CITY OF HOUSTON

HOUSTON PUBLIC WORKS

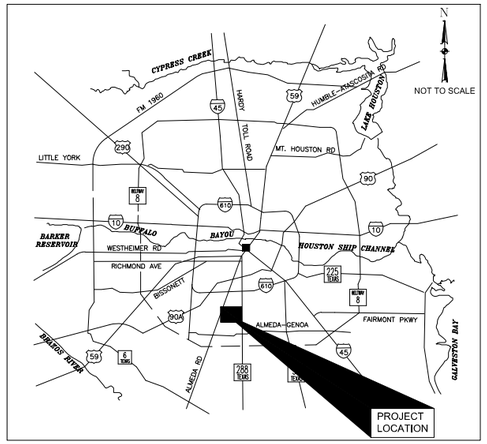
CAPITAL PROJECTS

GRAY AND TAFT AREA

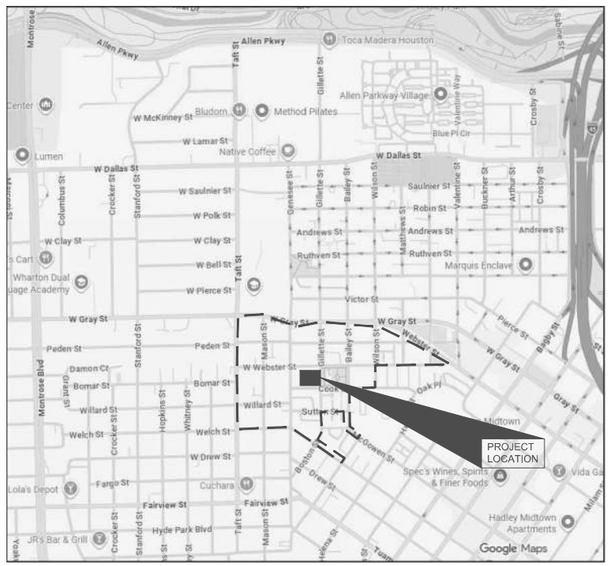
PAVING AND DRAINAGE

WBS NO. N-210008-0001-3

60% SUBMITTAL



LOCATION MAP



VICINITY MAP
KEY MAP NOS. 493N & 493P
GIMS MAP NOS. 5375D

TDLR EABPR NOT APPLICABLE

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

DATE: DATE
JOB NO. 2006-09

DESIGNED BY: DESIGNED_BYJOB
DRAWN BY: DRAWN_BY

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FB NO.: P-6194

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PARKS-FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

CITY ENGINEER DATE

DIRECTOR OF DATE
HOUSTON PUBLIC WORKS

FOR CITY OF HOUSTON USE ONLY

SHEET NO 1 OF 340 SHEETS

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II - GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\1-.COM COVER SHEET.DWG(DORJMP)SAVED: Tuesday, March 03, 2026 PLOTTED: Tuesday, March 03, 2026

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~~8~~	~~KEY NOTES~~ (NOT APPLICABLE)
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

SHEET INDEX

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WBS#: N-210008-0001-3	
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NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II - GRAY&TAFT\004 DESIGN\90S SUBMITTAL PLAN SET\2-SHEET INDEX 1OF2.DWG[TUK]SAVED: Tuesday, March 03, 2026[COH_KAI.CTB]PLOTTED: Tuesday, March 03, 2026

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269 TREE PROTECTION PLAN (SHEET 5 OF 17)
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

SHEET INDEX

SHEET 2 OF 2

WBS#: N-210008-0001-3
DRAWING SCALE:
NOT TO SCALE
CITY OF HOUSTON PM
OMAR ABDULKAREEM, P.E.
DRAWING NO:
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Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\PDF SUBMITTAL PLAN SET\3_SHEET INDEX 2OF2.DWG\DLK|SAVED: Thursday, February 26, 2026|DOH_KAI.CTB|PLOTTED: Thursday, February 26, 2026

EXISTING PLAN VIEW

- WATER METER
- WATER VALVE (GATE)
- WATER VALVE (BUTTERFLY)
- FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE
- REDUCER
- ROUND CONNECTION
- SANITARY SEWER CLEANOUT & MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER INLETS
- CULVERT PIPE AND HEADWALL
- TOP OF CURB ELEVATION
- GUTTER ELEVATION
- TOP OF PAVEMENT ELEVATION
- 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
- FENCE LINE, CHAIN LINK
- FENCE LINE, BARBED WIRE
- FENCE LINE, HOG WIRE
- EDGE OF CONCRETE
- CURB LINE
- CONCRETE WALK
- EDGE OF ASPHALT
- EDGE OF SHELL OR GRAVEL
- DIMENSION LINE
- AERIAL POWER LINE
- UNDERGROUND POWER LINE
- GAS LINE
- UNKNOWN UNDERGROUND LINE
- OIL PIPELINE
- UNDERGROUND TELECOMM LINE W/VAULT
- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE

PROPOSED PLAN VIEW

- WATER METER
- WATER VALVE (GATE)
- WATER VALVE (BUTTERFLY)
- FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE
- REDUCER
- ROUND CONNECTION
- SANITARY SEWER CLEANOUT & MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER INLETS
- CULVERT PIPE AND HEADWALL
- TOP OF CURB ELEVATION
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- EDGE OF DITCHES
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- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE
- MATCH LINE

EXISTING PLAN VIEW

- PAVING HEADER
- BUILDING, RESIDENTIAL
- BUILDING, COMMERCIAL
- TREE
- HEDGE
- IRON PIPE OR IRON ROD MONUMENT
- POINT OF INTERSECTION (PI)
- POINT OF CURVE (PC)
- POINT OF TANGENCY (PT)
- POWER POLE
- POWER POLE W/DOWN GUY

EXISTING PROFILE VIEW

- 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
- NORTH OR EAST CULVERT
- SOUTH OR WEST CULVERT
- CENTERLINE OF ROW
- CENTERPOINT ENERGY CONDUIT
- GAS LINE
- WESTERN UNION
- AT&T CONDUIT
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- CENTERPOINT ENERGY MANHOLE
- AT&T MANHOLE
- WATER LINE MANHOLE
- SANITARY SEWER MANHOLE & CLEANOUT
- STORM SEWER MANHOLE
- STORM SEWER INLET

PROPOSED PLAN VIEW

- PAVING HEADER
- BUILDING, RESIDENTIAL
- BUILDING, COMMERCIAL
- TREE
- HEDGE
- IRON PIPE OR IRON ROD MONUMENT
- POINT OF INTERSECTION (PI)
- POINT OF CURVE (PC)
- POINT OF TANGENCY (PT)
- POWER POLE
- POWER POLE W/DOWN GUY

PROPOSED PROFILE VIEW

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- SOUTH OR WEST PROPERTY LINE
- NORTH OR EAST CURB
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- SOUTH OR WEST DITCH
- NORTH OR EAST NATURAL GROUND
- SOUTH OR WEST NATURAL GROUND
- NORTH OR EAST CULVERT
- SOUTH OR WEST CULVERT
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- CENTERPOINT ENERGY MANHOLE
- AT&T MANHOLE
- WATER LINE MANHOLE
- SANITARY SEWER MANHOLE & CLEANOUT
- STORM SEWER MANHOLE
- STORM SEWER INLET

MISC STANDARD ELEMENTS

- COH NORTH ARROW
- COH BAR SCALE (0' 10' 20' 40'; SCALE: 1"=20')
- REVISION CLOUD/DELTA
- DETAIL/SECTION TITLE (VIEW TITLE; SCALE: 1:1)
- SECTION CALLOUT
- DETAIL CALLOUT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

LEGEND & ABBREVIATIONS

WBS#:	N-210008-0001-3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
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SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\200621-LG001.DWG[DCRUMP[SAVED:Monday, February 23, 2026[COH_KAI.CTB[PLOTTED:Tuesday, March 03, 2026

GENERAL NOTES– INSIDE CITY LIMIT

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 [HVJ ASSOCIATES, INC.] REPORT NO. [HGI1512060.5.1], DATED [02/07/2023].

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 §18.6 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 CONSTRUCTION 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 317, "DESIGN CRITERIA FOR SEWERAGE 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 2010 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 ½ 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 ADDED FOR STORM WATER TO DRAIN AWAY FROM MANHOLE RIM.

11. IN WET STABLE TRENCH AREAS USE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBER 02317–02 (2002).

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 317.2 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 30 317.2 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'

   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. 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 HEX–HEAD COARSE THREADED ½"–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 CONSTRUCTION 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 OTHERWISE 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 TO WITHIN ONE (1) FOOT OF SUBGRADE. 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 ELLIPTICAL 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 & BRIDGE 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://EDOCS.PUBLICWORKS.HOUSTONTX.GOV/ENGINEERING–AND–CONSTRUCTION/DESIGN–MANUALS.HTML

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.

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.

HARRIS COUNTY FLOOD CONTROL

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 DEVELOPMENT COORDINATION AND INSPECTION 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 OR COMPLIANCE WITH NATIONWIDE PERMIT, IF APPLICABLE, TO HCFCD, 9900 NORTHWEST FREEWAY, HOUSTON, TEXAS 77092, ATTN: DEVELOPMENT COORDINATION AND INSPECTION DEPT. BY HAND DELIVERY, BY EMAIL DCID@HCFCD.ORG, OR FAX TO 713–684–4129 (FAX NUMBER).

3. ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S DEVELOPMENT COORDINATION AND INSPECTION SECTION 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 DRAINAGE SYSTEMS.

5. BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED 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 AND 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. PERFORM ALL ACTIVITIES WITHIN HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT–OF–WAY IN ACCORDANCE WITH THE MOST RECENT HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATIONS BOOK.

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.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

GENERAL NOTES (SHEET 1 TO 2)

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\30% SUBMITTAL PLAN SETS\GENERAL NOTES SHEET 1OF2.DWG[DCRUMP]SAVED:Monday, February 23, 2026[COH_KAI.CTB]PLOTTED:Tuesday, March 03, 2026

AT & T TEXAS/SWBT FACILITIES

1. THE LOCATION 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 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 AT&T TEXAS/SBC FACILITIES.

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

5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES DOES NOT MEAN THAT THE DIRECT BURIED CABLES IN THE AREA. FOLLOW THE DIRECT BURIED CABLE PROCEDURES TO LOCATE THE AT&T TEXAS/SWBT DIRECT BURIED CABLES AS INDICATED IN THE AT&T TEXAS RESEARCH AND SIGNATURE PROCESS FOR AT&T TEXAS/SWBT FACILITIES.

6. PLEASE CONTACT THE AT&T TEXAS/SWBT DAMAGE PREVENTION MANAGER MR. ROOSEVELT LEE, JR. AT 713-567-4552 OR EMAIL HIM AT RL7259@ATT.COM IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

CENTERPOINT ENERGY – GAS

1. CAUTION: UNDERGROUND GAS FACILITIES LOCATION OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY.SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION.IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 713-233-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

   A. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL 713-967-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

   B. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

   C. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

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

CENTERPOINT ENERGY – ELECTRICAL

1. WARNING: OVERHEAD ELECTRICAL LINES

   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 PERSON 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 TEN (10) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

   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.

2. HAND DIG WITHIN ONE (1) FOOT OF CENTERPOINT ENERGY UNDERGROUND CONDUIT OR CABLE SYSTEMS.

TREE AND PLANT PROTECTION

1. CONTRACTOR IS TO PRESERVE AND TO PROTECT EXISTING TREES AND PLANTS FROM FOLIAGE, BRANCH, TRUNK AND/OR ROOT DAMAGE THAT COULD RESULT FROM CONSTRUCTION ACTIVITIES.

2. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS PLANTS AND TREES ALONG AREA OF CONSTRUCTION.

SWPPP CONSTRUCTION NOTES:

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPP) PLANS TO KEEP SILT AND OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.

2. DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATION MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALLS ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEPT BACK INTO THE EXCAVATED AREA.

3. CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FORM THE EXCAVATED AREA.

4. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.

5. CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.

- DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
- AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
- STRUCTURAL CONTROL MEASURES.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

6. CONTRACTOR TO BE RESPONSIBLE TO MAINTAIN EXISTING DITCHES AND OR CULVERTS FOR UNOBSTRUCTED DRAINAGE AT ALL TIMES. WHERE SODDING IS DISTURBED BY EXCAVATION ON BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING OR SODDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.

TRAFFIC CONSTRUCTION NOTES:

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. NO TRAFFIC LANES SHALL BE CLOSED DURING THE HOURS OF 5:30AM TO 7:00PM MONDAY THRU FRIDAY IN DOWNTOWN/MIDTOWN AREA.

3. NO LANES ON MAJORITY THOROUGHFARES MAY BE BLOCKED FROM 6:00AM TO 9:00AM AND 4:00PM TO 7:00PM UNLESS OUTLINED IN THE MOBILITY PERMIT.

4. NO TRAFFIC LANES SHALL BE CLOSED IN ALL RESIDENTIAL AREAS FROM 7:00PM TO 7:00AM.

5. CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS.

6. CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING ON-WORKING HOURS, AND OPEN THE LANES FOR NORMAL TRAFFIC FLOW.

7. _OFF-DUTY UNIFORMED POLICE OFFICER(S)/:FLAGGER(S) IS/ARE REQUIRED TO DIRECT TRAFFIC WHEN THE LANES ARE BLOCKED.

8. IN THE EVENT THAT NO "TRAFFIC CONTROL PLANS" EXIST AS A PART OF CONTRACT DRAWINGS, CONTRACTOR MAY PREPARE PLANS* AND SUBMIT TO THE PLAN REVIEW SECTION FOR APPROVAL TEN DAYS PRIOR TO IMPLEMENTATION.

9. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, HE/SHE SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING AN ALTERNATE SET OF PLANS* TO THE PLAN REVIEW SECTION FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.

10. APPROVED COPIES OF TRAFFIC CONTROL PLANS AND MOBILITY PERMITS SHALL BE MADE AVAILABLE FOR INSPECTION AT THE JOB SITE AT ALL TIMES. CONTRACTORS MUST SECURE MOBILITY PERMITS FROM THE CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST 10 DAYS IN ADVANCE OF THE CLOSURE. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED. CALL 832-395-3020 FOR AN APPLICATION OR LOGON TO WWW.GIMS.HOUSTONTX.GOV .

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 INSTALLED 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" FITTINGS 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.

10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS. TESTS ARE TO BE PERFORMED ON THE ENTIRE FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.

11. ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEARANCE TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.

12. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAPPED (OR OTHERWISE EFFECTIVELY COVERED) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.

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.

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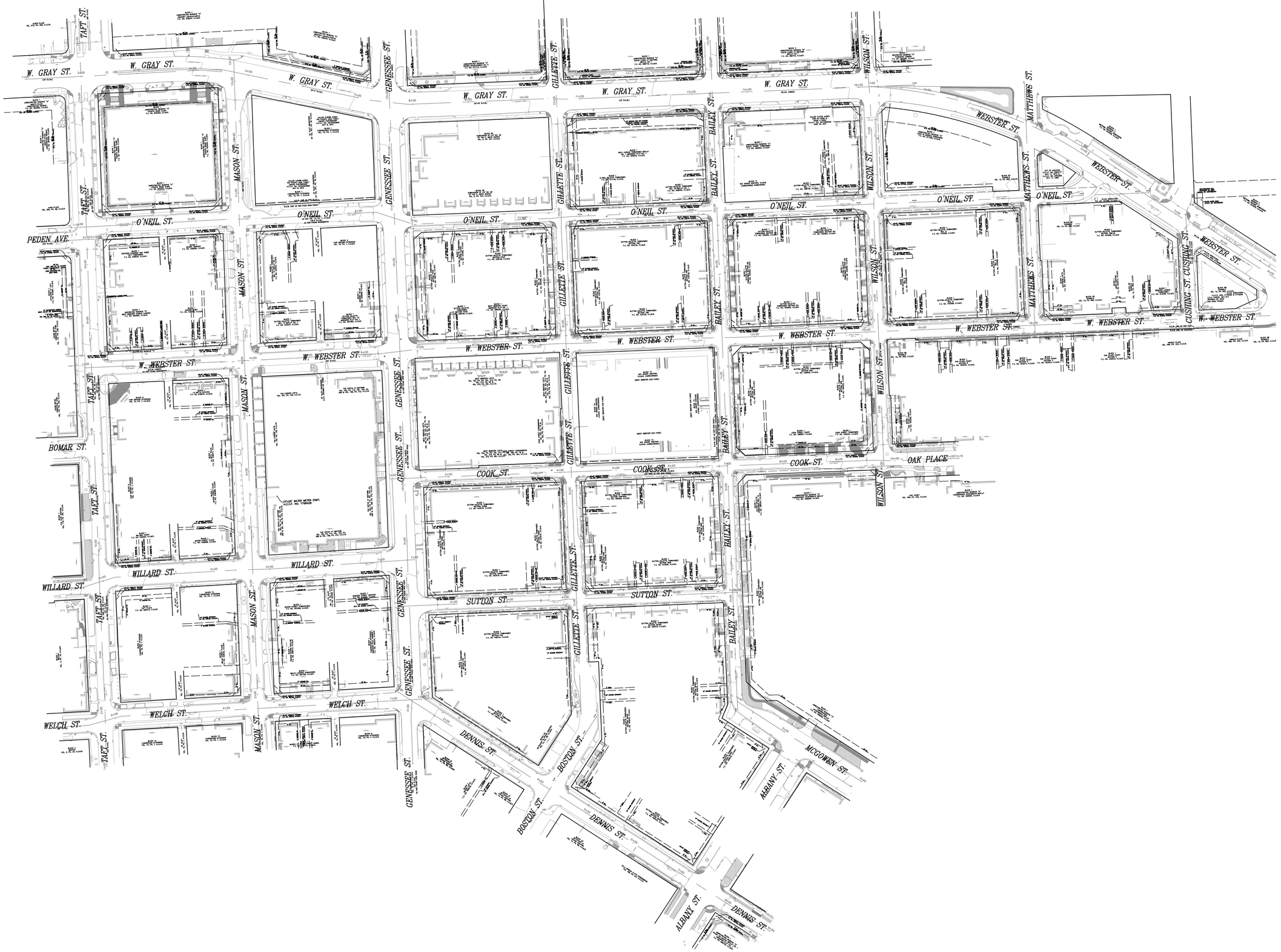
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

GENERAL NOTES
(SHEET 2 TO 2)

WBS#:	N-210008-0001-3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\905 SUBMITTAL PLAN SETS_GENERAL NOTES SHEET 2OF2.DWG|DCRUMP|SAVED:Monday, February 23, 2026|COH_KAI.CTB|PLOTTED: Tuesday, March 03, 2026



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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

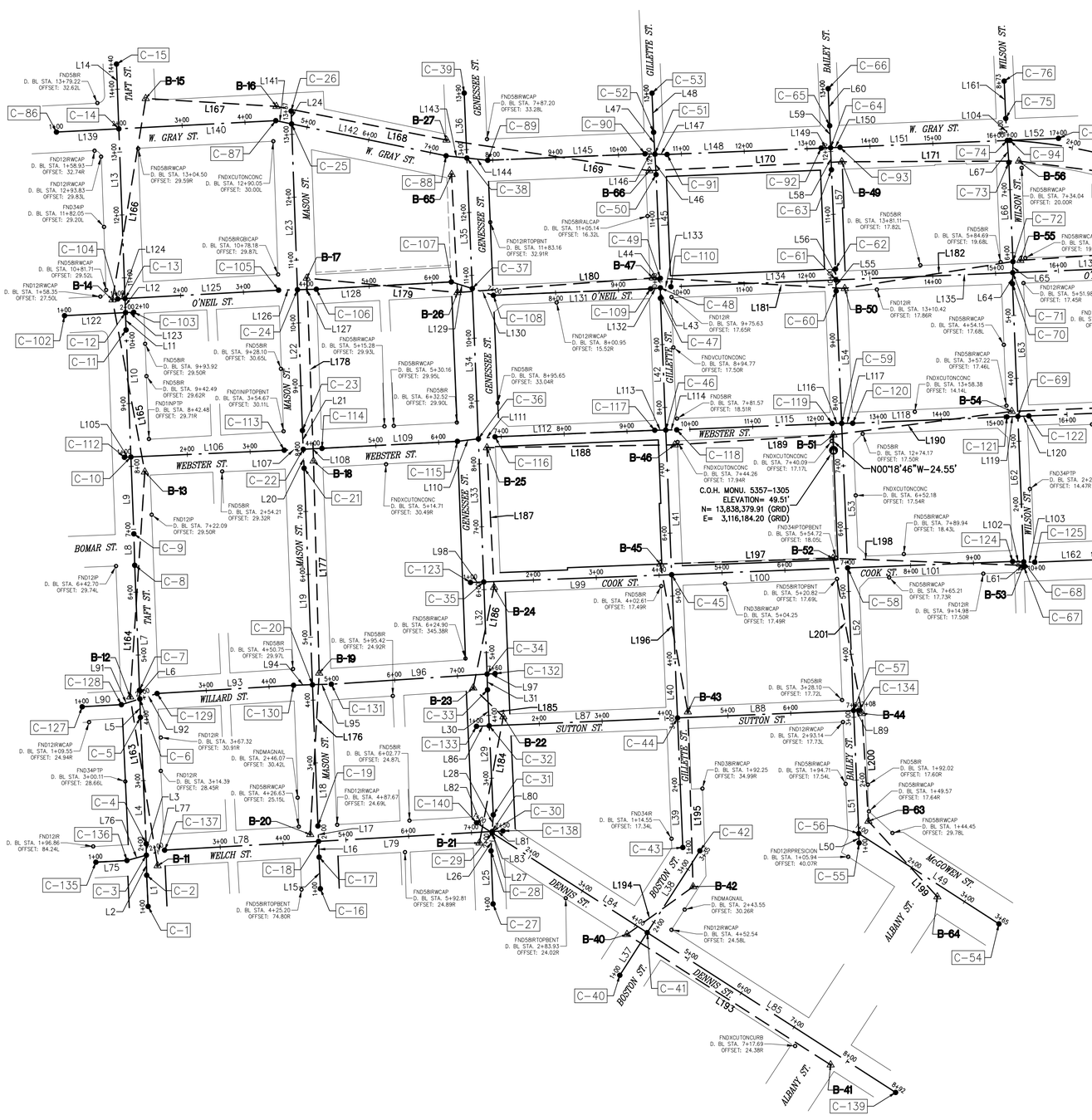
OVERALL PROJECT LAYOUT

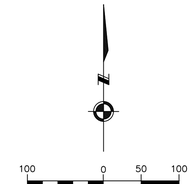
WBS#: N-210008-0001-3	
DRAWING SCALE:	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II - GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\7_OVERALL PROJECT LAYOUT.DWG|LYLK|SAVED: Wednesday, January 28, 2026|COH_KAI.CTB|PLOTTED: Tuesday, March 03, 2026

PLOTTED: 10/4/2024 10:39 AM

PLOT STYLE: ----





NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE WEST SIDE OF BAILEY ST APPROXIMATELY 30' SOUTH FROM THE INTERSECTION OF W WEBSTER ST.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

NOTE:

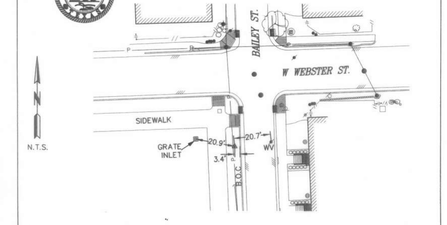
ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.

THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.99989317.

LEGEND:

B-X	SURVEY CONTROL POINT NUMBER
C-X	DESIGN BASELINE POINT NUMBER
	SURVEY CONTROL POINT
	DESIGN BASELINE POINT
	CITY OF HOUSTON MONUMENT
D. BL:	DESIGN BASELINE
S. BL:	SURVEY BASELINE

CITY OF HOUSTON
CITY SURVEY 5357 8105
SITE CONTROL MONUMENT



Project WBS# N-210008-0001-3
Texas Coordinate System of 1983, South Central Zone, U. S. Survey Feet
X= 3,116,256.35
Y= 13,838,700.35
Lat.= 29° 45' 06.94873" (N)
Lon.= 95° 22' 55.98390" (W)
Reference Frame Used: NAD '83 (2011) (EPOCH: 2010)
Vertical Adjustment used: NAVD '88
General Location: LOCATED AT WESTSIDE OF BAILEY ST. ABOUT 30' SOUTH FROM THE INTERSECTION OF W WEBSTER ST.
Date Set: 01-08-2024 Type of Mark: AA
3 Nearest project control points (bearings and distances stated below):
1 N 06° 44' 20" W 27.55'
2 S 01° 20' 50" W 168.99'
3 S 87° 26' 10" E 255.70'
Keymap Page: 493P
Orthometric Elevation =49.51 FEET
Ellipsoid Height= -39.6827 FEET
Geoid: GEOID '18
Datum Source & Adjustment: GPS STATIC (OBSERVED ON 01-08-2024)

NOTE:
1. Bearings are grid bearings.
2. Scale Factor = (S.F. 0.99989317).
3. Surface= Grid / S.F.

