" GALVANIZED CHECKERED PLATE FOR ATTACHMENT TO SIDEWALK
3. 2" X 3/8" BAR STITCH WELDED TO CHECKER PLATE AND DRILL 7/8" HOLES.
4. 3/8" Ø 3" LONG GALVANIZED BOLT, LARGE FLAT WASHER AND NUT SPOT WELDED TO ANGLE IRON BEFORE GALVANIZING
5. 2" x 2" x 1/4" ANGLE IRON 4' - 0" LONG WITH DRILLED 5/8" HOLE AND 1/2" HOOK WELDED AT 8" O.C. IN (4) FOUR LOCATION
6. 3/8" Ø BOLT WITH SOLID MASONRY ANCHOR 3" DEEP INTO CONCRETE HEADER.

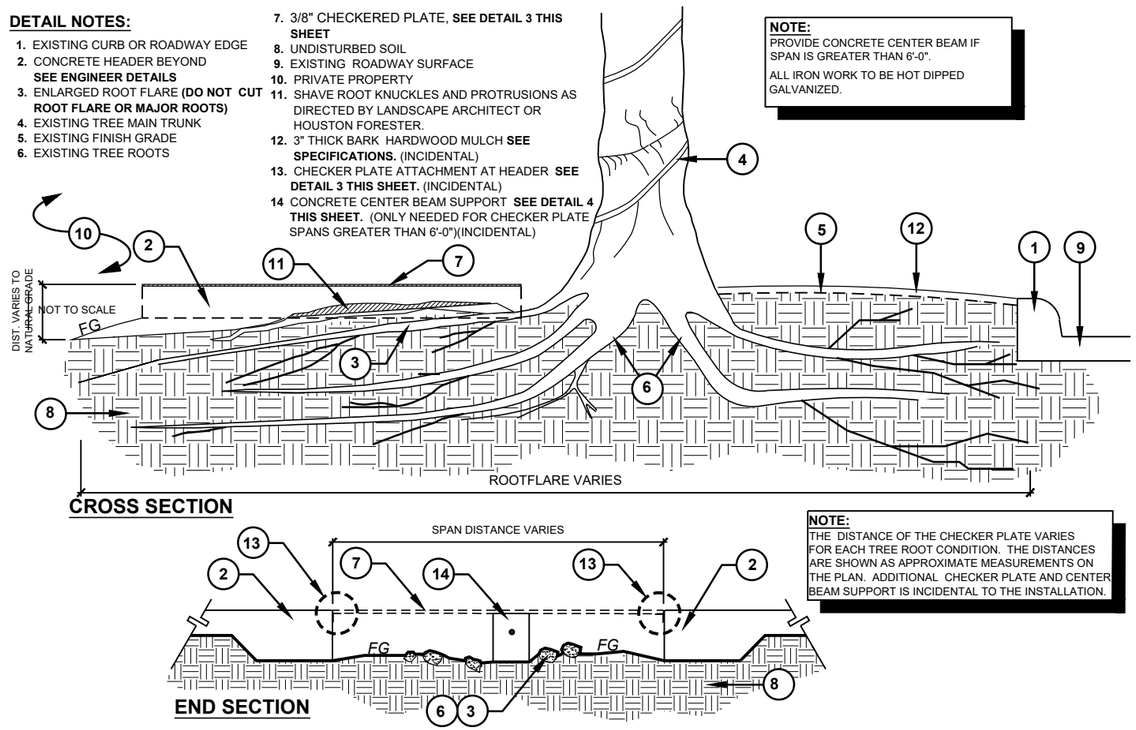
3 CENTER BEAM ATTACHMENT AT SIDEWALK — NOT TO SCALE

DETAIL NOTES:

1. EXISTING CURB OR ROADWAY EDGE
2. CONCRETE HEADER BEYOND **SEE ENGINEER DETAILS**
3. ENLARGED ROOT FLARE **(DO NOT CUT ROOT FLARE OR MAJOR ROOTS)**
4. EXISTING TREE MAIN TRUNK
5. EXISTING FINISH GRADE
6. EXISTING TREE ROOTS
7. 3/8" CHECKERED PLATE, **SEE DETAIL 3 THIS SHEET**
8. UNDISTURBED SOIL
9. EXISTING ROADWAY SURFACE
10. PRIVATE PROPERTY
11. SHAVE ROOT KNUCKLES AND PROTRUSIONS AS DIRECTED BY LANDSCAPE ARCHITECT OR HOUSTON FORESTER.
12. 3" THICK BARK HARDWOOD MULCH **SEE SPECIFICATIONS.** (INCIDENTAL)
13. CHECKER PLATE ATTACHMENT AT HEADER **SEE DETAIL 3 THIS SHEET.** (INCIDENTAL)
14. CONCRETE CENTER BEAM SUPPORT **SEE DETAIL 4 THIS SHEET.** (ONLY NEEDED FOR CHECKER PLATE SPANS GREATER THAN 6'-0")(INCIDENTAL)

NOTE:
PROVIDE CONCRETE CENTER BEAM IF SPAN IS GREATER THAN 6'-0".

ALL IRON WORK TO BE HOT DIPPED GALVANIZED.



NOTE:
THE DISTANCE OF THE CHECKER PLATE VARIES FOR EACH TREE ROOT CONDITION. THE DISTANCES ARE SHOWN AS APPROXIMATE MEASUREMENTS ON THE PLAN. ADDITIONAL CHECKER PLATE AND CENTER BEAM SUPPORT IS INCIDENTAL TO THE INSTALLATION.

1 CHECKER PLATE OVER ROOT FLARE — NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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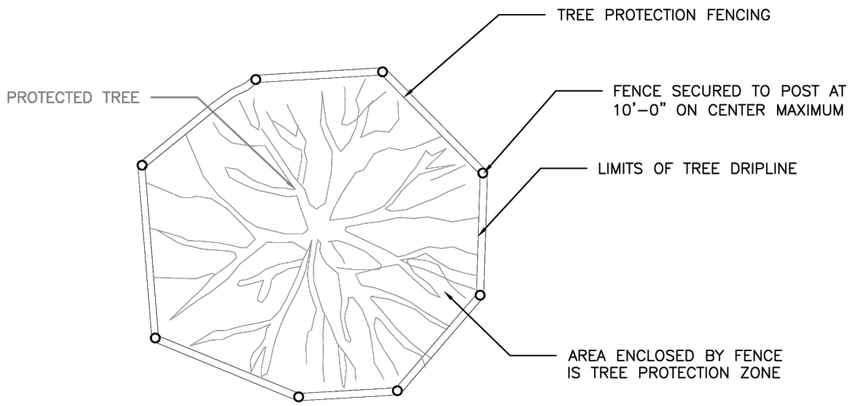
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 2 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 895 1067	

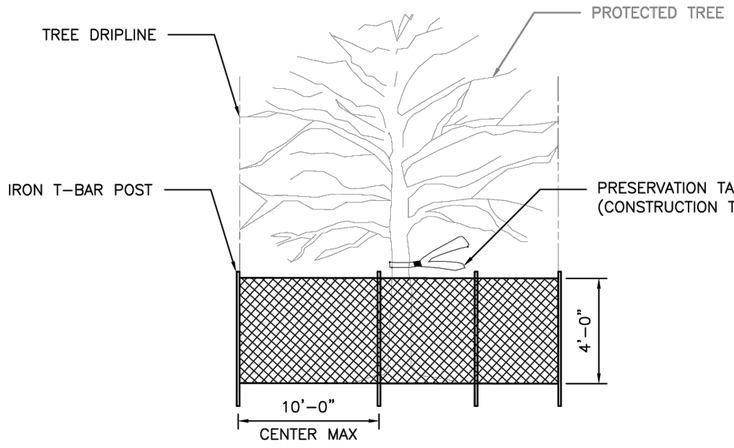
NO.	DATE	BY



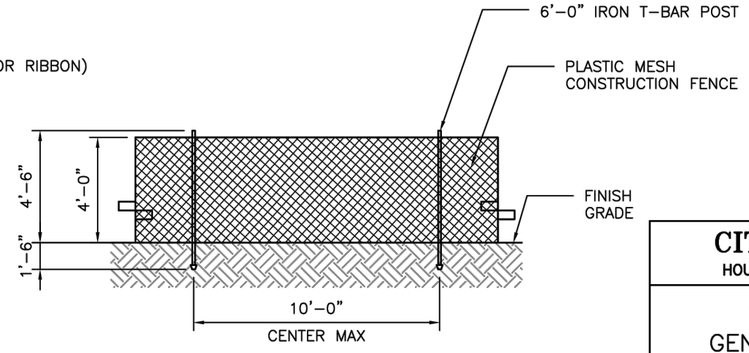
PLAN VIEW
TREE PROTECTION FENCING DETAIL

NOTES:

FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.



FRONT VIEW
TREE PROTECTION FENCING DETAIL



DETAIL B–4
PROTECTIVE PLASTIC MESH FENCE

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
GENERAL REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukait Kanwar 9EF8B0C841F5478... CITY ENGINEER	DocuSigned by: Carol Haddock A93C410B72B3453... DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 01562–01

1	TREE FENCING (COH REQUIREMENT)	NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

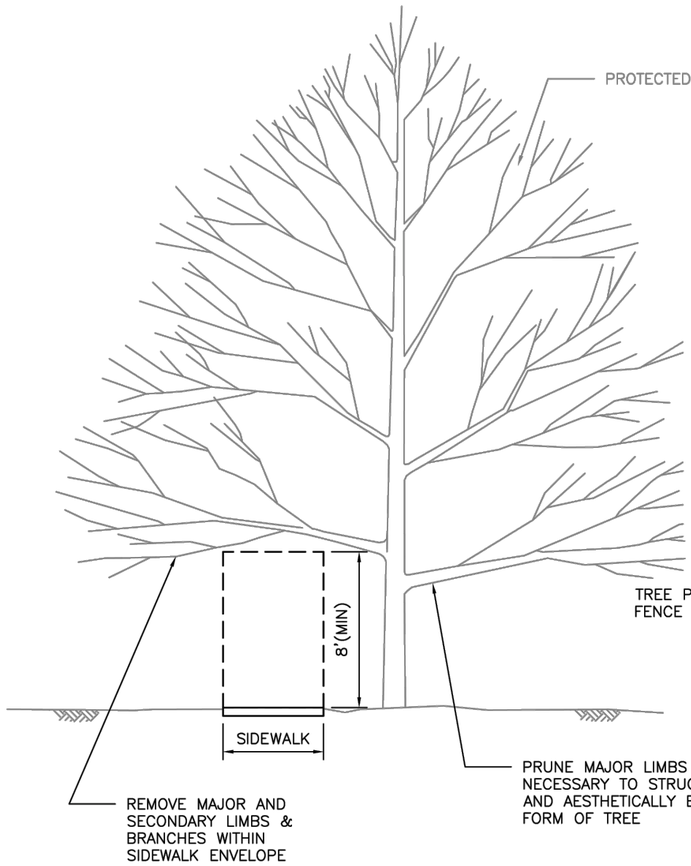
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 60% CD REVIEW UNDER AUTHORITY OF MICHAEL MAUER, CERTIFIED ARBORIST, STATE OF TEXAS, LICENSE NO. 3436A.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

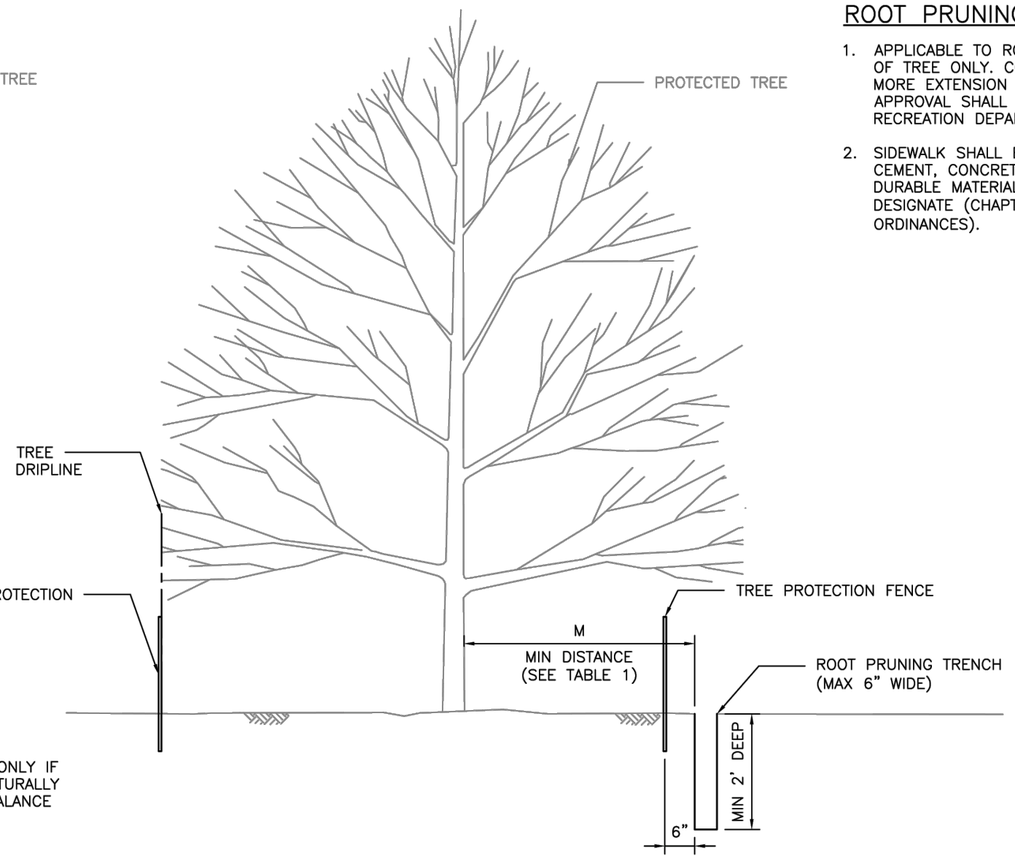
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 3 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 896 / 1067	



TREE PRUNING



ROOT PRUNING DETAIL

ROOT PRUNING NOTE:

1. APPLICABLE TO ROOT PRUNING ON ONE SIDE OF TREE ONLY. CONSULT CITY ARBORIST FOR MORE EXTENSION ROOT PRUNING. FINAL APPROVAL SHALL COME FROM PARKS AND RECREATION DEPARTMENT.
2. SIDEWALK SHALL BE CONSTRUCTED OF EITHER CEMENT, CONCRETE, ASPHALT OR OTHER DURABLE MATERIAL AS THE COUNCIL MAY DESIGNATE (CHAPTER 40–91, CODE OF ORDINANCES).

TABLE 1
"M" DISTANCE TABLE

TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.–INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF TRENCH

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TREE AND ROOT PRUNING

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
EFF DATE: NOV–27–2023	DWG NO: 01562–02

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 4 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 897 / 1067	

1 | TREE AND ROOT PRUNING (COH REQUIREMENT) | NOT TO SCALE

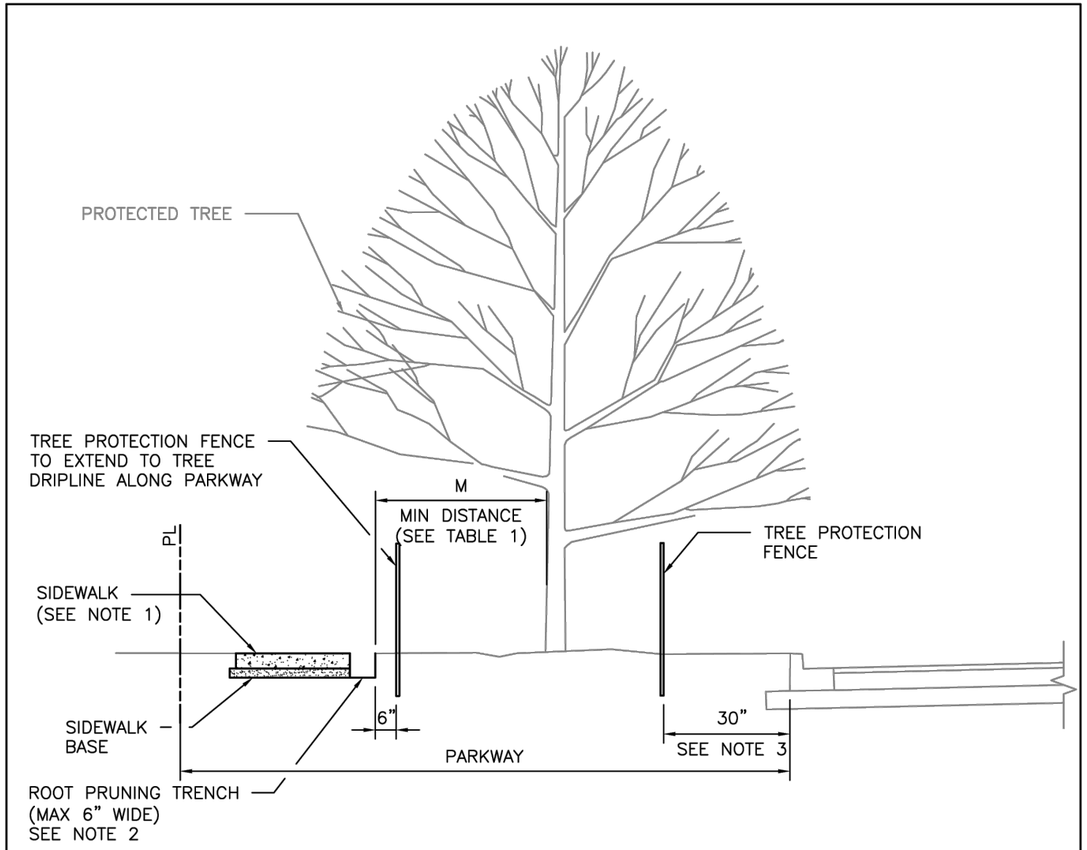

TABLE 1 "M" DISTANCE TABLE	
TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.–INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF TRENCH

NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF EITHER CEMENT, CONCRETE, ASPHALT OR OTHER DURABLE MATERIAL AS THE COUNCIL MAY DESIGNATE (CHAPTER 40–91, CODE OF ORDINANCES).
2. TRENCHING DEPTH SHALL BE TO THE ANTICIPATED BOTTOM OF SIDEWALK AND BASE MATERIAL FOR SIDEWALK ROOT PRUNING, ROOTS LOWER THAN SIDEWALK SHALL NOT BE PRUNED.
3. FENCES SHALL BE PLACED 30" BACK OF EXISTING CURB OR EDGE OF PAVEMENT WHERE ROOT PRUNING OR ZERO CURB CUT BACK IS NOT SPECIFIED.

DISCLAIMER: THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...
CITY ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION/
IN SIDEWALK REPAIRS
IN PARKWAY AREAS

(SCALE: NOT TO SCALE)

EFF DATE: NOV–27–2023 | DWG NO: 01562–03

1	SIDEWALK REPAIRS (COH REQUIREMENT)	NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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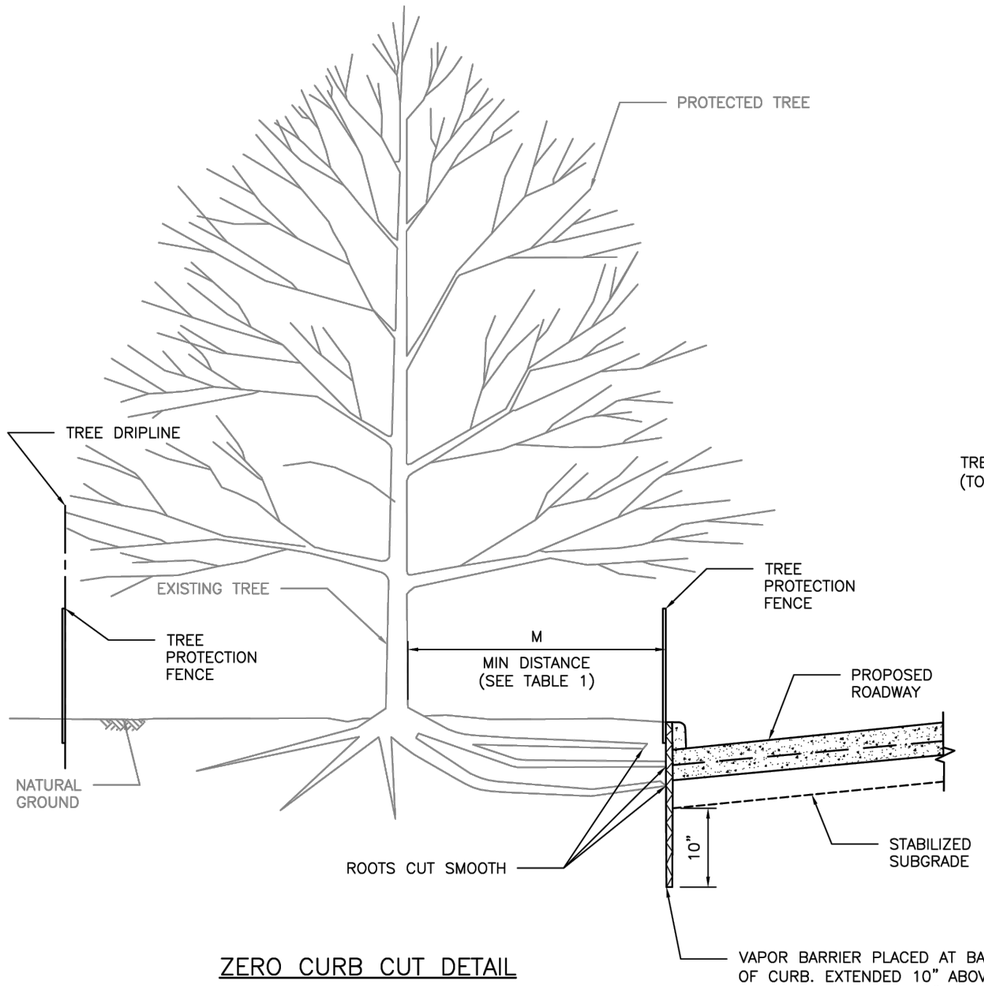
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

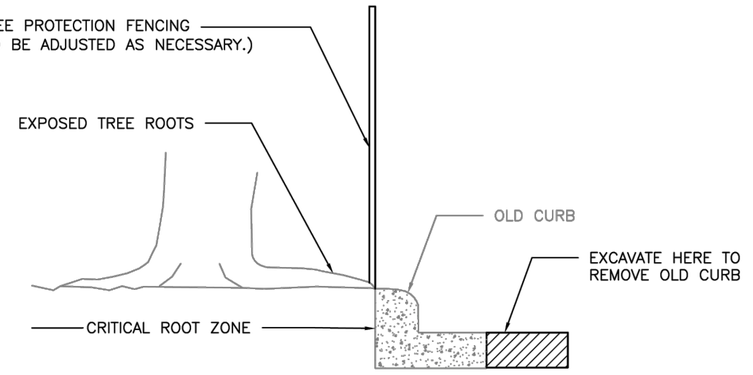
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 5 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 898 1067	



ZERO CURB CUT DETAIL



OLD CURB REMOVAL

TABLE 1 "M" DISTANCE TABLE	
TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.–INCH
> 20"	CONSULT CITY ARBORIST

1	ZERO CURB CUT (COH REQUIREMENT)

NOT TO SCALE

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
ZERO CURB CUT

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Sukail Kanwar 9EF8B0C841F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
EFF DATE: NOV–27–2023	DWG NO: 01562–04

60% CD SUBMITTAL

Texas Department of Transportation

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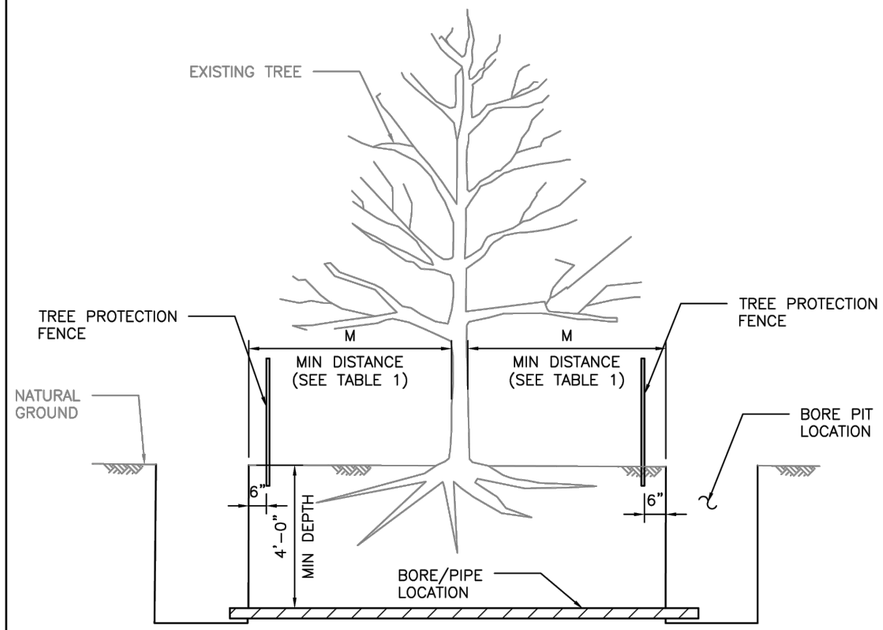
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

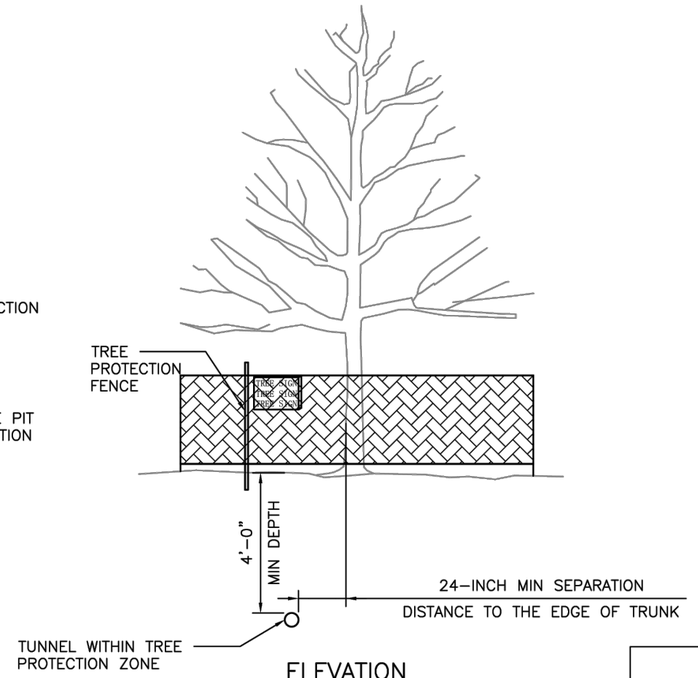
TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 6 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 899 1067	

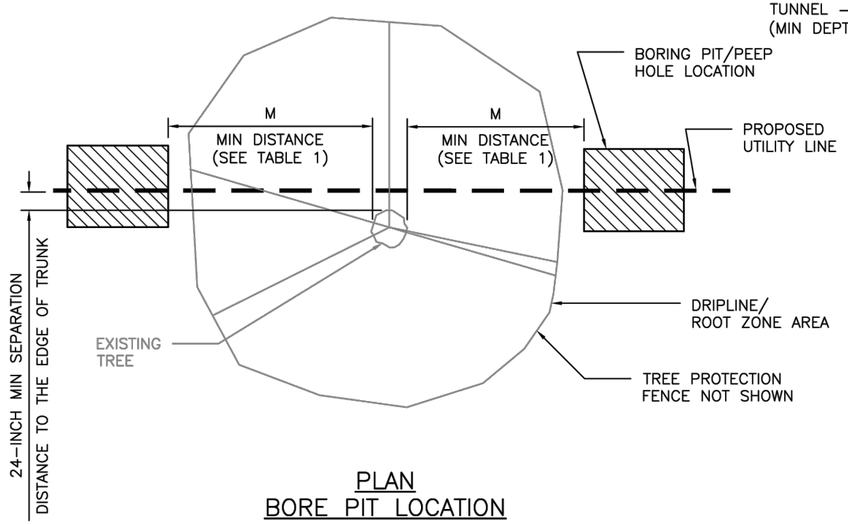
No.	DATE	REVISIONS



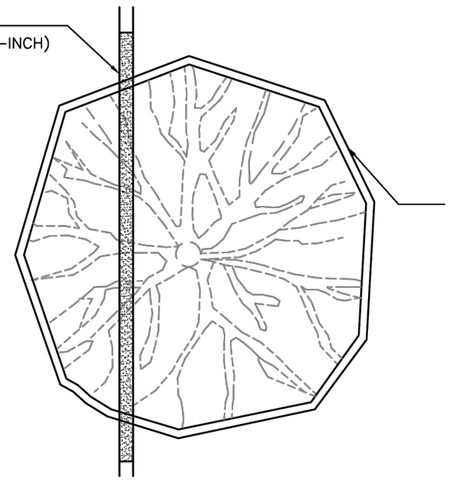
ELEVATION
BORE PIT LOCATION



ELEVATION
TUNNEL LOCATION



PLAN
BORE PIT LOCATION



PLAN
TUNNEL LOCATION

TABLE 1
"M" DISTANCE TABLE

TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.-INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF BORE PIT.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TUNNELING REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
EFF DATE: NOV-27-2023	DWG NO: 01562-05

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Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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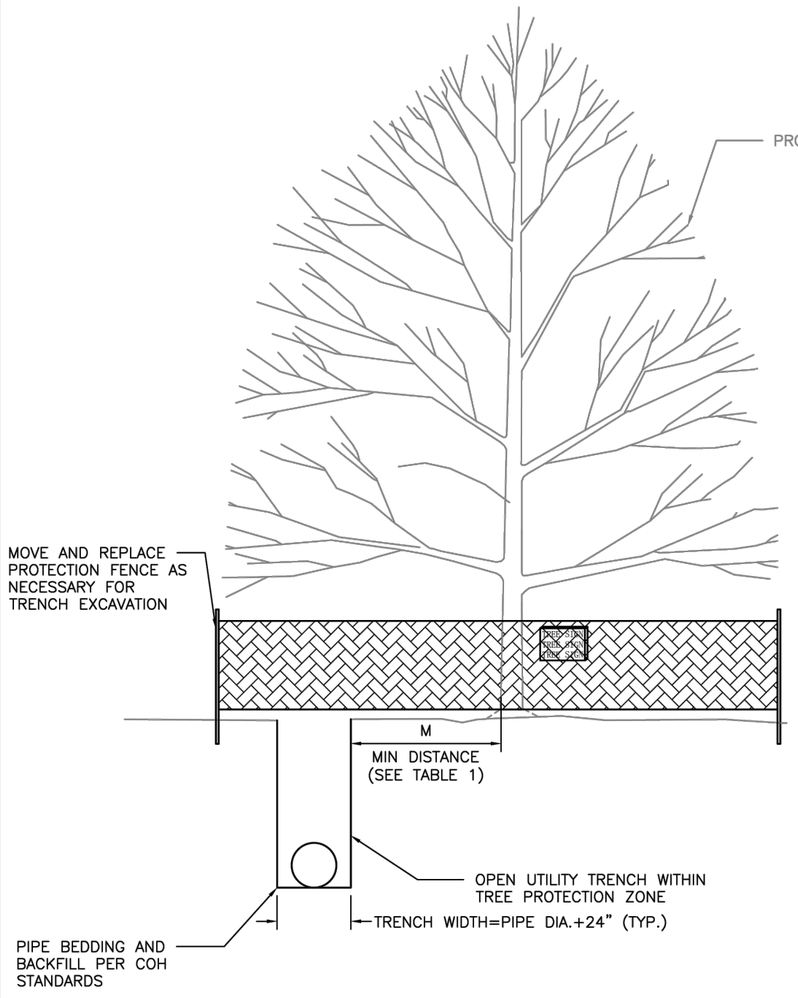
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

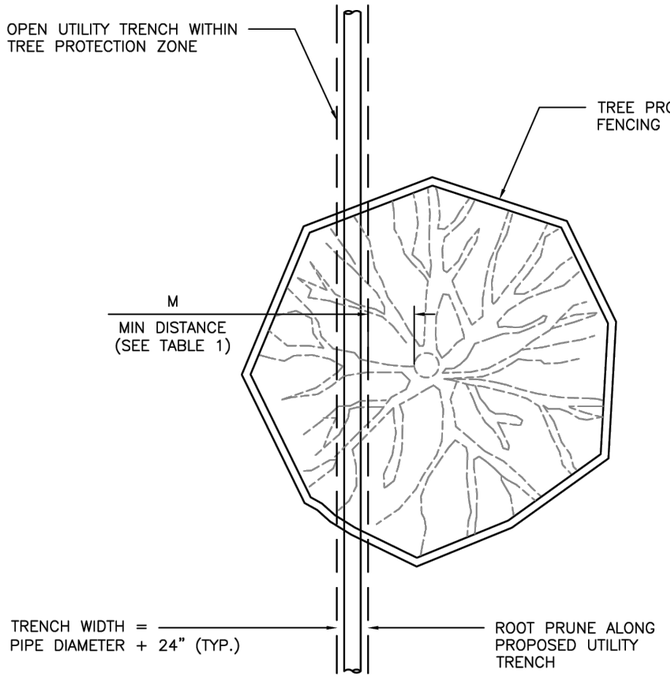
TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 7 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 900 1067	

1 | TUNNELING REQUIREMENTS (COH REQUIREMENT) | NOT TO SCALE



ELEVATION
TRENCH EXCAVATION



PLAN
TRENCH EXCAVATION

TABLE 1
"M" DISTANCE TABLE

TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.–INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF UTILITY TRENCH

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TRENCH REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
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EFF DATE: NOV–27–2023	DWG NO: 01562–06

1	TRENCH REQUIREMENTS (COH REQUIREMENT)

NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

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11750 KATY FREEWAY, #400
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 8 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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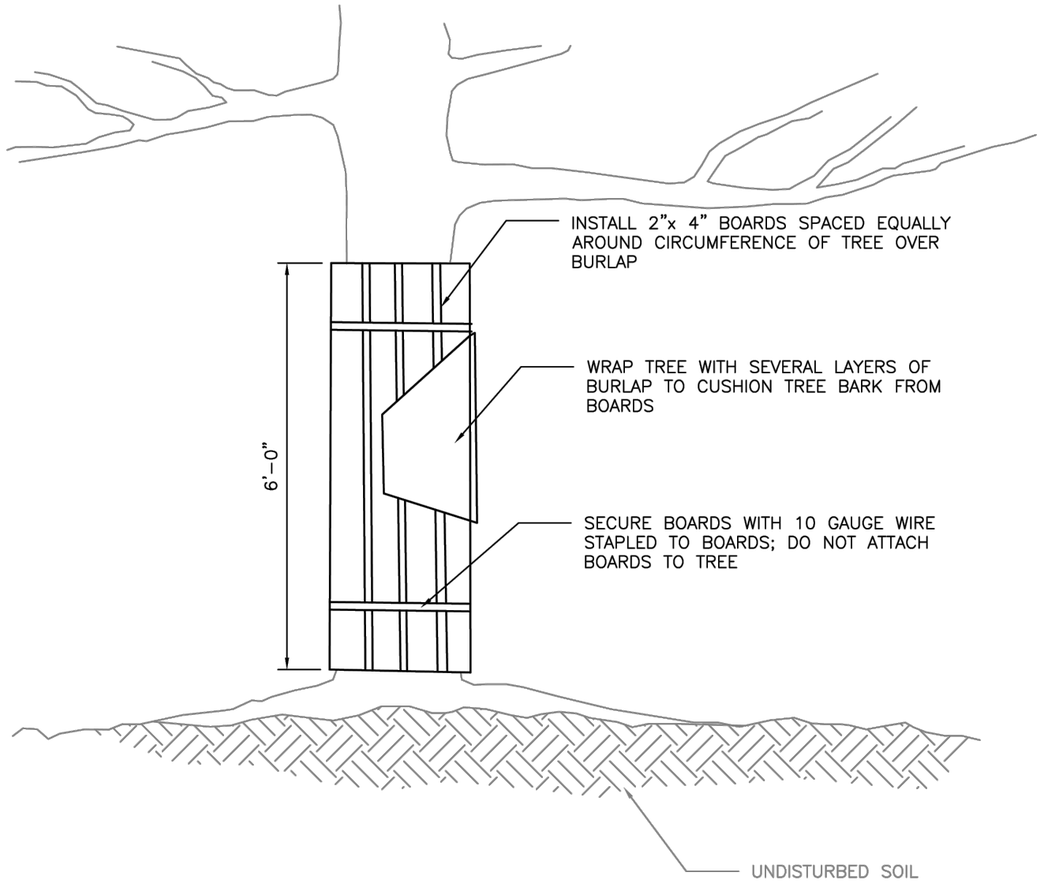
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 901 1067	



ELEVATION

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CITY ENGINEER

DocuSigned by: Carol Haddock A93C410B72B3453...
DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE BOARDING

(SCALE: NOT TO SCALE)

EFF DATE: NOV-27-2023 | DWG NO: 01562-07

1	TREE BOARDING (COH REQUIREMENT)	NOT TO SCALE

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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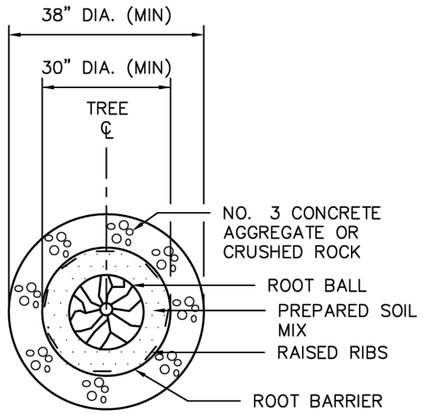
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

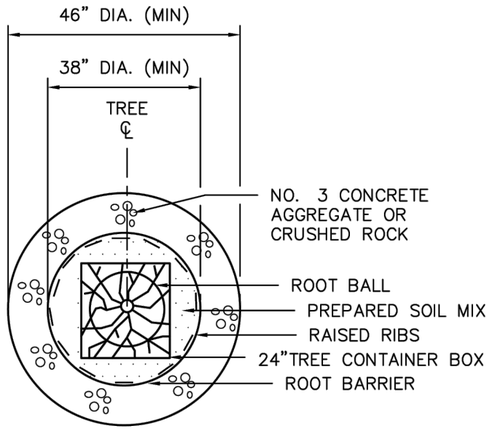
ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 9 OF 11

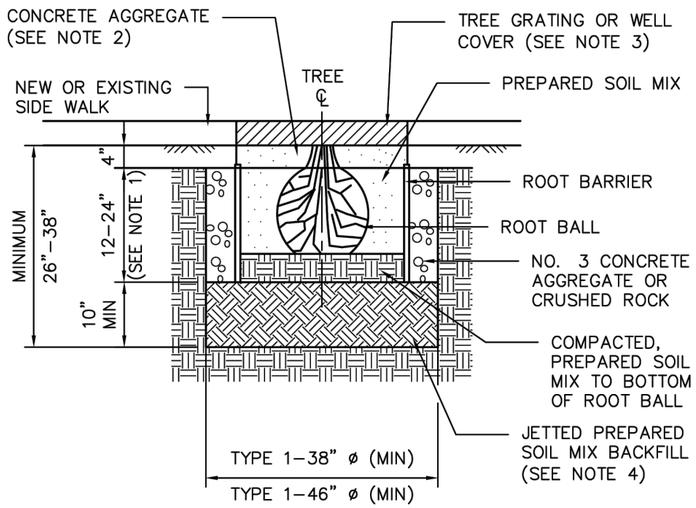
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 902 1067	



PLAN VIEW A
TYPE 1 (15 GAL./4 PANELS)



PLAN VIEW B
TYPE 2 (24" BOX/5 PANELS)



ELEVATION VIEW

NOTES:

1. ROOT BARRIERS SIZES 12"–24" SHALL BE USED DEPENDS ON THE SIZE OF THE TREE. SIZES 36" AND 48" ARE RECOMMENDED TO BE USED AT SLOPES AND RETAINING WALLS WHEN ADDITIONAL DEPTH IS REQUIRED.
2. CONCRETE AGGREGATE ONLY BE USED TO RAISE THE ELEVATION OF THE WELL COVER/TREE GRATING TO MATCH THE SIDE WALKS. IF TREE WELL COVER IS NOT REQUIRED, THE GRADE SURFACE OF THE TREE WELL SHALL BE 1" LOWER THAN THE SIDE WALK.
3. REFER PROJECT PLAN AND CITY OF HOUSTON STANDARDS FOR TREE GRATING/WELL COVER REQUIREMENTS.
4. PREPARED SOIL MIX SHALL BE PLACED IN PLANTING HOLE AND TEMPED TO BOTTOM OF ROOT BALL ELEVATION PRIOR TO PROCEEDING WITH TREE PLANTING. FOR PLANTING AND TREE MAINTENANCE, REFER STANDARD LANDSCAPE PLANTING SPECIFICATION FOR CITY OF HOUSTON.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE ROOT BARRIERS (CIRCULAR)

(SCALE: NOT TO SCALE)

EFF DATE: NOV–27–2023 | DWG NO: 02912–01

60% CD SUBMITTAL

Texas Department of Transportation

TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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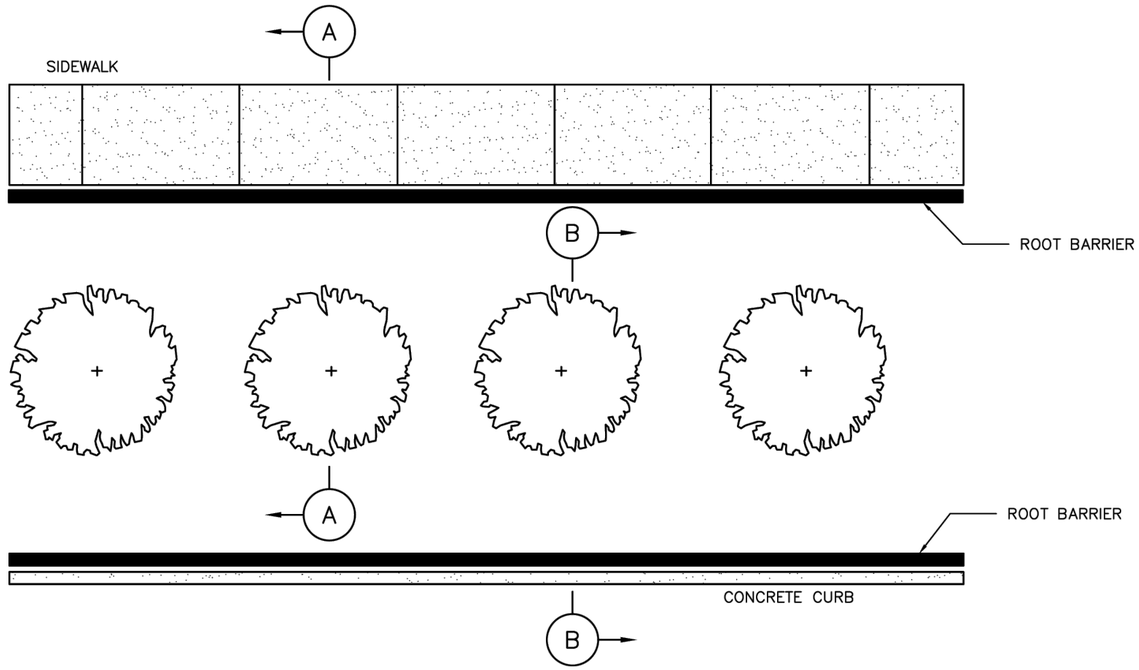
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 10 OF 11

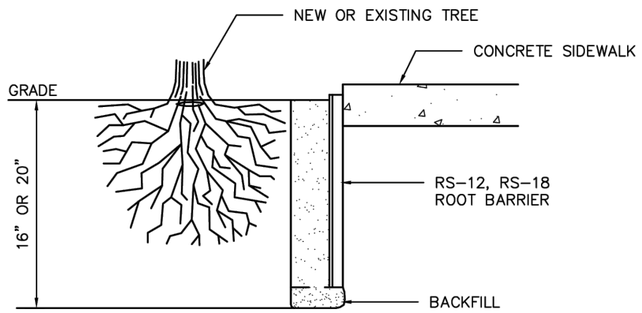
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 903 1067	

1	TREE ROOT BARRIERS - CIRCULAR (COH REQUIREMENT)	NOT TO SCALE

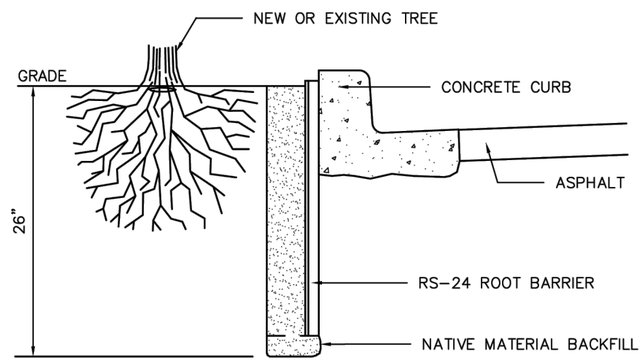


NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THE RAISED ROOT GUIDING RIBS MUST BE FACING TOWARDS THE TREE ROOTS.
3. THE TOP OF THE BARRIER PANELS MUST BE SLIGHTLY ABOVE GRADE (NEVER BELOW GRADE).
4. POSITION BARRIER PANELS VERTICALLY WITH TOP AGAINST THE STRUCTURE TO BE PROTECTED.
5. SEE LANDSCAPE SITE PLAN TO DETERMINE TREES THAT REQUIRE BARRIER PANEL.
6. KEEP THE BARRIER TOP EDGE AT LEAST 1/2" ABOVE GRADE.



SECTION A–A
SIDEWALK



SECTION B–B
CURB & GUTTER PROTECTIONS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE ROOT BARRIERS (LINEAR)

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
EFF DATE: NOV-27-2023	DWG NO: 02912-02

60% CD SUBMITTAL

Texas Department of Transportation

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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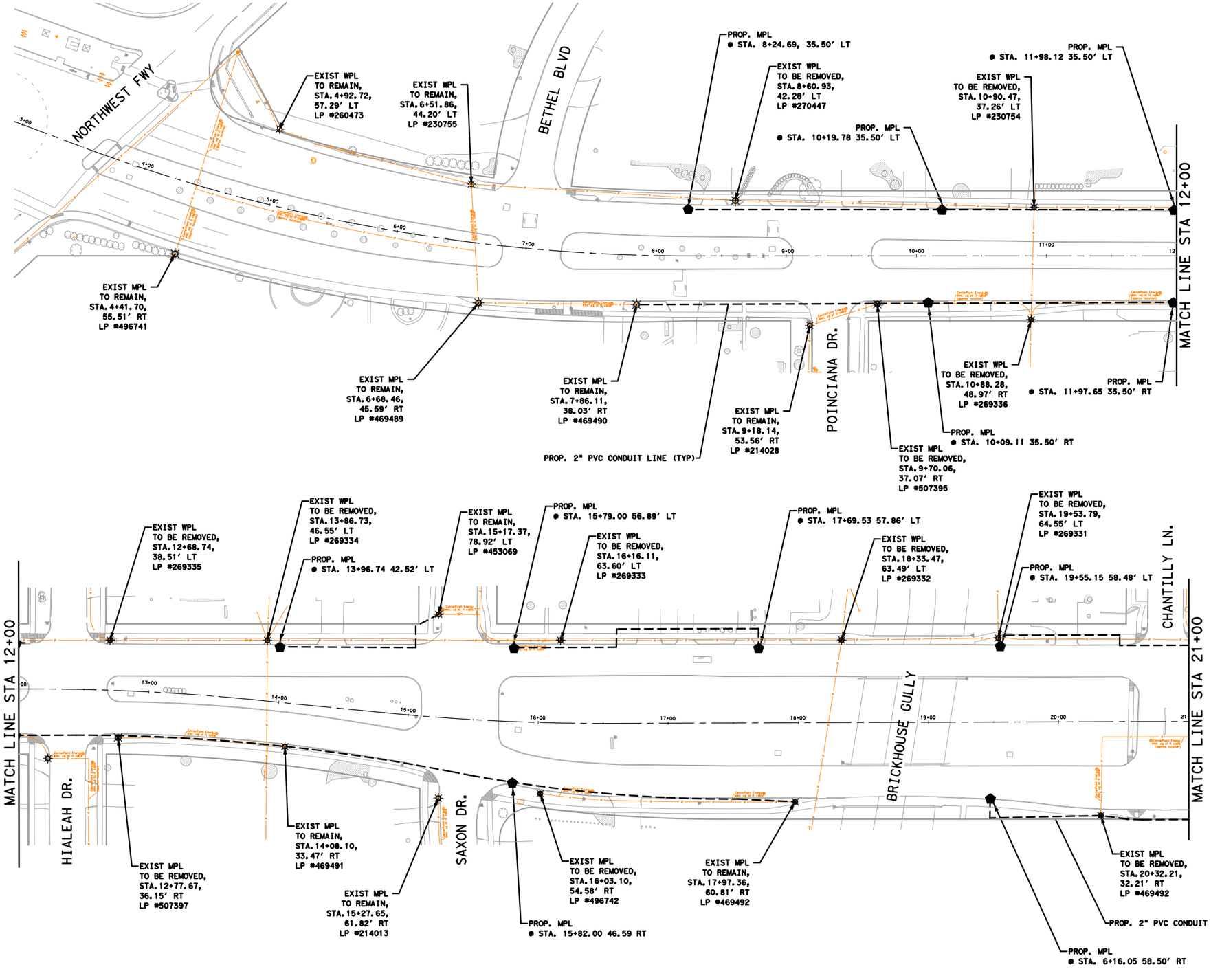
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE (COLE CREEK TO VICTORY DR)

TREE PRESERVATION & MITIGATION PLANTING AND TREE PRES DETAILS
SHEET 11 OF 11

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 904 1067	

1	TREE ROOT BARRIERS - LINEAR (COH REQUIREMENT)	NOT TO SCALE



LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
- PROP METAL STREET LIGHT POLE
- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

NOTES:

1. EXISTING STREET LIGHT POLES ARE TO BE REMOVED BY CENTERPOINT ENERGY. AFTER REMOVAL OF EXISTING POLE, CONTRACTOR SHALL DEMO ANY EXISTING POLE FOUNDATION TO MINIMUM 1' BELOW FINISHED GRADE.
2. CONTRACTOR TO REFER TO CENTERPOINT ENERGY SPECIFICATION NO. 007-371 - 08, LATEST REVISION FOR INFORMATION REGARDING STREET LIGHT CONDUIT INSTALLATION.
3. CONDUIT/ PULL BOX LAYOUT AS DETERMINED BY CENTERPOINT ENERGY.
4. FOR CONDUIT INSTALLATION IN EASEMENTS, AND SIDEWALKS, USE SCHEDULE 40 PVC. FOR CONDUIT INSTALLATION UNDER ROADWAYS. DRIVEWAYS, DITCH CROSSINGS, AND PIPELINE EASEMENTS USE SCHEDULE 80 PVC.
5. PROVIDE 6'-6" X 6'-6" CONCRETE BLOCK OUT AREA IF LIGHT POLE IS LOCATED WITHIN CONCRETE AREA.
6. REFER TO DESIGN PLAN & PROFILE SHEETS FOR OTHER UTILITIES, LOCATED IN THE VICINITY OF THE PROPOSED STREET LIGHT POLES.
7. DO NOT PLACE PROPOSED STREETLIGHTS ON SIDEWALKS, WHEELCHAIR RAMPS OR HEAVY TREE CANOPIES WITHOUT APPROVAL FROM THE CITY OF HOUSTON CONSTRUCTION MANAGER.
8. CONTRACTOR SHALL PLACE PROP. STREET LIGHTS THREE TO FOUR FEET BEHIND BACK OF CURB

CENTERPOINT ENERGY NOTE:

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LOCATION OF CENTERPOINT ENERGY FACILITIES ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED BY ACTUAL FIELD CHECK.

APP.	DATE	No.	REVISIONS

0' 80' 160'
SCALE IN FEET

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ISANI civil · design · engineers
10448 Westoffice Drive
Houston, Texas 77042
P 713 747 2399
F 713 748 3748
TBPE Firm Reg. #4575

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134936
2/19/2026
60% SUBMITTAL
ISANI CONSULTANTS
Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET LIGHTNING PLAN BEGIN TO STA 21+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=80'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 905 OF 1067	

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emma

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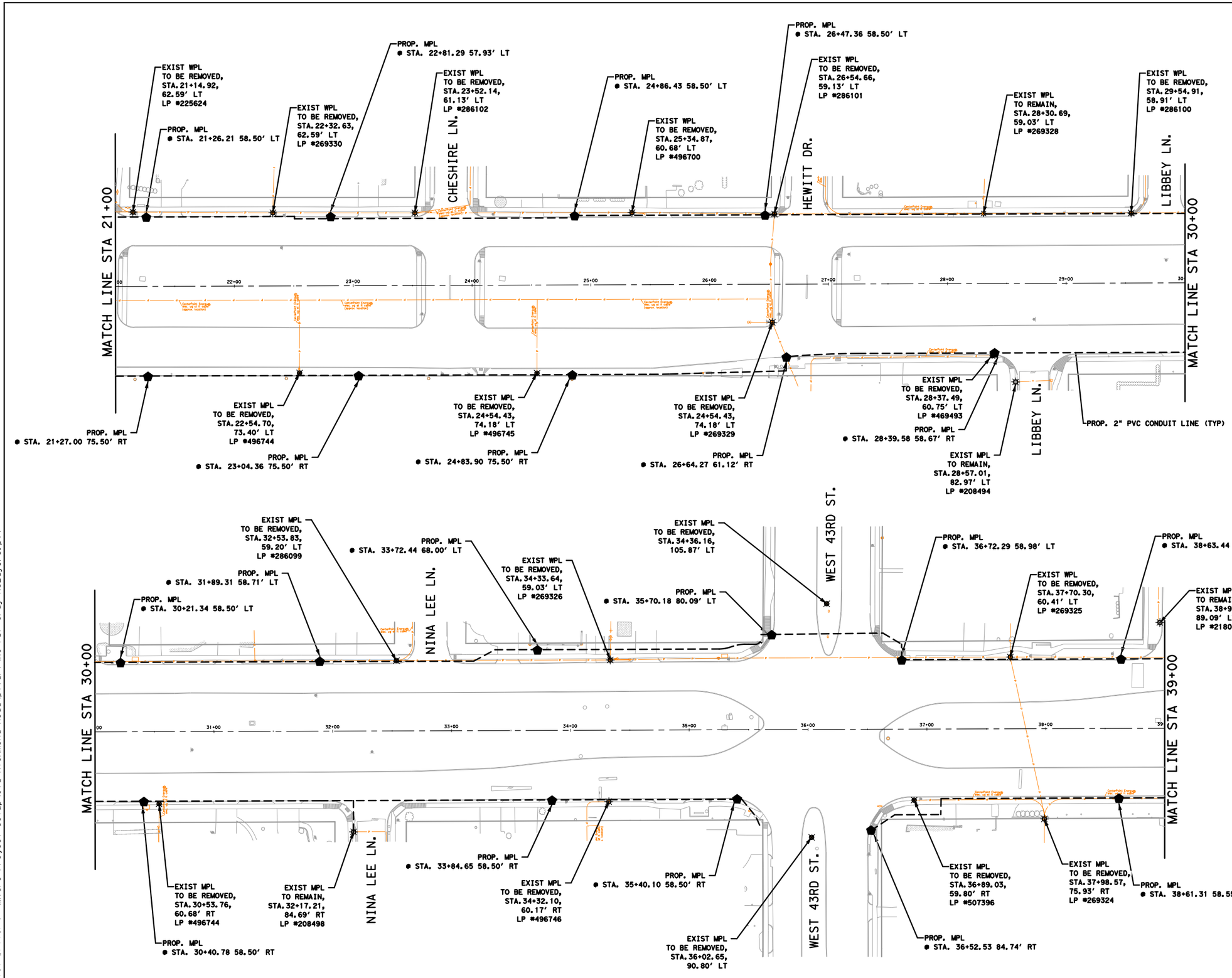

LEGEND

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- PROP PVC CONDUIT AND CONDUCTORS

No.	DATE	REVISIONS	APP.

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0' 80' 160'
SCALE IN FEET

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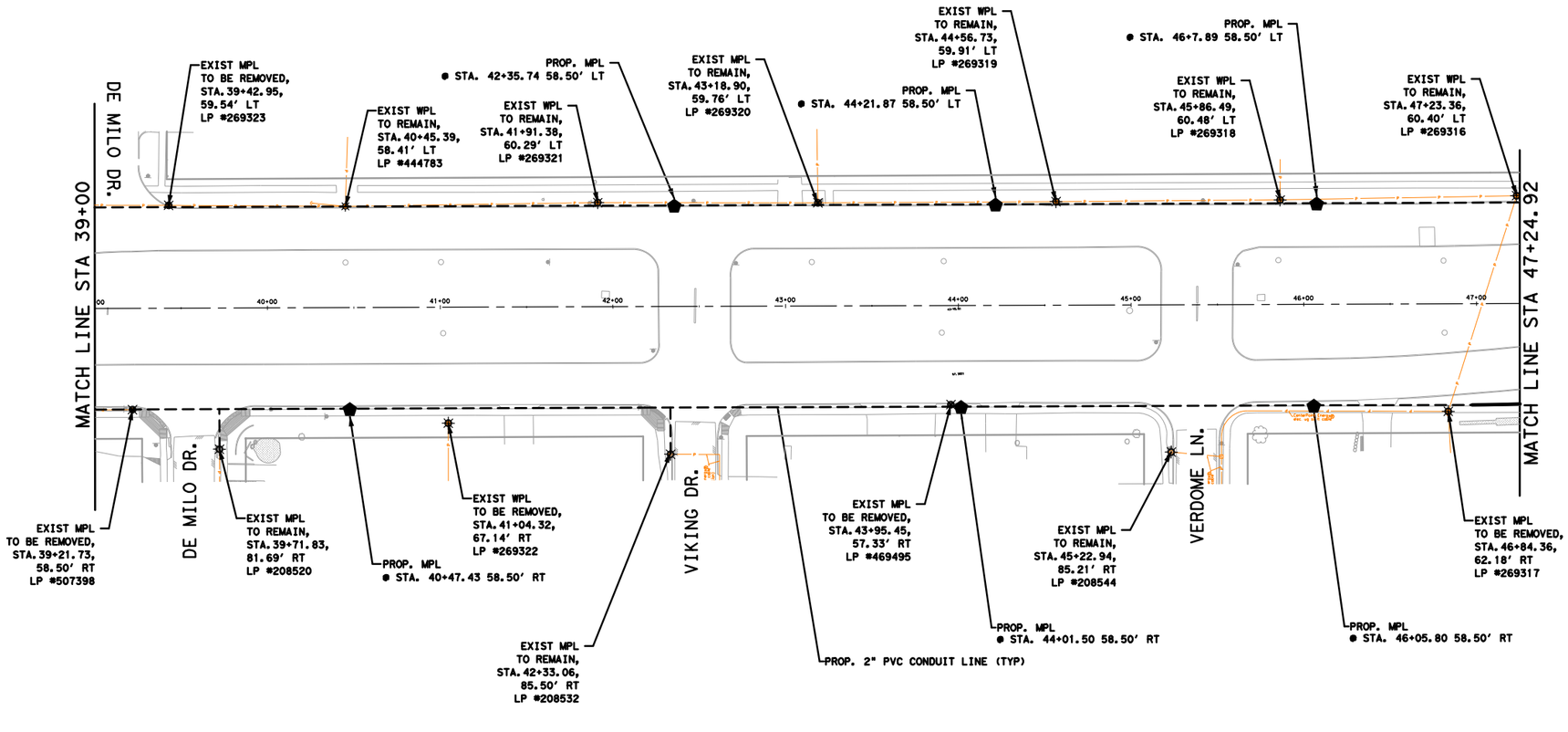
Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET LIGHTNING PLAN STA 21+00 TO STA 39+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=80'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 906 OF 1067	



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- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

No.	DATE	REVISIONS	APP.

0' 80' 160'

SCALE IN FEET

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Texas Registered Engineering Firm F-4575

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STREET LIGHTNING PLAN STA 39+00 TO STA 47+25

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=80'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 907 OF 1067	

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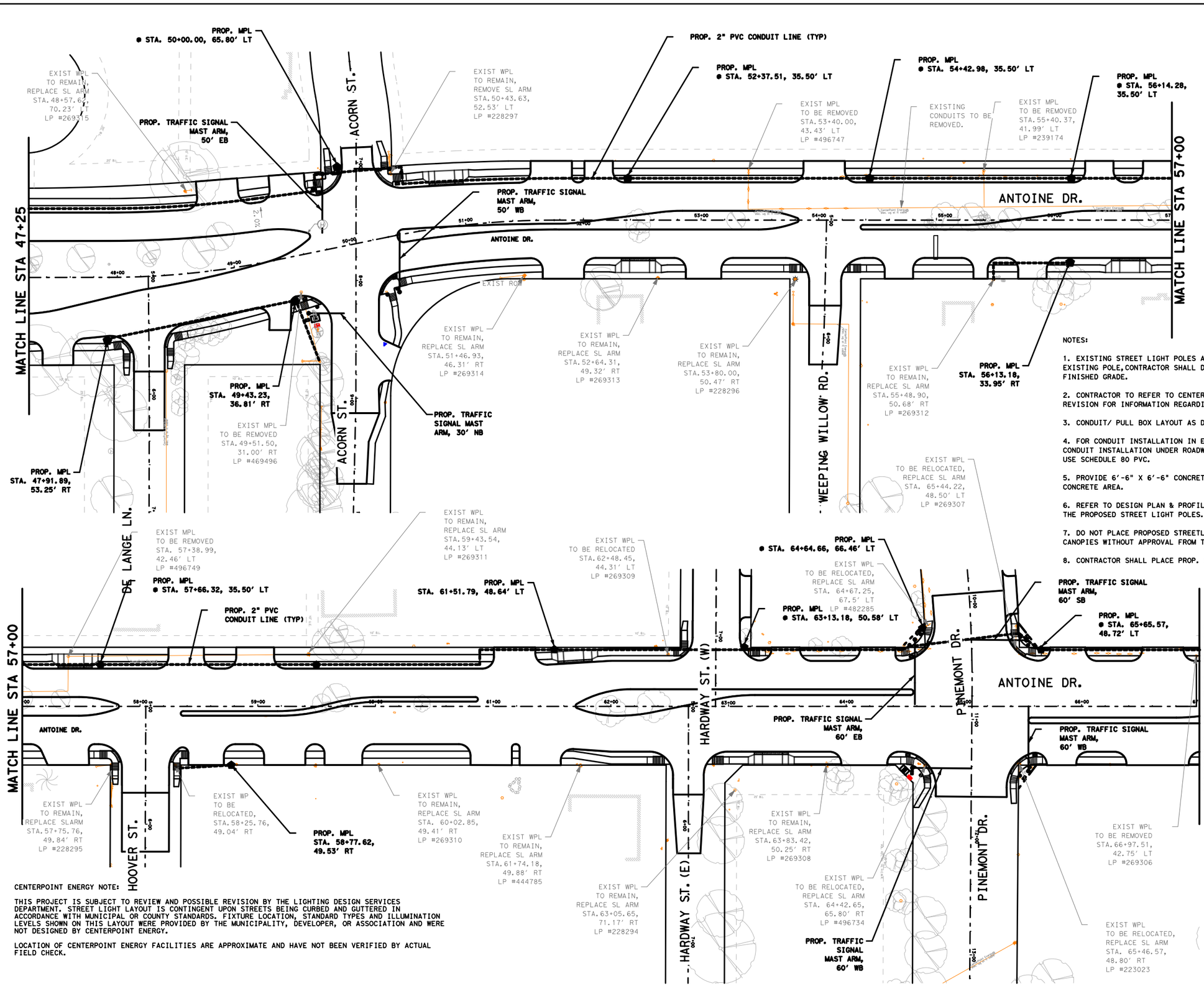

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- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
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- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

0' 80' 160'
SCALE IN FEET

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No.	DATE	REVISIONS	APP.

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TBPE Firm Registration #4575

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101094
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

LIGHTNING PLAN
STA 47+25 TO STA 67+00

SHEET 04 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 908 OF 1067	

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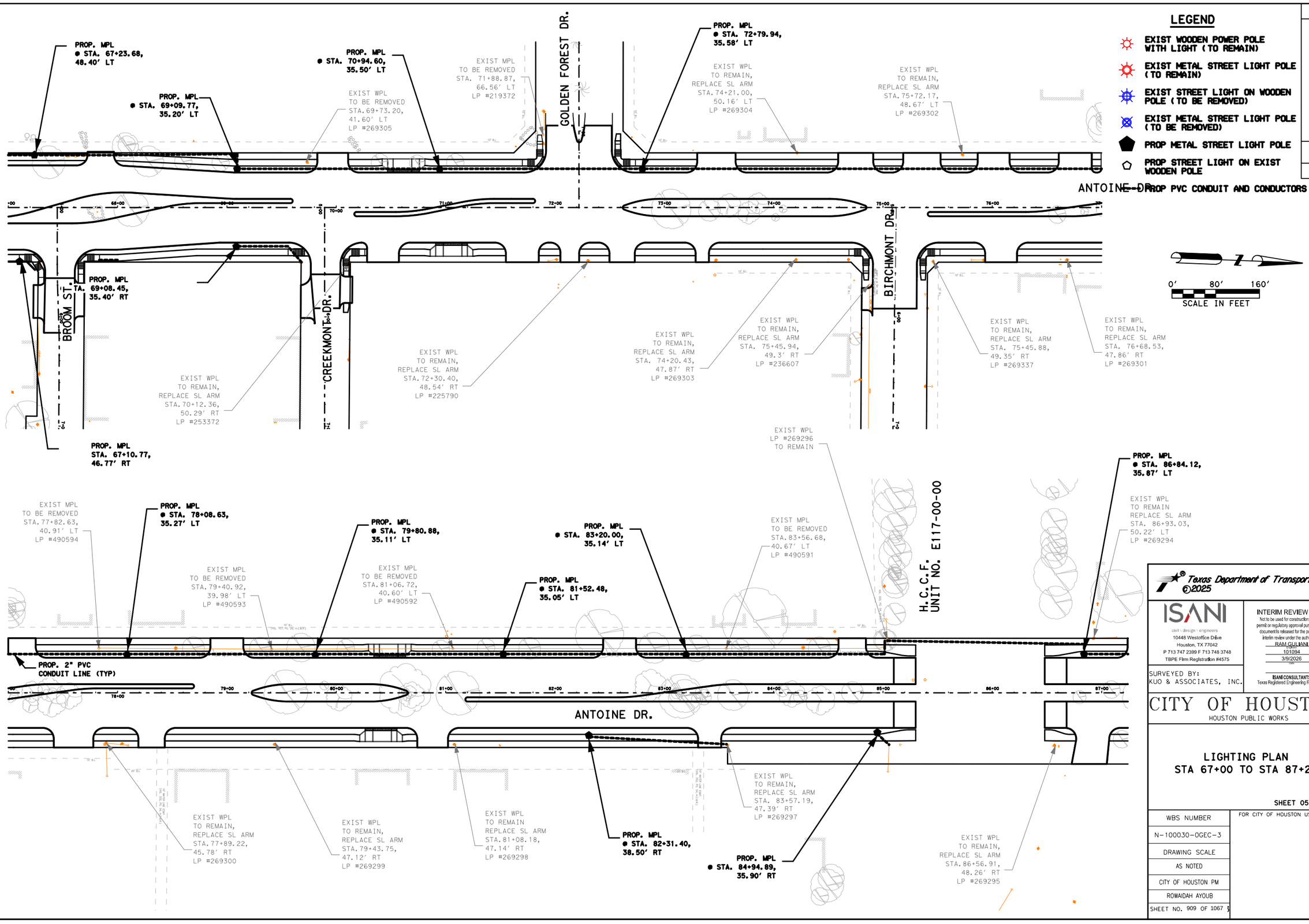

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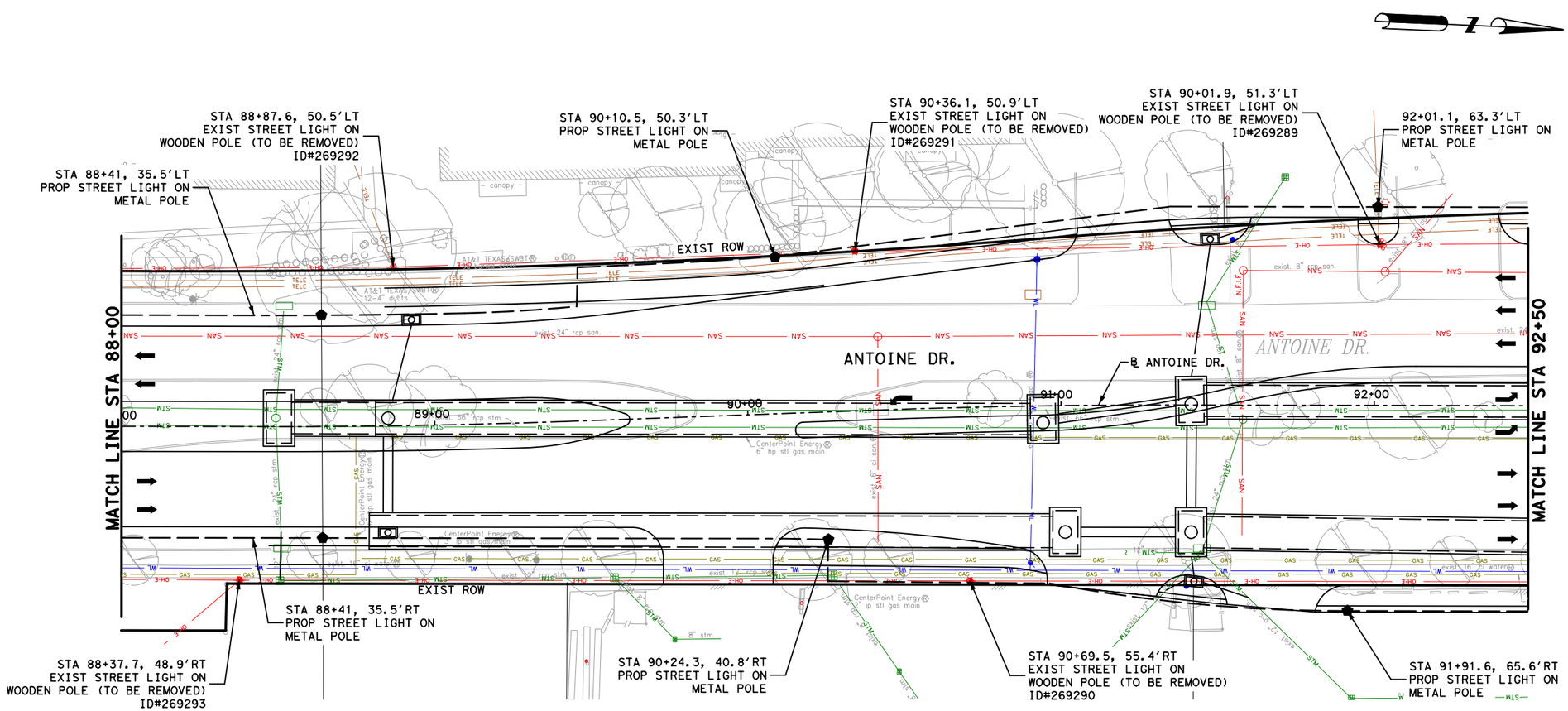

LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
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- PROP METAL STREET LIGHT POLE
- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

No.	DATE	REVISIONS	APP'D

NOTES:

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2. COORDINATE WITH CNP FOR DE-ENERGIZING AND POLE REMOVAL/DISPOSAL.
3. LOCATION OF STREETLIGHTS ARE APPROXIMATE.
4. ALL CONDUIT INSTALLATIONS MUST CONFIRM TO CPE SPECIFICATION LATEST EDITION, UNLESS OTHERWISE AUTHORIZED BY LIGHTING DESIGN SERVICES DEPARTMENT. REFER TO SHEETS xx-xx.
5. CABLING & STREETLIGHTS TO BE INSTALLED BY CENTERPOINT.
6. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES DUE TO CONDUITS INSTALLATION.
7. CONTRACTOR TO CALL (713) 954 3222 FOR THE ARRANGEMENT OF ENERGY STANDBY TIME 2" CONDUIT STUB UP.

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
$LUM9$
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 88+00 TO STA 92+50

SHEET 9 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 910 OF 1067	

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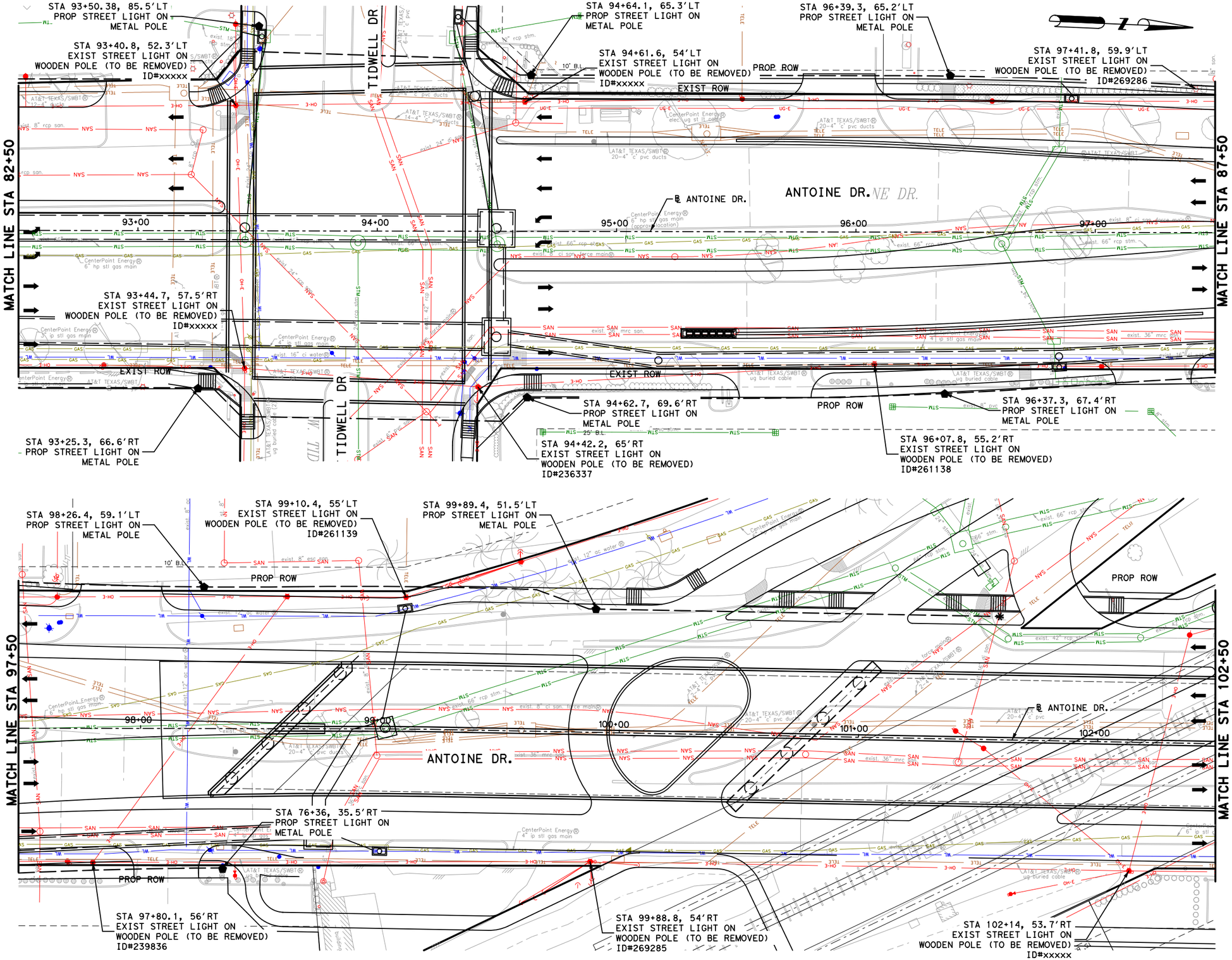

LEGEND

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No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 92+50 TO STA 102+50

SHEET 10 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 911 OF 1067	

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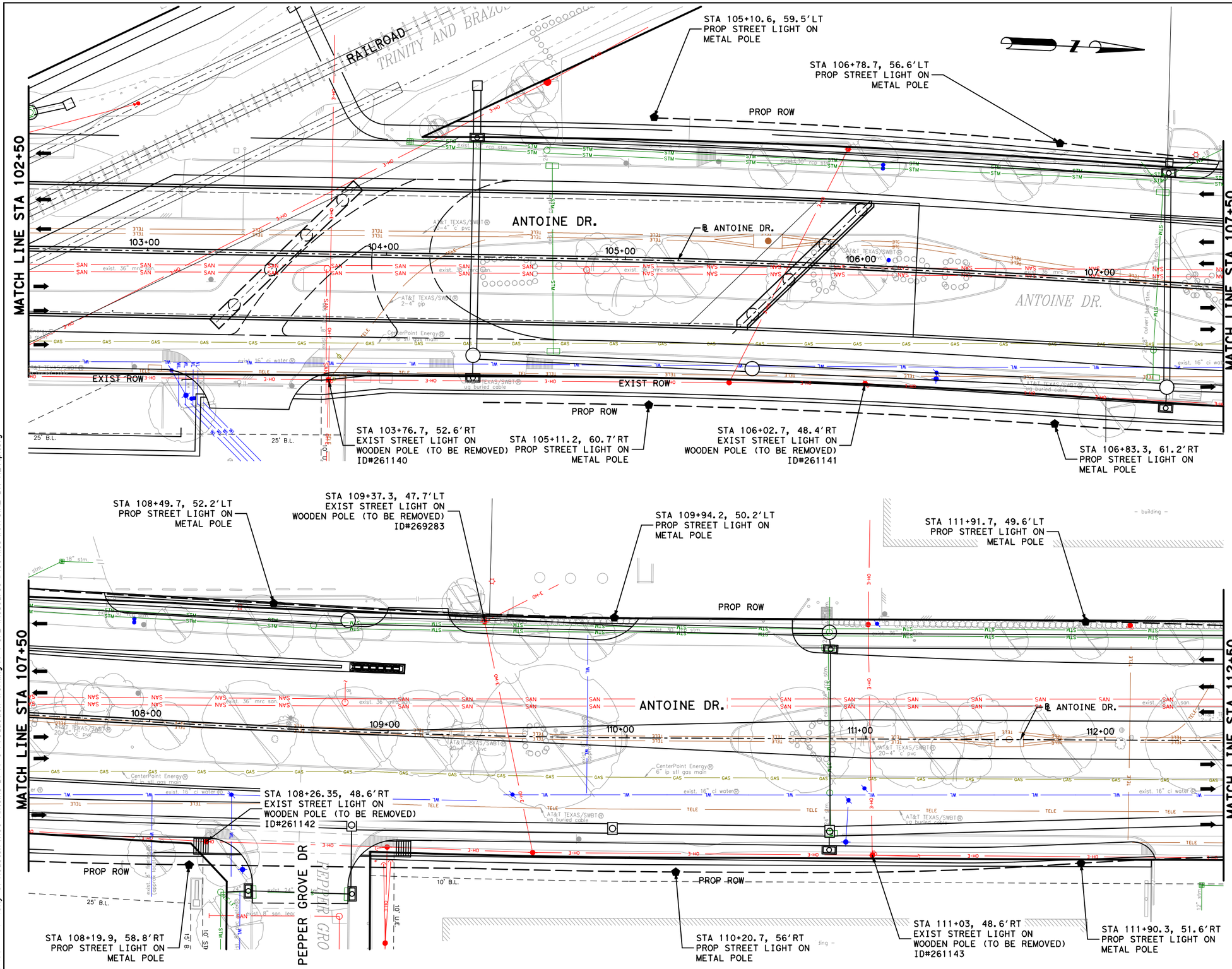

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TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 102+50 TO STA 112+50

SHEET 11 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 912 OF 1067	

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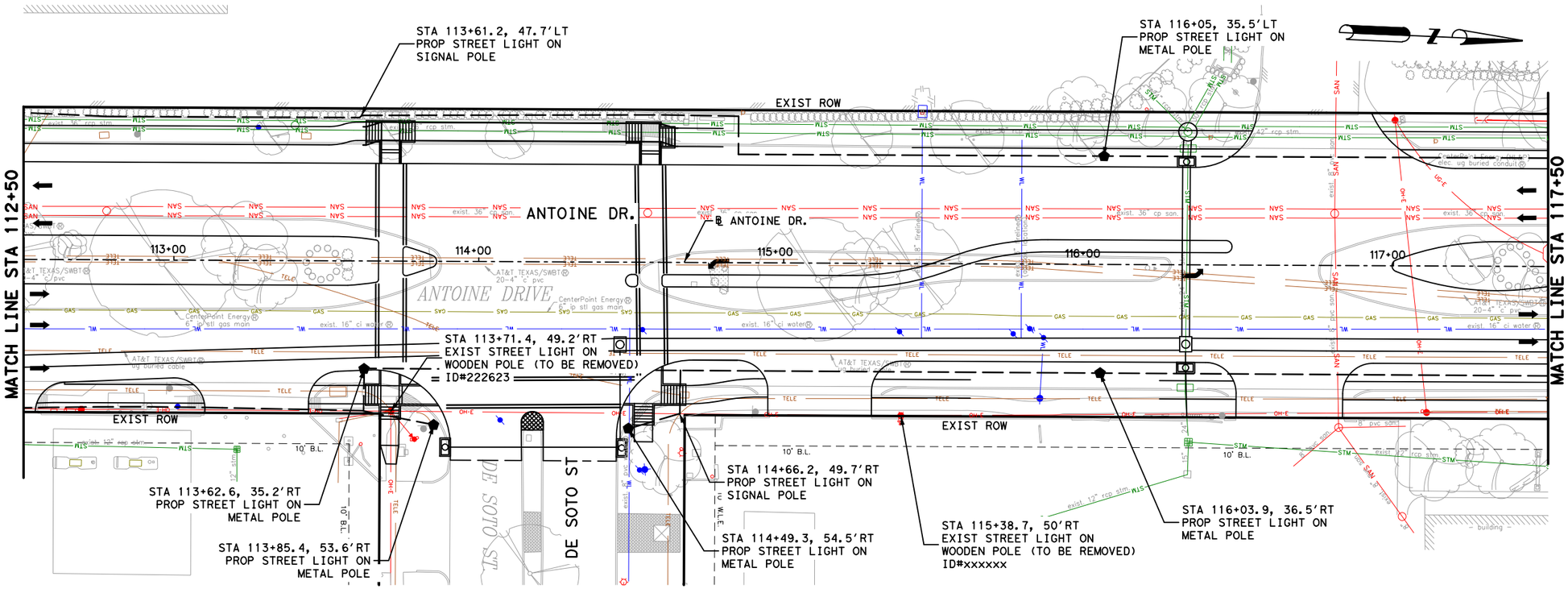

LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
- PROP METAL STREET LIGHT POLE
- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

NOTES:

1. EXIST STREET LIGHTS POLES, CONDUCT AND WIRING TO BE REMOVED.
2. COORDINATE WITH CNP FOR DE-ENERGIZING AND POLE REMOVAL/DISPOSAL.
3. LOCATION OF STREETLIGHTS ARE APPROXIMATE.
4. ALL CONDUIT INSTALLATIONS MUST CONFIRM TO CPE SPECIFICATION LATEST EDITION, UNLESS OTHERWISE AUTHORIZED BY LIGHTING DESIGN SERVICES DEPARTMENT. REFER TO SHEETS xx-xx.
5. CABLING & STREETLIGHTS TO BE INSTALLED BY CENTERPOINT.
6. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES DUE TO CONDUITS INSTALLATION.
7. CONTRACTOR TO CALL (713) 954 3222 FOR THE ARRANGEMENT OF ENERGY STANDBY TIME 2" CONDUIT STUB UP.