Surveyed By: Kuo & Associates, LLC.
10300 Westoffice Dr., Suite 800
Houston, TX 77042

STATE OF TEXAS REGISTERED KUTUBUL A. M. MAINUDDIN 6404 PROFESSIONAL LAND SURVEYOR

City of Houston, Harris County, Texas

ims
1225 North Loop West
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

KUO & associates, LLC.
Consulting Engineers & Surveyors
10300 Westoffice Dr., Suite 800, Houston, Texas 77042
Tel: 713-975-8788, Fax: 713-975-0920, www.kuoassociates.com
TBPELS Engineering Firm Reg. No. F-4578
TBPELS Surveying Firm Reg. No. 10075600

SURVEYED BY: KUO & ASSOC.
FB NO.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF
KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
ON 10/04/2024
IT IS NOT TO BE USED FOR PERMIT, BIDDING OR CONSTRUCTION PURPOSES

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

SURVEY CONTROL MAP (SHEET 1 OF 7)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
SHEET NO. OF	

FILE PATH: S:\Proj-2024\24006 (GRAY & TAFT AREA)\Dwgs\SCM\SCM-24006.dwg

PLOTTED: 10/4/2024 10:27 AM

PLOT STYLE: ----

FILE PATH: S:\Proj-2024\24006 (GRAY & TAFT AREA)\Dwgs\SCM\SCM-24006.dwg

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)

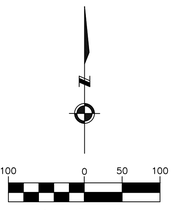
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
B-11	13,839,518.52	3,115,514.94	13,837,719.62	3,115,109.97	48.65'	1+64.52	17.56R	SET 'X' CUT ON CONC.
B-12	13,839,786.90	3,115,471.35	13,837,987.96	3,115,066.39	48.84'	4+33.95	15.23L	SET MAGNAIL W/SHINER
B-13	13,840,144.45	3,115,494.69	13,838,345.47	3,115,089.73	50.27'	7+90.40	21.21R	SET 1/2" I.R. W/CAP
B-14	13,840,418.05	3,115,443.28	13,838,619.03	3,115,038.32	49.79'	10+65.65	20.00L	SET 1/2" I.R. W/CAP
B-15	13,840,738.08	3,115,496.06	13,838,939.02	3,115,091.10	49.88'	2+44.42	45.93L	SET 5/8" I.R. W/CAP
B-16	13,840,725.44	3,115,703.89	13,838,926.38	3,115,298.90	50.65'	13+63.40	251.64R	SET 5/8" I.R. W/CAP
B-17	13,840,452.48	3,115,752.05	13,838,653.46	3,115,347.06	50.86'	4+01.22	17.98L	FND MAGNAIL W/SHINER
B-18	13,840,161.83	3,115,762.81	13,838,362.85	3,115,357.81	48.74'	3+99.93	19.43R	SET 'X' CUT ON CONC.
B-19	13,839,824.69	3,115,771.80	13,838,025.75	3,115,366.80	49.13'	4+80.25	18.08L	FND SPINDLE
B-20	13,839,568.15	3,115,757.57	13,837,769.24	3,115,352.57	48.16'	4+44.02	11.69L	FND SPINDLE
B-21	13,839,554.72	3,116,026.52	13,837,755.81	3,115,621.49	48.34'	7+11.78	17.01R	SET 'X' CUT ON CONC.
B-22	13,839,755.20	3,116,064.43	13,837,956.27	3,115,659.40	48.54'	1+43.32	13.31L	SET 'X' CUT ON CONC.
B-23	13,839,801.14	3,116,016.62	13,838,002.20	3,115,611.59	48.53'	7+23.83	20.51R	SET 'X' CUT ON CONC.
B-24	13,839,960.97	3,116,049.67	13,838,162.01	3,115,644.63	49.05'	1+37.02	9.24R	SET 'X' CUT ON CONC.
B-25	13,840,182.97	3,116,038.37	13,838,383.98	3,115,633.34	48.55'	6+75.20	15.63R	SET 'X' CUT ON CONC.
B-26	13,840,429.63	3,115,991.62	13,838,630.61	3,115,586.60	49.66'	6+45.33	13.14R	SET 'X' CUT ON CONC.
B-27	13,840,672.02	3,115,974.12	13,838,872.97	3,115,569.10	49.67'	7+21.00	24.65L	SET 'X' CUT ON CONC.
B-40	13,839,409.36	3,116,261.04	13,837,610.47	3,115,855.98	48.94'	3+97.01	19.76R	SET 5/8" I.R. W/CAP
B-41	13,839,202.00	3,116,584.66	13,837,403.14	3,116,179.55	48.13'	7+81.36	19.04R	SET 'X' CUT ON CONC.
B-42	13,839,485.11	3,116,366.08	13,837,686.21	3,115,961.01	49.19'	2+81.38	21.86R	SET 1/2" I.R. W/CAP
B-43	13,839,763.08	3,116,357.76	13,837,964.15	3,115,952.69	49.66'	4+36.73	8.95L	SET 'X' CUT ON CONC.
B-44	13,839,760.63	3,116,634.68	13,837,961.69	3,116,229.57	49.22'	3+05.55	13.24R	SET 'X' CUT ON CONC.
B-45	13,839,998.11	3,116,313.97	13,838,199.14	3,115,908.90	49.93'	4+02.56	17.65L	SET 'X' CUT ON CONC.
B-46	13,840,187.52	3,116,336.95	13,838,388.53	3,115,931.88	49.12'	9+75.53	23.81R	SET 1/2" I.R. W/CAP
B-47	13,840,452.92	3,116,301.98	13,838,653.90	3,115,896.91	50.81'	9+56.24	16.92L	SET 1/2" I.R. W/CAP
B-49	13,840,637.47	3,116,602.43	13,838,838.42	3,116,197.33	48.97'	13+54.28	23.04R	SET 5/8" I.R. W/CAP
B-50	13,840,436.16	3,116,607.12	13,838,637.14	3,116,202.02	50.59'	12+59.50	14.03R	SET 'X' CUT ON RAMP
B-51	13,840,203.44	3,116,589.17	13,838,404.45	3,116,184.06	49.26'	12+28.27	18.21R	SET 1/2" I.R. W/CAP
B-52	13,840,007.14	3,116,588.42	13,838,208.18	3,116,183.32	49.52'	6+77.16	16.07L	SET 'X' CUT ON CONC.
B-53	13,839,995.93	3,116,890.99	13,838,196.97	3,116,485.84	48.78'	9+79.51	5.62R	SET 'X' CUT ON CONC.
B-54	13,840,240.71	3,116,872.57	13,838,441.72	3,116,467.42	48.34'	15+12.36	8.38L	SET MAGNAIL W/SHINER
B-55	13,840,480.82	3,116,886.16	13,838,681.80	3,116,481.02	49.68'	15+40.15	19.07L	SET 5/8" I.R. W/CAP
B-56	13,840,638.55	3,116,883.99	13,838,839.50	3,116,478.85	49.18'	1+16.77	31.97R	SET 'X' CUT ON CONC.
B-57	13,840,602.54	3,117,165.76	13,838,803.50	3,116,760.58	49.63'	4+04.93	4.80L	SET 'X' CUT ON CONC.
B-58	13,840,499.79	3,117,169.51	13,838,700.76	3,116,764.33	49.37'	18+24.04	26.32L	SET 1/2" I.R. W/CAP
B-59	13,840,251.70	3,117,150.96	13,838,452.70	3,116,745.78	47.76'	17+90.97	8.02L	SET MAGNAIL W/SHINER
B-60	13,840,247.34	3,117,438.77	13,838,448.34	3,117,033.55	47.54'	20+78.36	8.03R	SET MAGNAIL W/SHINER
B-61	13,840,277.96	3,117,679.56	13,838,478.96	3,117,274.31	47.66'	10+12.04	4.79L	SET MAGNAIL W/SHINER
B-62	13,840,381.00	3,117,464.87	13,838,581.99	3,117,059.65	47.97'	7+75.81	25.27R	SET 1/2" I.R. W/CAP
B-63	13,839,589.31	3,116,644.77	13,837,790.40	3,116,239.65	49.49'	1+33.96	16.17R	SET 1/2" I.R. W/CAP
B-64	13,839,469.15	3,116,754.25	13,837,670.26	3,116,349.13	48.82'	2+59.38	16.83R	SET MAGNAIL W/SHINER
B-65	13,840,617.34	3,115,982.18	13,838,818.30	3,115,577.15	49.42'	7+37.26	28.54R	FND 'X' CUT ON CONC.
B-66	13,840,623.33	3,116,296.61	13,838,824.29	3,115,891.54	49.64'	10+49.94	26.58R	FND 'X' CUT ON CONC.

DESIGN BASELINE POINTS DATA

POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-1	1+00.00	13,839,453.76	3,115,499.86	13,837,654.87	3,115,094.90
C-2	1+49.64	13,839,503.35	3,115,497.62	13,837,704.45	3,115,092.66
C-3	1+81.58	13,839,535.29	3,115,497.10	13,837,736.38	3,115,092.14
C-4	1+99.80	13,839,553.51	3,115,496.80	13,837,754.60	3,115,091.84
C-5	4+00.93	13,839,754.43	3,115,487.72	13,837,955.50	3,115,082.76
C-6	4+30.21	13,839,783.69	3,115,486.70	13,837,984.76	3,115,081.74
C-7	4+43.95	13,839,797.43	3,115,486.22	13,837,998.49	3,115,081.26
C-8	6+42.76	13,839,996.09	3,115,478.63	13,838,197.12	3,115,073.67
C-9	6+92.76	13,840,046.07	3,115,477.22	13,838,247.10	3,115,072.26
C-10	8+14.99	13,840,168.21	3,115,472.55	13,838,369.22	3,115,067.60
C-11	10+17.13	13,840,370.20	3,115,464.84	13,838,571.19	3,115,059.88
C-12	10+44.63	13,840,397.69	3,115,463.95	13,838,598.67	3,115,058.99
C-13	10+67.06	13,840,420.10	3,115,463.22	13,838,621.08	3,115,058.26
C-14	13+37.00	13,840,689.87	3,115,453.38	13,838,890.81	3,115,048.43
C-15	14+40.00	13,840,792.80	3,115,449.62	13,838,993.73	3,115,044.66
C-16	1+00.00	13,839,481.95	3,115,773.67	13,837,683.05	3,115,368.67
C-17	1+50.30	13,839,532.21	3,115,771.72	13,837,733.30	3,115,366.72
C-18	1+75.30	13,839,557.19	3,115,770.75	13,837,758.28	3,115,365.76
C-19	1+99.86	13,839,581.74	3,115,769.81	13,837,782.83	3,115,364.81
C-20	4+24.46	13,839,806.16	3,115,761.12	13,838,007.23	3,115,356.13
C-21	7+68.95	13,840,150.40	3,115,747.80	13,838,351.42	3,115,342.81
C-22	7+99.08	13,840,180.50	3,115,746.48	13,838,381.51	3,115,341.49
C-23	8+28.95	13,840,210.34	3,115,745.17	13,838,411.34	3,115,340.18
C-24	10+52.87	13,840,434.12	3,115,737.25	13,838,635.10	3,115,332.26
C-25	13+16.57	13,840,697.66	3,115,727.93	13,838,898.60	3,115,322.94
C-26	13+37.00	13,840,718.07	3,115,727.21	13,838,919.01	3,115,322.22
C-27	1+00.00	13,839,457.82	3,116,048.10	13,837,658.93	3,115,643.07
C-28	1+84.39	13,839,542.16	3,116,044.94	13,837,743.25	3,115,639.91
C-29	1+29.44	13,839,570.75	3,116,046.71	13,837,771.84	3,115,641.68
C-30	2+15.21	13,839,572.91	3,116,046.85	13,837,774.01	3,115,641.81
C-31	2+41.68	13,839,599.34	3,116,048.48	13,837,800.42	3,115,643.45
C-32	3+83.43	13,839,740.94	3,116,042.00	13,837,942.01	3,115,636.97
C-33	4+40.67	13,839,798.12	3,116,039.38	13,837,999.18	3,115,634.35
C-34	4+65.69	13,839,823.12	3,116,038.64	13,838,024.18	3,115,633.61
C-35	6+12.24	13,839,969.58	3,116,033.37	13,838,170.62	3,115,628.34
C-36	8+39.90	13,840,197.09	3,116,024.86	13,838,398.10	3,115,619.83
C-37	10+78.94	13,840,435.92	3,116,015.14	13,838,636.90	3,115,610.11
C-38	12+86.62	13,840,643.42	3,116,006.50	13,838,844.37	3,115,601.47
C-39	13+90.00	13,840,746.72	3,116,002.28	13,838,947.66	3,115,597.26
C-40	1+00.00	13,839,344.40	3,116,249.56	13,837,545.52	3,115,844.50
C-41	1+80.59	13,839,412.18	3,116,293.17	13,837,613.29	3,115,888.10
C-42	3+35.30	13,839,542.28	3,116,376.88	13,837,743.38	3,115,971.80
C-43	1+00.00	13,839,547.54	3,116,349.72	13,837,748.64	3,115,944.65
C-44	3+06.06	13,839,753.44	3,116,341.31	13,837,954.50	3,115,936.24
C-45	5+33.96	13,839,981.14	3,116,332.01	13,838,182.18	3,115,926.94
C-46	7+64.08	13,840,211.07	3,116,322.62	13,838,412.08	3,115,917.55
C-47	9+73.76	13,840,420.58	3,116,314.06	13,838,621.56	3,115,909.00
C-48	9+90.30	13,840,437.12	3,116,314.05	13,838,638.10	3,115,908.98
C-49	10+05.45	13,840,452.26	3,116,314.02	13,838,653.24	3,115,908.95
C-50	11+70.53	13,840,617.20	3,116,307.28	13,838,818.16	3,115,902.22
C-51	12+03.05	13,840,649.67	3,116,305.37	13,838,850.62	3,115,900.30
C-52	12+37.79	13,840,684.35	3,116,303.32	13,838,885.29	3,115,898.26
C-53	13+00.00	13,840,746.51	3,116,300.73	13,838,947.44	3,115,895.67
C-54	3+65.00	13,839,426.09	3,116,852.14	13,837,627.20	3,116,447.01
C-55	1+00.00	13,839,554.71	3,116,630.02	13,837,755.80	3,116,224.91
C-56	1+00.00	13,839,569.64	3,116,629.40	13,837,770.73	3,116,224.29
C-57	3+10.80	13,839,765.32	3,116,621.12	13,837,966.38	3,116,216.01
C-58	5+37.64	13,839,991.97	3,116,611.79	13,838,193.00	3,116,206.68
C-59	7+67.62	13,840,221.75	3,116,602.21	13,838,422.76	3,116,197.10
C-60	9+78.18	13,840,432.12	3,116,593.44	13,838,633.10	3,116,188.33
C-61	9+95.68	13,840,449.62	3,116,592.98	13,838,650.59	3,116,187.87
C-62	10+13.18	13,840,467.11	3,116,592.51	13,838,668.09	3,116,187.41
C-63	11+71.03	13,840,624.82	3,116,585.97	13,838,825.78	3,116,180.87
C-64	12+06.03	13,840,659.80	3,116,584.58	13,838,860.75	3,116,179.47
C-65	12+41.03	13,840,694.77	3,116,583.18	13,838,895.71	3,116,178.08
C-66	13+00.00	13,840,753.69	3,116,580.73	13,838,954.63	3,116,175.63
C-67	1+00.00	13,839,993.43	3,116,891.98	13,838,194.46	3,116,486.83
C-68	1+08.11	13,840,001.53	3,116,891.65	13,838,202.57	3,116,486.51
C-69	3+39.49	13,840,232.72	3,116,882.30	13,838,433.73	3,116,477.15
C-70	5+50.63	13,840,443.69	3,116,873.76	13,838,644.67	3,116,468.62
C-71	5+68.18	13,840,461.24	3,116,874.14	13,838,662.21	3,116,469.00

DESIGN BASELINE POINTS DATA

POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-72	5+85.72	13,840,478.77	3,116,874.51	13,838,679.74	3,116,469.37
C-73	7+43.52	13,840,636.43	3,116,867.91	13,838,837.39	3,116,462.77
C-74	7+78.54	13,840,671.36	3,116,865.44	13,838,872.31	3,116,460.30
C-75	8+13.55	13,840,706.29	3,116,862.97	13,838,907.23	3,116,457.83
C-76	8+73.00	13,840,765.69	3,116,860.54	13,838,966.62	3,116,455.40
C-77	1+00.00	13,840,232.02	3,117,162.85	13,838,433.02	3,116,757.67
C-78	1+12.12	13,840,244.13	3,117,162.33	13,838,445.13	3,116,757.15
C-79	3+40.95	13,840,472.74	3,117,152.51	13,838,673.72	3,116,747.33
C-80	4+73.54	13,840,605.22	3,117,146.82	13,838,806.18	3,116,741.64
C-81	5+48.00	13,840,679.61	3,117,143.62	13,838,880.55	3,116,738.45
C-82	1+00.14	13,840,242.76	3,117,441.22	13,838,443.76	3,117,036.01
C-83	1+12.85	13,840,255.45	3,117,440.70	13,838,456.46	3,117,035.49
C-84	2+88.93	13,840,431.39	3,117,433.48	13,838,632.37	3,117,028.27
C-85	3+00.00	13,840,442.45	3,117,433.03	13,838,643.43	3,117,027.82
C-86	1+00.00	13,840,684.71	3,115,354.22	13,838,885.66	3,114,949.28
C-87	4+49.06	13,840,702.84	3,115,702.81	13,838,903.79	3,115,297.82
C-88	7+25.42	13,840,646.99	3,115,973.47	13,838,847.94	3,115,568.45
C-89	7+92.01	13,840,639.84	3,116,039.68	13,838,840.79	3,115,634.64
C-90	10+42.22	13,840,650.13	3,116,289.68	13,838,851.08	3,115,884.61
C-91	10+77.31	13,840,649.10	3,116,324.75	13,838,850.05	3,115,919.68
C-92	13+22.41	13,840,659.18	3,116,569.64	13,838,860.13	3,116,164.54
C-93	13+52.41	13,840,660.42	3,116,599.62	13,838,861.37	3,116,194.51
C-94	16+22.76	13,840,671.54	3,116,869.73	13,838,872.49	3,116,464.59
C-95	17+00.00	13,840,674.72	3,116,946.91	13,838,875.66	3,116,541.76
C-96	3+67.10	13,840,612.63	3,117,128.98	13,838,813.59	3,116,723.81
C-97	4+57.61	13,840,573.79	3,117,210.63	13,838,774.75	3,116,805.44
C-98	5+09.48	13,840,546.84	3,117,254.95	13,838,747.80	3,116,849.76
C-99	6+30.42	13,840,481.17	3,117,356.49	13,838,682.14	3,116,951.29
C-100	10+27.42	13,840,265.59	3,117,689.87	13,838,466.59	3,117,284.63
C-101	10+58.00	13,840,248.99	3,117,715.55	13,838,449.99	3,117,310.30
C-102	1+00.00	13,840,392.88	3,115,367.07	13,838,593.86	3,114,962.12
C-103	2+10.00	13,840,398.33	3,115,476.93	13,838,599.32	3,115,071.97
C-104	1+00.00	13,840,419.48	3,115,451.67	13,838,620.46	3,115,046.72
C-105	3+55.97	13,840,433.37	3,115,707.26	13,838,634.34	3,115,302.27
C-106	4+15.97	13,840,434.87	3,115,767.25	13,838,635.85	3,115,362.25
C-107	6+30.87	13,840,446.54	3,115,981.83	13,838,647.51	3,115,576.80
C-108	7+01.14	13,840,425.25	3,116,048.79	13,838,626.23	3,115,643.76
C-109	9+51.00	13,840,435.57	3,116,298.44	13,838,636.55	3,115,893.37
C-110	9+83.55	13,840,438.78	3,116,330.83	13,838,639.76	3,115,925.76
C-111	20+20.00	13,840,481.58	3,117,366.40	13,838,682.55	3,116,961.19
C-112	1+00.00	13,840,167.75	3,115,462.24	13,838,368.76	3,115,057.28
C-113	3+54.27	13,840,179.03	3,115,716.26	13,838,380.04	3,115,311.27
C-114	4+14.28	13,840,181.94	3,115,776.19	13,838,382.95	3,115,371.20
C-115	6+29.87	13,840,193.08	3,115,991.50	13,838,394.09	3,115,586.47
C-116	6+90.07	13,840,200.26	3,116,051.27	13,838,401.27	3,115,646.24
C-117	9+44.14	13,840,210.75	3,116,305.12	13,838,411.76	3,115,900.05
C-118	9+79.14	13,840,211.40	3,116,340.12	13,838,412.41	3,115,935.05
C-119	12+26.44	13,840,221.64	3,116,587.20	13,838,422.65	3,116,182.10
C-120	12+58.95	13,840,221.87	3,116,619.72	13,838,422.88	3,116,214.61
C-121	15+04.25	13,840,232.00	3,116,864.81	13,838,433.01	3,116,459.67
C-122	15+39.25	13,840,233.45	3,116,899.78	13,838,434.45	3,116,494.64
C-123	1+00.00	13,839,968.77	3,116,012.32	13,838,169.81	3,115,607.29
C-124	9+62.25	13,840,002.11	3,116,873.92	13,838,203.14	3,116,468.78
C-125	9+97.34	13,840,000.97	3,116,908.99	13,838,202.00	3,116,503.85
C-126	11+15.00	13,840,005.51	3,117,026.57	13,838,206.55	3,116,621.41
C-127	1+00.00	13,839,771.18	3,115,395.14	13,837,972.24	3,114,990.19
C-128	1+62.37	13,839,774.56	3,115,457.42	13,837,975.63	3,115,052.46
C-129	2+21.81	13,839,792.26	3,115,514.17	13,837,993.32	3,115,109.20
C-130	4+39.17	13,839,805.31	3,115,731.13	13,838,006.37	3,115,326.14
C-131	4+99.18	13,839,807.02	3,115,791.11	13,838,008.08	3,115,386.11
C-132	7+60.00	13,839,823.95	3,116,051.39	13,838,025.01	3,115,646.35
C-133	1+00.15	13,839,740.10	3,116,021.85	13,837,941.17	3,115,616.82
C-134	7+08.00	13,839,765.45	3,116,629.17	13,837,966.52	3,116,224.06
C-135	1+00.00	13,839,524.13	3,115,416.88	13,837,725.22	3,115,011.93
C-136	1+49.49	13,839,526.81	3,115,466.30	13,837,727.91	3,115,061.34
C-137	2+11.50	13,839,543.26	3,115,526.09	13,837,744.35	3,115,121.12
C-138	7+50.00	13,839,573.88	3,116,063.72	13,837,774.97	3,115,658.68
C-139	8+92.00	13,839,158.15	3,116,688.01	13,837,359.29	3,116,282.89
C-140	1+00.00	13,839,586.68	3,116,021.95	13,837,787.77	3,115,616.92
C-141	4+05.73	13,840,597.81	3,117,164.65	13,838,798.76	3,116,759.47



SCALE: 1" = 100'

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE WEST SIDE OF BAILEY ST APPROXIMATELY 30' SOUTH FROM THE INTERSECTION OF W WEBSTER ST.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

NOTE:

ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.

THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.99989317.

LEGEND:

B-X	SURVEY CONTROL POINT NUMBER
C-X	DESIGN BASELINE POINT NUMBER
	SURVEY CONTROL POINT
	DESIGN BASELINE POINT
	CITY OF HOUSTON MONUMENT
D. BL:	DESIGN BASELINE
S. BL:	SURVEY BASELINE

1225 North Loop West
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

KUO & associates, LLC.
Consulting Engineers & Surveyors
10300 Westoffice Dr., Suite 800, Houston, Texas 77042
Tel: 713-975-8769, Fax: 713-975-0920, www.kuoassociates.com
TBPELS Engineering Firm Reg. No. F-4578
TBPELS Surveying Firm Reg. No. 10075600

SURVEYED BY: KUO & ASSOC.
FB NO.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF
KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
ON 10/04/2024
IT IS NOT TO BE USED FOR PERMIT, BIDDING OR CONSTRUCTION PURPOSES

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

SURVEY CONTROL MAP
(SHEET 2 OF 7)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
SHEET NO. OF	

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L1	N2° 35' 17.68"W	49.64
L2	N0° 56' 07.98"W	31.94
L3	N0° 56' 07.98"W	18.23
L4	N2° 35' 17.68"W	201.12
L5	N2° 00' 06.22"W	29.28
L6	N2° 00' 06.22"W	13.74
L7	N2° 11' 14.66"W	198.81
L8	N1° 36' 52.12"W	50.00
L9	N2° 11' 14.66"W	122.22
L10	N2° 11' 14.66"W	202.14
L11	N1° 51' 35.62"W	27.50
L12	N1° 51' 35.62"W	22.43
L13	N2° 05' 18.27"W	269.94
L14	N2° 05' 34.04"W	103.00
L15	N2° 12' 56.17"W	50.30
L16	N2° 12' 56.17"W	25.00
L17	N2° 12' 56.17"W	25.00
L18	N2° 12' 48.67"W	224.37
L19	N2° 13' 01.05"W	344.28
L20	N2° 30' 59.76"W	30.12

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L21	N2° 30' 59.76"W	29.87
L22	N2° 01' 32.85"W	223.92
L23	N2° 01' 32.85"W	263.70
L24	N2° 01' 32.85"W	20.43
L25	N2° 08' 45.85"W	84.39
L26	N3° 32' 40.38"E	28.64
L27	N3° 32' 40.38"E	2.17
L28	N3° 32' 40.38"E	26.47
L29	N2° 37' 18.97"W	141.75
L30	N2° 37' 18.97"W	57.24
L31	N1° 41' 19.50"W	25.02
L32	N2° 03' 44.86"W	146.55
L33	N2° 08' 32.91"W	227.66
L34	N2° 19' 45.46"W	239.03
L35	N2° 23' 04.57"W	207.68
L36	N2° 20' 20.12"W	103.38
L37	N32° 45' 23.97"E	80.59
L38	N32° 45' 23.97"E	154.71
L39	N2° 20' 20.12"W	206.06
L40	N2° 20' 20.12"W	227.89

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L41	N2° 20' 20.12"W	230.13
L42	N2° 20' 20.12"W	209.68
L43	N0° 02' 54.08"W	16.54
L44	N0° 02' 54.08"W	14.73
L45	N2° 20' 20.12"W	165.49
L46	N3° 22' 29.08"W	32.52
L47	N3° 22' 29.08"W	34.74
L48	N2° 23' 14.10"W	62.21
L49	S57° 11' 57.51"E	265.00
L50	N2° 23' 14.42"W	14.95
L51	N2° 23' 14.42"W	195.65
L52	N2° 23' 14.42"W	227.04
L53	N2° 23' 14.42"W	229.98
L54	N2° 23' 14.42"W	210.56
L55	N1° 31' 01.95"W	17.50
L56	N1° 31' 01.95"W	17.50
L57	N2° 22' 25.00"W	157.85
L58	N2° 17' 20.94"W	35.00
L59	N2° 17' 20.94"W	35.00
L60	N2° 22' 42.99"W	58.97

SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L163	N9° 13' 31.90"W	271.89
L164	N3° 44' 07.02"E	358.32
L165	N10° 38' 32.80"W	278.39
L166	N9° 24' 25.46"E	324.42
L167	S86° 30' 34.47"E	207.97
L168	S78° 49' 07.00"E	275.47
L169	S81° 24' 53.85"E	326.14
L170	N87° 21' 13.91"E	306.15
L171	N89° 46' 50.65"E	281.56
L172	S82° 43' 06.20"E	284.06
L173	S53° 28' 23.27"E	372.22
L174	S64° 21' 42.44"E	238.13
L176	N3° 10' 28.99"E	256.93
L177	N1° 31' 37.46"W	337.26
L178	N2° 07' 10.59"W	290.85
L179	S84° 33' 02.37"E	240.66
L180	N85° 42' 26.41"E	311.23
L181	S86° 51' 17.91"E	305.60
L182	N80° 54' 20.59"E	282.59
L183	N86° 10' 13.34"E	283.98

SURVEY BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L184	N10° 42' 26.44"E	204.03
L185	N46° 08' 43.56"W	66.30
L186	N11° 40' 56.56"E	163.21
L187	N2° 54' 48.58"W	222.29
L188	N89° 07' 33.72"E	298.62
L189	N86° 23' 16.98"E	252.72
L190	N82° 30' 55.15"E	286.10
L191	N87° 44' 18.56"E	278.35
L192	S89° 07' 59.46"E	287.84
L193	N57° 21' 00.49"W	384.35
L194	N54° 12' 08.46"E	129.51
L195	N1° 42' 49.32"W	278.10
L196	N10° 33' 16.89"W	239.07
L197	N88° 06' 51.95"E	274.60
L198	S87° 52' 40.74"E	302.77
L199	N42° 20' 20.70"W	162.56
L200	N3° 22' 05.27"W	171.61
L201	N10° 37' 40.72"W	250.82

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L61	N2° 19' 00.97"W	8.11
L62	N2° 19' 00.97"W	231.38
L63	N2° 19' 00.97"W	211.14
L64	N1° 13' 51.94"E	17.55
L65	N1° 13' 51.94"E	17.53
L66	N2° 23' 54.90"W	157.80
L67	N4° 02' 40.93"W	35.02
L68	N2° 27' 33.56"W	12.12
L69	N2° 27' 33.56"W	228.82
L70	N2° 27' 33.56"W	132.60
L71	N2° 27' 33.56"W	74.46
L72	N2° 20' 58.17"W	12.85
L73	N2° 20' 58.17"W	176.08
L74	N2° 20' 58.17"W	11.07
L75	N86° 53' 12.66"E	49.49
L76	N74° 37' 22.73"E	31.94
L77	N74° 37' 22.73"E	30.06
L78	N86° 44' 25.78"E	245.06
L79	N86° 44' 25.78"E	273.32
L80	N86° 44' 25.78"E	3.22

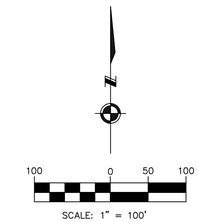
DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L81	N86° 44' 25.78"E	16.90
L82	S57° 14' 35.59"E	25.77
L83	S57° 14' 35.59"E	3.67
L84	S57° 14' 35.59"E	293.06
L85	S57° 14' 35.59"E	469.50
L86	N87° 36' 33.95"E	20.32
L87	N87° 36' 33.95"E	299.57
L88	N87° 36' 33.95"E	280.18
L89	N87° 36' 33.95"E	7.93
L90	N86° 53' 12.66"E	62.37
L91	N72° 40' 47.60"E	30.67
L92	N72° 40' 47.60"E	28.77
L93	N86° 33' 30.75"E	217.36
L94	N87° 57' 41.97"E	30.01
L95	N88° 45' 59.37"E	30.00
L96	N86° 16' 39.95"E	248.05
L97	N86° 16' 39.95"E	12.77
L98	N87° 47' 01.85"E	21.07
L99	N87° 47' 01.85"E	298.87
L100	N87° 47' 01.85"E	279.99

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L101	N87° 47' 01.85"E	262.33
L102	S88° 07' 51.79"E	17.62
L103	S88° 07' 51.79"E	17.48
L104	N4° 02' 40.93"W	35.02
L105	N87° 27' 24.98"E	10.33
L106	N87° 27' 24.98"E	243.94
L107	N87° 13' 20.85"E	30.26
L108	N87° 13' 20.85"E	29.75
L109	N87° 02' 11.79"E	215.59
L110	N83° 09' 29.26"E	33.60
L111	N83° 09' 29.26"E	26.60
L112	N87° 38' 00.02"E	254.07
L113	N88° 55' 53.43"E	17.50
L114	N88° 55' 53.43"E	17.50
L115	N87° 37' 32.88"E	247.30
L116	N89° 35' 50.68"E	15.00
L117	N89° 35' 50.68"E	17.51
L118	N87° 38' 00.02"E	245.30
L119	N87° 38' 10.26"E	17.50
L120	N87° 38' 10.26"E	17.50

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L121	N87° 40' 12.65"E	262.76
L122	N87° 09' 23.23"E	97.00
L123	N87° 09' 23.23"E	13.00
L124	N86° 53' 21.18"E	11.56
L125	N86° 53' 21.18"E	244.40
L126	N88° 33' 37.78"E	30.00
L127	N88° 33' 37.78"E	30.00
L128	N86° 53' 21.18"E	214.90
L129	S72° 19' 32.42"E	34.96
L130	S72° 19' 32.42"E	35.16
L131	N87° 38' 00.79"E	250.01
L132	N84° 19' 54.40"E	15.69
L133	N84° 19' 54.40"E	16.87
L134	N87° 38' 00.79"E	262.36
L135	N87° 38' 00.79"E	281.40
L136	N87° 38' 00.79"E	278.61
L137	N87° 38' 00.79"E	204.16
L138	N87° 38' 00.79"E	9.91
L139	N87° 01' 18.91"E	99.29
L140	N87° 01' 18.91"E	249.77

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L141	S78° 20' 22.55"E	25.65
L142	S78° 20' 22.55"E	250.71
L143	S83° 50' 06.06"E	33.22
L144	S83° 50' 06.06"E	33.37
L145	N87° 38' 31.89"E	250.21
L146	S88° 18' 52.80"E	15.70
L147	S88° 18' 52.80"E	19.39
L148	N87° 38' 31.89"E	245.11
L149	N87° 38' 31.89"E	14.95
L150	N87° 38' 31.89"E	15.05
L151	N87° 38' 31.89"E	266.05
L152	N87° 38' 31.89"E	81.54
L153	S67° 25' 57.64"E	19.31
L154	S67° 25' 57.64"E	19.31
L155	S57° 06' 39.97"E	120.93
L156	S57° 06' 39.97"E	91.68
L157	S57° 06' 39.97"E	305.33
L158	S57° 06' 39.97"E	30.58
L159	N87° 40' 12.65"E	278.60
L160	N87° 40' 12.65"E	249.38

DESIGN BASELINE: LINE TABLE		
LINE #	BEARING	LENGTH
L161	N2° 20' 42.55"W	59.45
L162	N87° 47' 01.85"E	117.66



NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE WEST SIDE OF BAILEY ST APPROXIMATELY 30' SOUTH FROM THE INTERSECTION OF W WEBSTER ST.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

NOTE:

ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.

THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.99989317.

LEGEND:

B-X	SURVEY CONTROL POINT NUMBER
C-X	DESIGN BASELINE POINT NUMBER
⚠	SURVEY CONTROL POINT
●	DESIGN BASELINE POINT
⚠	CITY OF HOUSTON MONUMENT
D. BL:	DESIGN BASELINE
S. BL:	SURVEY BASELINE

ims
1225 North Loop West
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
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KUO & associates, LLC.
Consulting Engineers & Surveyors
10300 Westoffice Dr., Suite 800, Houston, Texas 77042
Tel: 713-975-9799, Fax: 713-975-0920, www.kuoassociates.com
TBPELS Engineering Firm Reg. No. F-4578
TBPELS Surveying Firm Reg. No. 10075600

SURVEYED BY: KUO & ASSOC.
FB NO.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF
KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
ON 10/04/2024
IT IS NOT TO BE USED FOR PERMIT, BIDDING OR CONSTRUCTION PURPOSES

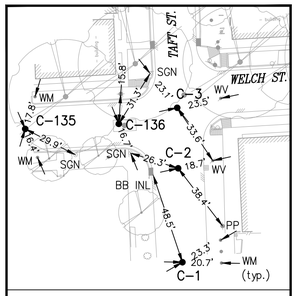
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

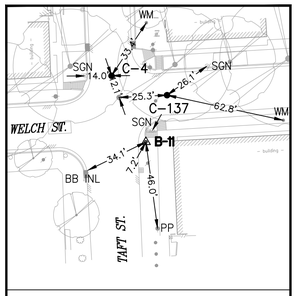
SURVEY CONTROL MAP
(SHEET 3 OF 7)

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DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
SHEET NO. OF	

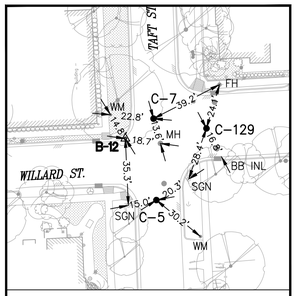
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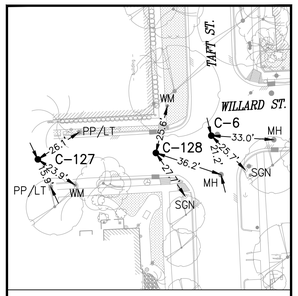
C-1, C-2, C-3, C-135, C-136



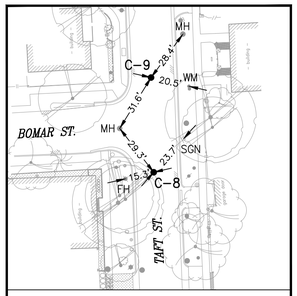
C-4, C-137 & T.B.M. B-11



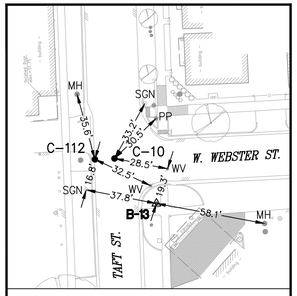
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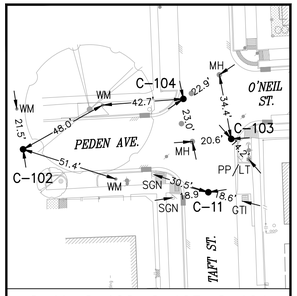
C-6, C-127, C-128



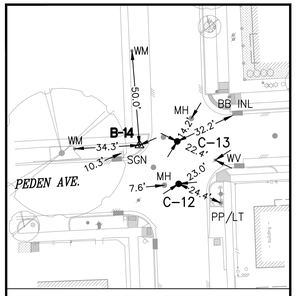
C-8, C-9



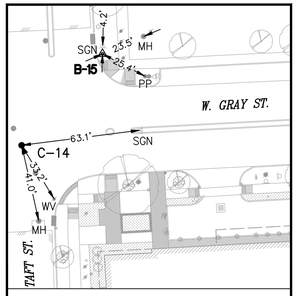
C-10, C-112 & T.B.M. B-13



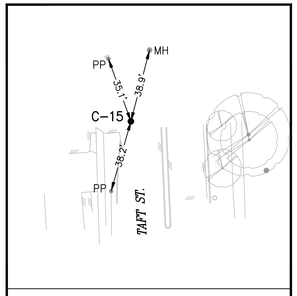
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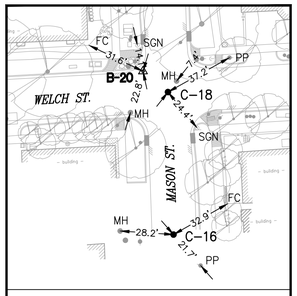
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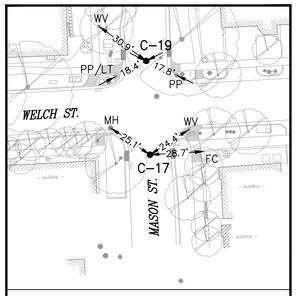
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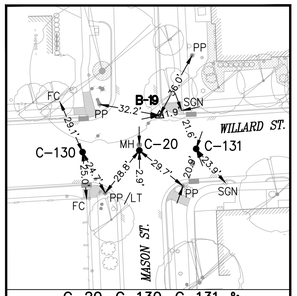
C-15



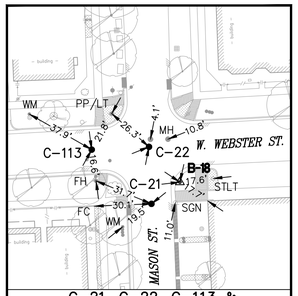
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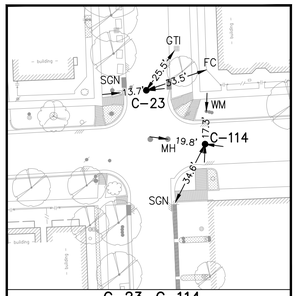
C-17, C-19



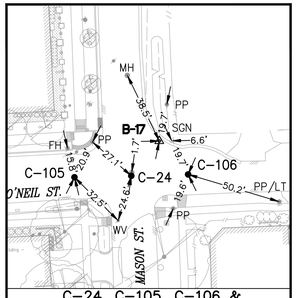
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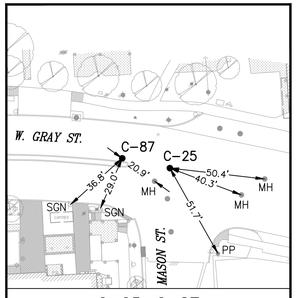
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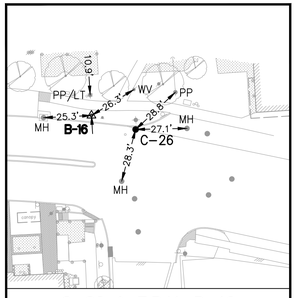
C-23, C-114



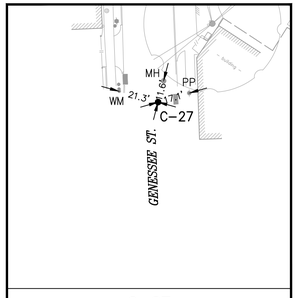
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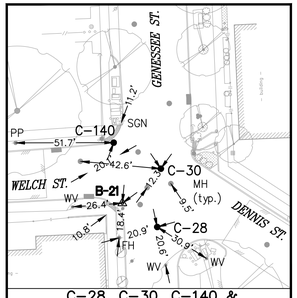
C-25, C-87



C-26 & T.B.M. B-16



C-27



C-28, C-30, C-140 & T.B.M. B-21

NORTH

40 0 20 40

SCALE: 1" = 40'

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

ABBREVIATIONS

BB INL – BB INLET
EC – EDGE OF CONCRETE
FH – FIRE HYDRANT
FC – FENCE CORNER
GV – GAS VALVE
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
PP/LT – POWER POLE W/LIGHT
STLT – STREET LIGHT
WM – WATER METER

NO.	DATE	REVISION	APP.

ims
1225 North Loop West
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TX Firm 18572

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TBPELS Engineering Firm Reg. No. F-4578
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SURVEYED BY: KUO & ASSOC.
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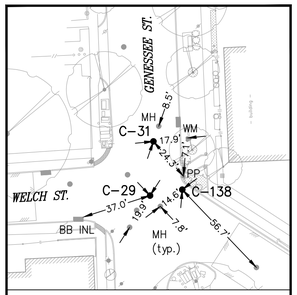
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

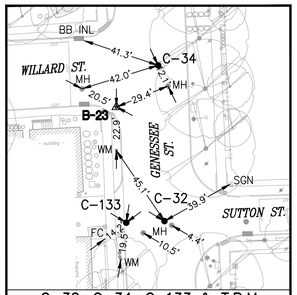
SURVEY CONTROL MAP
(SHEET 4 OF 7)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
SHEET NO. OF	

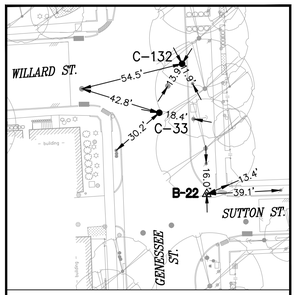
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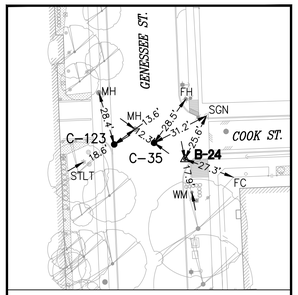
C-29, C-31, C-138



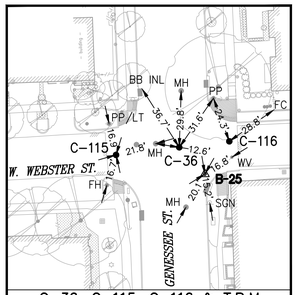
C-32, C-34, C-133 & T.B.M. B-23



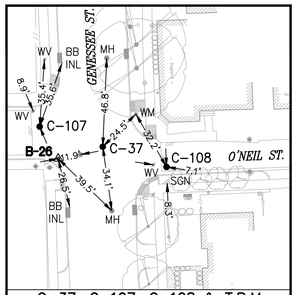
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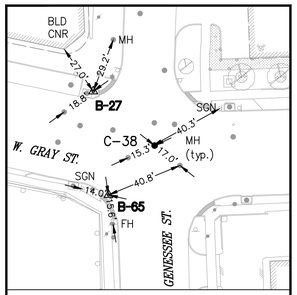
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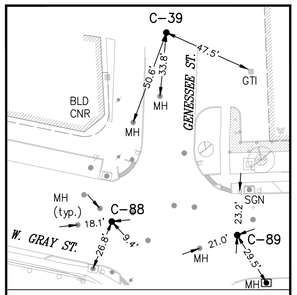
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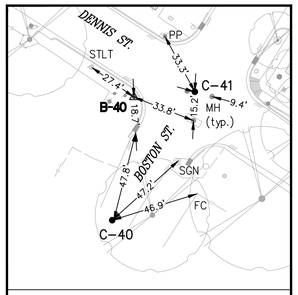
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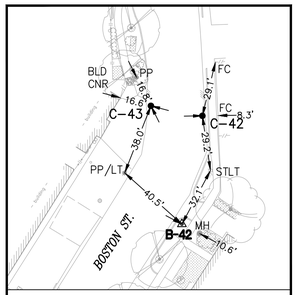
C-38 & T.B.M. B-27, B-65



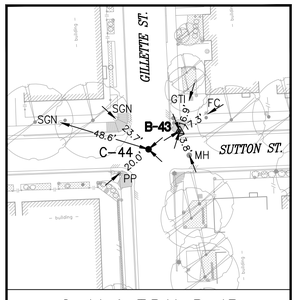
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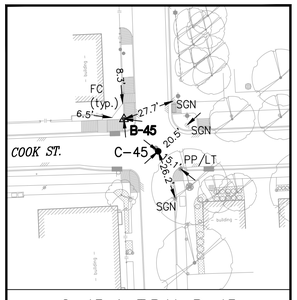
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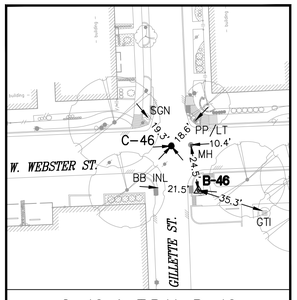
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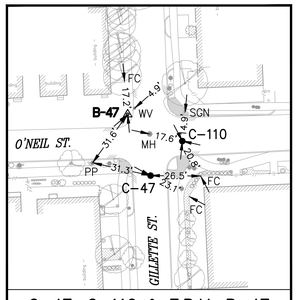
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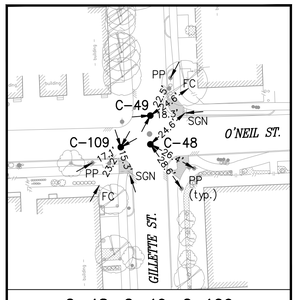
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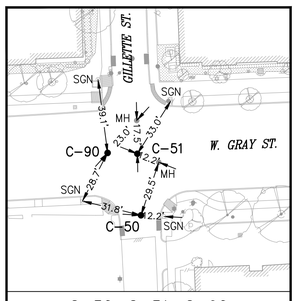
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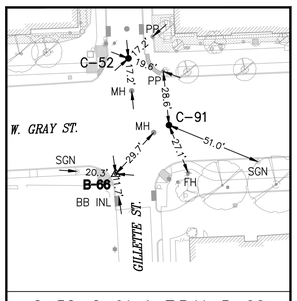
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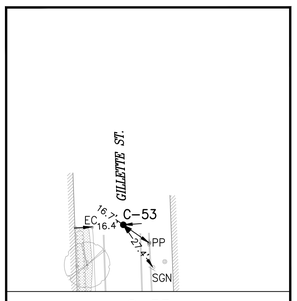
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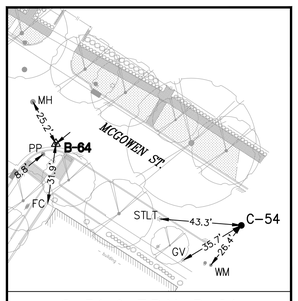
C-50, C-51, C-90



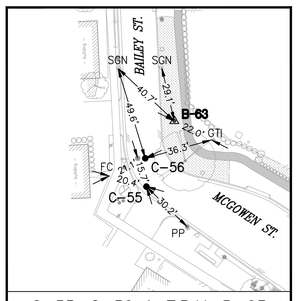
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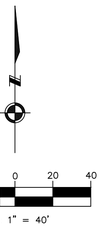
C-53



C-54 & T.B.M. B-64



C-55, C-56 & T.B.M. B-63



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
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ABBREVIATIONS

BB INL – BB INLET
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PP – POWER POLE
PP/LT – POWER POLE W/LIGHT
STLT – STREET LIGHT
WM – WATER METER

NO.	DATE	REVISION	APP.

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1225 North Loop West
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

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TBPELS Engineering Firm Reg. No. F-4578
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SURVEYED BY: KUO & ASSOC.
FB NO.

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KUTUBUL A. M. MAINUDDIN, R.P.L.S.
TEXAS REG. NO.: 6404
ON 10/04/2024
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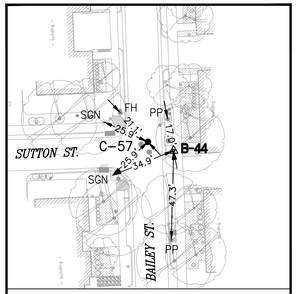
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

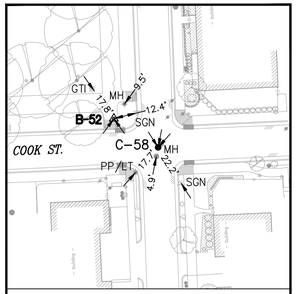
SURVEY CONTROL MAP
(SHEET 5 OF 7)

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N-210008-0001-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
SHEET NO. OF	

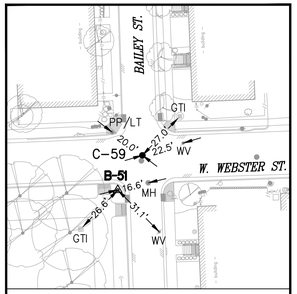
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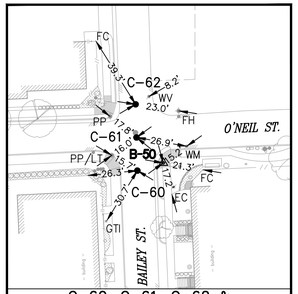
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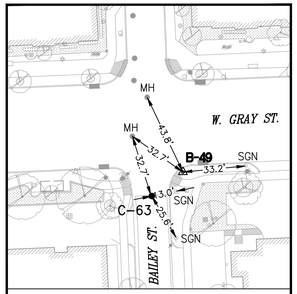
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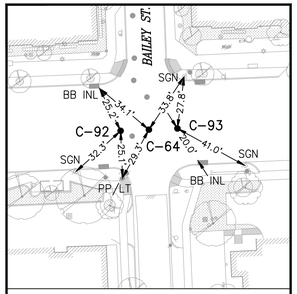
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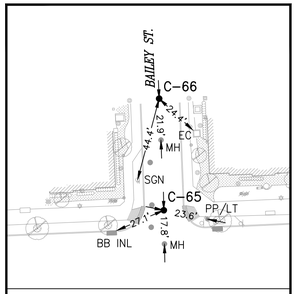
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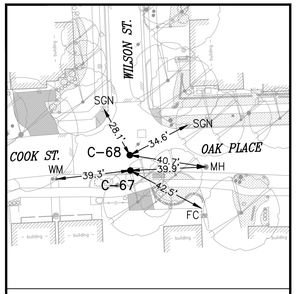
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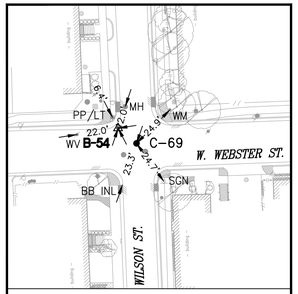
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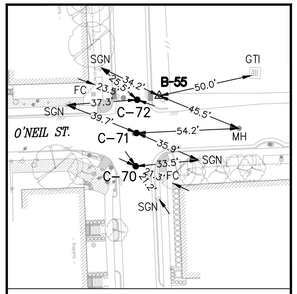
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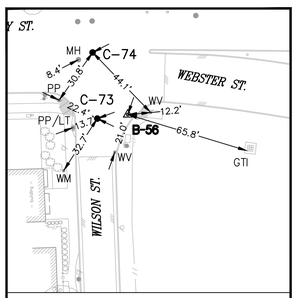
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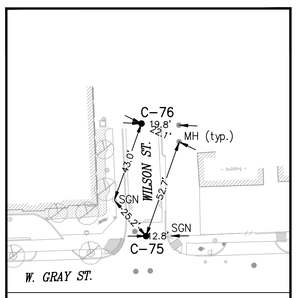
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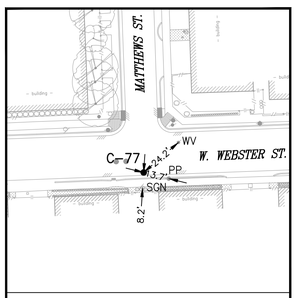
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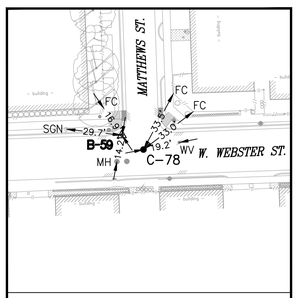
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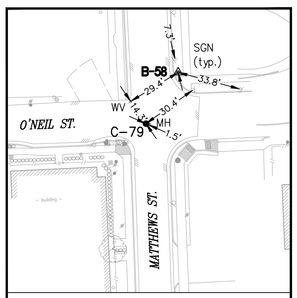
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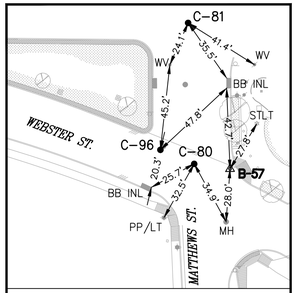
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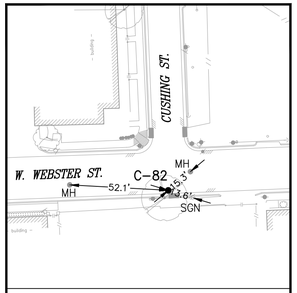
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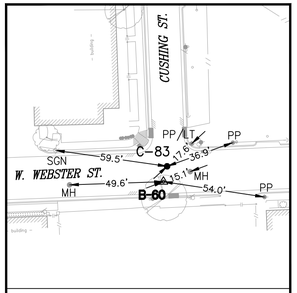
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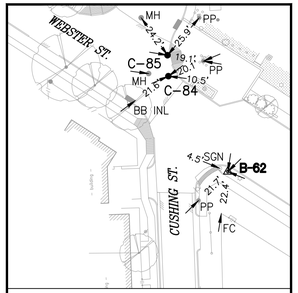
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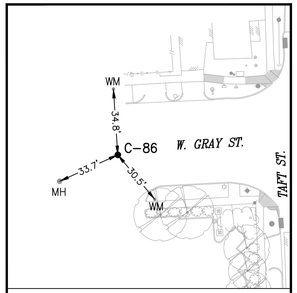
C-82



C-83 & T.B.M. B-60



C-84, C-85 & T.B.M. B-62



C-86



NO.	DATE	REVISION	APP.