No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 102+50 TO STA 122+50

SHEET 12 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 913 OF 1067	

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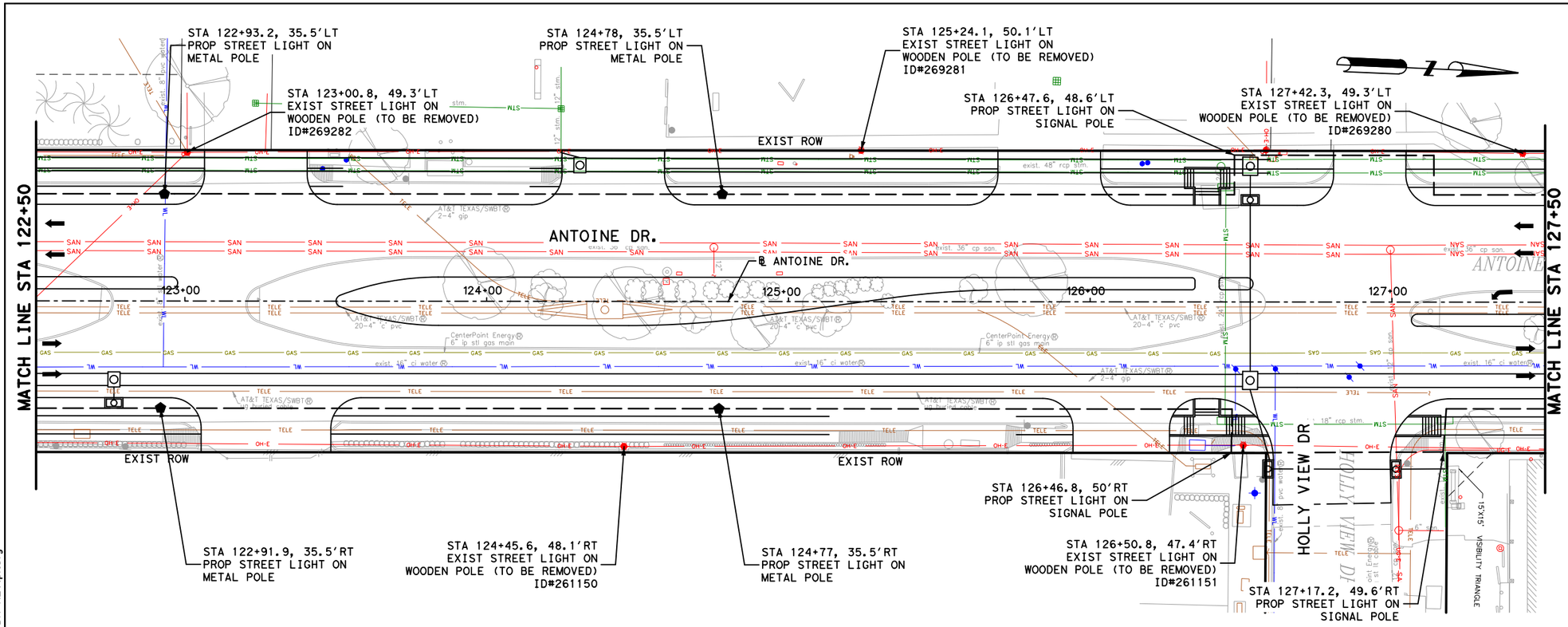

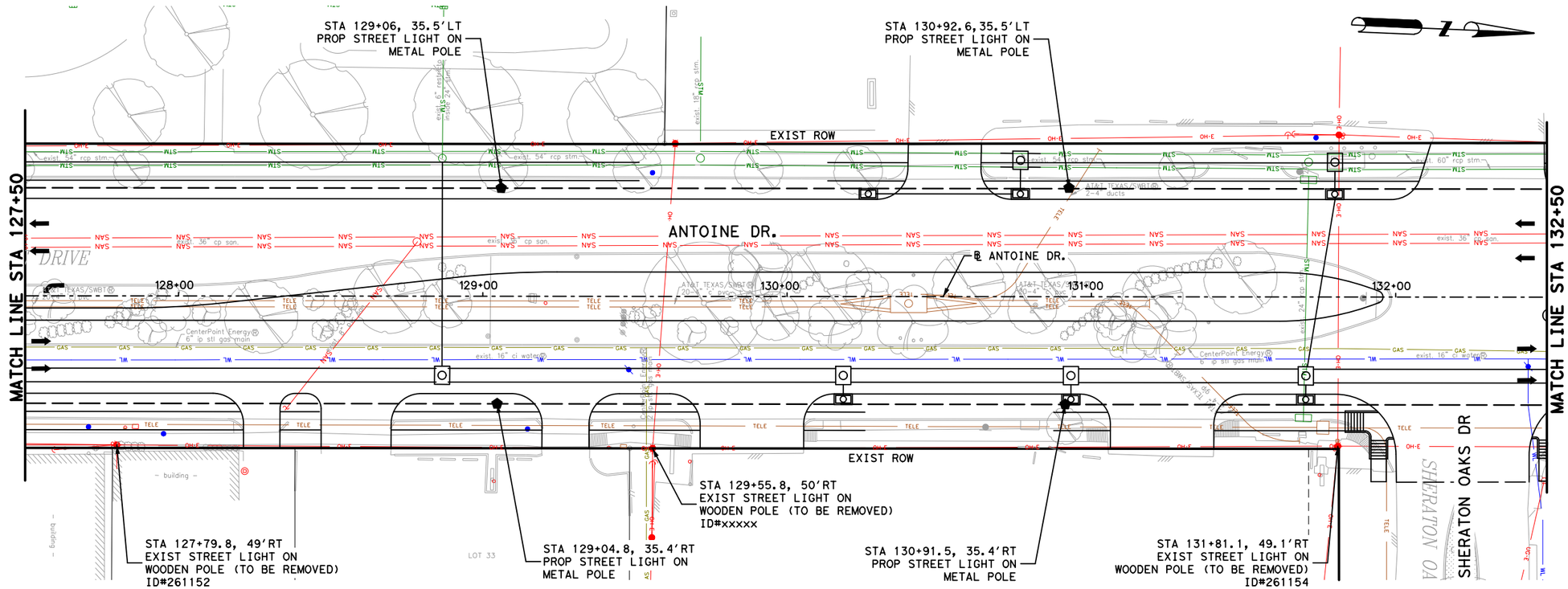

LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
- PROP METAL STREET LIGHT POLE
- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

NOTES:

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No.	DATE	REVISIONS	APP.

0′ 20′ 40′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 122+50 TO STA 132+50

SHEET 13 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 914 OF 1067	

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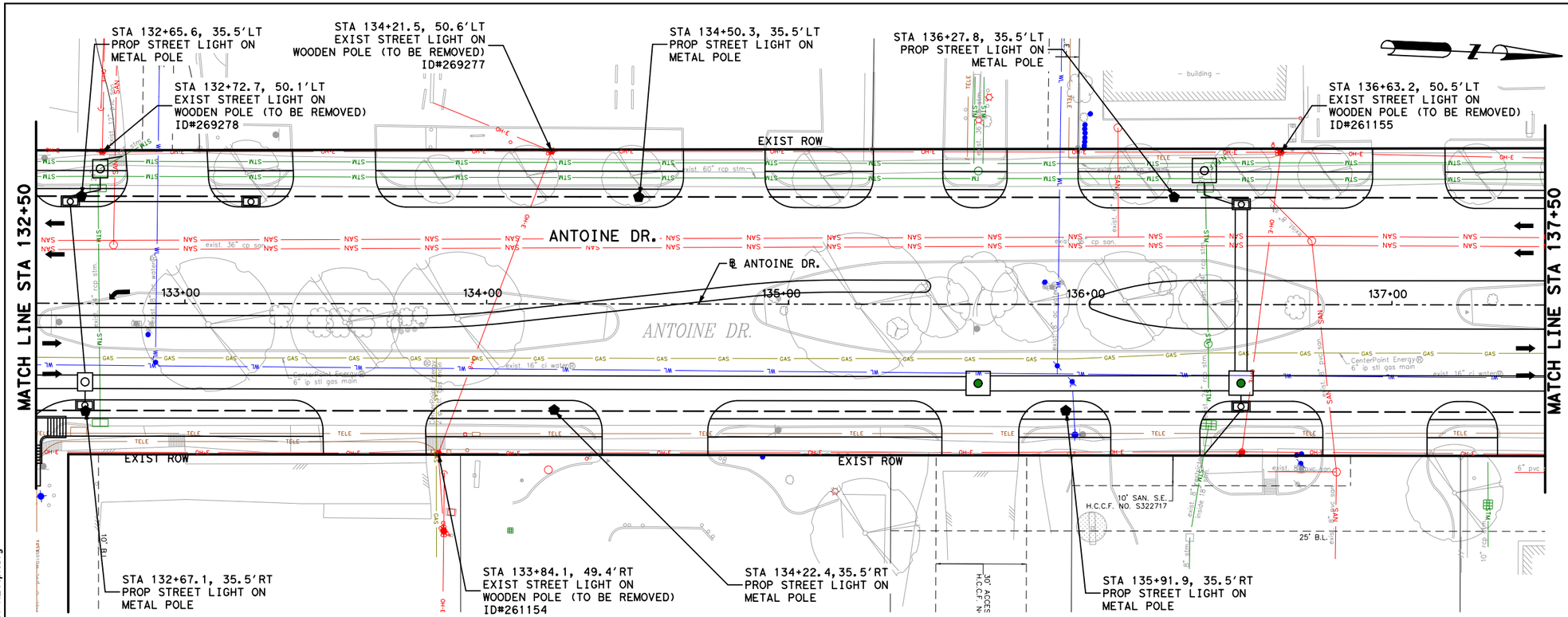

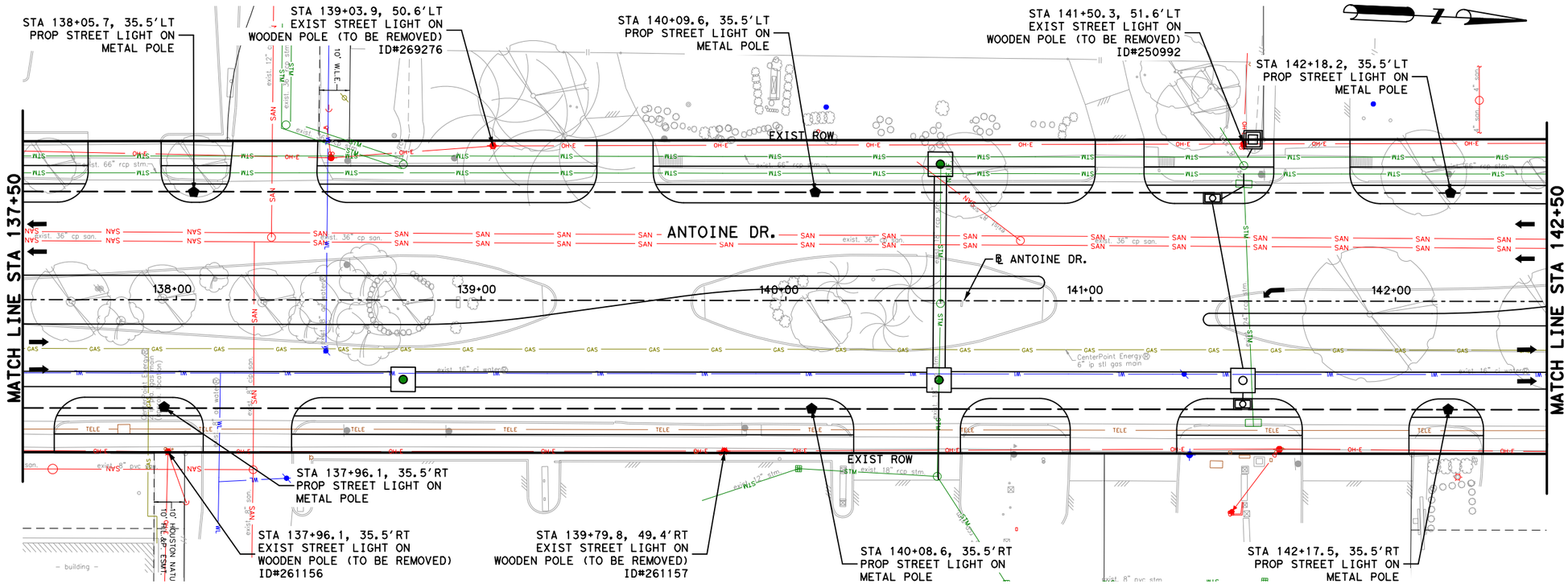

LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
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- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

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No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 132+50 TO STA 142+50

SHEET 14 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 915 OF 1067	

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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Lighting\PR_LIGHTING 14.dgn

STA 143+64.7, 52.3'LT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#261158

STA 144+14.4, 35.5'LT
PROP STREET LIGHT ON
METAL POLE

STA 145+94.2, 58.5'LT
PROP STREET LIGHT ON
METAL POLE

STA 145+81, 49.6'LT
PROP STREET LIGHT ON
SIGNAL POLE

EXIST ROW

STA 145+85.5, 52.4'LT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#269274

ANTOINE DR.

℄ ANTOINE DR.

MATCH LINE STA 142+50

143+00

144+00

145+00

146+00

ANTOINE DR.

STA 145+96.6, 70.3'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#251013

EXIST ROW

STA 145+77.4, 35.5'RT
PROP STREET LIGHT ON
METAL POLE

STA 143+34.9, 49.3'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#269275

STA 144+13.7, 35.5'RT
PROP STREET LIGHT ON
METAL POLE

STA 145+95, 62.4'RT
PROP STREET LIGHT ON
SIGNAL POLE

25' B.L.

W. LITTLE YORK

STA 146+64.0, 55.2'LT
PROP STREET LIGHT ON
SIGNAL POLE FACING W.
LITTLE YORK

STA 146+83.7, 35.5'LT
PROP STREET LIGHT ON
METAL POLE

147+00

STA 147+20.5, 49.7'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#268442

MATCH LINE STA 147+50

STA 146+71.3, 50.5'RT
PROP STREET LIGHT ON
SIGNAL POLE FACING
ANTOINE DR

STA 146+67.2, 69.5'RT
PROP STREET LIGHT ON
METAL POLE

LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
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- PROP STREET LIGHT ON EXIST WOODEN POLE
- PROP PVC CONDUIT AND CONDUCTORS

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No.	DATE	REVISIONS	APP.

STA 148+85.6, 41.7'LT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#225193

STA 148+76.0, 35.5'LT
PROP STREET LIGHT ON
METAL POLE

MATCH LINE STA 147+50

148+00

149+00

150+00

151+00

ANTOINE DR.

℄ ANTOINE DR.

EXIST ROW

STA 151+00.6, 48'LT
EXIST STREET LIGHT ON METAL
POLE (TO BE REMOVED)
ID#503058

STA 150+83.4, 48.3'LT
PROP PEDESTRIAN
CROSSING SIGNAL

MATCH LINE STA 152+50

152+00

STA 148+76.0, 35.5'RT
PROP STREET LIGHT ON
METAL POLE

STA 150+79.6, 52.8'RT
EXIST STREET LIGHT
PEDESTRIAN CROSSING SIGNAL
(TO BE REMOVED) ID#261154

STA 150+93.2, 43.2'RT
PROP STREET LIGHT ON
PROP PEDESTRIAN
CROSSING SIGNAL

LOT 3F

LOT 3C

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas 125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 142+50 TO STA 152+50

SHEET 15 OF 16

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 916 OF 1067	

Plotted on: 3/12/2026 2:19:46 PM $USER$
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STA 153+30.0, 35.5'LT
PROP STREET LIGHT ON
METAL POLE

STA 153+45.4, 48.2'LT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#503223

STA 154+50.0, 35.9'LT
PROP STREET LIGHT ON
METAL POLE

STA 155+28.5, 43.8'LT
EXIST STREET LIGHT ON metal
POLE (TO BE REMOVED)
ID#480832

STA 156+62.0, 36.3'LT
PROP STREET LIGHT ON
METAL POLE

STA 156+95.8, 43.9'LT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#480837

STA 155+10.0, 34.9'RT
PROP STREET LIGHT ON
METAL POLE

STA 153+53.7, 49.1'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#503224

STA 153+30.0, 35.1'RT
PROP STREET LIGHT ON
METAL POLE

STA 155+29.4, 43'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#480833

STA 156+90.0, 34.7'RT
PROP STREET LIGHT ON METAL
POLE

STA 156+96.2, 43.3'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#480830

STA 158+58.5, 85.2'LT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#269277

STA 158+26.9, 42.8'LT
EXIST STREET LIGHT ON WOODEN
POLE (TO BE REMOVED)
ID#480829

STA 159+10.6, 35.5'RT
PROP STREET LIGHT ON
METAL POLE

STA 159+18.4, 42.6'RT
EXIST STREET LIGHT ON
WOODEN POLE (TO BE REMOVED)
ID#490668

LEGEND

- EXIST WOODEN POWER POLE WITH LIGHT (TO REMAIN)
- EXIST METAL STREET LIGHT POLE (TO REMAIN)
- EXIST STREET LIGHT ON WOODEN POLE (TO BE REMOVED)
- EXIST METAL STREET LIGHT POLE (TO BE REMOVED)
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- PROP PVC CONDUIT AND CONDUCTORS

NOTES:

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No.	DATE	REVISIONS	APP.

0' 20' 40'
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

ILLUMINATION LAYOUT
STA 152+50 TO END PROJECT

SHEET 16 OF 16

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	917 OF 1067

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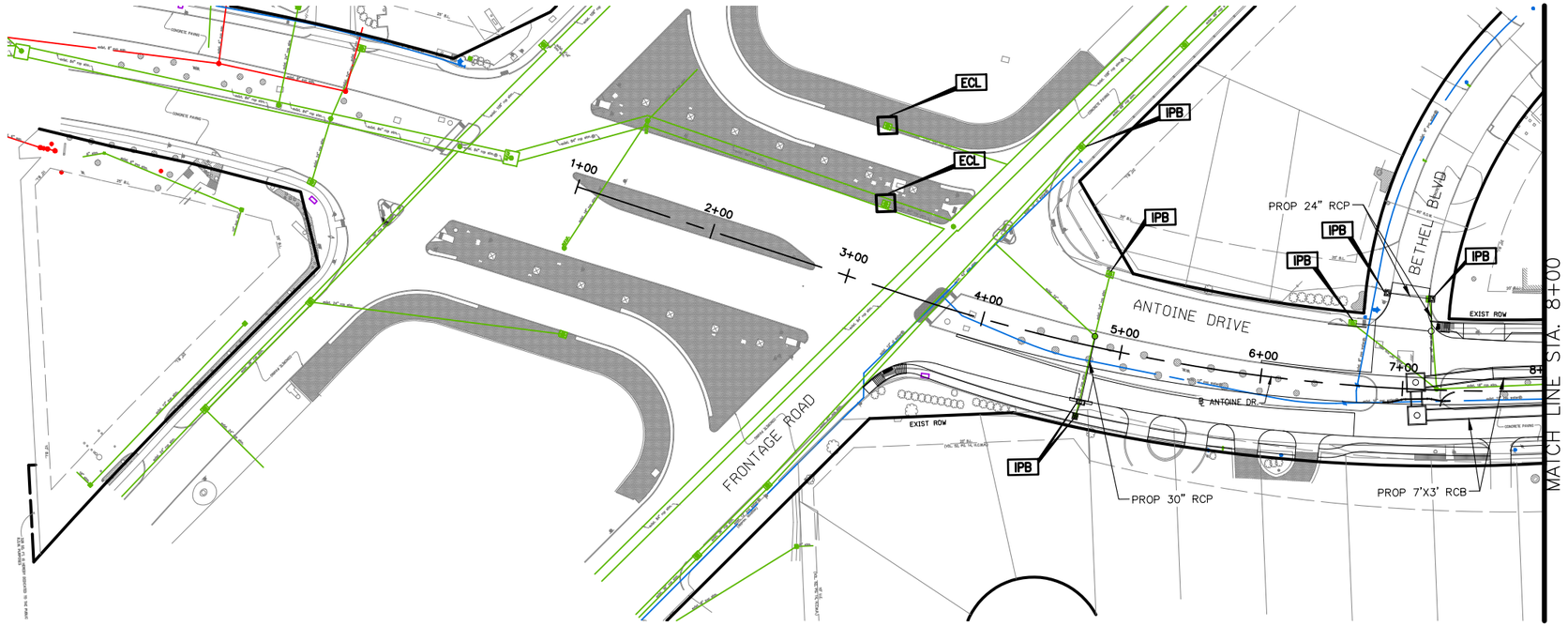

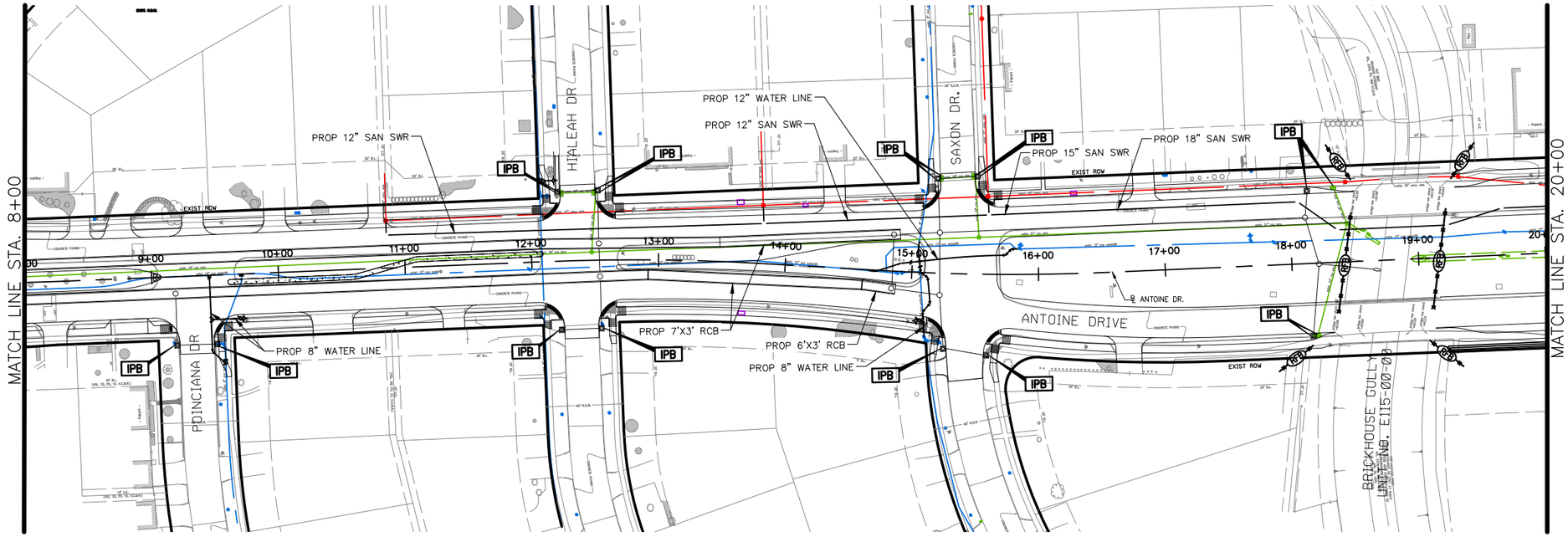

LEGEND:

—x—(RFB)—x—	REINFORCED FILTER FABRIC FENCE
IPB	INLET PROTECTION BARRIER
ECL	EROSION CONTROL LOG

NOTES

1. CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ACCESS AT ALL THE TIME DURING CONSTRUCTION INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER. EXACT LOCATION TO BE DETERMINED BY THE CONTRACTOR.
2. ADDITIONAL SWPPP MEASURES MAY BE APPLIED ADJACENT TO THE PROJECT AREA IF APPROPRIATE (EG. DAILY STREET SWEEPING).
3. CONTRACTOR SHALL PROVIDE STABILIZED STAGING/PARKING AREA.
4. CONTRACTOR SHALL MAINTAIN REINFORCED FILTER FABRIC FENCE AT ALL THE TIMES DURING CONSTRUCTION.
5. REFER TO STORM WATER POLLUTION DETAILS FOR NOTES AND DETAIL.
6. ALL PROPOSED CURB INLETS REQUIRE STAGE I AND STAGE II INLET PROTECTION.

No.	DATE	REVISIONS	APP.

0' 50' 100'
SCALE IN FEET

Texas Department of Transportation
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KUO & associates
Consulting Engineers & Surveyors
10300 Westoffice Dr., Ste 800, Houston, Texas 77042
Tel: 713-975-9769, Fax: 713-975-0920
www.kuoassociates.com
Texas Firm Registration No. F-4578
TBPLS Firm Registration No. 10075600

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Engineer
154844
License
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Date
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Texas Registered Engineering Firm F-4578

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORMWATER POLLUTION PREVEVENTION PLAN

SHEET 1 OF 3

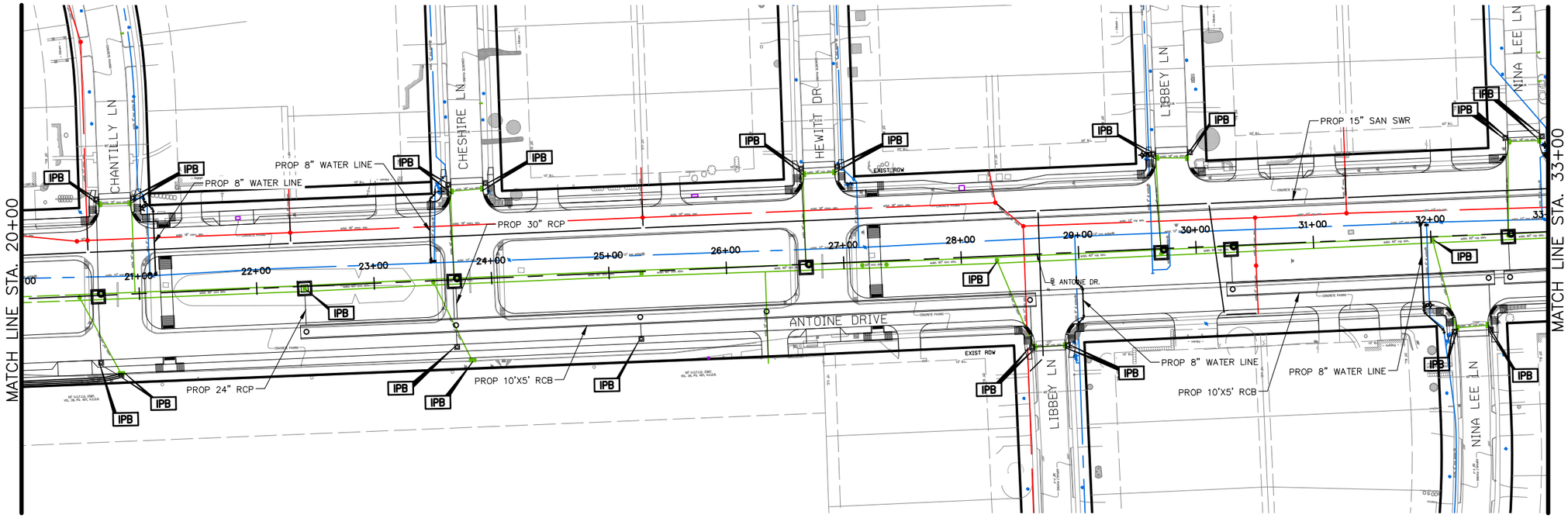
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
H: 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 918 1067	

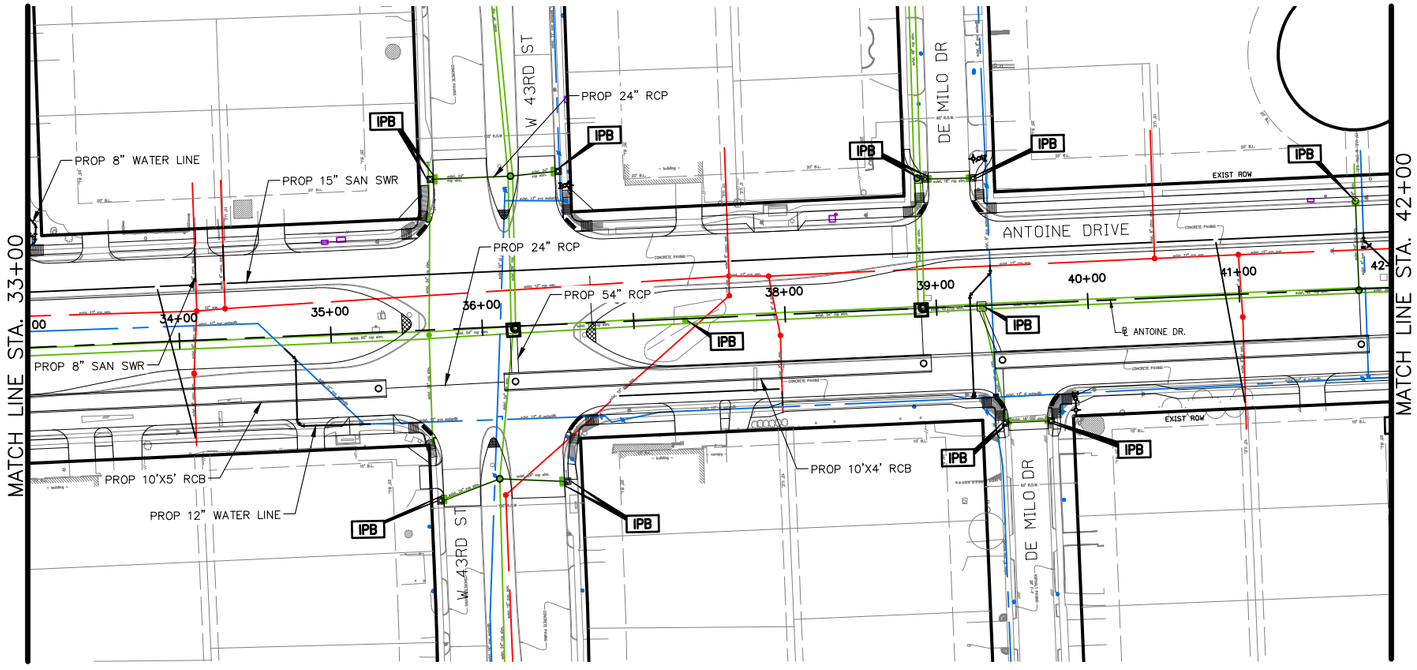
Plotted on: $DATE$ $TIME$ $USER$
Pen Table:$PENTBL$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$

LEGEND:

- RFB — REINFORCED FILTER FABRIC FENCE
- IPB — INLET PROTECTION BARRIER
- ECL — EROSION CONTROL LOG





0′ 50′ 100′
SCALE IN FEET

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No.	DATE	REVISIONS	APP.

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www.kuoassociates.com
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Texas Registered Engineering Firm F-4578

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORMWATER POLLUTION PREVEVENTION PLAN

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
H: 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 919 1067	

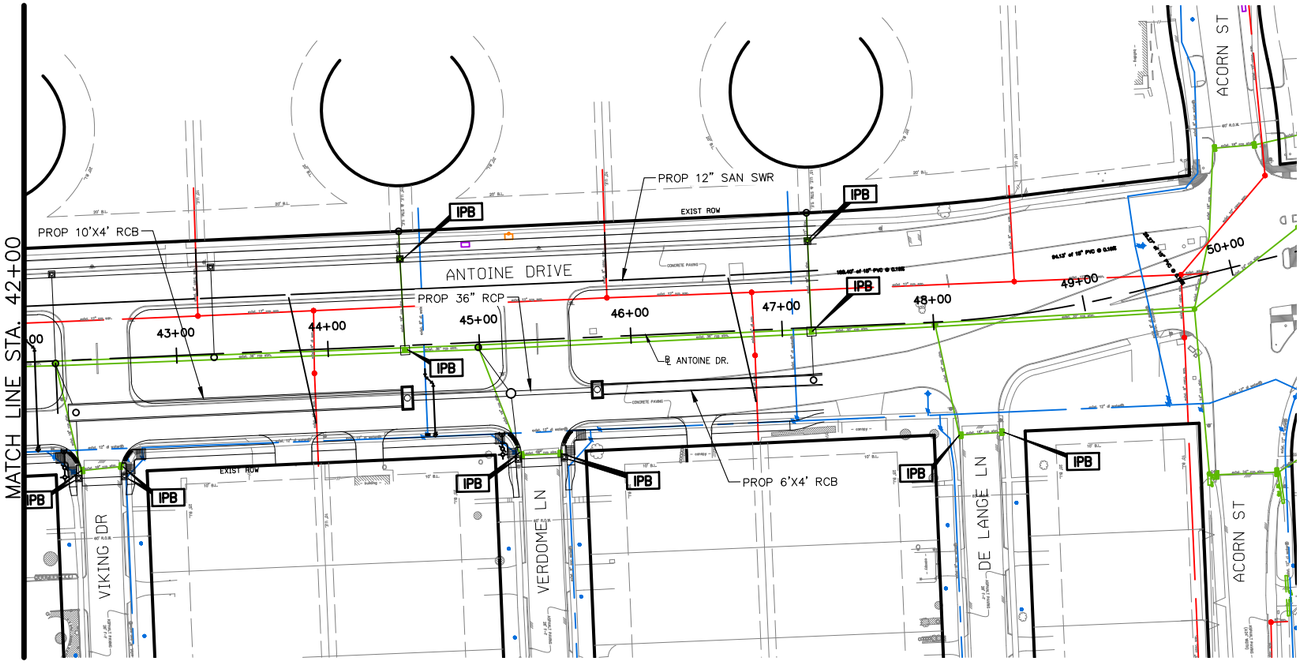
Pen Table:$PENTBL$
Plot Driver:$PLTDRVL$
Design Filename: $FILEL$

Plotted on: $DATE$ $TIME$ $USER$

LEGEND:

- RFB — REINFORCED FILTER FABRIC FENCE
- IPB — INLET PROTECTION BARRIER
- ECL — EROSION CONTROL LOG

No.	DATE	REVISIONS	APP.



0′ 50′ 100′
SCALE IN FEET

NOTES

1. CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ACCESS AT ALL THE TIME DURING CONSTRUCTION INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER. EXACT LOCATION TO BE DETERMINED BY THE CONTRACTOR.
2. ADDITIONAL SWPPP MEASURES MAY BE APPLIED ADJACENT TO THE PROJECT AREA IF APPROPRIATE (EG. DAILY STREET SWEEPING).
3. CONTRACTOR SHALL PROVIDE STABILIZED STAGING/PARKING AREA.
4. CONTRACTOR SHALL MAINTAIN REINFORCED FILTER FABRIC FENCE AT ALL THE TIMES DURING CONSTRUCTION.
5. REFER TO STORM WATER POLLUTION DETAILS FOR NOTES AND DETAIL.
6. ALL PROPOSED CURB INLETS REQUIRE STAGE I AND STAGE II INLET PROTECTION.

Texas Department of Transportation
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KUO & associates
Consulting Engineers & Surveyors
10300 Westoffice Dr., Ste 800, Houston, Texas 77042
Tel: 713-975-8769, Fax: 713-975-0920
www.kuoassociates.com
Texas Firm Registration No. F-4578
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154844
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORMWATER POLLUTION PREVEVENTION PLAN

SHEET 3 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
H: 1"=100'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 920 1067	

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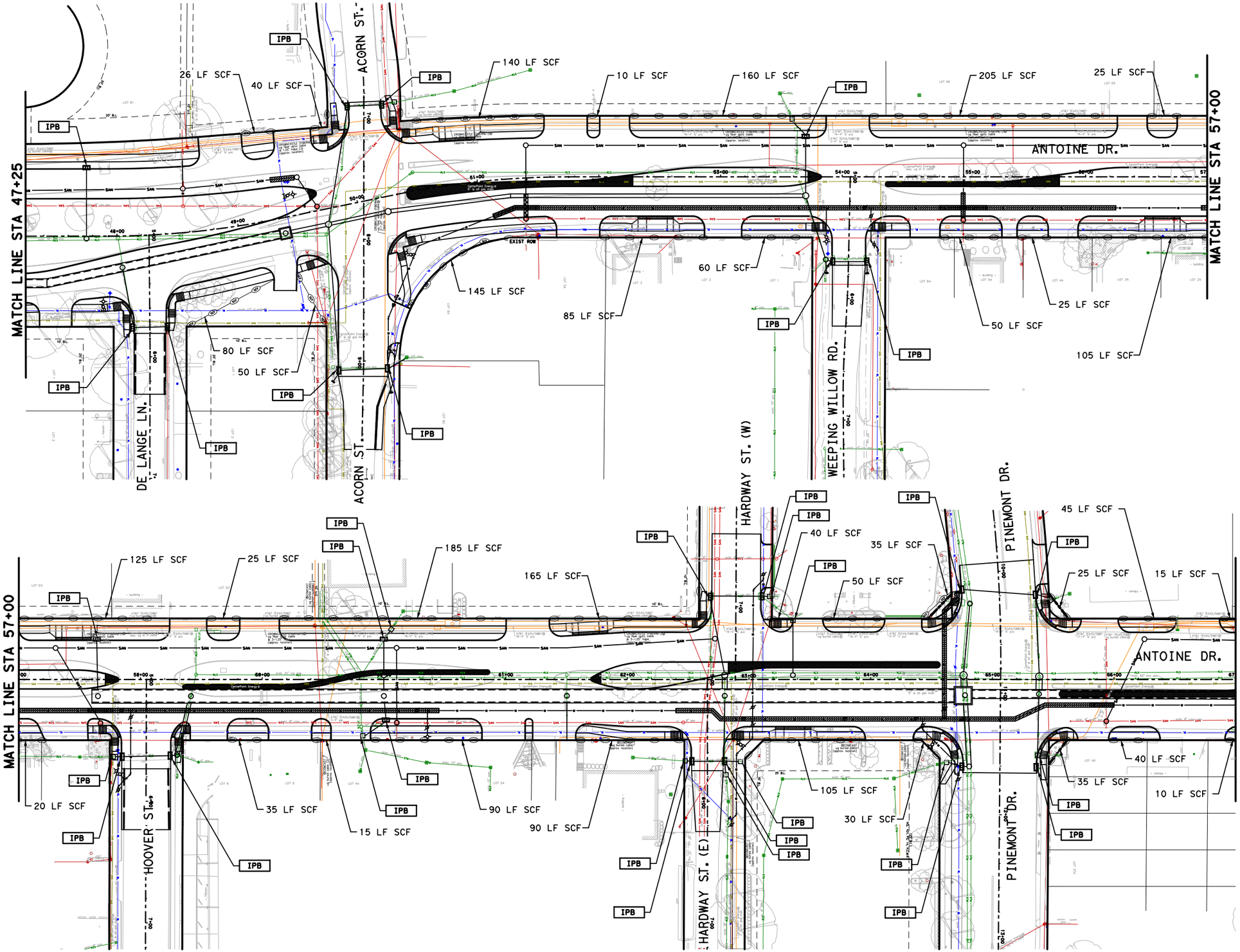

SW3P LEGEND

SCF — SEDIMENT CONTROL FENCE

IPB — INLET PROTECTION BARRIER

NOTE:

1. CONTRACTOR TO PLACE STABILIZED CONSTRUCTION ACCESS AS DIRECTED BY ENGINEER AT PRE-CONSTRUCTION MEETING.
2. CONTRACTOR TO PLACE CONCRETE TRUCK WASH AREA AS DIRECTED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING.
3. BLOCK SOD SHALL BE PLACED BETWEEN SIDEWALK AND CURB AND BETWEEN SIDEWALK AND ROW.
4. ALL PROPOSED CURB INLETS REQUIRE STAGE I AND STAGE II INLET PROTECTION, WHENEVER APPLICABLE.
5. REFER TO STORM WATER POLLUTION PREVENTION PLAN DETAIL SHEETS FOR ADDITIONAL INFORMATION.
6. REFER TO DRAINAGE P&P SHEETS FOR ADDITIONAL INFORMATION.

0' 40' 80'
SCALE IN FEET

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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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JEFFREY ROBERT LEUGERS
Date: 91874
3/10/2026
Date: 60% SUBMITTAL
RS&H, Inc.
Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE
STORM WATER POLLUTION PREVENTION PLAN
STA 47+25 TO STA 67+00

SHEET 04 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 921 OF 1067	

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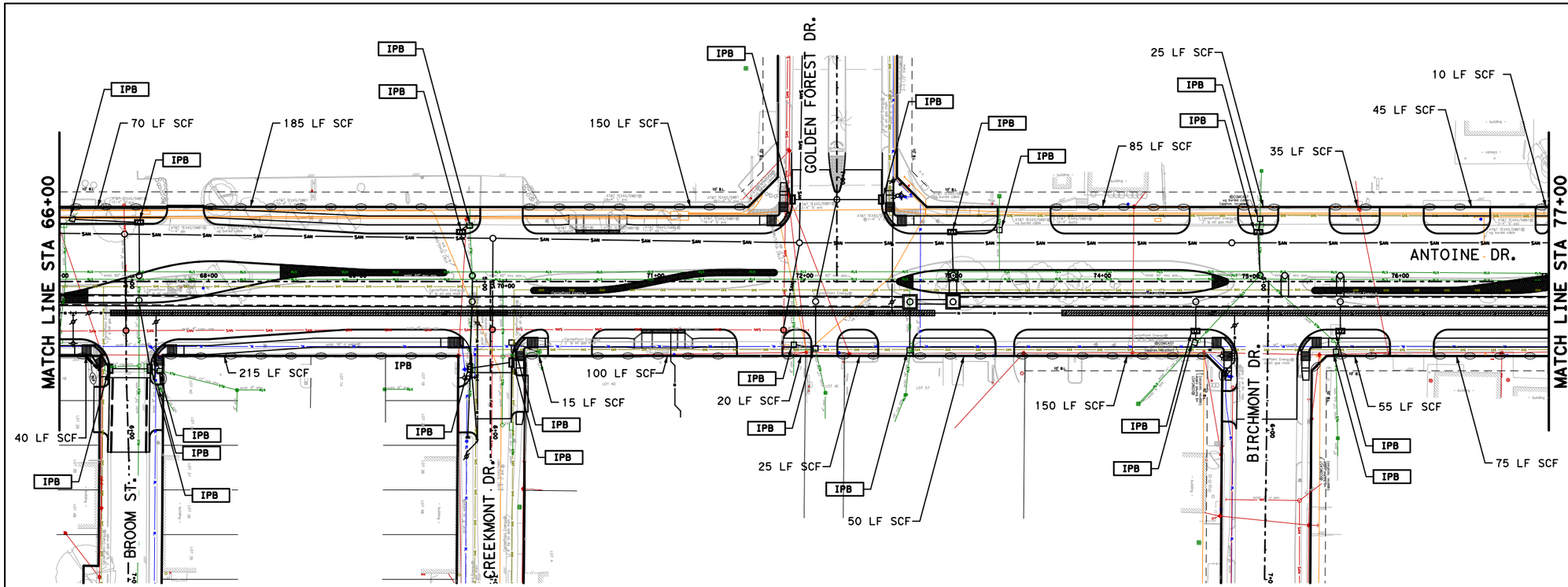

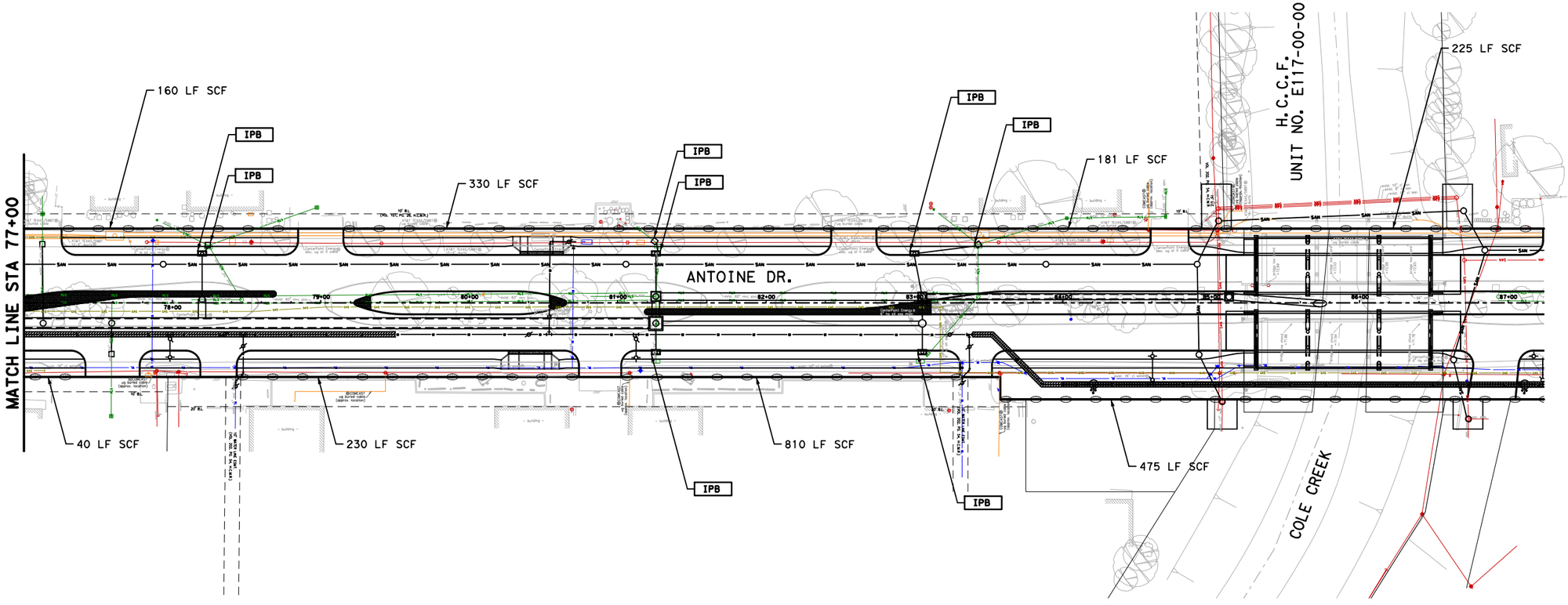

SW3P LEGEND

SCF — SEDIMENT CONTROL FENCE

IPB — INLET PROTECTION BARRIER

NOTE:

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5. REFER TO STORM WATER POLLUTION PREVENTION PLAN DETAIL SHEETS FOR ADDITIONAL INFORMATION.
6. REFER TO DRAINAGE P&P SHEETS FOR ADDITIONAL INFORMATION.

0′ 40′ 80′
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE STORM WATER POLLUTION PREVENTION PLAN STA 67+00 TO STA 87+20

SHEET 05 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 922 OF 1067	

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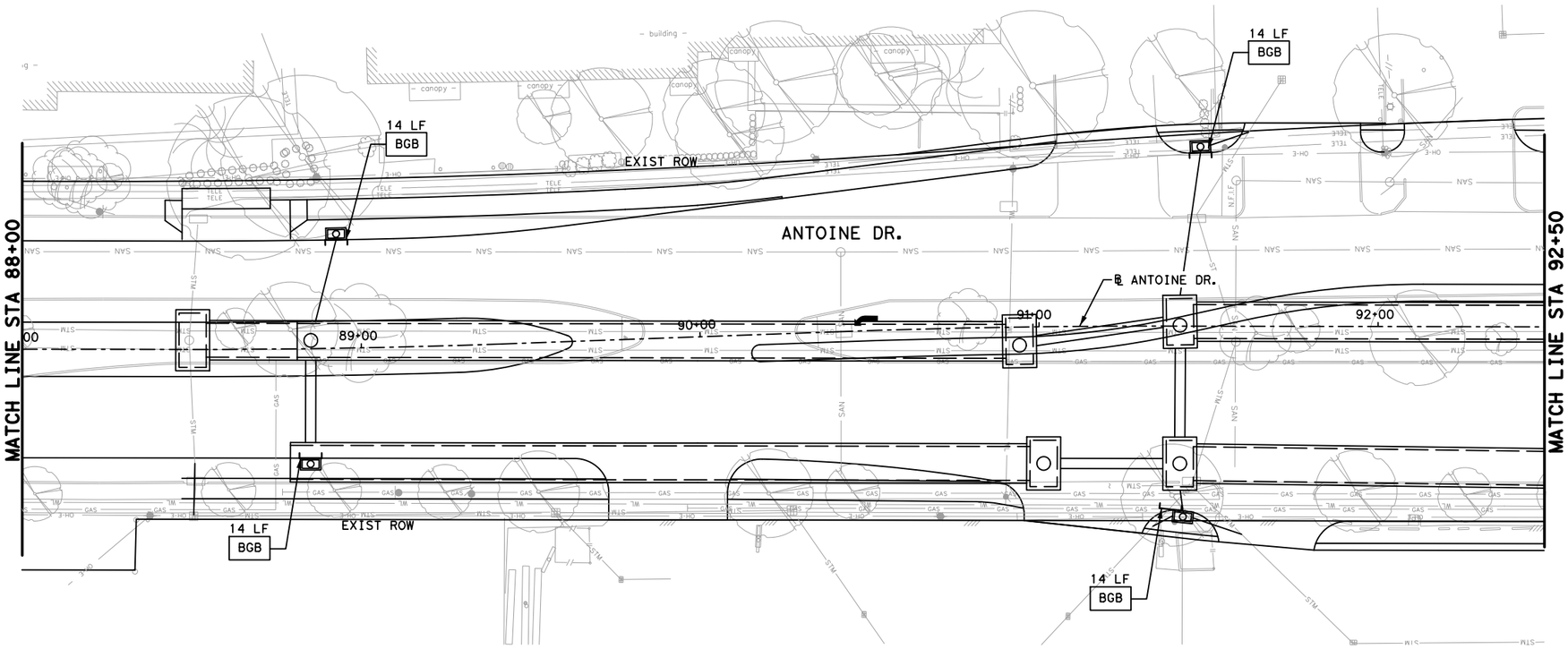
LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

No.	DATE	REVISIONS	APP.



NOTE:

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5. REFER TO DRAINAGE P&P SHEETS FOR ADDITIONAL INFORMATION.

0′ 40′ 80′
SCALE IN FEET

Texas Department of Transportation

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TEXAS PE FIRM REG. # 20017
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HOUSTON, TX 77079

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12561
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
$LUM9$
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 88+00 TO STA 92+50

SHEET 6 OF 13

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO. 923 OF 1067	

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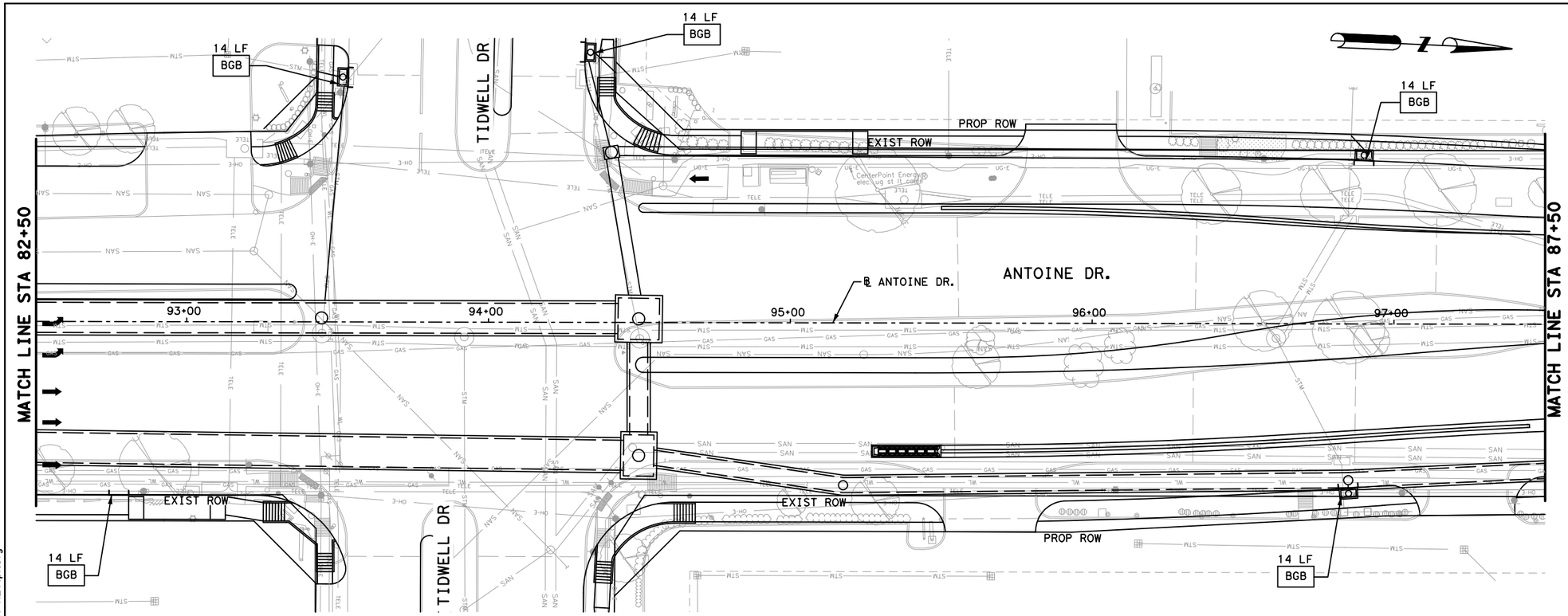

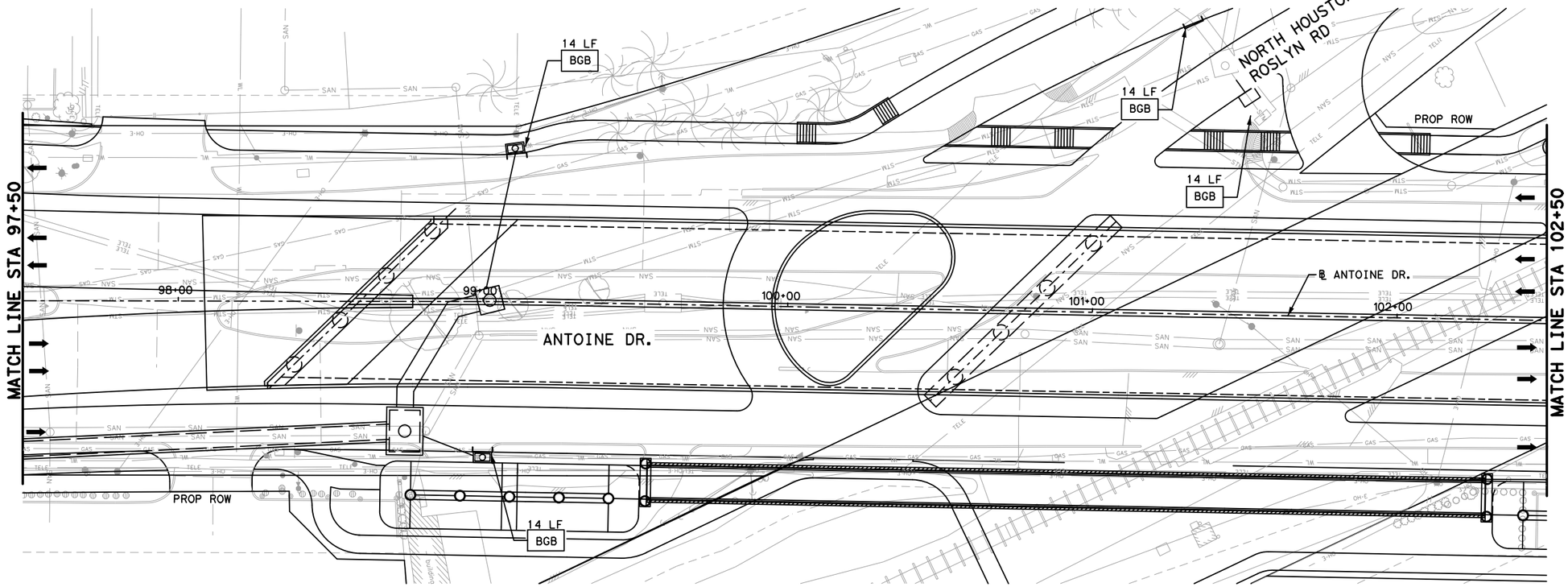

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

1. CONTRACTOR TO PLACE STABILIZED CONSTRUCTION ACCESS AS DIRECTED BY ENGINEER AT PRE-CONSTRUCTION MEETING.
2. CONTRACTOR TO PLACE CONCRETE TRUCK WASH AREA AS DIRECTED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING.
3. BLOCK SOD SHALL BE PLACED BETWEEN SIDEWALK AND CURB AND BETWEEN SIDEWALK AND ROW.
4. REFER TO STORM WATER POLLUTION PREVENTION PLAN DETAIL SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DRAINAGE P&P SHEETS FOR ADDITIONAL INFORMATION.

No.	DATE	REVISIONS	APP.

0′ 40′ 80′
SCALE IN FEET

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 92+50 TO STA 102+50

SHEET 7 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 924 OF 1067	

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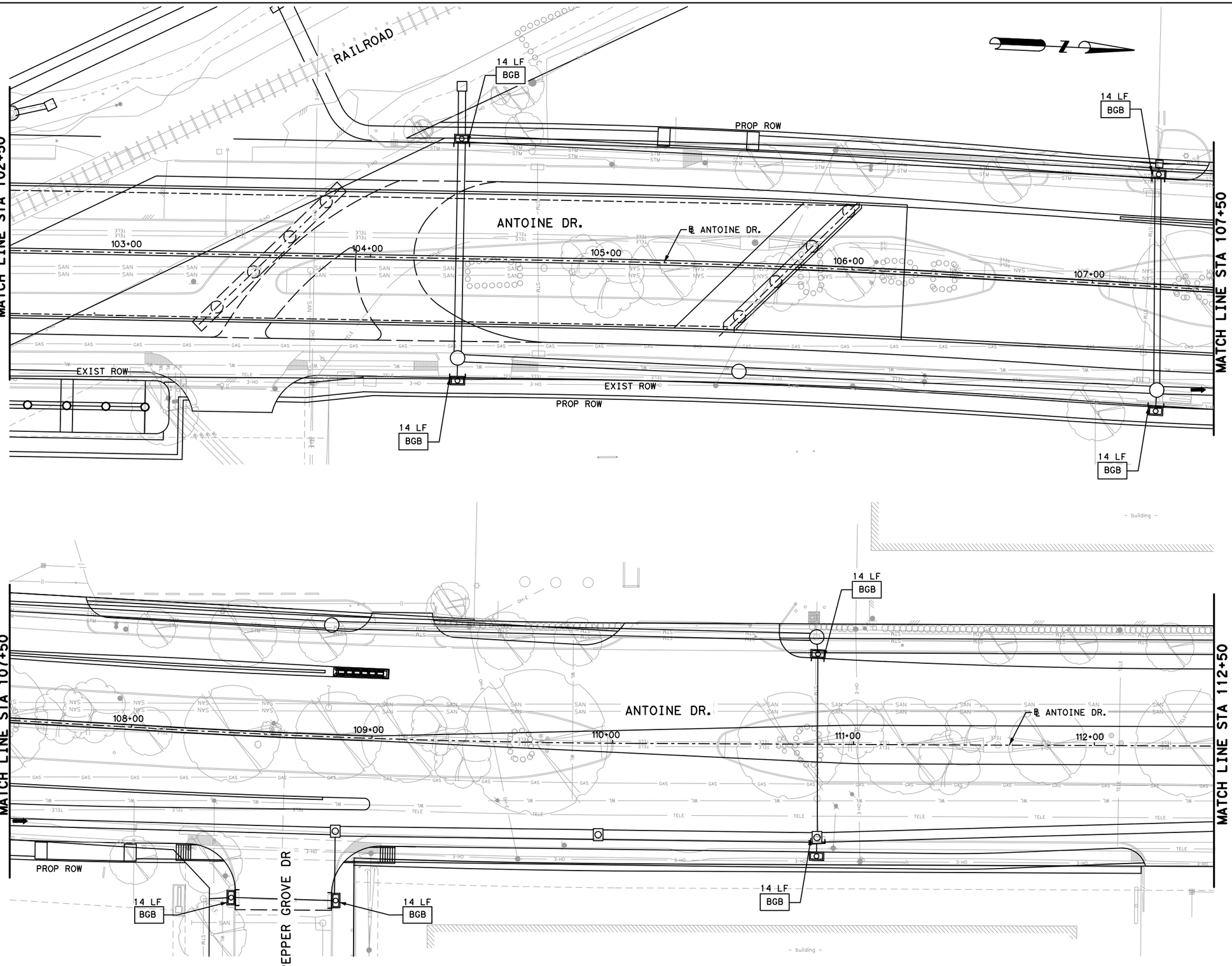

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

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0′ 40′ 80′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 102+50 TO STA 112+50

SHEET 8 OF 13

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	925 OF 1067

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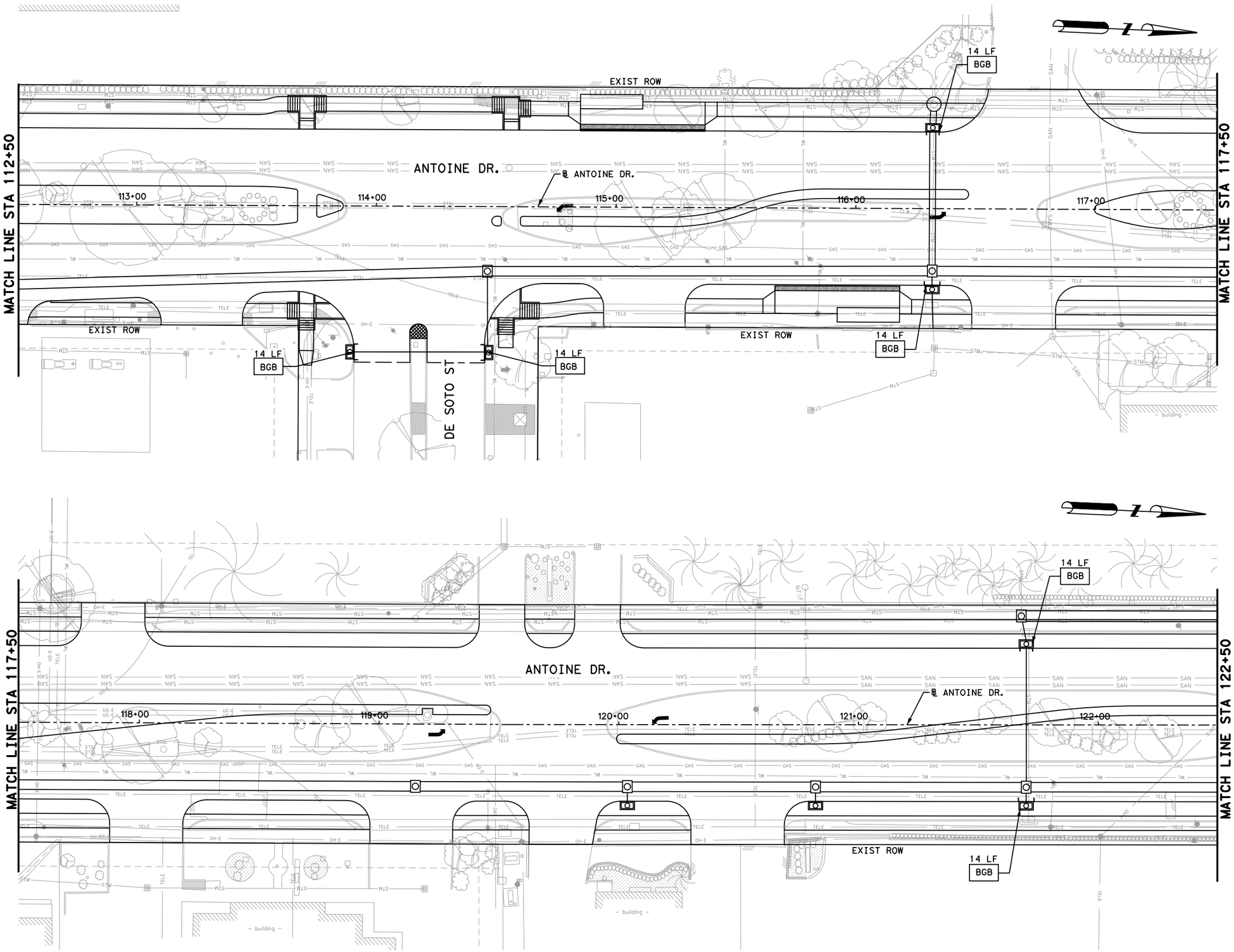

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

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0′ 40′ 80′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 102+50 TO STA 122+50

SHEET 9 OF 13

WBS NUMBER	N-100030-0GEC-3
DRAWING SCALE	AS NOTED
CITY OF HOUSTON PM	ROWAIDAH AYOUB
SHEET NO.	926 OF 1067

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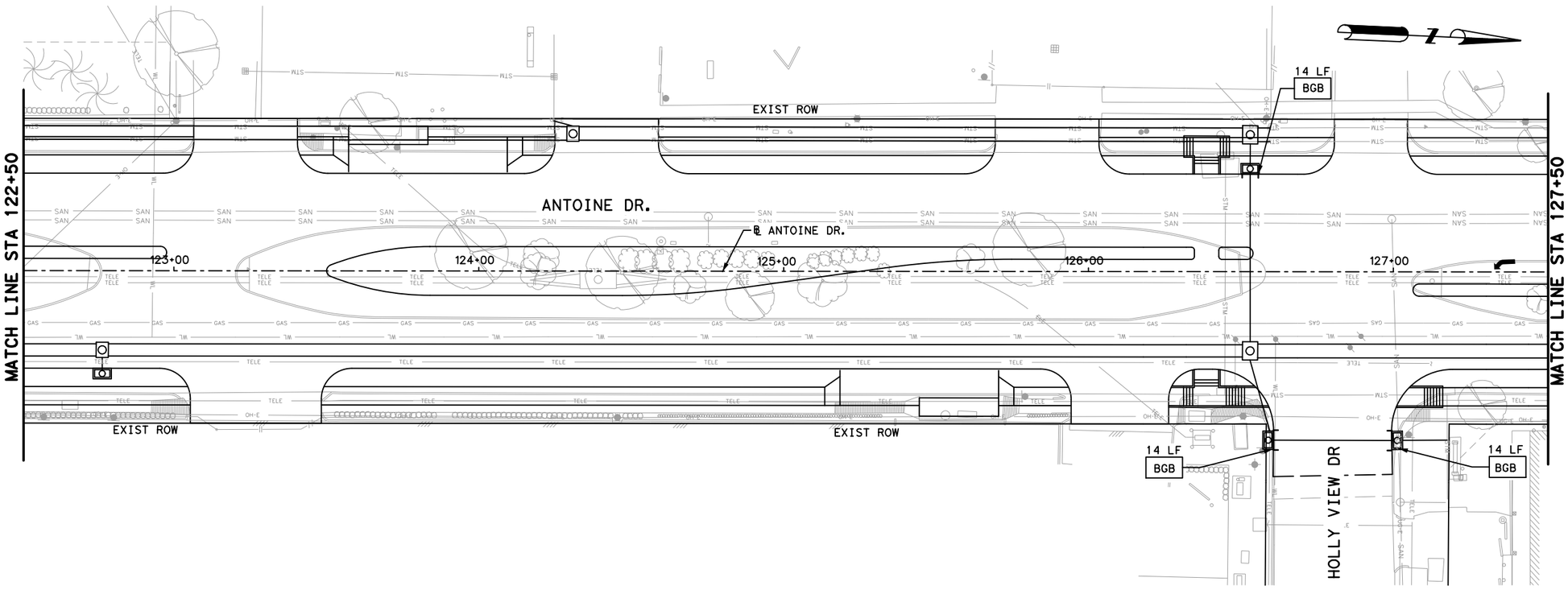

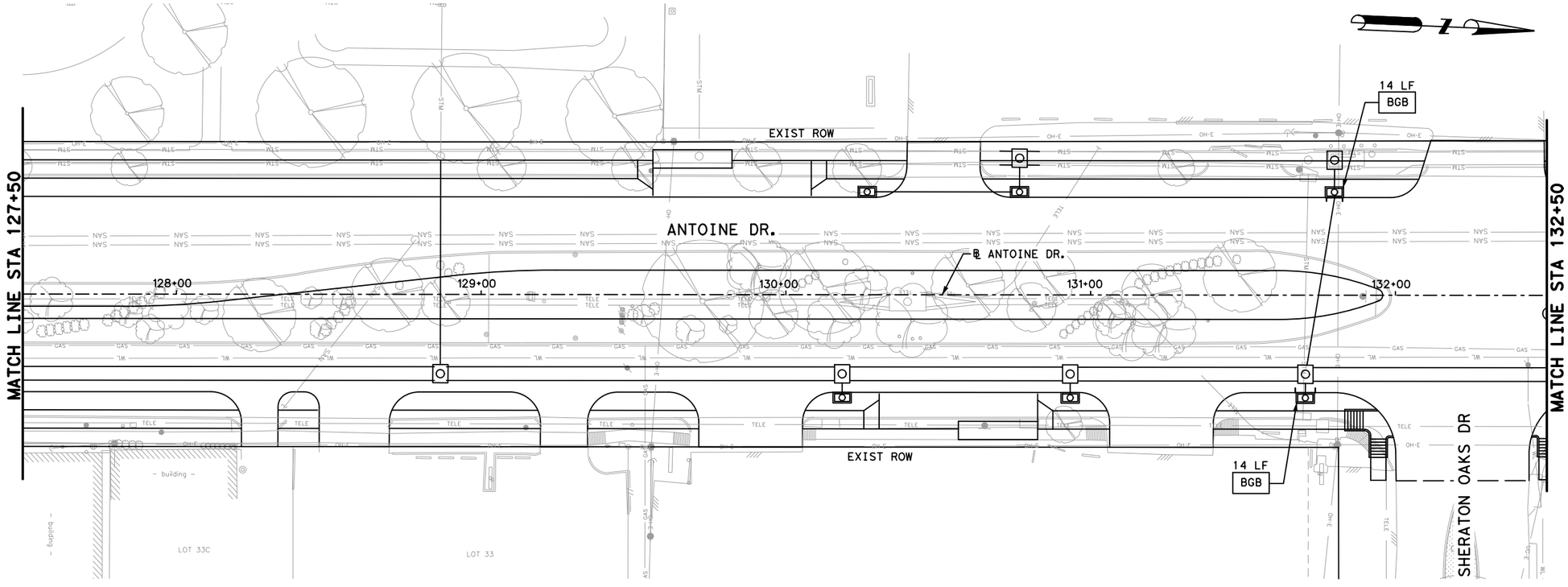

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

1. CONTRACTOR TO PLACE STABILIZED CONSTRUCTION ACCESS AS DIRECTED BY ENGINEER AT PRE-CONSTRUCTION MEETING.
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No.	DATE	REVISIONS	APP.

0′ 40′ 80′
SCALE IN FEET

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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P.E. No. 125611
3/13/2026
Date
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 122+50 TO STA 132+50

SHEET 10 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 927 OF 1067	

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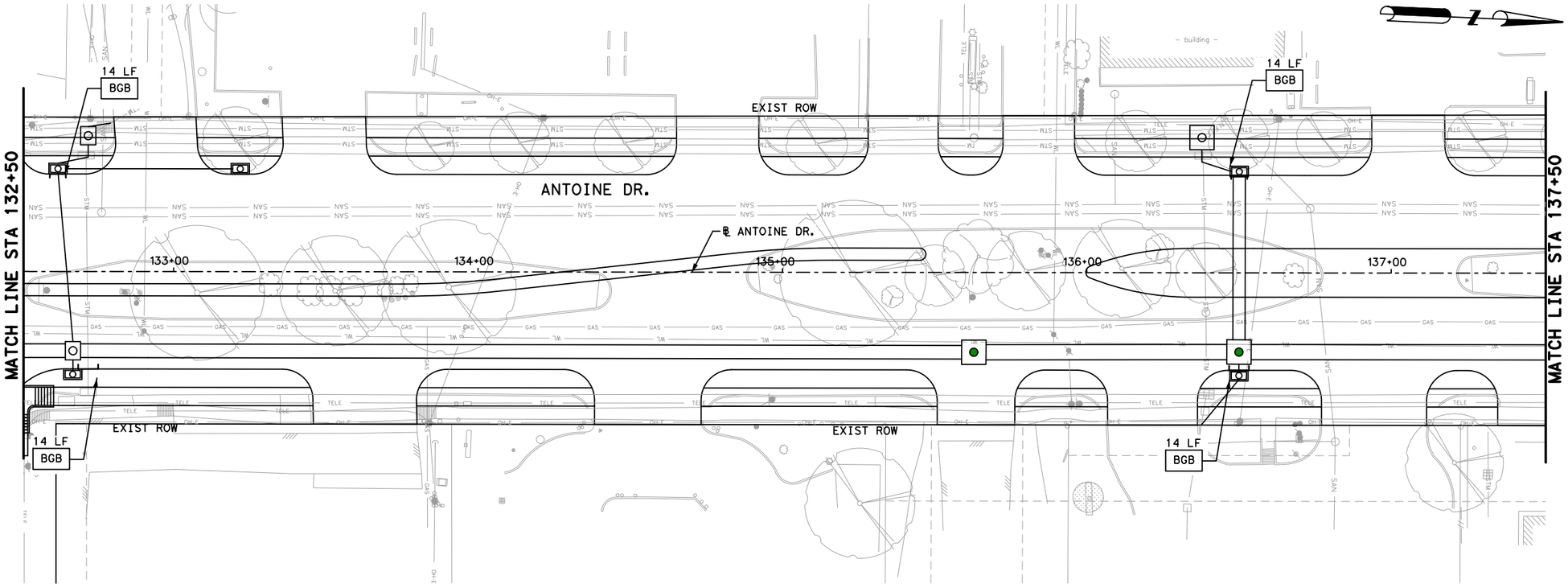

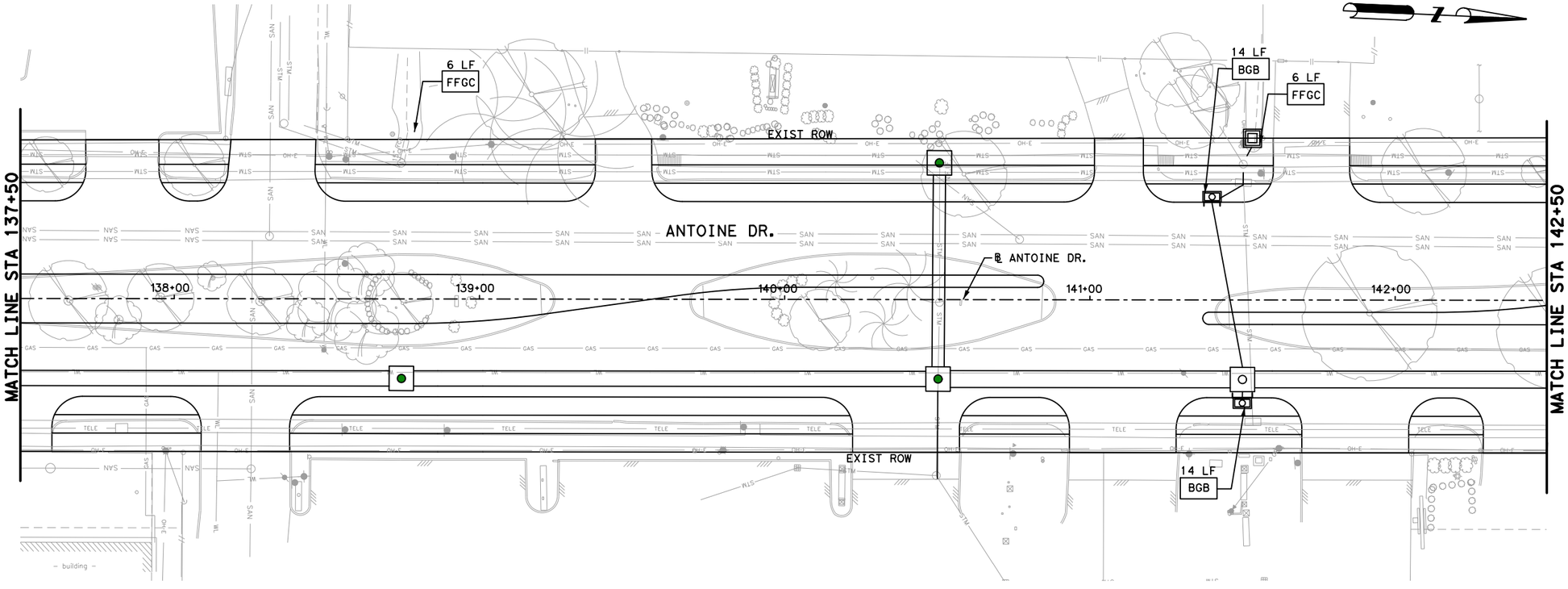

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

1. CONTRACTOR TO PLACE STABILIZED CONSTRUCTION ACCESS AS DIRECTED BY ENGINEER AT PRE-CONSTRUCTION MEETING.
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0′ 40′ 80′
SCALE IN FEET

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 132+50 TO STA 142+50

SHEET 11 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 928 OF 1067	

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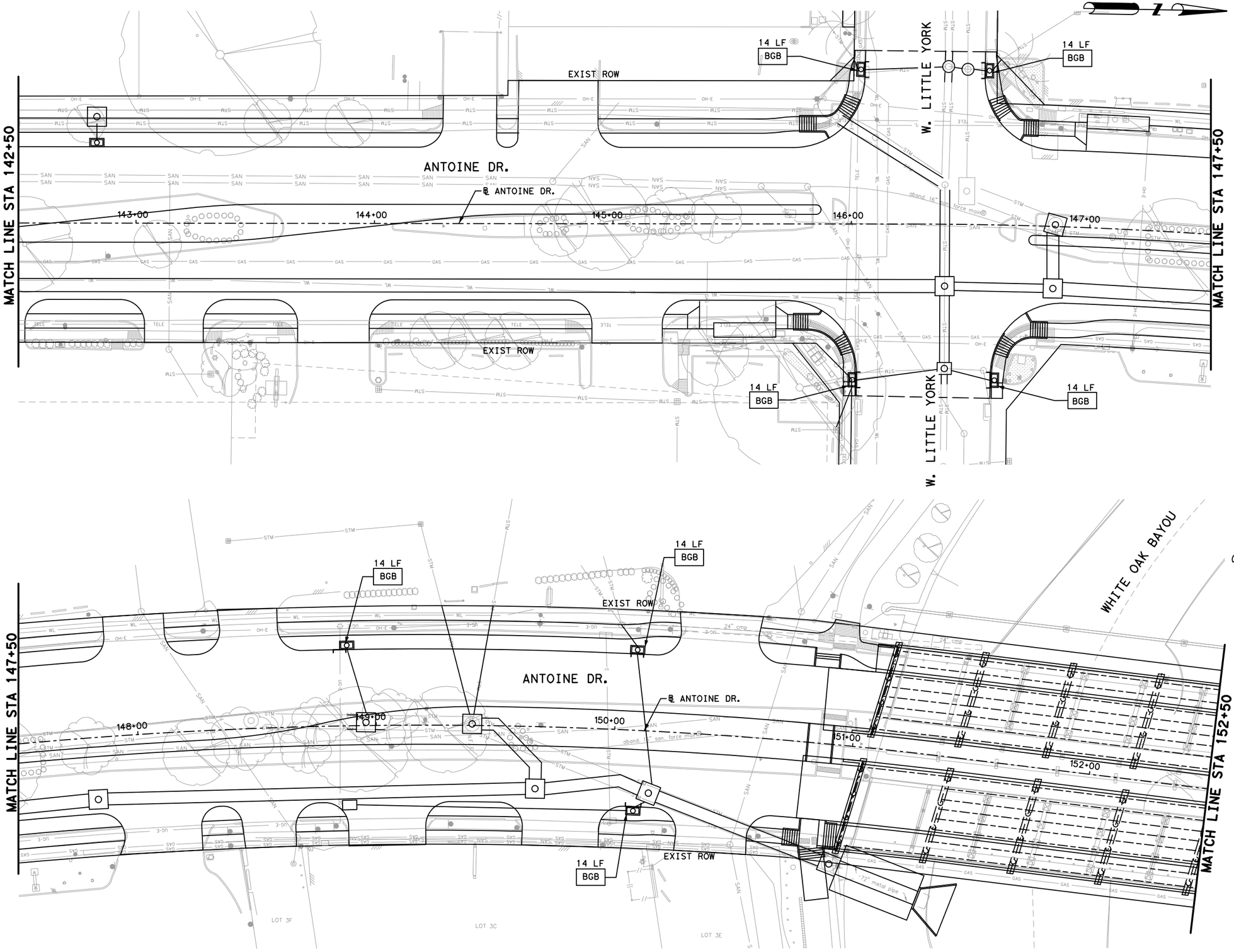

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

1. CONTRACTOR TO PLACE STABILIZED CONSTRUCTION ACCESS AS DIRECTED BY ENGINEER AT PRE-CONSTRUCTION MEETING.
2. CONTRACTOR TO PLACE CONCRETE TRUCK WASH AREA AS DIRECTED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING.
3. BLOCK SOD SHALL BE PLACED BETWEEN SIDEWALK AND CURB AND BETWEEN SIDEWALK AND ROW.
4. REFER TO STORM WATER POLLUTION PREVENTION PLAN DETAIL SHEETS FOR ADDITIONAL INFORMATION.
5. REFER TO DRAINAGE P&P SHEETS FOR ADDITIONAL INFORMATION.

No.	DATE	REVISIONS	APP.