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
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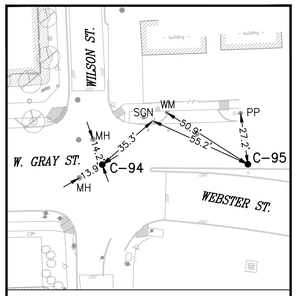
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

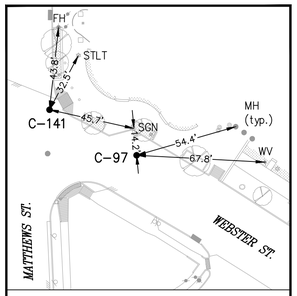
SURVEY CONTROL MAP
(SHEET 6 OF 7)

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N-210008-0001-3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
SHEET NO. OF	

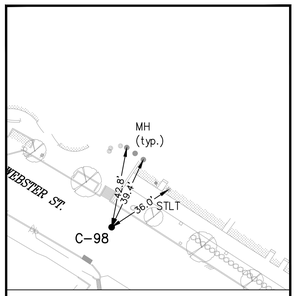
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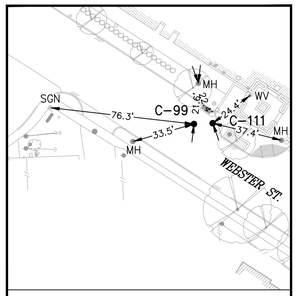
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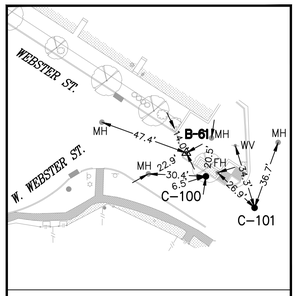
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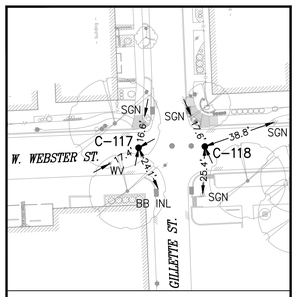
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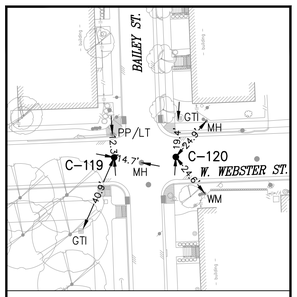
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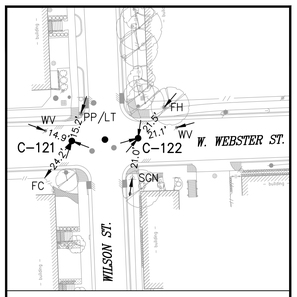
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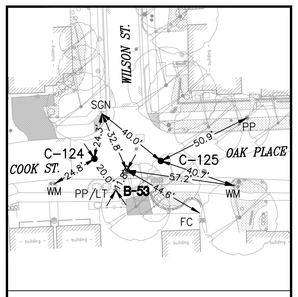
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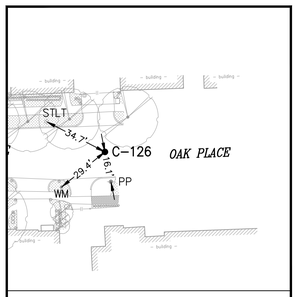
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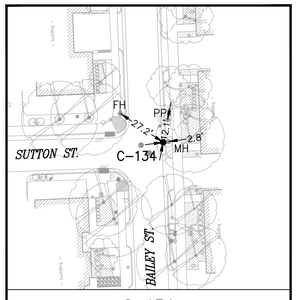
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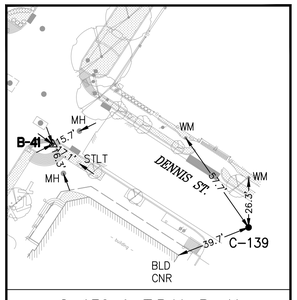
C-124, C-125 & T.B.M. B-53



C-126



C-134



C-139 & T.B.M. B-41



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY & TAFT AREA PAVING AND DRAINAGE

SURVEY CONTROL MAP
(SHEET 7 OF 7)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
SHEET NO. OF	

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NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator, Zone 15. The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Harris Galveston Area Council and was revised and enhanced by Harris County.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

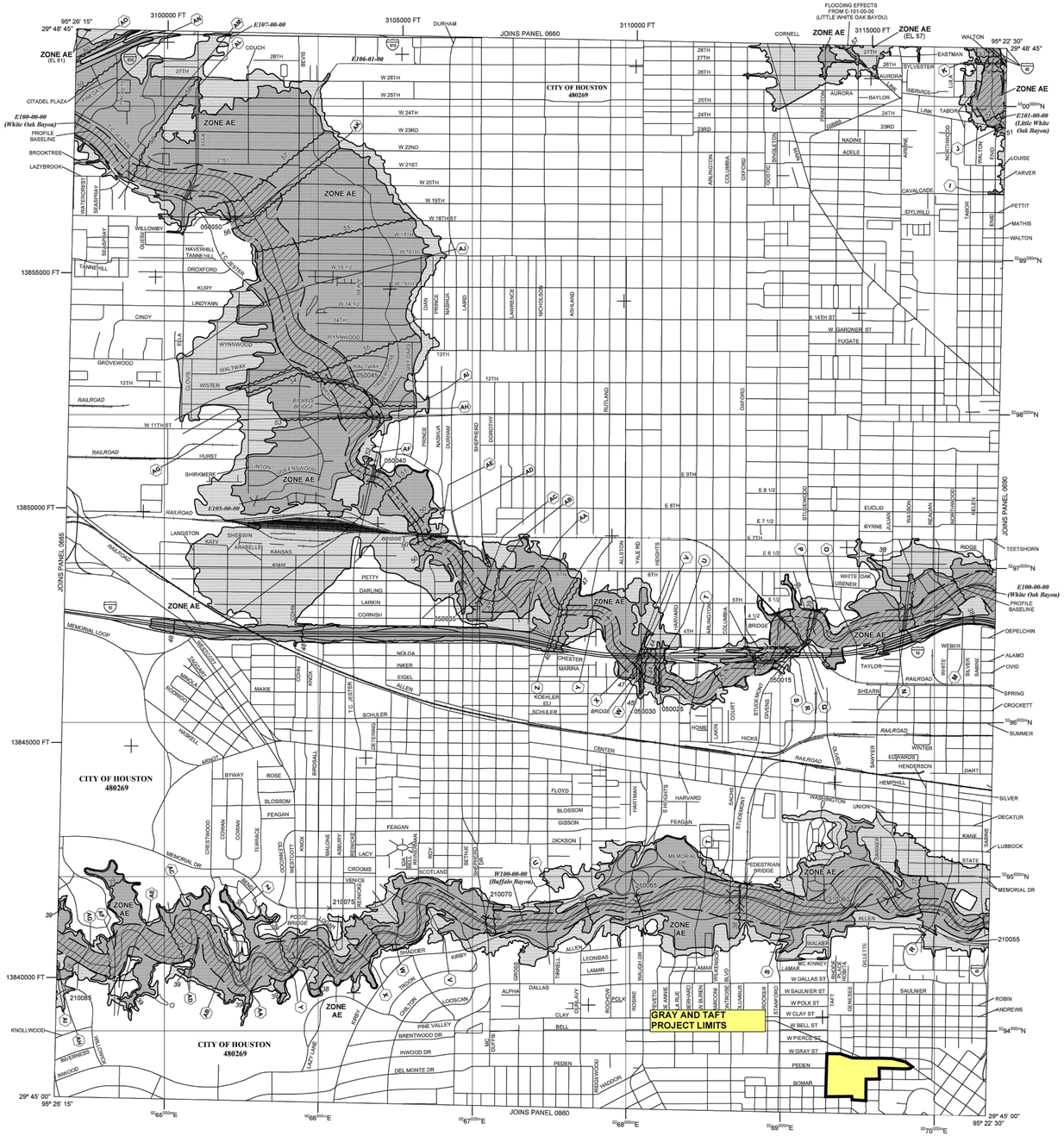
For information on available products associated with this FIRM visit the **FEMA Map Service Center** (MSC) website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

Vertical Datum Adjustment due to subsidence is the 2001 adjustment.

Benchmarks shown on this map were provided by either Harris County or the National Geodetic Survey. To obtain elevation, description, and location information for benchmarks provided by Harris County, please contact the Permits Office of the Public Infrastructure Department at (713) 956-3000 or visit their website at http://www.eng.hctx.net/permits. For information regarding the benchmarks provided by the National Geodetic Survey, please see note above.

Some bridges and other structures shown on the detailed studied streams are not labeled. See corresponding flood profile for appropriate name.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA Boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 — Base Flood Elevation line and value; elevation in feet*
(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*
*Referenced to the North American Vertical Datum of 1988
A — A — Cross section line
23 — 23 — Transect line
Culvert, Flume, Penstock or Aqueduct
Road or Railroad Bridge
Footbridge
97° 07' 30", 32° 22' 30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
3276000 mE — 1000-meter Universal Transverse Mercator grid values, zone 15
600000 FT — 5000-foot grid ticks: Texas State Plane coordinate system, zone South Central (FIPSZONE 4204), Lambert Conformal Conic Projection
DX5510 X — Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL
SEPTEMBER 28, 1990

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
SEPTEMBER 30, 1992
NOVEMBER 6, 1996
APRIL 20, 2000
JUNE 18, 2007
OCTOBER 16, 2013
JUNE 9, 2014

For accompanying Reasons for Revision, refer to the Notice to Flood Insurance Study Users page in the Flood Insurance Study report.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0670M

FIRM

FLOOD INSURANCE RATE MAP

HARRIS COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 670 OF 1150

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

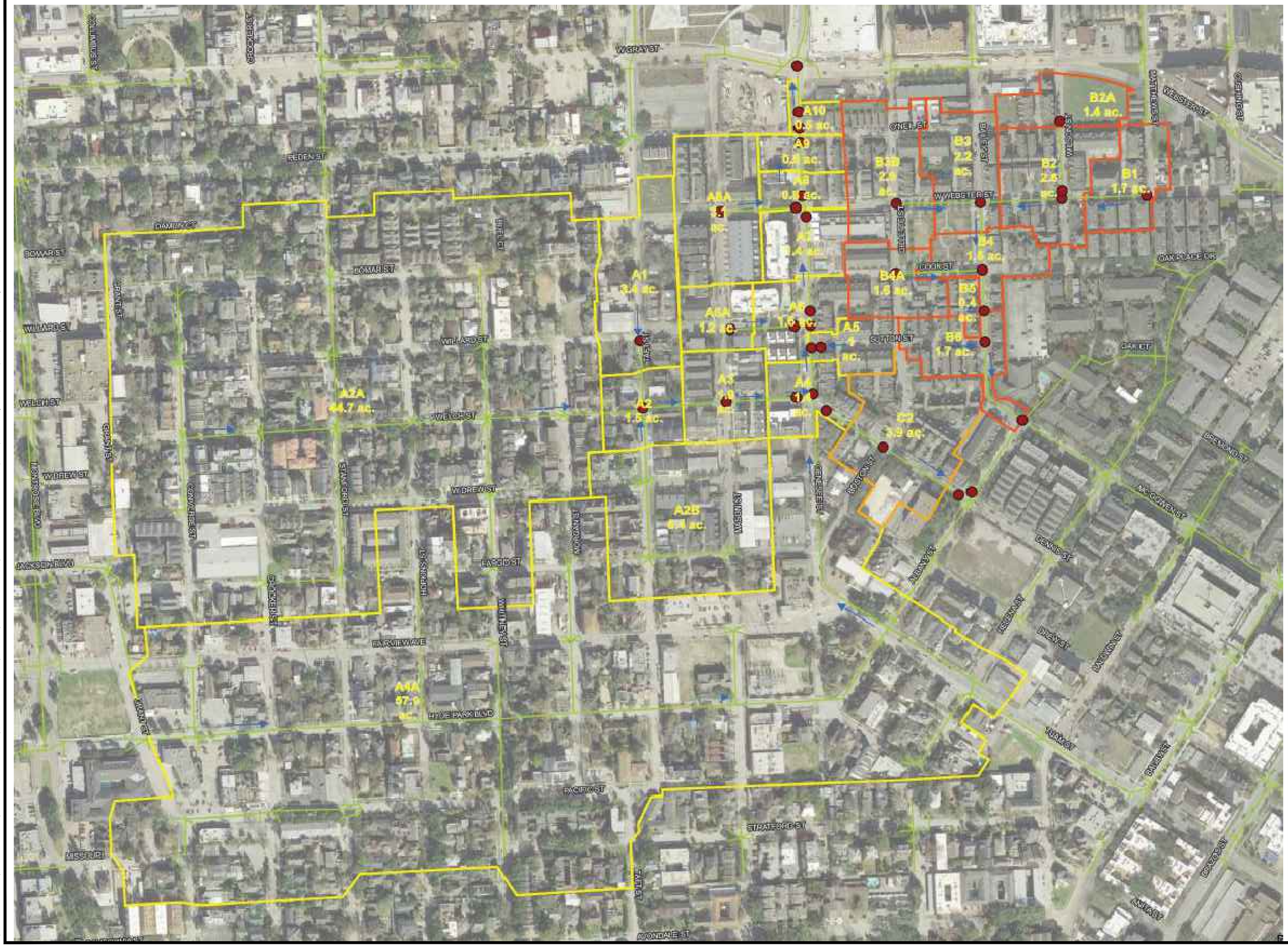
COMMUNITY	NUMBER	PANEL	SUFFIX
HOUSTON, CITY OF	480296	0670	M

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48201C0670M

MAP REVISED
JUNE 9, 2014

Federal Emergency Management Agency



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TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

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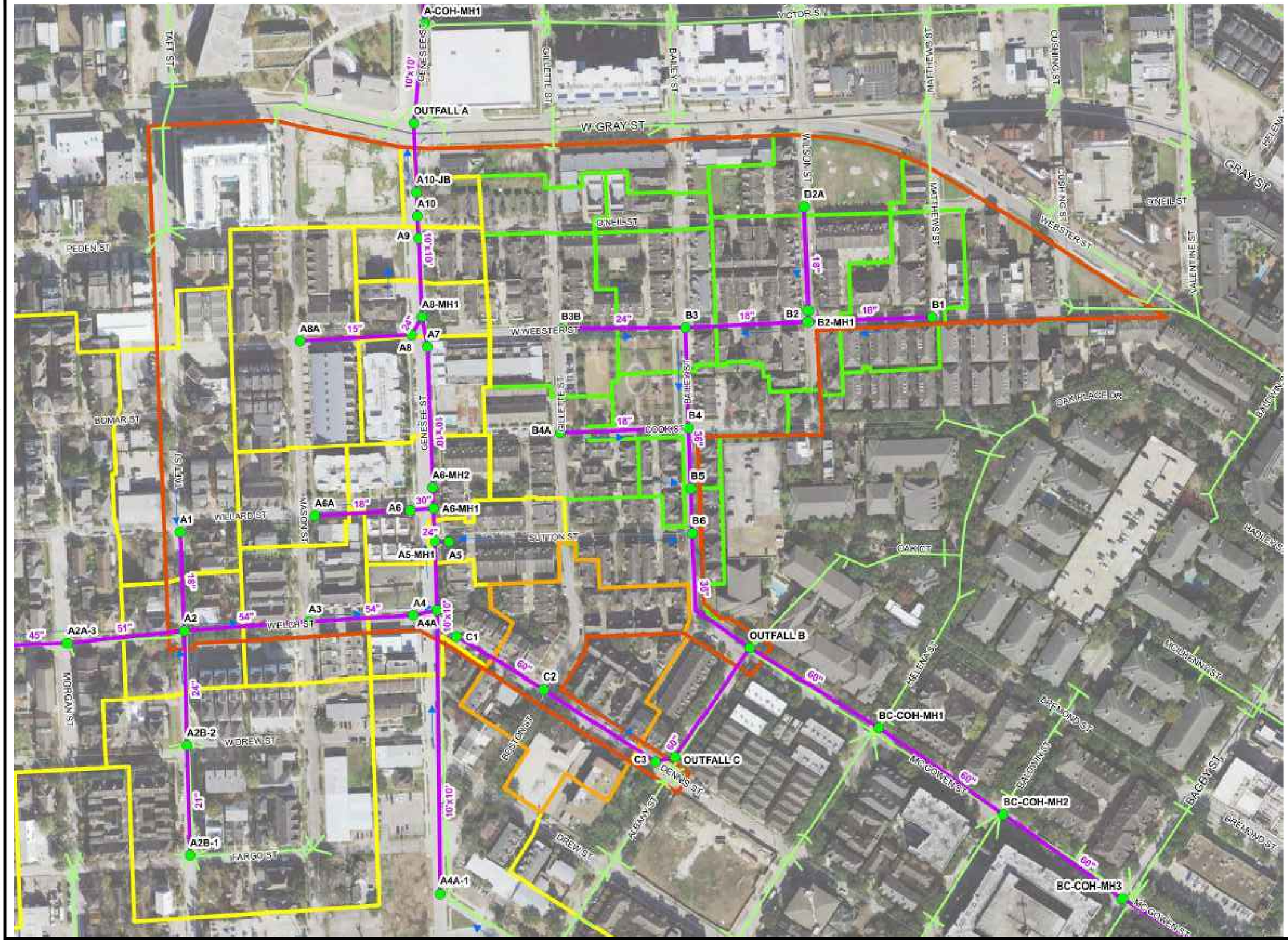
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

EXISTING DRAINAGE AREA MAP

WBS#:	N-210008-0001-3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\005 SUBMITTAL PLAN SET\7_EXISTING DRAINAGE AREA MAP.DWG[DRUMPSAVED:Monday, March 02, 2026][CDH_KAI.CTB]PLOTTED:Monday, March 02, 2026



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

EXISTING DRAINAGE SYSTEM

WBS#:	N-210008-0001-3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\7_EXISTING DRAINAGE SYSTEM.DWG\DRAINAGE SYSTEM-DWG\DRAINAGE SYSTEM-PLOTTED-Monday, March 02, 2026

ID	C Value	Area (acre)	Tc (min)	Intensity (in/hr)		Total Q (cfs)	
				2yr	100yr	2yr	100yr
A1	0.693	3.41	27.41	3.57	8.16	8.44	19.28
A10	0.713	0.48	23.79	3.85	8.75	1.32	2.99
A2	0.704	1.53	25.77	3.69	8.41	3.97	9.03
A2A	0.693	44.74	32.20	3.27	7.52	101.32	233.32
A2B	0.718	6.35	28.85	3.47	7.95	15.84	36.27
A3	0.719	1.91	26.20	3.66	8.34	5.02	11.43
A4	0.697	1.43	25.65	3.70	8.43	3.69	8.41
A4A	0.743	57.91	37.20	3.01	6.98	129.33	300.41
A5	0.693	1.03	25.06	3.75	8.53	2.69	6.11
A6	0.711	1.61	25.87	3.68	8.40	4.21	9.58
A6A	0.738	1.19	25.32	3.73	8.49	3.28	7.48
A7	0.689	1.44	25.66	3.70	8.43	3.66	8.35
A8	0.718	0.81	24.64	3.78	8.60	2.21	5.02
A8A	0.721	3.11	27.21	3.59	8.12	8.04	18.36
A9	0.758	0.78	24.58	3.79	8.61	2.25	5.12
B1	0.629	1.68	25.96	3.68	8.38	3.88	8.85
B2	0.678	2.65	26.87	3.61	8.24	6.47	14.77
B2A	0.448	1.40	25.61	3.70	8.44	2.32	5.29
B3	0.610	2.16	26.46	3.64	8.30	4.81	10.97
B3B	0.65	2.87	27.04	3.60	8.21	6.72	15.33
B4	0.585	1.53	25.78	3.69	8.41	3.31	7.53
B4A	0.631	1.63	25.09	3.68	8.39	3.79	8.64
B5	0.573	0.38	23.42	3.88	8.82	0.84	1.90
B6	0.684	1.68	25.96	3.68	8.38	4.23	9.64
C2	0.690	3.93	27.73	3.55	8.11	9.62	21.99

Node US	Node DS	FlowLine US (ft)	Elev.DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n value
A1	A2	43.77	40.24	Cir 1	0	1.5	221	1.597	0.014
A2	A3	37.77	36.81	Cir 1	0	4.5	275	0.349	0.013
A3	A4	36.19	35.68	Cir 1	0	4.5	230	0.222	0.013
A4	A4A	31.23	30.50	Cir 1	0	4.5	45	1.622	0.013
A4A	A5-MH1	25.62	25.53	Box 1	10	10	130	0.069	0.015
A5-MH1	A6-MH1	25.53	25.48	Box 1	10	10	74	0.068	0.015
A6-MH1	A6-MH2	25.48	25.43	Box 1	10	10	68	0.074	0.015
A6	A6-MH1	41.77	41.25	Cir 1	0	2.5	44	1.182	0.013
A6A	A6	43.08	42.51	Cir 1	0	1.5	210	0.271	0.013
A6-MH2	A7	25.43	25.23	Box 1	10	10	284	0.07	0.015
A7	A8-MH1	25.23	25.19	Box 1	10	10	67	0.06	0.015
A8-MH1	A9	25.19	25.07	Box 1	10	10	171	0.07	0.015
A8	A8-MH1	43.11	42.74	Cir 1	0	2	40	0.925	0.013
A8A	A8	45.34	43.48	Cir 1	0	1.25	246	0.756	0.014
A9	A10	25.07	25.02	Box 1	10	10	82	0.061	0.015
A10	A10-JB	25.02	24.96	Box 1	10	10	67	0.09	0.015
A10-JB	OUTFALL A	24.96	24.85	Box 1	10	10	150	0.073	0.015
B1	B2-MH1	42.60	41.66	Cir 1	0	1.5	273	0.344	0.013
B2-MH1	B3	41.39	40.27	Cir 1	0	1.5	272	0.412	0.013
B2	B2-MH1	42.04	41.88	Cir 1	0	1.5	25	0.64	0.013
B2A	B2	42.34	42.04	Cir 1	0	1.5	228	0.132	0.013
B3	B4	38.89	38.52	Cir 1	0	3	214	0.173	0.013
B3B	B3	44.38	40.50	Cir 1	0	2	274	1.416	0.014
B4	B5	38.52	38.56	Cir 1	0	3	134	-0.03	0.013
B4A	B4	43.30	42.38	Cir 1	0	1.5	283	0.325	0.013
B5	B6	38.21	37.78	Cir 1	0	3	100	0.43	0.013
B6	OUTFALL B	37.78	37.45	Cir 1	0	3	320	0.103	0.013
C1	C2	35.32	35.01	Cir 1	0	5	222	0.14	0.013
C2	C3	35.01	34.68	Cir 1	0	5	294	0.112	0.013
C3	OUTFALL C	34.68	34.57	Cir 1	0	5	44	0.25	0.013
A5	A5-MH1	43.72	43.60	Cir 1	0	2	39	0.308	0.013
OUTFALL A	*A-COH-MH1	24.85	*24.73	Box 1	10	10	220	0.055	0.015
OUTFALL B	*BC-COH-MH1	32.82	*32.65	Cir 1	0	5	332	0.051	0.013
OUTFALL C	*OUTFALL B	34.57	*32.82	Cir 1	0	5	290	0.603	0.013

*DS node and results are part of 2000' extension as mandated by COH Design Standards.

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

EXISTING SYSTEM A, B, AND C
HYDRAULIC DATA - 2 & 100 YEARS

SHEET 1 OF 2

WBS#: N-210008-0001-3
DRAWING SCALE:
NOT TO SCALE
CITY OF HOUSTON PM
OMAR ABDULKAREEM, P.E.
DRAWING NO:
SHEET NO. OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\19_EXISTING SYSTEM A_B_&C HYDRAULIC DATA_2 AND 100 YEARS SHEET - 10F2.DWG[YLIK(SAVED: Tuesday, March 03, 2026|COH_KAI.CTB|PLOTTED: Tuesday, March 03, 2026

Name	Hyd. Gr. Line US (ft)		Hyd. Gr. Line DS (ft)		Crit. Elev US (ft)		Slope (%)	Depth		Velocity				Q (cfs)		Cap (cfs)	
										Design		Actual					
	2 yr	100 yr	2yr	100 yr	2 yr	100 yr		2 yr	100 yr	2 yr	100 yr	2 yr	100 yr	2 yr	100 yr	2 yr	100 yr
eL-A1	45.346	49.801	43.483	49.152	44.886	45.092	1.597	3.243	8.912	7.510	7.510	6.360	6.940	8.340	12.450	13.280	13.280
eL-A2	43.483	49.152	41.427	47.890	40.928	41.054	0.349	5.713	11.382	7.310	7.310	7.230	8.040	115.370	128.760	116.190	116.190
eL-A3	41.427	47.889	38.909	46.345	39.419	39.575	0.222	5.237	11.699	5.820	5.820	7.430	8.530	120.360	136.440	92.600	92.600
eL-A4	37.772	46.345	36.292	45.136	34.505	34.680	1.622	6.542	15.115	15.750	15.750	7.750	8.860	123.870	142.090	250.470	250.470
eL-A4A	36.292	45.137	36.433	44.676	28.320	29.347	0.069	10.903	19.517	4.800	4.800	-3.680	-4.160	252.170	410.210	480.140	480.140
eL-A5-Mh1	36.434	44.676	36.268	44.232	28.299	29.296	0.068	10.904	19.146	4.740	4.740	-3.430	4.150	264.720	417.240	474.340	474.340
eL-A6-MH1	36.268	44.231	35.924	43.753	28.254	29.366	0.074	10.788	18.751	4.950	4.950	-3.300	4.350	279.790	436.400	498.820	494.820
eL-A6	42.784	44.559	41.945	44.231	42.681	43.173	10182.000	1.014	2.981	9.080	9.080	4.210	4.850	7.540	17.560	44.590	44.590
eL-A6A	44.025	46.043	43.198	44.559	43.768	44.142	0.271	0.945	2.963	3.100	3.100	2.880	4.240	3.260	7.530	5.470	5.470
eL-A6-MH2	35.923	43.753	35.529	43.322	28.182	29.307	0.070	10.493	18.323	4.840	4.840	-3.650	4.360	260.560	437.610	484.260	484.260
eL-A7	35.530	43.322	35.327	43.027	27.979	29.168	0.060	10.300	18.092	4.460	4.460	-4.340	-4.890	263.820	445.180	445.880	445.880
eL-A8-MH1	35.327	43.024	35.105	42.809	27.989	29.163	0.070	10.137	17.834	4.830	4.830	-3.820	4.520	271.870	453.630	483.410	483.410
eL-A8	44.475	44.761	43.653	43.817	44.196	44.369	0.925	1.365	1.651	6.930	6.930	4.230	4.610	9.290	12.300	21.760	21.760
eL-A8A	49.180	49.774	44.568	44.761	46.428	46.452	0.756	3.840	4.434	4.250	4.250	6.080	6.440	7.490	7.980	5.220	5.220
eL-A9	35.105	42.808	34.912	43.747	27.887	29.074	0.061	10.035	18.727	4.510	4.510	-4.270	-4.790	272.110	454.650	450.610	450.610
eL-A10	34.912	43.749	34.719	42.602	27.851	29.051	0.090	9.892	18.729	5.460	5.460	-3.860	4.800	272.750	482.270	546.080	546.080
eL-A10-JB	34.719	42.602	34.502	40.778	27.793	29.124	0.073	9.759	17.642	4.940	4.940	-4.110	4.930	272.070	498.620	494.160	494.160
eL-B1	48.200	49.366	47.751	49.359	43.350	43.743	0.344	6.091	7.699	3.490	3.490	2.660	5.000	3.880	9.000	6.160	6.160
eL-B2-MH1	47.751	49.359	43.088	48.040	42.712	42.800	0.412	6.361	7.969	3.810	3.810	6.880	8.590	12.390	15.520	6.740	6.740
eL-B2	48.424	49.368	47.751	49.359	43.160	43.209	0.640	6.384	7.479	4.760	4.760	4.790	6.450	8.640	11.650	8.400	8.400
eL-B2A	48.561	49.647	48.424	49.368	42.908	43.102	0.132	6.384	7.328	2.160	2.160	1.330	2.200	2.390	3.970	3.810	3.810
eL-B3	43.088	48.040	42.557	47.198	40.459	40.680	0.173	4.198	9.150	3.920	3.920	3.360	4.290	23.830	30.670	27.730	27.730
eL-B3B	45.169	49.592	43.088	48.040	45.298	45.733	1.416	2.588	7.540	7.960	7.960	5.770	5.530	6.760	14.320	25.000	25.000
eL-B4	42.557	47.198	41.849	45.575	38.520	38.521	-0.030	3.997	8.638	1.630	1.630	4.330	6.500	30.800	46.500	11.520	11.520
eL-B4A	44.278	49.622	43.119	47.198	44.038	44.442	0.325	0.978	6.322	3.390	3.390	3.170	4.830	3.750	8.710	5.990	5.990
eL-B5	41.849	45.575	41.220	43.981	40.032	40.475	0.430	3.639	7.365	6.190	6.190	4.330	6.790	31.640	48.400	43.740	43.740
eL-B6	41.220	43.981	39.393	39.907	39.721	40.237	0.103	3.440	6.201	3.030	3.030	5.000	8.220	35.740	57.720	21.420	21.420
eL-C1	36.242	37.292	36.238	37.292	35.378	35.616	0.140	1.228	2.282	4.960	4.960	0.170	0.510	-0.190	1.320	97.320	97.320
eL-C2	36.238	37.292	35.861	37.072	35.841	36.273	0.112	1.228	2.392	4.440	4.440	2.500	2.590	9.290	21.180	87.260	87.260
eL-C3	35.861	37.072	35.612	36.938	35.501	35.941	0.250	1.181	2.392	6.630	6.630	2.780	2.750	9.170	21.000	130.220	130.220
eL-A5	44.485	44.995	44.171	44.676	44.290	44.603	0.308	0.765	1.275	3.990	3.990	2.520	3.200	2.690	6.240	12.550	12.550

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

EXISTING SYSTEM A, B, AND C
HYDRAULIC DATA - 2 & 100 YEARS

SHEET 2 OF 2

WBS#: N-210008-0001-3

DRAWING SCALE:

NOT TO SCALE

CITY OF HOUSTON PM

OMAR ABDULKAREEM, P.E.