0′ 40′ 80′
SCALE IN FEET

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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P.E. 125611
3/13/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 142+50 TO STA 152+50

SHEET 12 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 929 OF 1067	

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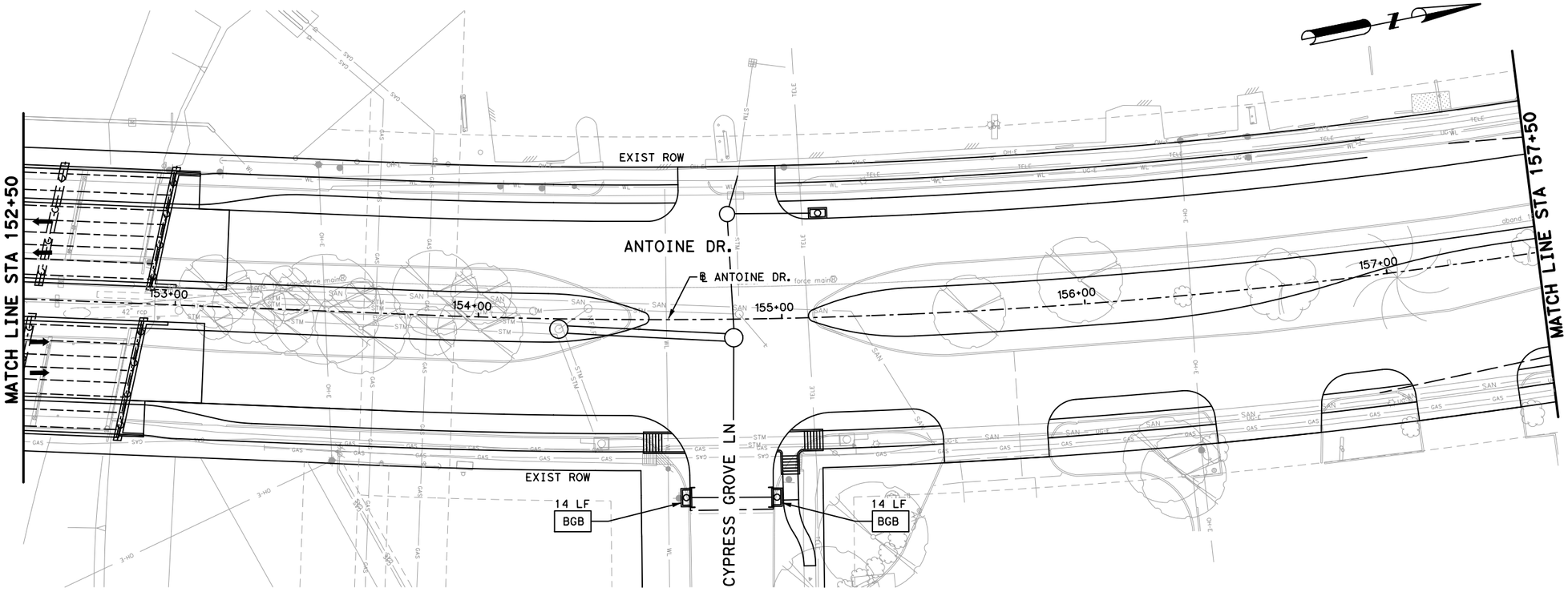

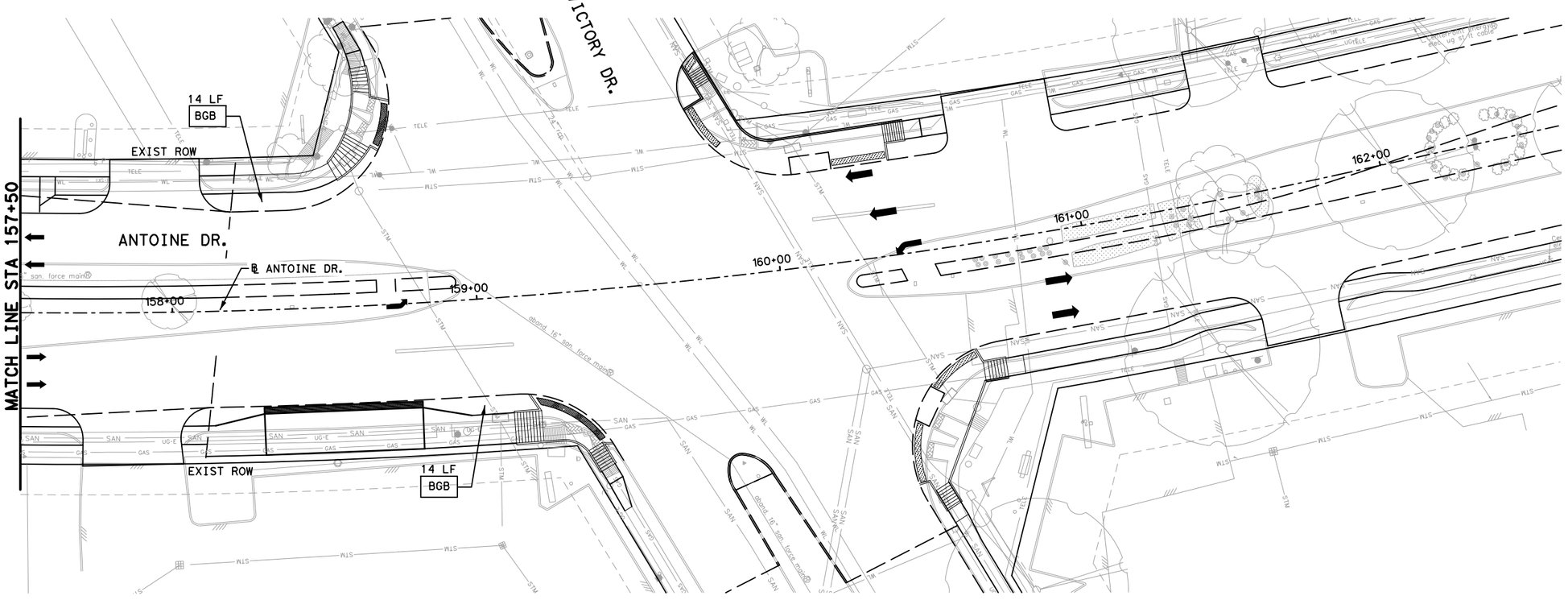

LEGEND

BGB	BAGGED GRAVEL BARRIER
FFGC	FILTER FABRIC GRATE COVER
	PROP BOX STM SEWER
	PROP STM SEWER

NOTE:

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No.	DATE	REVISIONS	APP.

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SCALE IN FEET

Texas Department of Transportation

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN STA 152+50 TO END PROJECT

SHEET 13 OF 13

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 930 OF 1067	

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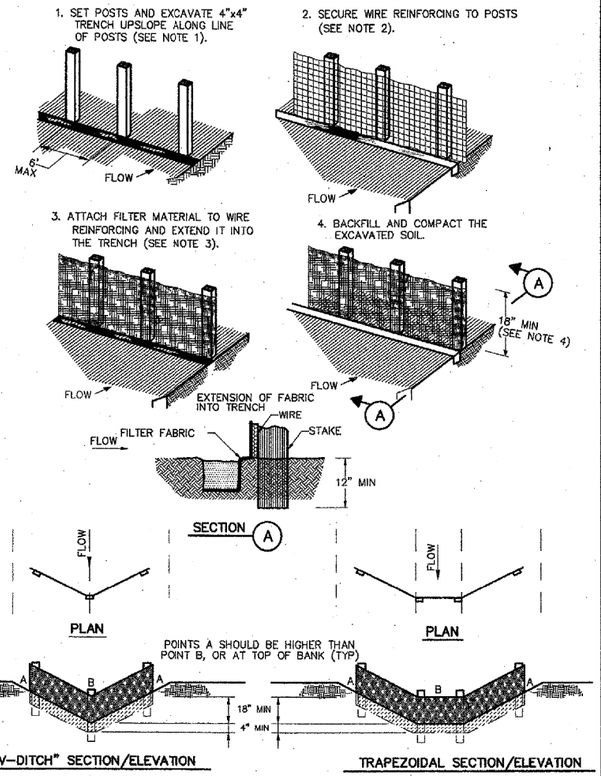
No.	DATE	REVISIONS	APP.

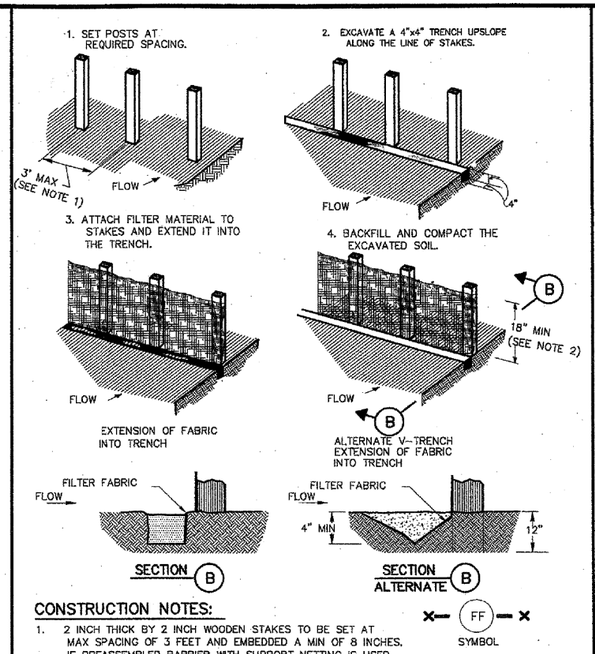


CONSTRUCTION NOTES:

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

SYMBOL

REINFORCED FILTER FABRIC BARRIER

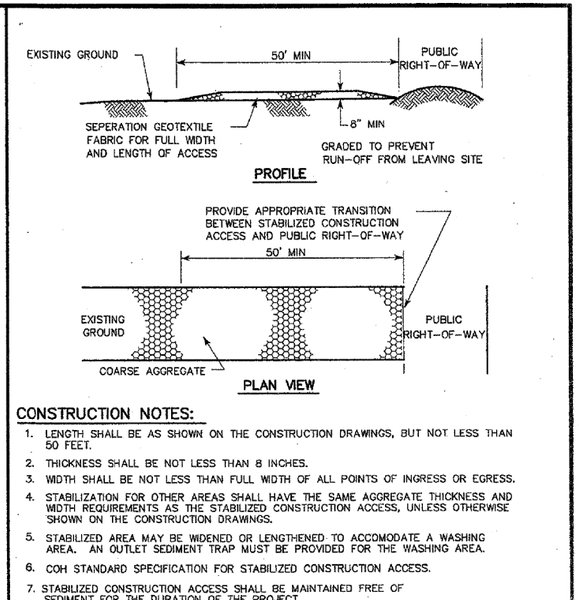


CONSTRUCTION NOTES:

1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

SYMBOL

FILTER FABRIC BARRIER

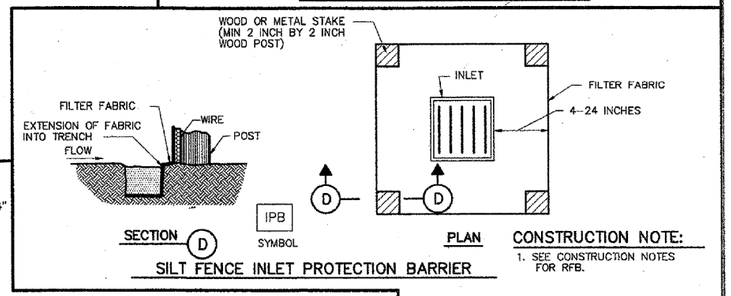


CONSTRUCTION NOTES:

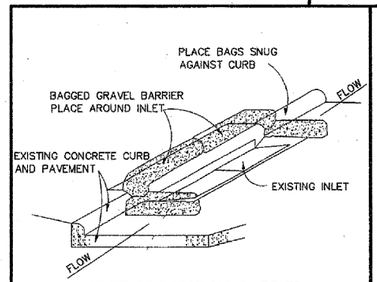
1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

SYMBOL

STABILIZED CONSTRUCTION ACCESS

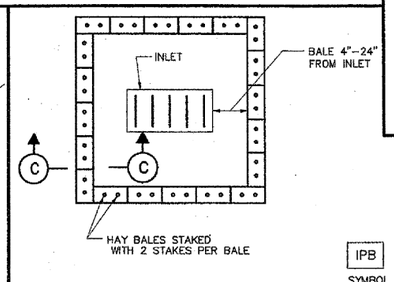


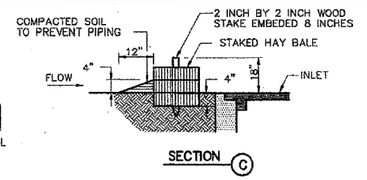
SILT FENCE INLET PROTECTION BARRIER



INLET PROTECTION BARRIER

(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER





HAY BALE INLET PROTECTION BARRIER

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS
(NOT TO SCALE)

APPROVED: CITY ENGINEER
APPROVED: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010
DWG NO: 01571-01

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
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Texas Registered Engineering Firm F-20017

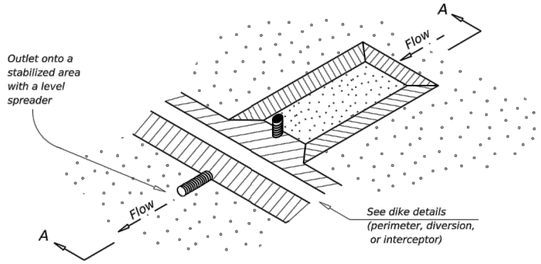
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORM WATER POLLUTION PREVENTION PLAN DETAILS

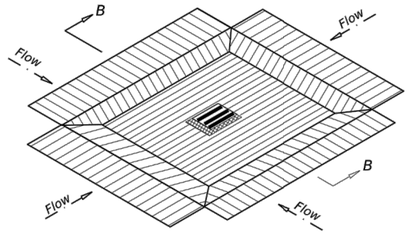
SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 931 OF 1067	



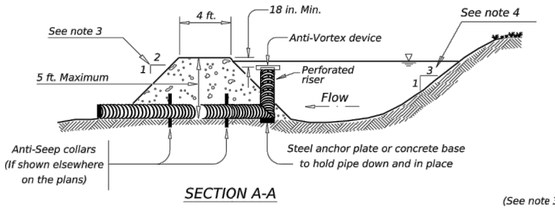
SEDIMENT BASIN AND/OR TRAP WITH PIPE OUTLET

ST/PO

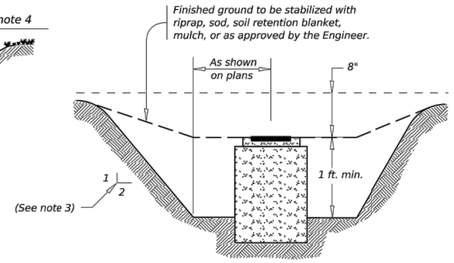


DROP INLET SEDIMENT TRAP

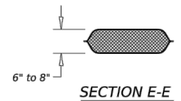
ST-DI



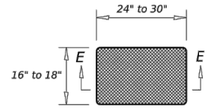
SECTION A-A



SECTION B-B



SECTION E-E



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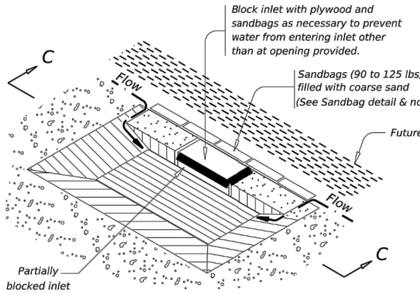
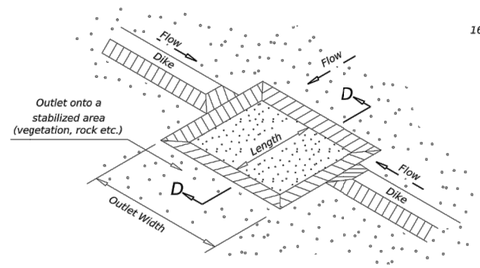


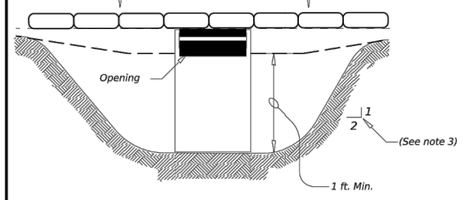
CURB INLET SEDIMENT TRAP

ST-CI

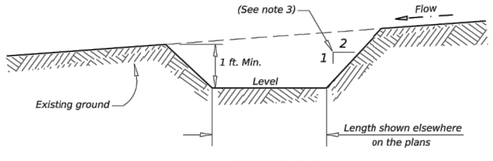


SEDIMENT TRAP WITH LEVEL STABILIZED OUTLET

ST



SECTION C-C



SECTION D-D

GENERAL NOTES

1. Pipe outlet material shall conform to the Item "Pipe Underdrains" or as accepted by the Engineer.
2. All pipe connections shall be watertight.
3. Side slopes within the safety clear zone of a roadway shall be 6:1 or flatter. Protect the traveling public from inlet stacks within the clear zone.
4. Sediment basins shall have side slopes of 3:1 or flatter.
5. The dimensions and limits of excavation for sediment basins and traps will be as shown elsewhere on the plans.
6. The sandbag material shall be made of polypropylene, polyethylene or polyamide woven fabric, min. unit weight 4 ounces /SY, Mullen burst strength exeeding 300 psi and ultraviolet stability exeeding 70%.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

SEDIMENT BASIN & TRAP USAGE GUIDELINES

A sediment basin and/or trap may be used to precipitate sediment out of runoff draining from an unstabilized area.

Basins: The drainage area for a sediment basin should not exceed 100 acres. The basin capacity shall be at least 1800 CF/Acre of drainage area (0.5" over the drainage area). If the disturbed area draining to the basin is larger than 10 acres, the basin capacity should be 3600 CF/Acre (1.0" over the drainage area).

The basin should have a 40 hour draw-down time with an emergency spillway. The spillway may be designed to pass the peak rate of runoff from a 25 year frequency storm. The 100 year storm should be investigated to consider possible flooding impacts.

The entrance into the basin should be protected from erosion. The basin should be cleaned when the capacity has been reduced by 1/3.

Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Sediment traps should be placed in the following locations:

1. Within drainage ditches spaced @ 500' ± on center
2. Immediately preceding ditch inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way

The trap outlet may either be through a perforated riser and pipe assembly designed to achieve a 40 hour draw-down time or over a level stabilized area (vegetation, rock, etc.).

The trap should be cleaned when the capacity has been reduced by ½ or the sediment has accumulated to a depth of 1', whichever is less.

PLANS SHEET LEGEND

ST/PO — Sediment Basin and / or Trap with Pipe Outlet

ST-DI — Drop Inlet Sediment Trap

ST-CI — Curb Inlet Sediment Trap

ST — Sediment Trap with Level Stabilized Outlet

Texas Department of Transportation — Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

SEDIMENT BASINS AND TRAPS (EARTHWORK FOR EROSION CONTROL)

EC(6)-16

FILE: ec616	DN: TxDOT	CK: KM	DW: VP	DW/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

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DATE:
FILE:

Plotted on: $DATE$ $TIME$ $USER$

Pen Table:$PENTBLS$
Plot Driver:$PLTDRVL$

No.	DATE	REVISIONS	APP.

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www.kuoassociates.com
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ANTOINE DRIVE

STORMWATER POLLUTION PREVEVENTION PLAN

DETAILS (2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 932 OF 1067	

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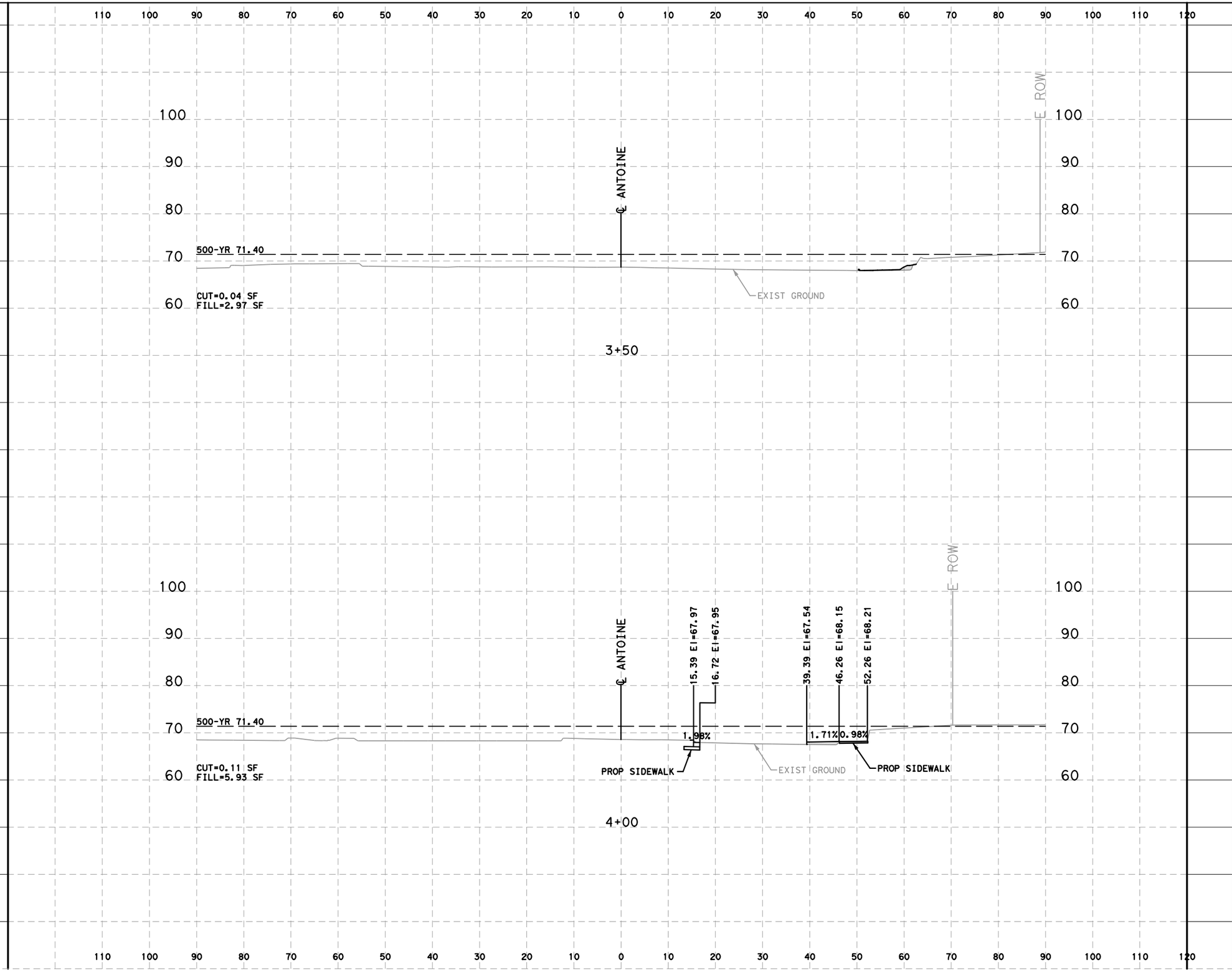

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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Date
MARCH 2026
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Texas Registered Engineering Firm F-23290

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 1 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 933 OF 1067	

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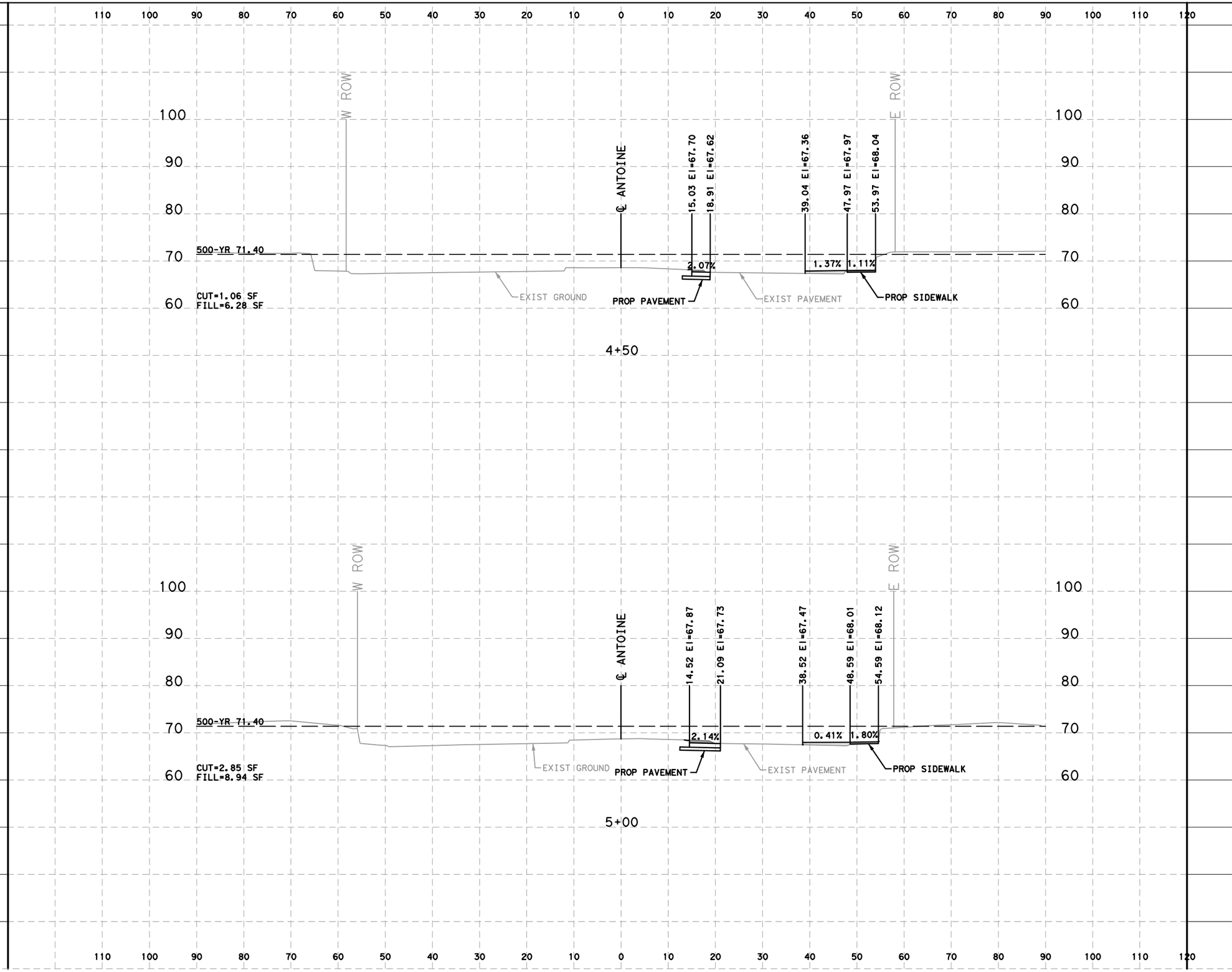

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 2 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 934 OF 1067	

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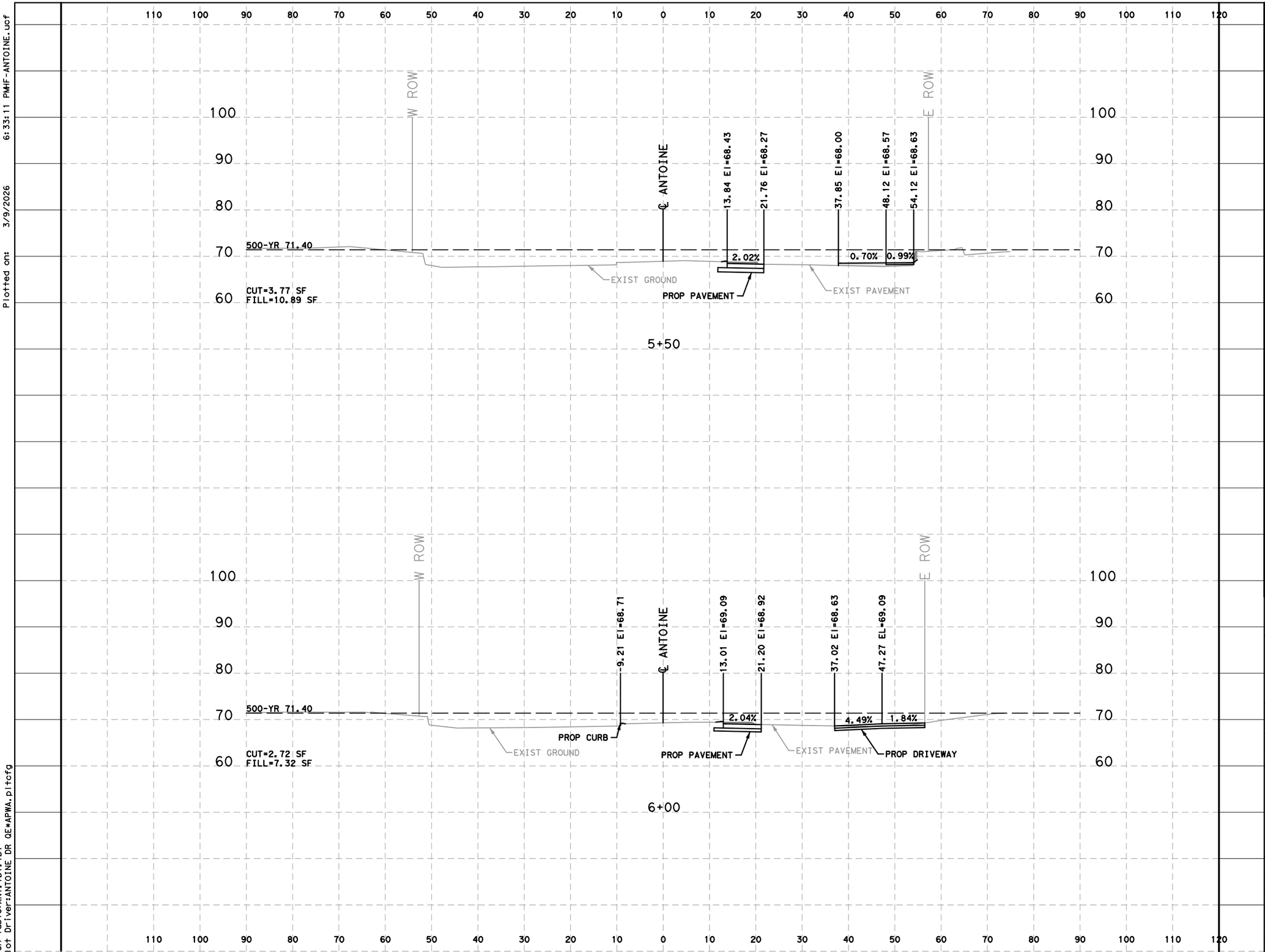

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

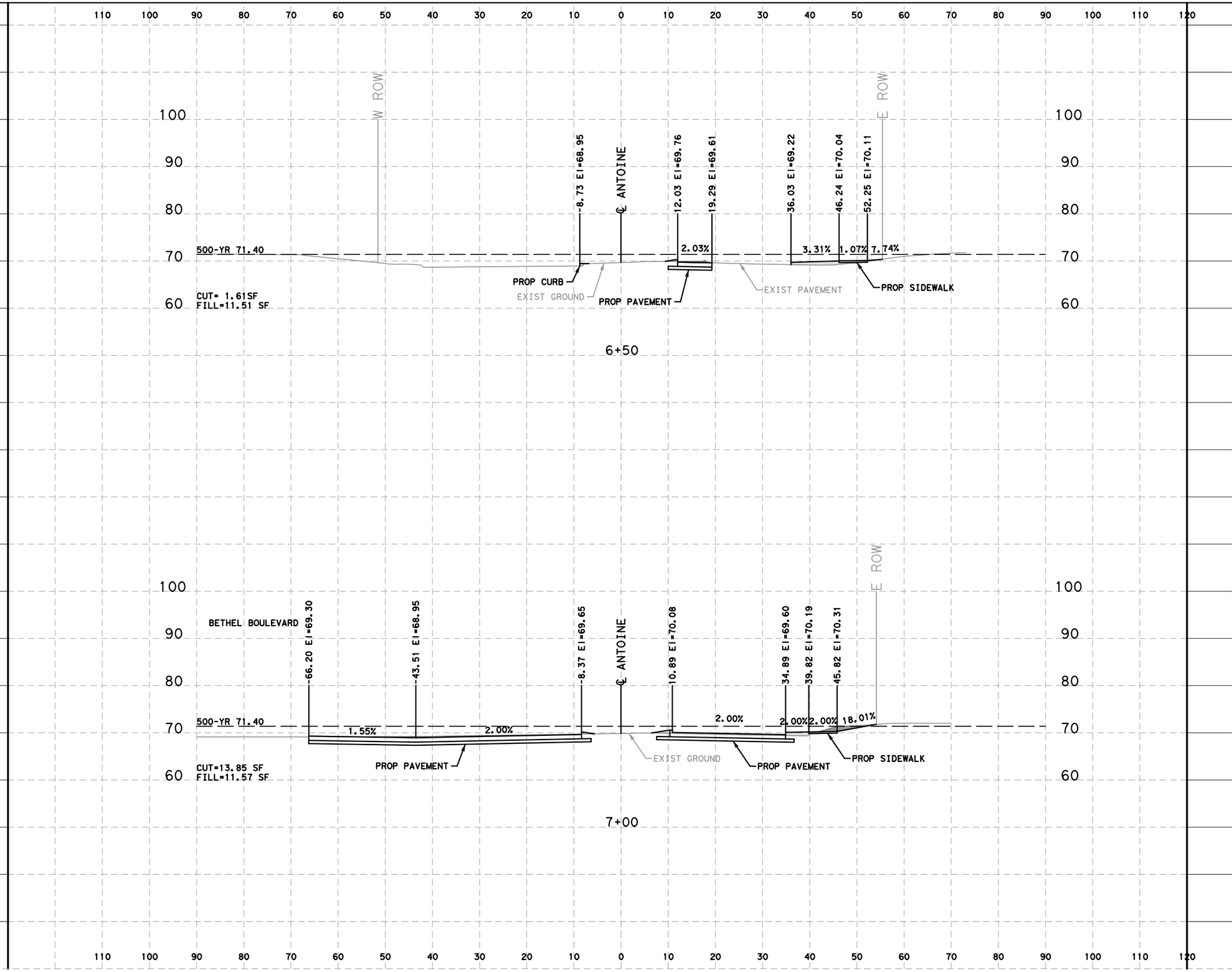
SHEET 3 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 935 OF 1067	

Plotted on: 3/9/2026 6:33:11 PM\F-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

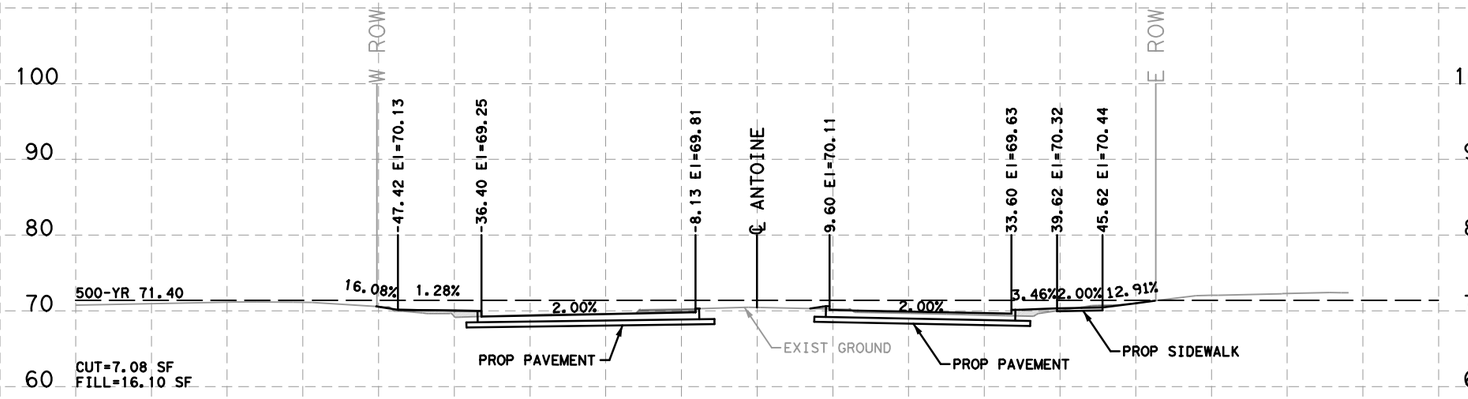
SHEET 4 OF 10

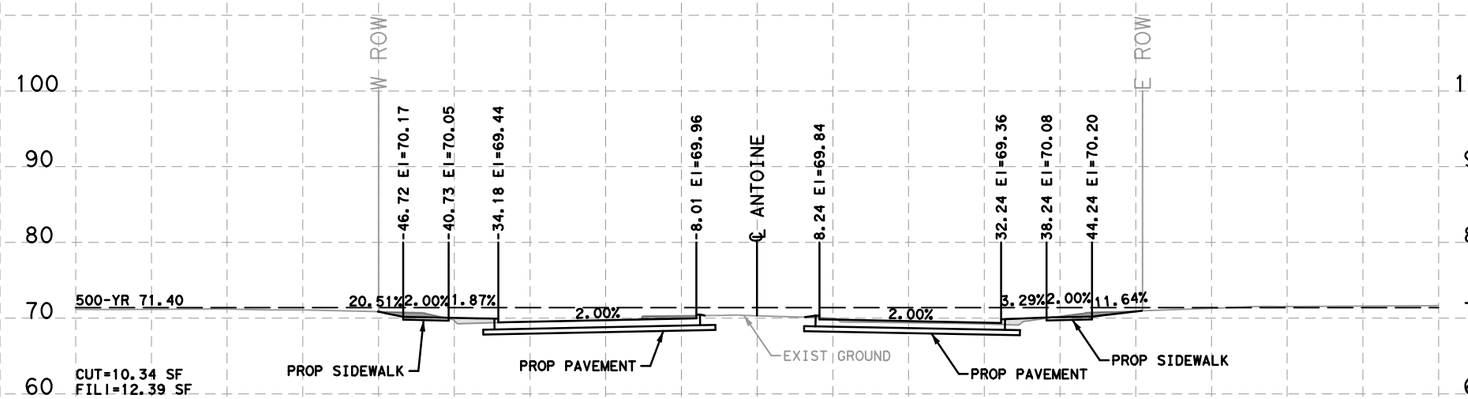
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 936 OF 1067	

Plotted on: 3/9/2026 6:33:11 PMIF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn





HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 5 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 937 OF 1067	

Plotted on: 3/9/2026 6:33:11 PM\F-ANTOINE.ucf

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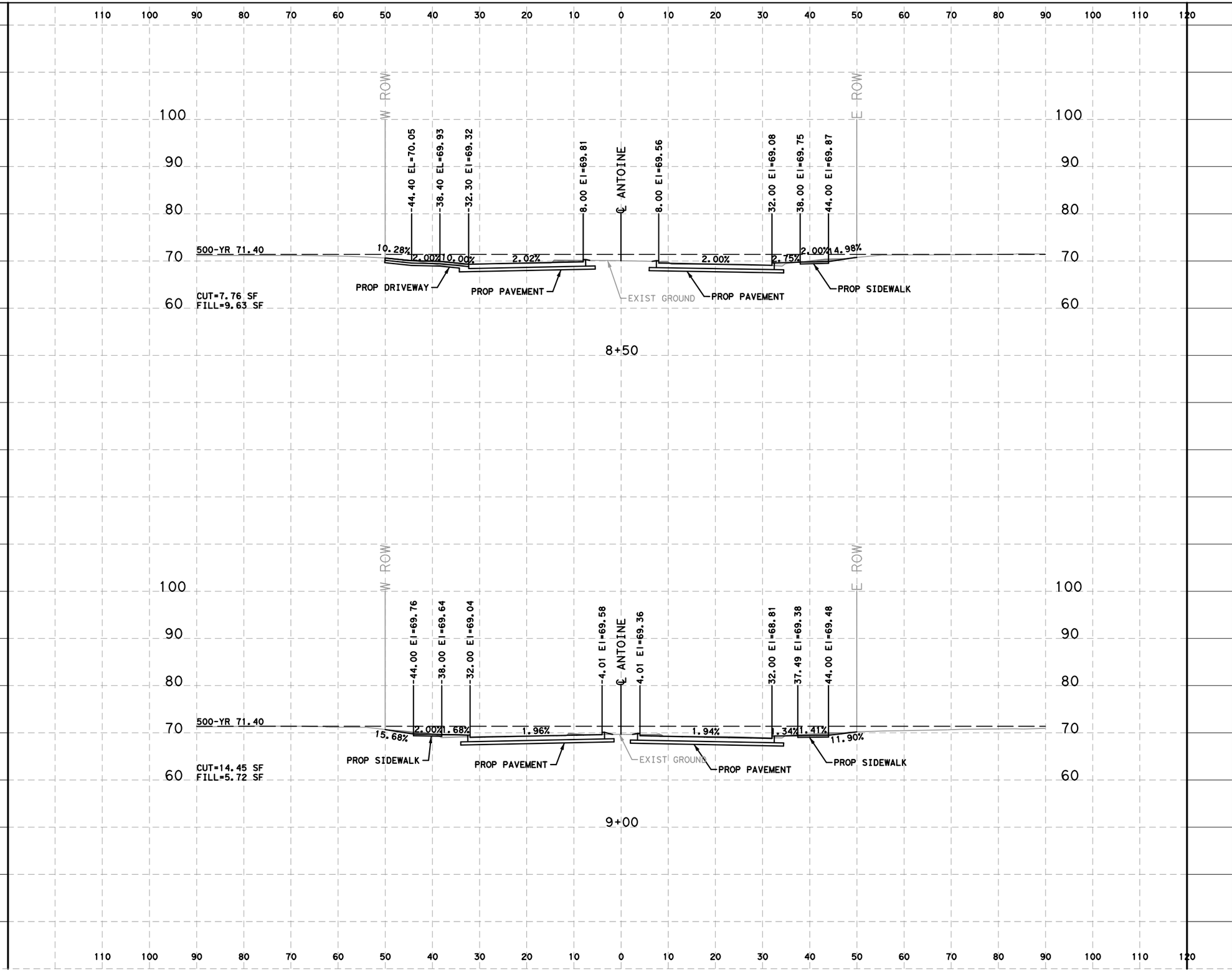

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 6 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 938 OF 1067	

Plotted on: 3/9/2026 6:33:12 PM
IF-ANTOINE.ucf
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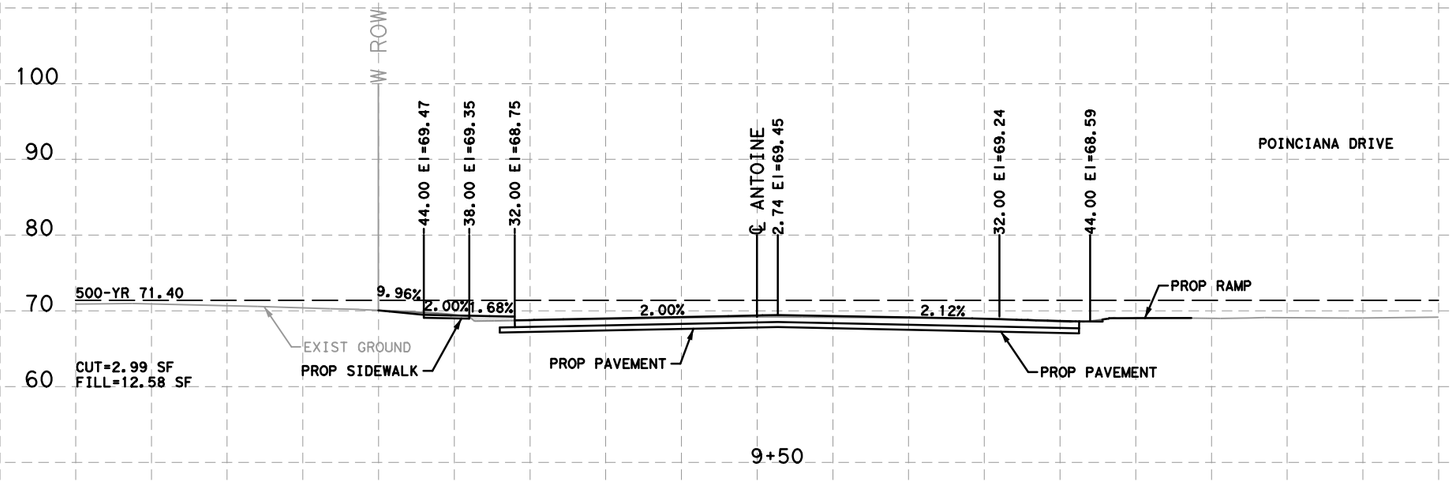
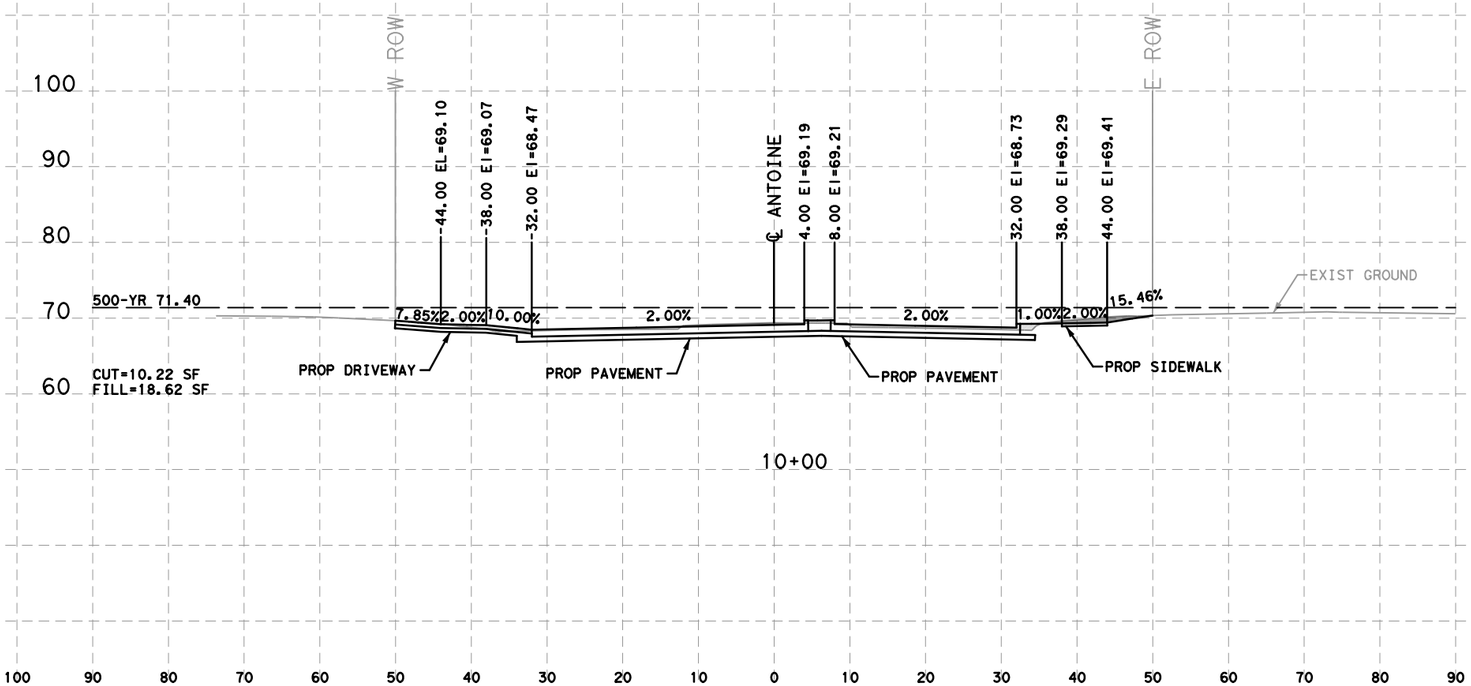
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn





HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

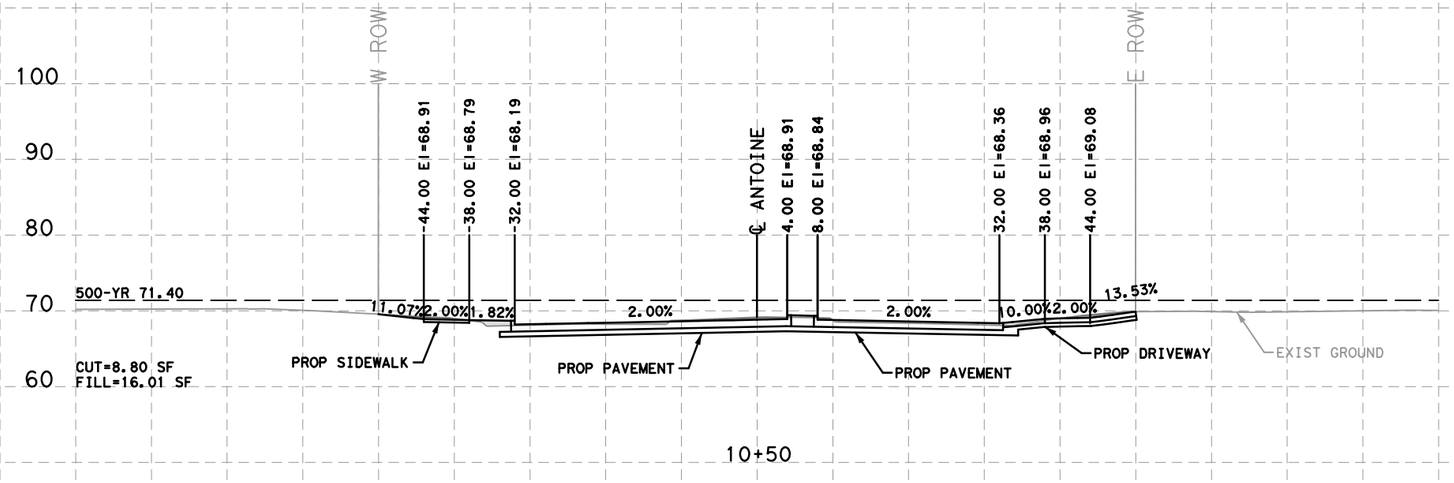
SHEET 7 OF 10

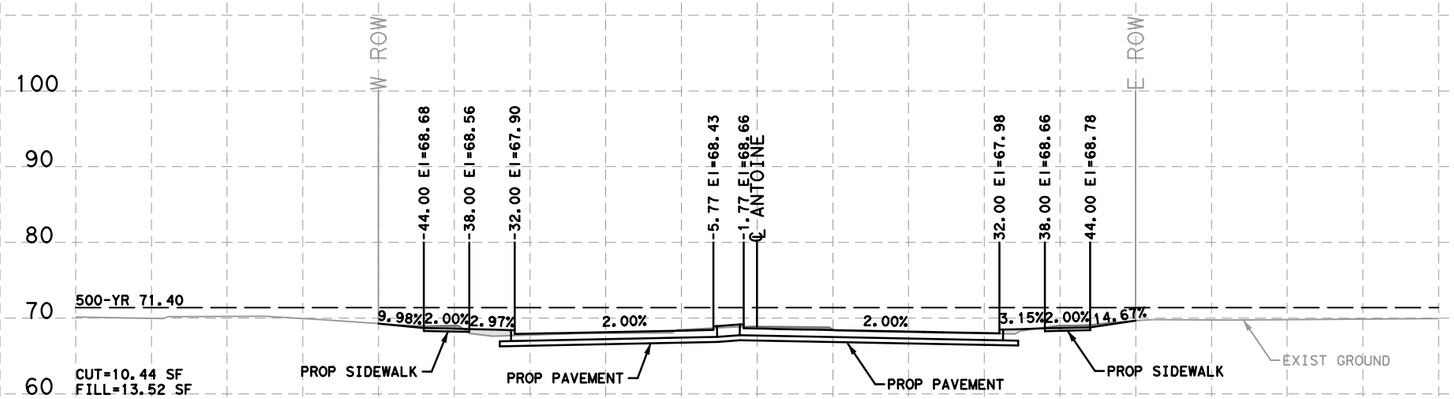
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 939 OF 1067	

Plotted on: 3/9/2026 6:33:12 PMIF-ANTOINE.ucf

Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn





HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 8 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 940 OF 1067	

Plotted on: 3/9/2026 6:33:12 PMIF-ANTOINE.ucf

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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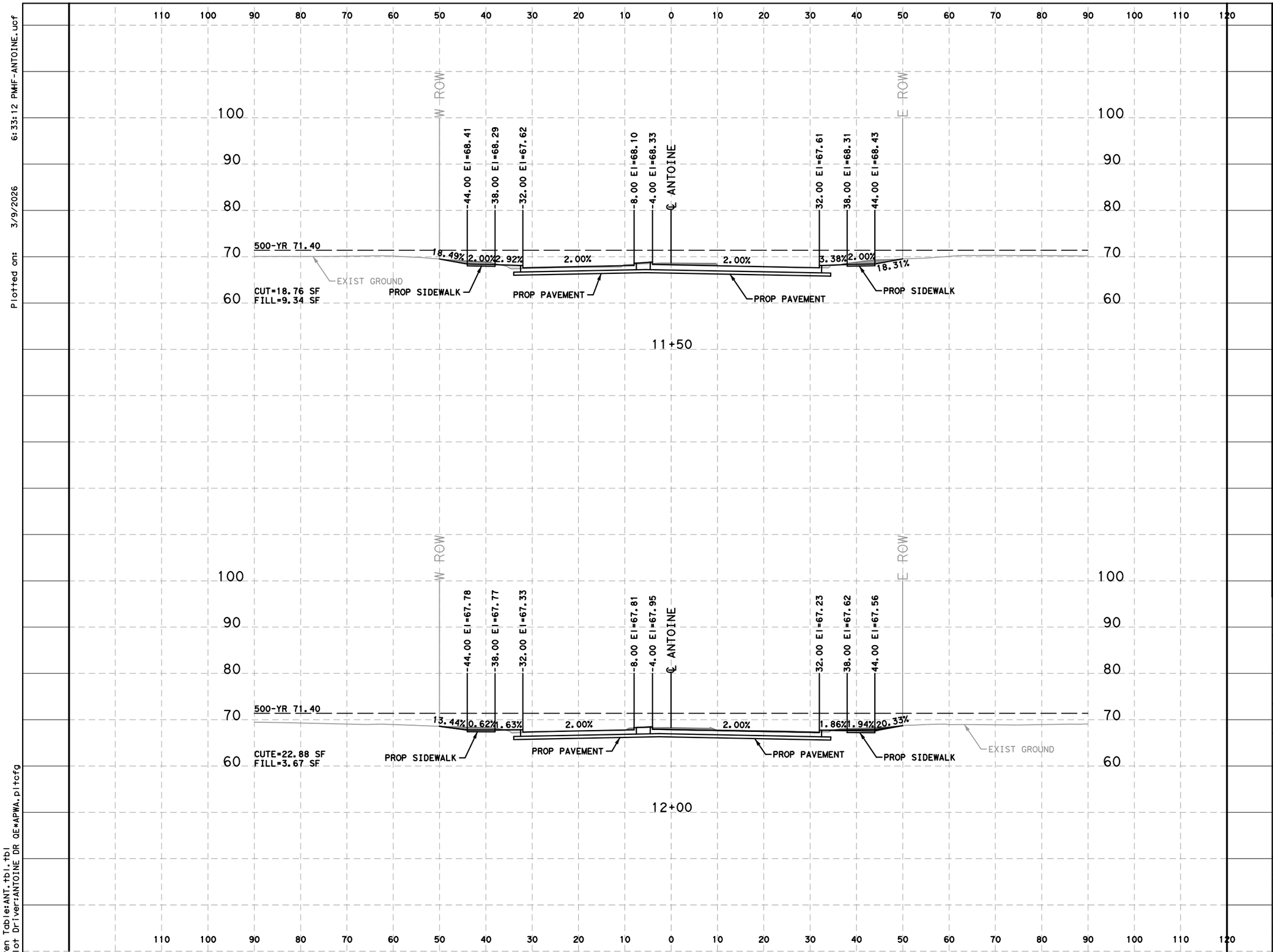

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 9 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 941 OF 1067	

Plotted on: 3/9/2026 6:33:12 PM
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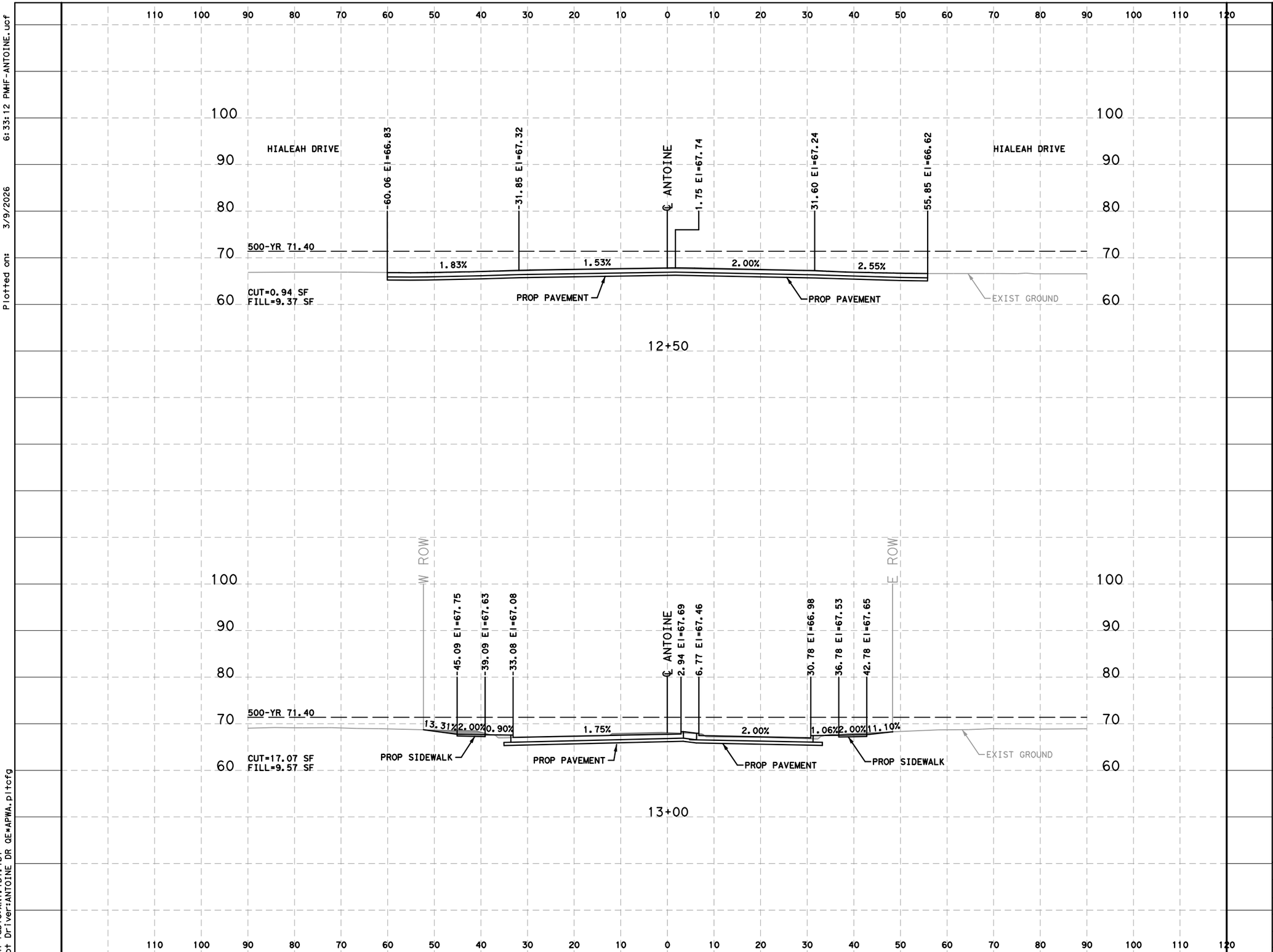

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 10 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 942 OF 1067	

Plotted on: 3/9/2026 6:33:12 PM\F-ANTOINE.ucf

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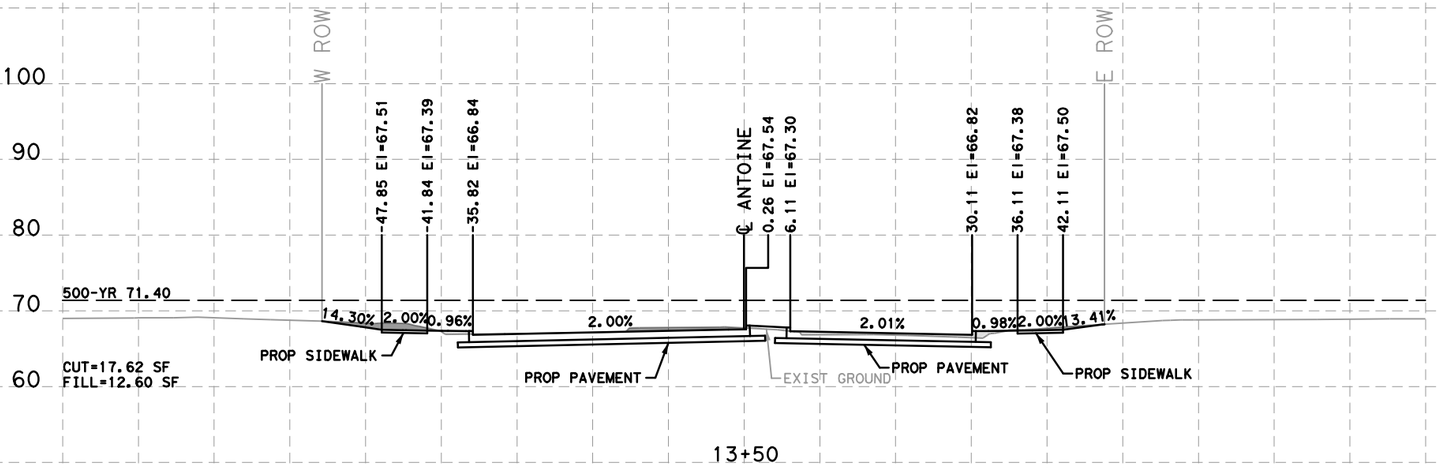

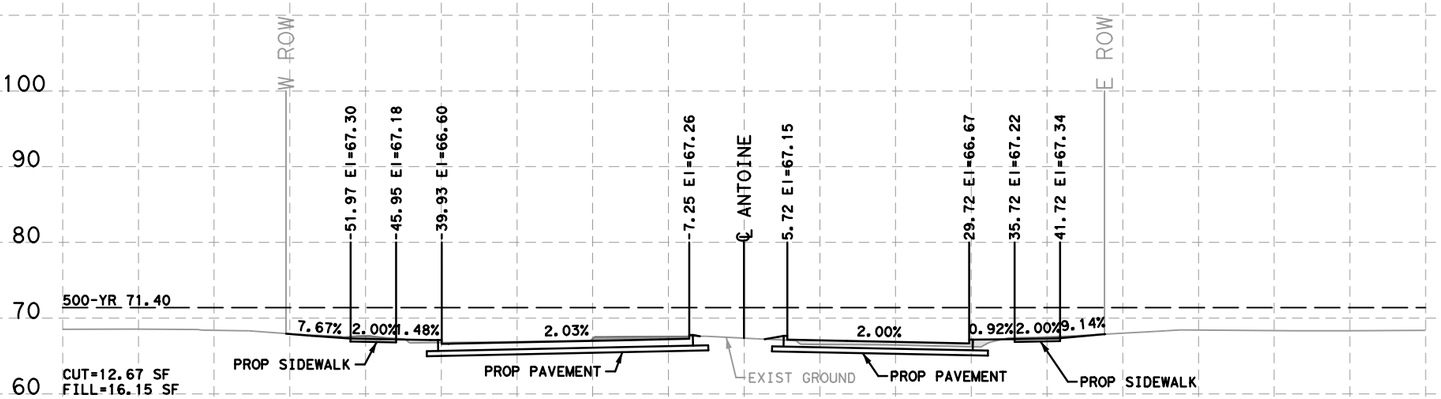

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 11 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 943 OF 1067	

Plotted on: 3/9/2026 6:33:13 PM
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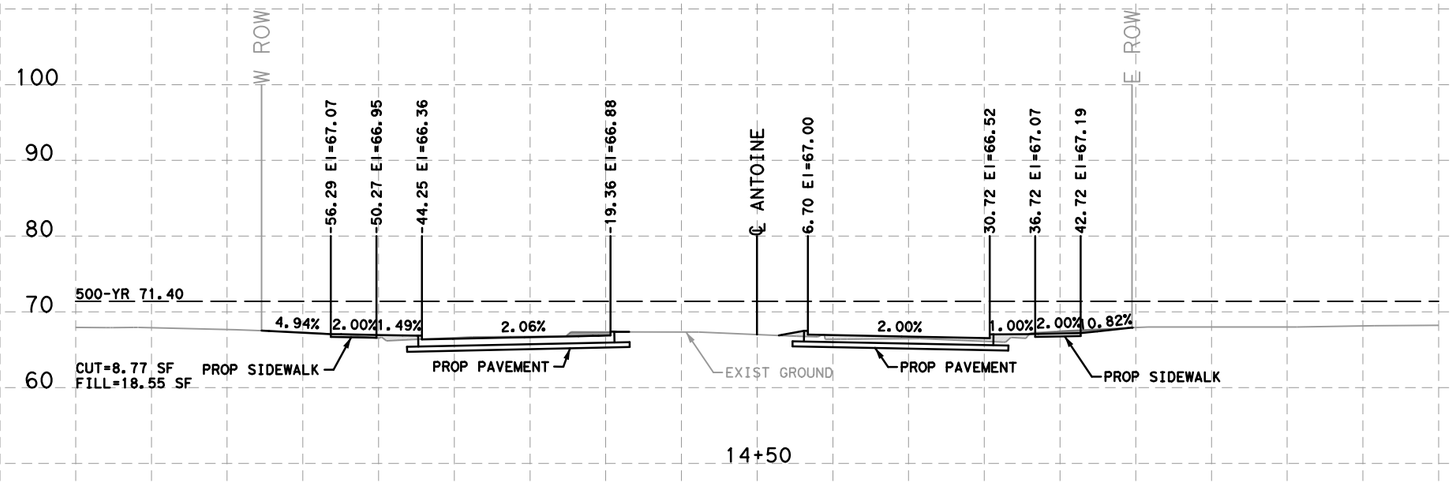

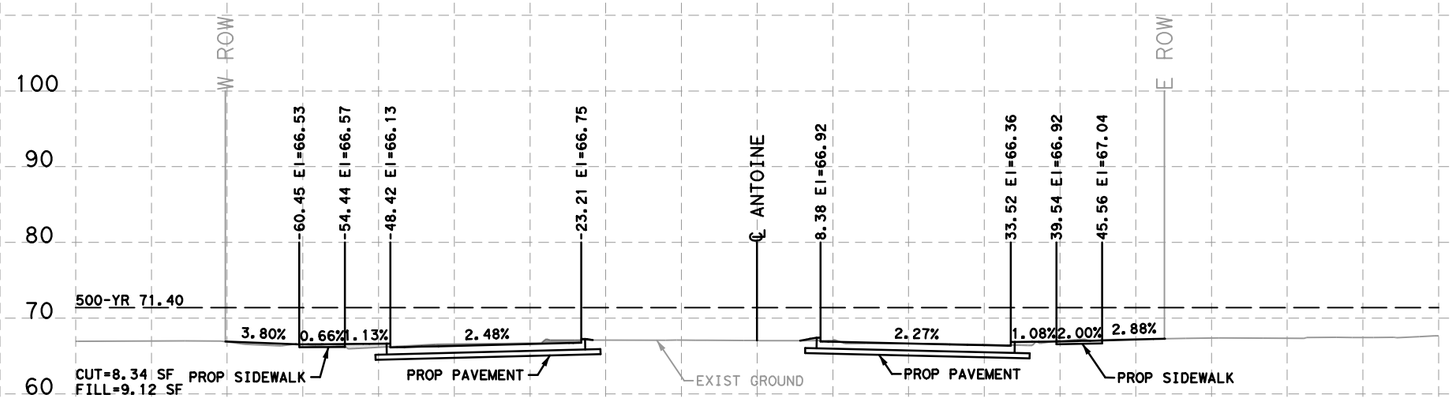

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 12 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 944 OF 1067	

Plotted on: 3/9/2026 6:33:13 PM
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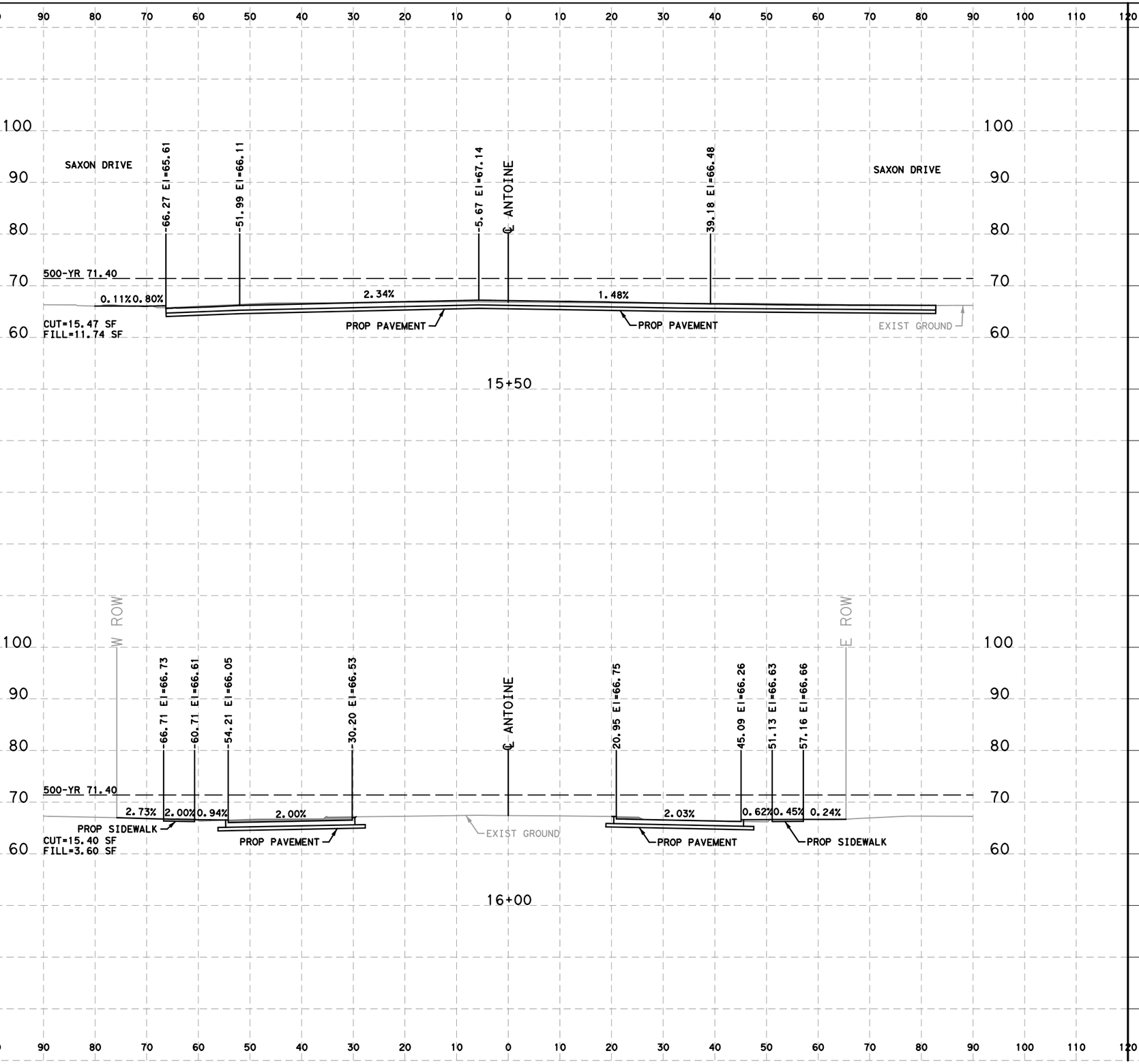

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 13 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 945 OF 1067	

Plotted on: 3/9/2026 6:33:13 PM
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
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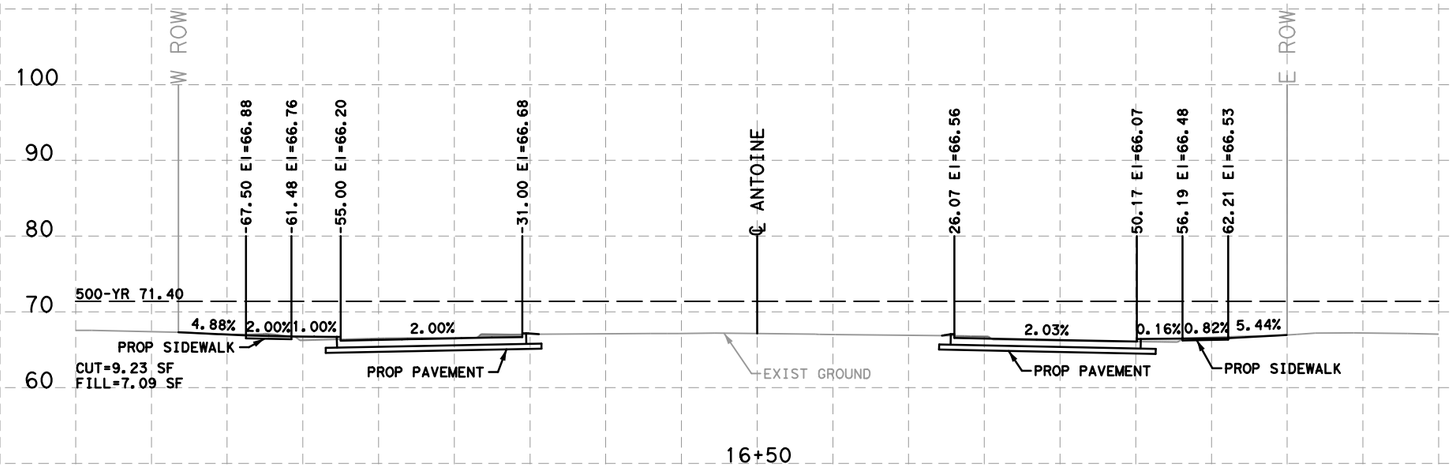

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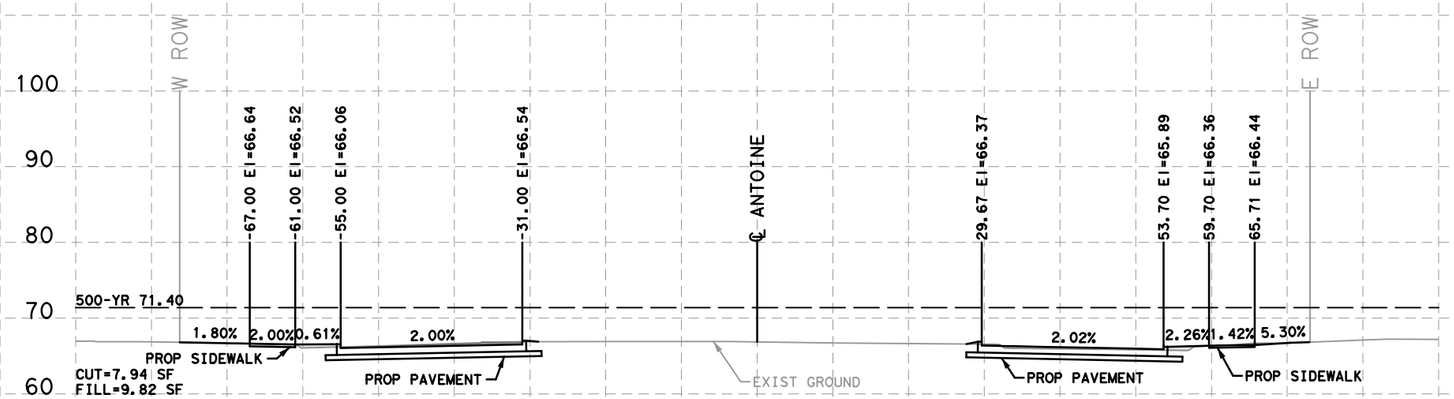

17+00

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 14 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 946 OF 1067	

Plotted on: 3/9/2026 6:33:13 PM
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
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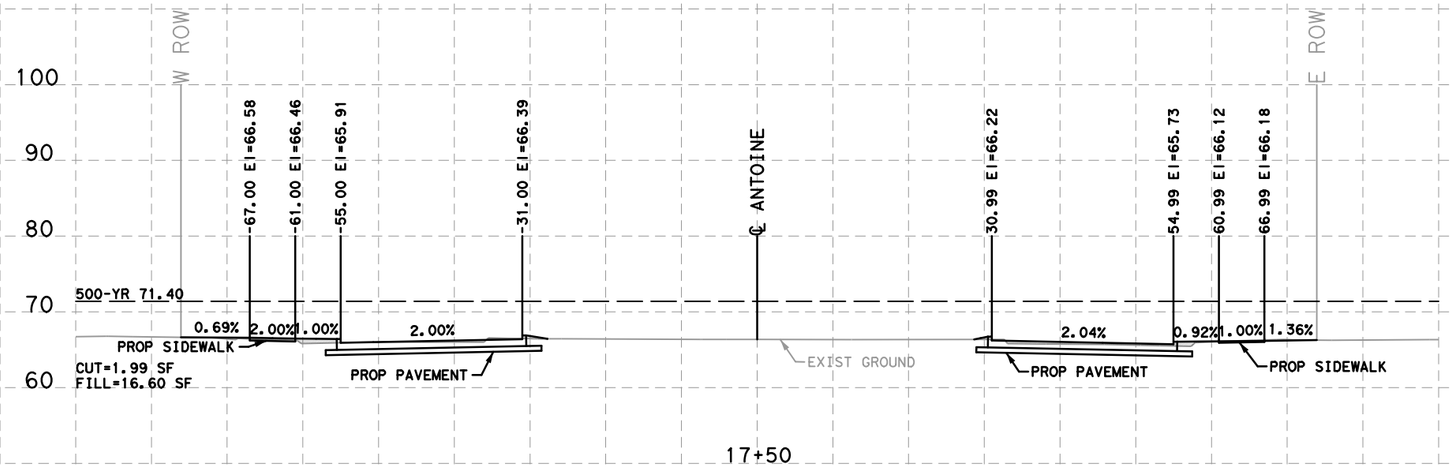

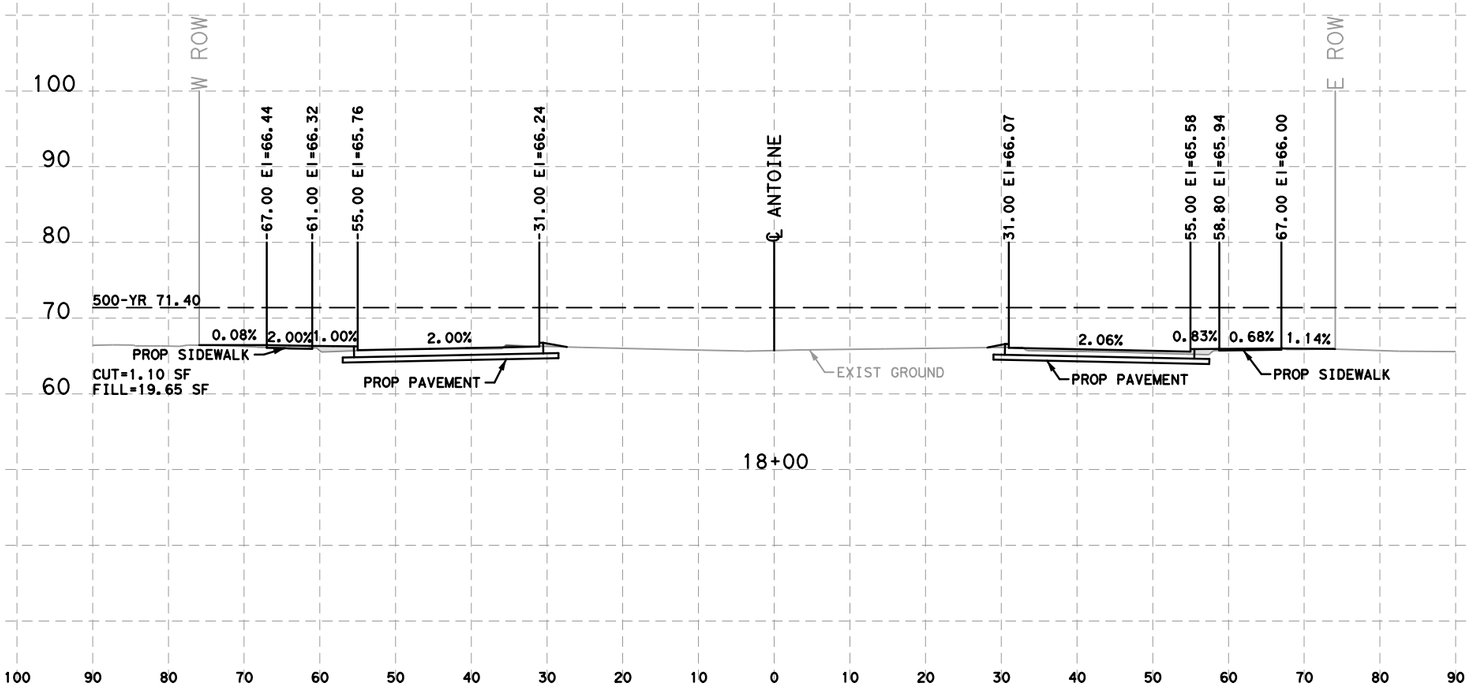

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 15 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 947 OF 1067	

Plotted on: 3/9/2026 6:33:13 PM
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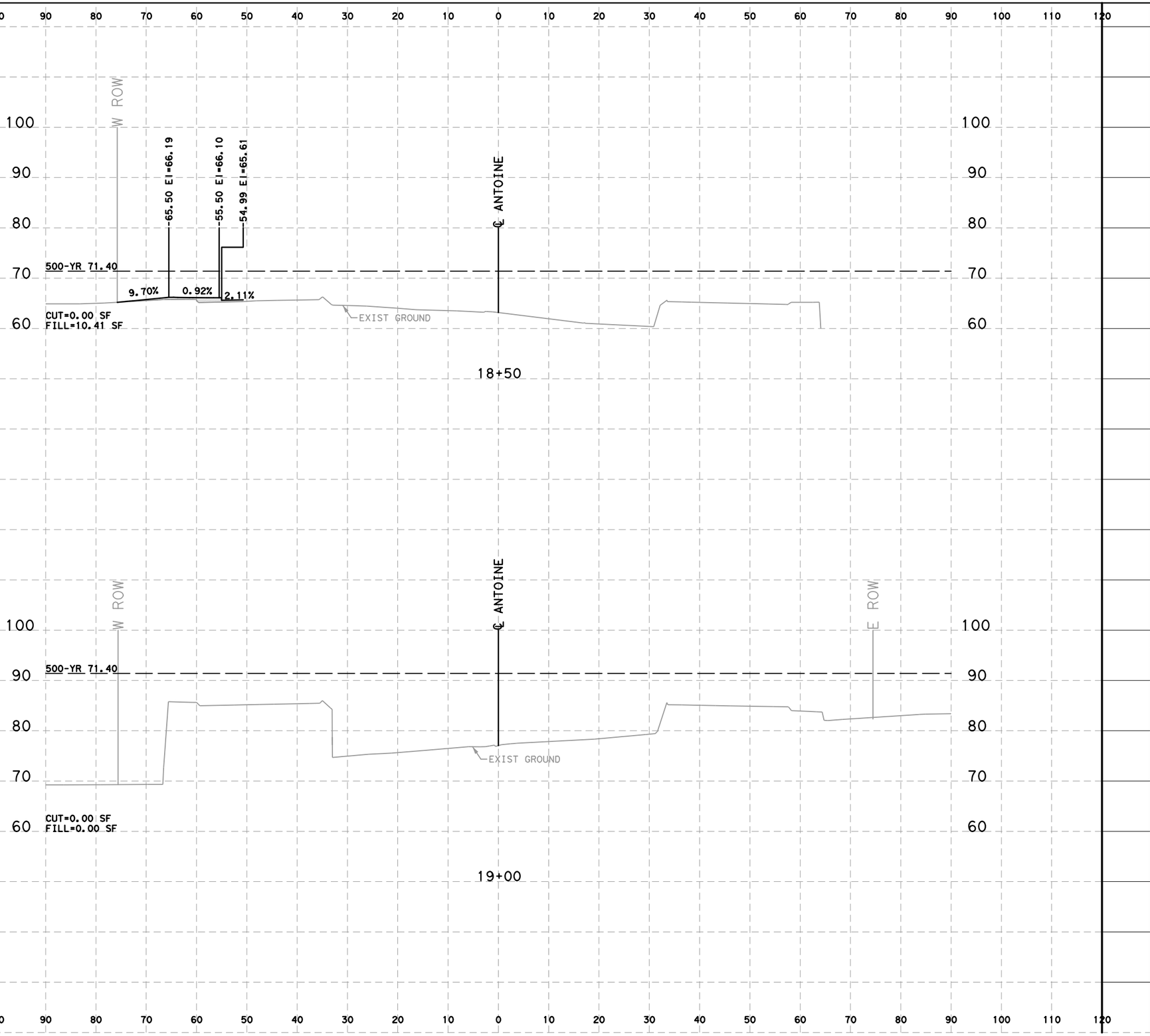
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 16 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 948 OF 1067	