DRAWING NO:

SHEET NO. OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\80E SUBMITTAL PLAN SET\20_EXISTING SYSTEM A_B_&C HYDRAULIC DATA_2 AND 100 YEARS SHEET 2OF2.DWG[CORUMP]SAVED:Monday, March 02, 2026[COH_KAI.CTB]PLOTTED: Tuesday, March 03, 2026

ID	C Value	Area (acre)	Tc (min)	Intensity (in/hr)		Total Q (cfs)	
				2yr	100yr	2yr	100yr
A1	0.693	3.41	27.41	3.57	8.16	8.44	19.28
A10	0.713	0.48	23.79	3.85	8.75	1.32	2.99
A2	0.704	1.53	35.10	3.11	7.20	3.34	7.73
A2A	0.693	44.74	32.20	3.27	7.52	101.32	233.32
A2B	0.718	6.35	28.85	3.47	7.95	15.84	36.27
A3	0.720	1.98	26.27	3.65	8.33	5.20	11.85
A4	0.697	1.43	25.65	3.70	8.43	3.69	8.41
A4A	0.743	57.90	37.20	3.01	6.98	129.31	300.36
A5	0.696	1.03	25.06	3.75	8.53	2.70	6.14
A6	0.709	1.54	25.79	3.69	8.41	4.02	9.16
A6A	0.738	1.19	25.32	3.73	8.49	3.28	7.48
A7	0.689	1.44	25.66	3.70	8.43	3.66	8.35
A8	0.718	0.81	24.64	3.78	8.60	2.21	5.02
A8A	0.721	3.11	27.21	3.59	8.19	8.04	18.36
A9	0.758	0.78	24.58	3.79	8.61	2.25	5.12
B1	0.629	1.68	25.96	3.68	8.38	3.88	8.85
B2	0.678	2.65	26.87	3.61	8.24	6.47	14.77
B3	0.586	1.65	25.93	3.68	8.39	3.57	8.12
B3A	0.691	0.51	23.88	3.84	8.73	1.35	3.08
B3A1	0.778	0.75	24.51	3.79	8.62	2.21	5.03
B3A2	0.448	1.40	25.61	3.70	8.44	2.32	5.29
B3B	0.605	2.12	26.42	3.64	8.31	4.68	10.67
B4	0.582	1.53	25.78	3.69	8.41	3.29	7.50
B4A	0.629	1.63	25.90	3.68	8.39	3.79	8.63
B5	0.573	0.38	23.42	3.88	8.82	0.84	1.90
B6	0.684	1.68	25.96	3.68	8.38	4.23	9.63
C2	0.690	3.93	27.24	3.58	8.18	9.71	22.18

Node US	Node DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n value
A1	A2	40.845	39.740	Cir 1	0	2	221	0.5	0.013
A10	A10-JB	25.020	24.960	Box 1	10	10	67	0.09	0.015
A10-JB	OUTFALL A	24.960	24.850	Box 1	10	10	150	0.073	0.015
A2	A3	33.200	32.240	Cir 1	0	4.5	275	0.349	0.013
A3	A4	31.740	31.230	Cir 1	0	5	230	0.222	0.013
A4	A4A	31.230	30.500	Cir 1	0	4.5	45	0.7	0.013
A4A	A5-MH1	25.620	25.530	Box 1	10	10	130	0.069	0.015
A5	A5-MH1	43.686	43.600	Cir 1	0	2	39	0.22	0.013
A5-MH1	A6-MH1	25.530	25.480	Box 1	10	10	74	0.068	0.015
A6	A6-MH1	42.240	42.156	Cir 1	0	2.5	52	0.162	0.013
A6A	A6	43.080	42.740	Cir 1	0	2.5	210	0.162	0.013
A6-MH1	A56-MH2	25.480	25.430	Box 1	10	10	68	0.074	0.015
A6-MH2	A7	25.430	25.230	Box 1	10	10	284	0.07	0.015
A7	A8-MH1	25.230	25.190	Box 1	10	10	67	0.06	0.015
A8	A8-MH1	43.304	43.216	Cir 1	0	2	40	0.22	0.013
A8A	A8-MH1	45.164	43.304	Cir 1	0	2	246	0.22	0.013
A8-MH1	A9	25.190	25.070	Box 1	10	10	171	0.07	0.015
A9	A10-JB	25.070	25.020	Box 1	10	10	82	0.061	0.015
B1	B2MH1	37.970	37.270	Cir 1	0	2.5	273	0.256	0.013
B2	B2MH1	38.830	38.770	Cir 1	0	2	25	0.24	0.013
B2MH1	B3	37.270	36.570	Cir 1	0	2.5	272	0.259	0.013
B3	B4	35.570	35.140	Cir 1	0	3.5	214	0.201	0.013
B3A	B3	36.060	35.570	Cir 1	0	3.5	246	0.199	0.013
B3A1	B3A	38.080	37.520	Cir 1	0	2	282	0.199	0.013
B3A2	B3A	38.390	37.520	Cir 1	0	2	273	0.318	0.013
B3B	B3	37.140	36.570	Cir 1	0	2.5	274	0.208	0.013
B4	B5	35.140	34.870	Cir 1	0	3.5	134	0.201	0.013
B4A	B4	37.440	36.640	Cir 1	0	2	283	0.283	0.013
B5	B6	34.870	34.690	Cir 1	0	3.5	100	0.18	0.013
B6	OUTFALL B	34.690	34.320	Cir 1	0	3.5	320	0.116	0.013
C1	C2	35.320	35.010	Cir 1	0	5	222	0.14	0.013
C2	C3	35.010	34.680	Cir 1	0	5	294	0.112	0.013
C3	OUTFALLC	34.680	34.570	Cir 1	0	5	44	0.25	0.013
OUTFALL A	*A-COH-MH1	24.850	*24.73	Box 1	10	10	220	0	0.015
OUTFALLB	*BC-COH-MH1	32.820	*32.65	Cir 1	0	5	332	0.051	0.013
OUTFALL C	*OUTFALL B	34.570	*32.82	Cir 1	0	5	290	0.603	0.013

*DS node and results are part of 2000' extension as mandated by COH Design Standards

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TX Firm 18572

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

PROPOSED SYSTEM A, B, AND C
HYDRAULIC DATA - 2 & 100 YEARS

SHEET 1 OF 2

WBS#: N-210008-0001-3
DRAWING SCALE:
NOT TO SCALE
CITY OF HOUSTON PM
OMAR ABDULKAREEM, P.E.
DRAWING NO:
SHEET NO. OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\21_PROPOSED SYSTEM A_B_&C HYDRAULIC DATA_2 AND 100 YEARS SHEET 10F2.DWG[BCRUMP]SAVED:Monday, March 02, 2026[KOH_KALCTB]PLOTTED:Tuesday, March 03, 2026

Name	Hyd. Gr. Line US (ft)		Hyd. Gr. Line DS (ft)		Crit. Elev US (ft)		Slope (%)	Depth		Velocity				Q (cfs)		Cap (cfs)	
										Design		Actual					
	2 yr	100 yr	2 yr	100 yr	2 yr	100 yr		2 yr	100 yr	2 yr	100 yr	2 yr	100 yr	2 yr	100 yr	2 yr	100 yr
pL-A1	42.06	49.56	40.764	47.717	41.872	42.365	0.5	1.215	8.715	5.9	5.09	4.26	5.77	8.33	18.49	16	16
pL-A10	34.737	41.802	34.552	41.258	27.786	29.083	0.09	9.717	16.782	5.46	5.46	-3.86	4.64	261.38	465.6	546.08	546.08
pL-A10-JB	34.522	41.257	34.349	40.658	27.724	25.023	0.073	9.592	16.297	4.94	4.94	-4.1	4.64	260.93	465.59	494.16	494.16
pL-A2	39.458	47.717	38.374	47.242	36.282	36.361	0.349	6.258	15.002	7.31	7.31	6.87	7.29	109.8	116.5	116.19	116.19
pL-A3	38.373	47.242	37.198	46.406	34.725	34.887	0.222	6.633	15.502	6.25	6.25	5.68	6.17	112.22	121.61	122.64	122.64
pL-A4	37.198	46.406	35.911	45.312	34.393	34.531	0.7	5.968	15.176	15.75	15.75	7.27	7.88	116.38	125.96	250.47	250.47
pL-A4A	35.911	45.313	35.758	44.872	28.222	29.324	0.069	10.291	19.693	4.8	4.8	-3.68	-4.13	241.58	405.13	480.14	480.14
pL-A5	44.472	45.11	44.171	44.872	44.257	44.563	0.22	0.786	1.425	3.38	3.38	2.43	3.09	2.69	6.23	10.61	10.61
pL-A5-MH1	35.759	44.872	35.611	44.446	28.147	29.271	0.068	10.229	19.342	4.47	4.74	-3.43	4.09	244.23	410.96	474.34	474.34
pL-A6	43.497	44.785	43.048	44.446	43.13	43.615	0.162	1.257	2.545	3.36	3.36	3.04	3.95	7.24	16.95	16.49	16.49
pL-A6A	43.913	44.965	43.497	44.785	43.673	43.976	0.162	0.833	2.045	3.36	3.36	2.32	2.46	3.28	7.71	16.5	16.5
pL-A6-MH1	35.611	44.446	35.461	43.989	28.147	29.313	0.074	10.131	18.966	4.95	4.65	-3.31	4.25	250.57	427.02	494.82	494.82
pL-A6-MH2	35.461	43.989	35.27	43.412	28.095	29.263	0.07	10.04	18.559	4.84	4.84	-3.65	4.25	248.87	427.04	484.26	484.26
pL-A7	35.27	43.413	36.1	42.938	27.915	29.114	0.06	10.04	18.183	4.46	4.46	-4.33	-4.82	250.87	435.54	445.88	445.88
pL-A8	44.939	46.604	44.337	44.909	44.423	44.997	0.22	1.635	3.3	3.38	3.38	3.7	7.24	9.82	22.62	10.61	10.61
pL-A8A	46.207	49.18	44.939	46.604	46.174	46.697	0.22	1.635	4.016	5.81	5.81	4.57	5.76	8.06	18.21	18.27	18.27
pL-A8-MH1	35.111	42.938	34.918	42.647	27.939	29.209	0.07	9.921	17.748	4.83	4.83	-3.82	4.56	259.54	458.11	483.41	483.41
pL-A9	34.918	42.347	34.737	41.801	27.828	29.115	0.061	9.848	17.277	4.51	4.51	-4.26	-4.78	260.49	462.61	450.61	450.61
pL-B1	38.995	47.98	41.971	47.778	38.606	28.965	0.256	1.563	10.508	4.23	4.23	2.27	2.36	3.8	8.93	20.77	20.77
pL-B2	40.117	48.36	42.059	47.778	39.738	40.204	0.24	1.287	9.53	3.53	3.53	3.2	4.6	6.59	14.8	11.08	11.08
pL-B2-MH1	38.833	47.778	41.519	46.433	38.327	38.918	0.259	1.801	10.508	4.24	4.24	3.32	4.72	10.1	23.65	20.87	20.87
pL-B3	38.371	46.433	41.273	45.136	36.991	37.862	0.201	2.987	10.863	4.69	4.69	2.61	5.51	21.64	53.71	45.1	45.1
pL-B3A	38.394	46.576	41.519	46.433	36.797	37.32	0.199	2.801	10.863	4.67	4.67	1.3	1.76	6.15	17.12	18.34	18.34
pL-B3A1	38.723	46.736	41.744	46.576	38.551	38.826	0.199	0.874	9.056	3.21	3.21	2.23	2.18	1.85	4.55	10.12	10.12
pL-B3A2	39.111	47.064	41.744	46.576	39.001	39.404	0.318	0.874	9.056	4.07	4.07	3.01	3.2	3.07	8.13	12.76	12.73
pL-B4B	38.481	46.715	41.519	46.433	37.846	38.231	0.208	1.801	9.863	3.81	3.81	2.46	2.31	4.6	10.66	10.32	10.32
pL-B4A	38.127	45.136	40.92	43.307	36.771	37.756	0.201	2.987	9.996	4.69	4.69	3.23	7.17	25.18	69.83	45.16	45.16
pL-B4A	38.417	45.709	41.677	45.136	38.122	38.488	0.283	1.487	8.496	3.83	3.83	2.77	2.8	3.71	8.7	12.03	12.03
pL-B5	37.776	43.306	40.529	41.579	36.529	37.519	0.18	2.906	8.436	4.44	4.44	3.43	7.38	29.03	71.61	42.69	42.69
pL-B6	37.388	41.579	39.237	38.134	36.47	37.498	0.116	2.698	6.889	3.56	3.56	4.33	8.37	33.11	80.99	34.21	34.21
pL-C1	36.251	38.299	36.244	38.3	35.383	35.536	0.14	1.236	3.29	4.96	4.96	0.19	0.29	-0.19	-0.99	97.32	97.32
pL-C2	36.246	38.3	35.839	38.222	35.848	36.271	0.112	1.236	3.542	4.44	4.44	2.54	2.63	9.513	20.998	87.26	87.26
pL-C3	35.839	38.222	35.547	38.174	35.51	35.955	0.25	1.159	3.604	6.63	6.63	2.84	2.78	9.415	21.534	130.22	130.22

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROPOSED SYSTEM A, B, AND C HYDRAULIC DATA - 2 & 100 YEARS

SHEET 2 OF 2

WBS#: N-210008-0001-3

DRAWING SCALE:

NOT TO SCALE

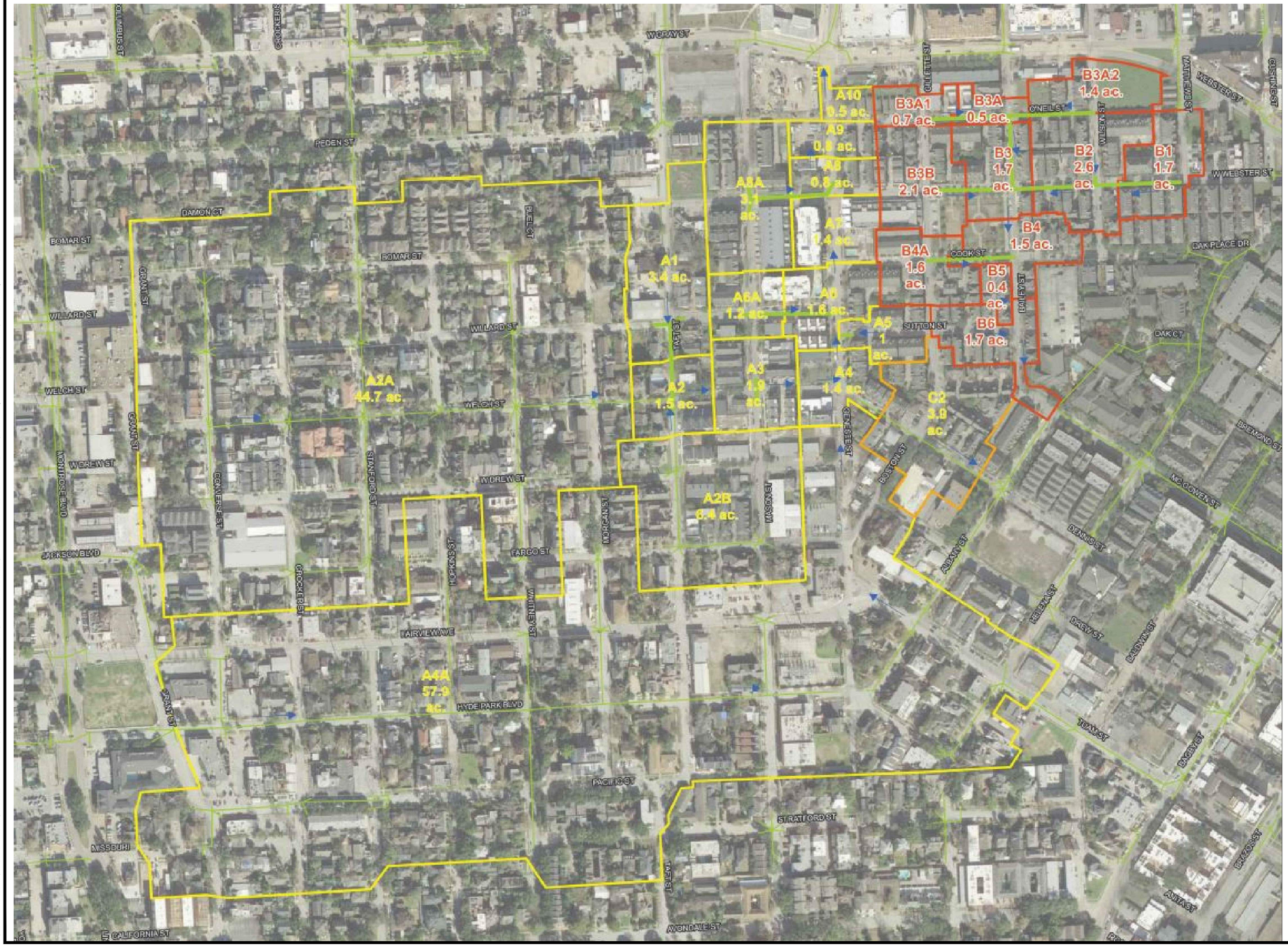
CITY OF HOUSTON PM

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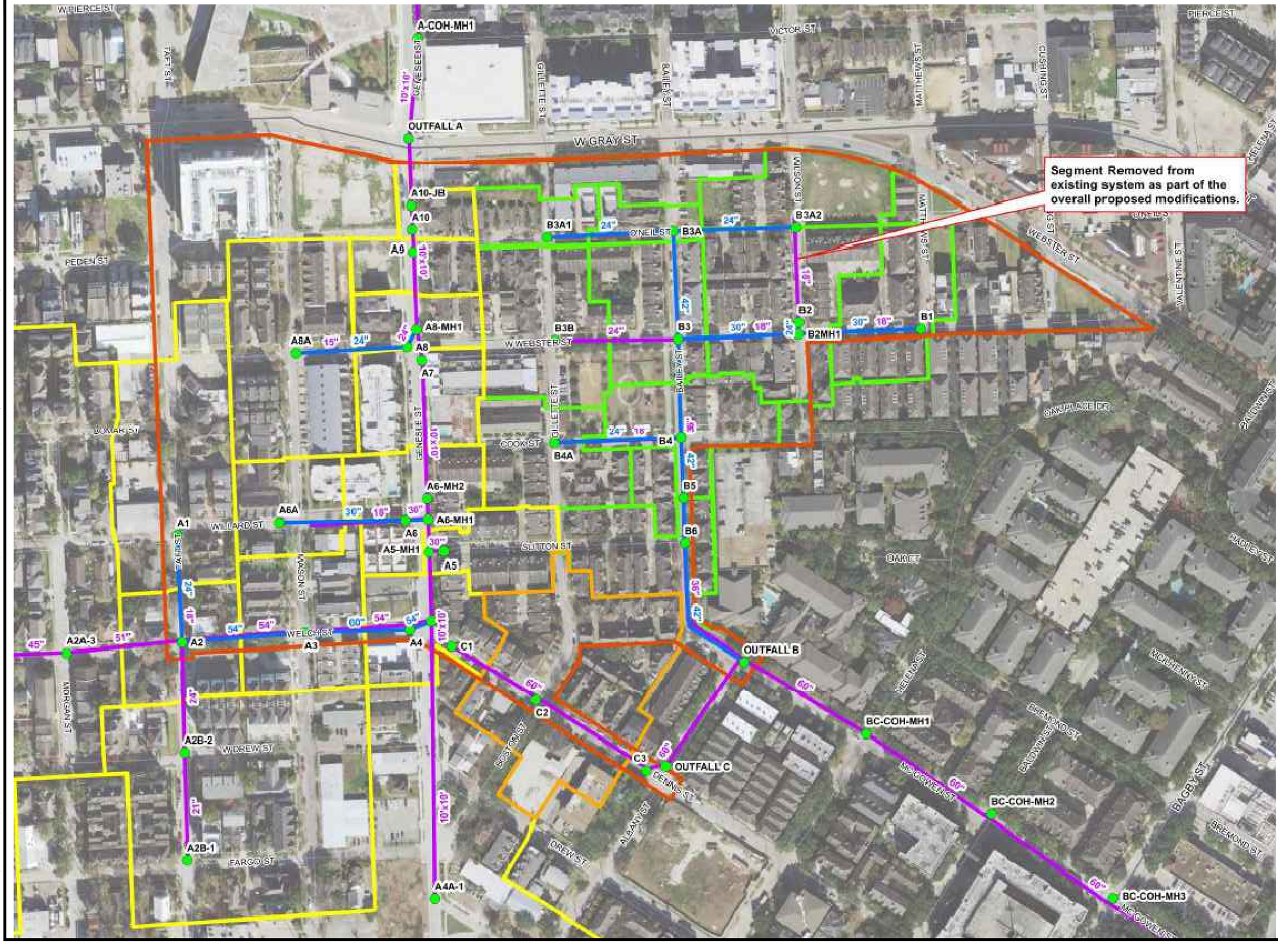
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROPOSED DRAINAGE AREA MAP

WBS#: N-210008-0001-3	
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CITY OF HOUSTON PM	
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PROPOSED DRAINAGE AREAS

- SYSTEM A
- SYSTEM B
- SYSTEM C

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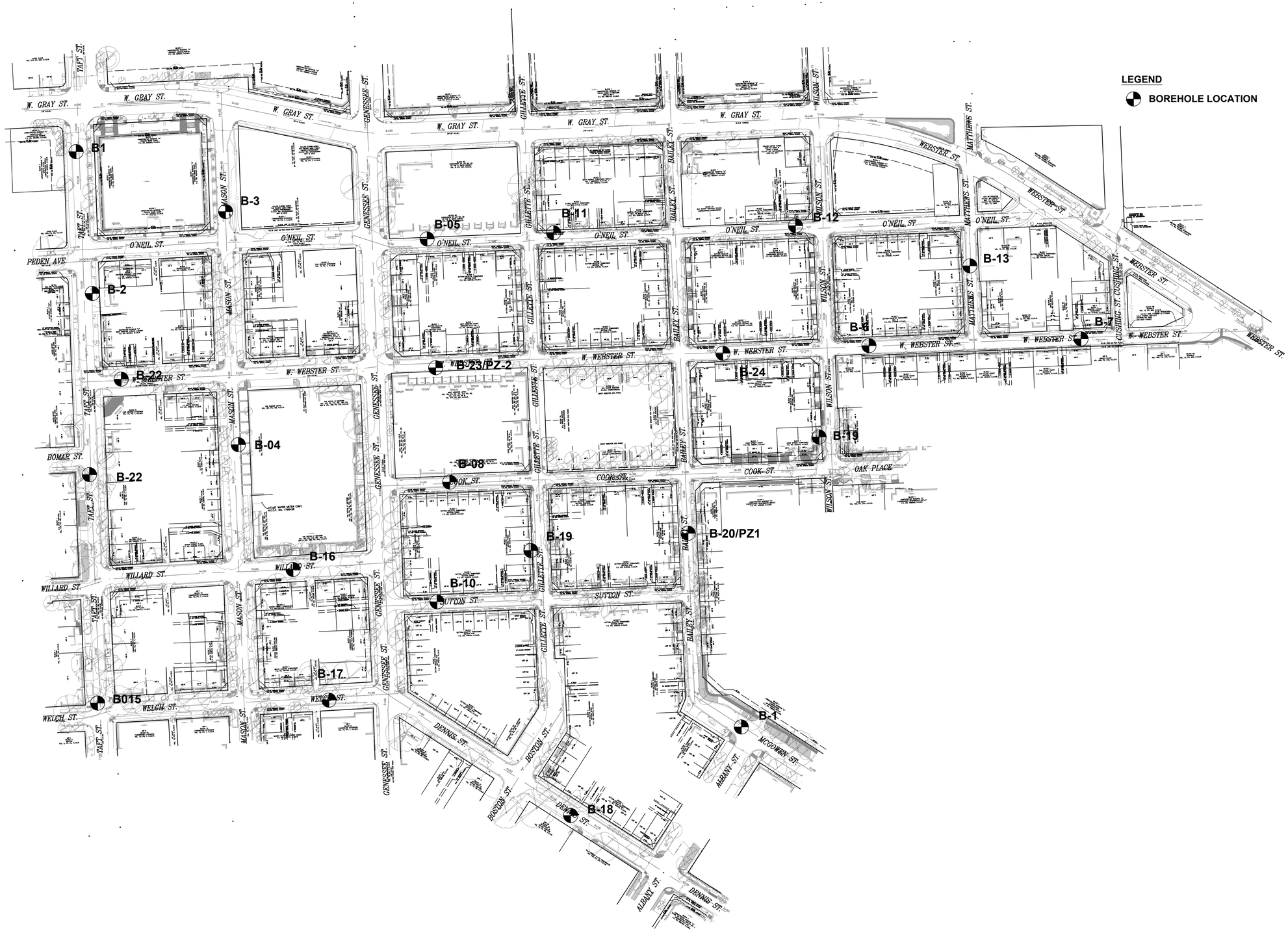
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROPOSED DRAINAGE SYSTEM

WBS#:	N-210008-0001-3
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CITY OF HOUSTON PM	
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STATE OF TEXAS
EDUARDO QUIROZ
85559
LICENSED
PROFESSIONAL ENGINEER

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

GEOTECHNICAL BORING LAYOUT AND LOCATION

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\25_GEOTECHNICAL BORING LAYOUT AND LOCATION.DWG|BORUMPISAVED: Tuesday, March 03, 2026|CH_KAL|CTB|PLOTTED: Tuesday, March 03, 2026

LOG OF BORING B-1

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13839112.05; E 3115132.791
Taft Street

COMPLETION DEPTH: 5 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 50.0 FT

DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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
50	0			ASPHALT PAVEMENT (3.5" in thickness)		88		28				
				CONCRETE PAVEMENT (8.0" in thickness)				21				
				FILL: FAT CLAY (CH), firm, brown, dark brown			103	22	65	21	44	
45	5			FAT CLAY (CH), very stiff, brown, light brown								

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:
▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MEND Logged By: RH

Geotech Engineering & Testing

PLATE A-6

LOG OF BORING B-2

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838871.58; E 3115126.599
Taft Street

COMPLETION DEPTH: 5 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 50.1 FT

DATE: 8/22/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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
50	0			ASPHALT PAVEMENT (4.0" in thickness)		88		25				
				CONCRETE PAVEMENT (8.0" in thickness)								
				FILL: FAT CLAY (CH), stiff, gray, dark gray, brownish yellow		87	100	26	59	20	39	
	5			FAT CLAY (CH), very stiff, gray, dark gray, brownish yellow			110	19	56	20	36	
				- light gray, greenish gray 4' to 5'								

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:
▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MEND Logged By: RH

Geotech Engineering & Testing

PLATE A-7

LOG OF BORING B-3

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13839011.62; E 3115387.762
Masson Street

COMPLETION DEPTH: 5 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 50.1 FT

DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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
50	0			ASPHALT PAVEMENT (3.0" in thickness)			108	19				
				CONCRETE PAVEMENT (4.5" in thickness)								
				FILL: FAT CLAY (CH), very stiff, gray, light brown		85	108	21	50	19	31	
	5			FAT CLAY (CH), very stiff, gray, light brown		90		23	58	20	38	
				- stiff, brownish yellow, with gravels 4' to 5'								

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:
▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MEND Logged By: RH

Geotech Engineering & Testing

PLATE A-8

LOG OF BORING B-4

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838603.9; E 3115422.996
Masson Street

COMPLETION DEPTH: 5 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 49.8 FT

DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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
50	0			ASPHALT PAVEMENT (3.0" in thickness)		86		19	43	18	25	
				CONCRETE PAVEMENT (4.5" in thickness)								
				FILL: LEAN CLAY (CL), stiff, dark brown, with sands			109	20	50	19	31	
45	5			FAT CLAY (CH), very stiff, gray, brown - light gray, light brown 4' to 5'		91	99	25				

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:
▽ NO GROUNDWATER ENCOUNTERED

Geotech Engineering & Testing

LOG OF BORING B-5

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838957.58; E 3115739.869
Oneil Street

COMPLETION DEPTH: 5 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 50.9 FT

DATE: 8/24/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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
50	0			ASPHALT PAVEMENT (2.0" in thickness)				20				
				FILL: FAT CLAY (CH), stiff, dark brown								
				FAT CLAY (CH), hard, light gray, dark brown, with root fibers to 5', gravels			99	25				
	5			- brown 4' to 5'		91	106	21	77	23	54	

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:
▽ NO GROUNDWATER ENCOUNTERED

Geotech Engineering & Testing

LOG OF BORING B-6

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838752.57; E 3116698.693
W Webster Street

COMPLETION DEPTH: 5 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 48.2 FT

DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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
45	0			ASPHALT PAVEMENT (6.0" in thickness)								
				CONCRETE PAVEMENT (5.0" in thickness)								
				FILL: FAT CLAY WITH SAND (CH), stiff, gray, brown, with ferrous nodules		74	101	22				
	5			FAT CLAY (CH), firm, light gray, dark brown, with ferrous nodules, gravels			101	24	58	20	38	
				- stiff, light brown 4' to 5'								

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:
▽ NO GROUNDWATER ENCOUNTERED

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

GEOTECHNICAL BORING PLATES
B1 TO B6

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\005 SUBMITAL PLAN SET\26_GEOTECHNICAL BORING PLATES (B1 TO B6).DWG[CRUMPSAVED: Tuesday, March 03, 2026[OH_KAL:CTB[PLOTTED: Tuesday, March 03, 2026

LOG OF BORING B-7

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838763.63; E 3116982.063 W Webster Street — COMPLETION DEPTH: 5 FT

SURFACE ELEVATION: 47.7 FT — WBS No. N-210008-0001-3 — DATE: 8/22/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (3.0" in thickness)								
				CONCRETE PAVEMENT (5.0" in thickness)								
45				FILL: FAT CLAY (CH), stiff, gray, dark gray		90	107	25	60	20	40	
	5			FAT CLAY (CH), stiff, gray, light gray		85	109	20	47	18	29	
				LEAN CLAY (CL), very stiff, light gray, light brown, with sands				22				

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: ▽ NO GROUNDWATER ENCOUNTERED

Drilled By: [illegible] Logged By: Mw — Geotech Engineering & Testing — PLATE A-12

LOG OF BORING B-8

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838497.91; E 3115877.77 Cook Street — COMPLETION DEPTH: 5 FT

SURFACE ELEVATION: 49.4 FT — WBS No. N-210008-0001-3 — DATE: 8/24/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (1.0" in thickness)								
				CONCRETE PAVEMENT (7.0" in thickness)		91		27	64	21	43	
45				FILL: FAT CLAY (CH), stiff, dark brown		87	96	26	58	20	38	
	5			FAT CLAY (CH), stiff, dark brown - very stiff, light gray, light brown 4' to 5'			104	22				

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: ▽ NO GROUNDWATER ENCOUNTERED

Drilled By: [illegible] Logged By: Mw — Geotech Engineering & Testing — PLATE A-13

LOG OF BORING B-9

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838591.19; E 3116552.324 Wilson Street — COMPLETION DEPTH: 5 FT

SURFACE ELEVATION: 49.0 FT — WBS No. N-210008-0001-3 — DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (2.0" in thickness)								
				CONCRETE PAVEMENT (5.0" in thickness)		63		20				
45				FILL: LEAN CLAY WITH SAND (CL), stiff, dark gray, with sands			95	22	67	21	46	
	5			FAT CLAY (CH), stiff, light gray, light brown, with gravels - light brown 4' to 5'				22	64	21	43	

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: ▽ NO GROUNDWATER ENCOUNTERED

Drilled By: [illegible] Logged By: Mw — Geotech Engineering & Testing — PLATE A-14

LOG OF BORING B-10

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838264.71; E 3115844.122 Sutton Street — COMPLETION DEPTH: 5 FT

SURFACE ELEVATION: 49.0 FT — WBS No. N-210008-0001-3 — DATE: 8/22/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 5 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (1.5" in thickness)								
				CONCRETE PAVEMENT (6.5" in thickness)				27				
45				FILL: FAT CLAY (CH), stiff, dark gray, dark brown		91	96	26				
	5			FAT CLAY (CH), stiff, gray, brownish yellow - very stiff, light gray, brown 4' to 5'		86	100	25	73	22	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: ▽ NO GROUNDWATER ENCOUNTERED

Geotech Engineering & Testing

LOG OF BORING B-11

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838960.43; E 3116062.599 Oneil Street — COMPLETION DEPTH: 18 FT

SURFACE ELEVATION: 50.7 FT — WBS No. N-210008-0001-3 — DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 18 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (3.5" in thickness)								
				FILL: SILTY SAND (SM), gray, brown, with gravels	4	14		16				
45	5			SILTY SAND (SM), very loose, reddish brown, with gravels - loose 4' to 6'	5			18				
				FAT CLAY (CH), firm, light gray, light brown, with gravels		86	107	23	58	20	38	
	10			- stiff, reddish brown, with calcareous nodules 8' to 10'		87	99	28	64	21	43	
40				SILTY SAND (SM), dense, reddish brown	37			20				
				- light gray 12' to 14'	38			17				
35	15				39			15				
					39			15				

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: ▽ NO GROUNDWATER ENCOUNTERED

Geotech Engineering & Testing

LOG OF BORING B-12

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838984.84; E 3116495.674 Oneil Street — COMPLETION DEPTH: 18 FT

SURFACE ELEVATION: 50.2 FT — WBS No. N-210008-0001-3 — DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 18 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (2.0" in thickness)								
				FILL: SILTY SAND (SM), light gray, light brown, with gravels				9				
45	5			SANDY FAT CLAY (CH), firm, dark gray, brown, with calcareous nodules - stiff, dark brown 4' to 6'		68	106	21	51	19	32	
				FAT CLAY (CH), stiff, light gray, dark gray				23				
	10			- dark brown 8' to 10'		85	100	24	60	20	40	
40				FAT CLAY WITH SAND (CH), stiff, light gray, reddish brown, with calcareous nodules - very stiff 12' to 14'		86		26				
						75	105	23				
35	15			- firm, brown 14' to 16'			106	26	62	21	41	
				- soft, brownish yellow 16' to 18'				27				
								25				

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: ▽ NO GROUNDWATER ENCOUNTERED

Geotech Engineering & Testing

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FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

GEOTECHNICAL BORING PLATES
B7 TO B12

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\005 SUBMITAL PLAN SET\27_GEOTECHNICAL BORING PLATES (B7 TO B12).DWG[BORUMPSAVED: Tuesday, March 03, 2026][CDH_KHUCT][PLOTTED: Tuesday, March 03, 2026

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY\NTAFT\004 DESIGN\05 SUBMITTAL PLAN SET\28_GEOTECHNICAL BORING PLATES (B13 TO B18).DWG[DRUMP]SAVED: Tuesday, March 03, 2026[CPH_KAI.CTB][PLOTTED: Tuesday, March 03, 2026

LOG OF BORING B-13

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838937.67; E 3116818.098 Mathews Street — COMPLETION DEPTH: 18 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 48.9 FT — DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon; DRY AUGER: 0 TO 18 FT; WET ROTARY: TO 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
49	0			ASPHALT PAVEMENT (6.5" in thickness)								
				CONCRETE PAVEMENT (2.0" in thickness)								
				FILL: SANDY LEAN CLAY (CL), firm, gray, dark gray, with sands		62		21	43	18	25	
45	5			FAT CLAY (CH), soft, gray, light gray, dark gray, brown			106	22	60	20	40	
				- very stiff, greenish gray, brownish yellow 2' to 4'				32				
				- stiff 6' to 10', reddish brown 6' to 8'								
40	10			- with calcareous nodules 8' to 10'				24	57	20	37	
				LEAN CLAY (CL), stiff, light gray, greenish gray, light brown, reddish brown, with calcareous nodules, sands			106	22				
								18				
35	15			- very stiff 14' to 16'				16				
				FAT CLAY (CH), very stiff, greenish gray, light brown		97		27				

DEPTH TO WATER IN BORING: ▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MDS Logged By: MM — Geotech Engineering & Testing — PLATE A-18

LOG OF BORING B-14

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838506.06; E 3115153.818 Taft Street — COMPLETION DEPTH: 18 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 49.5 FT — DATE: 8/24/2018

SAMPLER: Shelby Tube/Split Spoon; DRY AUGER: 0 TO 18 FT; WET ROTARY: TO 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
49	0			ASPHALT PAVEMENT (4.0" in thickness)								
				CONCRETE PAVEMENT (5.5" in thickness)								
				FILL: FAT CLAY (CH), stiff, dark brown		89		20				
45	5			FAT CLAY (CH), stiff, light brown, dark brown, with calcareous nodules			103	21	53	19	34	
				- very stiff, gray 4' to 6'				24				
				- light gray 6' to 10'				29				
				- reddish brown 8' to 10'				25				
40	10						87	36	76	23	53	
				LEAN CLAY WITH SAND (CL), very stiff, light gray, brownish yellow, with sands				16				
				FAT CLAY (CH), stiff, light gray, brownish yellow, with calcareous nodules, gravels				21				
35	15			LEAN CLAY WITH SAND (CL), very stiff, light gray, brownish yellow, with sands		80		14				
								13				

DEPTH TO WATER IN BORING: ▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MDS Logged By: MM — Geotech Engineering & Testing — PLATE A-19

LOG OF BORING B-15

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13836123.16; E 3115167.573 Taft Street — COMPLETION DEPTH: 18 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 48.8 FT — DATE: 8/24/2018

SAMPLER: Shelby Tube/Split Spoon; DRY AUGER: 0 TO 18 FT; WET ROTARY: TO 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
49	0			ASPHALT PAVEMENT (4.0" in thickness)								
				CONCRETE PAVEMENT (6.0" in thickness)				16				
				FILL: LEAN CLAY (CL), stiff, light gray, light brown, with gravels, sands				21	60	20	40	
45	5			FAT CLAY (CH), ver stiff, light gray, brown, with gravels		86	99	23				
				- stiff, light brown 4' to 6'				24				
				- firm 6' to 8'								
				- greenish gray 8' to 14', with calcareous nodules 8' to 10'				21				
40	10			- firm, reddish brown 10' to 12'			101	23	60	20	40	
				- brownish yellow 12' to 14'				19				
35	15			FAT CLAY WITH SAND (CH), stiff, greenish gray, brownish yellow		79		20	54	19	35	
				- with ferrous nodules 16' to 18'				17				

DEPTH TO WATER IN BORING: ▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MDS Logged By: MM — Geotech Engineering & Testing — PLATE A-20

LOG OF BORING B-16

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838325.17; E 3115520.742 Willard Street — COMPLETION DEPTH: 18 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 49.3 FT — DATE: 8/25/2018

SAMPLER: Shelby Tube/Split Spoon; DRY AUGER: 0 TO 18 FT; WET ROTARY: TO 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
49	0			ASPHALT PAVEMENT (1.0" in thickness)								
				CONCRETE PAVEMENT (6.5" in thickness)				25				
				FILL: FAT CLAY (CH), stiff, dark gray, dark brown, with ferrous nodules, gravels		92	100	26	68	22	46	
45	5			FAT CLAY (CH), stiff, light gray, dark gray, brownish yellow, with gravels		93		28				
				- gray 4' to 6'				30				
				LEAN CLAY (CL), stiff, light gray, light brown, with calcareous nodules, gravels, sands				18	46	18	28	
40	10			- brownish yellow 10' to 12'			116	16				
				SANDY LEAN CLAY (CL), stiff, light gray, brownish yellow, with sands		71		17				
								19				
35	15			- very stiff, with calcareous nodules 16' to 18'				18				

DEPTH TO WATER IN BORING: ▽ NO GROUNDWATER ENCOUNTERED

LOG OF BORING B-17

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838081.85; E 3115596.671 Welch Street — COMPLETION DEPTH: 18 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 48.9 FT — DATE: 8/22/2018

SAMPLER: Shelby Tube/Split Spoon; DRY AUGER: 0 TO 18 FT; WET ROTARY: TO 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
49	0			ASPHALT PAVEMENT (3.0" in thickness)								
				CONCRETE PAVEMENT (5.0" in thickness)				28				
				FILL: FAT CLAY (CH), stiff, gray, dark gray		94	94	29				
45	5			FAT CLAY (CH), stiff, light gray, dark gray, brown				30				
				- firm, brownish yellow 4' to 6', greenish gray 4' to 10'				34	77	23	54	
								36				
40	10			LEAN CLAY (CL), stiff, light gray, light brown, brownish yellow, with sands			88	18				
				- very stiff, reddish brown 12' to 14'				15	39	17	22	
				FAT CLAY WITH SAND (CH), very stiff, light gray, reddish brown		80		29				
35	15							32				

DEPTH TO WATER IN BORING: ▽ NO GROUNDWATER ENCOUNTERED

LOG OF BORING B-18

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13837882.97; E 3116023.554 Dennis Street — COMPLETION DEPTH: 18 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 48.3 FT — DATE: 8/22/2018

SAMPLER: Shelby Tube/Split Spoon; DRY AUGER: 0 TO 18 FT; WET ROTARY: TO 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
48	0			ASPHALT PAVEMENT (1.5" in thickness)								
				CONCRETE PAVEMENT (6.0" in thickness)		91		28	73	22	51	
				FILL: FAT CLAY (CH), very stiff, gray, light brown, with calcareous nodules			106	20	84	24	60	
45	5			- hard, brown 4' to 6"		91		23				
				- reddish brown 6' to 10', light gray 6' to 8'				25				
40	10			LEAN CLAY WITH SAND (CL), very stiff, light gray, brownish yellow, with sands				14	43	18	25	
								21				
35	15					66		14				
								13				

DEPTH TO WATER IN BORING: ▽ NO GROUNDWATER ENCOUNTERED

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

GEOTECHNICAL BORING PLATES
B13 TO B18

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\005 SUBMITTAL PLAN SET\29 _GEOTECHNICAL BORING PLATES (B19 TO B23).DWG\BORUM\PSAVED: Tuesday, March 03, 2026\COH_KAI.CTB\PLOTTED: Tuesday, March 03, 2026

LOG OF BORING B-19

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838426.3; E 3115996.36, Gillette Street — COMPLETION DEPTH: 18 FT

SURFACE ELEVATION: 50.0 FT — WBS No. N-210008-0001-3 — DATE: 8/25/218

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 18 FT
WET ROTARY: TO 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
50	0			ASPHALT PAVEMENT (2.0" in thickness)								
				CONCRETE PAVEMENT (2.5" in thickness)								
				FILL: SILTY SAND (SM), light gray, light brown, with gravels				7				
45	5			FAT CLAY (CH), stiff, gray, brownish yellow, with ferrous and calcareous nodules, gravels - firm 4' to 6', light brown 4' to 8' - soft 6' to 8', light gray 6' to 14' - firm 8' to 10', reddish brown 8' to 16'			97	28	73	22	51	
								26				
								30				
40	10						90	33				
						91		31	74	23	51	
								29				
35	15			- very stiff 14' to 16'				31				
				SANDY LEAN CLAY (CL), stiff, light gray, brownish yellow, with sands		67		14				

DEPTH TO WATER IN BORING:
▽ NO GROUNDWATER ENCOUNTERED

Drilled By: JRD Logged By: MV — Geotech Engineering & Testing — PLATE A-24

LOG OF BORING B-20

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838413.06; E 3116277.388, Bailey Street — COMPLETION DEPTH: 18 FT

SURFACE ELEVATION: 49.3 FT — WBS No. N-210008-0001-3 — DATE: 8/23/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 18 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (1.0" in thickness)				26				
				CONCRETE PAVEMENT (9.0" in thickness)				24				
45	5			FILL: FAT CLAY (CH), stiff, dark brown, with gravels		87	103	24	60	20	40	
				FAT CLAY (CH), stiff, light gray, light brown, with calcareous nodules - dark gray 4' to 6' - reddish brown 6' to 10'				29				
40	10							28				
				SANDY LEAN CLAY (CL), stiff, light gray, brownish yellow, with sands				19				
				- very stiff 12' to 14'				14	40	17	23	
35	15					53	122					
				- soft, light brown 16' to 18'				17				
								17				

DEPTH TO WATER IN BORING:
▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MRD Logged By: MM — Geotech Engineering & Testing — PLATE A-25

LOG OF BORING B-21

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13837971.68; E 3116457.453, McGowen Street — COMPLETION DEPTH: 18 FT

SURFACE ELEVATION: 48.4 FT — WBS No. N-210008-0001-3 — DATE: 8/31/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 18 FT
WET ROTARY: TO 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			ASPHALT PAVEMENT (2.0" in thickness)		81		26	65	21	44	
				CONCRETE PAVEMENT (7.0" in thickness)								
45	5			FILL: FAT CLAY WITH SAND (CH), firm, light gray, dark gray, with root fibers		84	93	32				
				FAT CLAY WITH SAND (CH), soft, gray, reddish brown, with root fibers								
				LEAN CLAY (CL), soft, brown, brownish yellow, with calcareous nodules, gravels, sands				22	40	17	23	
40	10			FAT CLAY (CH), firm, gray, brown, brownish yellow, with calcareous noudles, gravels - soft, reddish brown 8' to 10', light gray 8' to 12' - light brown 10' to 12'				31				
								33				
							95	29				
35	15			LEAN CLAY (CL), stiff, light gray, light brown, with calcareous noudles, gravels, sands - very stiff, brownish yellow, with ferrous nodules 14' to 18'				17				
								16				
								14				

DEPTH TO WATER IN BORING:
▽ NO GROUNDWATER ENCOUNTERED

Drilled By: MRD Logged By: MM — Geotech Engineering & Testing — PLATE A-26

LOG OF BORING B-22

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838700.22; E 3115299.609, W Webster Street — COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 49.4 FT — WBS No. N-210008-0001-3 — DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 35 FT
WET ROTARY: 35 TO 50 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			ASPHALT PAVEMENT (2.0" in thickness)				23	59	20	39	
				CONCRETE PAVEMENT (6.0" in thickness)				24				
				FILL: FAT CLAY (CH), firm, gray, dark gray								
45	5			FAT CLAY (CH), firm, gray, dark gray, brown, greenish gray - light gray 4' to 10', brownish yellow 4' to 6' - very stiff 6' to 10'			93	26	60	20	40	
								27				
40	10						106	22				
				LEAN CLAY WITH SAND (CL), very stiff, light gray, brownish yellow, with sands - stiff 12' to 14', greenish gray 12' to 16'		75		15				
								19				
35	15							21				
				- stiff 16' to 20', light brown 16' to 18'		62		16	45	18	27	
				- greenish gray 18' to 20'				19				
30	20											
				FAT CLAY (CH), very stiff, light gray, reddish brown				24				
25	25											
				- stiff 28' to 20'			95	28	82	24	58	
20	30											
				SILTY SAND (SM), dense, light gray, reddish brown		34		20				
15	35											
						40		21				
10	40											

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT 35.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 35.0 FT.

LOG OF BORING B-22

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838700.22; E 3115299.609, W Webster Street — COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 49.4 FT — WBS No. N-210008-0001-3 — DATE: 8/7/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 35 FT
WET ROTARY: 35 TO 50 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
	40											
5	45			- light brown 43' to 45'	46	42		22				
0	50			- very dense 48' to 50'	54			21				

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT 35.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 35.0 FT.

LOG OF BORING B-23

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area — PROJECT NO.: 18-115E

LOCATION: N 13838729.24; E 3115842.768, W Webster Street — COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 49.6 FT — WBS No. N-210008-0001-3 — DATE: 8/23/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: 40 TO 50 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			ASPHALT PAVEMENT (3.0" in thickness)		88		21	72	22	50	
				CONCRETE PAVEMENT (7.0" in thickness)				24				
				FILL: FAT CLAY (CH), stiff, dark gray, brown								
45	5			FAT CLAY (CH), stiff, gray, dark gray, brown, with calcareous nodules - light brown 4' to 8'				29				
				- light gray, reddish brown 8' to 10'			100	24	60	20	40	
40	10			- light brown 10' to 12'				32				
								24				
				SANDY LEAN CLAY (CL), very stiff, gray, light gray, brownish yellow, with sands - stiff 14' to 16', light brown 14' to 18'				17				
35	15						108	19	49	19	30	
				- stiff 18' to 25'				19				
30	20							17				
				- reddish brown 23' to 25'		59		24	44	18	26	
25	25											
				- stiff, light brown 28' to 30'			102	22				
20	30											
				FAT CLAY (CH), stiff, light gray, reddish brown, with calcareous and ferrous nodules		97		37	84	24	60	
15	35											
				LEAN CLAY (CL), soft, light gray				18				
10	40											

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT 40.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 40.0 FT.

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85559
LICENSED
PROFESSIONAL ENGINEER

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

GEOTECHNICAL BORING PLATES B19 TO B23

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

LOG OF BORING B-23

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838729.24; E 3115842.768
W Webster Street

COMPLETION DEPTH: 50 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 49.6 FT

DATE: 8/23/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 45 FT
WET ROTARY: 45 TO 50 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, %
40											
45	5			- very stiff, reddish brown, with calcareous nodules 43' to 50'				19			
50	10							19			

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT 40.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 40.0 FT.

Drilled By: JESS Logged By: tbe

Geotech Engineering & Testing

PLATE A-29

LOG OF BORING B-24

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838738.4; E 3116359.855
W Webster Street

COMPLETION DEPTH: 50 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 49.2 FT

DATE: 8/25/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 45 FT
WET ROTARY: 45 TO 50 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				ASPHALT PAVEMENT (3.0" in thickness)				21			
				CONCRETE PAVEMENT (5.0" in thickness)							
45	5			FILL: FAT CLAY (CH), stiff, gray, dark brown			115	20	59	20	39
				FAT CLAY (CH), very stiff, gray, brownish yellow, with calcareous and ferrus noudles, gravels				25			
				- stiff 4' to 12', light gray 4' to 6'		87		28			
40	10			- light brown 6' to 8', reddish brown 6' to 10'			97	28	63	21	42
				- light gray 10' to 12'				20			
				LEAN CLAY (CL), very stiff, light gray, reddish brown, with sands				13			
35	15			- stiff 14' to 18'			110	17			
				- firm 18' to 20'				18			
30	20							17	27	15	12
				FAT CLAY WITH SAND (CH), very stiff, light gray, reddish brown, with calcareous and ferrous nodules		77		29	58	20	38
25	25										
				LEAN CLAY WITH SAND (CL), stiff, light gray, reddish brown, with calcareous nodules, gravels, sands				20	48	18	30
20	30										
								22			
15	35										
10	40							21			

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT 45.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 45.0 FT.

Drilled By: JESS Logged By: tbe

Geotech Engineering & Testing

PLATE A-29

LOG OF BORING B-24

PROJECT: Geotechnical Exploration for Paving and Drainage Improvements at Gary and Taft Street Area

PROJECT NO.: 18-115E

LOCATION: N 13838738.4; E 3116359.855
W Webster Street

COMPLETION DEPTH: 50 FT

WBS No. N-210008-0001-3

SURFACE ELEVATION: 49.2 FT

DATE: 8/25/2018

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 45 FT
WET ROTARY: 45 TO 50 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, %
40											
45	5			- firm 43' to 45'				21			
50	10					80		22			

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT 45.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 45.0 FT.

Drilled By: JESS Logged By: tbe

Geotech Engineering & Testing

PLATE A-29

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STATE OF TEXAS
EDUARDO QUIROZ
85559
LICENSED
PROFESSIONAL ENGINEER

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

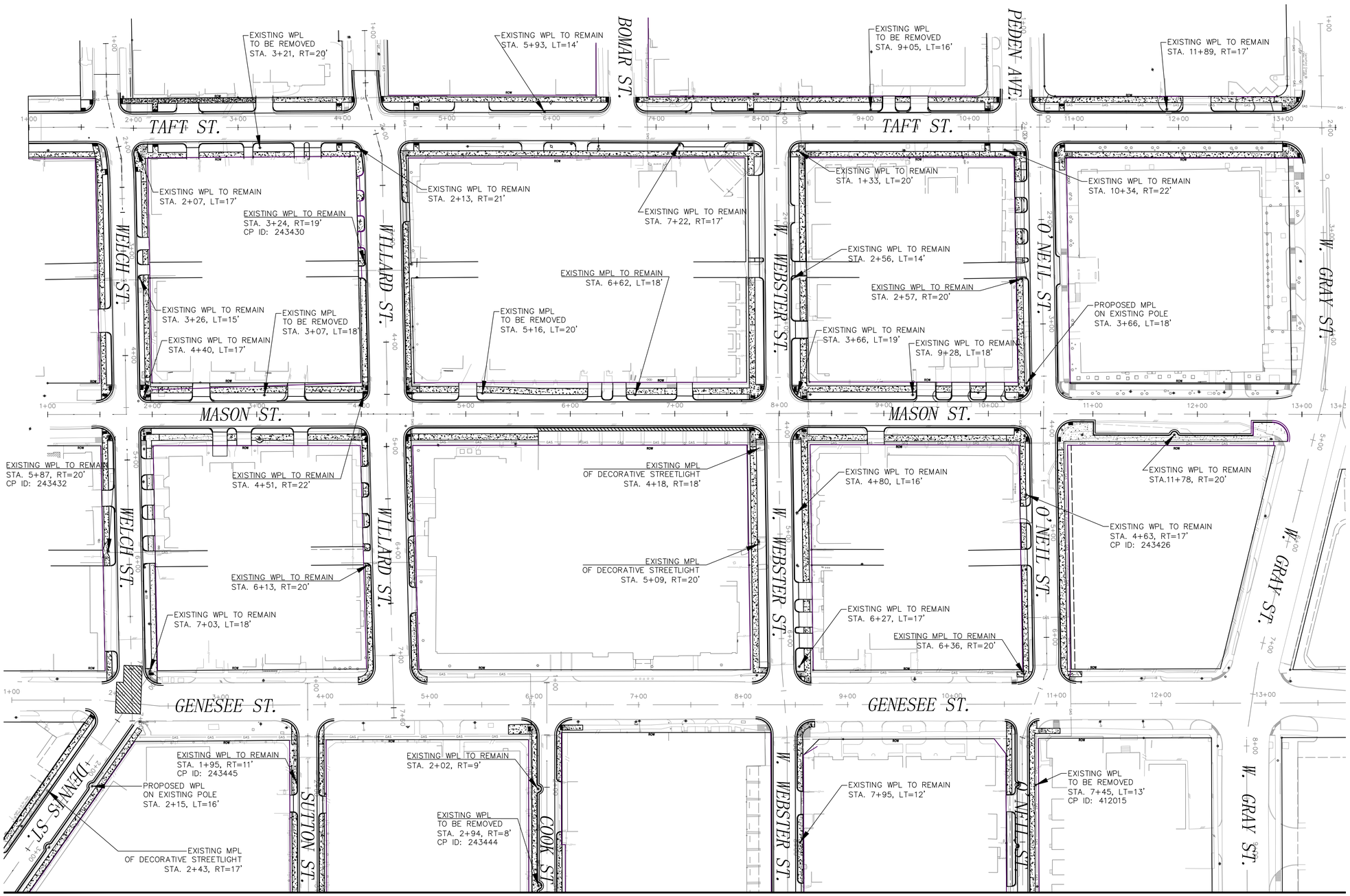
GEOTECHNICAL BORING PLATES
B23 TO B24

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\30_GEOTECHNICAL BORING PLATES (B23 TO B24).DWG BCRUMPSAVED: Tuesday, March 03, 2026 BCRUMP LASTPLOTTED: Tuesday, March 03, 2026

PLOT STYLE: COH_JAG_07_2016.ctb

Y:\002 Projects Clients\Yonpiseth Lik(Seth)\Gray & Taft\Demolition and Streetlight Plan & Cut\Streetlight Light Plan Cut 2.dwgStreetlight Plan 1 Of 4 Mar 03 , 2026 - 10:35AM yilk



SEE SHEET 2 OF 4

N

CITY OF HOUSTON
GRAPHIC SCALE

EXISTING MPL/WPL TO REMAIN/ BE REMOVED

PROPOSED MPL/WPL ON EXISTING POLE

PROPOSED MPL/WPL ON NEW POLE

EXISITNG MPL OF DECORATIVE STREETLIGHT

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FB NO.: P-6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

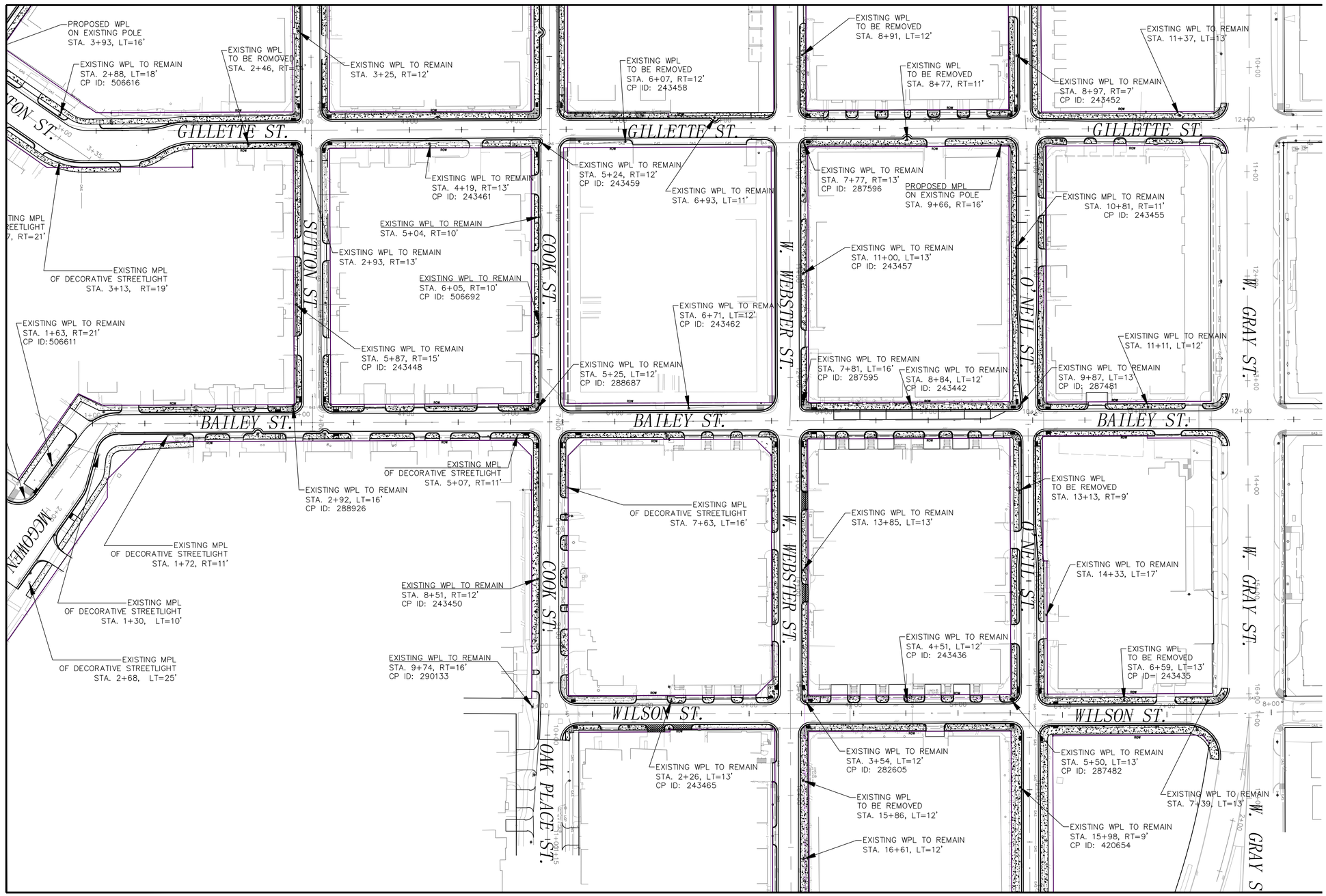
GRAY AND TAFT AREA PAVING AND DRAINAGE

STREETLIGHT PLAN

SHEET 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 50'	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
SHEET NO. OF	

SEE SHEET 1 OF 4



SEE SHEET 3 OF 4

N

CITY OF HOUSTON
GRAPHIC SCALE

EXISTING MPL/WPL TO REMAIN/ BE REMOVED

PROPOSED MPL/WPL ON EXISTING POLE

PROPOSED MPL/WPL ON NEW POLE

EXISITNG MPL OF DECORATIVE STREETLIGHT

1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

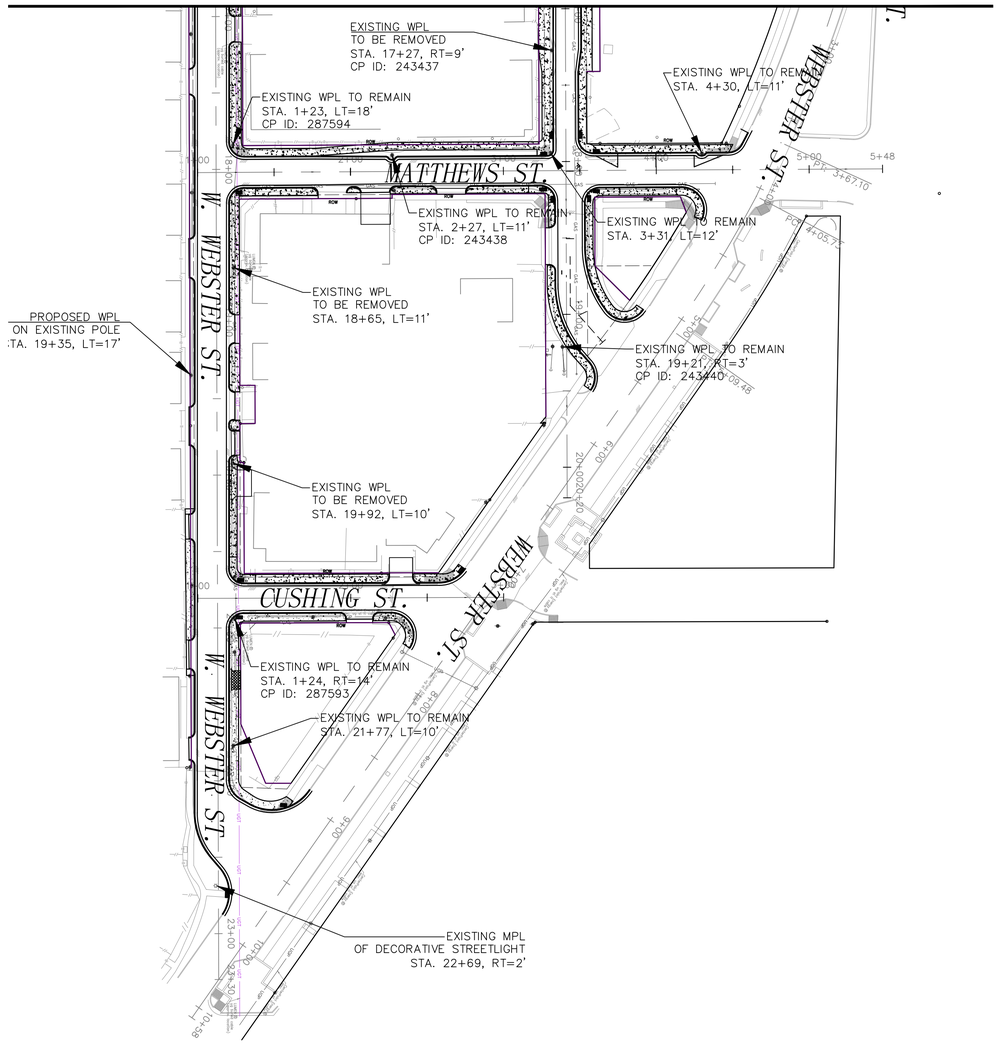
STREETLIGHT PLAN

SHEET 2 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 50'	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb
Y:\002 Projects Clients\Yonpiseth Lik(Seth)\Gray & Taft\Demolition and Streetlight Plan & Cut\Streetlight Light Plan Cut 2.dwgStreetlight 2 Of 4 Mar 03, 2026 - 10:42AM yilk

SEE SHEET 2 OF 4



N

CITY OF HOUSTON

GRAPHIC SCALE

EXISTING MPL/WPL TO REMAIN/ BE REMOVED

PROPOSED MPL/WPL ON EXISTING POLE

PROPOSED MPL/WPL ON NEW POLE

EXISITNG MPL OF DECORATIVE STREETLIGHT

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

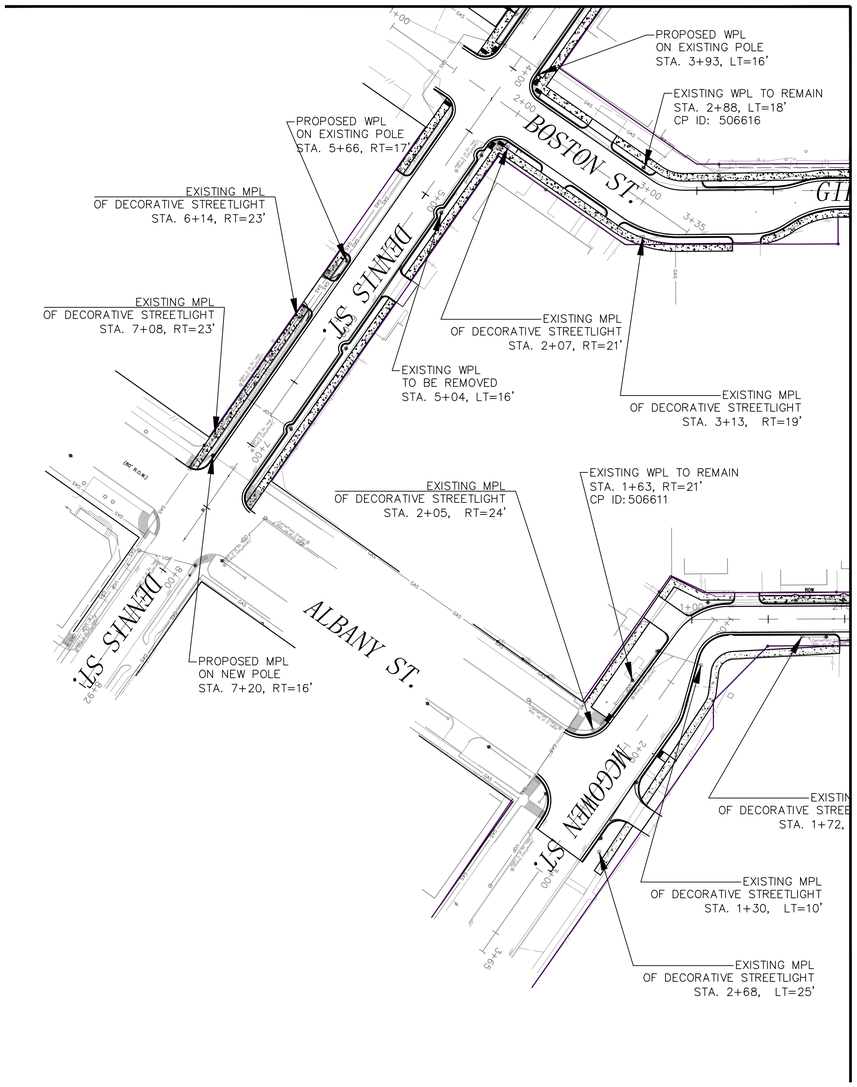
STREETLIGHT PLAN

SHEET 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 50'	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb
Y:\002 Projects Clients\Yongiseth Lik(Seith)\Gray & Taft\Demolition and Streetlight Plan & Cut\Streetlight Light Plan Cut 2.dwgStreetlight 3 of 4 Mar 03 , 2026 - 10:43AM yilk

SEE SHEET 1 OF 4



SEE SHEET 2 OF 4

N

CITY OF HOUSTON
GRAPHIC SCALE

EXISTING MPL/WPL TO REMAIN/ BE REMOVED

PROPOSED MPL/WPL ON EXISTING POLE

PROPOSED MPL/WPL ON NEW POLE

EXISITNG MPL OF DECORATIVE STREETLIGHT

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

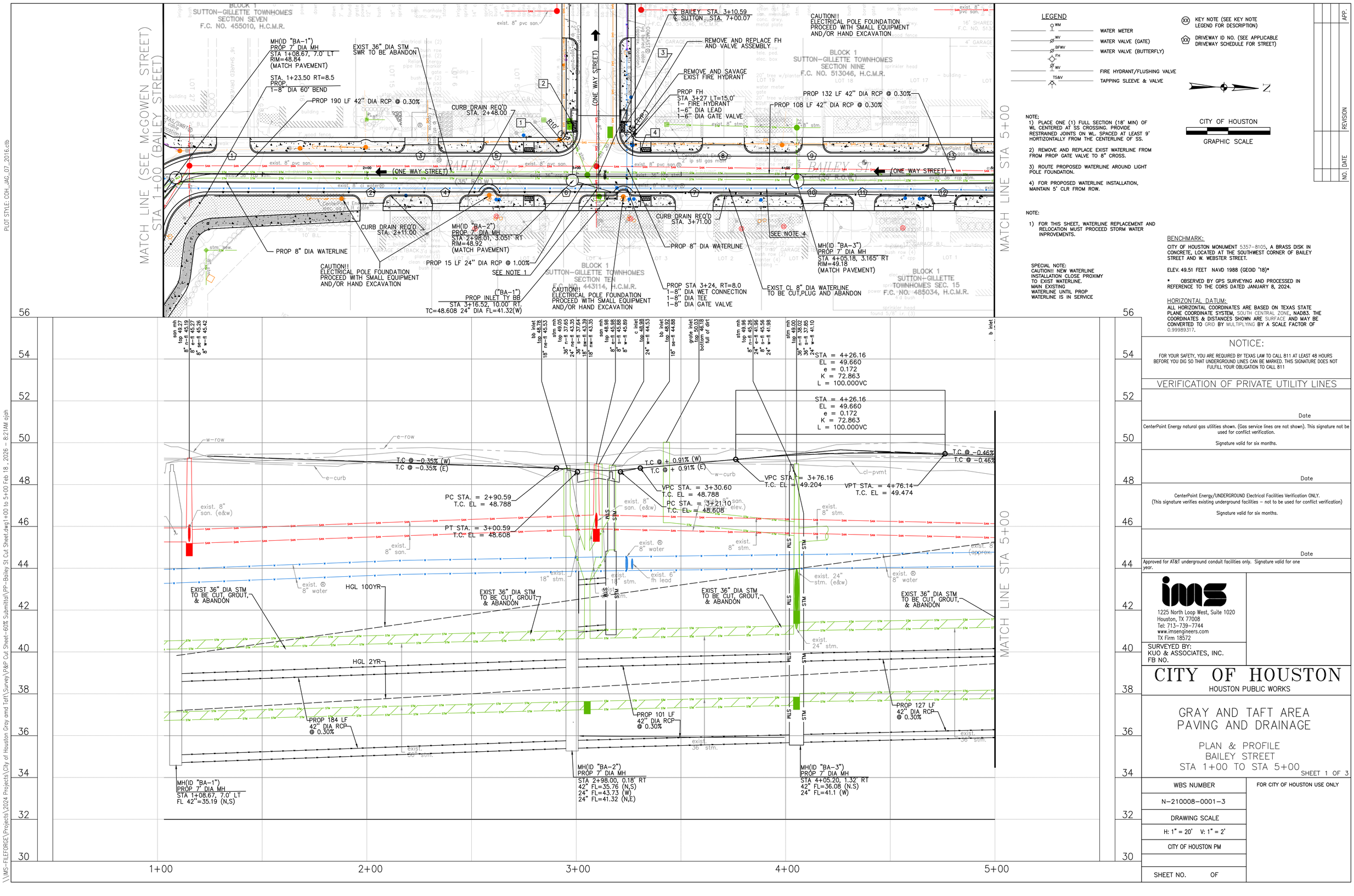
STREETLIGHT PLAN

SHEET 4 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 50'	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

Y:\002 Projects Clients\Yonpiseth Lik(Seith)\Gray & Taft\Demolition and Streetlight Plan & Cut\Streetlight Light Plan Cut 2.dwgStreetlight 4 of 4 Mar 03, 2026 - 10:44AM yilk



LEGEND

- WM — WATER METER
- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH / WV — FIRE HYDRANT/FLUSHING VALVE
- TS&V — TAPPING SLEEVE & VALVE
- (XX) — KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)
- (XX) — DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

NOTE:
1) PLACE ONE (1) FULL SECTION (18' MIN) OF WL CENTERED AT SS CROSSING. PROVIDE RESTRAINED JOINTS ON WL. SPACED AT LEAST 9' HORIZONTALLY FROM THE CENTERLINE OF SS.
2) REMOVE AND REPLACE EXIST WATERLINE FROM FROM PROP GATE VALVE TO 8" CROSS.
3) ROUTE PROPOSED WATERLINE AROUND LIGHT POLE FOUNDATION.
4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

NOTE:
1) FOR THIS SHEET, WATERLINE REPLACEMENT AND RELOCATION MUST PROCEED STORM WATER INPROVEMENTS.

SPECIAL NOTE:
CAUTION!! NEW WATERLINE INSTALLATION CLOSE PROXIMY TO EXIST WATERLINE. MAIN EXISTING WATERLINE UNTIL PROP WATERLINE IS IN SERVICE

CITY OF HOUSTON
GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:
CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

HORIZONTAL DATUM:
ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.99989317.

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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FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN & PROFILE
BAILEY STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

SEE SHEET MATCH LINE STA 5+00

MATCH LINE STA 9+00 SEE SHEET

℄ BAILEY STA. 5+37.66
℄ COOK STA. 6+99.82

NOTE:
RELOCATE WATER METER TO WITHIN STREET ROW AS SHOWN

(WEST WEBSTER DOG PARK)

BLOCK 74
W.R. BAKER ADDITION
S.B.B. (UNRECORDED)

CURB DRAIN REQ'D STA. 5+10.00

PROP 189 LF 42" DIA RCP @ 0.30%

MH(ID "BA-4")
PROP 7' DIA MH
STA 5+37.61, 5.77' LT
RIM=49.07
(MATCH PAVEMENT)

R.O.W. LINE AS PER IRON RODS

R.O.W. LINE AS PER PLAT

(ONE WAY STREET)

BAILEY ST.
(60' R.O.W.)

R5' (TYP.)

R10' (TYP.)

CURB DRAIN REQ'D STA. 6+52.00

CURB DRAIN REQ'D STA. 6+54.00

PROP 4 LF 24" DIA RCP@1.00%

SEE NOTE 4

EXIST 36" DIA STM SWR TO BE ABANDON

STA 5+45.5 TO RT 12.5'
PROP
2-8" DIA WET CONNECTION
2-8" DIA GATE VALVE
1-8" TEE

SEE NOTE 1

STA 5+02 TO STA 5+12
PROP
4- 8" DIA 45° BEND(S)

BLOCK 1
SUTTON-GILLETTE TOWNHOMES
SECTION ONE
F.C. NO. 429002, H.C.M.R.

PROP
1-8" DIA WET CONNECTION
1-8" DIA GATE VALVE
1-8" PLUG

℄ BAILEY STA. 7+66.16
℄ W. WEBSTER STA. 12+41.20

MH(ID "BA-6")
PROP 7' DIA MH
STA 7+71.37, 5.5' LT
RIM=49.57
(MATCH PAVEMENT)

("BA-3")
PROP INLET TY BB
STA 7+31.45, 10.00' LT,
TC=48.95, 24" DIA FL=44.24 (E)

MH(ID "BA-5")
PROP 7' DIA MH
STA 7+31.57, 5' LT
RIM=49.18
(MATCH PAVEMENT)

PROP 15 LF 24" DIA RCP @ 1.00%

PROP 8" DIA WATERLINE

SEE NOTED 1

("BA-2")
PROP INLET TY B
STA 7+31.52 10.00' RT,
TC=48.95, 24" DIA FL=44.24 (W) SEE NOTED 1 & 2

STA 7+28 12.5' RT
PROP
1-8" TEE
1-8" GATE VALVE

EXIST 3/4" TO 1" DIA WATERLINE TO BE CUT, PLUG AND ABANDON

EXIST 8" DIA WATERLINE TO BE CUT, PLUG, AND ABANDON

PROP 27 LF 42" RCP @ 0.50%

MH(ID "BA-7")
PROP 7' DIA MH
STA 7+95.73, 5.88' LT
RIM=49.27
(MATCH PAVEMENT)

PROP 4 LF 24" DIA RCP@1.00%

("BA-5")
PROP INLET TY BB
STA 7+95.63, 10.00' LT.
TC=48.95, 24" DIA FL=44.24
(E)

PROP 172 LF 42" DIA RCP @ 0.50%

BLOCK 1
SUTTON-GILLETTE TOWNHOMES
SECTION TWO
F.C. NO. 433135, H.C.M.R.

(ONE WAY STREET)

("BA-4")
PROP INLET TY BB
STA 7+96.08, 10.00' RT,
TC=48.95, 24" DIA FL=44.24 (W)

PROP 17 LF 24" DIA RCP@1.00%

PROP STA 7+78, RT= 12.5'
1-8" DIA WET CONNECTION
1-8" DIA GATE VALVE
1-8" DIA TEE

PROP 30" DIA STM SWR

BLOCK 1
SUTTON-GILLETTE TOWNHOMES SECTION
F.C. NO. 433062, H.C.M.

LEGEND

- WM — WATER METER
- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH — FIRE HYDRANT/FLUSHING VALVE
- WV — TAPPING SLEEVE & VALVE
- (XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)
- (XX) DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

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4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

CITY OF HOUSTON
GRAPHIC SCALE

SPECIAL NOTE:
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CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

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NO.	DATE	REVISION	APP.

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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.

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FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN & PROFILE
BAILEY STREET
STA 5+00 TO STA 9+00

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

STA = 6+48.49
EL = 49.674
e = 0.153
K = 81.817
L = 100.000VC

PC STA. = 5+17.20
T.C. EL = 49.341
PT STA. = 5+27.70
T.C. EL = 49.241
PC STA. = 5+47.70
T.C. EL = 49.241
PT STA. = 5+57.70
T.C. EL = 49.341
T.C @ + 0.35% (W)
T.C @ + 0.35% (E)

VPC STA. = 5+98.49
T.C. EL = 49.499

PT STA. = 5+57.34
T.C. EL = 49.237
PC STA. = 5+45.94
T.C. EL = 49.240

PT STA. = 5+27.44
T.C. EL = 49.340
PC STA. = 5+17.48
T.C. EL = 49.240

PROP 37 LF
42" DIA RCP
@ 0.30%

MH(ID "BA-4")
PROP 7' DIA MH
STA 5+37.61, 2.30' LT
42" DIA FL=36.48 (S)
24" DIA FL=42.93 (E)
24" DIA FL=42.83 (W)
42" DIA FL=36.48 (N)

PROP 189 LF
42" DIA RCP
@ 0.30%

EXIST 36" DIA STM TO BE CUT, GROUT, & ABANDON

STA = 6+48.49
EL = 49.674
e = 0.153
K = 81.817
L = 100.000VC

PT STA. = 7+54.28
T.C. EL = 49.030
PC STA. = 7+44.28
T.C. EL = 49.130

T.C @ - 0.87% (W)
T.C @ - 0.87% (E)

VPT STA. = 6+98.49
T.C. EL = 49.244

PC STA. = 7+41.50
T.C. EL = 49.130
PT STA. = 7+56.01
T.C. EL = 49.247
PT STA. = 7+56.01
T.C. EL = 49.013

HGLUP 38.394
HGL DOWN41.519

MH(ID "BA-5")
PROP 7' DIA MH
STA 7+31.28, 5.00' LT
42" DIA FL=37.06 (S)
24" DIA FL=44.05 (E)
24" DIA FL=44.17 (W)
42" DIA FL=37.06 (N)

PROP 32 LF
42" DIA RCP
@0.50%

MH(ID "BA-6")
PROP 7' DIA MH
STA 7+71.37, 5' LT
42" DIA FL=37.24 (S)
30" DIA FL=38.39 (W)
24" DIA FL=43.69 (W)
42" DIA FL=37.24 (N)

PROP 23 LF
42" DIA RCP
@ 0.50%

PROP 105 LF
42" DIA RCP
@ 0.50%

STA = 8+83.79
EL = 50.686
e = 0.202
K = 61.833
L = 100.000VC

PC STA. = 7+78.02
T.C. EL = 49.247
PT STA. = 7+88.28
T.C. EL = 49.030

T.C @ + 1.45% (W)
T.C @ + 1.45% (E)