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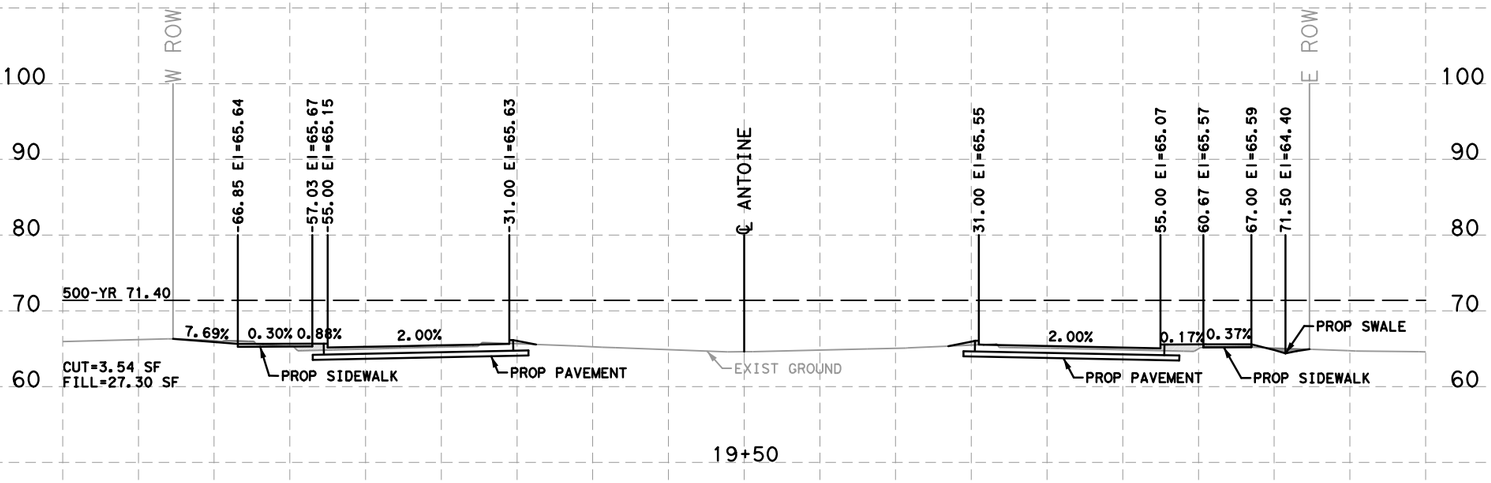

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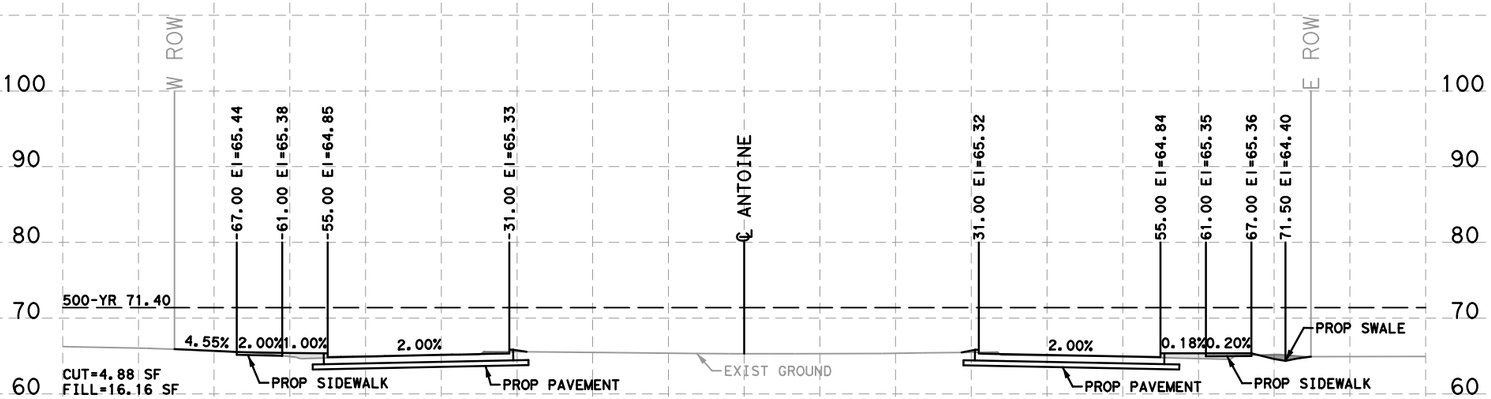

20+00

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 17 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 949 OF 1067	

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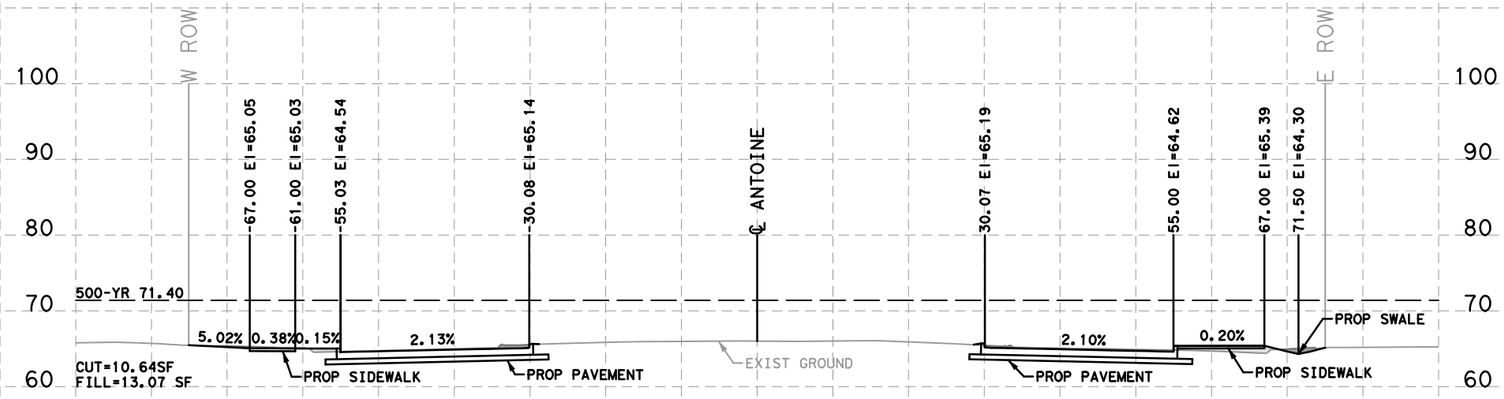

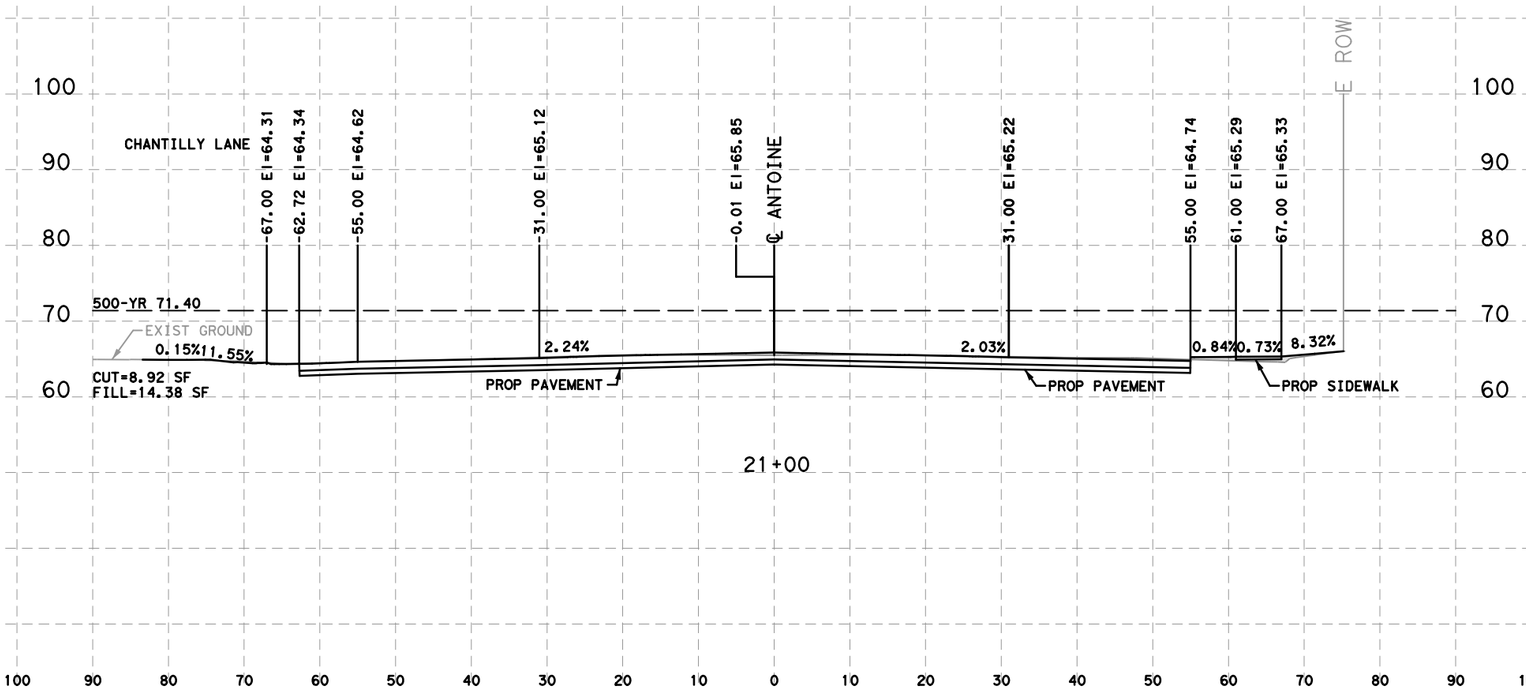

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 18 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 950 OF 1067	

Plotted on: 3/9/2026 6:33:14 PM
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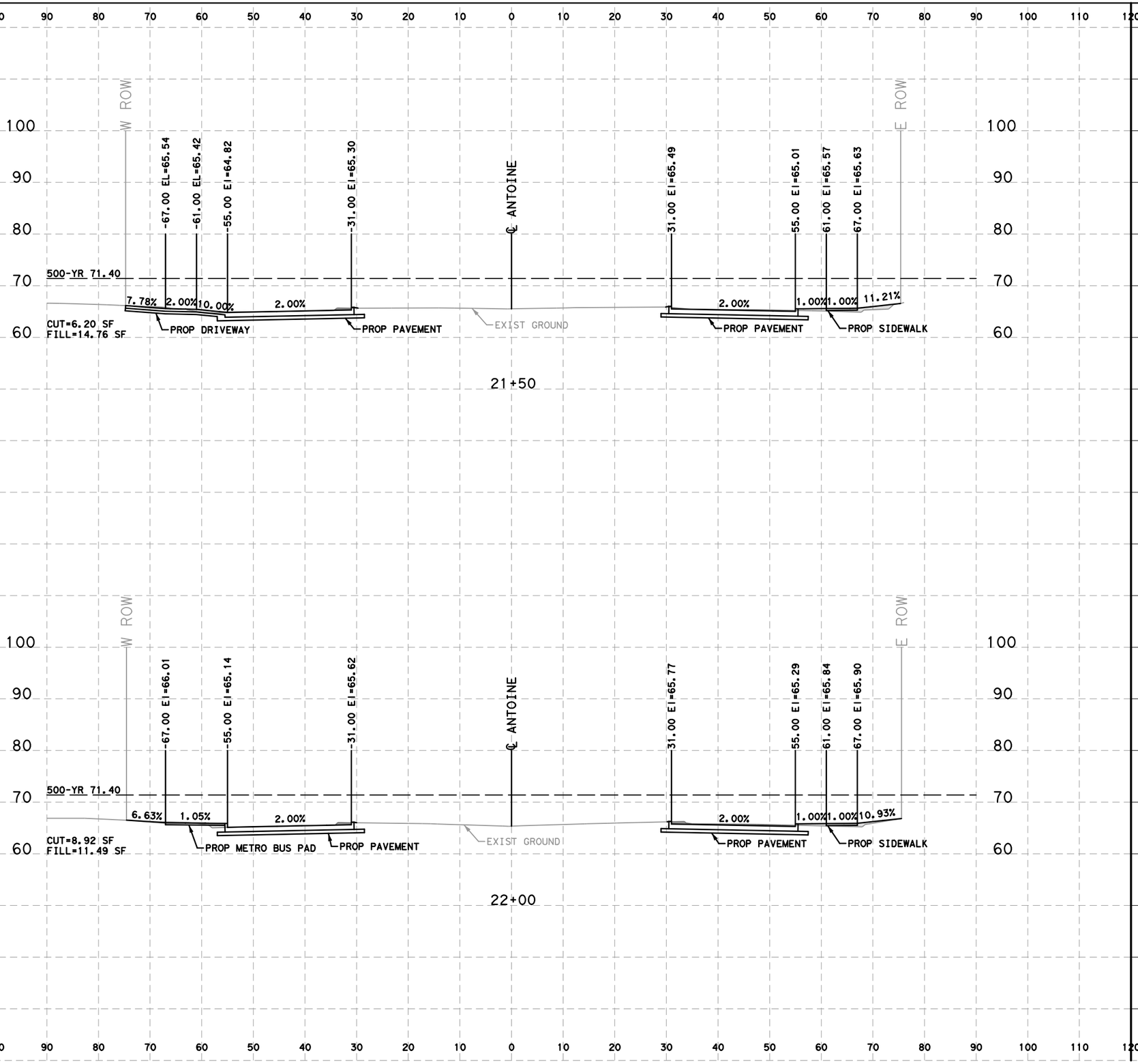

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 19 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 951 OF 1067	

Plotted on: 3/9/2026 6:33:14 PMIF-ANTOINE.ucf

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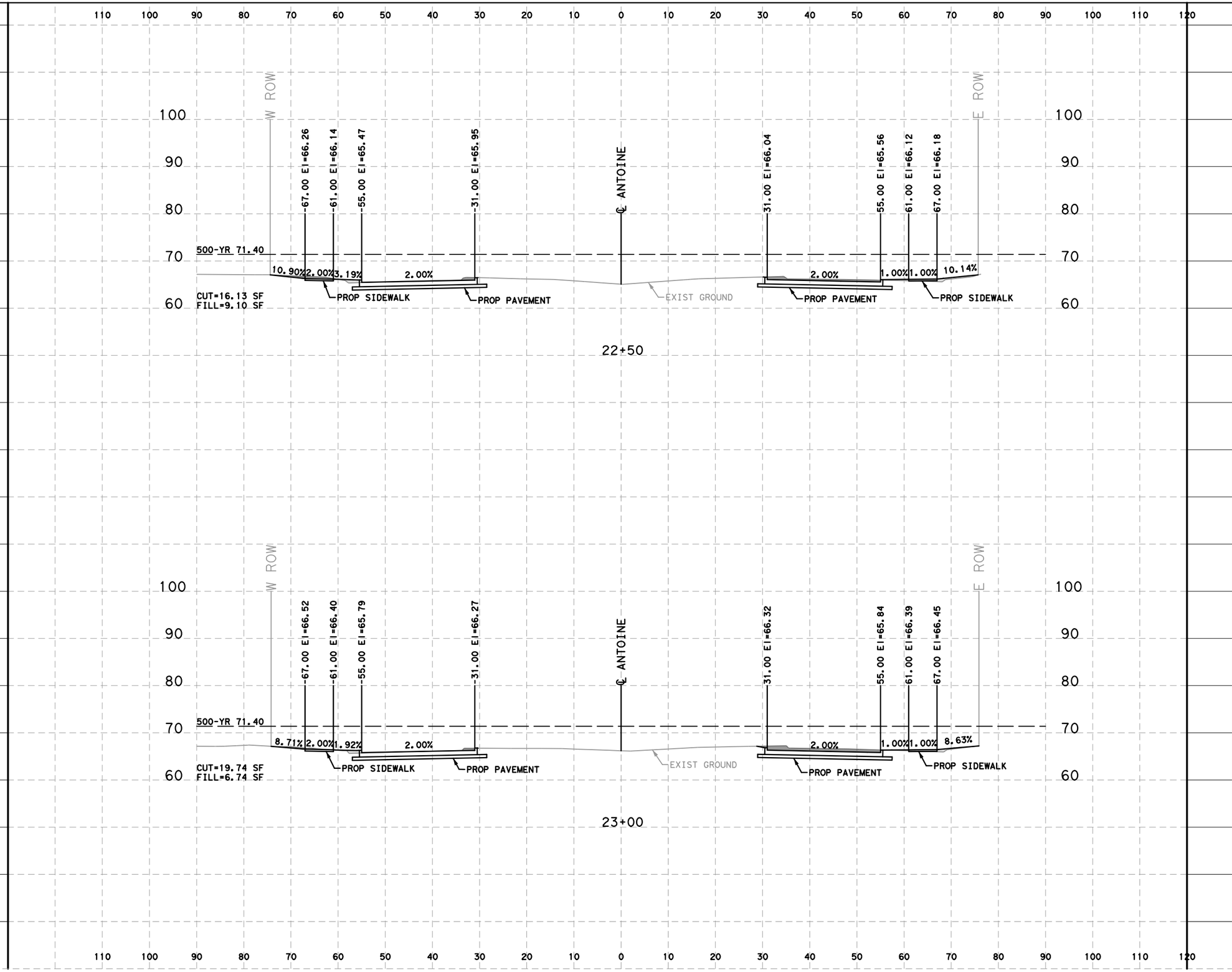

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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SHEET 20 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 952 OF 1067	

Plotted on: 3/9/2026 6:33:14 PM
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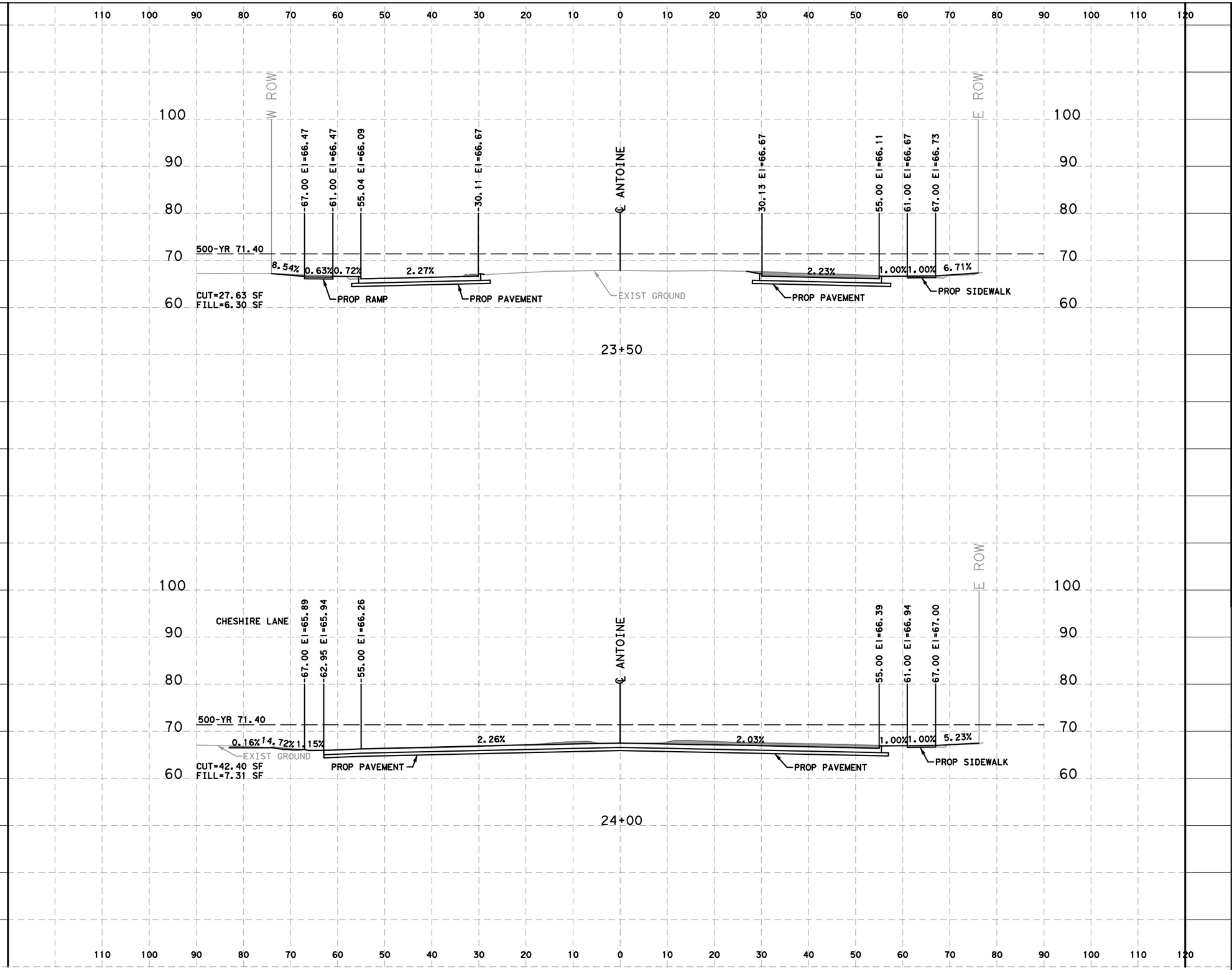

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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PROPOSED CROSS SECTIONS

SHEET 21 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 953 OF 1067	

Plotted on: 3/9/2026 6:33:15 PM
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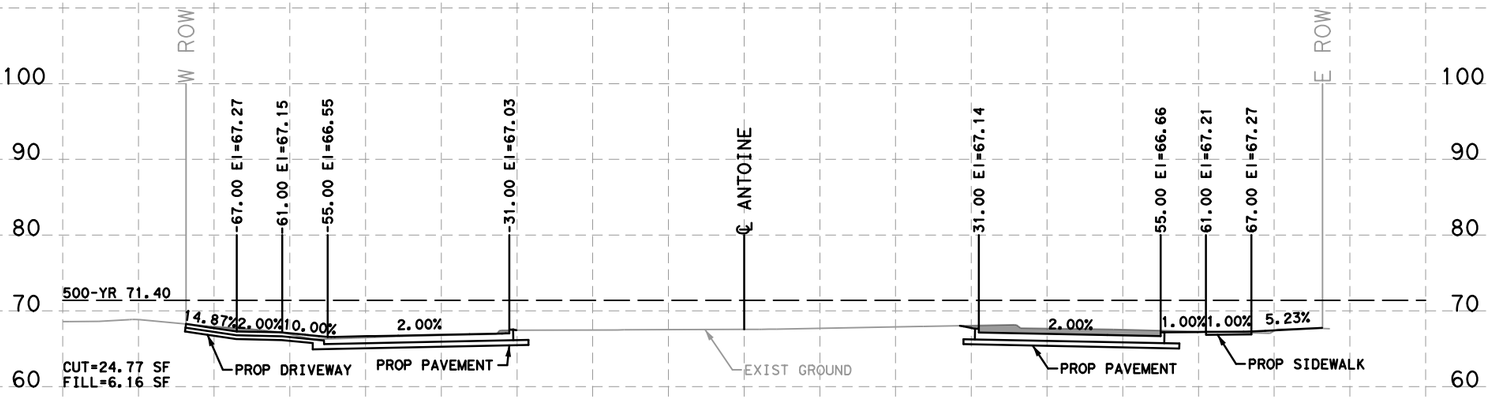

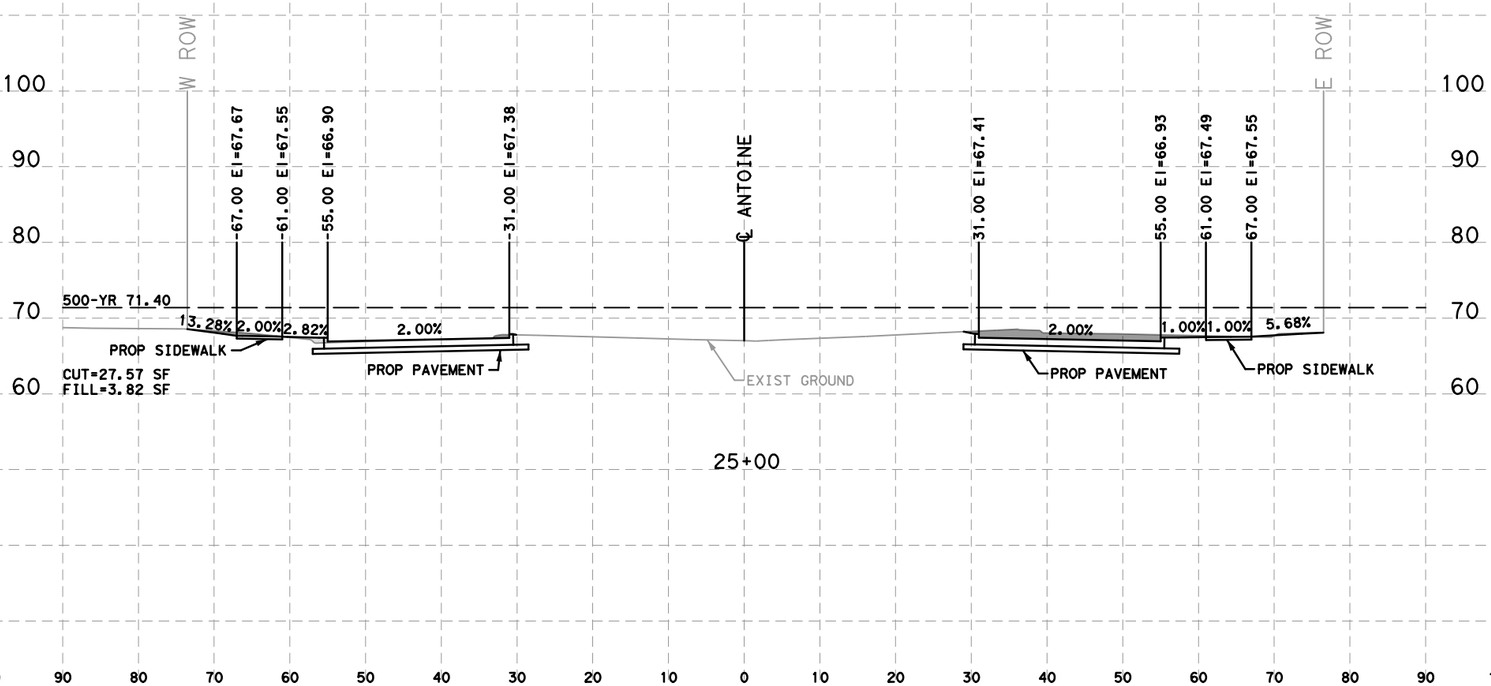

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 22 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 954 OF 1067	

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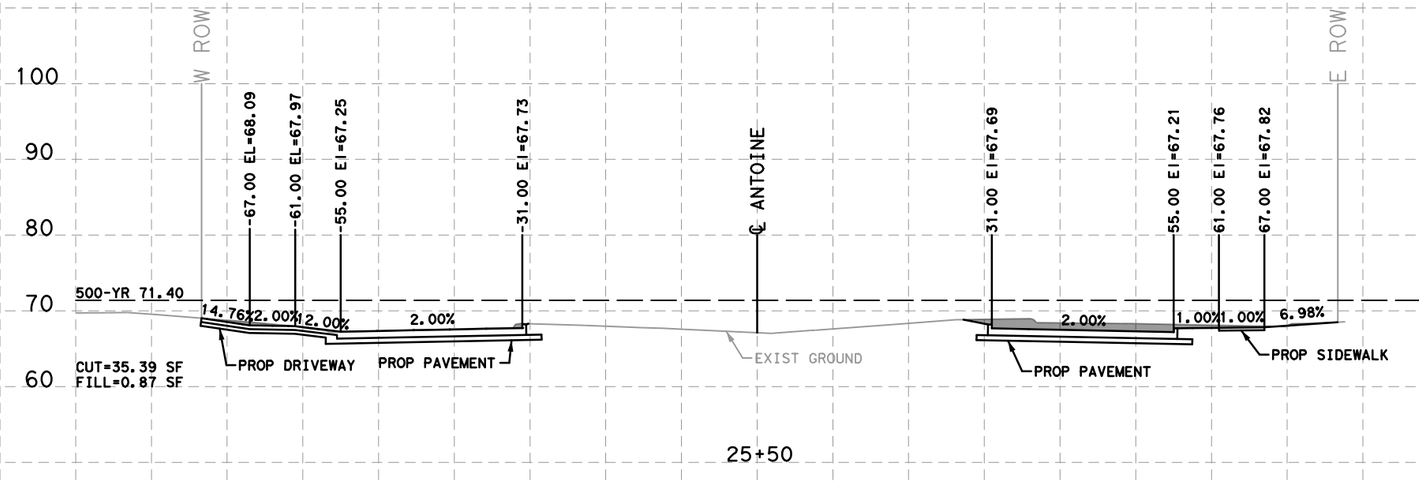

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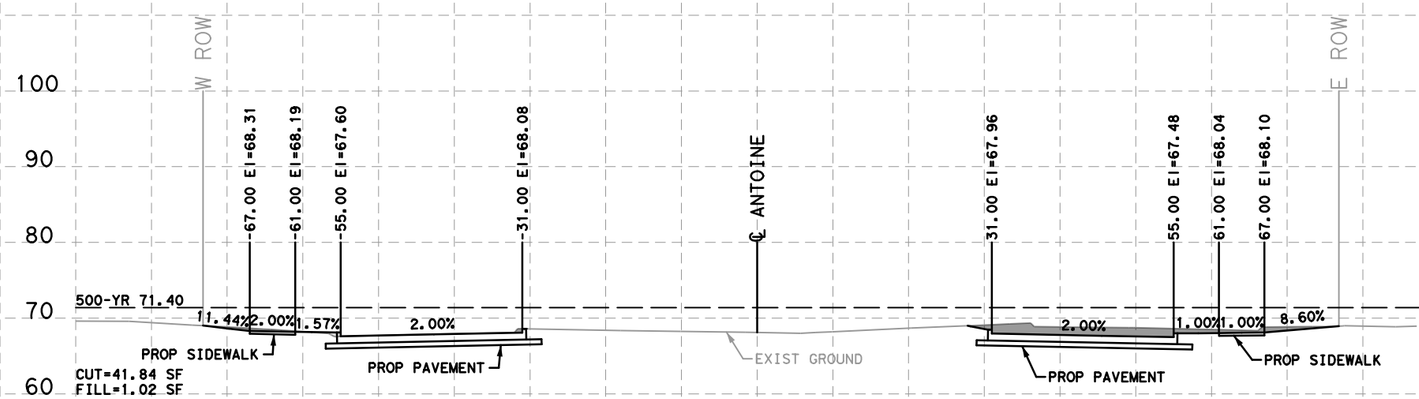

26+00

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 23 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 955 OF 1067	

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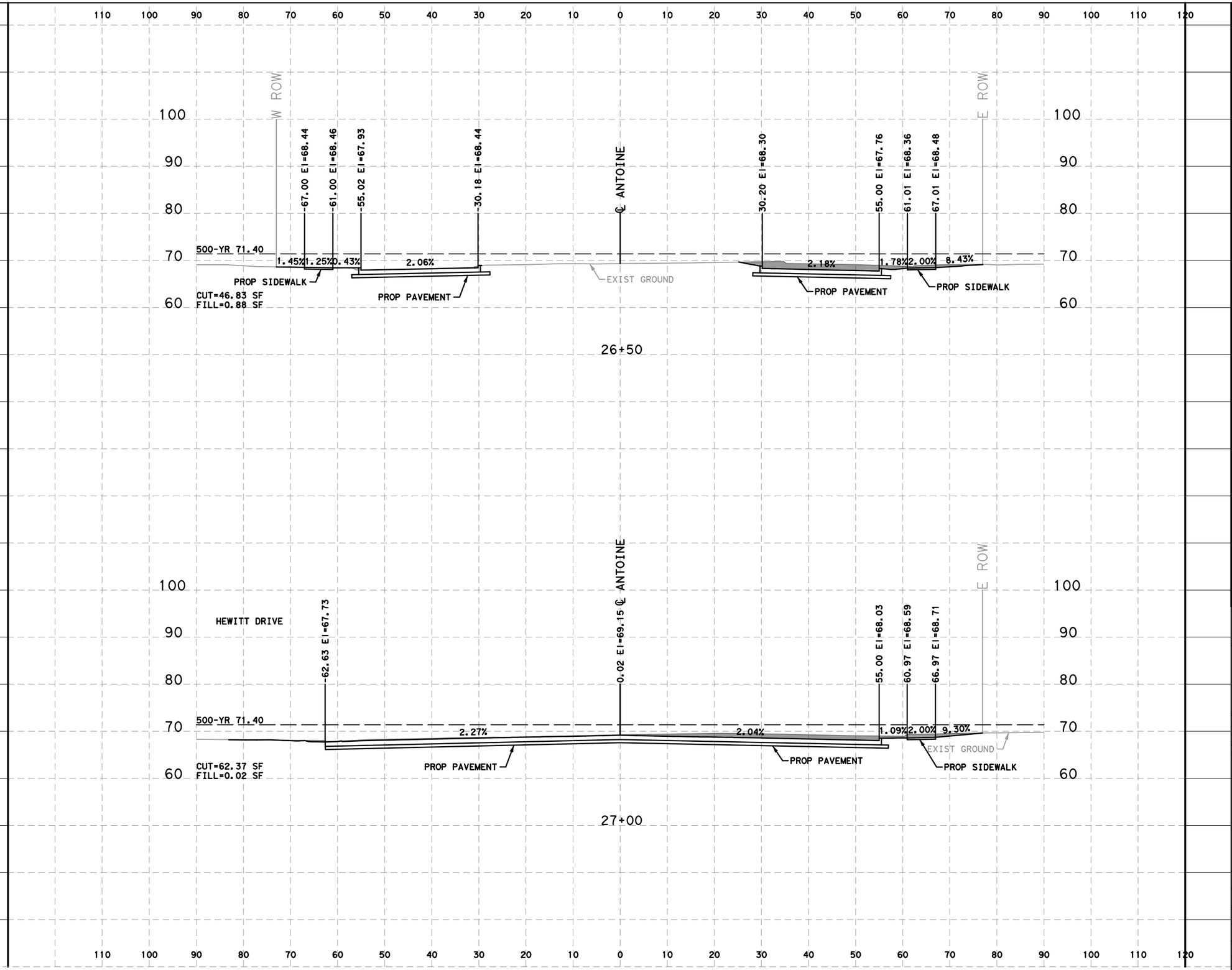

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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Engineer
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 24 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 956 OF 1067	

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn

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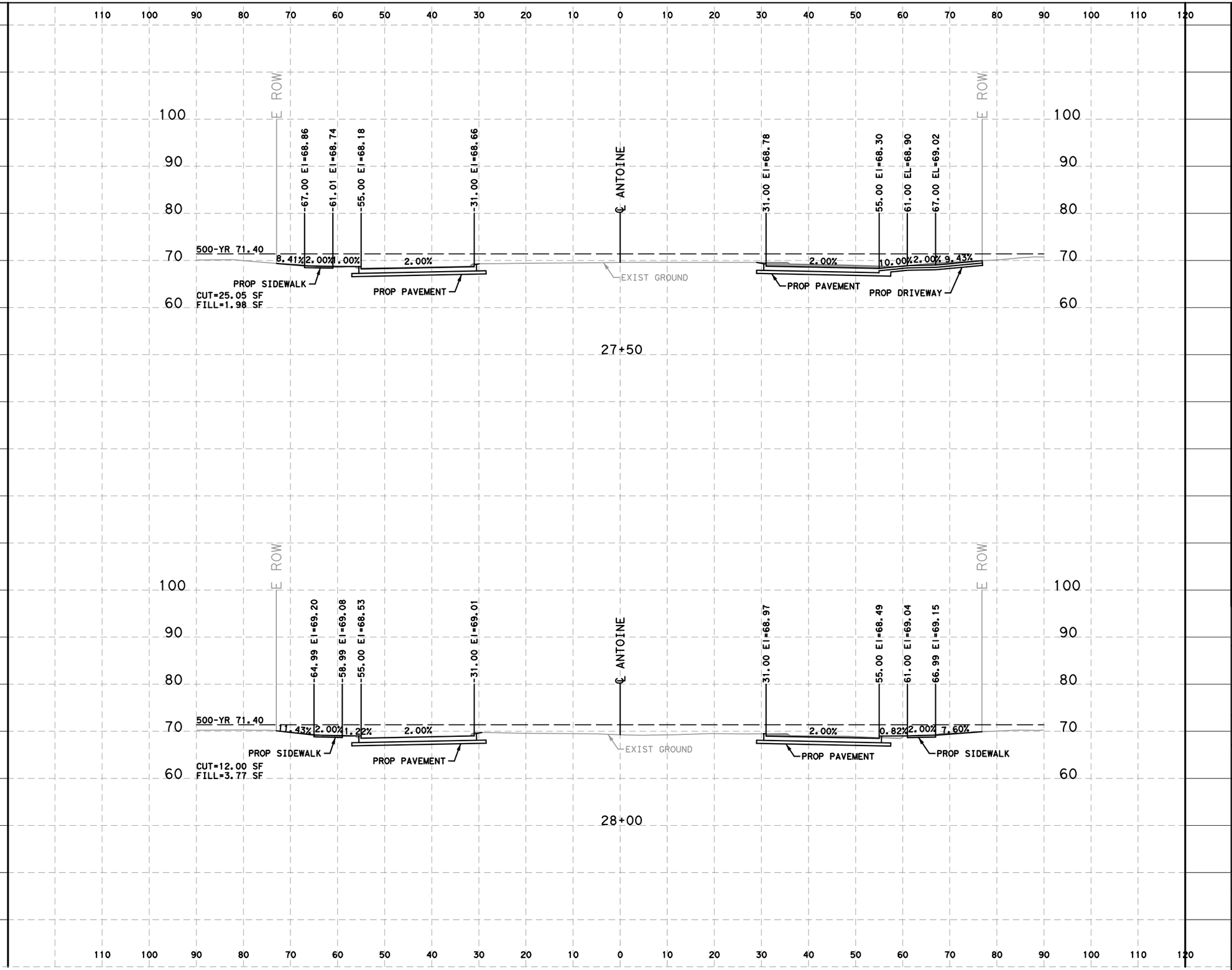

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 25 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 957 OF 1067	

Plotted on: 3/9/2026 6:33:15 PM
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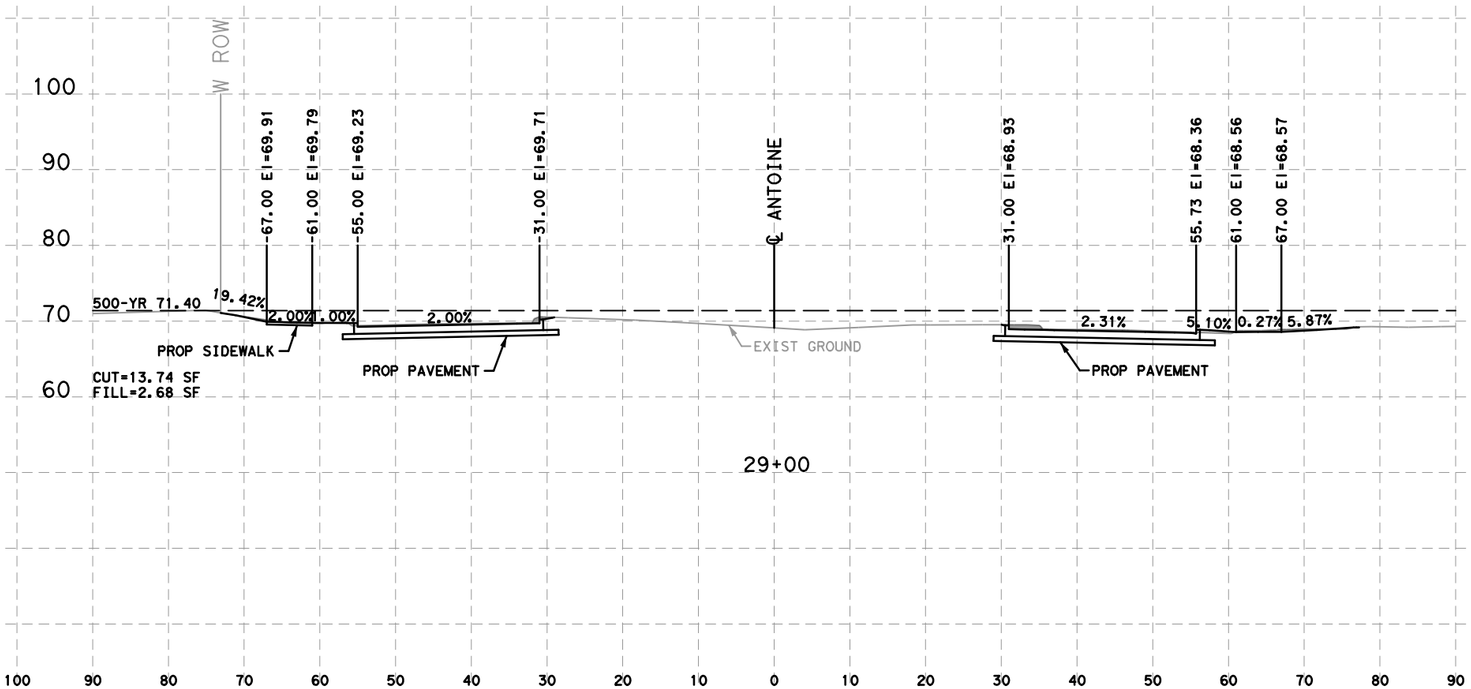

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 26 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 958 OF 1067	

Plotted on: 3/9/2026 6:33:16 PM
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Plot Driver:ANTOINE DR QE*APWA.pltcfg
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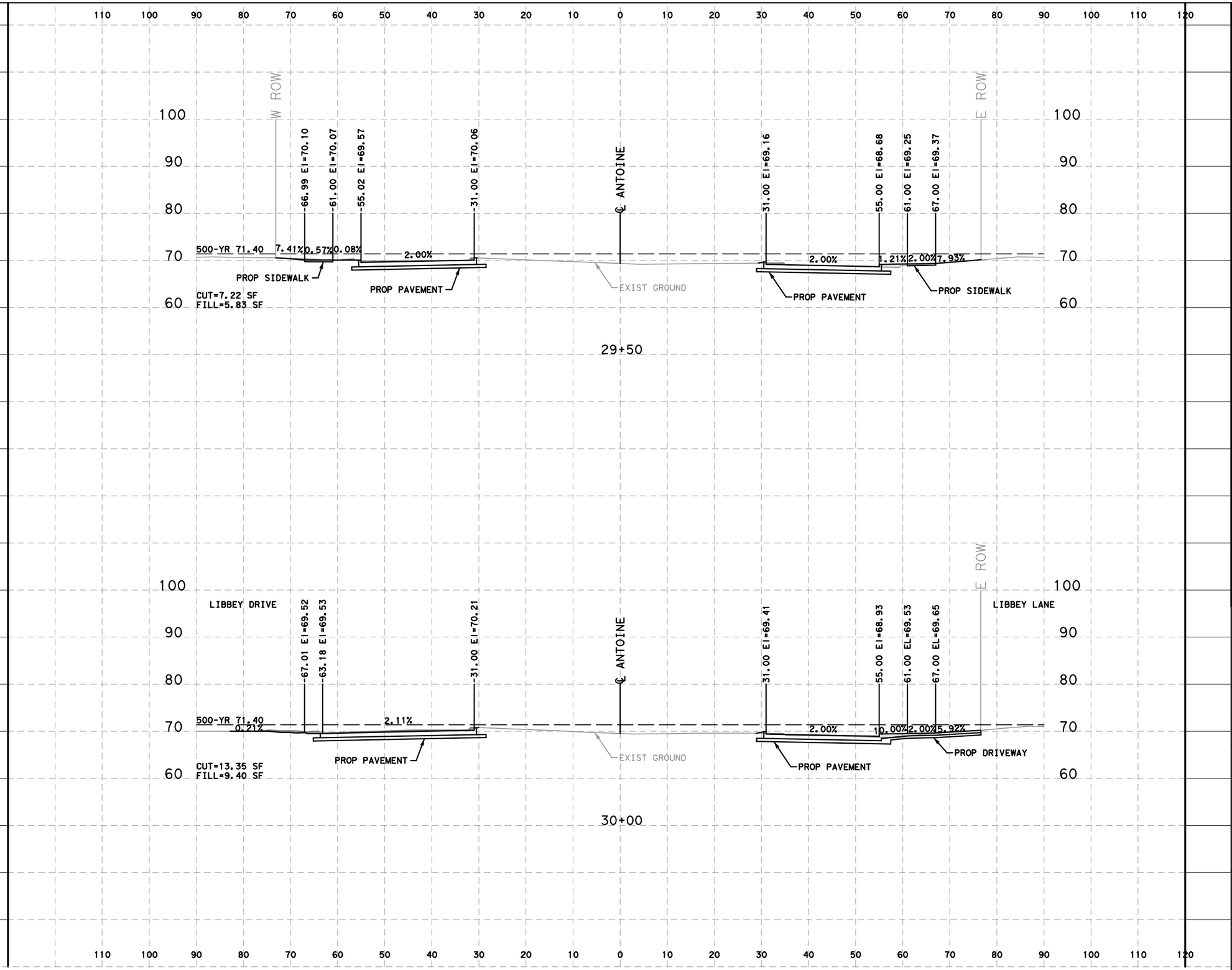

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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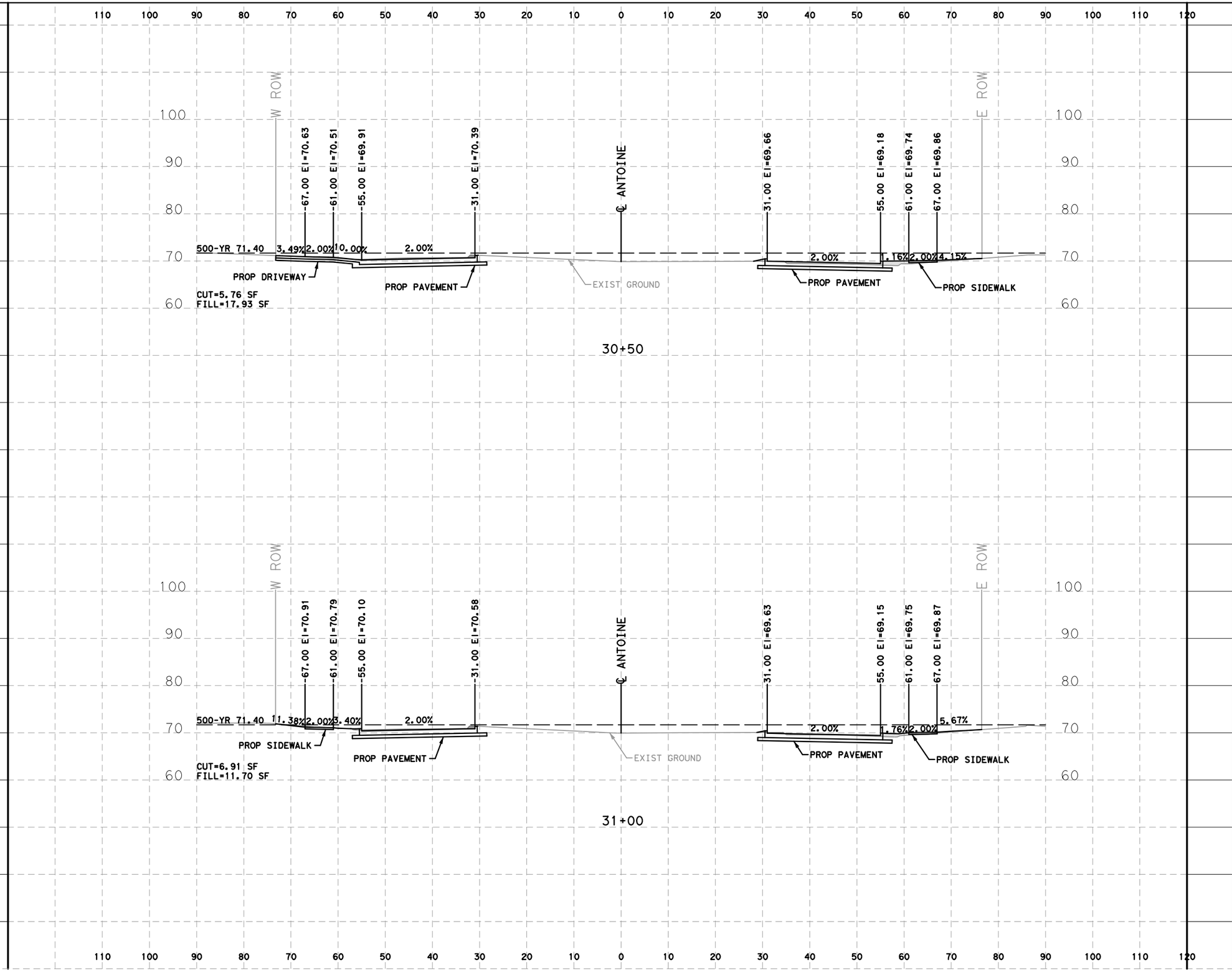
ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 27 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 959 OF 1067	

Plotted on: 3/9/2026 6:33:16 PM
IF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

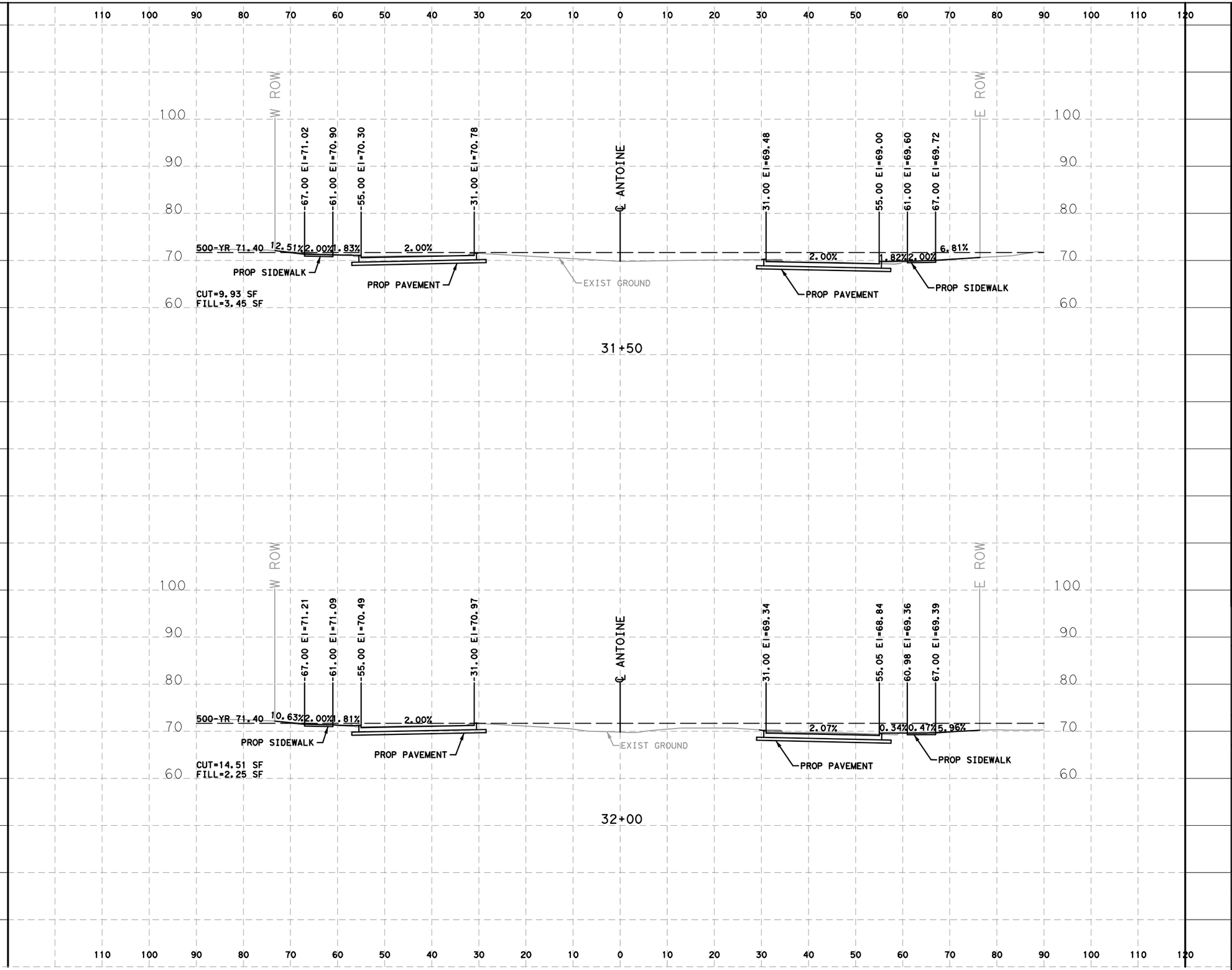
ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 28 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 960 OF 1067	

Plotted on: 3/9/2026 6:33:16 PM
IF-ANTOINE.ucf
Pen Table:ANT.tbl.tbl
Plot Driver:ANTOINE DR QE*APWA.pltcfg
Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 29 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 961 OF 1067	

Plotted on: 3/9/2026 6:33:16 PM
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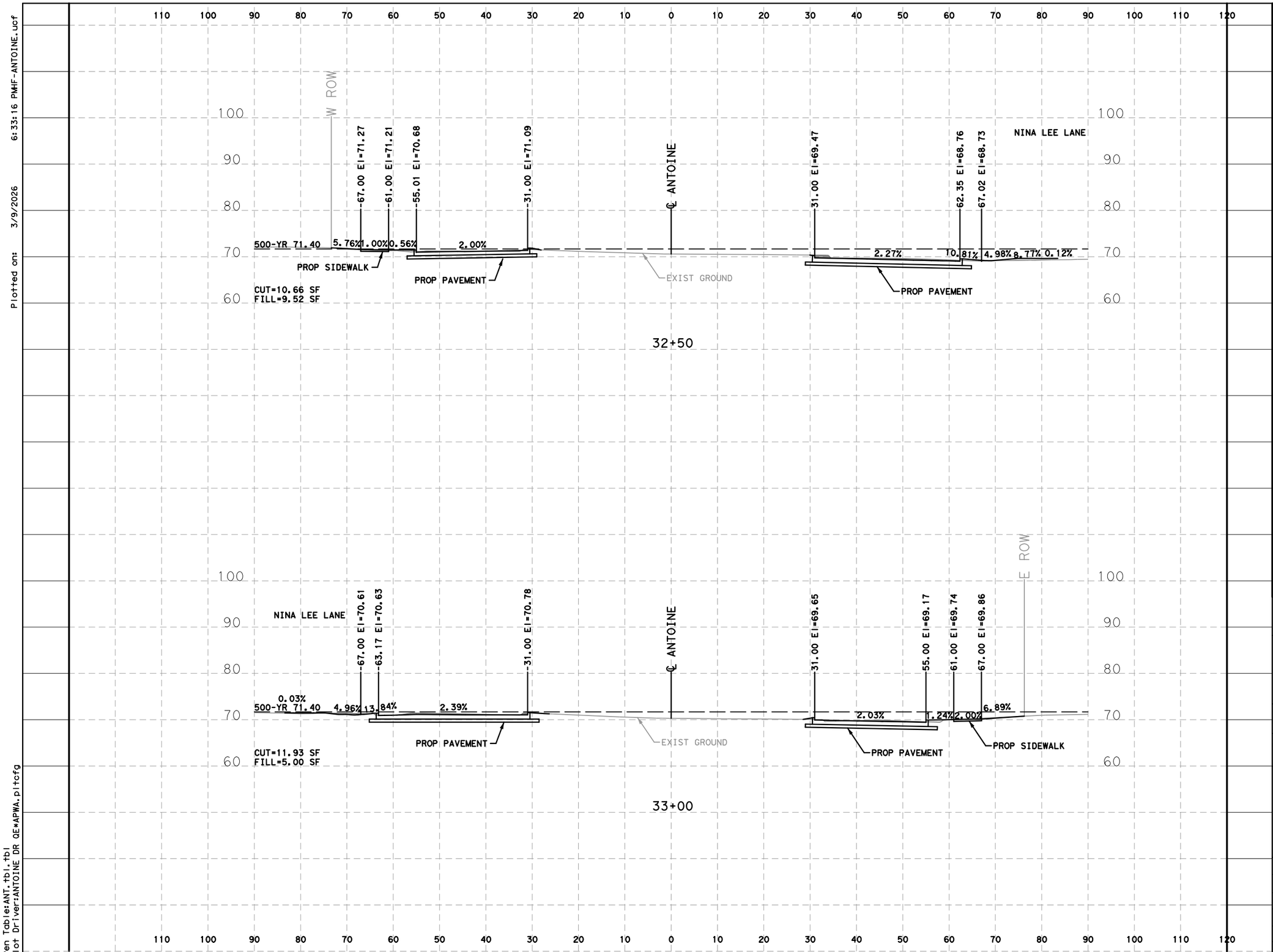

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 30 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 962 OF 1067	

Plotted on: 3/9/2026 6:33:16 PM
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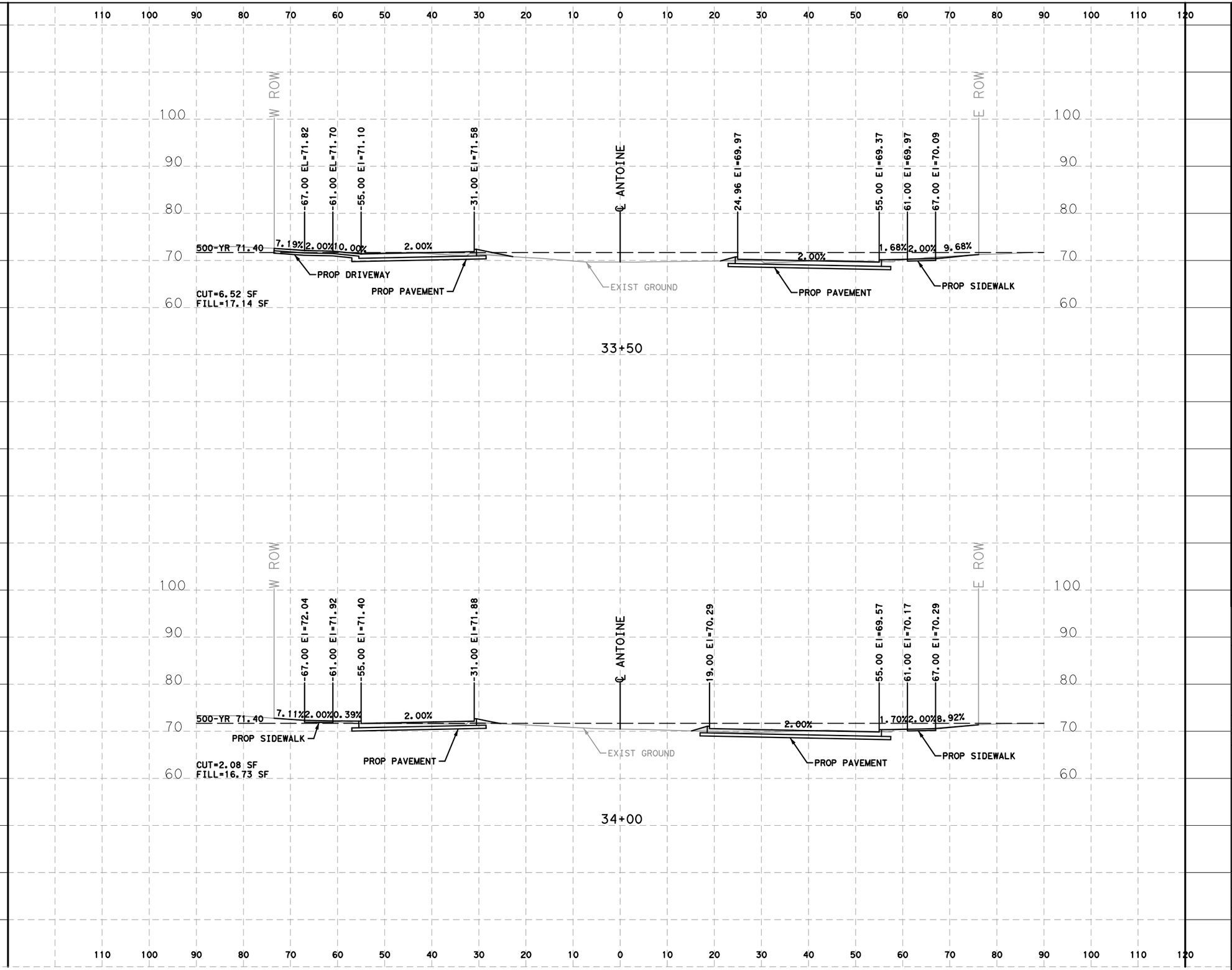

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 31 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 963 OF 1067	

Plotted on: 3/9/2026 6:33:17 PM
IF-ANTOINE.ucf
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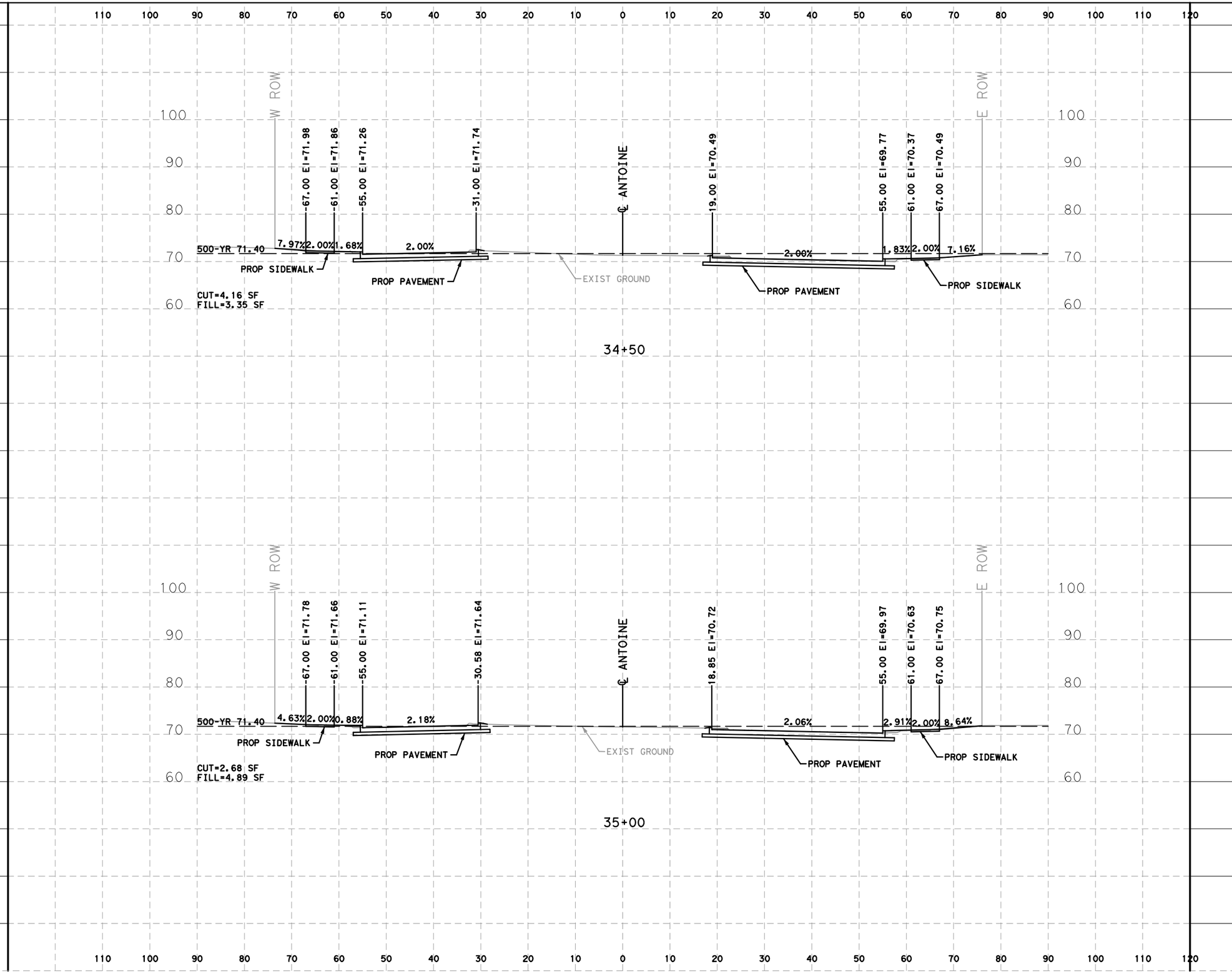

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 32 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 964 OF 1067	

Plotted on: 3/9/2026 6:33:17 PM\F-ANTOINE.ucf

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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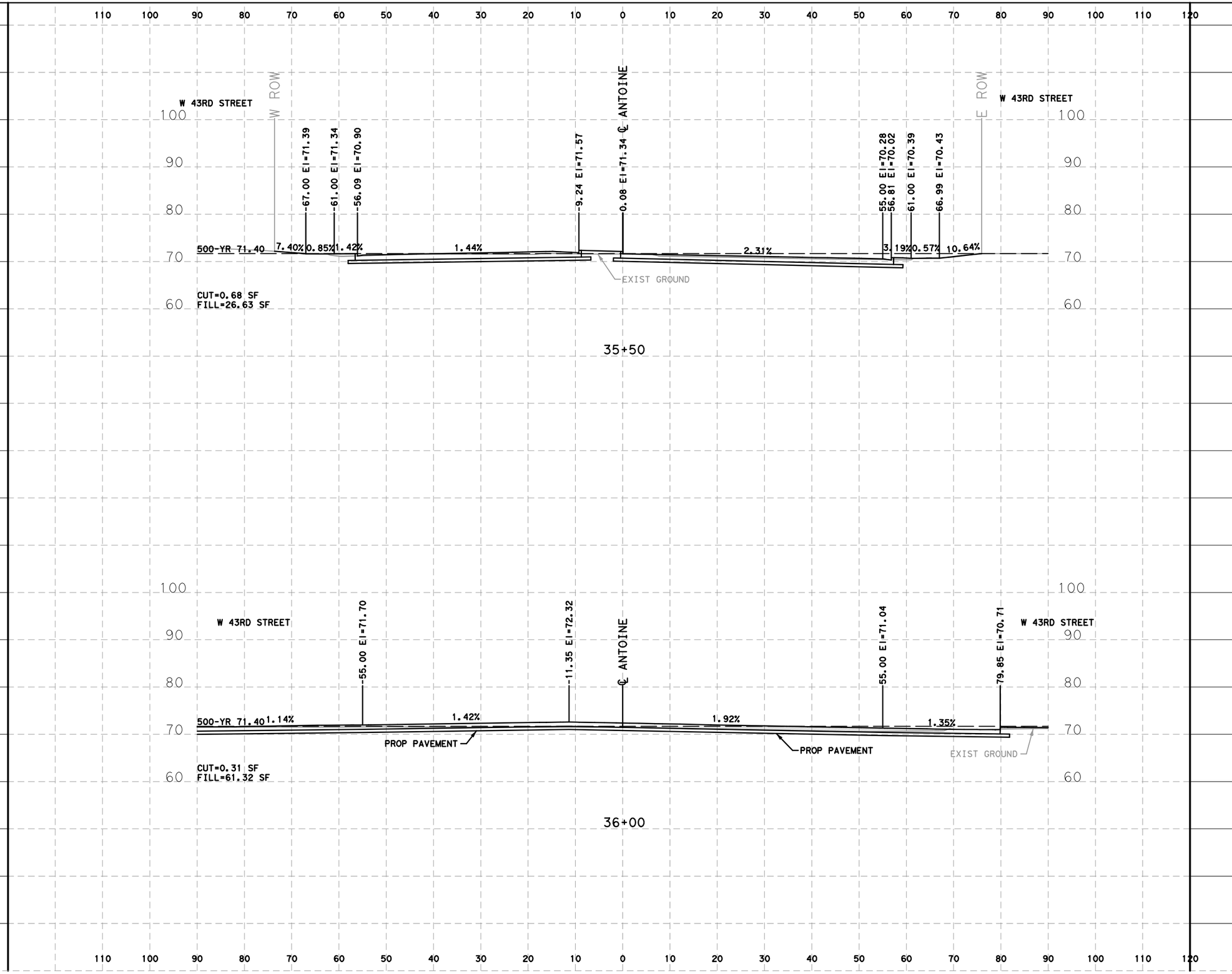

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn

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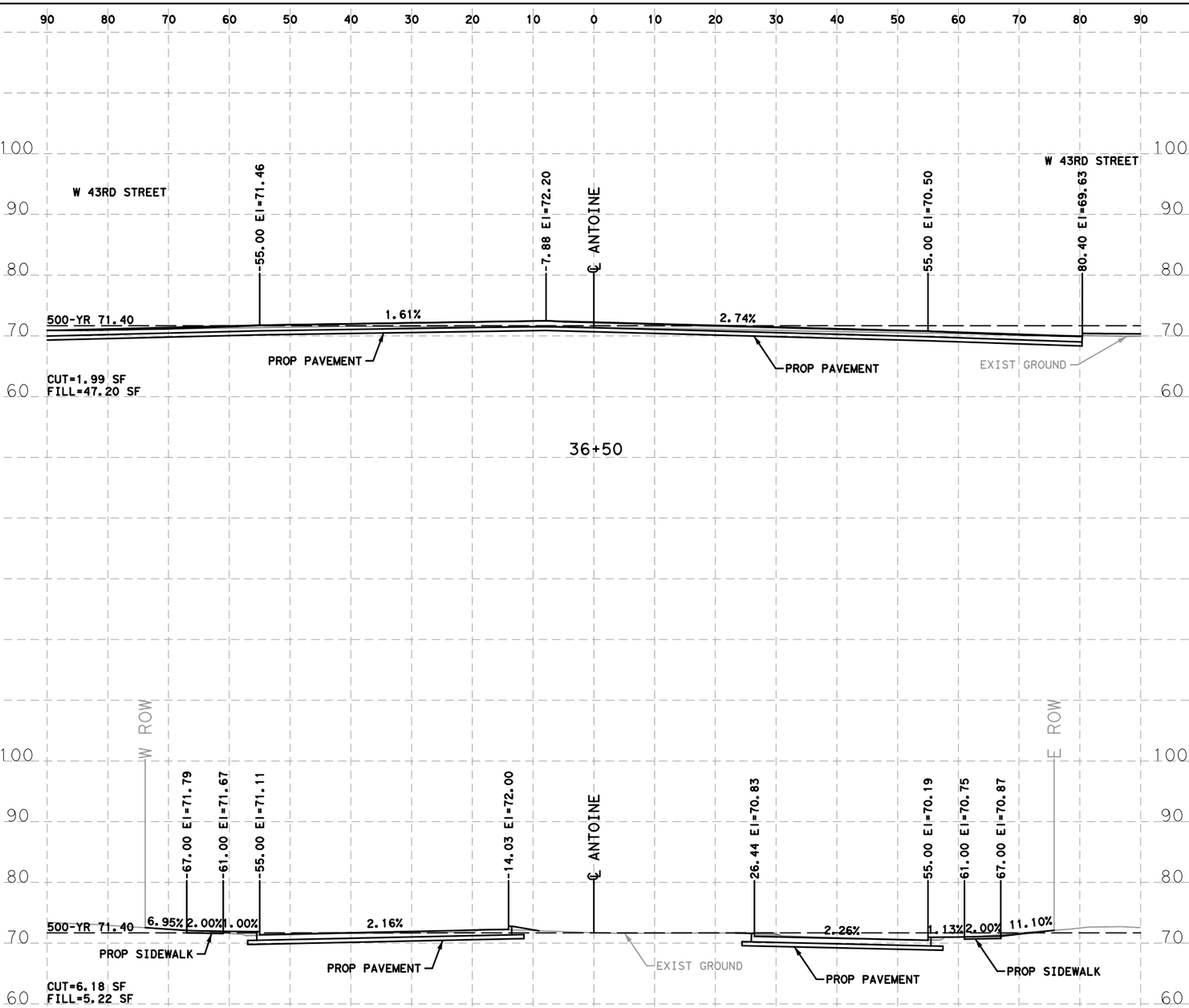
ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 33 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 965 OF 1067	



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 34 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 966 OF 1067	

Plotted on: 3/9/2026 6:33:17 PMIF-ANTOINE.ucf

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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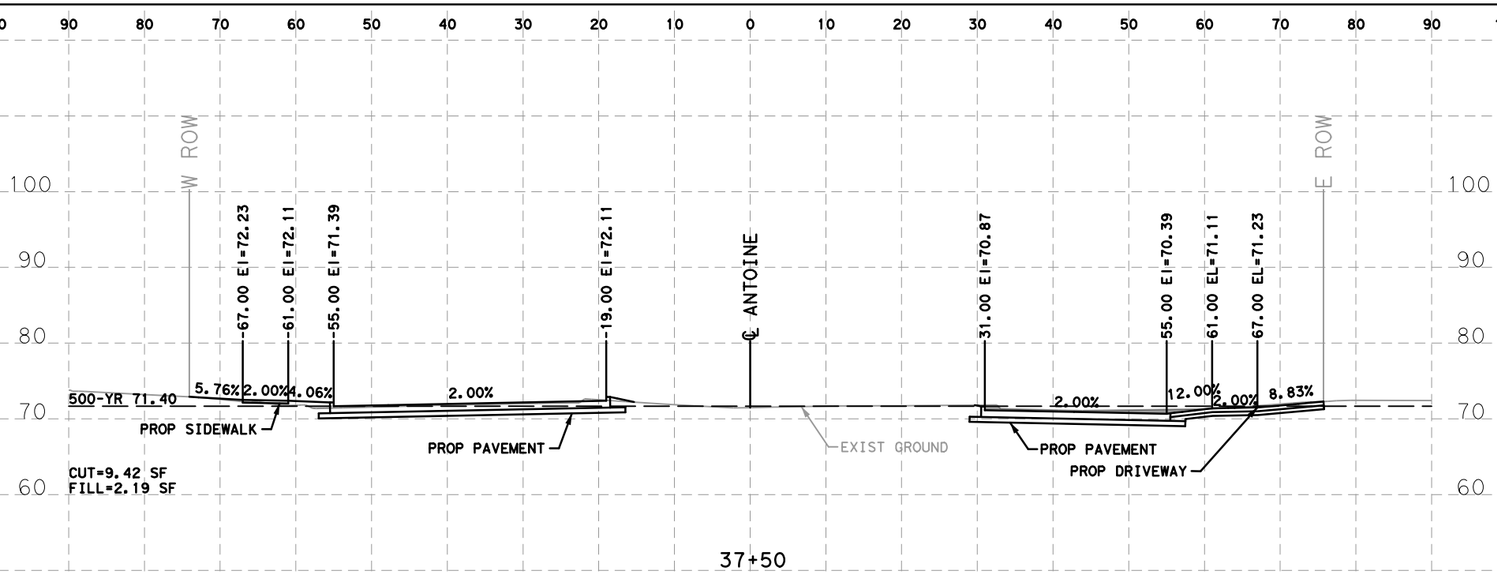
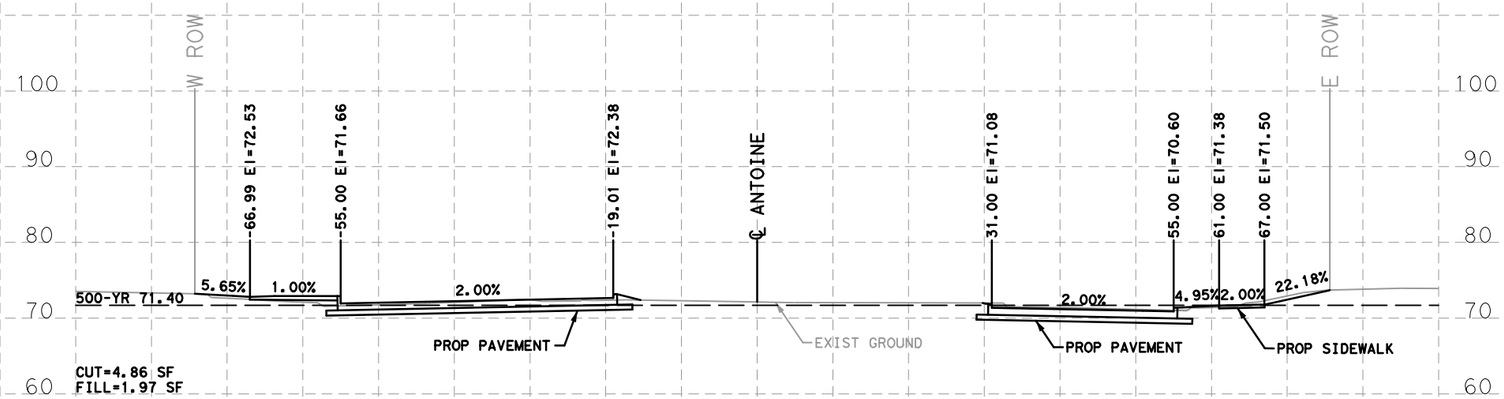


37+50



38+00

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 35 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 967 OF 1067	

Plotted on: 3/9/2026 6:33:17 PM
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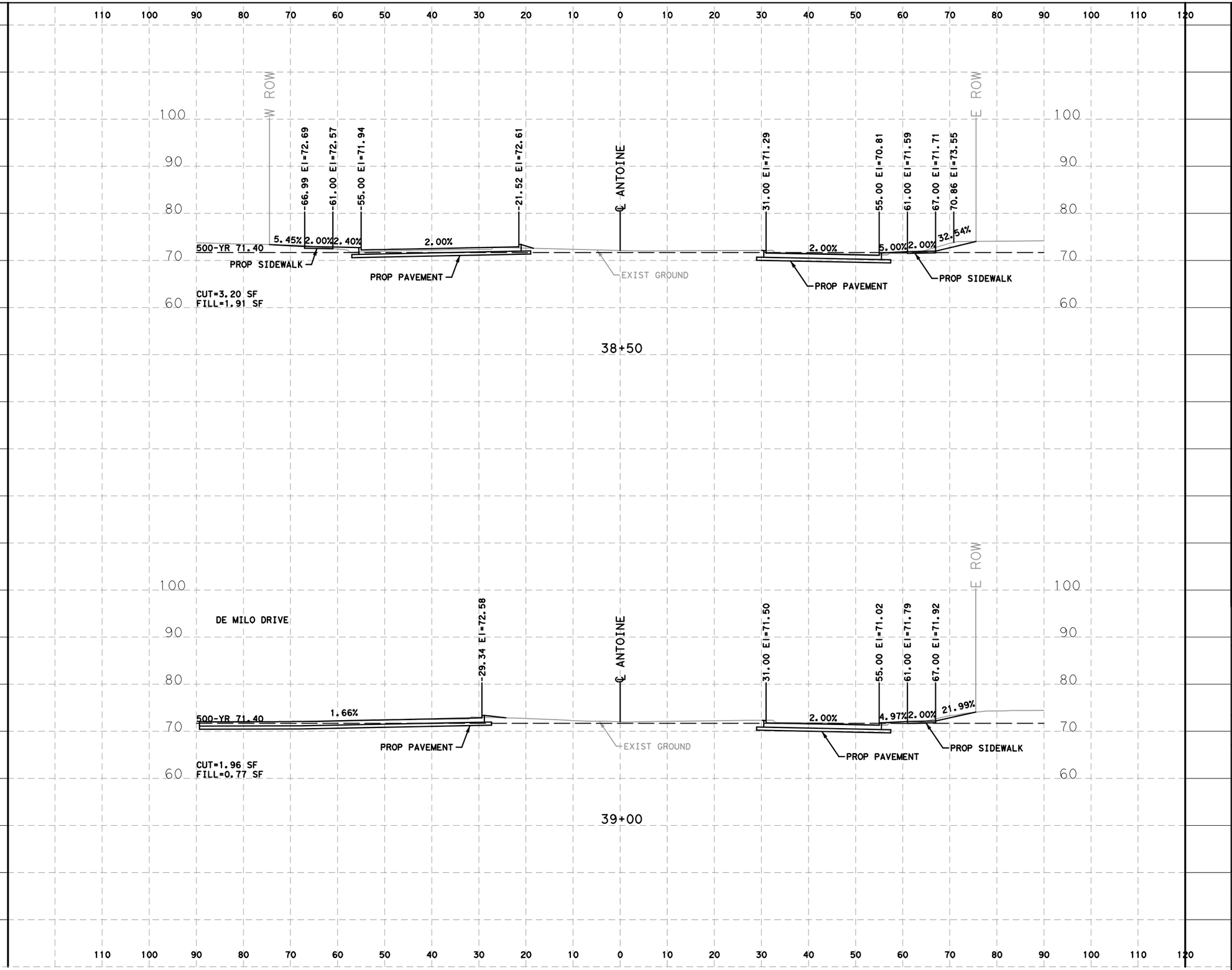

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 36 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 968 OF 1067	

Plotted on: 3/9/2026 6:33:18 PM\F-ANTOINE.ucf

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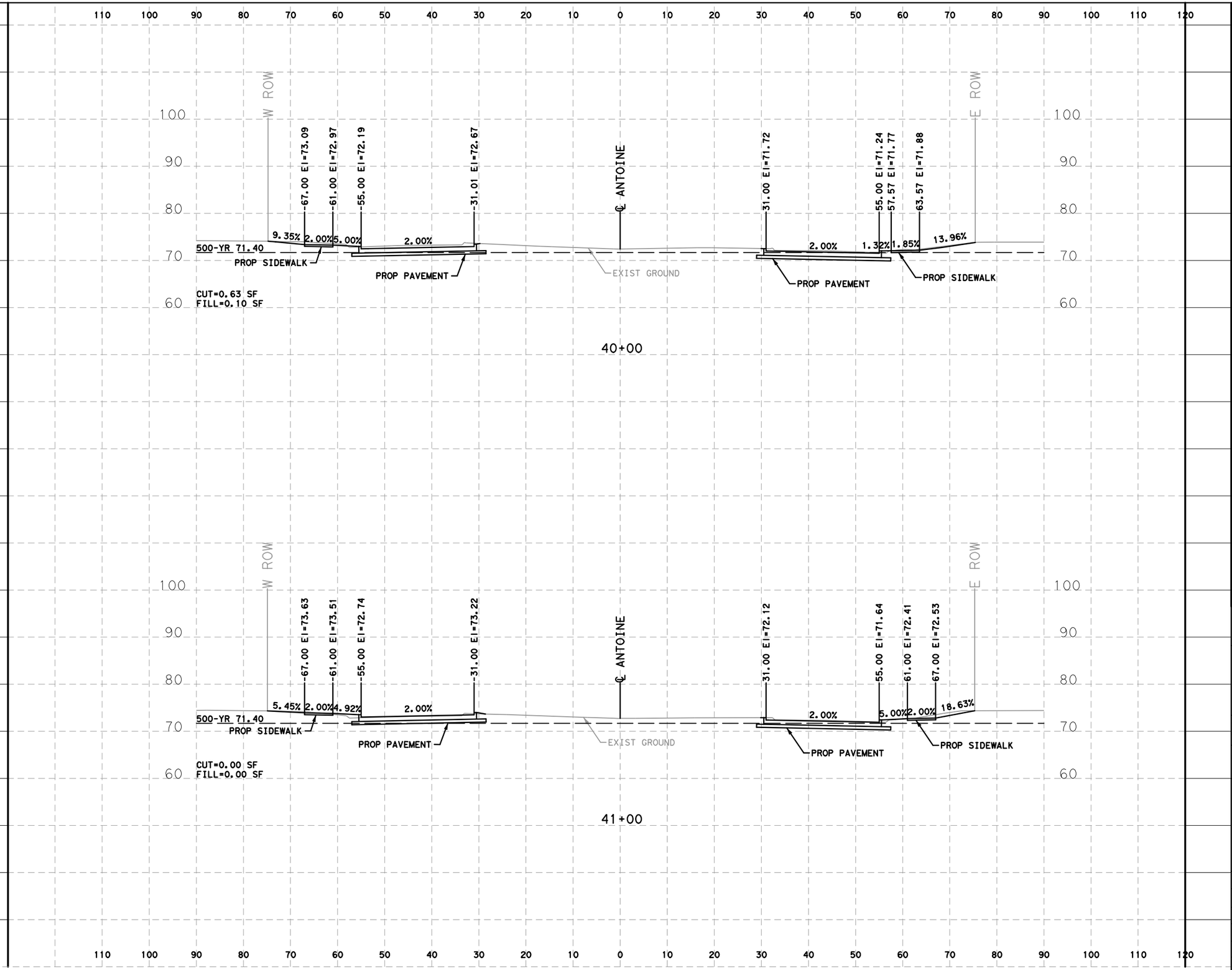
Plot Driver:ANTOINE DR QE*APWA.pltcfg

Design Filename: K:\00050\00050-0089-01 Antoine Drive Design\2 Design Phase\CAD\5. PLAN SHEET\CROSS SECTIONS\PR_XSEC.dgn



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 37 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 969 OF 1067	

Plotted on: 3/9/2026 6:33:18 PM\F-ANTOINE.ucf

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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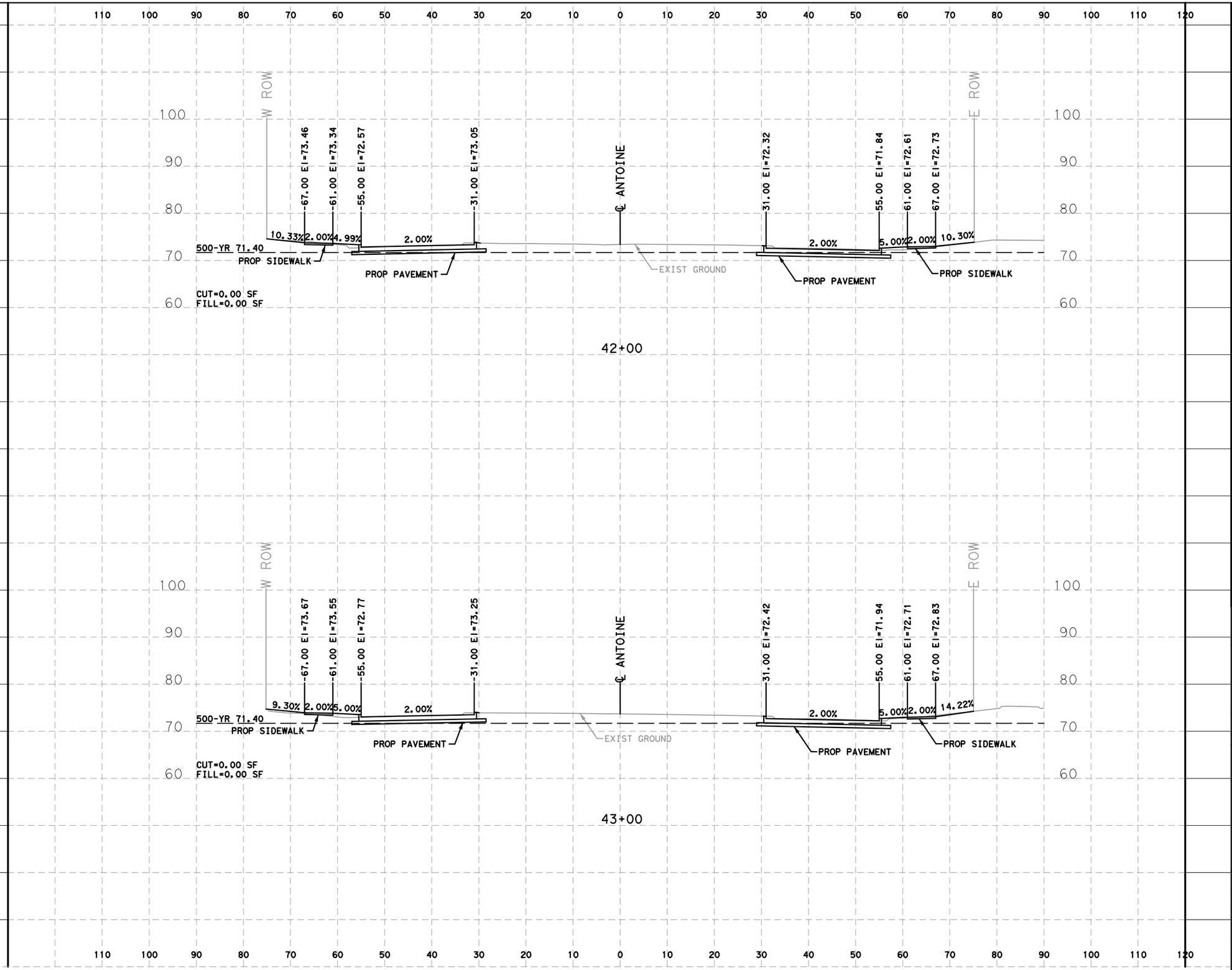

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 38 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 970 OF 1067	

Plotted on: 3/9/2026 6:33:18 PMIF-ANTOINE.ucf

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Plot Driver:ANTOINE DR QE*APWA.pltcfg

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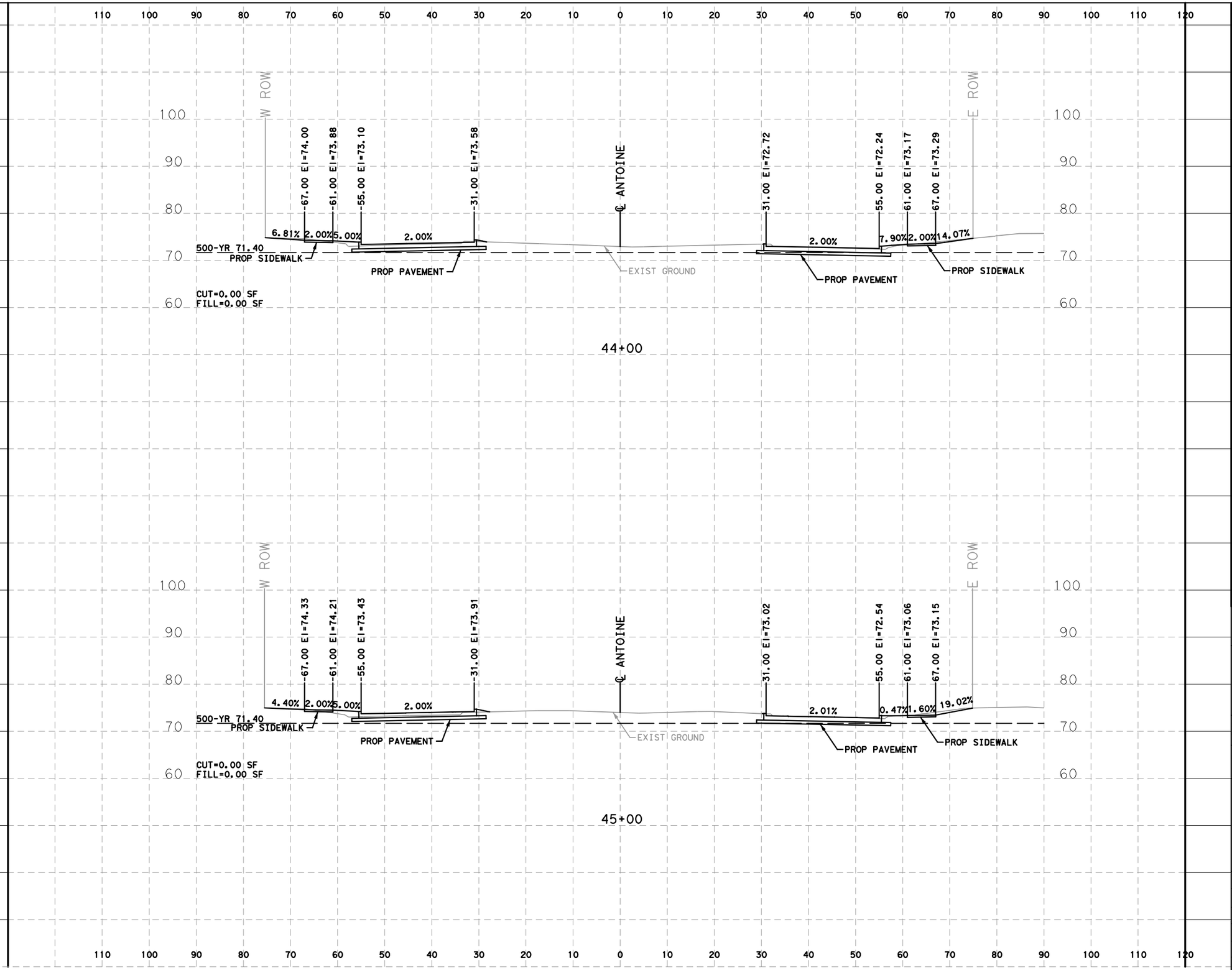

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 39 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 971 OF 1067	

Plotted on: 3/9/2026 6:33:18 PM
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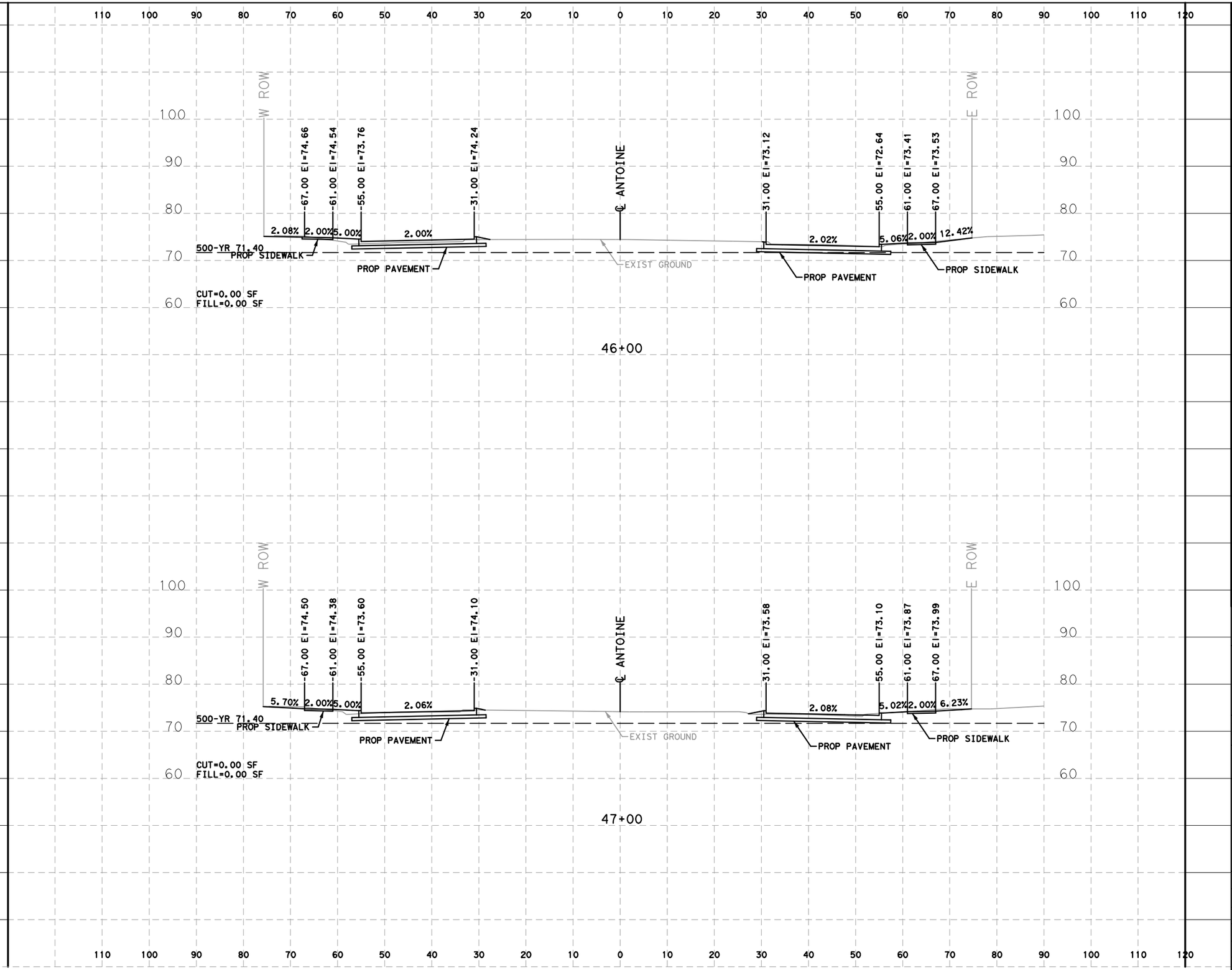

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 40 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 972 OF 1067	

Plotted on: 3/9/2026 6:33:18 PM
IF-ANTOINE.ucf
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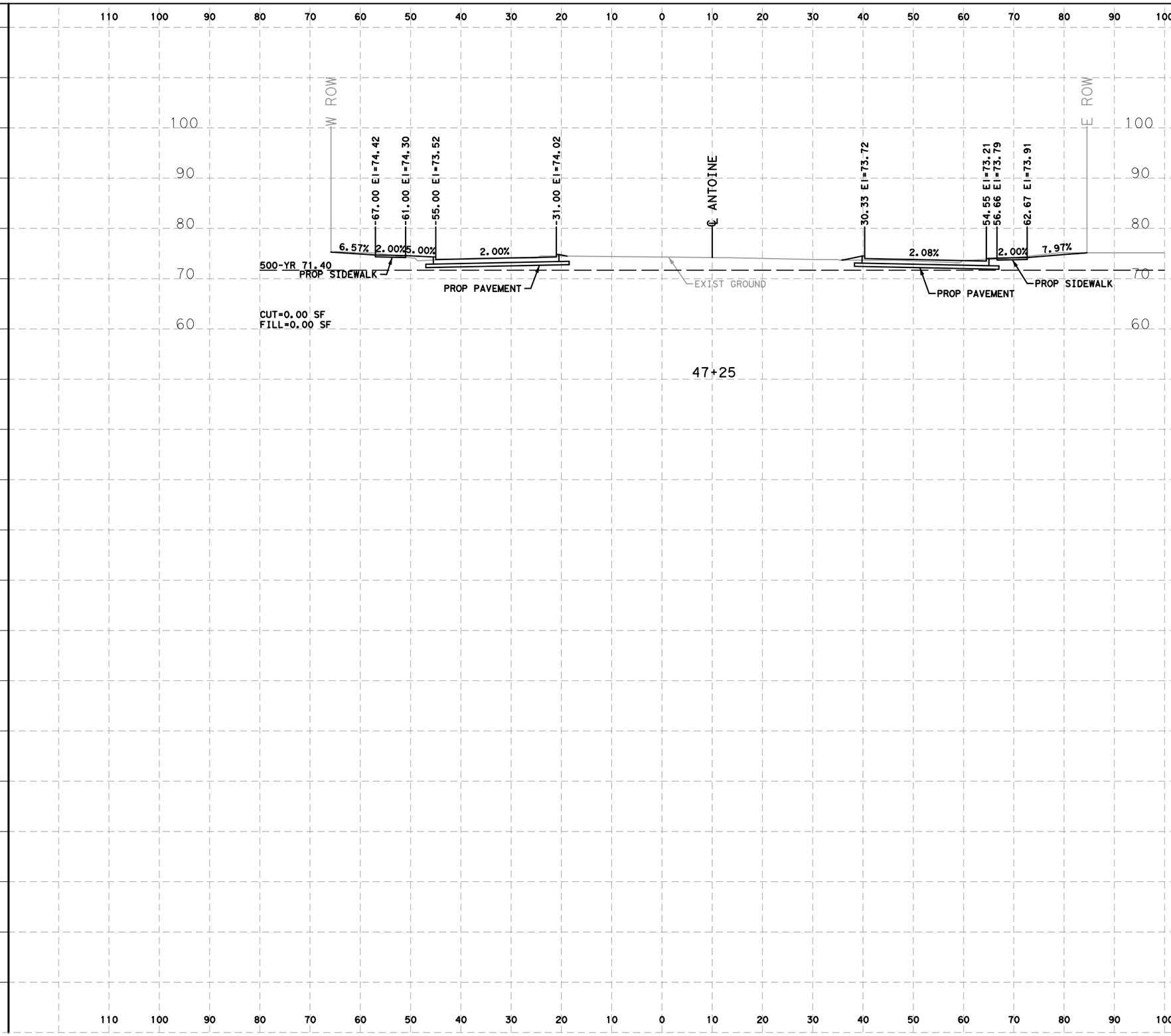

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

CUT=XX SF

FILL=XX SF

No.	DATE	REVISIONS	APP.

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QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
6330 West Loop South, Suite 150 ● Bellaire, TX 77401
713 777 5337

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90169
MARCH 2026
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QUIDDITY ENGINEERING
Texas Registered Engineering Firm F-23290

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 41 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
HORIZ 1"=40' VERT 1"=4'	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 973 OF 1067	

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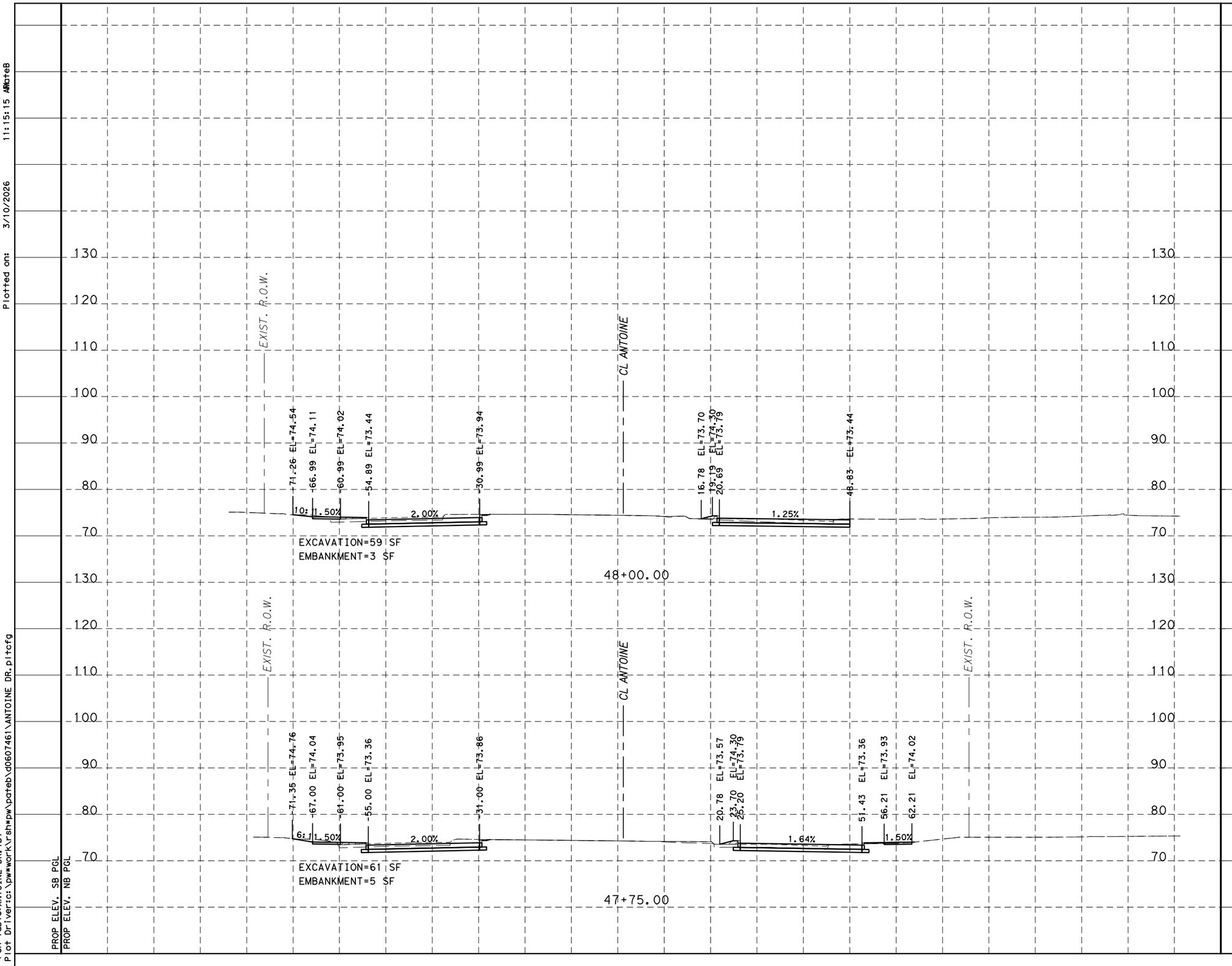

HORZ 0' 10' 20'
VERT 0' 1' 2'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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Date 91874
3/10/2026
or
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Texas Registered Engineering Firm F-3401

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 42 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 974 OF 1067	

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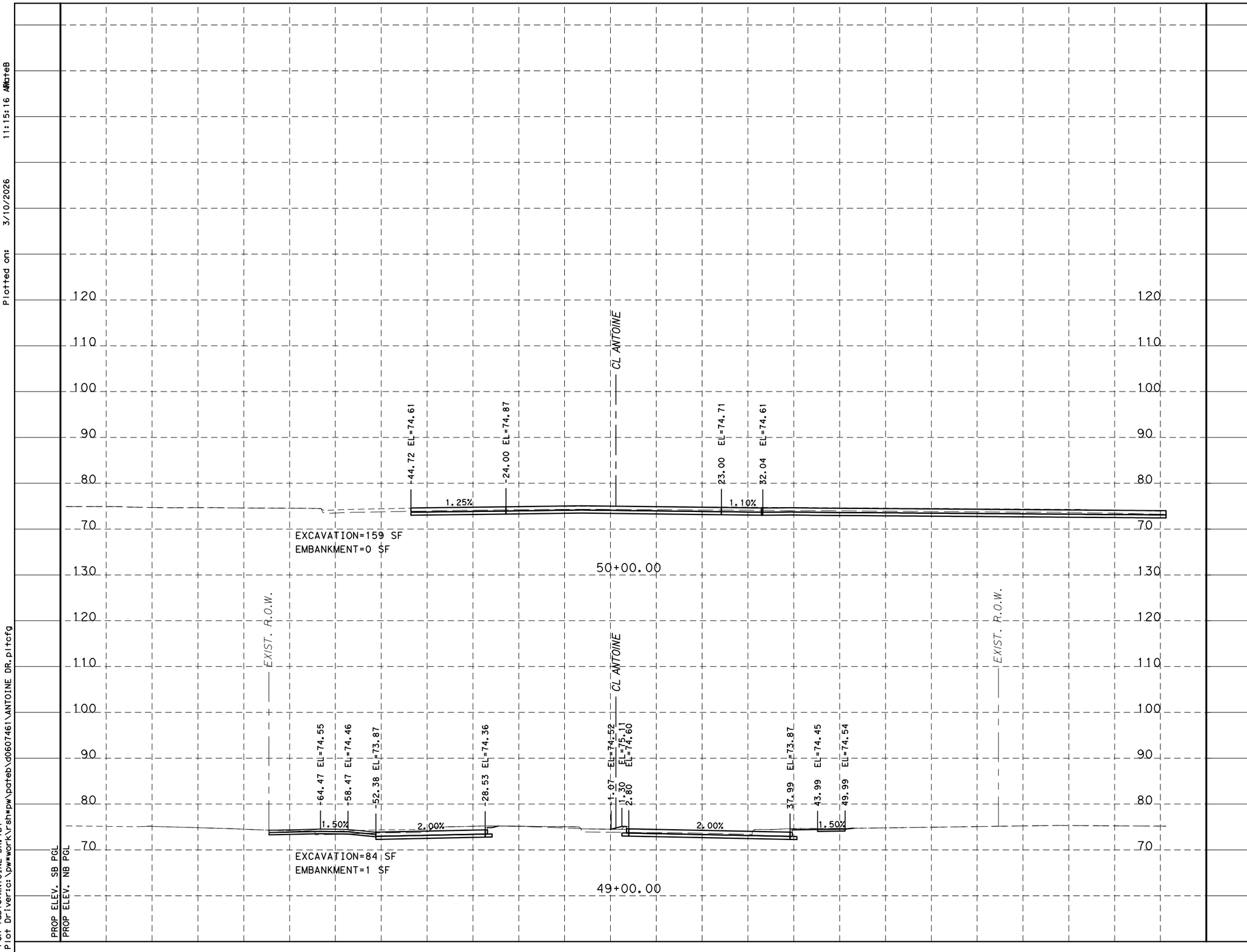

HORZ 0' 10' 20'
VERT 0' 1' 2'
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 43 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 975 OF 1067	

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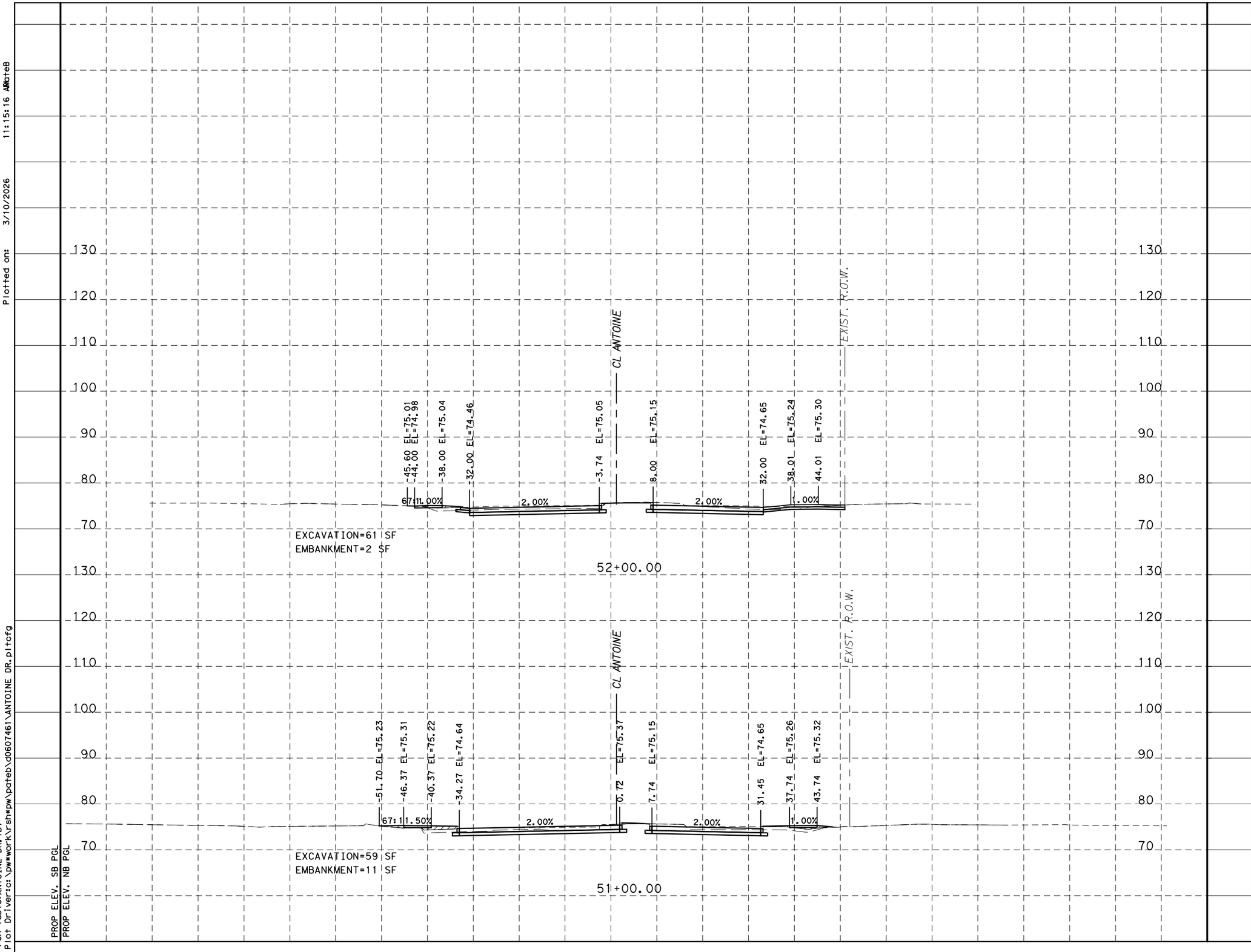

HORZ 0' 10' 20'
VERT 0' 1' 2'
SCALE IN FEET

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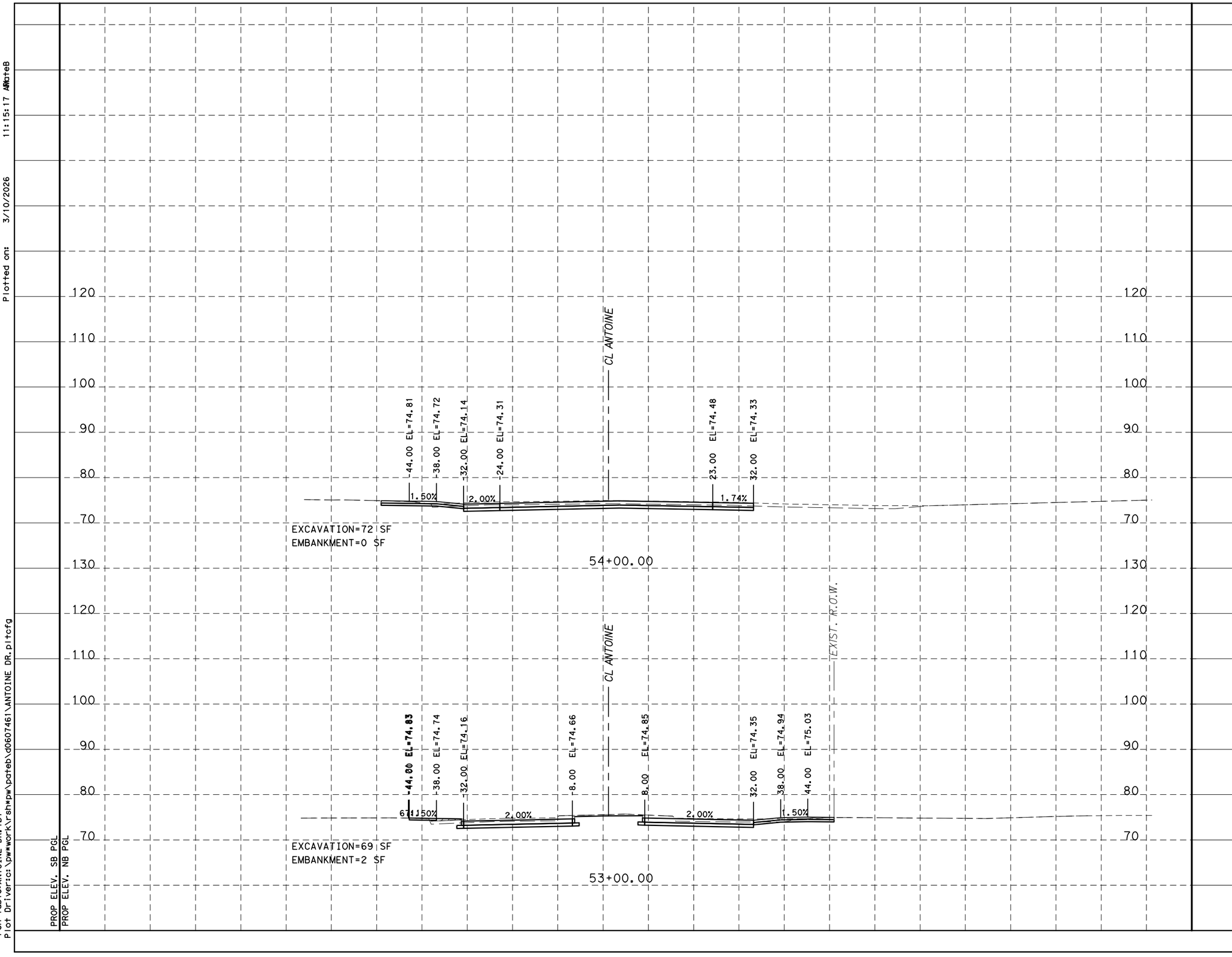
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 44 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 976 OF 1067	



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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 45 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 977 OF 1067	

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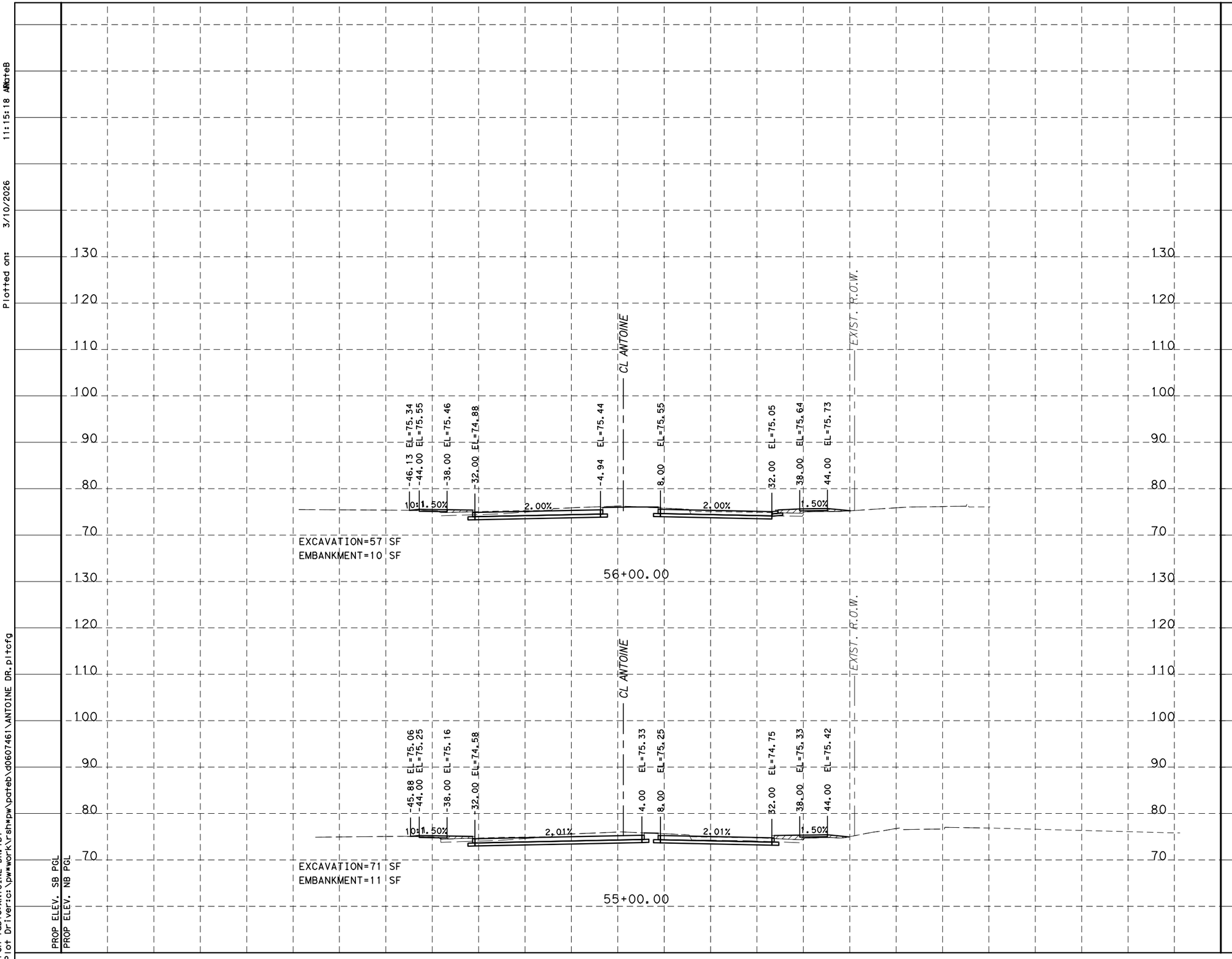

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Engineer
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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 46 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 978 OF 1067	

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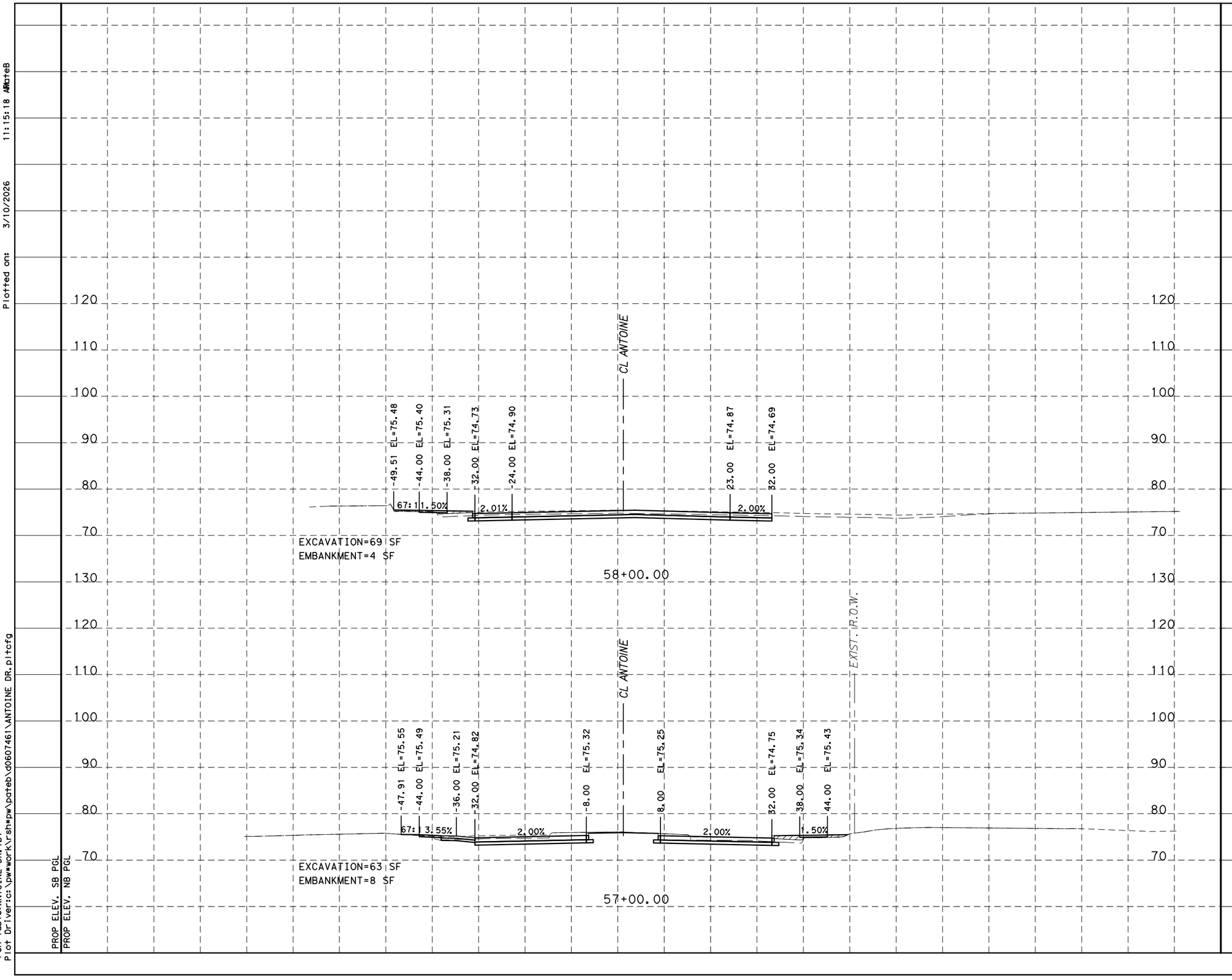

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 47 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 979 OF 1067	

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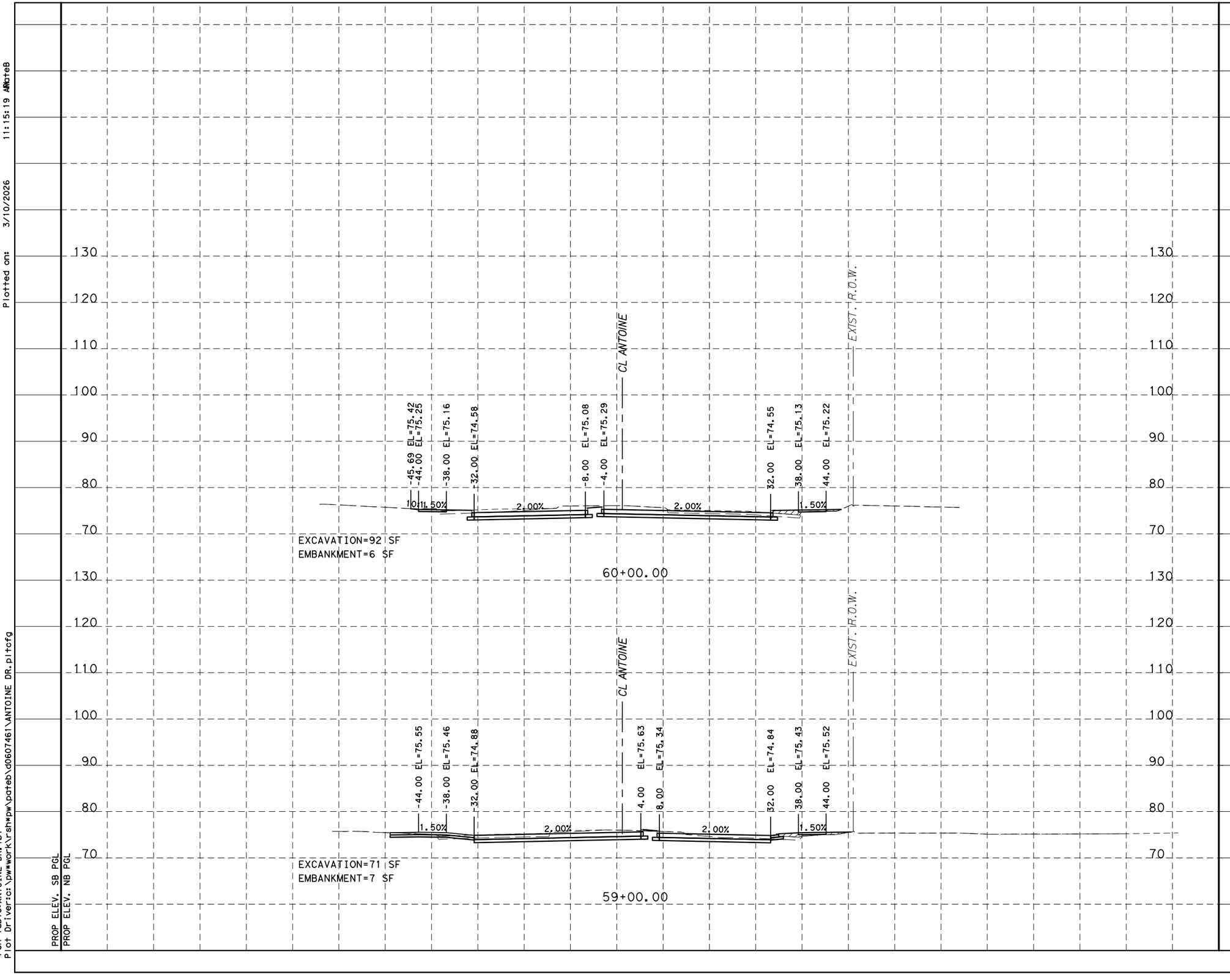

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 48 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 980 OF 1067	

Plotted on: 3/10/2026 11:15:19 AM by: mateB
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Plotted on: 3/10/2026 11:15:19 AM by mateB
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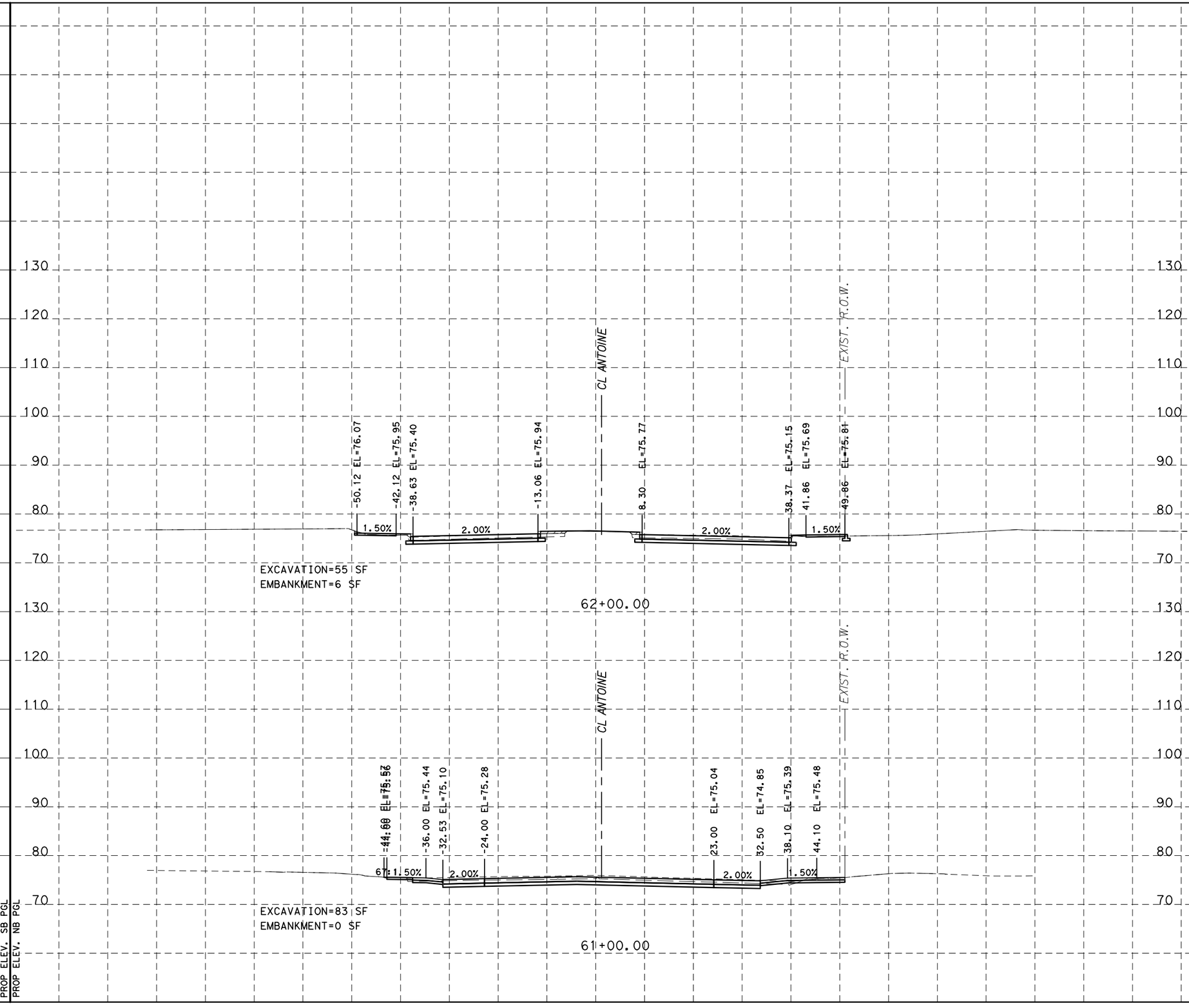

HORZ 0' 10' 20'
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 49 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 981 OF 1067	

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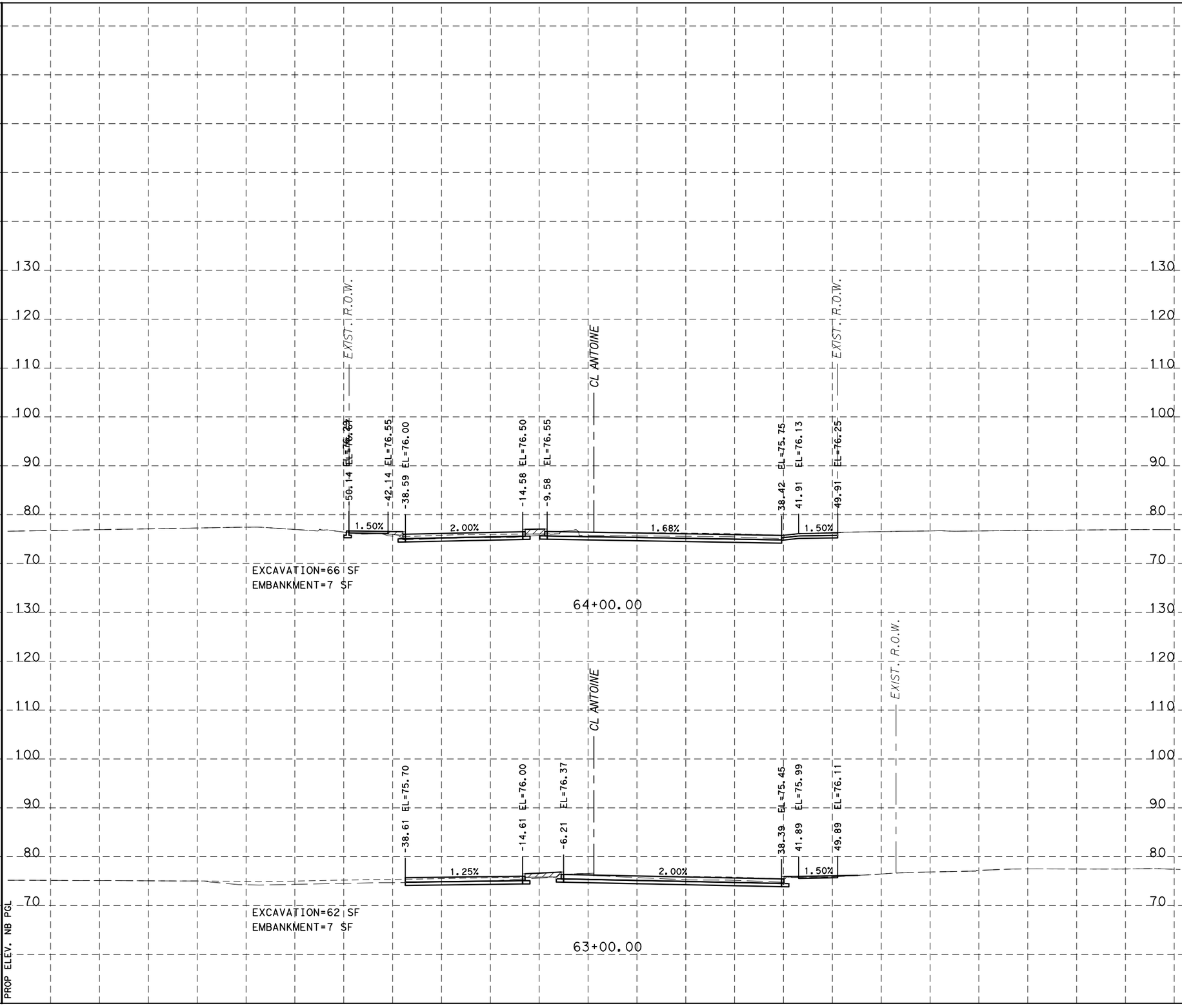

HORZ 0′ 10′ 20′
VERT 0′ 1′ 2′
SCALE IN FEET

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 50 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 982 OF 1067	

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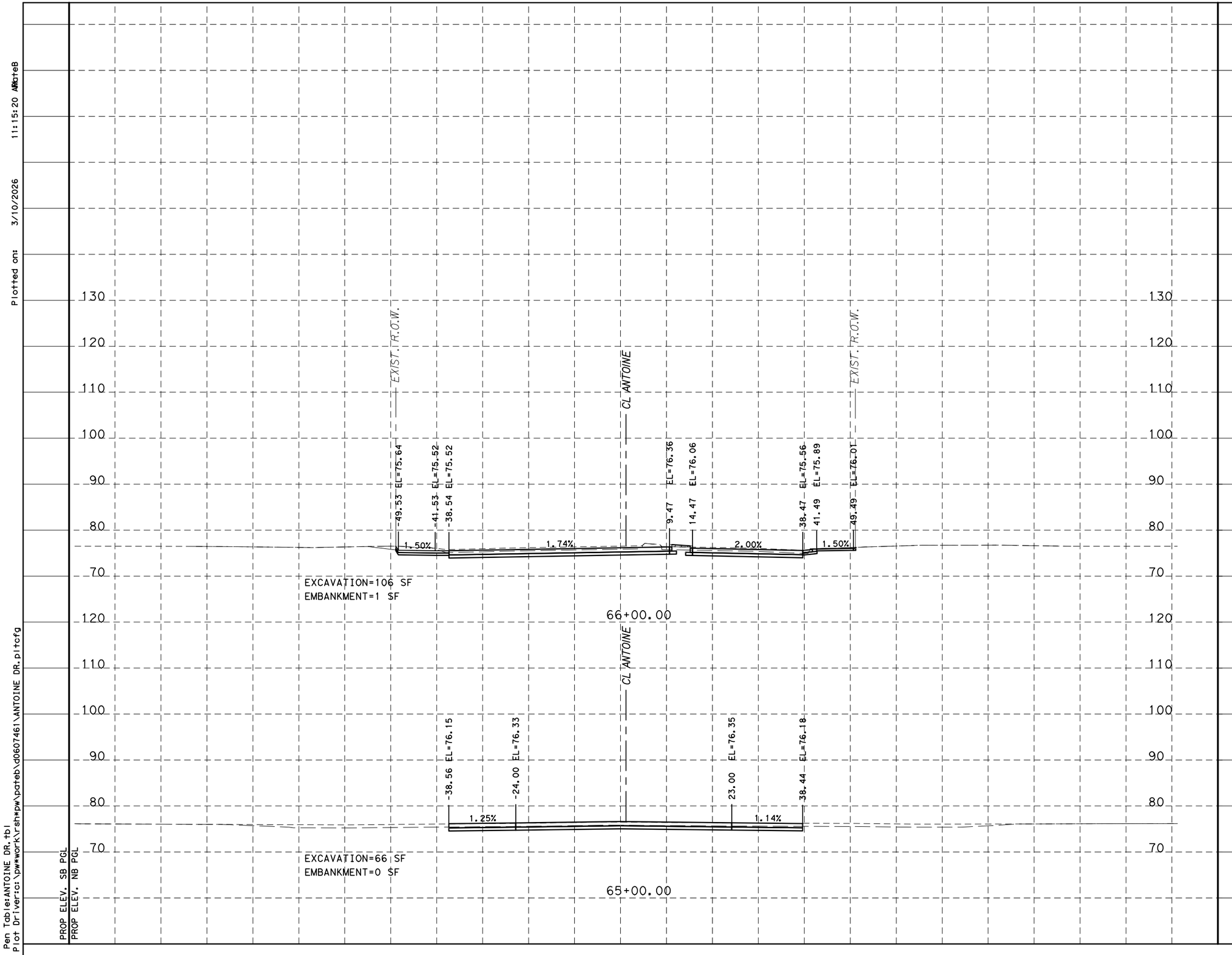

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3/10/2026
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Texas Registered Engineering Firm F-3401

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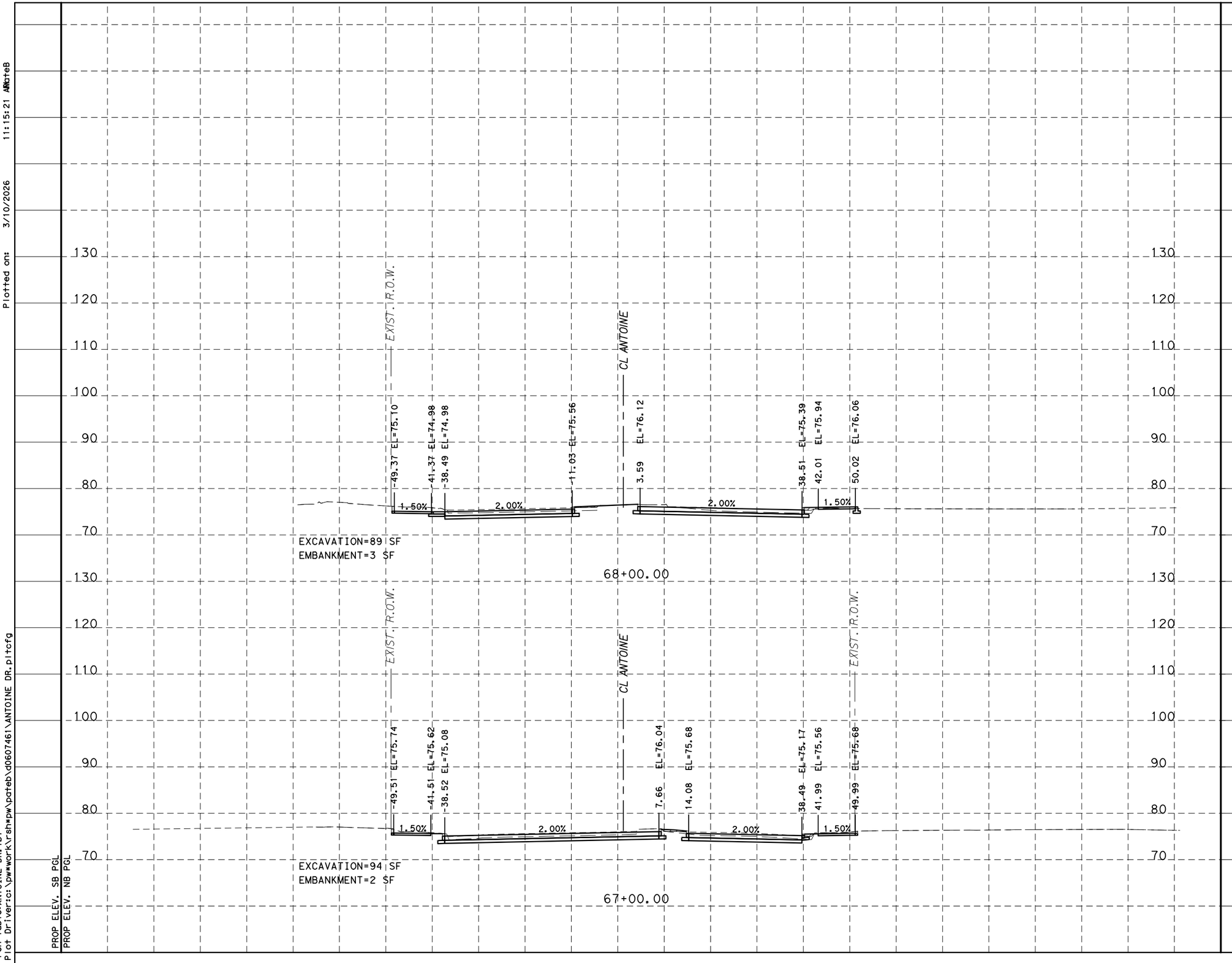
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 51 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 983 OF 1067	



HORZ 0' 10' 20'
VERT 0' 1' 2'
SCALE IN FEET

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

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Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
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PROPOSED CROSS SECTIONS

SHEET 52 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 984 OF 1067	

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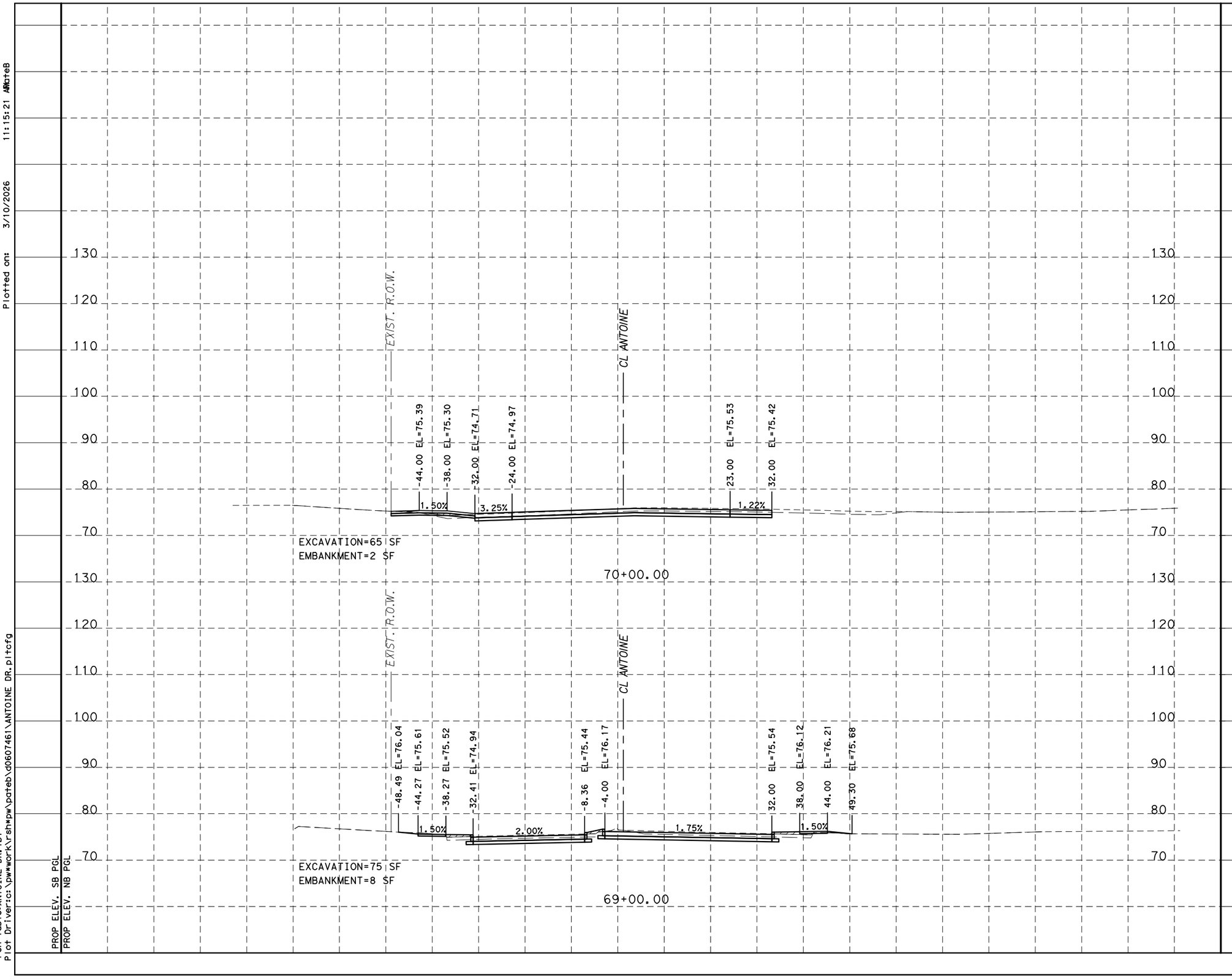

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PROPOSED CROSS SECTIONS

SHEET 53 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 985 OF 1067	

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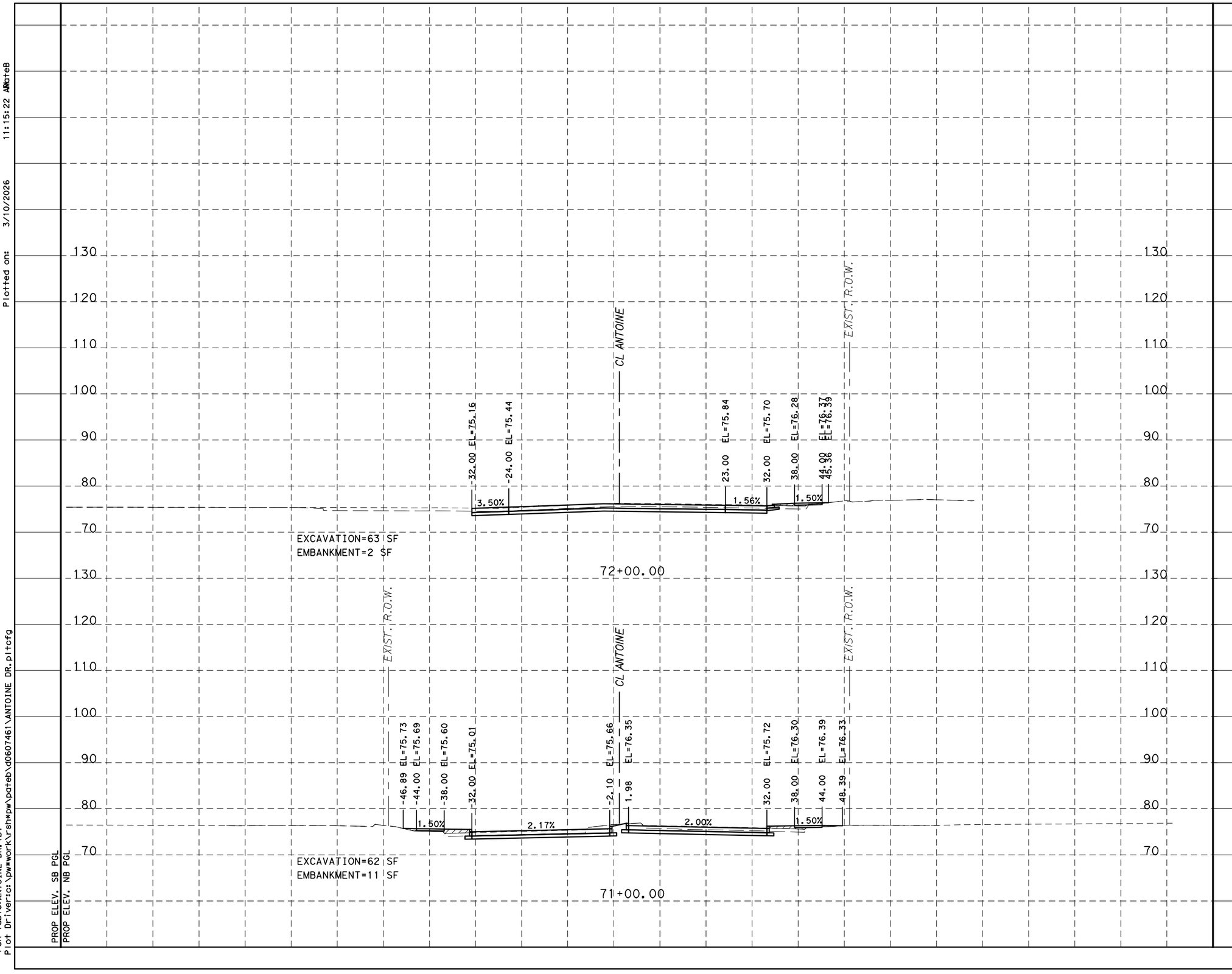

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PROPOSED CROSS SECTIONS

SHEET 54 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 986 OF 1067	

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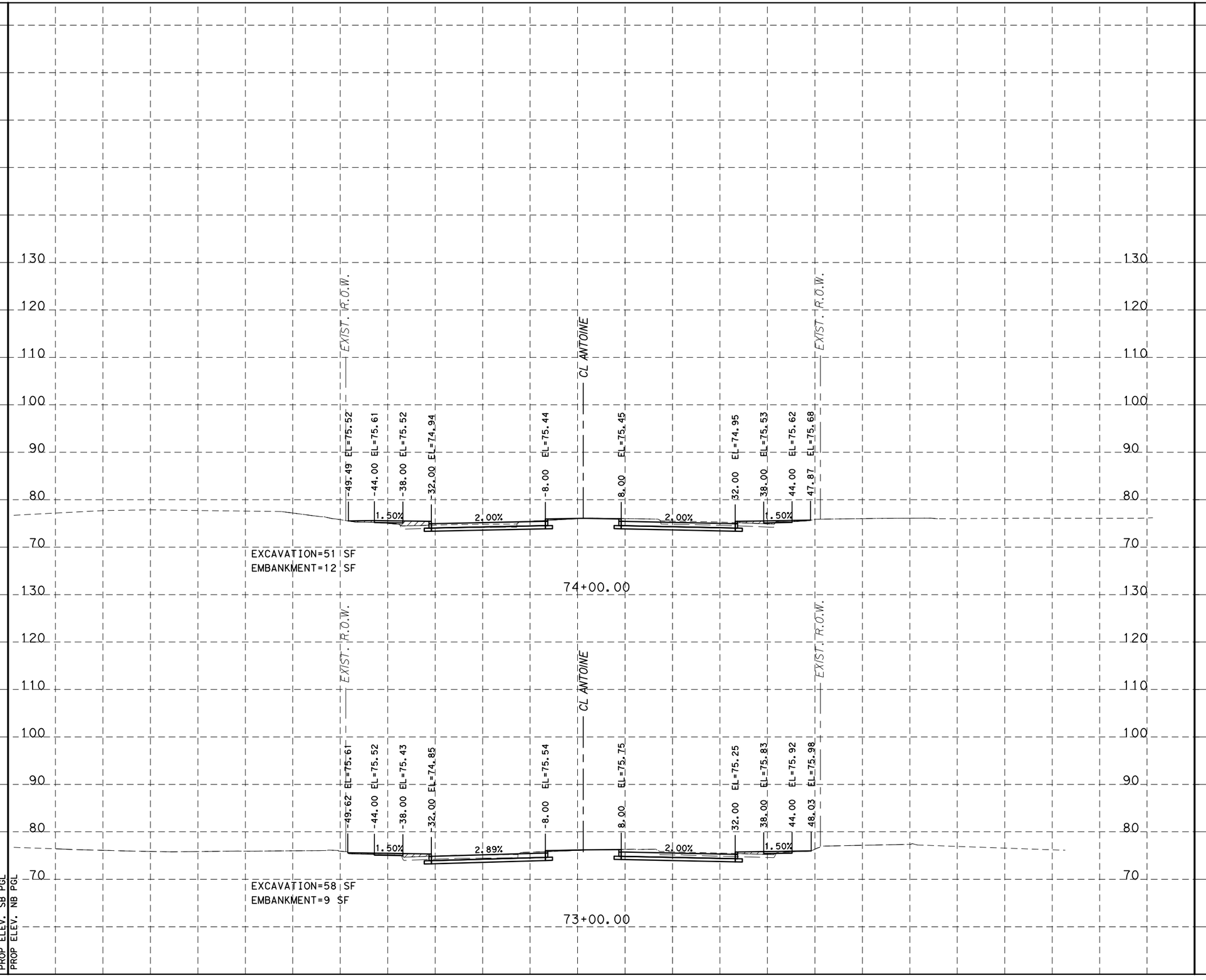

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PROPOSED CROSS SECTIONS

SHEET 55 OF 108

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N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 987 OF 1067	

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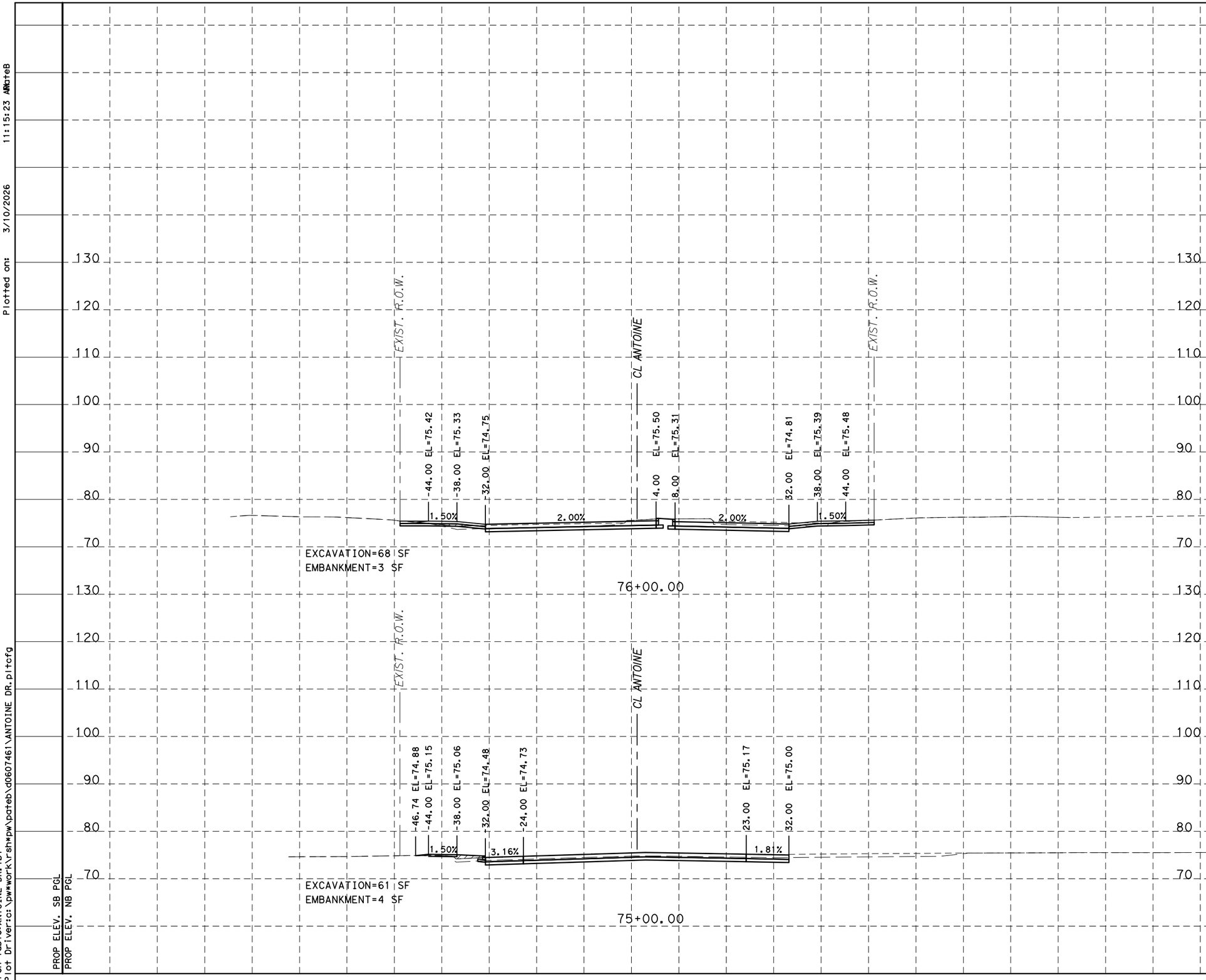

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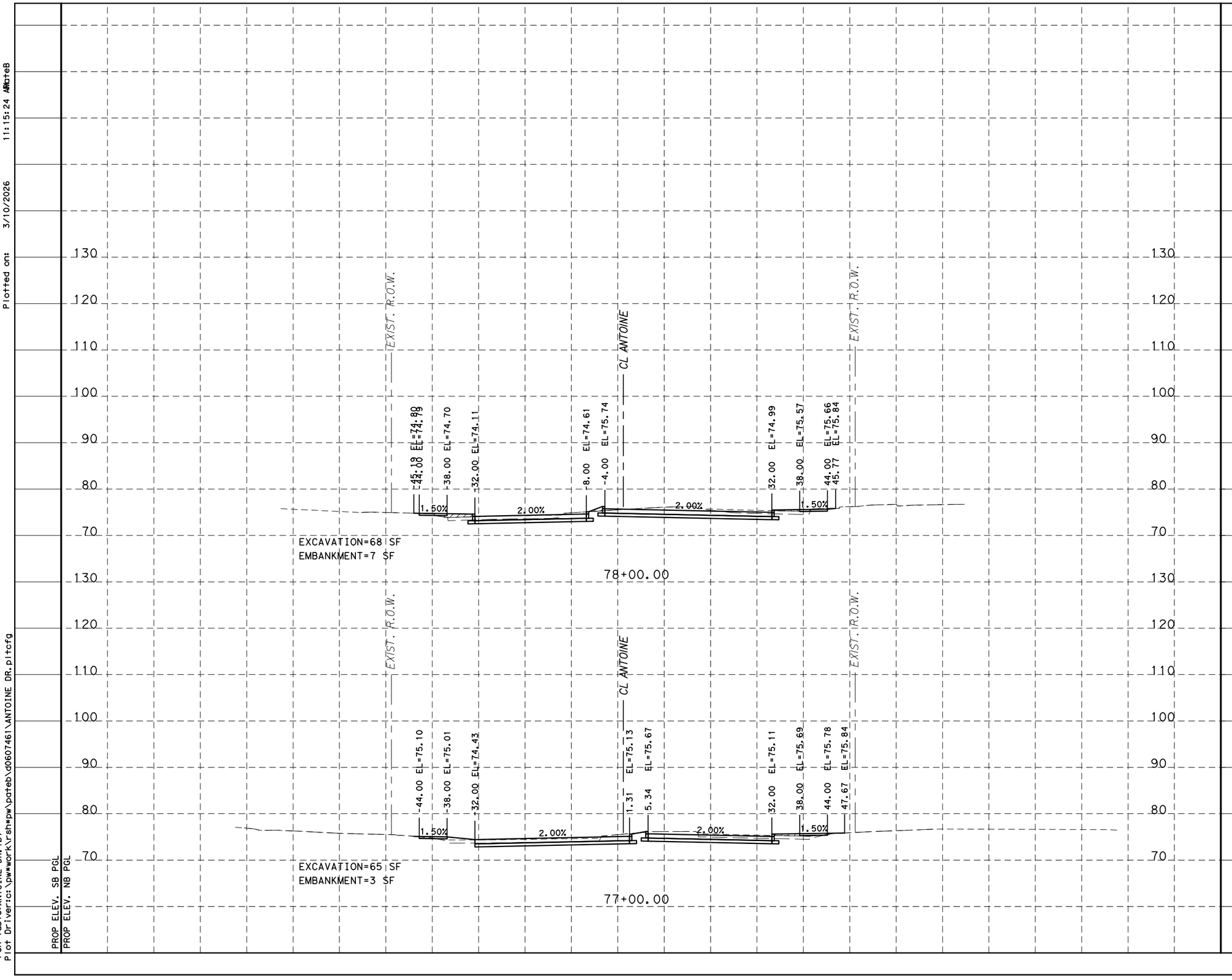
PROPOSED CROSS SECTIONS

SHEET 56 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 988 OF 1067	



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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 57 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 989 OF 1067	

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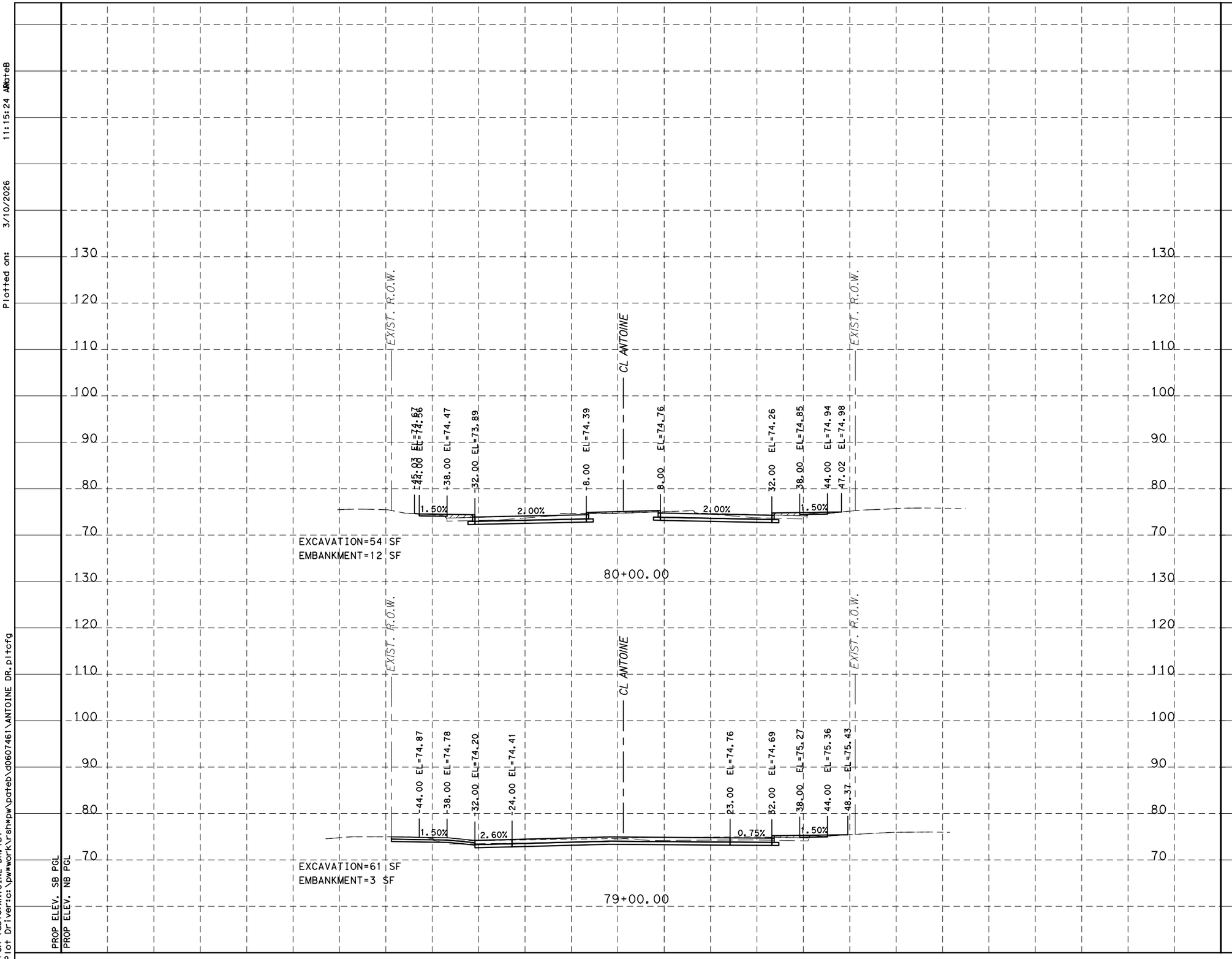

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PROPOSED CROSS SECTIONS

SHEET 58 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
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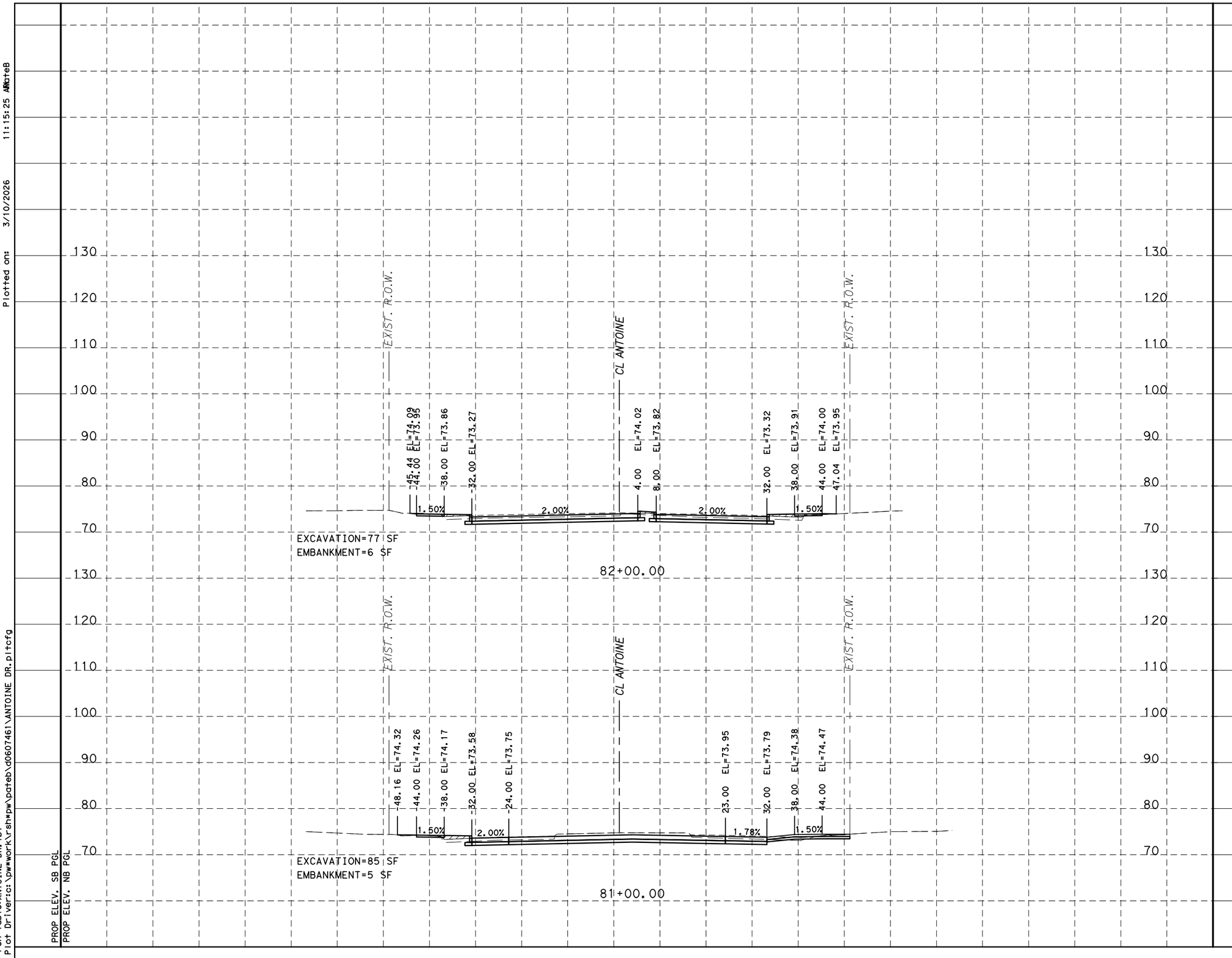

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 59 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 991 OF 1067	

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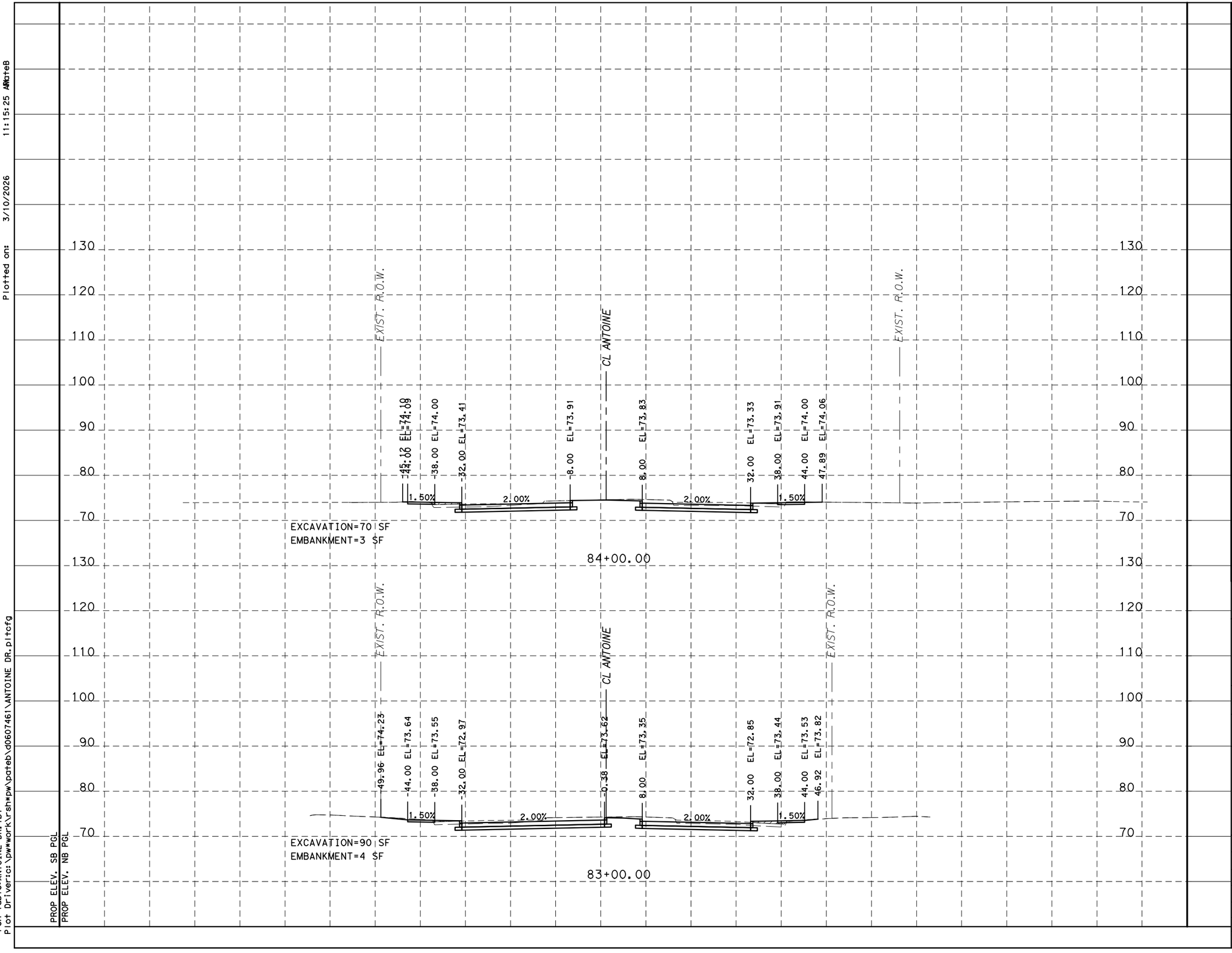

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PROPOSED CROSS SECTIONS

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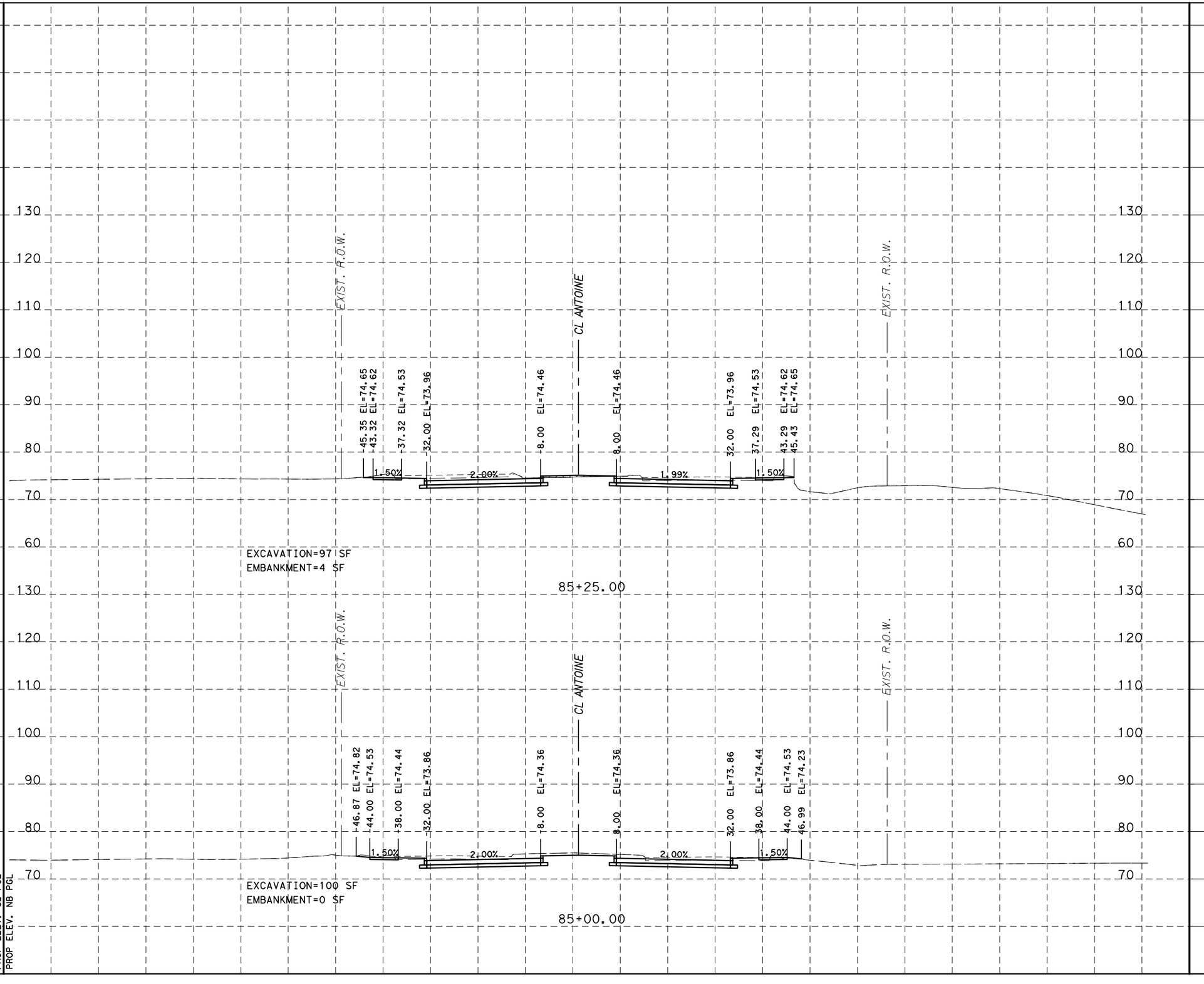

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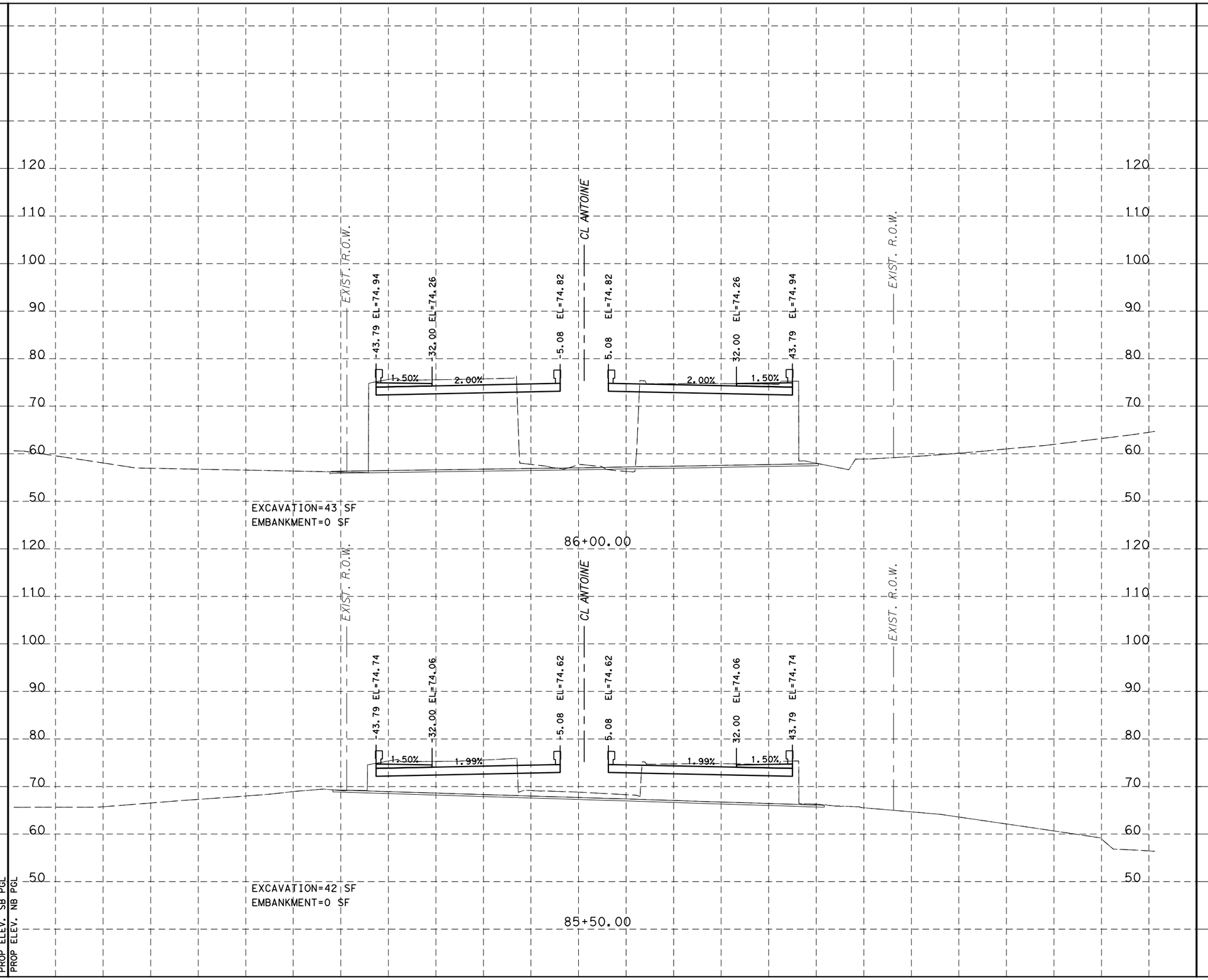

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SCALE IN FEET

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FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)

Signature valid for six months.

Approved for AT&T Texas/SWBT underground conduit facilities only. Date
Note: The AT&T electronic Signature is valid for one year.

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RS&H
3200 Southwest Freeway, Suite 3150
Houston, Texas 77027
713-914-4455 FAX 713-914-0155

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

SHEET 62 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 994 OF 1067	

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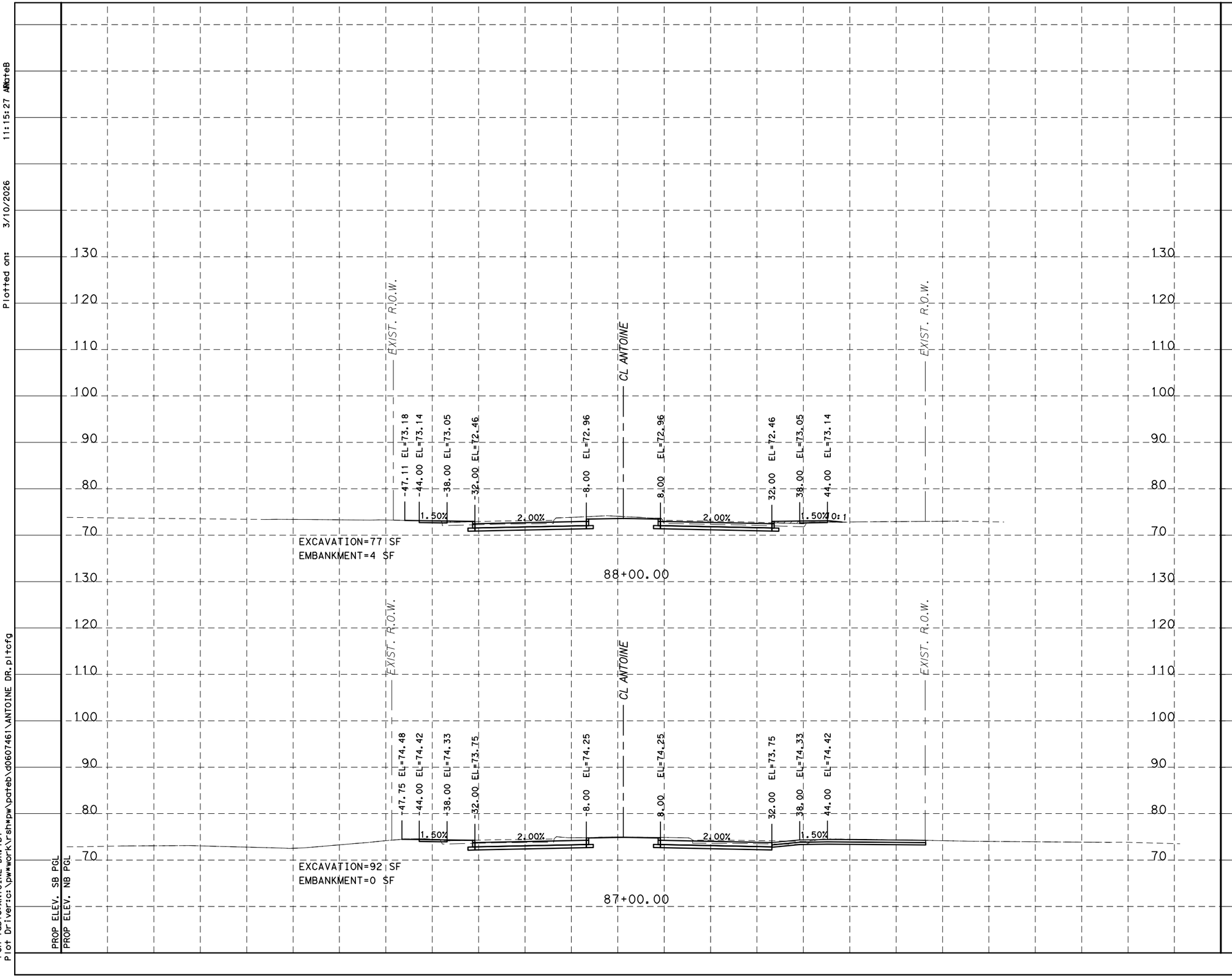

HORZ 0′ 10′ 20′
VERT 0′ 1′ 2′
SCALE IN FEET

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PROPOSED CROSS SECTIONS

SHEET 63 OF 108

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 995 OF 1067	

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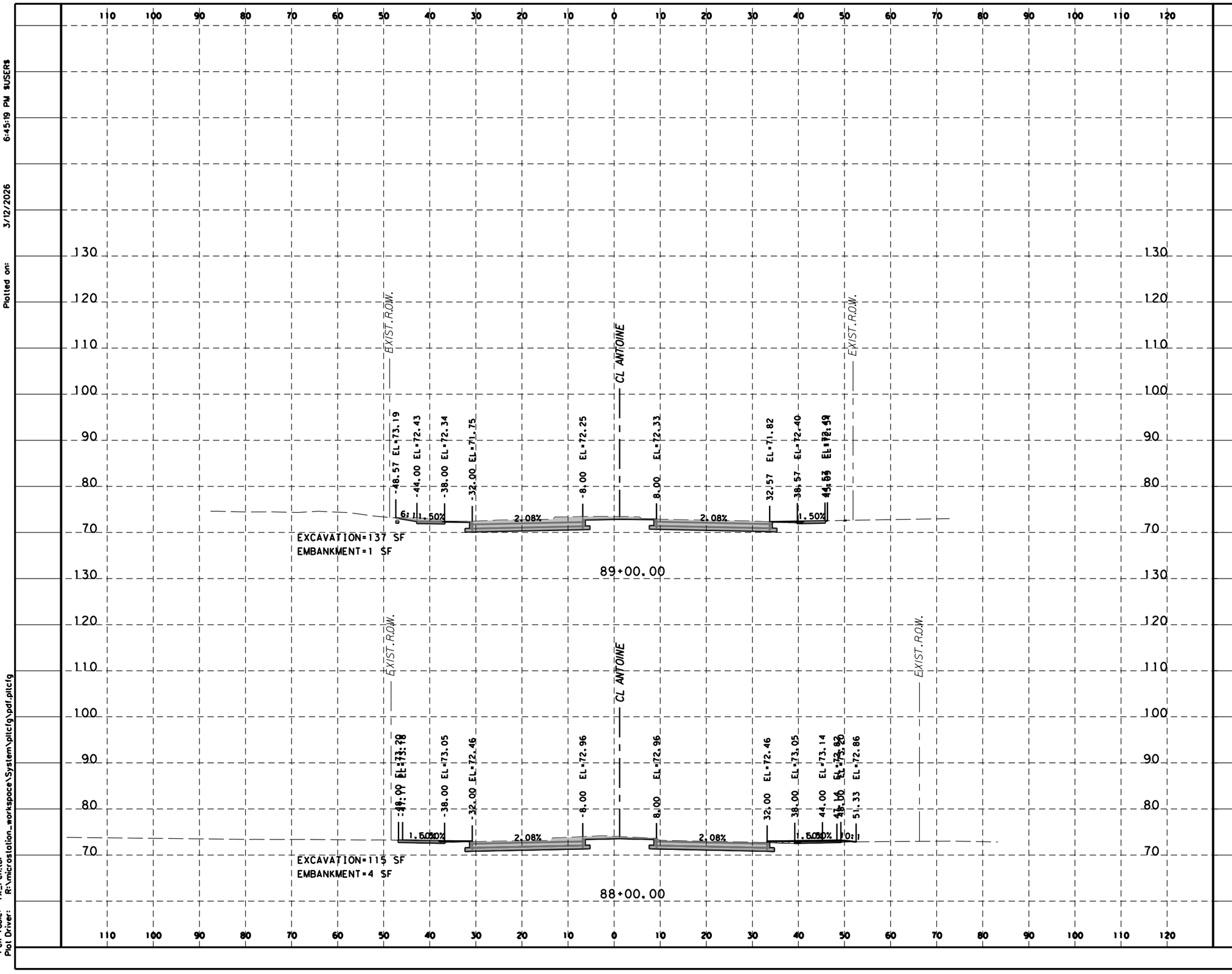

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

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WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 996 OF 1067	

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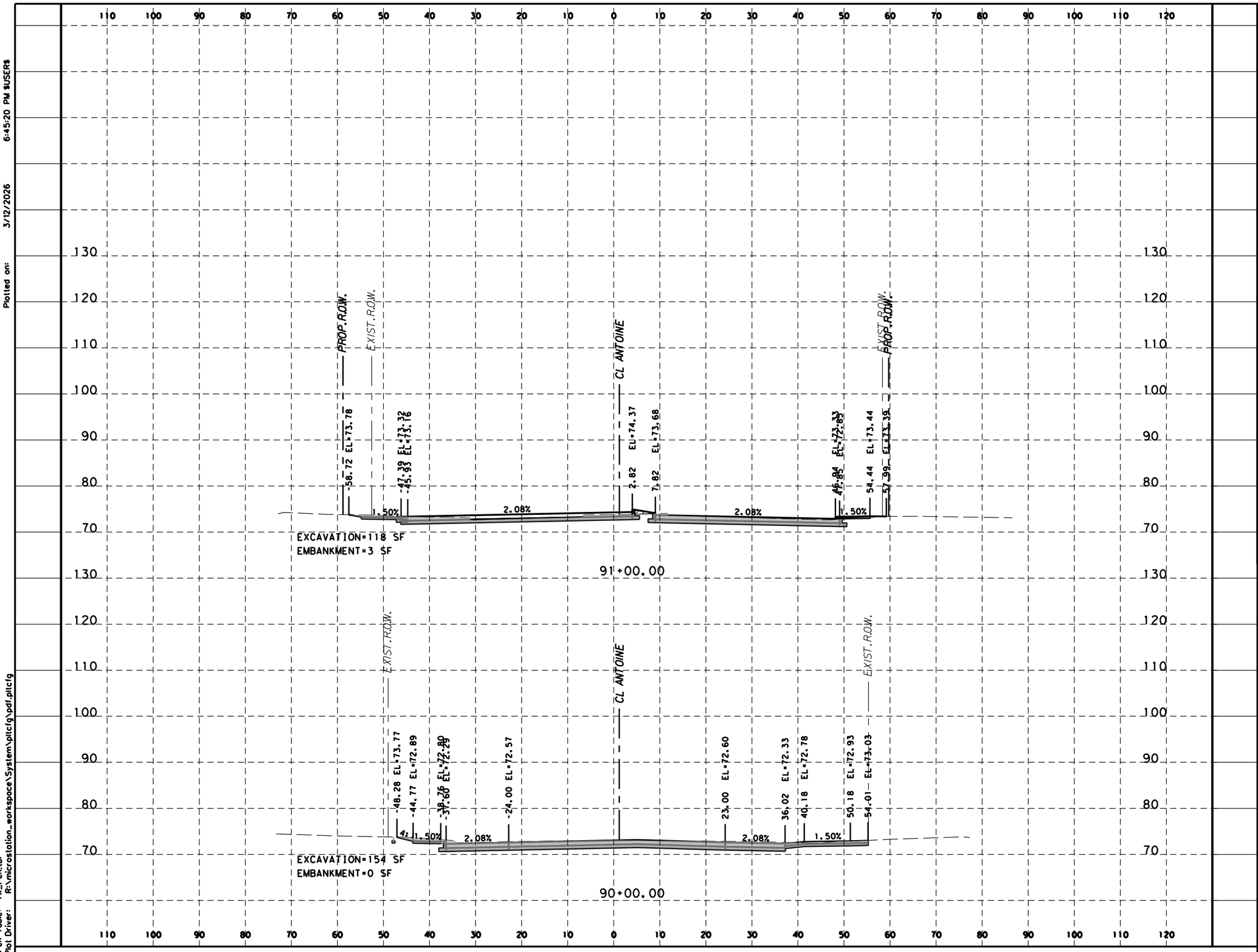

HORZ 0' 10' 20'
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LEGEND

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 997 OF 1067	

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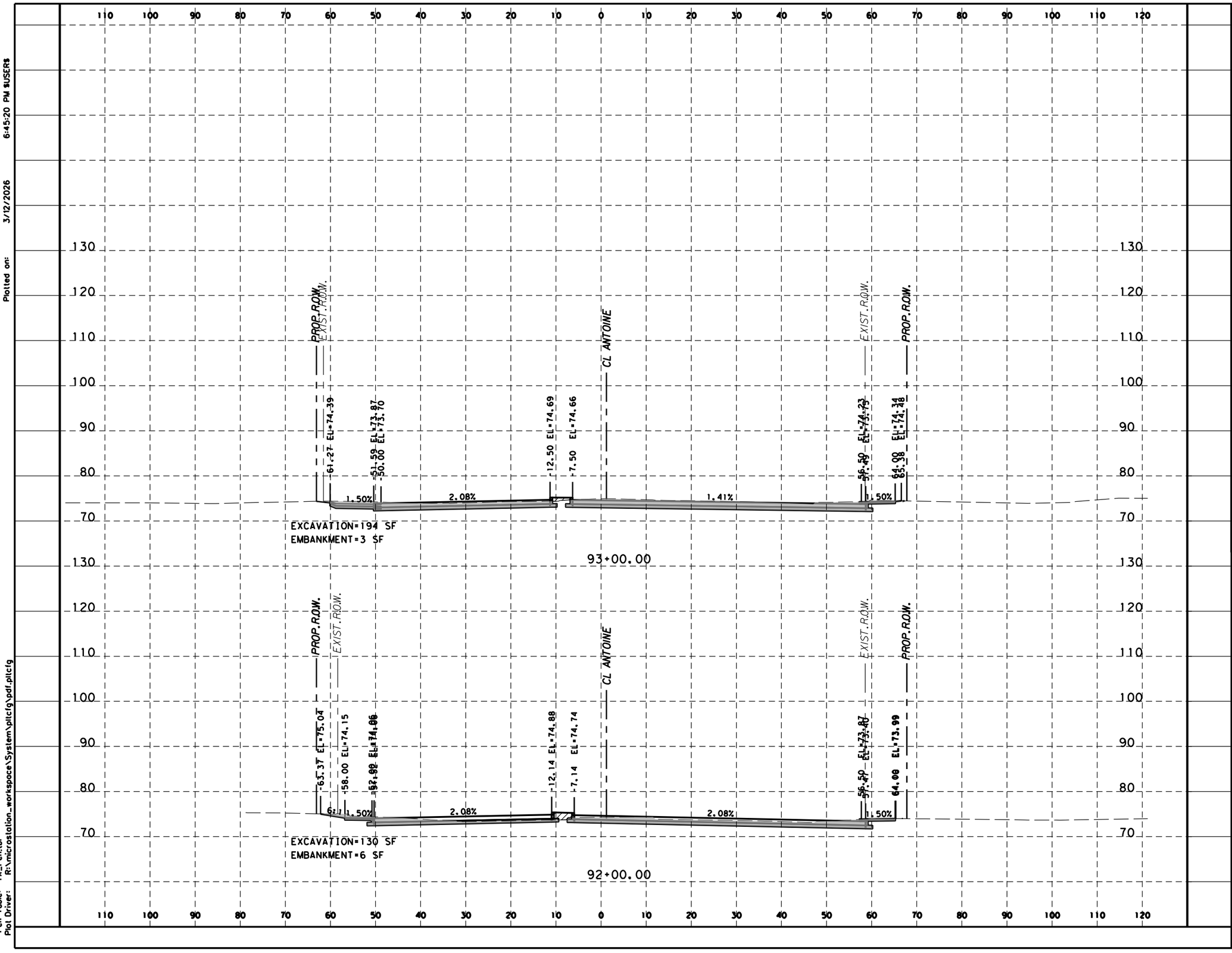

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

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WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
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AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 998 OF 1067	

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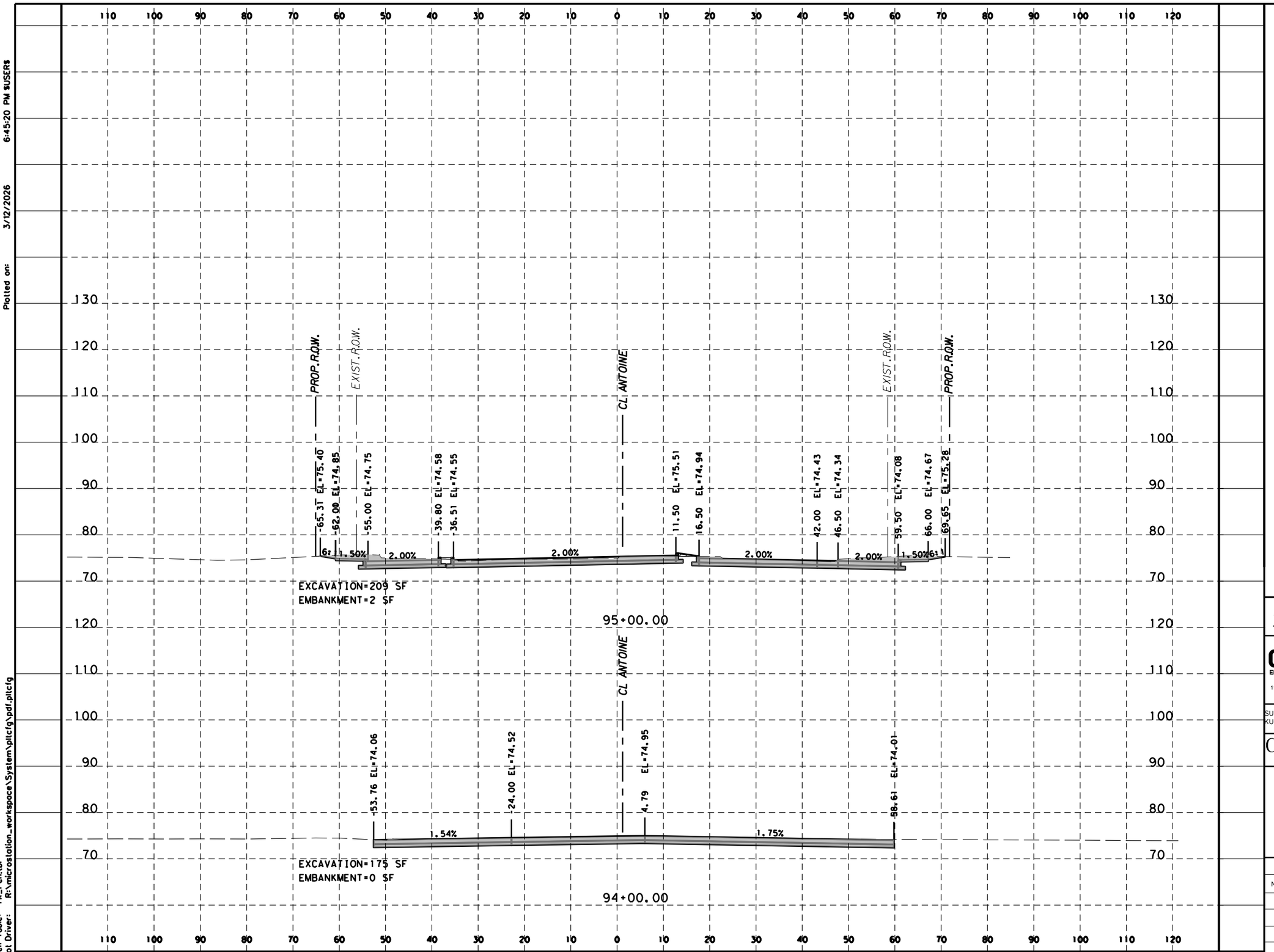

HORZ 0' 10' 20'
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SCALE IN FEET

LEGEND

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WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
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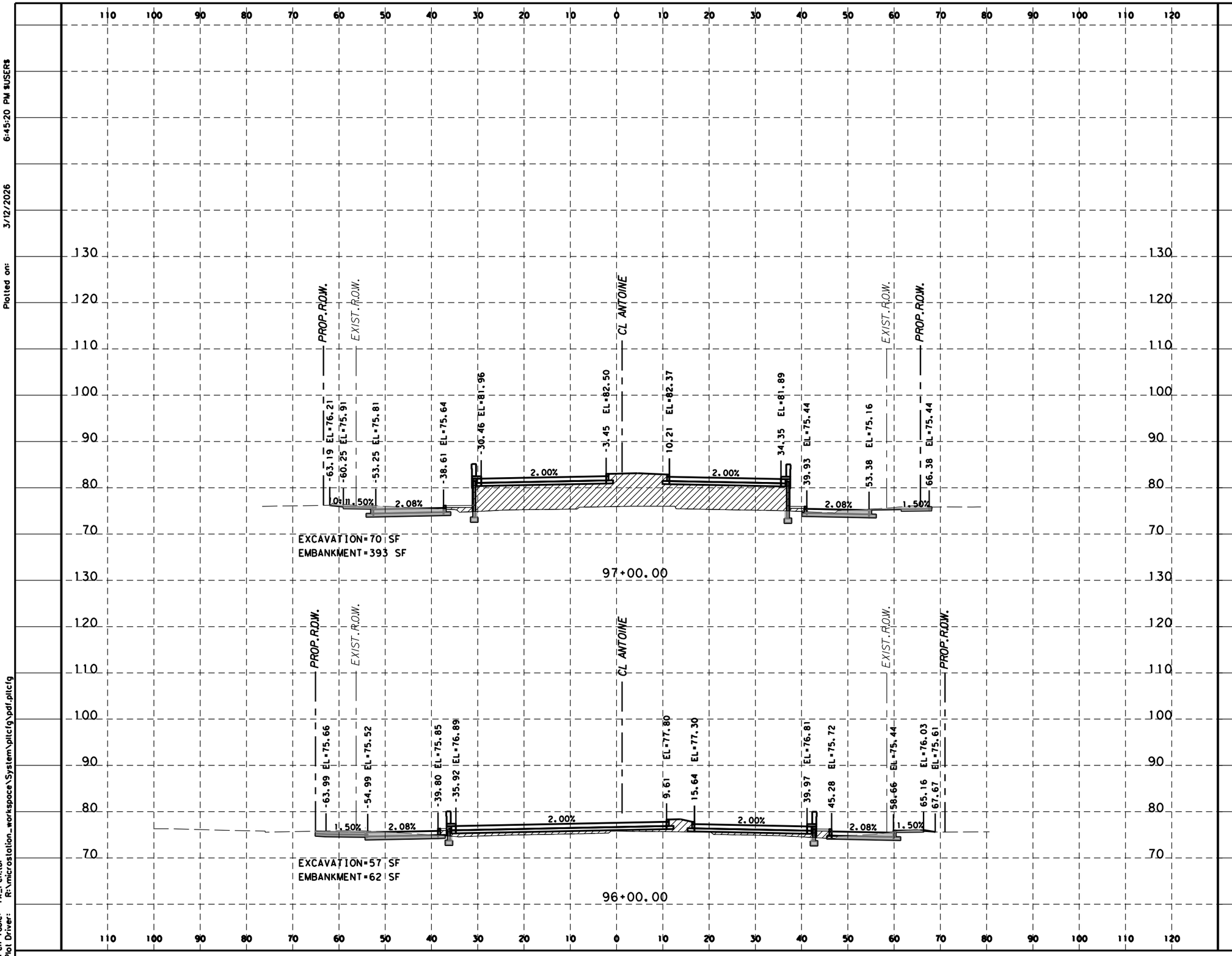

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SCALE IN FEET

LEGEND

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WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1000 OF 1067	

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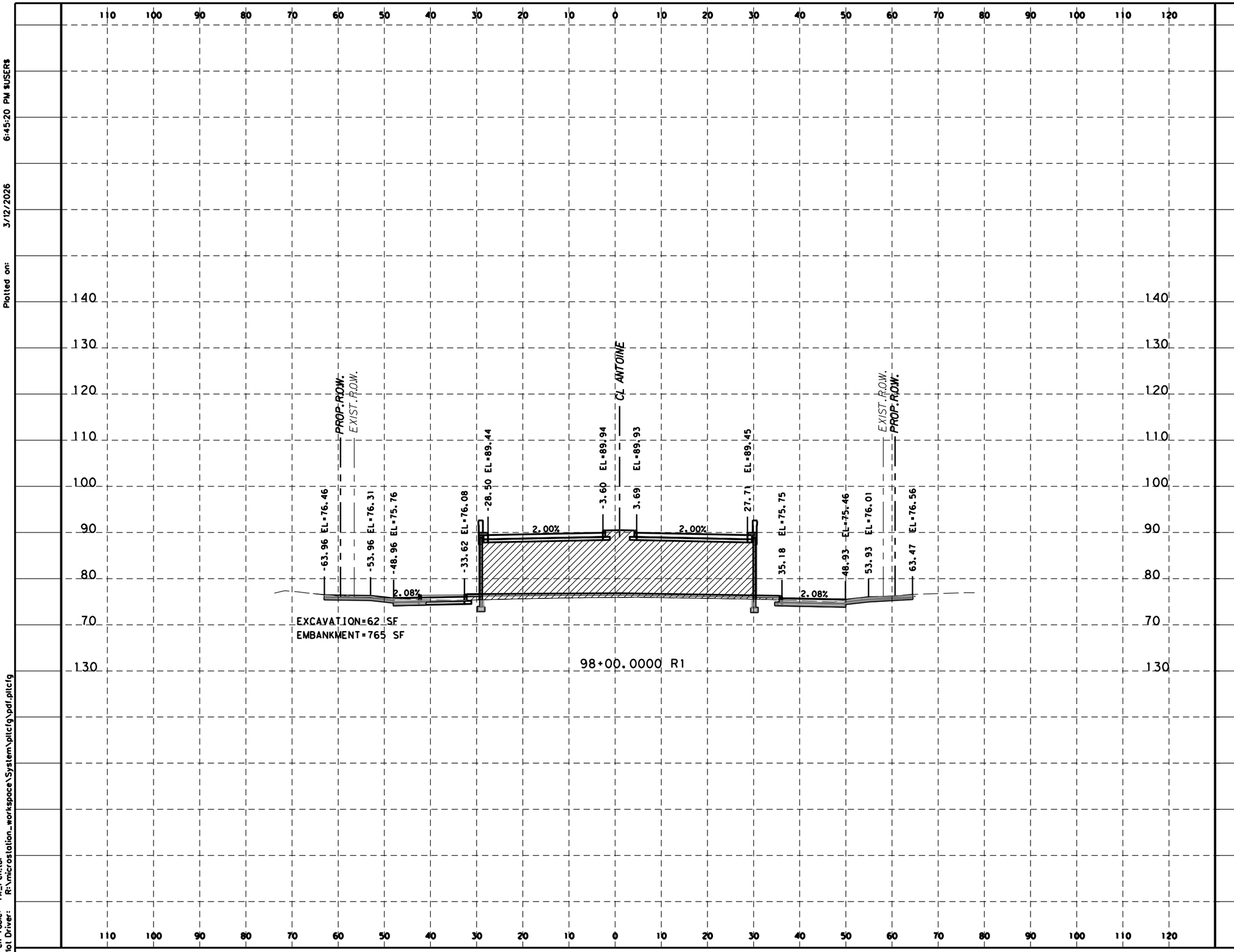

HORZ 0' 10' 20'
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SCALE IN FEET

LEGEND

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1001 OF 1067	

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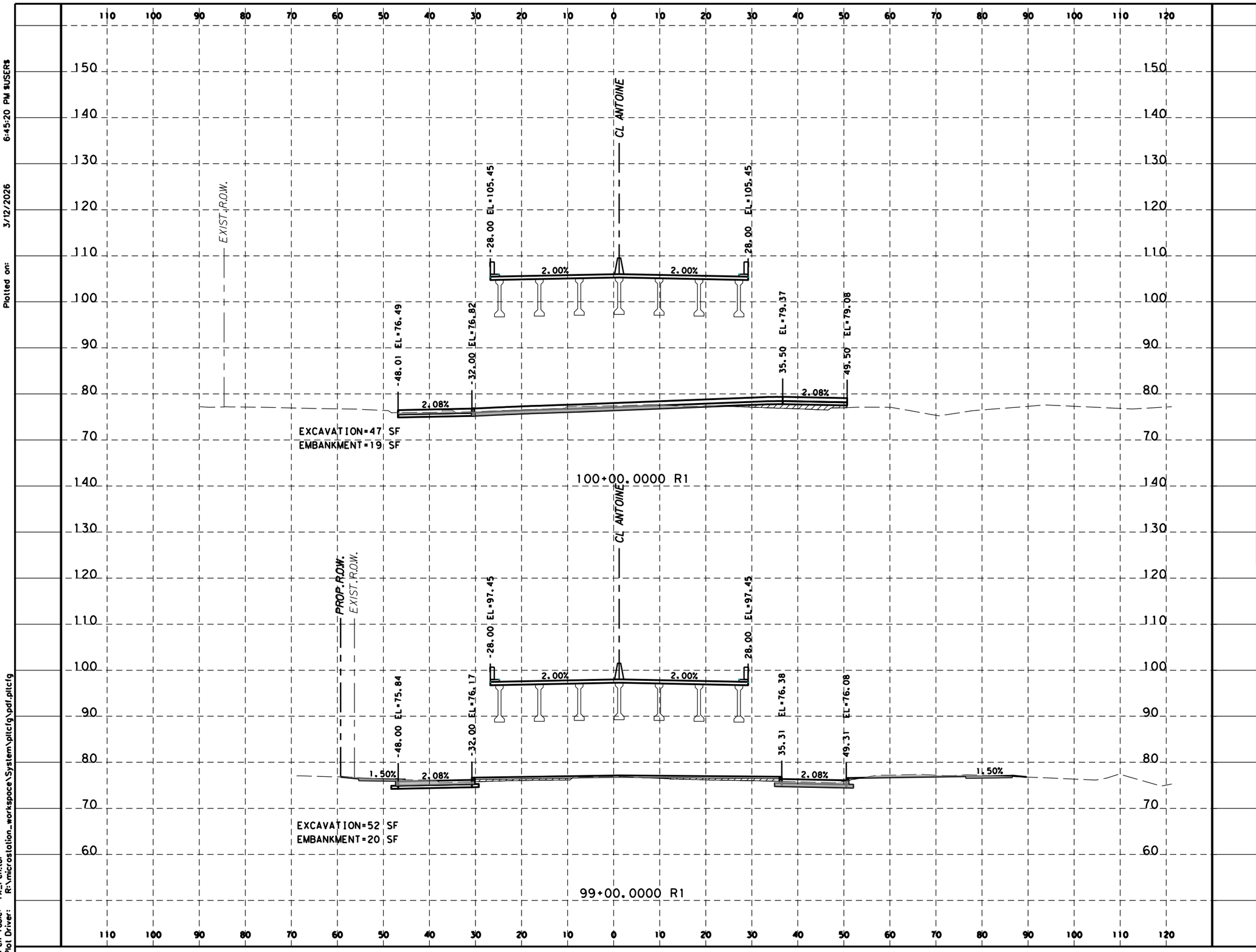

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1002 OF 1067	

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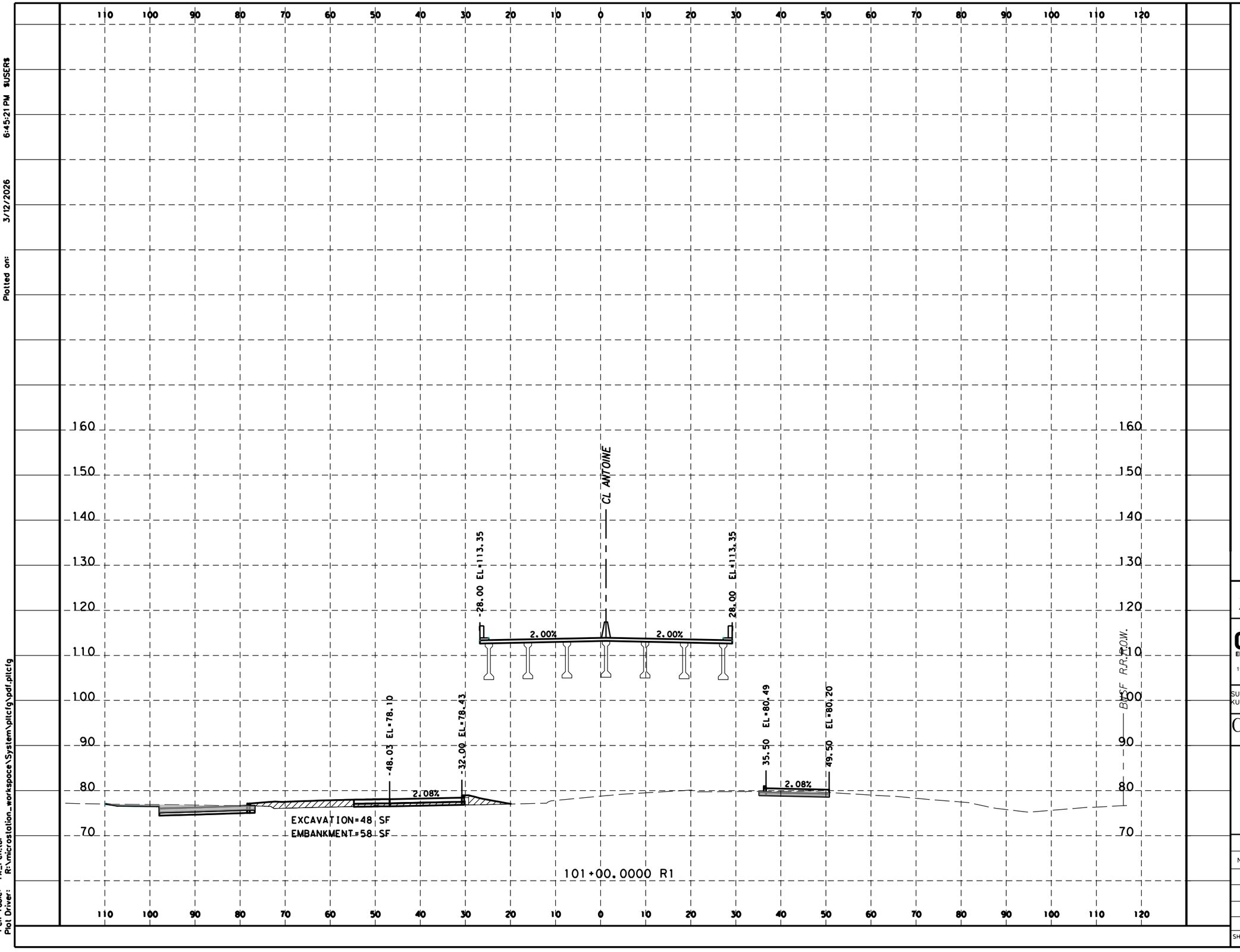

HORZ 0' 10' 20'
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SCALE IN FEET

LEGEND

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1003 OF 1067	

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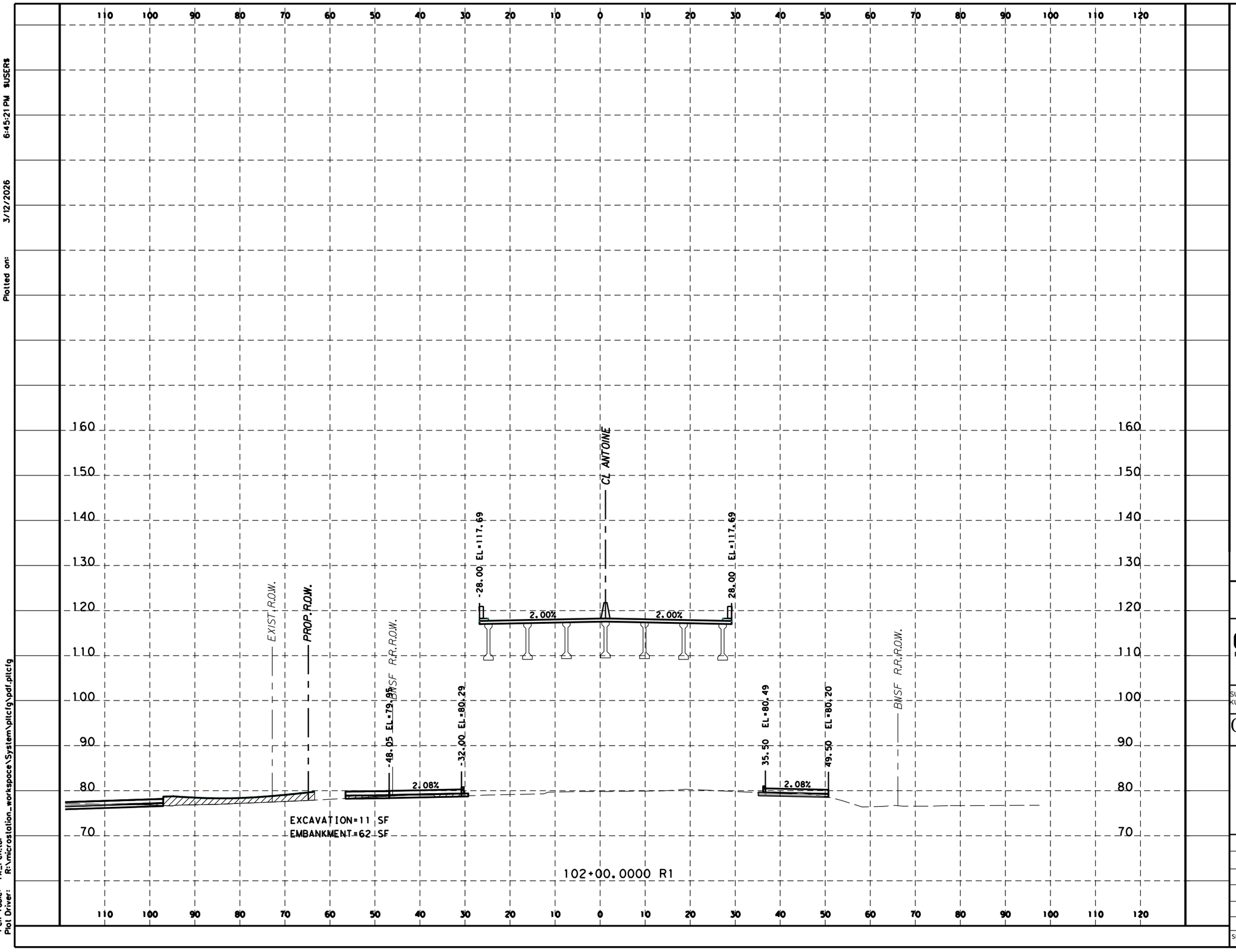

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1004 OF 1067	

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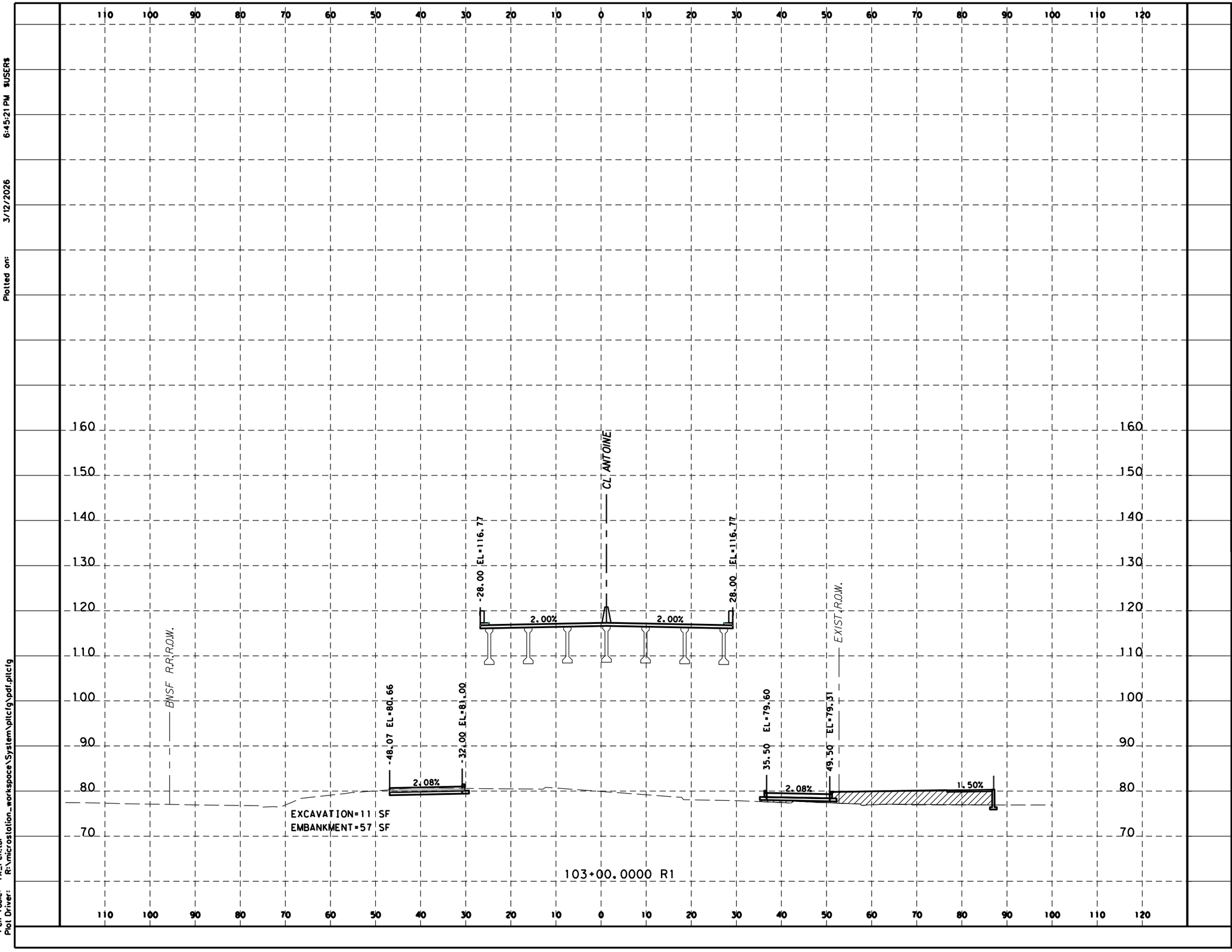

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

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N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
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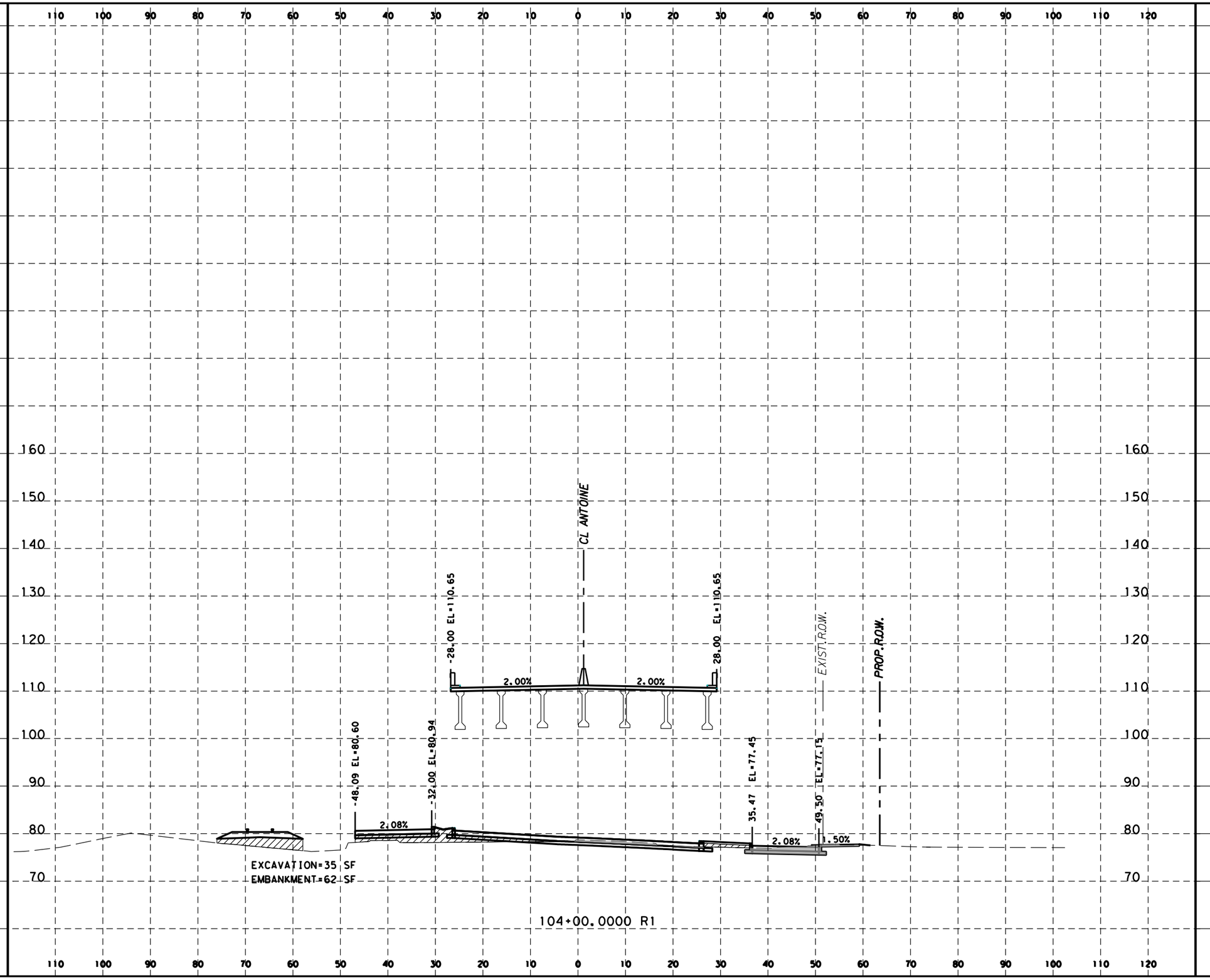

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

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ANTOINE DRIVE

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WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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CATHERINE GOFORTH	
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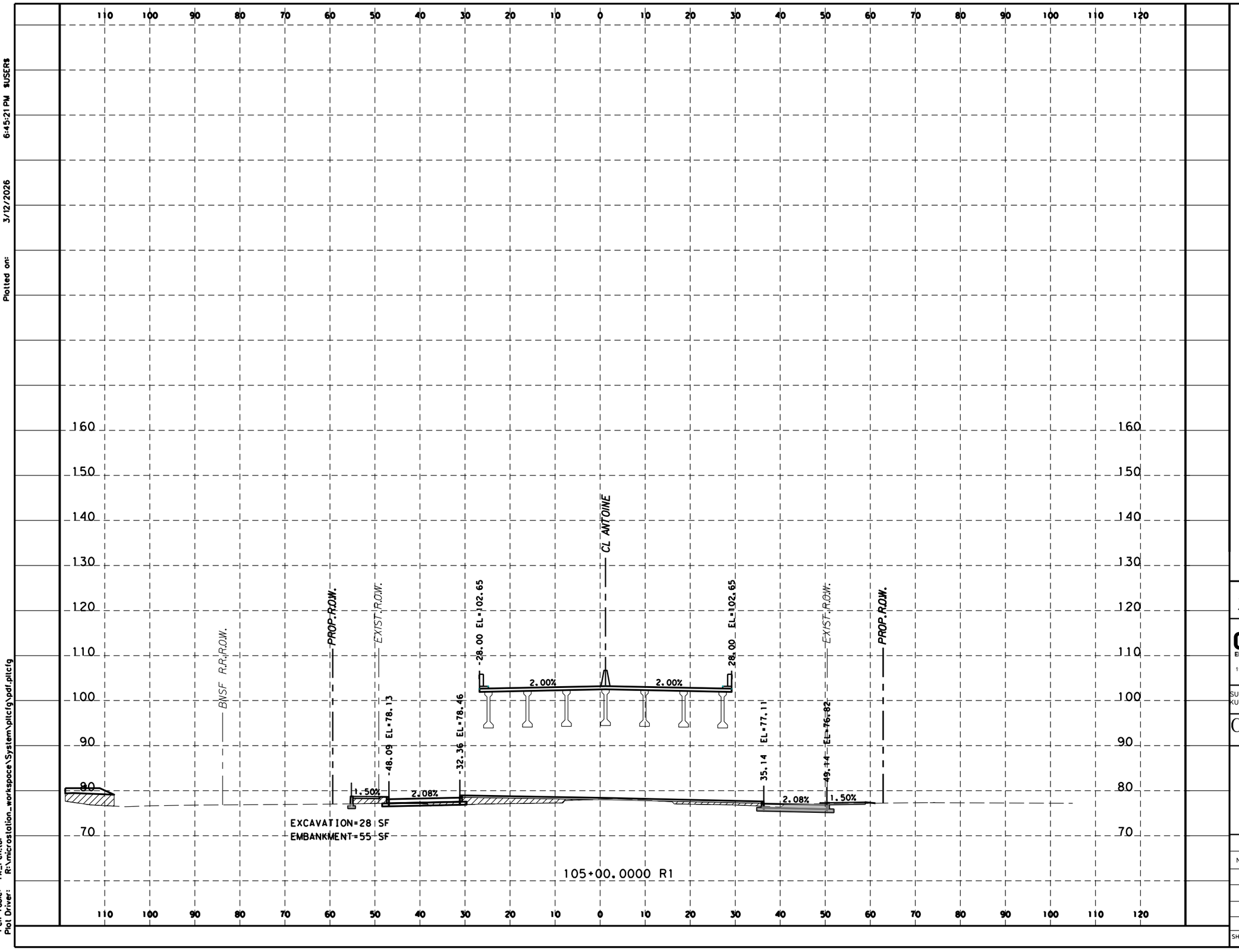

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
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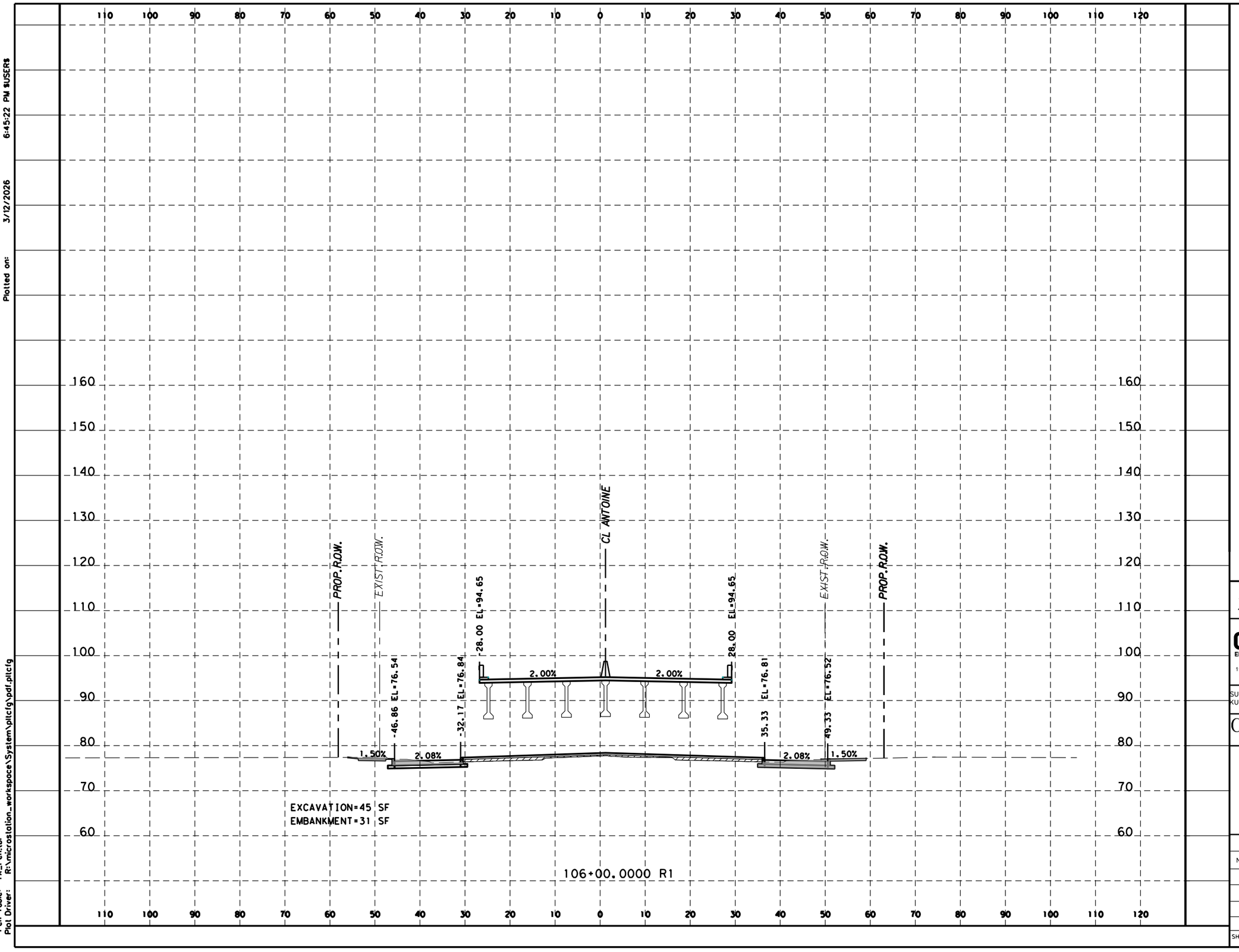

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1008 OF 1067	

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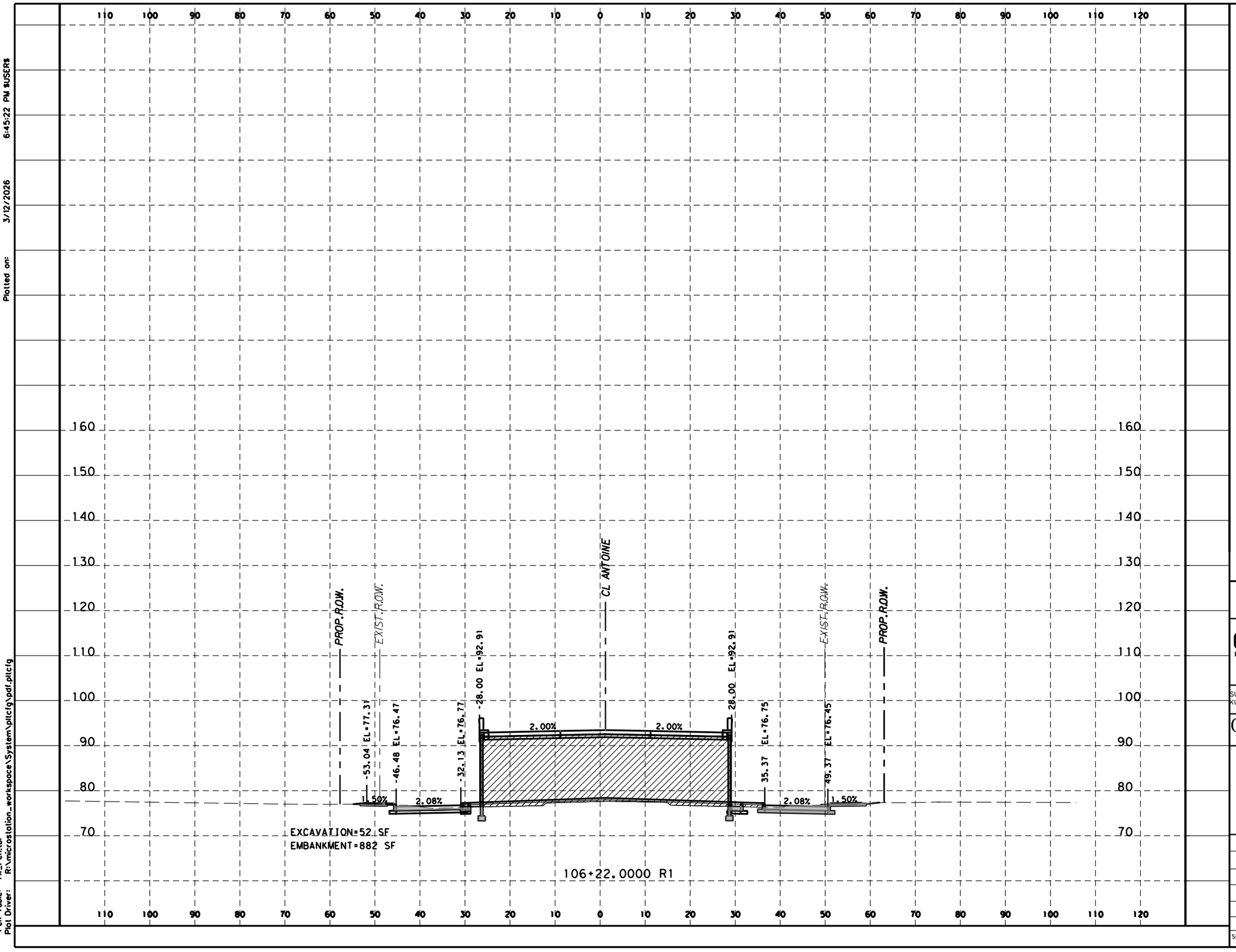

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1009 OF 1067	

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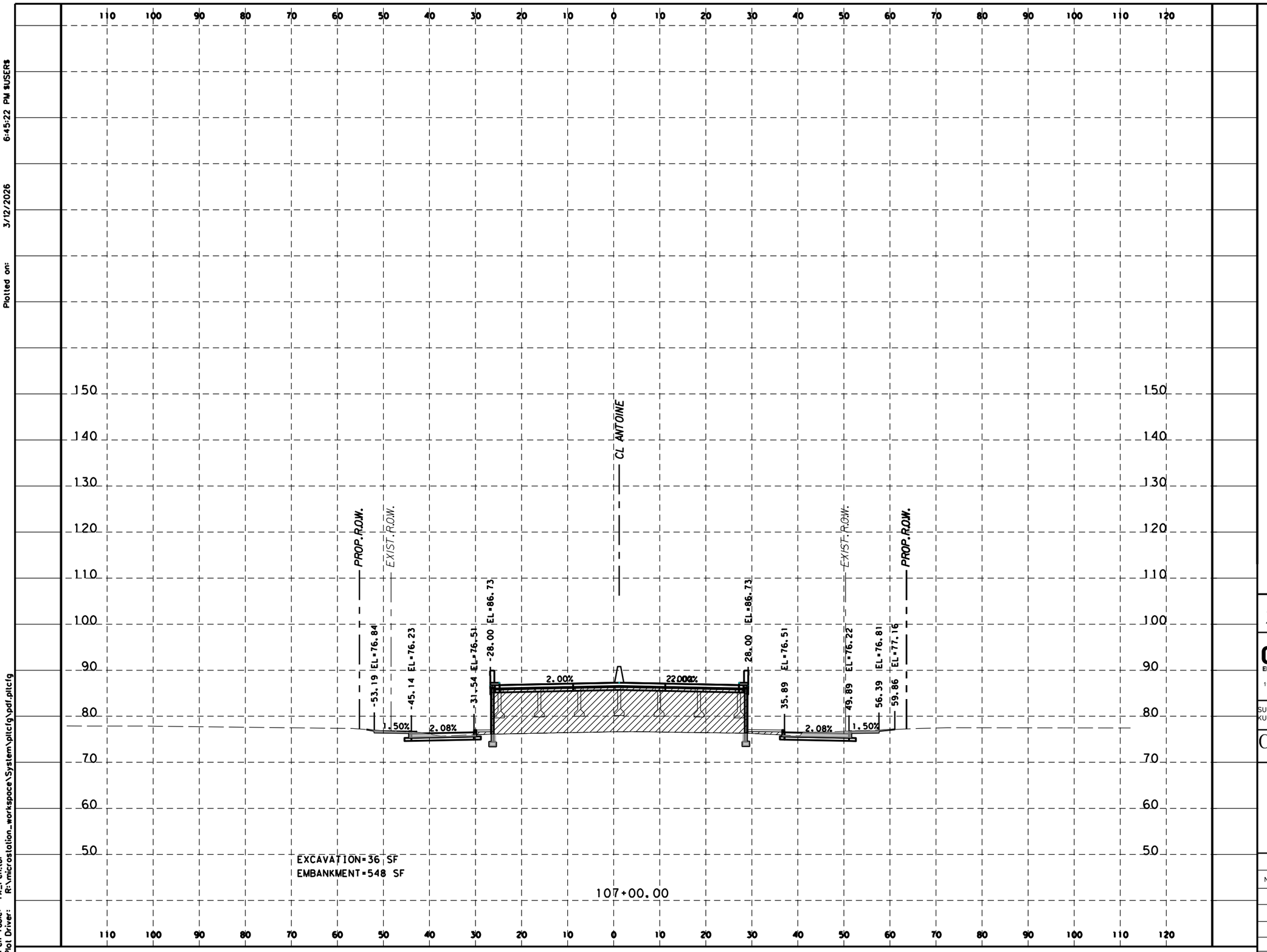

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 1010 OF 1067	

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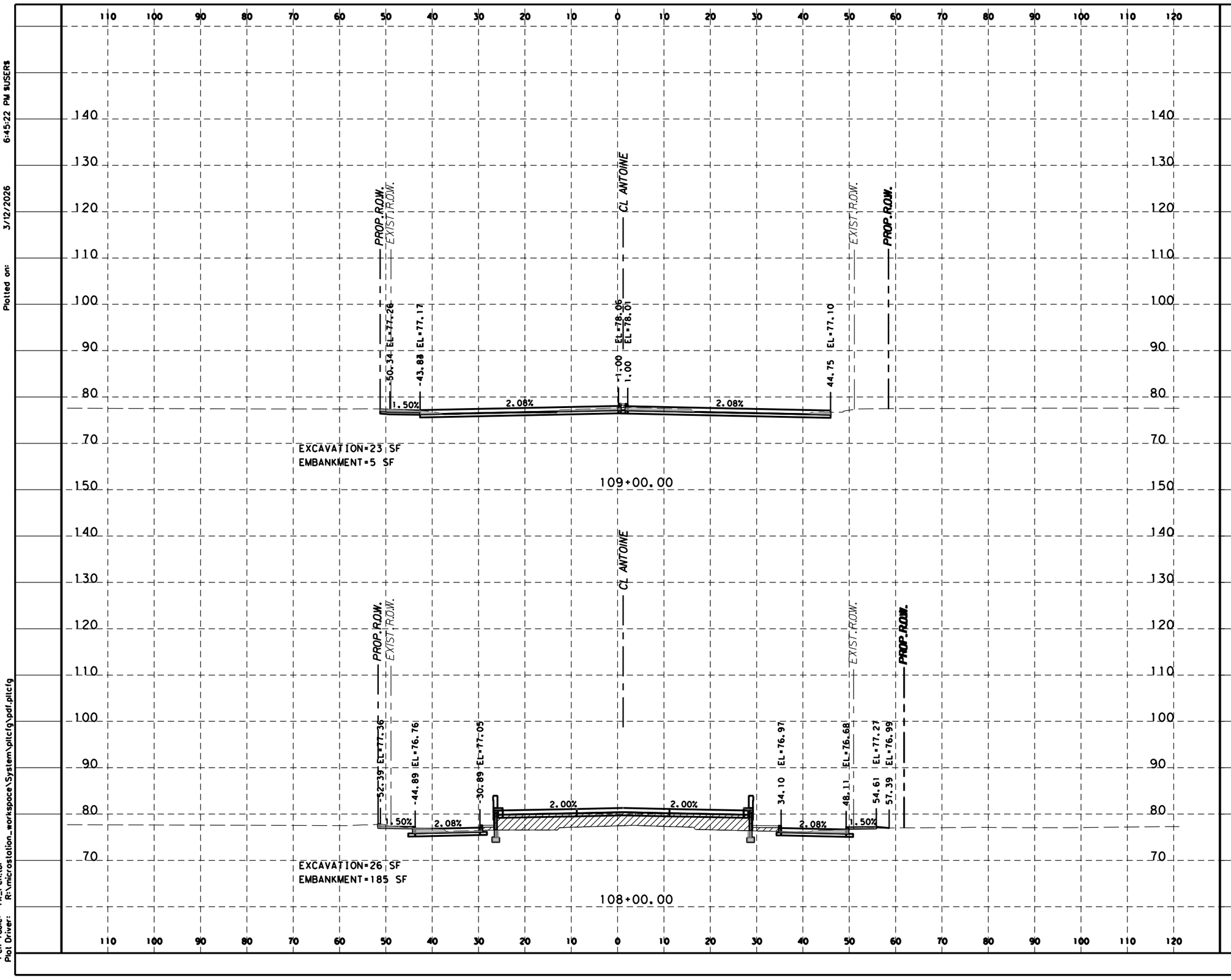

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1011 OF 1067	

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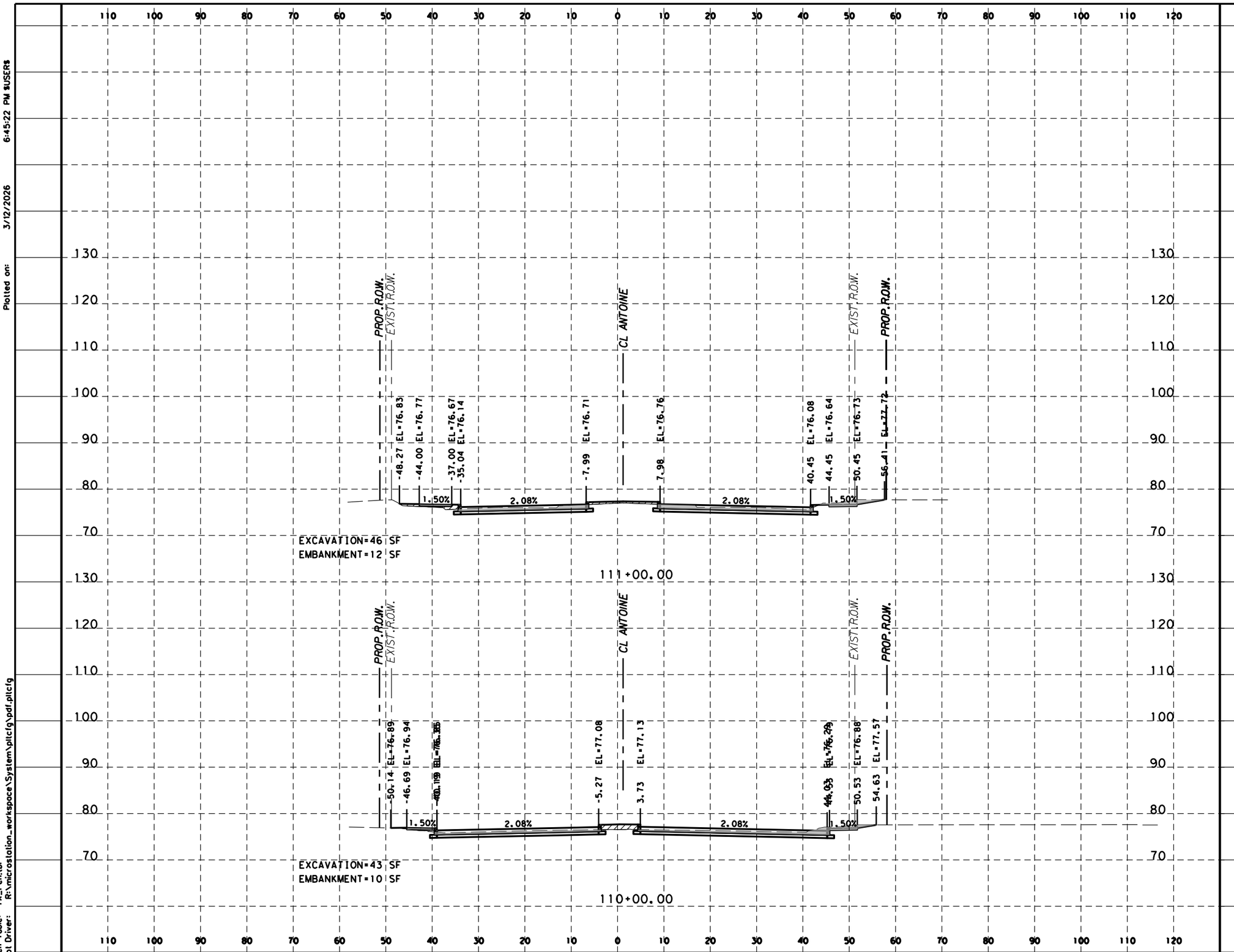

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1012 OF 1067	

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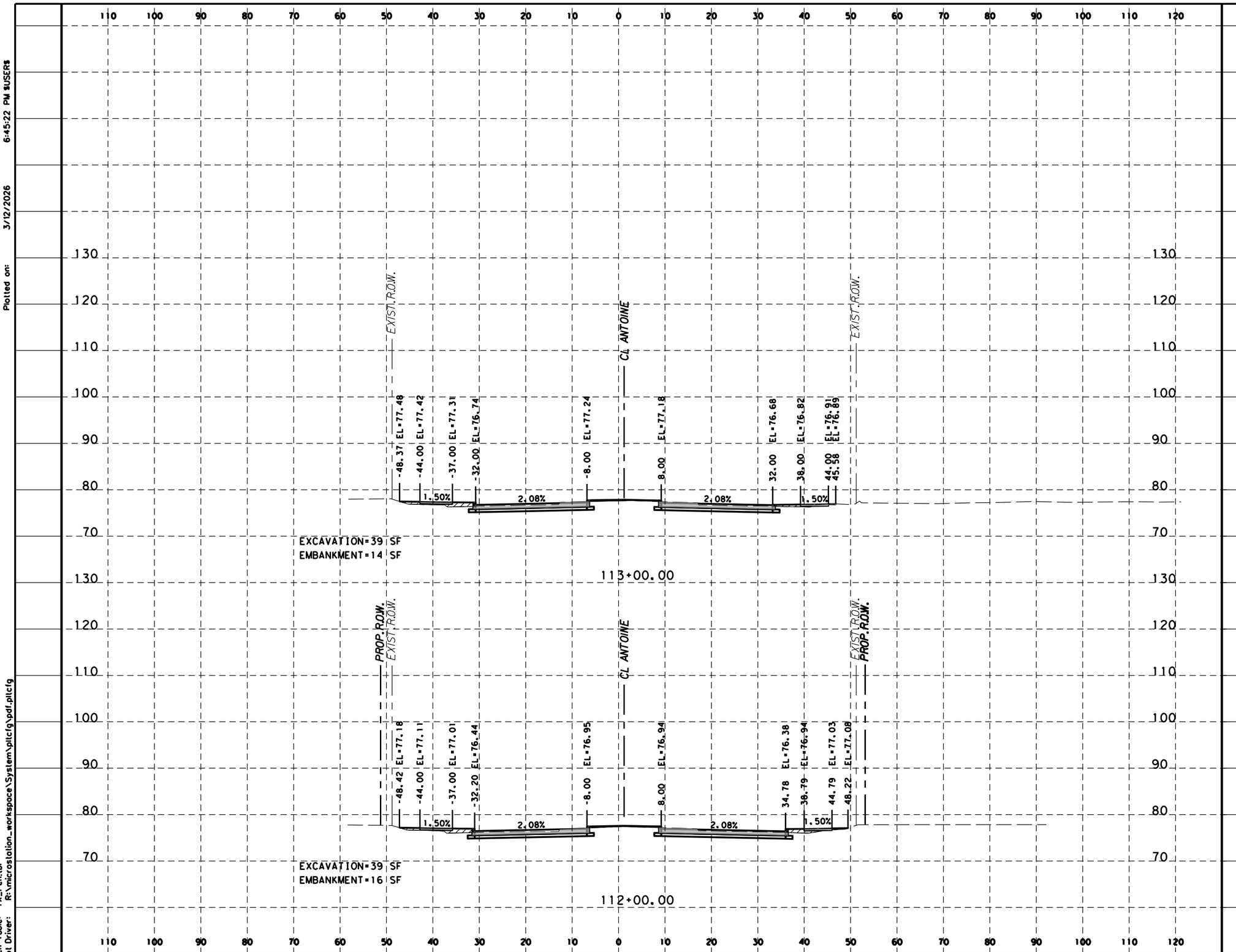

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1013 OF 1067	

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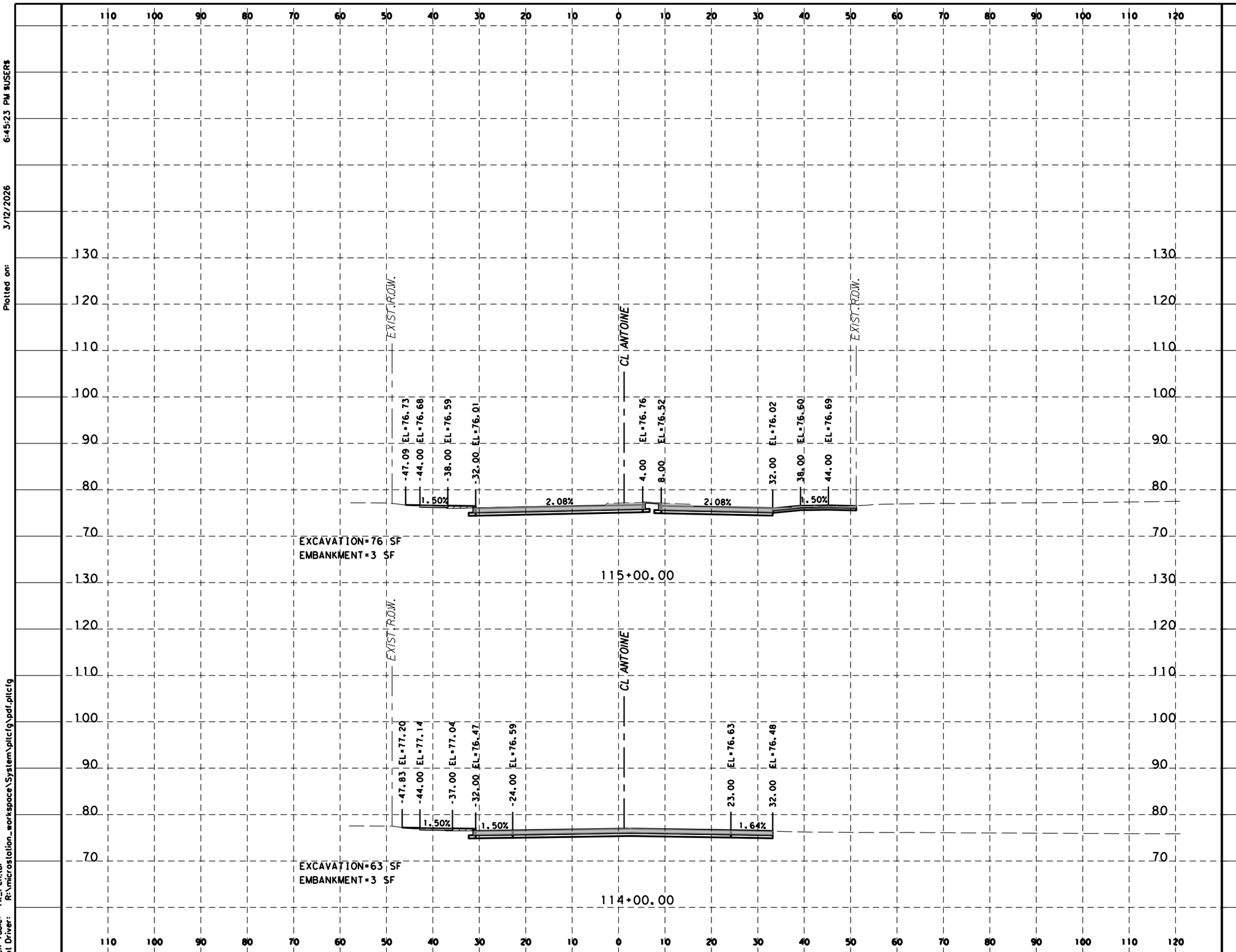

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 1014 OF 1067	

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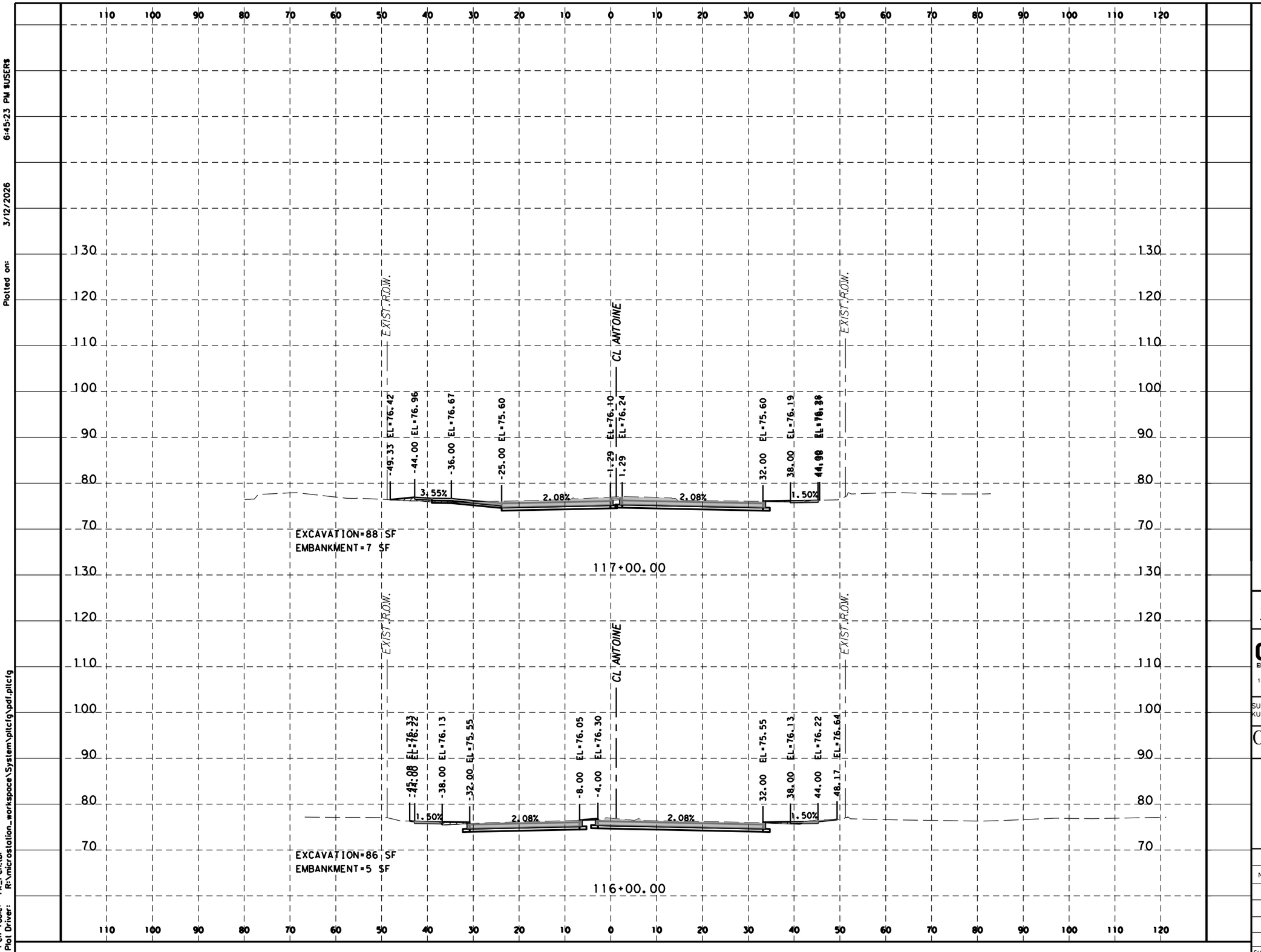

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1015 OF 1067	

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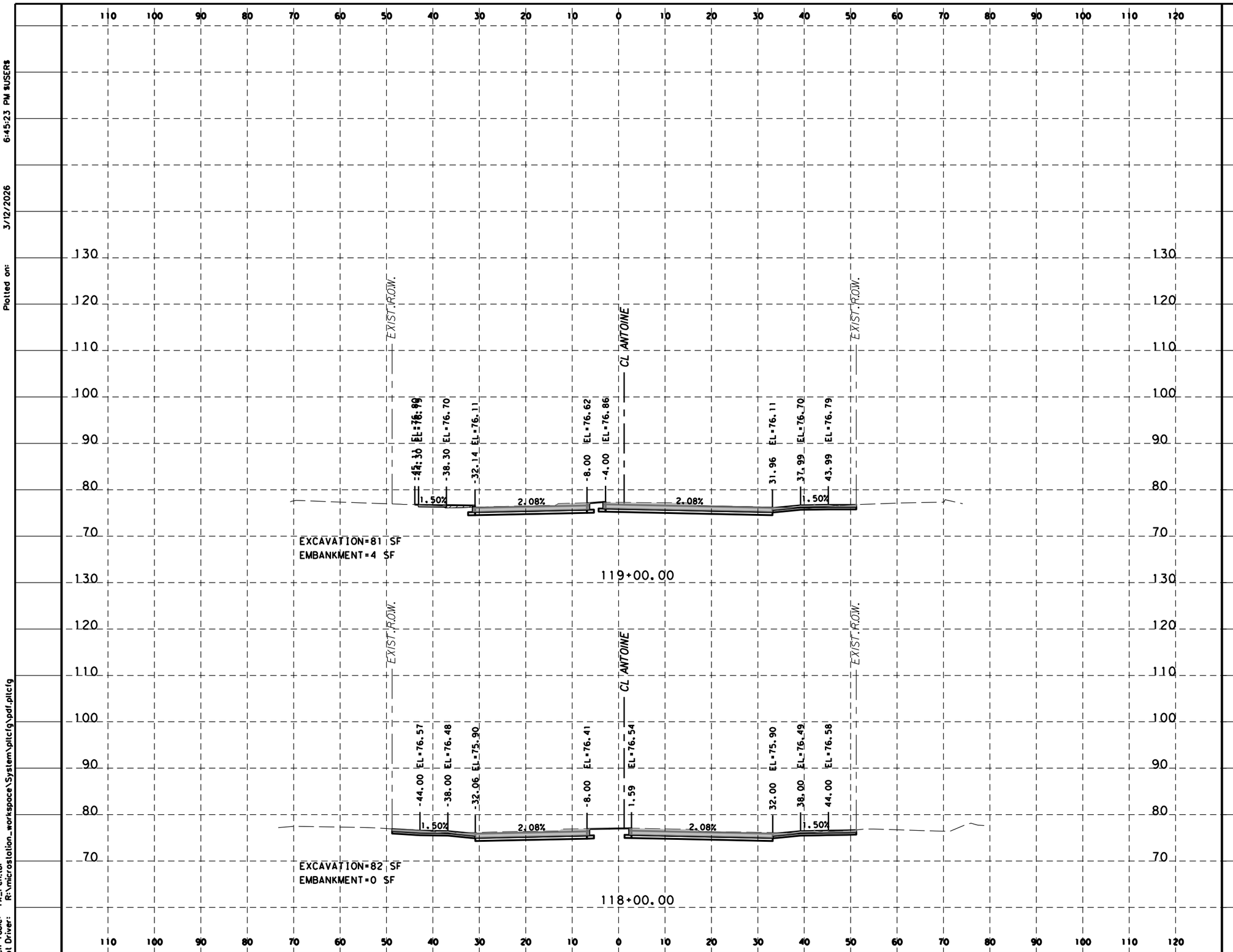

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1016 OF 1067	

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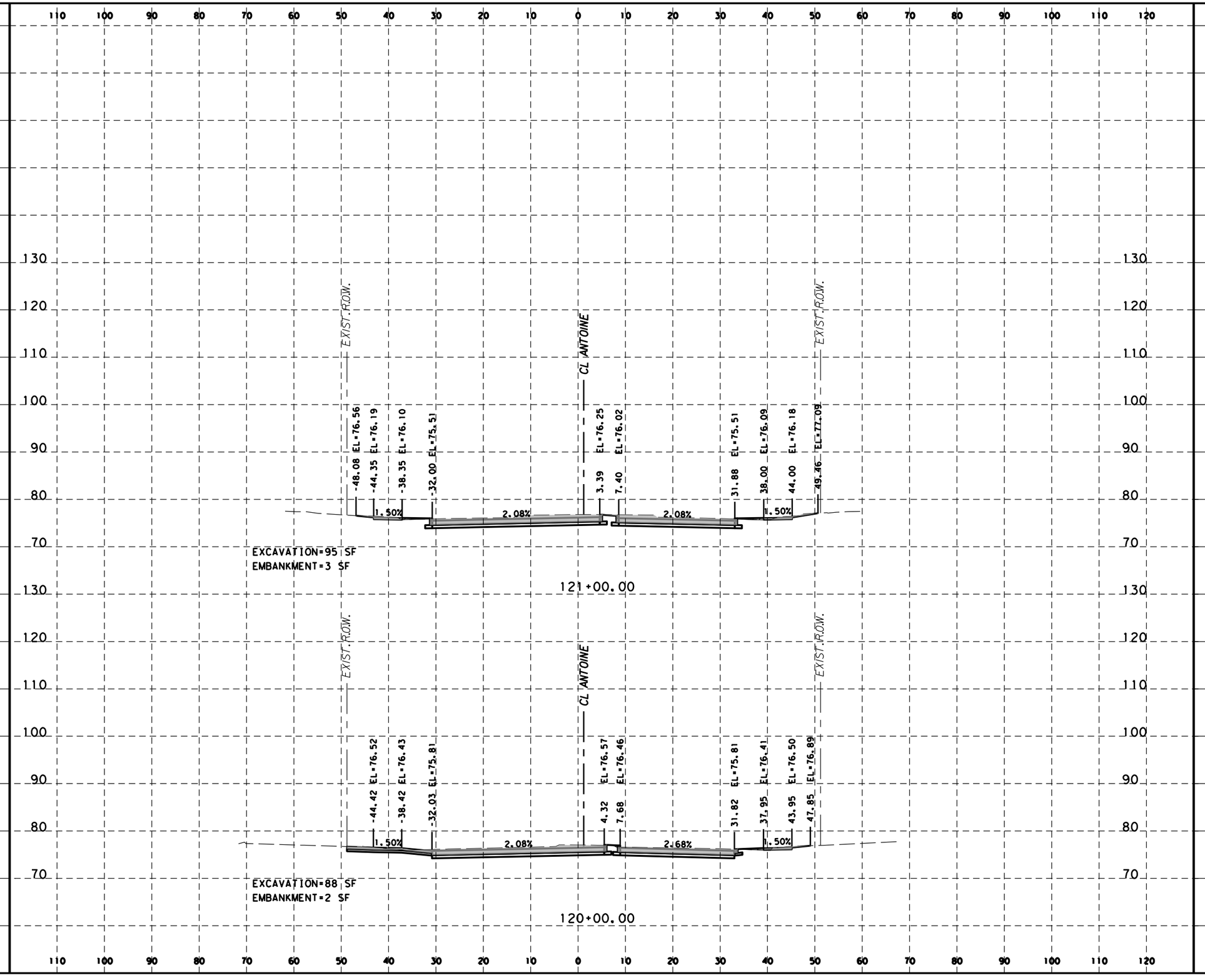

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1017 OF 1067	

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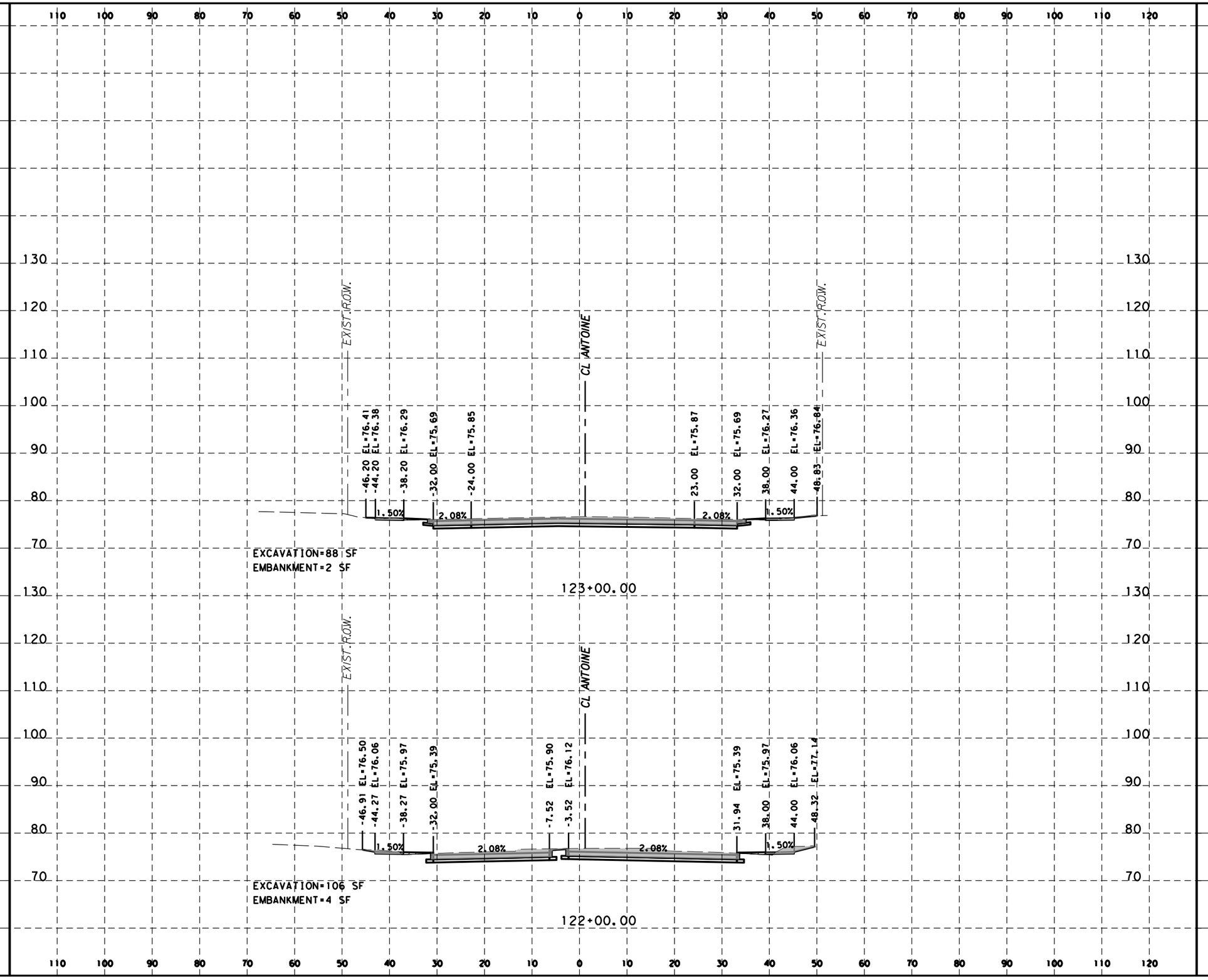

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1018 OF 1067	

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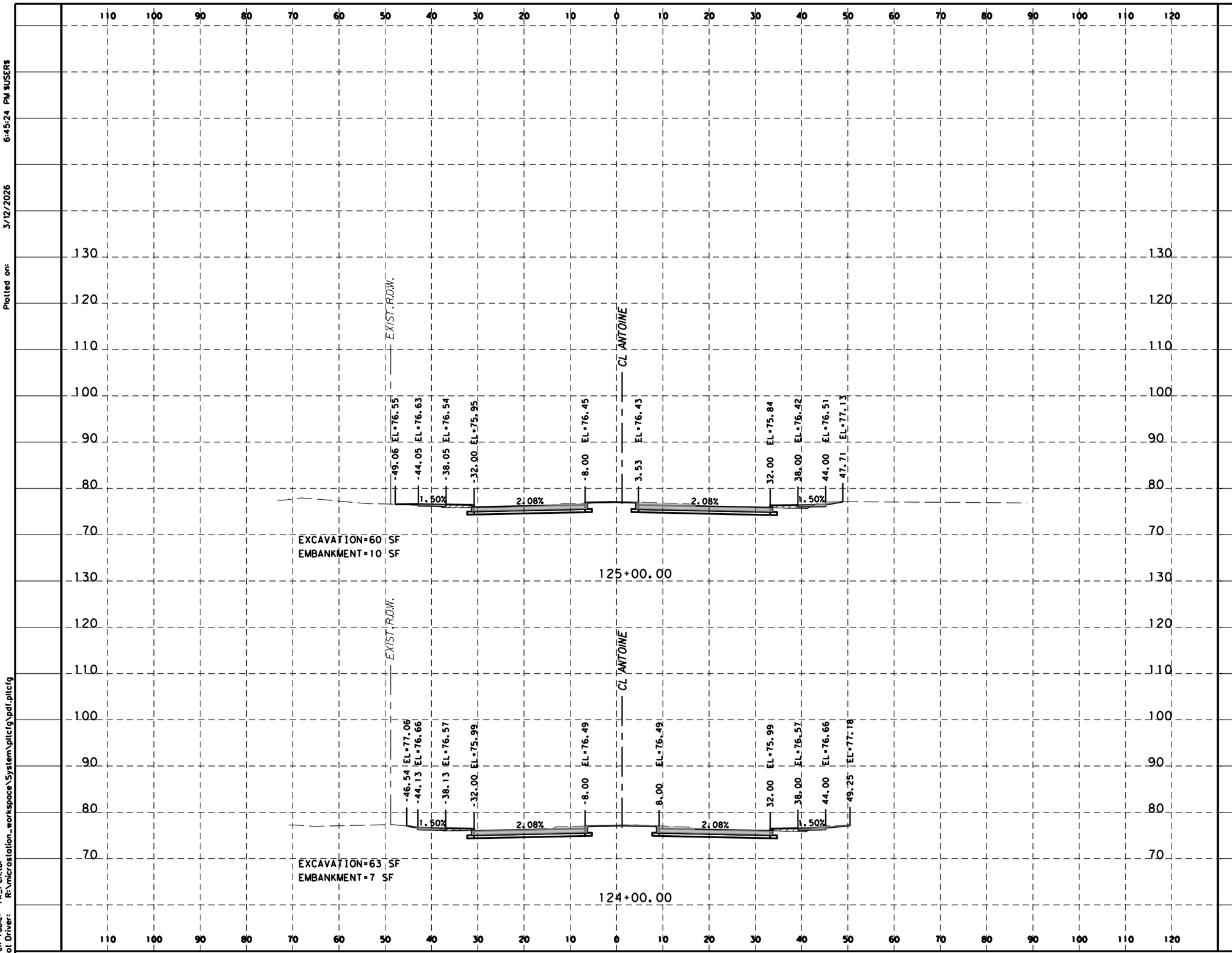

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1019 OF 1067	

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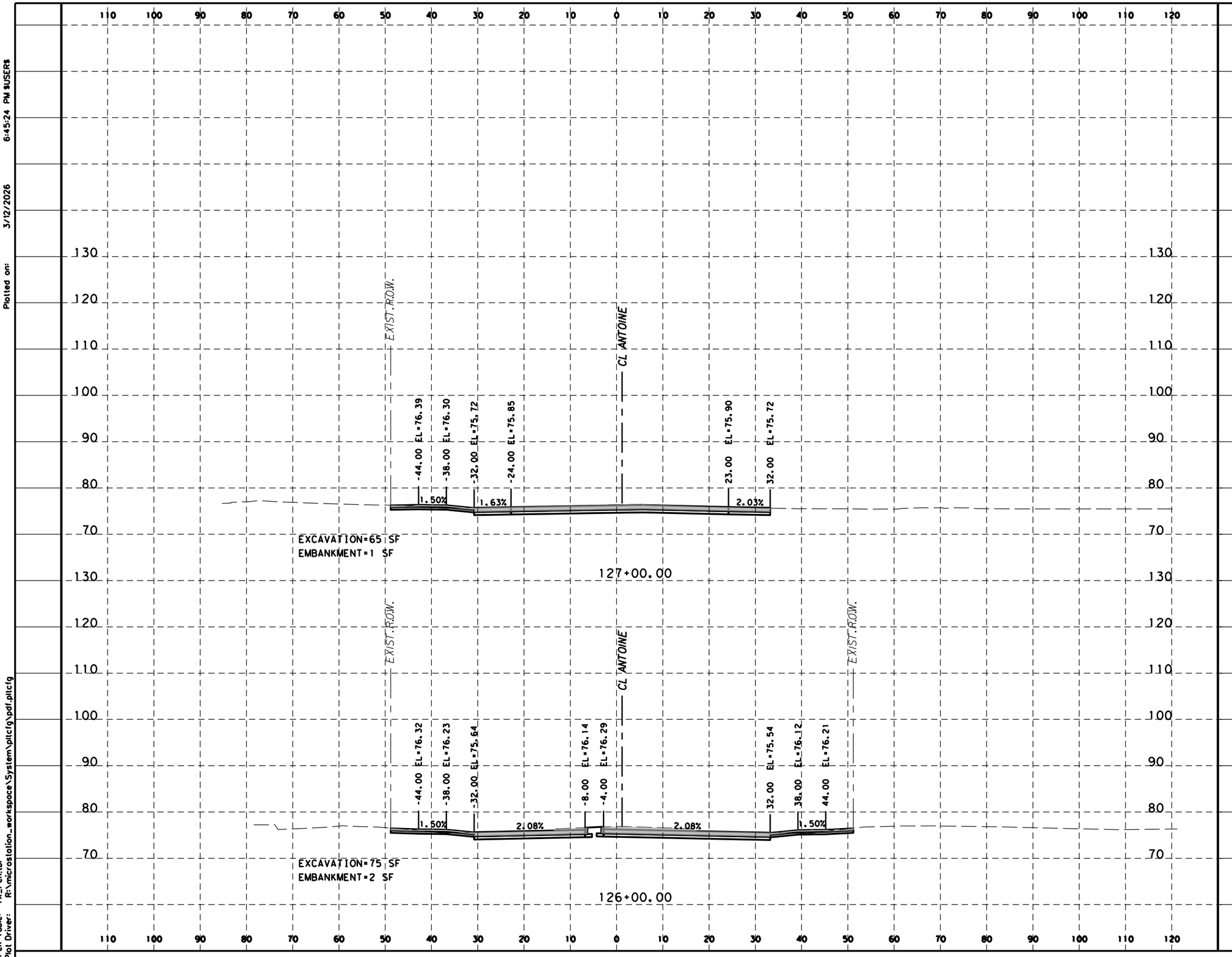

HORZ 0' 10' 20'
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SCALE IN FEET

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 1020 OF 1067	

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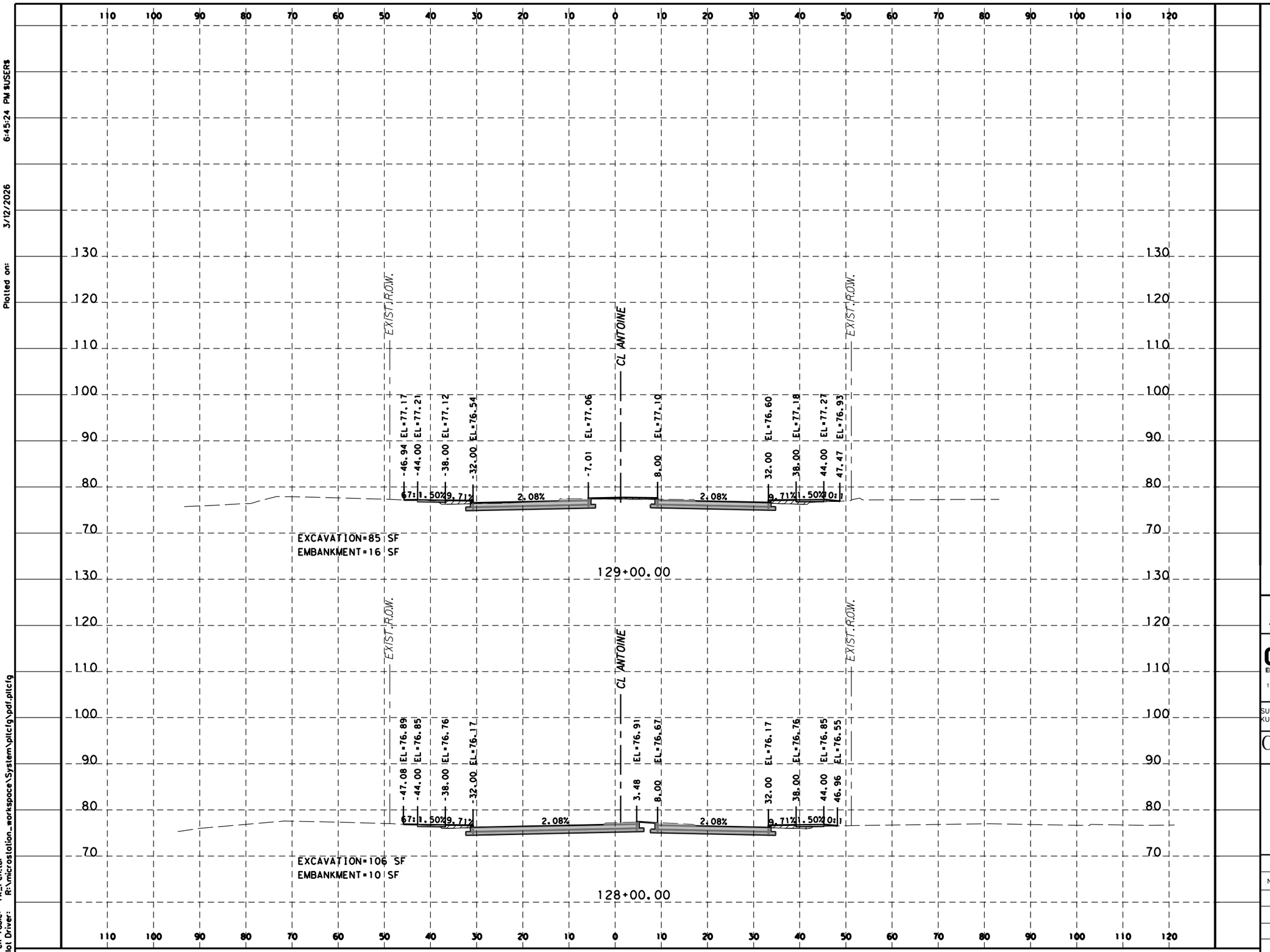

HORZ 0' 10' 20'
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SCALE IN FEET

LEGEND

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PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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SHEET NO. 1021 OF 1067	

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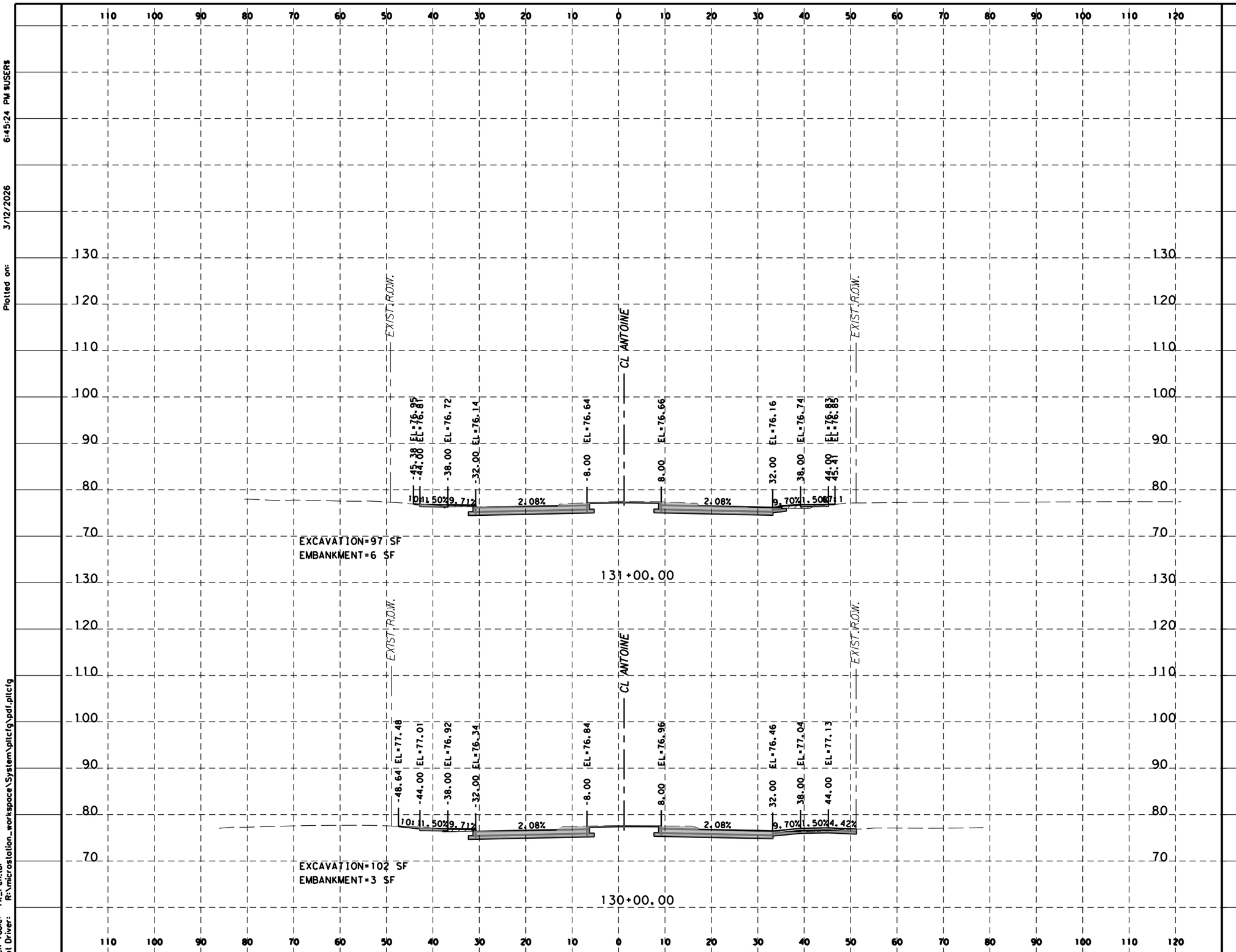

HORZ 0' 10' 20'
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SCALE IN FEET

LEGEND

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EMBANKMENT=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1022 OF 1067	

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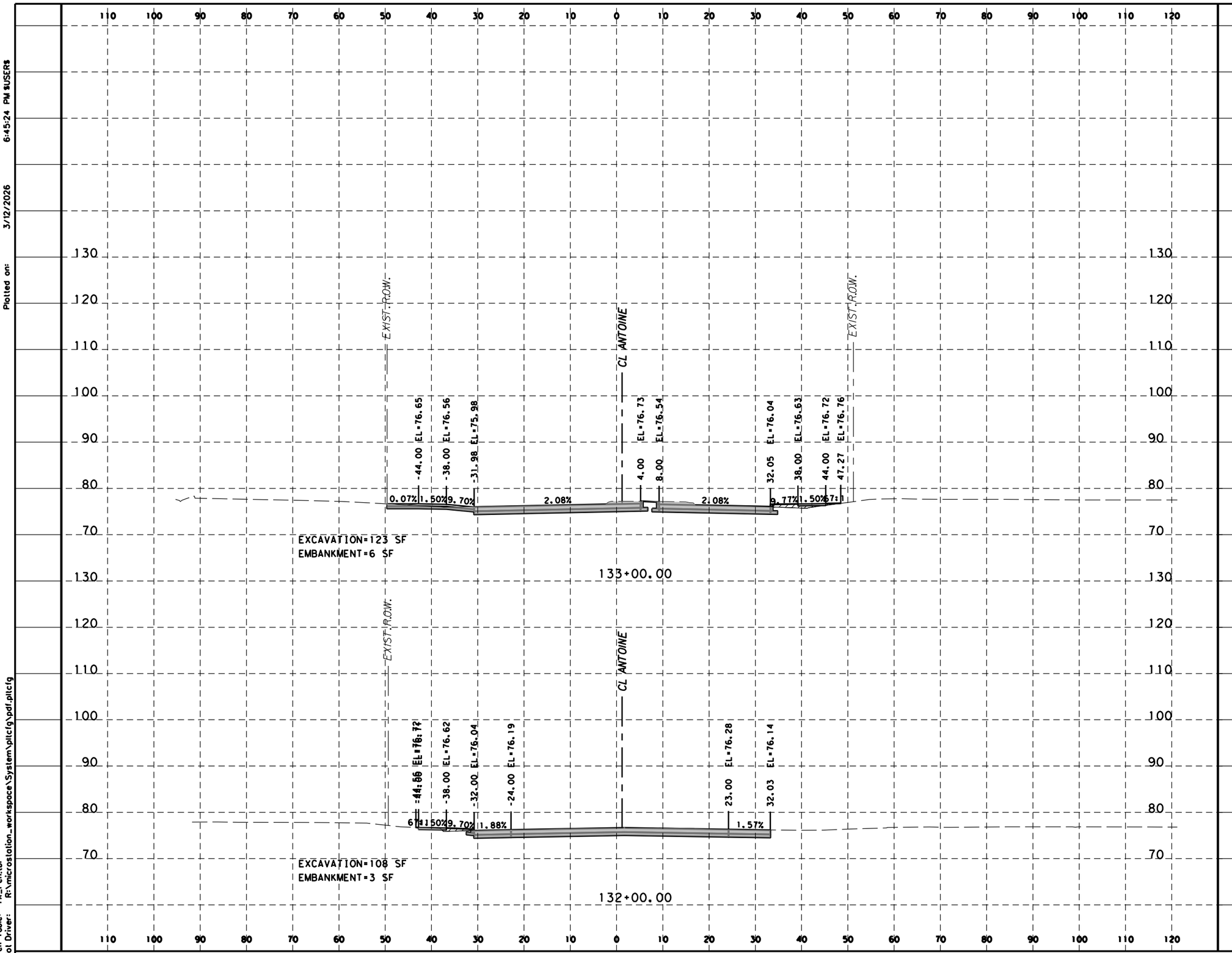

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1023 OF 1067	

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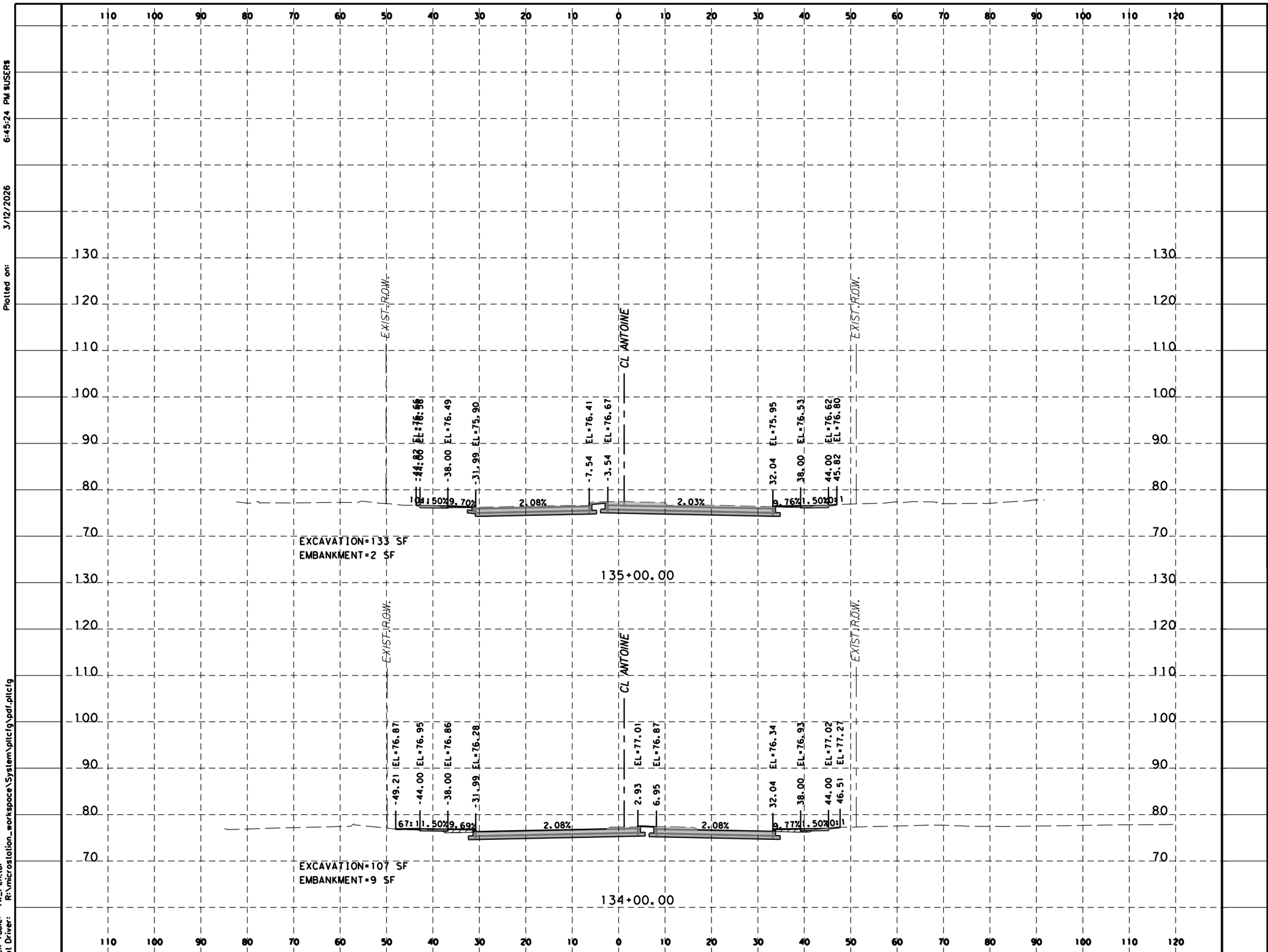

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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CITY OF HOUSTON
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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1024 OF 1067	

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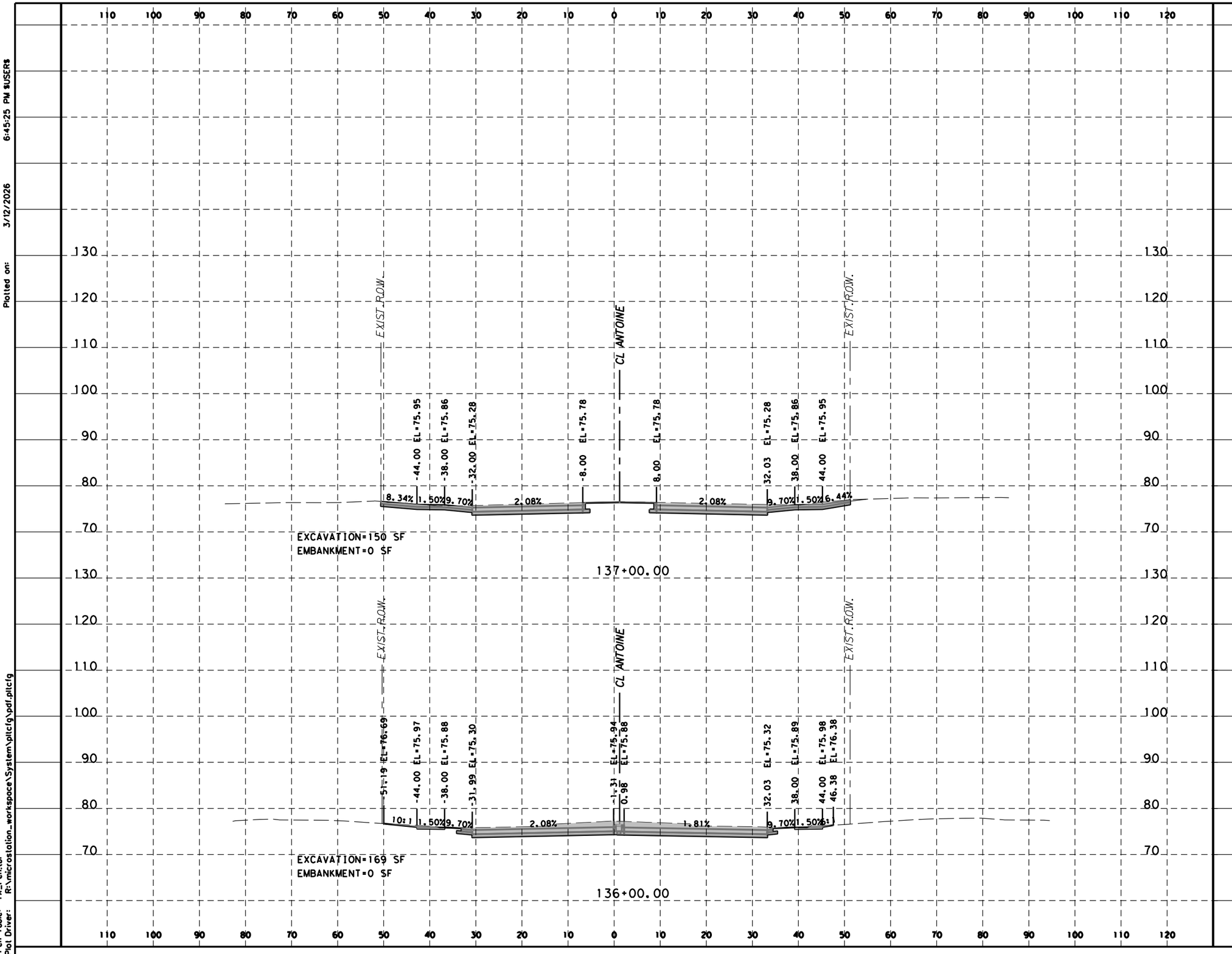

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1025 OF 1067	

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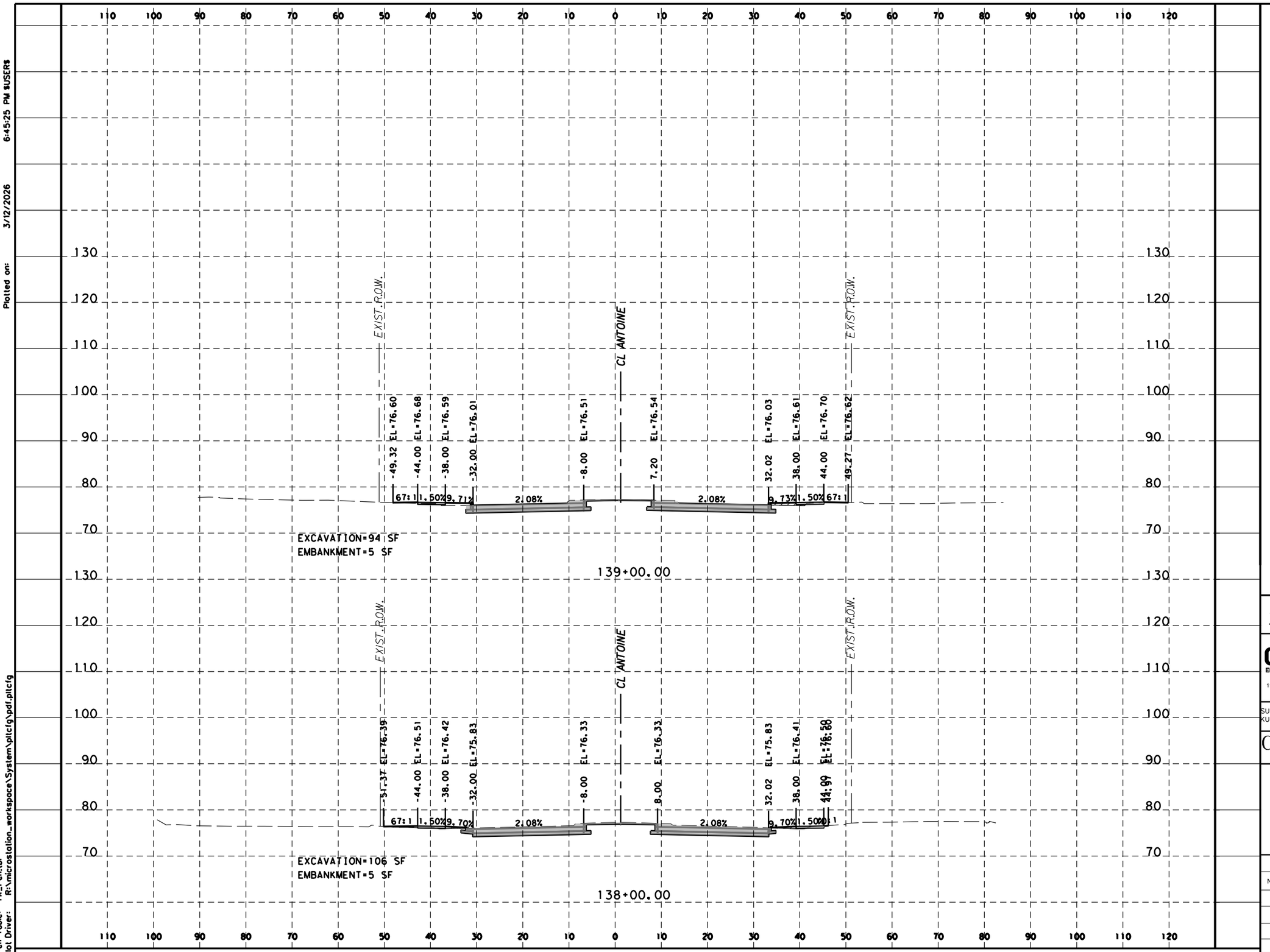

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1026 OF 1067	

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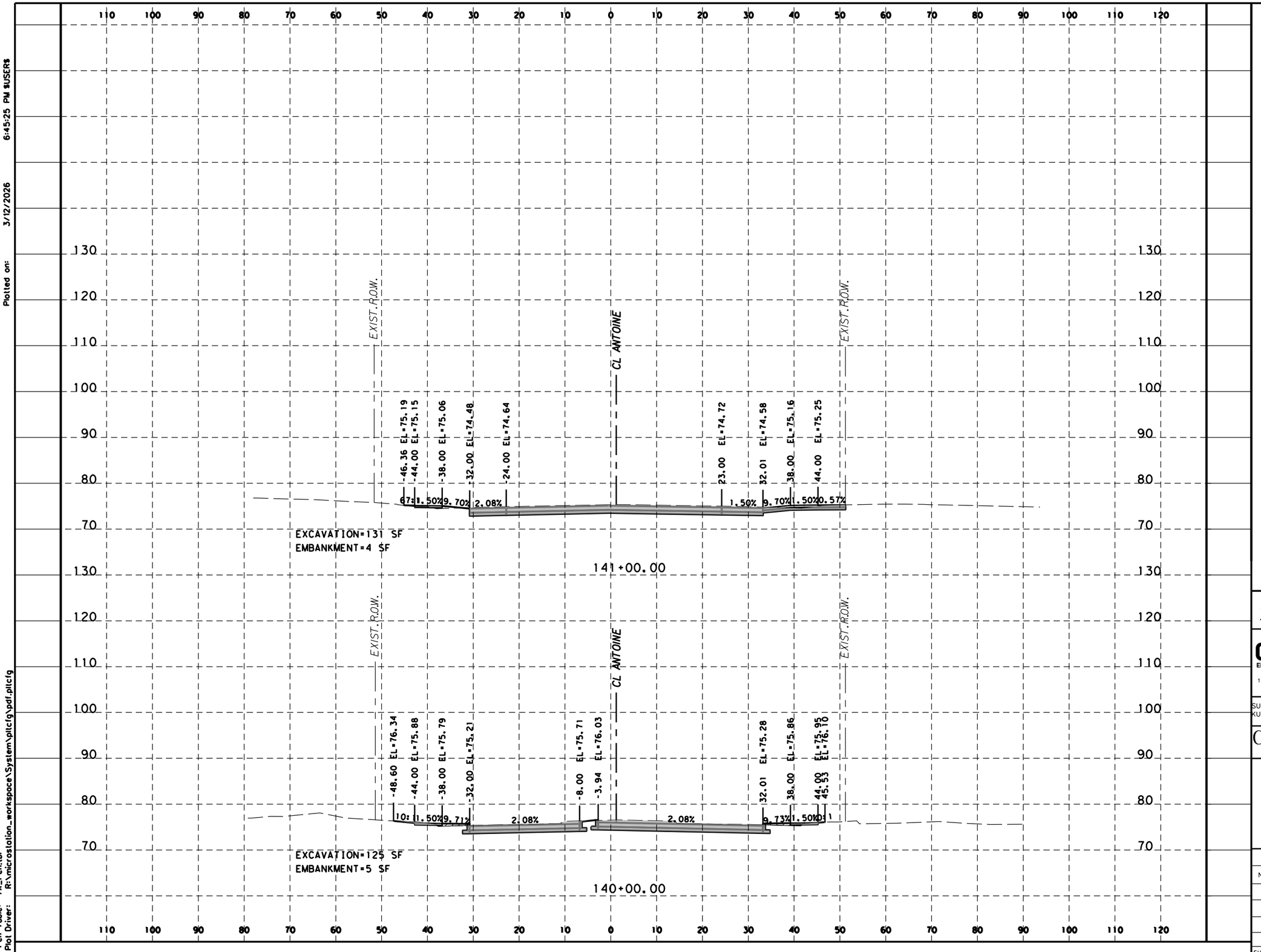

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1027 OF 1067	

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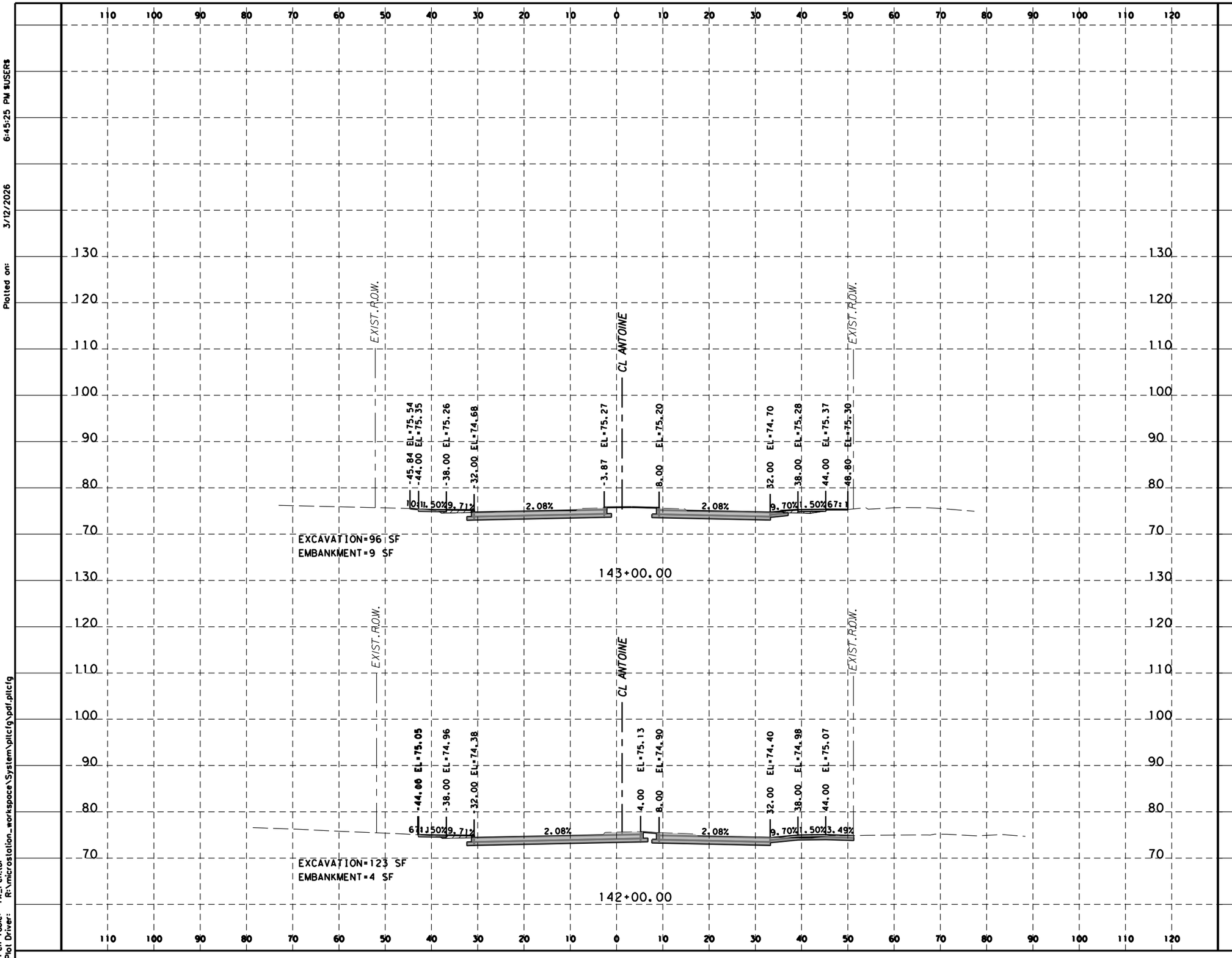

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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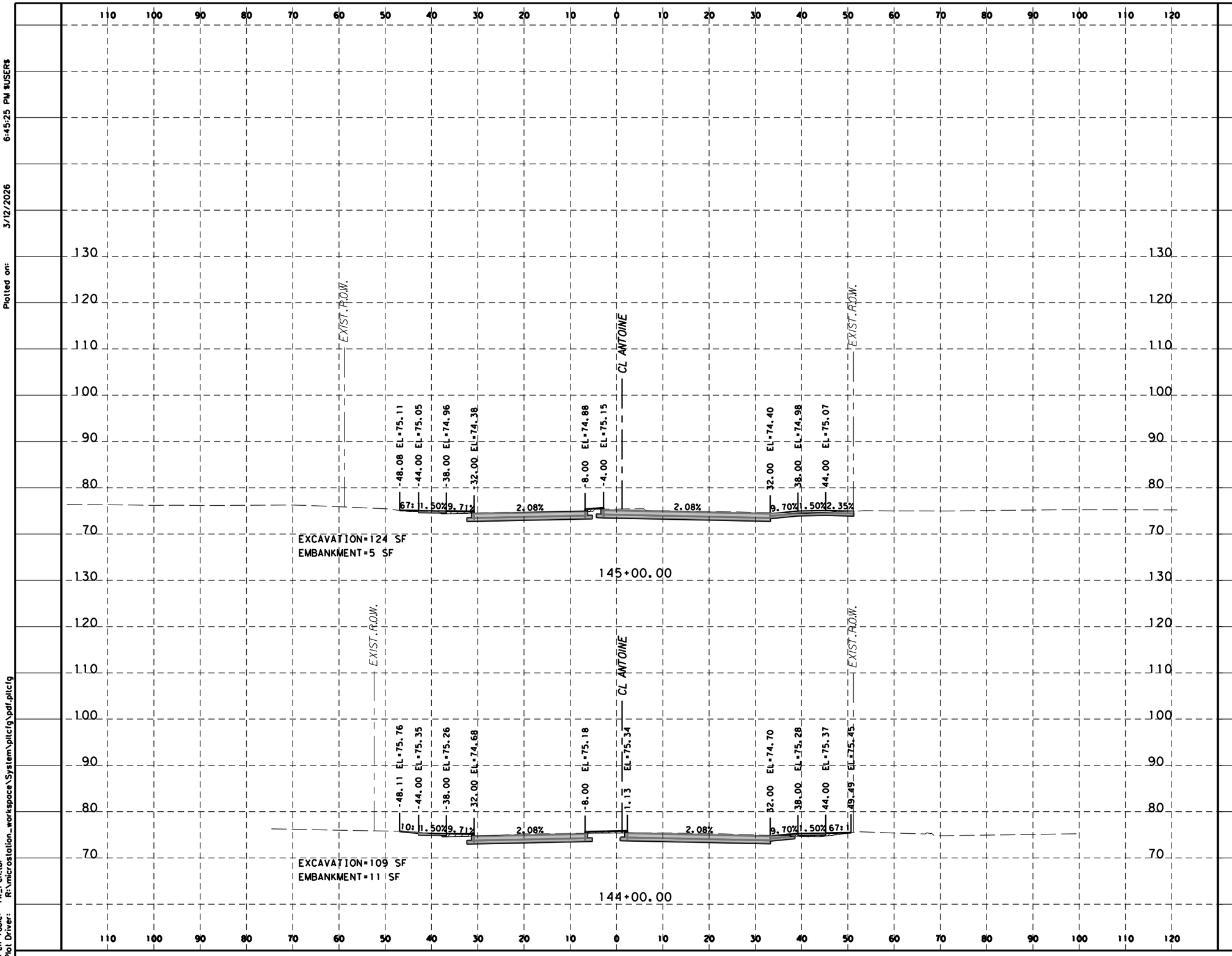
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1028 OF 1067	



HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1029 OF 1067	

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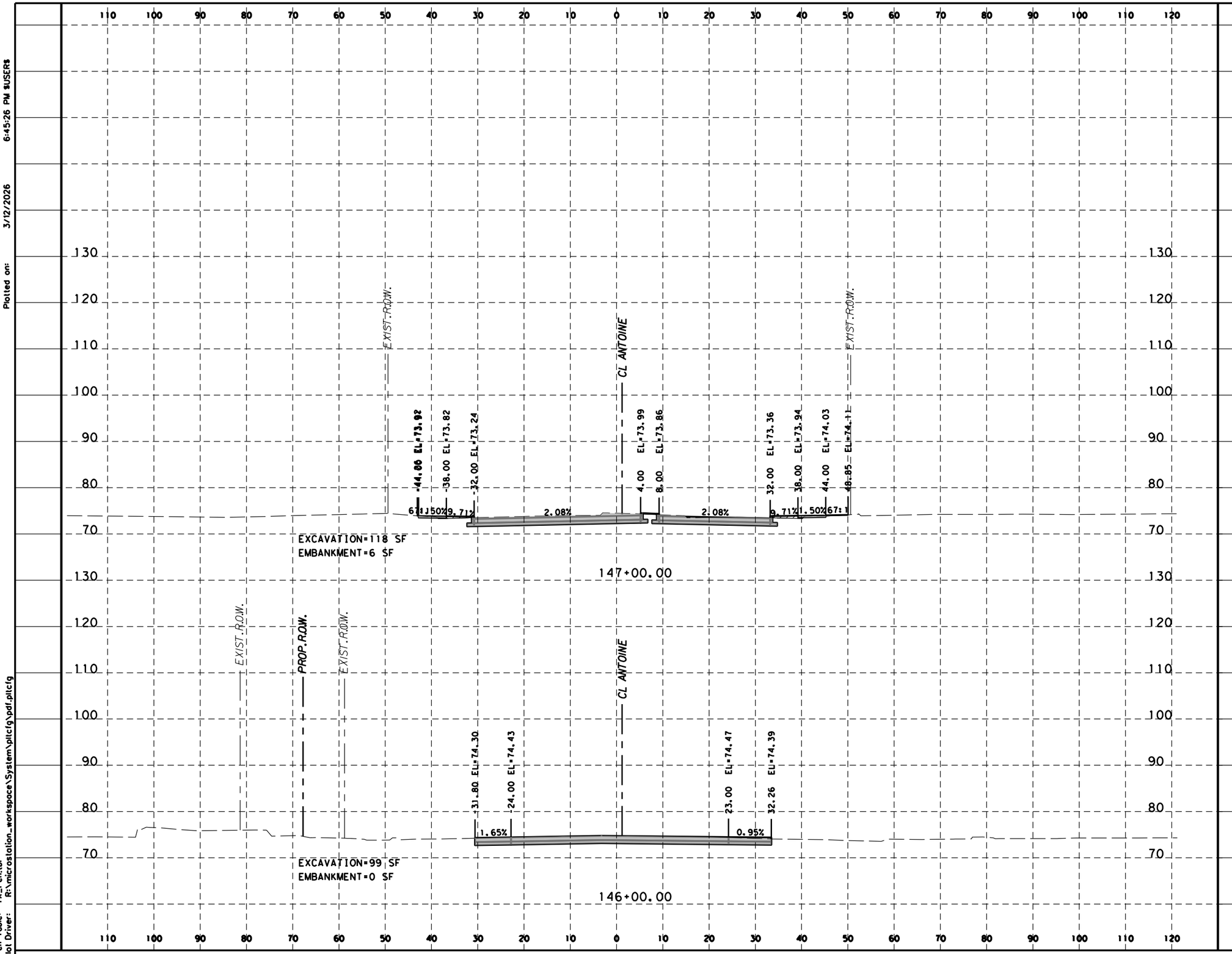

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1030 OF 1067	

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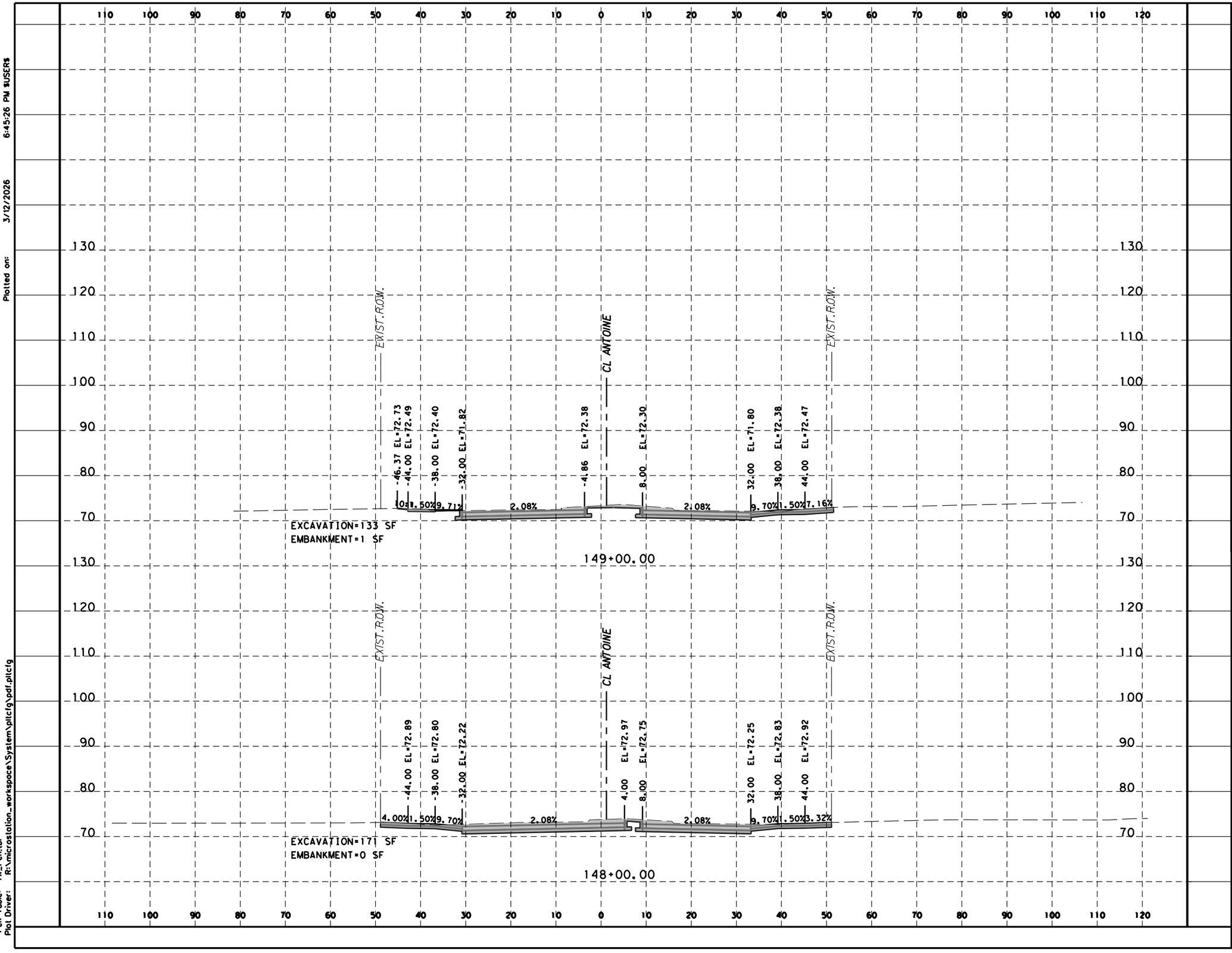

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 1031 OF 1067	

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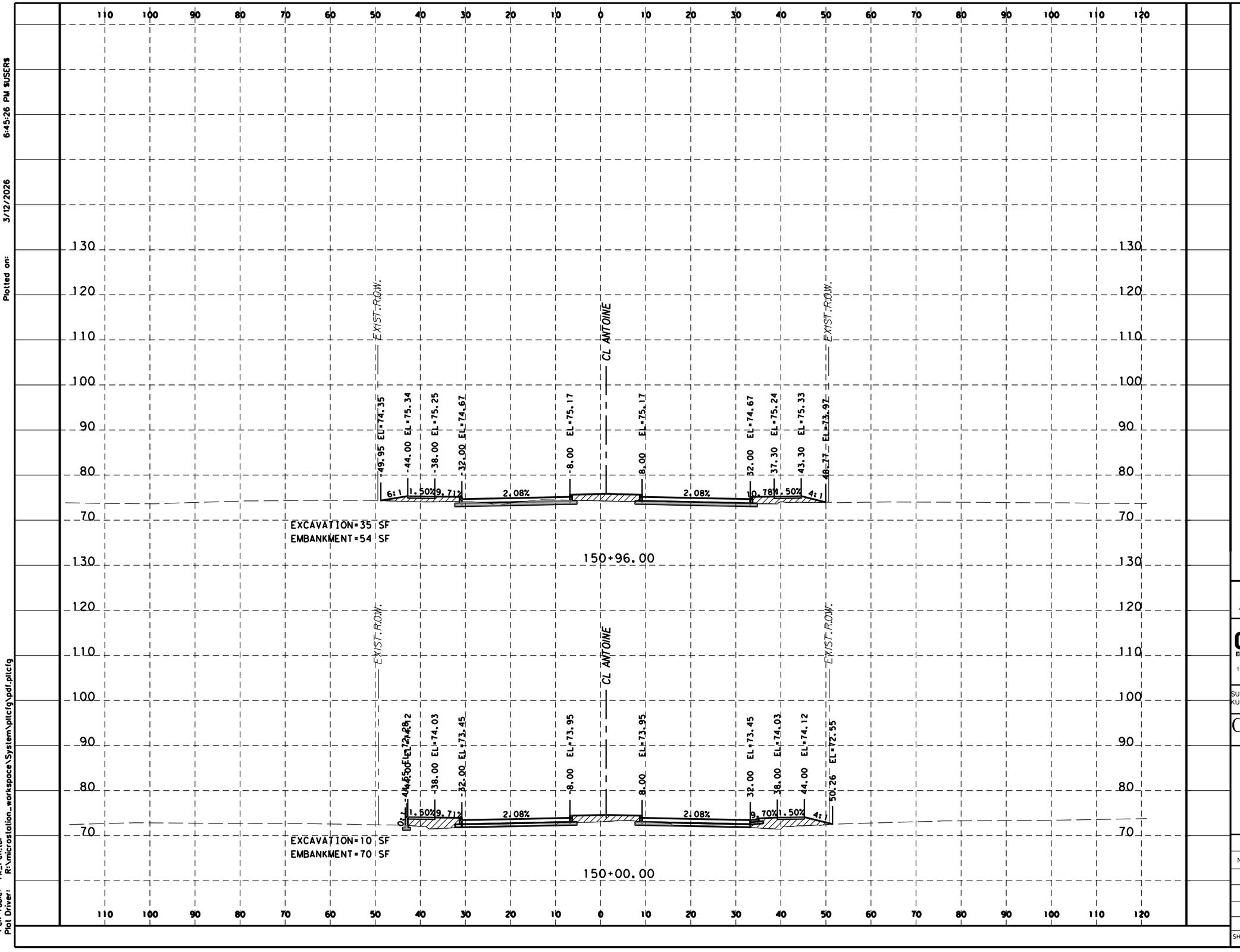

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VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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CITY OF HOUSTON
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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1032 OF 1067	

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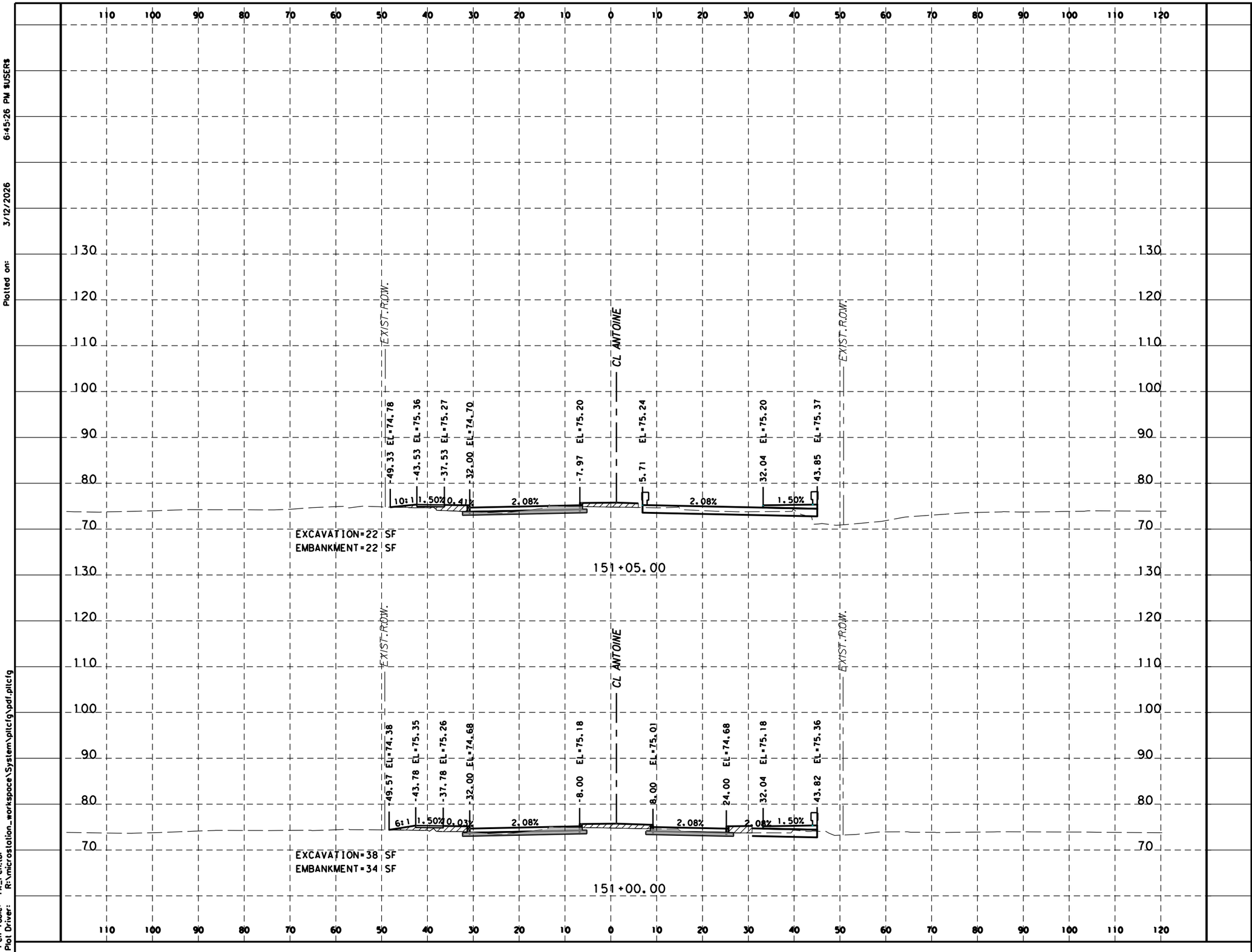

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
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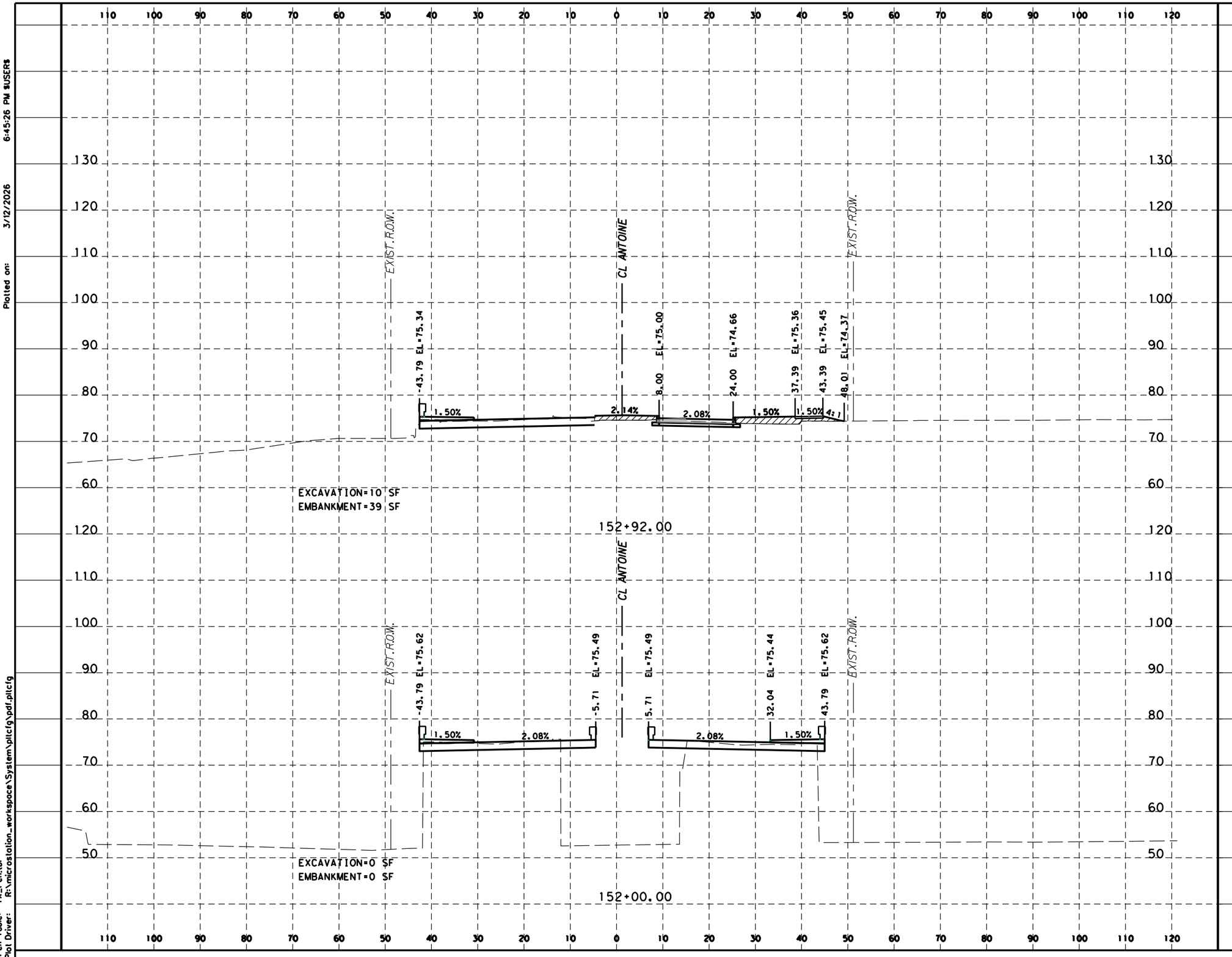

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND
EXCAVATION=XX SF
EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1034 OF 1067	

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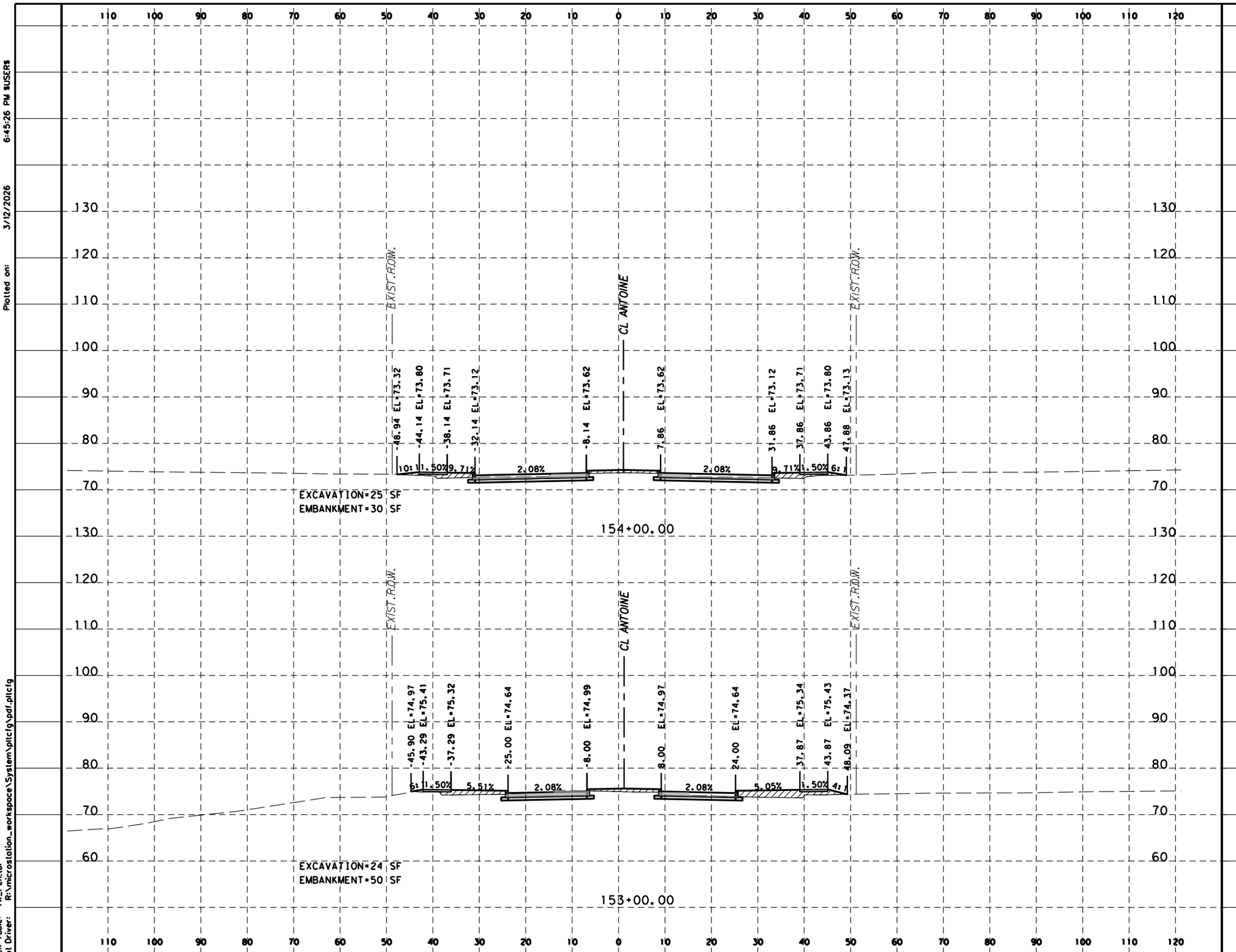

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1035 OF 1067	

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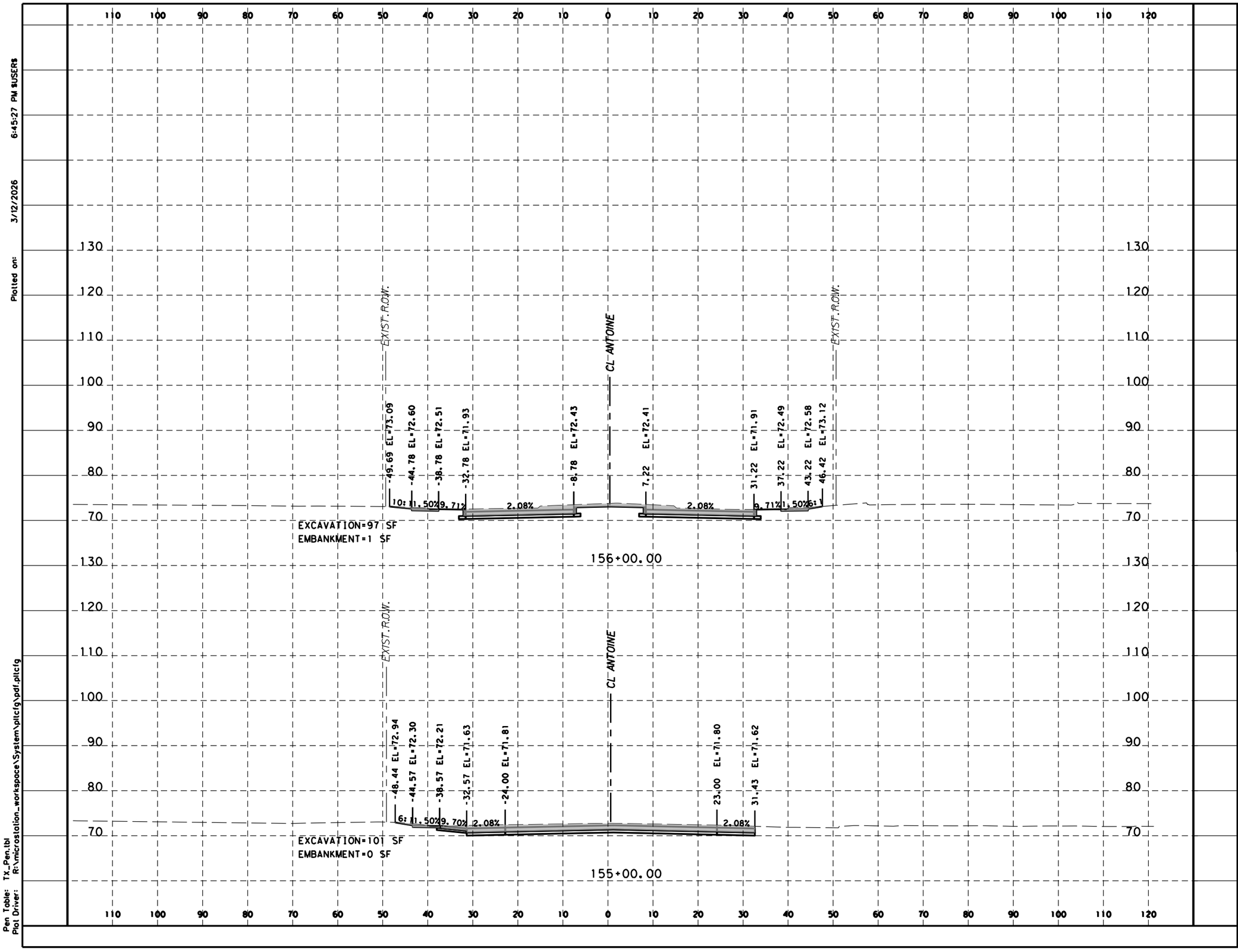

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
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CATHERINE GOFORTH	
SHEET NO. 1036 OF 1067	

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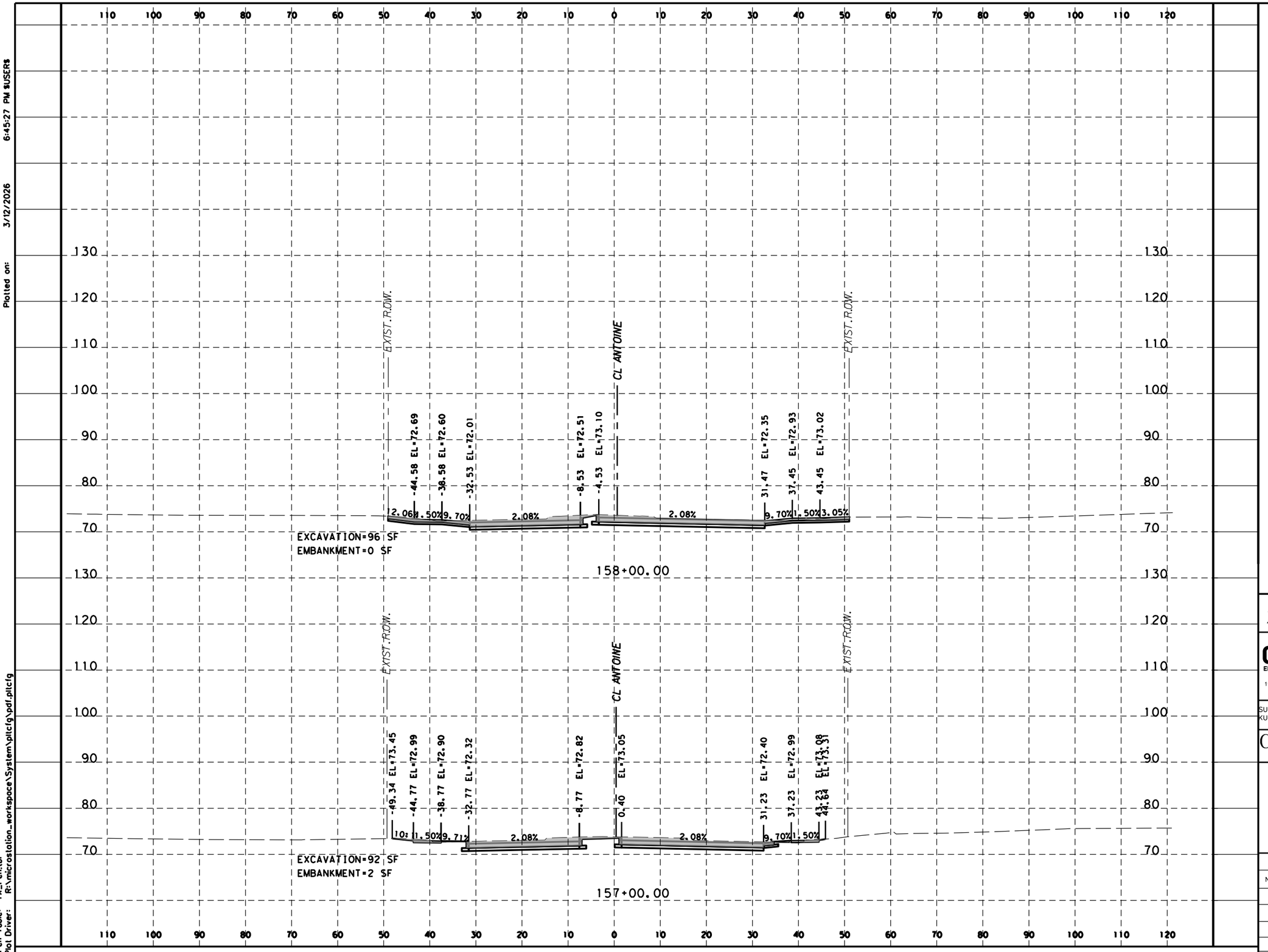

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, SUITE 400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1037 OF 1067	

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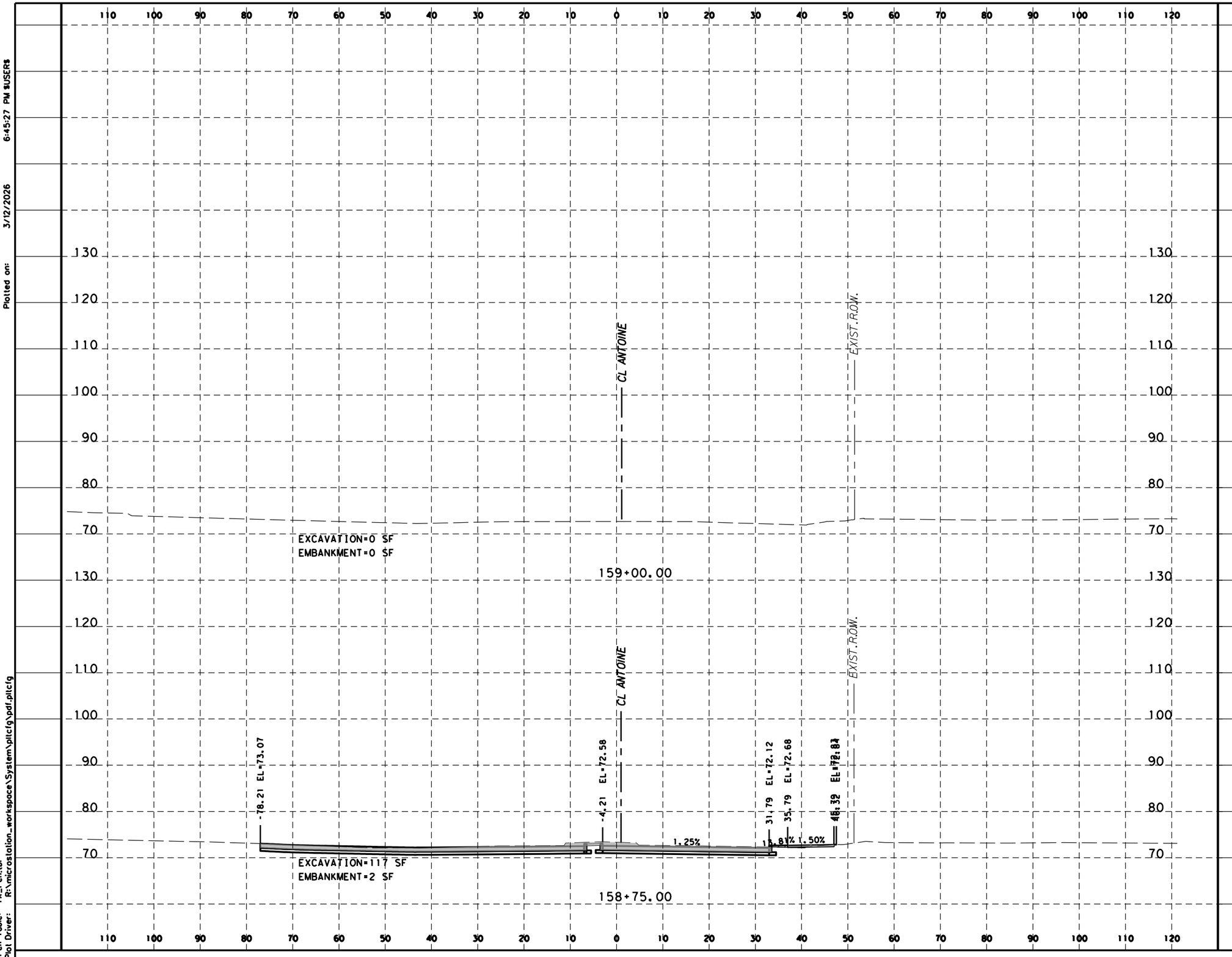

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1038 OF 1067	

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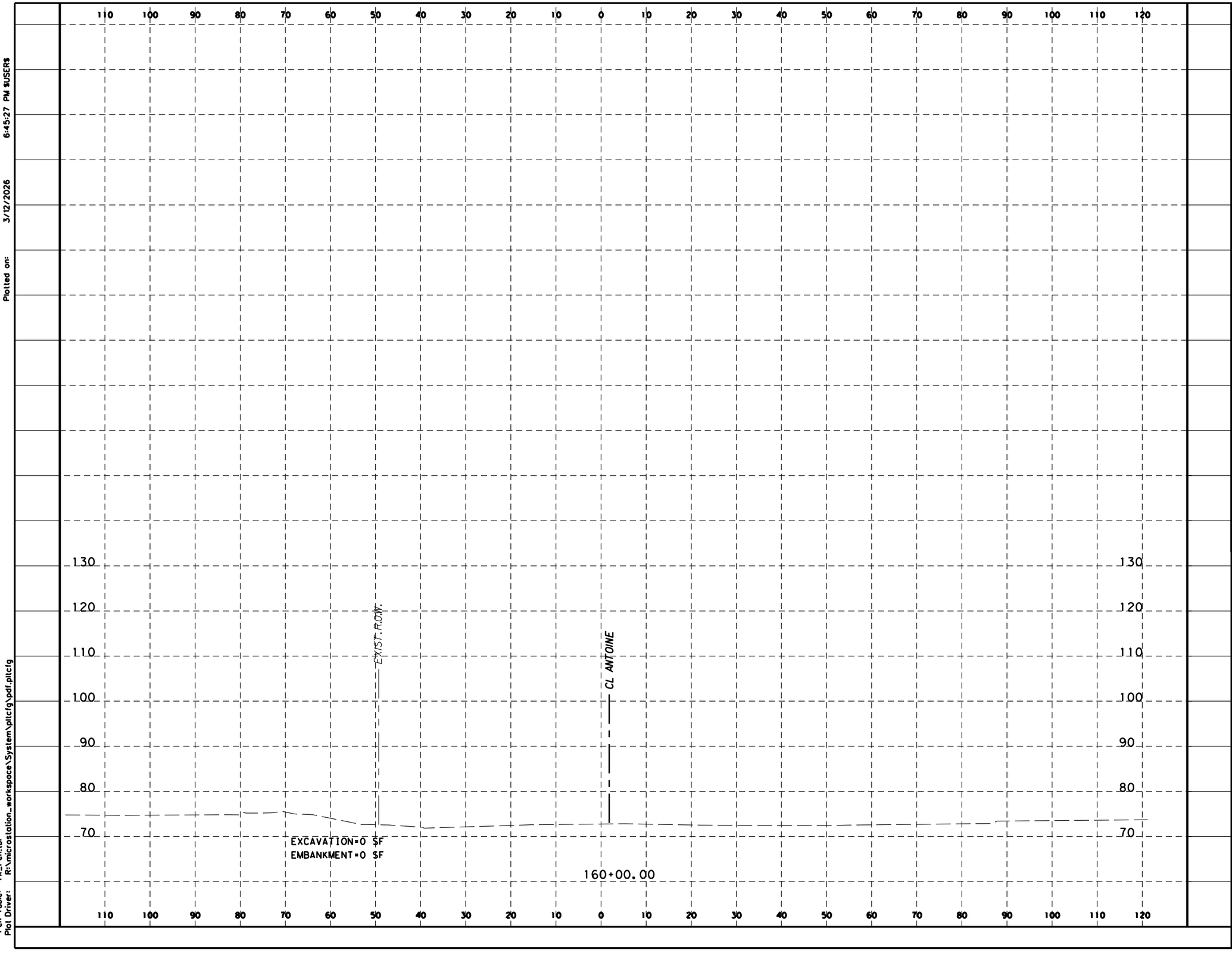

HORZ 0' 10' 20'
VERT 0' 5' 10'
SCALE IN FEET

LEGEND

EXCAVATION=XX SF

EMBANKMENT=XX SF

Texas Department of Transportation ©2023

Gauge ENGINEERING
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11750 KATY FREEWAY, SUITE 400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

PROPOSED CROSS SECTIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CATHERINE GOFORTH	
SHEET NO. 1039 OF 1067	

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LOG OF BORING BR-1A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13865514.73; E: 3086685.35
STATION: 18+34.70
OFFSET: 7.33' RT
SURFACE ELEVATION: 65.2 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/8/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
65	0			Loose, dark gray and brown, CLAYEY SAND (SC) -w/ roots at 0'-2'				17			
						46.5		15	34	14	20
60	5			-w/ gravel at 4'-5'							
					5			14			
	10			Stiff to very stiff, gray and brown, LEAN CLAY WITH SAND (CL)			105	19			
55				-w/ calcareous nodules and ferrous stains at 11'-13'		80.0		18			
	15			Hard, light gray and brown, LEAN CLAY (CL) -w/ sand pockets		89.1		19	44	16	28
50				Gray and bown, SAND WITH SILT (SP-SM) -w/ clay seams at 15'-20'		10.1		8	NP	NP	NP
	20							9			
45				Soft to very stiff, reddish brown, LEAN CLAY (CL)		99.1	108	19	46	21	25
	25							21			
40				-w/ sand seams at 26'-27'	8			31			
	30				28			20			
35						85.8		29	44	19	25
	35				14			24			
30								24			
	40							25			
25				Stiff to very stiff, gray, brown and reddish brown, FAT CLAY (CH)		99.6		29	72	38	34
	45							29			
20				-w/ silt seams at 47'-49'				26			
	50						102	27			
15				Very stiff to hard, reddish brown, LEAN CLAY WITH SAND (CL)							

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.8 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 12.0 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-1

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING BR-1A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13865514.73; E: 3086685.35
STATION: 18+34.70
OFFSET: 7.33' RT
SURFACE ELEVATION: 65.2 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/8/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
10	55			Very stiff to hard, reddish brown, LEAN CLAY WITH SAND (CL) [Continued...]		84.4		17	34	21	13
								24			
5	60							28			
								24			
0	65			Hard, reddish brown and gray, LEAN CLAY (CL)			102	26			
						93.8		18	43	23	20
-5	70						112	12			
								28			
-10	75			Stiff to very stiff, gray, brown and reddish brown, LEAN CLAY WITH SAND (CL) -w/ calcareous nodules at 73'-75'			97	32			
					27			31			
-15	80				14	73.6		27	31	21	10
				-w/ calcareous nodules at 81'-84'	13			24			
-20	85				16			24			
						82.9		22	37	23	14
-25	90						103	23			
					21			27			
-30	95			Medium dense to very dense, gray and reddish brown, SILT WITH SAND (ML) -w/ gravel at 93'-100'	25	80.6		34	20	18	2
					52			32			
	100				31			35			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.6 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 12.0 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-1

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 1 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1040 OF 1067	

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LOG OF BORING BR-1B (PZ-1)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13865620.09; E: 3086662.36
STATION: 19+40.97
OFFSET: 11.11' LT
SURFACE ELEVATION: 64.46 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/10/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0										
60	5			Stiff to very stiff, gray, dark gray, brown and reddish brown, LEAN CLAY WITH SAND (CL) -w/ roots at 0'-2' -w/ calcareous nodules at 2'-4' -w/ gravel at 4'-5'		71.6		20 23 17 18	35	12	23
55	10			-w/ wood at 8'-10'				15			
50	15			Firm to very stiff, gray, brown and reddish brown, SANDY LEAN CLAY (CL) -w/ gravel at 10'-18'		67.6	101	24 19 19	29	11	18
45	20			Very stiff to hard, reddish brown and gray, LEAN CLAY (CL)							
40	25			-w/ gravel at 26'-28'		97.7	112	22 24 21	46	17	29
35	30				31 16	94.4		23	25	16	9
30	35			Very stiff, reddish brown, SANDY LEAN CLAY (CL) -w/ silt seams at 31'-33'		53.2	115	19 32	32	18	14
25	40			Dense, reddish brown, SANDY SILT (ML)	32 30	57.6		26 31	NP	NP	NP
20	45			Stiff to very stiff, reddish brown and gray, FAT CLAY (CH) -w/ gravel at 41'-43'				26 33			
15	50			Stiff to very stiff, gray, brown and reddish brown, LEAN CLAY (CL)		99.8	96	27 27	62	28	34

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 11.6 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-2

COH HG2010257.1.COH.GPJ 4/26/23

LOG OF BORING BR-1B (PZ-1)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13865620.09; E: 3086662.36
STATION: 19+40.97
OFFSET: 11.11' LT
SURFACE ELEVATION: 64.46 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/10/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
10	55			Stiff to very stiff, gray, brown and reddish brown, LEAN CLAY (CL) [Continued...]		98.3		21 21	46	22	24
5	60			Very stiff to hard, gray, brown and reddish brown, FAT CLAY (CH)			100	25 27			
0	65					99.9		33 26	54	21	33
-5	70			-w/ calcareous nodules at 71'-80'				18 18			
-10	75						111	24 23			
-15	80					98.5		36 29	80	30	50
-20	85			Very stiff, gray and reddish brown, LEAN CLAY WITH SAND (CL)			104	22 23			
-25	90			Medium dense to dense, gray, SILTY SAND (SM) -w/ clay seams at 93'-95'	19 24 28 13	79.5		21 26 27 26	28	15	13
-30	95				36 48	35.3		25 20	NP	NP	NP
-35	100										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 11.6 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-2

COH HG2010257.1.COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 2 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1041 OF 1067	

Pen Table: TX_Pen.tbl
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LOG OF BORING BR-2A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13872153.8; E: 3086361.52
STATION: 84+86.44
OFFSET: 19.60' RT
SURFACE ELEVATION: 74.56 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 27 FT
DATE: 12/28/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 7" Concrete				22			
		Stiff to very stiff, reddish brown, gray and dark gray, LEAN CLAY WITH SAND (CL)		73.4		18	28	13	15
70	5	-w/ sand pockets -w/ ferrous stains and calcareous nodules at 5'-9'			121	7			
						20			
65	10			81.0		20			
		Stiff to hard, reddish brown and gray, FAT CLAY (CH)		93.7		26	56	20	36
60	15				103	19			
				97.5		25	56	21	35
55	20					26			
		Very stiff, reddish brown, LEAN CLAY (CL) -w/ calcareous nodules at 23'-25'		94.1	104	20	38	16	22
50	25	Medium dense, reddish brown and brown, SANDY SILT (ML)				23			
			13			23			
45	30		19	60.9		27	NP	NP	NP
			20			26			
40	35		20			28			
		Stiff to very stiff, reddish brown, FAT CLAY (CH)	15	97.2		33	58	24	34
35	40	-w/ silt seams at 42'-44'			90	33			
						34			
30	45	Stiff to very stiff, brown, SILTY CLAY (CL-ML)		97.5		24	27	20	7
						21			
25	50					23			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 26.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-3

COH HG2010257.1 COH GPJ 4/26/23

LOG OF BORING BR-2A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13872153.8; E: 3086361.52
STATION: 84+86.44
OFFSET: 19.60' RT
SURFACE ELEVATION: 74.56 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 27 FT
DATE: 12/28/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
					90	41			
20	55	Very stiff to hard, reddish brown, brown and gray, LEAN CLAY (CL) -w/ calcareous nodules at 50'-52' [Continued...]							
				92.3		19	41	17	24
15	60	-w/ ferrous stains at 57'-59'				17			
						21			
10	65			97.6		17	32	21	11
		-w/ calcareous nodules at 65'-67'				13			
5	70	Very stiff to hard, reddish brown, FAT CLAY (CH)			102	27			
				99.5		24	60	31	29
0	75	-w/ sand seams at 72'-74'				27			
						25			
-5	80				106	22			
		Very stiff, gray, reddish brown and light brown, LEAN CLAY (CL) -w/ ferrous stains at 80'-84'		88.9		16	39	20	19
-10	85					16			
			18			22			
-15	90					21			
		Very dense, brown, SANDY SILT (ML)	54	58.3		23	22	21	1
		Very stiff to hard, reddish brown, FAT CLAY (CH)	22			31			
-20	95	-w/ ferrous stains at 95'-97'			98	30			
				99.6		32	76	38	38
-25	100								

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 26.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-3

COH HG2010257.1 COH GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

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11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 3 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1042 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:03 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\03_BORING.dgn

LOG OF BORING BR-2B (PZ-4)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13872374.95; E: 3086299.84
STATION: 87+10.03
OFFSET: 32.67' LT
SURFACE ELEVATION: 74.06 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 23.8 FT
DATE: 12/29/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

ELEVATION, FT	DEPTH, FT	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0		Pavement: 9" Concrete, 7" Cement Stabilized Sand Base				18			
70	5		Stiff, brown and gray, SANDY LEAN CLAY (CL) -w/ gravel at 2'-4' -w/ ferrous stains at 2'-6' -w/ calcareous nodules at 5'-7'		61.3	116	15 13 14	30	15	15
65	10						20	33	17	16
60	15		Stiff, gray and reddish brown, LEAN CLAY WITH SAND (CL) -w/ ferrous stains at 12'-14'		75.9		25			
55	20		Stiff to hard, reddish brown and gray, FAT CLAY (CH) -w/ calcareous nodules at 16'-18'		91.4	118	22 15	51	19	32
50	25		Loose to dense, reddish brown and brown, SILT WITH SAND (ML) -w/ clay seams at 22'-24'	10 8	75.6	95	23 27 31	23	22	1
45	30			6 19			22 24			
40	35		-w/ clay seams at 37'-42'	15 31			21 29			
35	40		Loose to medium dense, reddish brown and brown, SANDY SILT (ML)	22 9	52.8		21 24			
30	45			8 16			25 35			
25	50									

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 25.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 15.4 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-4

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING BR-2B (PZ-4)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13872374.95; E: 3086299.84
STATION: 87+10.03
OFFSET: 32.67' LT
SURFACE ELEVATION: 74.06 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 23.8 FT
DATE: 12/29/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

ELEVATION, FT	DEPTH, FT	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
20	55		Very stiff to hard, reddish brown, FAT CLAY (CH) -w/ calcareous nodules at 50'-52' [Continued...]		100		30 32 32	73	25	48
15	60		Very stiff to hard, gray, brown and reddish brown, LEAN CLAY (CL)		91.7	101	24 21 25	33	13	20
10	65						26			
5	70		-w/ calcareous nodules at 72'-79'		99.2	104	20 22	39	16	23
0	75						24			
-5	80		Very stiff to hard, gray, brown and reddish brown, FAT CLAY (CH)		99.8	99	23 27 26	64	23	41
-10	85		-w/ calcareous nodules at 85'-89'				19			
-15	90				91.3		20	50	19	31
-20	95			26			17 24			
-25	100				97.1	92	19 31	77	26	51

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 25.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 15.4 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-4

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 4 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1043 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:05 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\04_BORING.dgn

LOG OF BORING BR-3A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873577.95; E: 3086315.86
STATION: 99+12.25
OFFSET: 41.49' RT
SURFACE ELEVATION: 75.69 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/21/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: 15 TO 100 FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
75	0	Pavement: 8" Concrete				22			
		Stiff to hard, gray, dark gray, dark brown, brown and reddish brown, LEAN CLAY WITH SAND (CL) -w/ gravel at 1'-2' -w/ ferrous stains at 2'-10'		70.1		15	34	17	17
70	5					17			
					114	18			
65	10			77.3		20	36	19	17
						17			
	15					20			
60		Loose to medium dense, gray, SILTY SAND (SM)	8	13.2		24	NP	NP	NP
55	20		13			21			
			16			25			
	25		21			24			
50		Medium dense to dense, brown and gray, SAND WITH SILT (SP-SM)	32	8.2		21	NP	NP	NP
45	30					30			
			37			24			
	35		19			26			
40		Medium dense to dense, brown and gray, SILTY SAND (SM)	27	13.6		24	NP	NP	NP
35	40		21			22			
			46			20			
	45		50			19			
30		Very stiff, reddish brown and gray, FAT CLAY (CH)		99.6		19	66	30	36
25	50				100	28			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 14.8 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 16.5 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-5

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING BR-3A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873577.95; E: 3086315.86
STATION: 99+12.25
OFFSET: 41.49' RT
SURFACE ELEVATION: 75.69 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/21/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: 15 TO 100 FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
						26			
	55	Firm to hard, gray and reddish brown, LEAN CLAY WITH SAND (CL)		79.0		21	31	19	12
20						21			
	60					28			
15					96	27			
	65	Stiff to hard, reddish brown, brown and gray, FAT CLAY (CH)		96.5		37	64	27	37
10						29			
	70					28			
5						22			
	75			99.4	103	26	52	23	29
0						29			
	80					35			
-5						32			
	85			98.7		33	64	22	42
-10					109	20			
	90					36			
-15						24	51	17	34
	95			95.0		26			
-20		-w/ calcareous nodules at 96'-98'			119	17			
	100					16			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 14.8 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 16.5 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-5

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 5 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1044 OF 1067	

Pen Table: TX_Pen.tbl
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LOG OF BORING BR-3B

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873839.26; E: 3086236.38
STATION: 101+75.55
OFFSET: 31.29' LT
SURFACE ELEVATION: 77.95 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/17/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			Pavement: 8.25" Concrete				16				
75				Firm to hard, gray, dark gray, brown and reddish brown, FAT CLAY WITH SAND (CH)				17				
	5					76.5	107	18	63	23	40	
70				-w/ gravel at 8'-10'				15				
	10							16				
65				Very stiff, brown and gray, LEAN CLAY (CL)		93.1		27	42	20	22	
	15					88.1		21	40	23	17	
60				Loose to dense, gray, SILTY SAND (SM) -w/ clay seams at 16'-17.5'	9	13.0		23				
	20				7			21				
55				-w/ clay seams and gravel at 23.5'-25'	4			24				
	25				31			14				
50				Very stiff to hard, brown and gray, LEAN CLAY (CL) -w/ calcareous nodules at 25'-30'		92.4		21	42	21	21	
	30						105	21				
45				Loose to dense, brown and gray, SILTY SAND (SM)				44				
	35				17	28.1		21	NP	NP	NP	
40					12			21				
	40				7			27				
35					7			30				
	45				14	28.9		25	NP	NP	NP	
30					16			26				
	50				13			27				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 16.4 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 17.5 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-6

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING BR-3B

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873839.26; E: 3086236.38
STATION: 101+75.55
OFFSET: 31.29' LT
SURFACE ELEVATION: 77.95 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/17/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
25				Loose to dense, brown and gray, SILTY SAND (SM) [Continued...]	23			23				
	55				40			21				
20					35	20.4		20	NP	NP	NP	
	60			Very stiff to hard, reddish brown and gray, FAT CLAY (CH)				24				
15						100	94	31	73	30	43	
	65							30				
10								26				
	70							29				
5						99.9		28	69	30	39	
	75											
0								28				
	80											
-5				Stiff to very stiff, gray, brown and reddish brown, LEAN CLAY (CL)				23				
	85							27				
-10						98.9	105	28	38	14	24	
	90			Very stiff to hard, reddish brown and gray, FAT CLAY WITH SAND (CH) -w/ calcareous nodules at 91'-93'				19				
-15								26				
	95							27				
-20						77.2	102	18	54	17	37	
	100							17				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 16.4 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 17.5 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-6

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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125611
3/12/2026
for
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 6 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1045 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:10 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\06_BORING.dgn

LOG OF BORING BR-3C

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874076.52; E: 3086295.64
STATION: 104+11.24
OFFSET: 34.04' RT
SURFACE ELEVATION: 76.94 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 19.5 FT
DATE: 12/27/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 100 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER ● UNCONFINED COMPRESSION ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION △ TORVANE (0.5 1.0 1.5 2.0 2.5)

ELEVATION, FT	DEPTH, FT	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
76.9	0		Pavement: 6.5" Concrete, 3.5" Lime Stabilized Base		56.9		14	NP	NP	NP
75			Brown, SANDY SILT (ML)				17			
	5		Firm to very stiff, gray, brown and reddish brown, FAT CLAY (CH) -w/ ferrous stains at 5'-12'			118	15			
70			-w/ sand seams at 7'-9'		88.2		16	56	20	36
	10					110	19			
65							19			
	15									
60				11			26			
	20				92.4		28	66	30	36
55			Loose to medium dense, brown, SAND WITH SILT (SP-SM)	11			31			
	25			15			24			
50				10			25			
	30			9	7.0		26	NP	NP	NP
45			Very loose to dense, brown, SILTY SAND (SM) -w/ clay seams at 30'-32'	3			32			
	35			9			31			
40				7			25			
	40			11	19.5		24	18	17	1
35				35			21			
	45		Very stiff to hard, reddish brown, FAT CLAY (CH) -w/ silt seams at 45'-47'	18	99.7		29	56	27	29
30						100	26			
	50		Stiff to very stiff, reddish brown, LEAN CLAY (CL)		97.8		28	29	18	11
							22			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-7

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING BR-3C

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874076.52; E: 3086295.64
STATION: 104+11.24
OFFSET: 34.04' RT
SURFACE ELEVATION: 76.94 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 19.5 FT
DATE: 12/27/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 100 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER ● UNCONFINED COMPRESSION ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION △ TORVANE (0.5 1.0 1.5 2.0 2.5)

ELEVATION, FT	DEPTH, FT	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	55		Stiff to very stiff, reddish brown, LEAN CLAY (CL) [Continued...]	21			19			
20							21			
	60		Very stiff to hard, brown, reddish brown and gray, FAT CLAY (CH)	25	99.4		27	70	31	39
15							29			
	65		-w/ ferrous stains at 65'-67'			99	27			
10							29			
	70				97.6		27	67	28	39
5							25			
	75					107	24			
0					99.1		27			
	80						24	58	30	28
-5							23			
	85		Very stiff to hard, gray, brown and reddish brown, SANDY LEAN CLAY (CL) -w/ ferrous stains at 85'-94' -w/ calcareous nodules at 90'-99'			105	23			
-10							23			
	90				68.3		20			
-15							17	40	22	18
	95					97	27			
-20							16			
	100						16			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-7

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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KARAM QADDO
125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 7 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1046 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:12 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\07_BORING.dgn

LOG OF BORING BR-4A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13878723.12; E: 3086146.64
STATION: 150+66.28
OFFSET: 6.58' RT
SURFACE ELEVATION: 74.15 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/13/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: 15 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
74.15	0			Stiff to hard, dark gray and light gray, LEAN CLAY WITH SAND (CL) -w/ sand seams at 0'-2'		82.8		20 16	29	15	14
70	5							14			
				Soft to firm, gray and dark gray, LEAN CLAY (CL) -w/ sand seams 5'-13'				18			
65	10						101	25			
						91.4		27	39	18	21
60	15			Firm, gray, LEAN CLAY WITH SAND (CL)	6	72.4		27			
				Stiff to very stiff, reddish brown and gray, FAT CLAY (CH) -w/ silt seams and gravel at 16'-18'				36			
						92.4			65	30	35
55	20						105	26			
								31			
50	25					95.4		28	66	30	36
				Medium dense to dense, reddish brown and gray, SILTY SAND (SM) -w/ clay seams at 26'-28'	23			32			
45	30							24			
					47	16.1		23	NP	NP	NP
40	35				39			22			
					38			33			
35	40				50			19			
				Very stiff, reddish brown, brown and gray, FAT CLAY (CH) -w/ silt pockets at 43'-45'		100	100	27	58	25	33
30	45							29			
								23			
25	50							24			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 11.4 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 11.0 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-8

LOG OF BORING BR-4A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13878723.12; E: 3086146.64
STATION: 150+66.28
OFFSET: 6.58' RT
SURFACE ELEVATION: 74.15 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
DATE: 12/13/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: 15 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
20	55			Very stiff, reddish brown, brown and gray, FAT CLAY (CH) [Ccntinued...]			97	29 28			
						97.7		27	54	24	30
15	60							24			
				Hard, reddish brown, brown and gray, LEAN CLAY WITH SAND (CL)		73.3		19	36	19	17
10	65							19			
				Very stiff to hard, reddish brown, brown and gray, FAT CLAY (CH)			102	28			
5	70							29			
						100		19	64	24	40
0	75							19			
								22			
-5	80							23			
						97.4	104	23	63	24	39
-10	85							39			
								25			
-15	90							27			
						93.1	105	21	57	22	35
-20	95							28			
								28			
-25	100							30			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 11.4 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 11.0 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-8

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 8 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1047 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:14 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\08_BORING.dgn
COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING BR-4B (PZ-7)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13878965.32; E: 3086162.93
STATION: 153+05.75
OFFSET: 33.46' LT
SURFACE ELEVATION: 74.34 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 13.7 FT
DATE: 12/16/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 8.5" Concrete, 15.5" Cement Stabilized Base							
70	5			Very stiff, dark gray, light gray and brown, SANDY LEAN CLAY (CL) -w/ gravel at 2'-4' -w/ calcareous nodules at 4'-5'		61.0		12	31	14	17
								16			
								15			
65	10					60.6	118	14	26	16	10
				Firm to very stiff, gray, brown and reddish brown, LEAN CLAY (CL)		85.4		26	37	17	20
60	15						110	23			
				Very stiff to hard, gray and reddish brown, FAT CLAY (CH)				30			
55	20							30			
						95.0	104	21	56	22	34
50	25			Medium dense to dense, reddish brown, SILTY SAND (SM)	17			24			
					35			23			
45	30			-w/ gravel at 28'-30'	47	17.6		22	NP	NP	NP
					29			24			
40	35				50			7			
				Very stiff to hard, reddish brown, gray and dark gray, FAT CLAY (CH)	48			24			
35	40			-w/ sand seams at 41'-43'	16	97.7		25	57	23	34
								27			
30	45				17			27			
								33			
25	50					98.2	108	20	53	24	29

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.8 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 17.5 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-9

LOG OF BORING BR-4B (PZ-7)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13878965.32; E: 3086162.93
STATION: 153+05.75
OFFSET: 33.46' LT
SURFACE ELEVATION: 74.34 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 100 FT
CAVE-IN DEPTH: 13.7 FT
DATE: 12/16/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 100 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
20	55			Very stiff to hard, reddish brown, gray and dark gray, FAT CLAY (CH) [Continued...]				22			
								26			
								31			
15	60					96.1	101	26	56	25	31
								30			
10	65							35			
								35			
5	70							28			
						97.4	98	27	57	22	35
0	75							25			
				-w/ gravel at 78'-80'				29			
-5	80							34			
							99	27			
-10	85							41			
						95.8		28	67	26	41
-15	90							27			
								24			
-20	95					95.6		32	71	27	44
							90	29			
-25	100							46			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.8 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 17.5 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-9

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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3/12/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 9 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1048 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:16 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\09_BORING.dgn
COH HG2010257 1 COH.GPJ 4/26/23

LOG OF BORING RW-1A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873500.93; E: 3086264.65
STATION: 98+36.77
OFFSET: 12.92' LT
SURFACE ELEVATION: 75.91 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 30 FT
CAVE-IN DEPTH: 17.6 FT
DATE: 1/5/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 19 FT
WET ROTARY: 19 TO 30 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 6.5" Concrete							
75				Hard, light brown and gray, LEAN CLAY (CL) w/ sand seams at 2'-4'		97.1		11	35	13	22
	5							14			
70				Stiff to hard, gray, SANDY LEAN CLAY (CL)				14			
	10					54.2		16	30	14	16
65								19			
	15				14			16			
60				Stiff, gray and brown, LEAN CLAY WITH SAND (CL)		81.2		24	43	16	27
	20				12			23			
55				Medium dense to dense, gray and light brown, SILTY SAND (SM)	27			23			
	25				32			25			
50					33	12.8		21	NP	NP	NP
	30				23			21			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-10

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING RW-1B

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873309.92; E: 3086255.28
STATION: 96+46.30
OFFSET: 30.33' LT
SURFACE ELEVATION: 74.73 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 16.1 FT
DATE: 1/5/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 19 FT
WET ROTARY: 19 TO 30 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7.5" Concrete							
				Stiff to very stiff, gray, brown and reddish brown, SANDY LEAN CLAY (CL)		69.0		16	27	11	16
70	5			-w/ ferrous stains at 2'-9'			110	17			
								14			
65	10			Loose to medium dense, gray, SILTY SAND (SM)	10	19.4		10	NP	NP	NP
					9			9			
60	15				12			21			
					10			23			
55	20				8	12.2		20	NP	NP	NP
					19			23			
50	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-11

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

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3/12/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 10 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1049 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:19 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\10_BORING.dgn

LOG OF BORING RW-1C

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873116.91; E: 3086264.34
STATION: 94+53.05
OFFSET: 29.40' LT
SURFACE ELEVATION: 74.17 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 1/6/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 17 FT
WET ROTARY: 17 TO 30 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE (0.5 1.0 1.5 2.0 2.5)

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 9.75" Concrete							
				Stiff to very stiff, gray and brown, LEAN CLAY WITH SAND (CL)				16			
								18			
70	5			-w/ ferrous stains at 5'-12'		81.0	113	19	46	14	32
								19			
65	10							21			
				Medium dense, gray, SILTY SAND (SM) -w/ clay seams at 12'-14'				16			
60	15				16	28.4		24	NP	NP	NP
					16			20			
55	20				18			22			
					14			22			
50	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 17.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-12

LOG OF BORING RW-2A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873401.44; E: 3086322.55
STATION: 97+34.91
OFFSET: 40.74' RT
SURFACE ELEVATION: 74.87 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 30 FT
DATE: 12/22/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 16 FT
WET ROTARY: 16 TO 30 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE (0.5 1.0 1.5 2.0 2.5)

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 6.75" Concrete, 4.25" Lime Stabilized Base		39.1		21	31	18	13
				Very loose, brown and gray, CLAYEY SAND (SC) -w/ gravel at 2'-3'				22			
70	5					48.6		17			
								17			
65	10							12			
					4			20			
				Gray and brown, SANDY LEAN CLAY (CL)				20	33	18	15
60	15				13	60.6		22			
				Medium dense, gray, SAND WITH SILT (SP-SM)	19			23			
55	20				15			24			
					24			25			
50	25				21	6.2		23	NP	NP	NP
					26			24			
45	30										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 16.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-13

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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KARAM QADDO
Printed
125611
3/12/2026
Date
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 11 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1050 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:28 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\11_BORING.dgn
COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING RW-2B

PROJECT: Antoine Drive Improvements
LOCATION: N: 13873209.14; E: 3086330.8
STATION: 95+42.41
OFFSET: 40.89' RT
SURFACE ELEVATION: 74.35 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 2/2/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET RotARY: N/A TO N/A FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7.5" Concrete							
				Firm, gray and brown, FAT CLAY WITH SAND (CH)		72.4		24	61	24	37
70	5			Loose, gray and brown, CLAYEY SAND (SC)		83.2	115	19			
						78.0		16			
65	10					38.6	118	15	34	16	18
				Loose to dense, gray, SILTY SAND (SM)				9			
60	15				9	14.8		18	NP	NP	NP
					15			18			
55	20				35			17			
				Medium dense, gray, CLAYEY SAND (SC)		44.4		23	30	18	12
50	25				14			26			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 22.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-14

LOG OF BORING RW-3A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874152.78; E: 3086226.23
STATION: 104+89.23
OFFSET: 33.03' LT
SURFACE ELEVATION: 75.69 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 30 FT
CAVE-IN DEPTH: 27.3 FT
DATE: 1/4/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 30 FT
WET RotARY: N/A TO N/A FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 6.5" Concrete, 8.5" Lime Stabilized Base							
75				-w/ ferrous stains at 1'-2'				18			
	5			Stiff to hard, gray, brown and reddish brown, LEAN CLAY WITH SAND (CL)		78.6	123	16	36	13	23
70								16			
	10							21			
65				Very stiff, gray and reddish brown, FAT CLAY (CH)		97.9		19	59	25	34
	15			-w/ ferrous stains at 12'-14'				30			
60				Stiff to hard, gray and reddish brown, LEAN CLAY (CL)			106	25			
	20			-w/ calcareous nodules at 15'-24'				20			
55								25			
	25						107	24			
50				-w/ silt seams at 25'-29'				22			
	30					87.1		20	26	16	10

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 26.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-15

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 12 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1051 OF 1067	

Pen Table: TX_Pen.tbl
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Plotted on: 3/12/2026 2:20:30 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\12_BORING.dgn

LOG OF BORING RW-3B

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874338.8; E: 3086225.4
STATION: 106+73.68
OFFSET: 33.81' LT
SURFACE ELEVATION: 76.0 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 23.4 FT
DATE: 12/30/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7.25" Concrete							
75				Very stiff, gray, brown and reddish brown, LEAN CLAY (CL)				17			
				-w/ ferrous stains at 2'-9'				17			
	5										
70						89.4	118	19	44	14	30
								19			
	10			Loose, gray and brown, SILTY SAND (SM)							
65					9	35.1		20	NP	NP	NP
				Firm to very stiff, reddish brown, FAT CLAY (CH)				29			
	15										
60					12	98.8		30	62	24	38
								24			
	20										
55				Stiff to hard, reddish brown and gray, LEAN CLAY (CL) -w/ calcareous nodules at 20'-22' -w/ sand seams at 22'-24'			115	24			
						86.1		23	27	16	11
	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 25.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-16

LOG OF BORING RW-3C (PZ-5)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874523.06; E: 3086227.5
STATION: 108+58.80
OFFSET: 33.21' LT
SURFACE ELEVATION: 76.45 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 17 FT
DATE: 1/5/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 6.75" Concrete							
75				Stiff to hard, gray and brown, LEAN CLAY WITH SAND (CL)		71.5		18	40	17	23
								13			
	5										
70				-w/ ferrous stains at 6'-8'			125	15			
								17			
	10										
65						77.6		21	33	20	13
								28			
	15			Stiff to very stiff, gray, brown and reddish brown, LEAN CLAY (CL) -w/ calcareous nodules at 15'-17'			103				
60								31			
								24	39	22	17
	20					98.6					
55							106	26			
								27			
	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 14.8 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-17

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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GAUGE ENGINEERING
Texas Registered Engineering Firm F-2017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 13 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1052 OF 1067	

Pen Table: TX_Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\13_BORING.dgn
COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING RW-4A

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874269.51; E: 3086293.07
STATION: 106+05.38
OFFSET: 34.90' RT
SURFACE ELEVATION: 76.33 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 30 FT
CAVE-IN DEPTH: 28.1 FT
DATE: 1/4/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: 25 TO 30 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE (0.5 1.0 1.5 2.0 2.5)

ELEVATION, FT	DEPTH, FT	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0		Pavement: 6.75" Concrete							
75			Firm to stiff, brown and gray, LEAN CLAY WITH SAND (CL)		77.0		19	27	17	10
	5						18			
70			Stiff to very stiff, gray, brown and reddish brown, SANDY LEAN CLAY (CL) -w/ ferrous stains at 5'-7'				25			
	10					112	20			
65					57.5		19	27	19	8
	15		Very stiff to hard, reddish brown and gray, FAT CLAY (CH) -w/ ferrous stains at 12'-16'		95.7		29	59	29	30
60			-w/ calcareous nodules at 16'-18'				26			
	20		-w/ calcareous nodules at 20'-24'		99.4		27	59	32	27
55						101	24			
	25		Firm to hard, brown and reddish brown, SANDY SILTY CLAY (CL-ML)				14			
50					68.9		22	25	20	5
	30		w/ sandy layer at 28'-30'	10			24			

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.6 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-18

LOG OF BORING RW-4B

PROJECT: Antoine Drive Improvements
LOCATION: N: 13874462.93; E: 3086295.87
STATION: 107+98.65
OFFSET: 35.16' RT
SURFACE ELEVATION: 76.26 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 23.5 FT
DATE: 1/4/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE (0.5 1.0 1.5 2.0 2.5)

ELEVATION, FT	DEPTH, FT	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0		Pavement: 8" Concrete							
75			Stiff to very stiff, gray and brown, LEAN CLAY WITH SAND (CL)				16			
	5				82.3		19	46	21	25
70			-w/ ferrous stains at 6'-8'			124	18			
	10						21			
65			Gray, SANDY SILT (ML)		51.8		19	23	21	2
	15		Stiff to hard, reddish brown and gray, LEAN CLAY (CL) -w/ calcareous nodules at 12'-14'			97	29			
60							24			
	20		-w/ calcareous nodules at 20'-22'		99.1		21	46	27	19
55						113	14			
	25		Medium dense, brown, SILT WITH SAND (ML)	16	83.7		31	NP	NP	NP

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 25.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-19

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Date: 3/12/2026
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GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 14 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1053 OF 1067	

Pen Table: TX_Pen.tbl
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Plotted on: 3/12/2026 2:20:34 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\14_BORING.dgn

LOG OF BORING U-1

PROJECT: Antoine Drive Improvements
LOCATION: N: 13864176.84; E: 3086649.76
STATION: 4+90.90
OFFSET: 15.57' LT
SURFACE ELEVATION: 67.58 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 13.3 FT
DATE: 1/19/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 12.5" Concrete							
65				Stiff to very stiff, gray, brown and reddish brown, LEAN CLAY WITH SAND (CL) -w/ calcareous nodules and ferrous stains at 1'-9'		72.6		17			
	5							19	46	20	26
							111	19			
60								24			
	10			Gray and reddish brown, SILTY, CLAYEY SAND (SC-SM)		33.3		17	25	20	5
55				Medium dense, gray and reddish brown, SAND WITH SILT (SP-SM)		11.1		22	NP	NP	NP
	15			Loose to medium dense, gray and reddish brown, CLAYEY SAND (SC)				21			
50								22			
	20							26			
45						18.6		24	35	20	15
	25										

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-20

LOG OF BORING U-2

PROJECT: Antoine Drive Improvements
LOCATION: N: 13864565.02; E: 3086705.2
STATION: 8+83.36
OFFSET: 14.61' RT
SURFACE ELEVATION: 69.23 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 1/19/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7.75" Concrete							
65				Stiff to very stiff, gray, dark gray, reddish brown and light brown, SANDY LEAN CLAY (CL) -w/ calcareous nodules at 1'-4'		61.2		15	29	17	12
	5							21			
						66.9	111	16	37	19	18
60								17			
	10										
55						61.2	112	21	27	18	9
	15			Hard, reddish brown and gray, FAT CLAY (CH) -w/ calcareous nodules and ferrous stains at 15'-24'				20			
50								27			
	20							20			
45						97.4		20	55	26	29
	25							19			

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-21

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 15 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1054 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:36 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\15_BORING.dgn

LOG OF BORING U-3

PROJECT: Antoine Drive Improvements
LOCATION: N: 13865021.1; E: 3086644.06
STATION: 13+39.91
OFFSET: 32.92' LT
SURFACE ELEVATION: 66.9 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 2/4/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 10.5" Concrete							
65				Loose, dark gray, CLAYEY SAND (SC)				14			
	5					44.5		8	25	13	12
60								12			
	10			Very stiff to hard, gray, brown and reddish brown, FAT CLAY (CH) -w/ calcareous nodules at 8'-12'		86.2	110	20	63	28	35
55								28			
	15			Very stiff to hard, reddish brown and gray, LEAN CLAY (CL)		93.5	108	21	45	24	21
50								20			
	20							20			
45							106	22			
	25			Hard, reddish brown and gray, FAT CLAY (CH)		99.2		24	53	25	28

COH HG2010257.1.COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-22

LOG OF BORING U-4

PROJECT: Antoine Drive Improvements
LOCATION: N: 13866103.25; E: 3086670.62
STATION: 24+23.39
OFFSET: 17.94 RT
SURFACE ELEVATION: 68.15 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 12/9/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Stiff to very stiff, brown and gray, SANDY LEAN CLAY (CL) -w/ roots at 0'-2'				13			
65						61.5	116	14	27	14	13
	5			Stiff to very stiff, brown and gray, LEAN CLAY WITH SAND (CL)				14			
60								18			
	10					82.6		20	38	17	21
55							113	18			
	15			Very stiff to hard, reddish brown and gray, LEAN CLAY (CL)				22			
50						94.4		19	48	24	24
	20							19			
45								26			
	25							21			

COH HG2010257.1.COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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3/12/2026
Date
60% SUBMITTAL
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 16 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1055 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:38 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\16_BORING.dgn

LOG OF BORING U-5

PROJECT: Antoine Drive Improvements
LOCATION: N: 13866559.66; E: 3086594.96
STATION: 28+82.70
OFFSET: 38.20' LT
SURFACE ELEVATION: 69.74 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 25 FT
DATE: 1/20/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 9.75" Concrete, 6" Cement Stabilized Sand Base							
				Stiff to very stiff, brown and gray, LEAN CLAY WITH SAND (CL) -w/ calcareous nodules at 2'-9'				14			
						80.3		18	36	19	17
65	5			-w/ ferrous stains at 5'-9'							
						82.7		22	44	18	26
							108	22			
60	10			Very stiff to hard, gray and reddish brown, LEAN CLAY (CL) -w/ calcareous nodules at 10'-12' -w/ gravel at 12'-14'		91.7		19	32	18	14
								21			
55	15						101	25			
						95.9		21	33	19	14
								22			
50	20			-w/ calcareous nodules at 20'-24'				24			
45	25										

COH HG2010257.1.COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-24

LOG OF BORING U-6

PROJECT: Antoine Drive Improvements
LOCATION: N: 13867051; E: 3086626.54
STATION: 33+72.25
OFFSET: 14.91' RT
SURFACE ELEVATION: 70.86 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT

DATE: 12/9/2021

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Dark gray and brown, CLAYEY SAND (SC) -w/ roots and gravel at 0'-2'		47.1		9	33	15	18
70								11			
	5			Stiff to very stiff, gray, brown and reddish brown, SANDY LEAN CLAY (CL)		65.4	116	14	36	14	22
65				-w/ sand pockets and ferrous stains at 6'-8'				19			
				-w/ calcareous nodules at 8'-10'				26			
60	10							23			
				Firm to hard, reddish brown and gray, LEAN CLAY (CL)		97.2	98	24	36	20	16
55	15							24			
								22			
50	20			Very stiff, reddish brown, FAT CLAY (CH)		87.0		21	53	21	32
								22			
	25										

COH HG2010257.1.COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-25

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 17 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1056 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\17_BORING.dgn

LOG OF BORING U-7

PROJECT: Antoine Drive Improvements
LOCATION: N: 13867486.9; E: 3086616.71
STATION: 38+08.22
OFFSET: 24.71' RT
SURFACE ELEVATION: 71.89 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 2/2/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0										
70				Very stiff, dark gray and gray, LEAN CLAY WITH SAND (CL) -w/ gravel and roots at 0'-2'				13			
	5					72.1		15	33	17	16
65				Stiff to hard, gray, brown and reddish brown, LEAN CLAY (CL) -w/ calcareous nodules at 6'-10'							
	10					90.7	115	20	49	22	27
60								20			
	15					94.5		23	30	21	9
55 ▽				-w/ gravel at 16'-18'			105	20			
	20							24			
50						89.6		21	49	22	27
	25							21			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 17.5 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-26

LOG OF BORING U-8 (PZ-2)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13867971.56; E: 3086554.29
STATION: 42+95.25
OFFSET: 15.86' LT
SURFACE ELEVATION: 73.77 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 1/27/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0										
70				Very stiff, gray, SANDY LEAN CLAY (CL) -w/ calcareous nodules at 0'-2' -w/ possible fill at 0'-4'		61.1		18	27	15	12
	5							11			
65				Very stiff to hard, gray, LEAN CLAY WITH SAND (CL) -w/ ferrous stains at 5'-9' -w/ gravel at 7'-9'		76.3	115	16	28	14	14
	10							15			
60				Stiff to hard, gray and reddish brown, FAT CLAY (CH) -w/ calcareous nodules and ferrous stains at 12'-19'		91.7	93	17	69	25	44
	15							33			
55 ▽								23			
	20			Hard, reddish brown, LEAN CLAY (CL) -w/ calcareous nodules at 20'-22'		95.7	101	24			
50								20	48	19	29
	25							22			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 17.8 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-27

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 18 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1057 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\18_BORING.dgn

LOG OF BORING U-9

PROJECT: Antoine Drive Improvements
LOCATION: N: 13868430.26; E: 3086555.47
STATION: 47+53.50
OFFSET: 5.96' RT
SURFACE ELEVATION: 74.43 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 16.8 FT
DATE: 1/27/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0										
				Firm to very stiff, dark gray, gray and brown, LEAN CLAY WITH SAND (CL) -w/ roots and gravel at 0'-2'				13			
70	5					78.5		20	43	16	27
				-w/ gravel at 5'-7'				19			
						75.1	107	23	34	16	18
65	10			Very stiff to hard, gray and reddish brown, FAT CLAY (CH) -w/ calcareous nodules at 10'-14'		95.9		26	60	26	34
								17			
60	15			-w/ sand seams at 15'-17'				29			
				Very stiff, gray and reddish brown, LEAN CLAY (CL) -w/ gravel at 17'-19'	21	85.2		25	35	15	20
55	20			-w/ sand seams at 20'-22'	16			23			
					23	98.5		22	48	21	27
50	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-28

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING U-10

PROJECT: Antoine Drive Improvements
LOCATION: N: 13868889.55; E: 3086501.04
STATION: 52+18.78
OFFSET: 19.91' RT
SURFACE ELEVATION: 74.89 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT

DATE: 1/20/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7" Concrete				20			
				Stiff to very stiff, gray, dark gray and brown, LEAN CLAY WITH SAND (CL)		73.3		19	31	14	17
70	5							17			
				Very stiff to hard, brown, reddish brown and gray, LEAN CLAY (CL) -w/ sand seams and calcareous nodules at 7'-9'			109	17			
65	10			-w/ ferrous stains at 10'-14'		87.3		21	44	19	25
				-w/ calcareous nodules at 12'-14'							
60	15			Very stiff to hard, gray and reddish brown, FAT CLAY (CH) -w/ sand seams at 15'-19'		99.5	99	24	51	23	28
								32			
55	20					99.0		25	56	24	32
								23			
50	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: ---
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-29

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 19 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1058 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:43 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\19_BORING.dgn

LOG OF BORING U-11

PROJECT: Antoine Drive Improvements
LOCATION: N: 13869395.19; E: 3086455.29
STATION: 57+25.99
OFFSET: 3.97' LT
SURFACE ELEVATION: 76.38 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 1/27/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0										
75				Stiff to very stiff, dark gray and gray, SILTY CLAY WITH SAND (CL-ML) -w/ roots and gravel at 0'-2'				16			
	5					71.1	118	16	18	15	3
70				Stiff to hard, brown and gray, LEAN CLAY WITH SAND (CL) -w/ roots and ferrous stains at 5'-7'				20			
						78.5		17	39	14	25
	10										
65				Very stiff to hard, gray and reddish brown, FAT CLAY (CH) -w/ sand pockets at 12'-14'				14			
							100	28			
	15										
60						97.8		37	55	21	34
								29			
	20			Dense, gray and reddish brown, SANDY SILT (ML) -w/ clay seams at 20'-24' -w/ gravel at 22'-24'							
55						69.5		24	NP	NP	NP
					34			16			
	25										

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-30

LOG OF BORING U-12

PROJECT: Antoine Drive Improvements
LOCATION: N: 13869857.04; E: 3086427.85
STATION: 61+88.64
OFFSET: 11.46' LT
SURFACE ELEVATION: 75.96 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 2/1/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 9" Concrete							
75				Very stiff to hard, gray and brown, LEAN CLAY WITH SAND (CL) -w/ calcareous nodules at 1'-2'				18			
	5						118	16			
70						75.5		16	35	11	24
								14			
	10			Very stiff, gray and reddish brown, SANDY LEAN CLAY (CL) -w/ ferrous stains at 12'-17'							
65						55.9		15	40	14	26
							105	20			
	15										
60								24			
				Medium dense, reddish brown, SILTY SAND (SM)	12	25.2		19	NP	NP	NP
	20			Hard, reddish brown, FAT CLAY (CH) -w/ calcareous nodules at 20'-24'							
55						99.4		25	57	21	36
								21			
	25										

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 18.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-31

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 20 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1059 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:45 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\20_BORING.dgn

LOG OF BORING U-13 (PZ-3)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13870326.71; E: 3086387.2
STATION: 66+59.66
OFFSET: 32.12' LT
SURFACE ELEVATION: 75.44 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 21.1 FT
DATE: 1/28/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 6.5" Concrete							
75		Firm to very stiff, gray, brown and reddish brown, LEAN CLAY WITH SAND (CL)		72.3		20	32	17	15
		-w/ ferrous stains at 2'-4'				16			
70	5				112	17			
		-w/ ferrous stains at 7'-9'				21			
65	10	Very stiff to hard, reddish brown and gray, LEAN CLAY (CL)		89.2	111	20	47	22	25
						15			
60	15	Very stiff to hard, reddish brown and gray, FAT CLAY (CH) -w/ calcareous nodules at 15'-19'		95.2	110	23	53	23	30
	20					18			
55				96.7		25	60	30	30
	25					26			

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 22.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 8.2 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-32

LOG OF BORING U-14

PROJECT: Antoine Drive Improvements
LOCATION: N: 13870793.18; E: 3086434.59
STATION: 71+23.77
OFFSET: 34.99' RT
SURFACE ELEVATION: 76.74 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 1/20/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 6.75" Concrete							
75		Stiff to very stiff, gray, dark gray and brown, LEAN CLAY WITH SAND (CL)				20			
		-w/ ferrous stains at 2'-4'		83.8	112	18	35	16	19
70	5	-w/ calcareous nodules at 5'-7'				21			
		Hard, gray and reddish brown, SANDY LEAN CLAY (CL)		62.4		17	35	20	15
65	10	Very stiff to hard, gray and reddish brown, FAT CLAY (CH)				26			
				98.1	102	24	59	29	30
60	15	-w/ calcareous nodules at 15'-19'				22			
	20					23			
55		Hard, gray and reddish brown, SANDY FAT CLAY (CH) -w/ gravel at 20'-24'		67.6		13	56	27	29
	25					17			

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 24.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-33

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 21 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1060 OF 1067	

Pen Table: TX_Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\21_BORING.dgn

LOG OF BORING U-15

PROJECT: Antoine Drive Improvements
LOCATION: N: 13871276.67; E: 3086399.38
STATION: 76+08.39
OFFSET: 20.28' RT
SURFACE ELEVATION: 75.37 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT

DATE: 1/28/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 7.25" Concrete							
75		Firm to very stiff, gray and brown, LEAN CLAY WITH SAND (CL)				16			
		-w/ ferrous stains at 1'-7'							
		-w/ calcareous nodules at 3'-7'		71.2		15	39	18	21
70	5				112	19			
		Very stiff to hard, reddish brown and gray, FAT CLAY WITH SAND (CH)				28			
	10			82.8		19	72	31	41
65		-w/ calcareous nodules at 10'-12'			101	26			
	15					21			
60		Hard, reddish brown and gray, LEAN CLAY WITH SAND (CL)		83.5		17	47	23	24
	20	-w/ calcareous nodules at 20'-22'				16			
55		Very stiff, reddish brown and gray, SANDY SILTY CLAY (CL-ML)		69.1		17	25	18	7
	25								

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 24.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-34

LOG OF BORING U-16

PROJECT: Antoine Drive Improvements
LOCATION: N: 13871715.91; E: 3086380.37
STATION: 80+48.09
OFFSET: 19.88' RT
SURFACE ELEVATION: 74.47 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 23.8 FT
DATE: 1/28/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 7" Concrete							
		Very stiff, gray and brown, LEAN CLAY WITH SAND (CL)				22			
				78.9		17	41	15	26
70	5				115	17			
		Very stiff to hard, reddish brown and gray, FAT CLAY (CH)							
		-w/ ferrous stains at 7'-12'							
		-w/ calcareous nodules at 7'-9'		92.8		25	57	26	31
65	10					27			
				98.9		25	60	29	31
60	15				103	22			
				92.4		20	55	26	29
55	20					24			
		Very stiff, reddish brown and gray, LEAN CLAY (CL)		87.1		18	36	19	17
		-w/ silt seams at 22'-24'							
50	25								

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 24.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-35

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 22 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1061 OF 1067	

Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\22_BORING.dgn

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Plotted on: 3/12/2026 2:20:50 PM $USER$

LOG OF BORING U-17

PROJECT: Antoine Drive Improvements
LOCATION: N: 13872838.67; E: 3086320.79
STATION: 91+72.64
OFFSET: 15.30' RT
SURFACE ELEVATION: 73.64 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 13.8 FT
DATE: 1/25/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 14 FT
WET ROTARY: 14 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 7.25" Concrete							
70	5	Very loose, dark gray and brown, SILTY SAND (SM) -w/ gravel at 1'-2'		29.4		18	26	23	3
						17			
65	10	Firm to very stiff, gray, SANDY LEAN CLAY (CL)		67.2		16	36	14	22
					106	20			
60	15	Loose to medium dense, gray, SILTY SAND (SM)		20.0		16	NP	NP	NP
						16			
55	20		9			22			
50	25		22	20.6		22	NP	NP	NP

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 14.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-36

COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING U-18

PROJECT: Antoine Drive Improvements
LOCATION: N: 13875006.05; E: 3086265.02
STATION: 113+41.35
OFFSET: 19.77' RT
SURFACE ELEVATION: 76.79 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 14.4 FT
DATE: 1/26/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 19 FT
WET ROTARY: 19 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0	Pavement: 7.75" Concrete							
75	5	Very loose, brown, gray and dark gray, CLAYEY SAND (SC) -w/ gravel at 1'-2'		47.1		18	25	15	10
						16			
70	10	Stiff to very stiff, gray and light brown, LEAN CLAY WITH SAND (CL)		81.8		18	42	14	28
					109	20			
65	15	Firm to very stiff, gray and brown, SANDY LEAN CLAY (CL) -w/ ferrous stains at 10'-12'		56.5		18	30	15	15
						18			
60	20	Medium dense, brown, SILTY SAND (SM)	5	65.3		27	36	18	18
			11			19			
55	25		14	28.7		21	NP	NP	NP
			22			21			

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 19.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-37

COH HG2010257.1 COH.GPJ 4/26/23

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 23 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1062 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:51 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\23_BORING.dgn

LOG OF BORING U-19

PROJECT: Antoine Drive Improvements
LOCATION: N: 13875464.03; E: 3086208.7
STATION: 118+01.25
OFFSET: 18.50' LT
SURFACE ELEVATION: 76.32 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 2/4/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 17 FT
WET ROTARY: 17 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 8.12" Concrete							
75				Stiff to hard, gray, dark gray and brown, SANDY LEAN CLAY (CL)		61.9		17	34	13	21
	5						106	19			
70								13			
	10							14			
				Slightly compact, gray and brown, CLAYEY SAND (SC)		40.1	112	14	35	15	20
65											
	15			Loose to dense, gray and brown, SAND WITH SILT (SP-SM)	7			20	NP	NP	NP
60					20	9.8		24			
					26			23			
	20										
55					30	6.7		20	NP	NP	NP
					39			17			
	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 17.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: BK

HVJ Associates, Inc.

PLATE A-38

LOG OF BORING U-20

PROJECT: Antoine Drive Improvements
LOCATION: N: 13875893.97; E: 3086201
STATION: 122+31.25
OFFSET: 8.21' LT
SURFACE ELEVATION: 77.13 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
DATE: 1/27/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 14 FT
WET ROTARY: 14 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Dark gray, SILTY SAND (SM) -w/ roots at 0'-2'		40.1		27	NP	NP	NP
75				Stiff to hard, brown and gray, SANDY FAT CLAY (CH)			99	26			
	5										
70						67.8		14	50	15	35
	10							14			
				Gray and brown, CLAYEY SAND (SC) -w/ ferrous stains at 10'-12'		32.1		16	29	18	11
65				Medium dense, gray, SILTY SAND (SM)				19			
	15				15	14.1		23	NP	NP	NP
60					20			21			
	20			Medium dense, gray, SAND WITH SILT (SP-SM)	13			22			
55					26	6.4		22	NP	NP	NP
	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 17.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 30 inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-39

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY. #400
HOUSTON, TX 77079

SURVEYED BY:
KUO & ASSOCIATES, INC.

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125611
3/12/2026
60% SUBMITTAL
GAUGE ENGINEERING
Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 24 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1063 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:20:54 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\24_BORING.dgn
COH HG2010257.1 COH.GPJ 4/26/23

LOG OF BORING U-21

PROJECT: Antoine Drive Improvements
LOCATION: N: 13876382.96; E: 3086180.93
STATION: 127+20.72
OFFSET: 7.17' LT
SURFACE ELEVATION: 76.58 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 21.3 FT
DATE: 1/26/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement" 10" Concrete, 8" Stabilized Sand Base							
75				Very stiff to hard, gray, brown and reddish brown, LEAN CLAY WITH SAND (CL)		70.4		18	41	16	25
							121	14			
	5			-w/ calcareous nodules and ferrous stains at 5'-10'							
70								14			
						78.1		18	41	16	25
	10			Very stiff to hard, reddish brown and gray, LEAN CLAY (CL) -w/ ferrous stains and calcareous nodules at 10'-19'							
65								30			
							107	22			
	15										
60						92.4		16	42	20	22
								21			
	20										
55							111	19			
	25			Firm, reddish brown, SANDY SILTY CLAY (CL-ML)		55.0		17	22	18	4

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 23.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-40

LOG OF BORING U-22 (PZ-6)

PROJECT: Antoine Drive Improvements
LOCATION: N: 13876826.04; E: 3086189.12
STATION: 131+63.09
OFFSET: 20.13' RT
SURFACE ELEVATION: 76.3 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 20.5 FT
DATE: 2/1/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 25 FT
WET ROTARY: N/A TO N/A FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 6.75" Concrete							
75				Dark gray, CLAYEY SAND (SC) -w/ calcareous nodules at 1'-2'				16			
				-w/ gravel and ash particles at 2'-4'		37.1		31	32	16	16
	5										
70				Stiff to very stiff, reddish brown and gray, LEAN CLAY WITH SAND (CL)			111	18			
								20			
	10			-w/ calcareous nodules at 10'-14'							
65						78.4		20	41	17	24
							103	24			
	15										
60				Very stiff to hard, gray and reddish brown, FAT CLAY (CH) -w/ ferrous stains at 15'-19' -w/ calcareous nodules at 15'-22'		98.9		23	53	25	28
								19			
	20										
55							113	17			
	25			Very dense, reddish brown, SAND WITH SILT (SP-SM)	70	11.8		16	NP	NP	NP

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 24.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: 13.2 FT

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: JE

HVJ Associates, Inc.

PLATE A-41

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 25 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1064 OF 1067	

Pen Table: TX_Pen.tbl
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Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\25_BORING.dgn

LOG OF BORING U-23

PROJECT: Antoine Drive Improvements
LOCATION: N: 13877293.21; E: 3086169.12
STATION: 136+30.75
OFFSET: 20.17' RT
SURFACE ELEVATION: 75.99 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 19.4 FT
DATE: 1/25/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 6.75" Concrete							
75				Stiff, brown, SANDY SILTY CLAY (CL-ML) -w/ gravel at 1'-2'		56.3		11	22	15	7
				Firm, brown and gray, SANDY LEAN CLAY (CL) -w/ roots at 2'-4'		60.4		17	27	16	11
70	5			Firm to very stiff, gray, brown and reddish brown, LEAN CLAY WITH SAND -w/ ferrous stains at 7'-17'		83.5	110	18 19	44	16	28
65	10			-w/ sand pockets at 10'-12'				24 22			
60	15			Stiff to very stiff, reddish brown and gray, FAT CLAY (CH) -w/ ferrous stains at 15'-17'		93.7	104	36 20	80	31	49
55	20			Medium dense, brown, SILTY SAND (SM)	19	18.9		23 18	NP	NP	NP
	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-42

LOG OF BORING U-24

PROJECT: Antoine Drive Improvements
LOCATION: N: 13877743.05; E: 3086095.59
STATION: 140+83.38
OFFSET: 34.04' LT
SURFACE ELEVATION: 74.66 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 19.4 FT
DATE: 1/25/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: 20 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7" Concrete							
				Very stiff to hard, light gray and brown, LEAN CLAY WITH SAND (CL) -w/ ferrous stains at 1'-4'		75.9	120	15 14	42	15	27
70	5			Reddish brown and gray, CLAYEY SAND (SC) -w/ calcareous nodules at 5'-12'		44.0		24 7	32	14	18
65	10			Very stiff to hard, reddish brown and gray, FAT CLAY (CH) -w/ calcareous nodules at 12'-20'		96.2	104	16 30	60	22	38
60	15							24 25			
55	20			Dense, brown, SANDY SILT (ML) -w/ gravel at 20'-24'	36	63.9		17 22	NP	NP	NP
50	25										

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 20.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-43

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 26 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1065 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
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COH HG2010257.1 COH.GPJ 4/26/23
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\26_BORING.dgn

LOG OF BORING U-25

PROJECT: Antoine Drive Improvements
LOCATION: N: 13878217.92; E: 3086141.84
STATION: 145+55.90
OFFSET: 32.49' RT
SURFACE ELEVATION: 74.33 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 19.8 FT
DATE: 1/26/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 21 FT
WET ROTARY: 21 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Pavement: 7" Concrete, 8.5" Lime Stabilized Base							
				Stiff, gray and brown, LEAN CLAY WITH SAND (CL) -w/ gravel below pavement to 2' -w/ ferrous stains 2'-4'		78.6		19	38	15	23
70	5							17			
							110	19			
				Very stiff, gray and reddish brown, FAT CLAY (CH) -w/ ferrous stains and calcareous nodules at 8'-12'		91.2		28	59	24	35
65	10							26			
				Hard, reddish brown and gray, LEAN CLAY WITH SAND (CL) -w/ calcareous nodules and ferrous stains at 12'-14'		80.8		18	47	20	27
60	15										
				Stiff to hard, reddish brown and gray, SANDY FAT CLAY (CH) -w/ calcareous nodules at 15'-19'			100	26			
						60.1		13	56	23	33
55	20			Dense, brown, SILTY SAND (SM)				21			
					38	42.5		20	NP	NP	NP
50	25										

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 21.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-44

LOG OF BORING U-26

PROJECT: Antoine Drive Improvements
LOCATION: N: 13879411.26; E: 3086265.14
STATION: 157+66.18
OFFSET: 0.98' LT
SURFACE ELEVATION: 73.85 FT

PROJECT NO.: HG2010257.1
WBS NO.: N-100030-0GEC-3
COMPLETION DEPTH: 25 FT
CAVE-IN DEPTH: 20.7 FT
DATE: 1/25/2022

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 21 FT
WET ROTARY: 21 TO 25 FT

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
	0			Hard, dark gray, gray and brown, LEAN CLAY WITH SAND (CL)				16			
						71.9		10	30	20	10
70	5										
								13			
							122	7			
65	10			Very stiff, gray and brown, SANDY SILTY CLAY (CL-ML) -w/ ferrous stains at 10'-12'		50.5		9	19	15	4
				Very stiff to hard, reddish brown and gray, FAT CLAY (CH)			93	31			
60	15					97.3		24	55	23	32
								21			
55	20			Medium dense to dense, brown, SANDY SILT (ML)	32			24			
					24	60.7		20	NP	NP	NP
50	25										

COH HG2010257.1 COH.GPJ 4/26/23

DEPTH TO WATER IN BORING:
▽ FREE WATER DURING DRILLING: 21.0 FT
▼ WATER DEPTH 24 HOURS AFTER DRILLING: ---

Notes: Modified split spoons were conducted in non-cohesive and hard cohesive soils within the soil strata. TCP requirement caused the split spoons to be performed with a deviation from ASTM D1586. A 170-lb hammer falling 24-inches was used instead of the 140-lb hammer falling 30 inches.

Drilled By: Van & Sons Logged By: FR

HVJ Associates, Inc.

PLATE A-45

No.	DATE	REVISIONS	APP.

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

BORING LOGS

SHEET 27 OF 27

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-100030-0GEC-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1066 OF 1067	

Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Plotted on: 3/12/2026 2:21:00 PM $USER$
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Roadway\27_BORING.dgn

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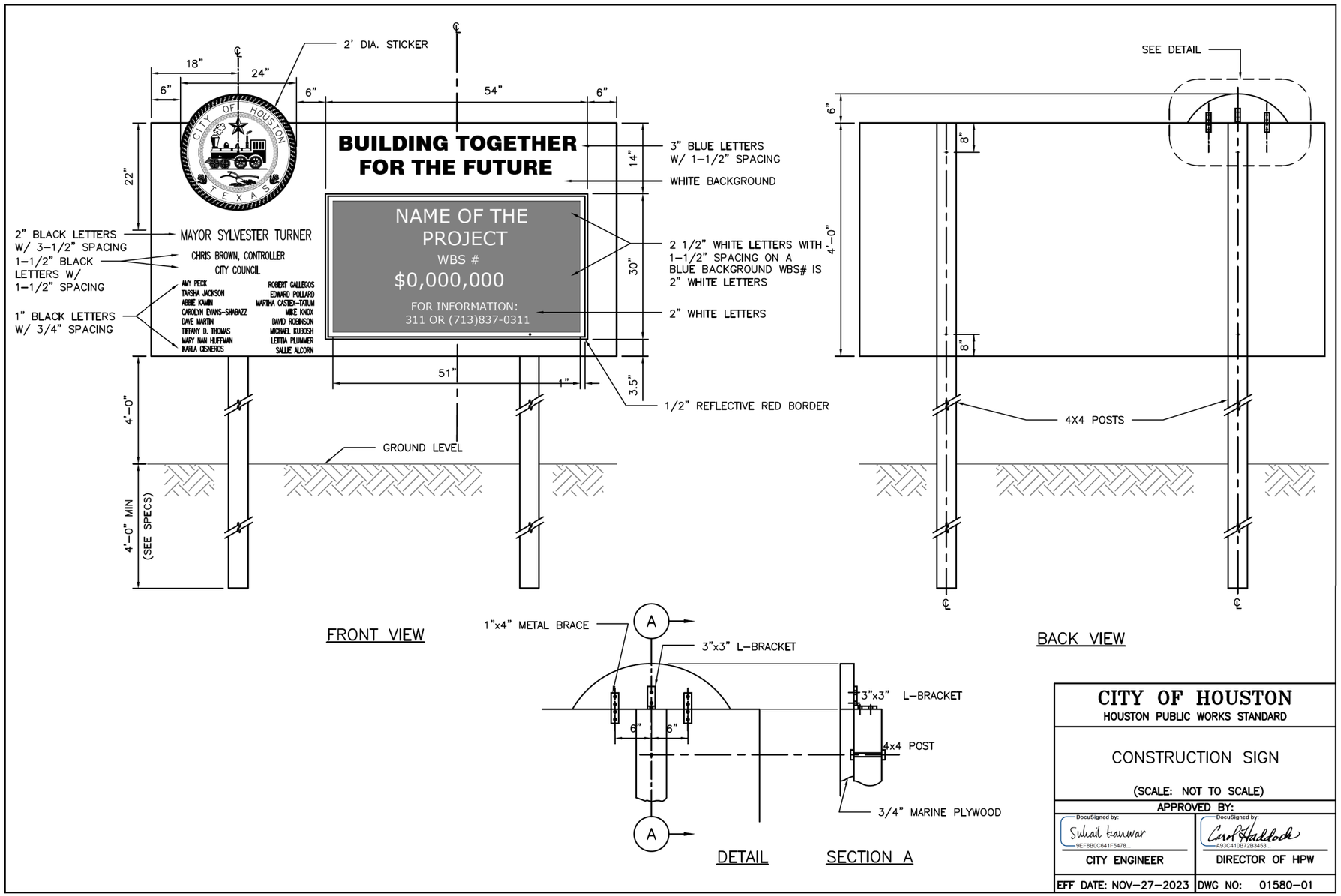

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONSTRUCTION SIGN

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Sukait Kanwar 9EF8B0C641F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
EFF DATE: NOV–27–2023	DWG NO: 01580–01

No.	DATE	REVISIONS	APP'D

Texas Department of Transportation

Gauge ENGINEERING
TEXAS PE FIRM REG. # 20017
11750 KATY FREEWAY, #400
HOUSTON, TX 77079

SURVEYED BY:
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Texas Registered Engineering Firm F-20017

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ANTOINE DRIVE

CONSTRUCTION SIGN
DETAIL

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–100030–0GEC–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ROWAIDAH AYOUB	
SHEET NO. 1067 OF 1067	

Plotted on: 3/12/2026 2:21:02 PM $USER$
Pen Table: TX_Pen.tbl
Plot Driver: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\Resource\Plot files\ANTOINE DR REV.pltcfg
Design Filename: P:\City of Houston\1100-Antoine-Dr\4-0-Production-Working\4-1-CAD\General\CONSTRUCTION SIGN.dgn