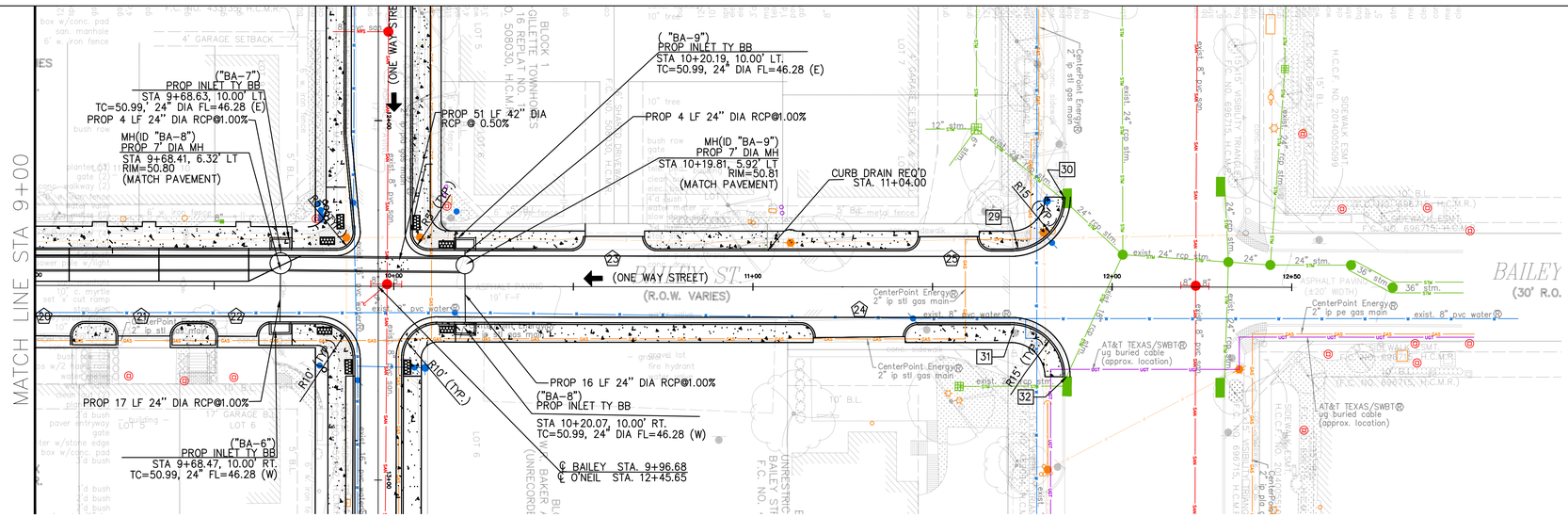
VPC STA. = 8+33.79
T.C. EL = 49.690

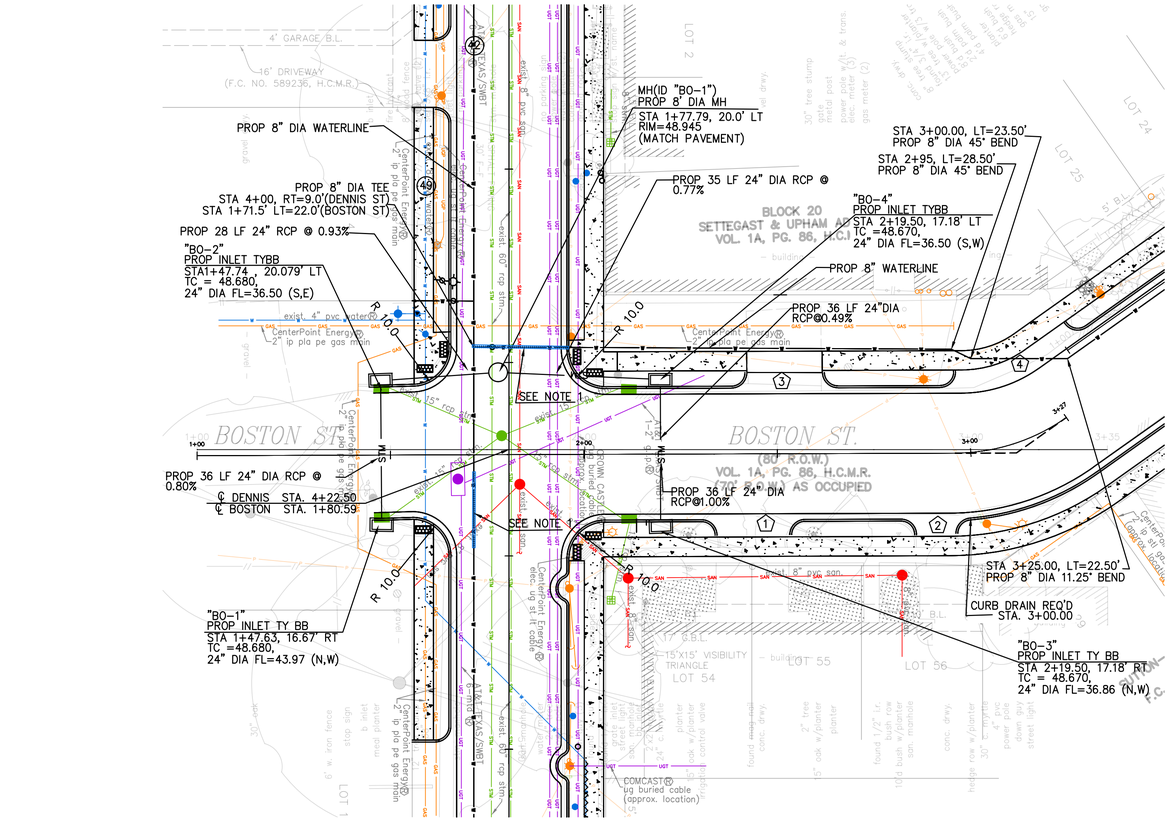
PT STA. = 7+88.02
T.C. EL = 49.065
PC STA. = 7+78.02
T.C. EL = 49.030

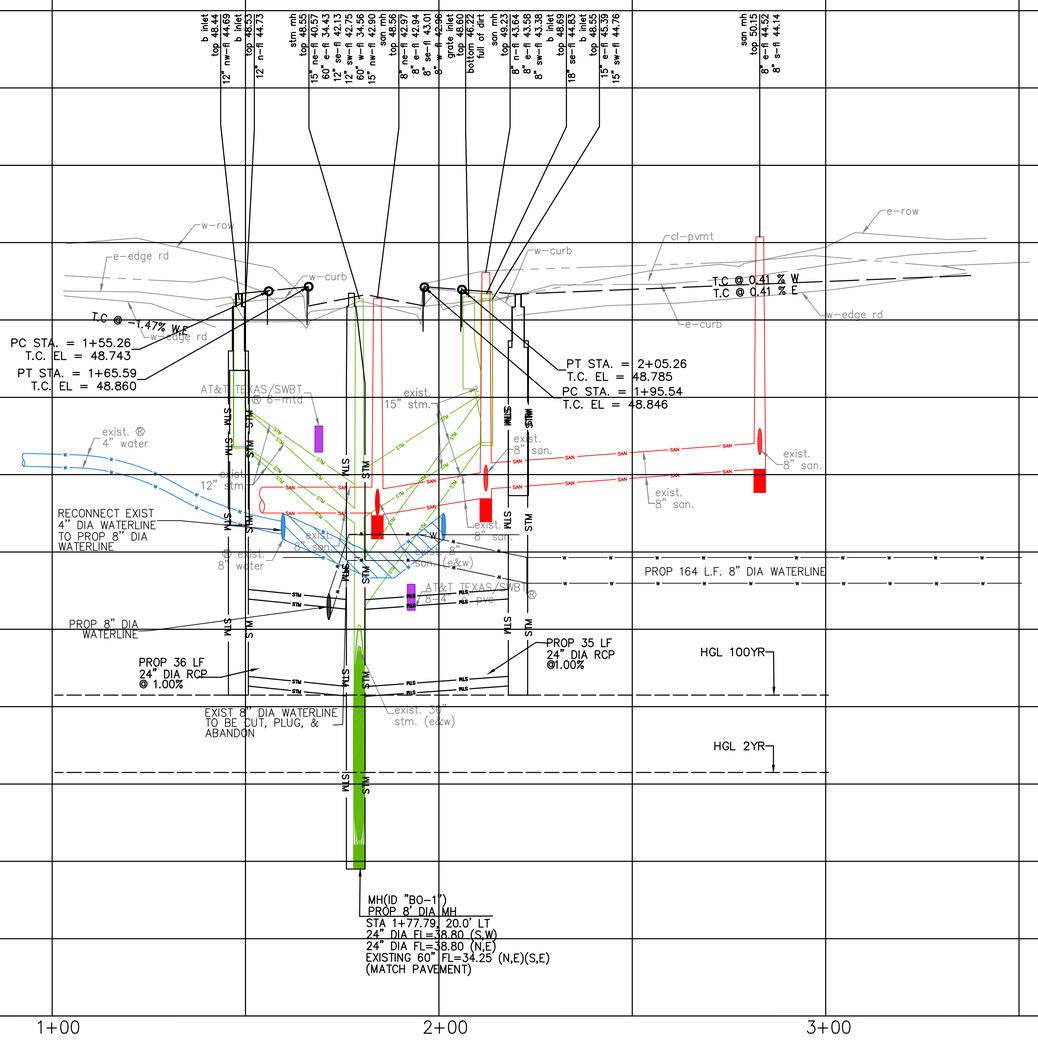
MH(ID "BA-7")
PROP 7' DIA MH
STA 7+95.63, 6.17' LT
42" DIA FL=37.38 (S,E)
42" DIA FL=37.38 (S,E)

5+00 6+00 7+00 8+00 9+00

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Bailey St Cut Sheet.dwg5+00 to 9+00 Feb 18, 2026 - 9:23AM ojph


MATCH LINE STA 9+00
("BA-7")
PROP INLET TY BB
STA 9+68.63, 10.00' LT
TC=50.99, 24" DIA FL=46.28 (E)
PROP 4 LF 24" DIA RCP@1.00%
MH(ID "BA-8")
PROP 7' DIA MH
STA 9+68.41, 6.32' LT
RIM=50.80
(MATCH PAVEMENT)
PROP 17 LF 24" DIA RCP@1.00%
("BA-6")
PROP INLET TY BB
STA 9+68.47, 10.00' RT.
TC=50.99, 24" FL=46.28 (W)
PROP 51 LF 42" DIA RCP @ 0.50%
("BA-9")
PROP INLET TY BB
STA 10+20.19, 10.00' LT.
TC=50.99, 24" DIA FL=46.28 (E)
PROP 4 LF 24" DIA RCP@1.00%
MH(ID "BA-9")
PROP 7' DIA MH
STA 10+19.81, 5.92' LT
RIM=50.81
(MATCH PAVEMENT)
CURB DRAIN REQ'D
STA. 11+04.00
PROP 16 LF 24" DIA RCP@1.00%
("BA-8")
PROP INLET TY BB
STA 10+20.07, 10.00' RT.
TC=50.99, 24" DIA FL=46.28 (W)
℄ BAILEY STA. 9+96.68
℄ O'NEIL STA. 12+45.65
(ONE WAY STREET)
BAILEY ST.
(R.O.W. VARIES)
BAILEY
(30' R.O.
R10' (TYP.)
R15' (TYP.)
CenterPoint Energy
2" ip stl gas main
exist. 8" pvc water
AT&T TEXAS/SWBT
ug buried cable
(approx. location)
exist. 24" rcp stm.
exist. 36" stm.
24" stm.
36" stm.
SIDEWALK EASEMENT
(±20' WIDTH)
H.C.C.F. NO. 20140055099
H.C.C.F. NO. 20140055098
H.C.C.F. NO. 20140055097
H.C.C.F. NO. 20140055096
H.C.C.F. NO. 20140055095
H.C.C.F. NO. 20140055094
H.C.C.F. NO. 20140055093
H.C.C.F. NO. 20140055092
H.C.C.F. NO. 20140055091
H.C.C.F. NO. 20140055090
H.C.C.F. NO. 20140055089
H.C.C.F. NO. 20140055088
H.C.C.F. NO. 20140055087
H.C.C.F. NO.


PROP 8" DIA WATERLINE
PROP 8" DIA TEE
STA 4+00, RT=9.0'(DENNIS ST)
STA 1+71.5' LT=22.0'(BOSTON ST)
PROP 28 LF 24" RCP @ 0.93%
"BO-2"
PROP INLET TYBB
STA1+47.74 , 20.079' LT
TC = 48.680,
24" DIA FL=36.50 (S,E)
MH(ID "BO-1")
PROP 8' DIA MH
STA 1+77.79, 20.0' LT
RIM=48.945
(MATCH PAVEMENT)
PROP 35 LF 24" DIA RCP @ 0.77%
STA 3+00.00, LT=23.50'
PROP 8" DIA 45° BEND
STA 2+95, LT=28.50'
PROP 8" DIA 45° BEND
"BO-4"
PROP INLET TYBB
STA 2+19.50, 17.18' LT
TC =48.670,
24" DIA FL=36.50 (S,W)
PROP 8" WATERLINE
PROP 36 LF 24"DIA RCP@0.49%
SEE NOTE 1
SEE NOTE 1
PROP 36 LF 24" DIA RCP @ 0.80%
℄ DENNIS STA. 4+22.50
℄ BOSTON STA. 1+80.59
PROP 36 LF 24" DIA RCP@1.00%
"BO-1"
PROP INLET TY BB
STA 1+47.63, 16.67' RT
TC =48.680,
24" DIA FL=43.97 (N,W)
STA 3+25.00, LT=22.50'
PROP 8" DIA 11.25° BEND
CURB DRAIN REQ'D
STA. 3+00.00
"BO-3"
PROP INLET TY BB
STA 2+19.50, 17.18' RT
TC = 48.670,
24" DIA FL=36.86 (N,W)
BOSTON ST.
(80' R.O.W.)
VOL. 1A, PG. 86, H.C.M.R.
(70' F.B.F.B.) AS OCCUPIED
BLOCK 20
SETTEGAST & UPHAM ADD'N
VOL. 1A, PG. 86, H.C.M.R.
LOT 2
LOT 24
LOT 25
LOT 54
LOT 55
LOT 56
4' GARAGE B.L.
16' DRIVEWAY
(F.C. NO. 589236, H.C.M.R.)
R 10.0
R 10.0
R 10.0
R 10.0
1+00
2+00
3+00
3+27
3+35
TYP.
TYP.
COMCAST
ug buried cable
(approx. location)
CenterPoint Energy
2" ip pla pe gas main
CROWN CASTLE
buried fiber
AT&T TEXAS (SWBT)
buried cable
exist. 8" san
exist. 6" san
exist. 60" rcp strm
exist. 4" pvc waterline
exist. 24" rcp strm
exist. 15" rcp strm
15'X15' VISIBILITY TRIANGLE
6' w. iron fence
stp. sign
6" inlet
mound planter
oak tree
2" tree
w/planter
15" oak w/planter
found 1/2" ir
found 1/2" iron rod
10'd bush w/planter
san. manhole
found mound
conc. drwy
4" pvc
power pole
down guy
street light
30" hedge row w/planter
4' w. iron fence
stp. sign
6" inlet
mound planter
oak tree
w/planter
2" tree
w/planter
15" oak w/planter
power pole w/t & trans
metal post
gas meter (2)
elec. meter (2)
30" tree stump
metal post
power pole w/t & trans
elec. meter (2)
gas meter (2)
drwy
curb inlet
drwy
curb inlet
drwy
curb inlet



KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

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www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

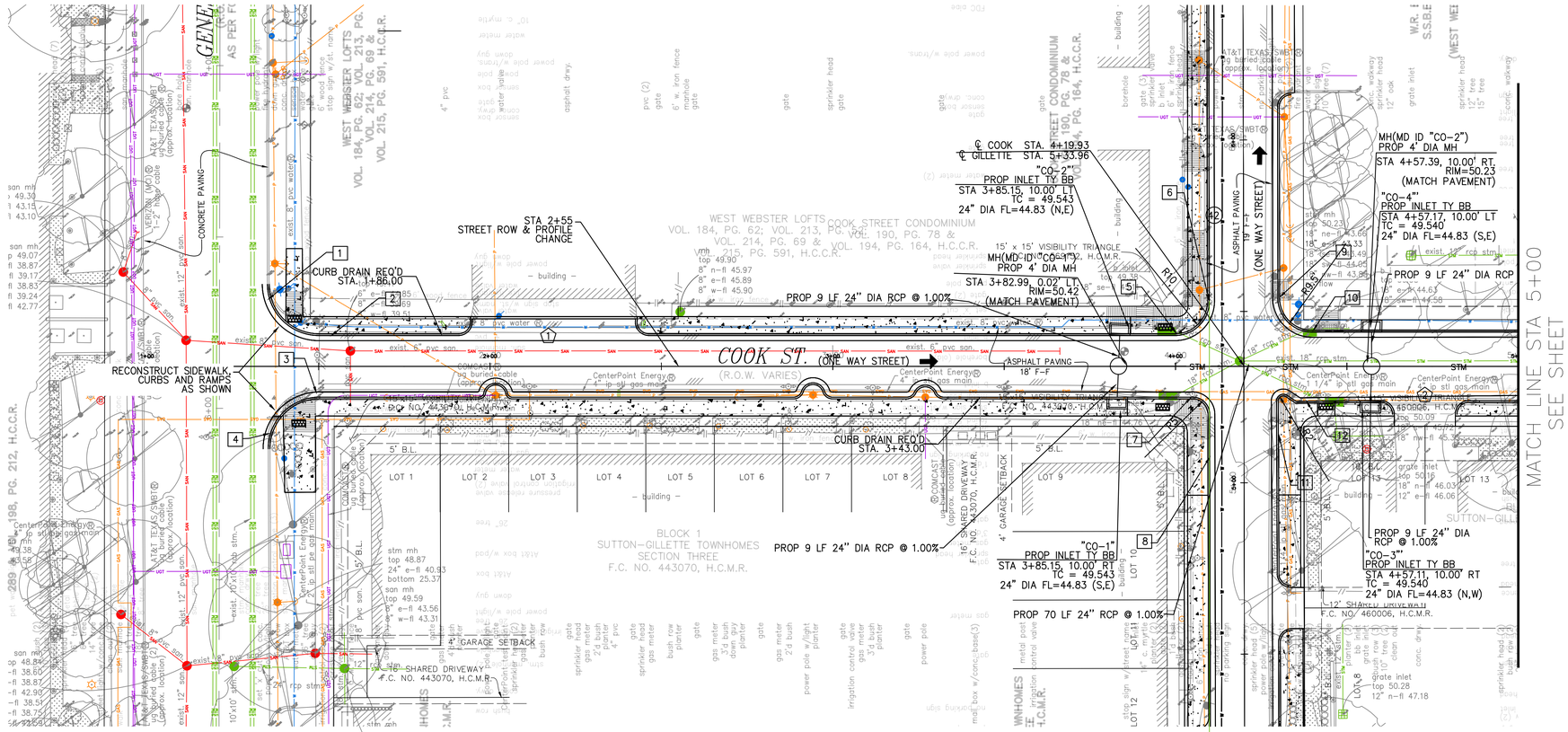
PROFILE
BOSTON STREET
STA 1+00 TO STA 3+35

SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb

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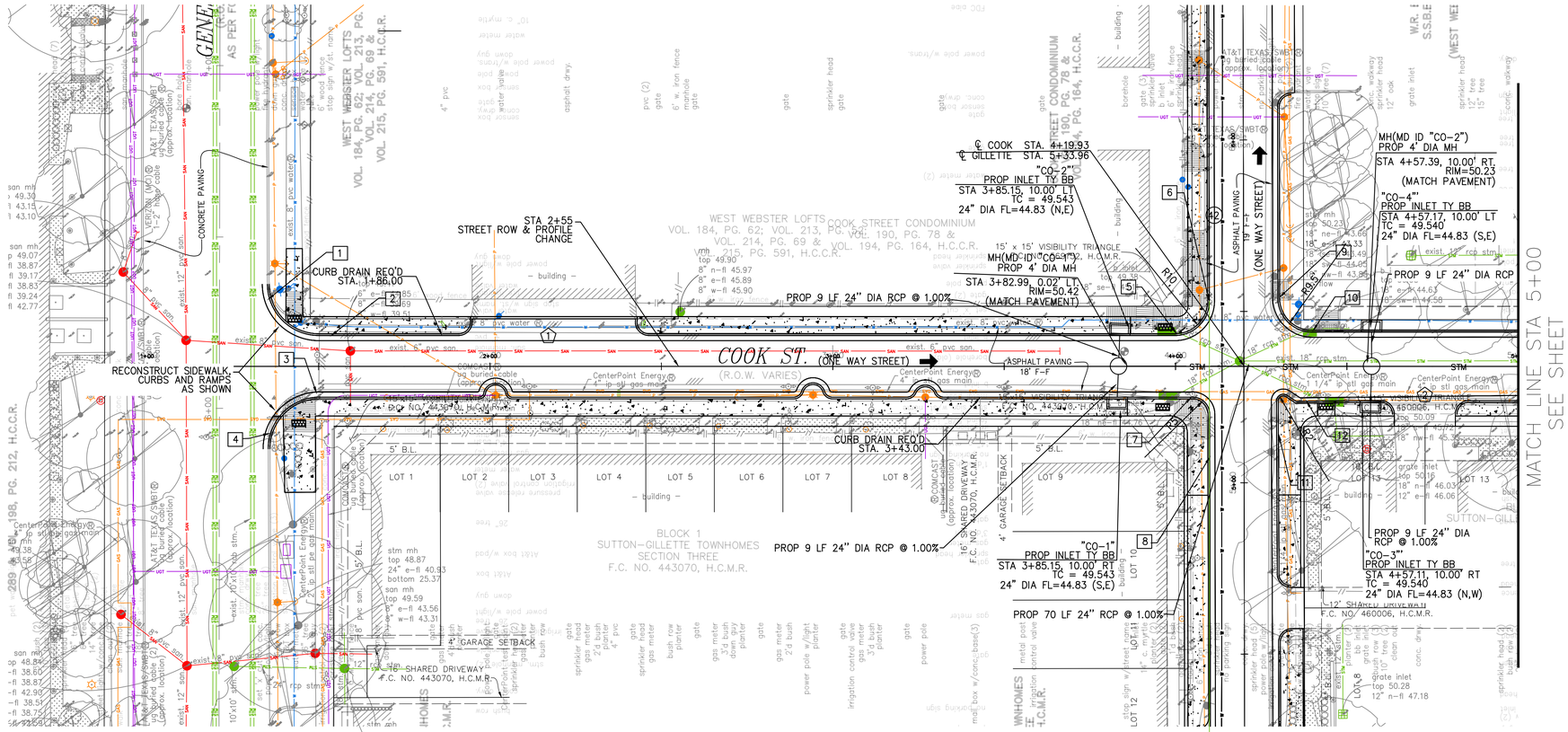
PLAN
COOK STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 6

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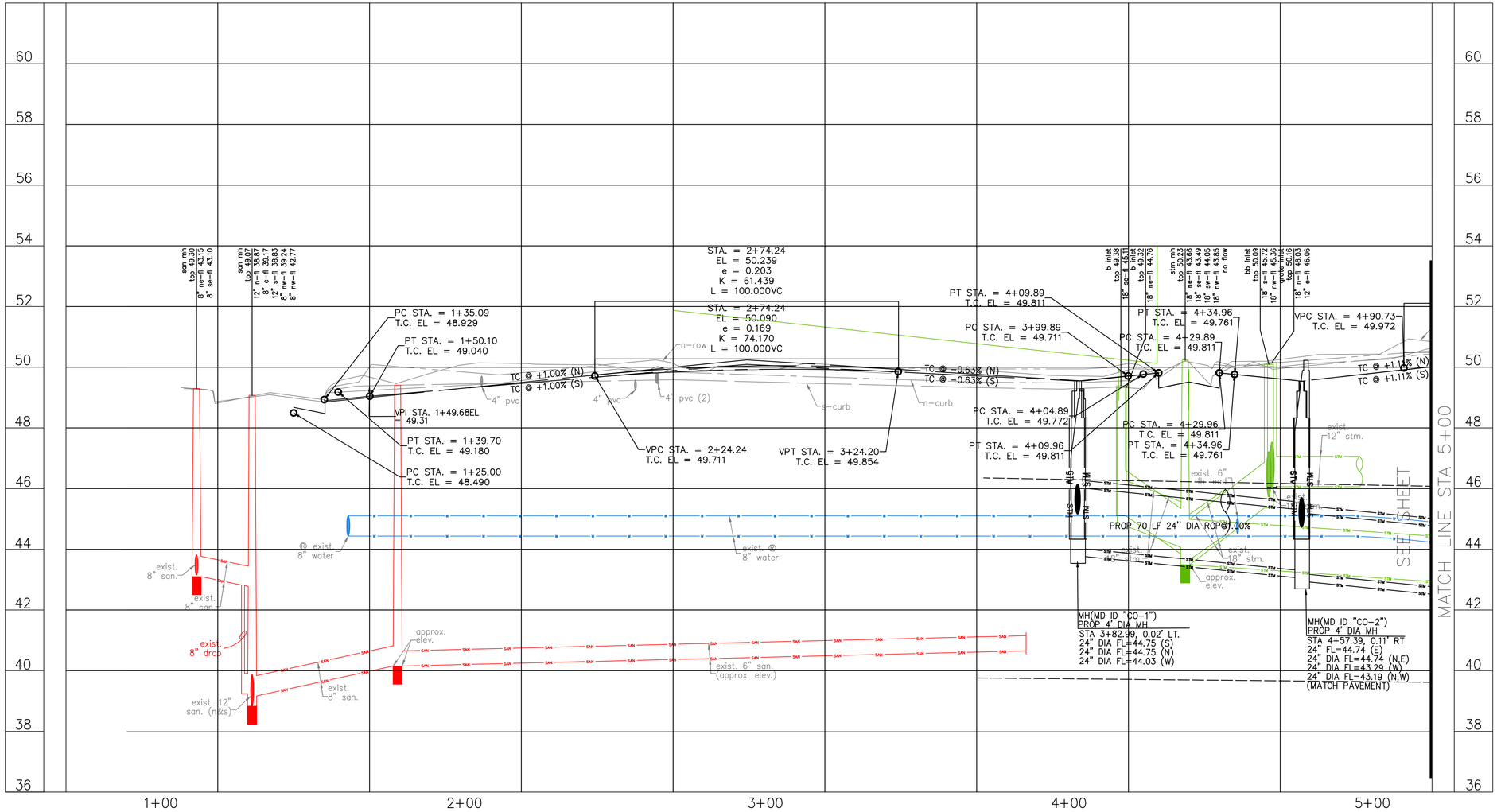
PLAN
COOK STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 6

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PROFILE
COOK STREET
STA 1+00 TO STA 5+00

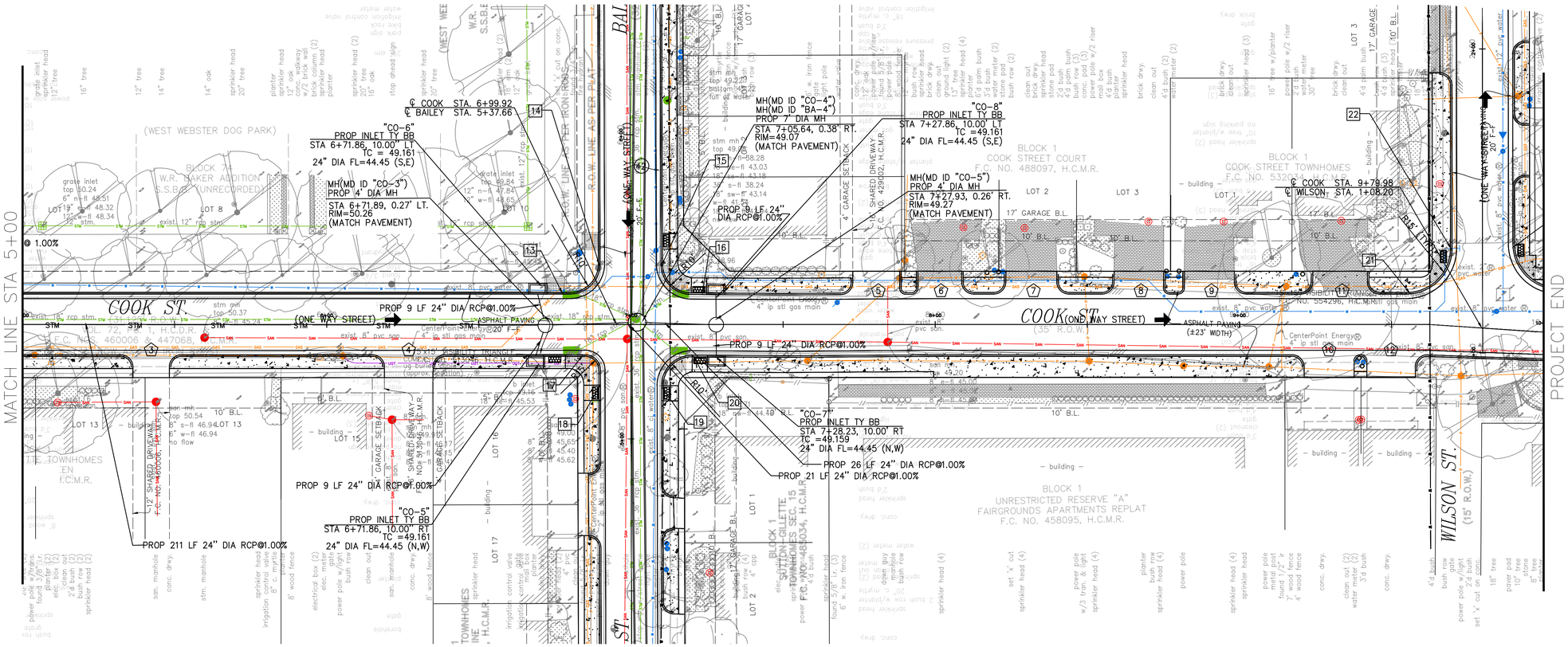
SHEET 2 OF 6

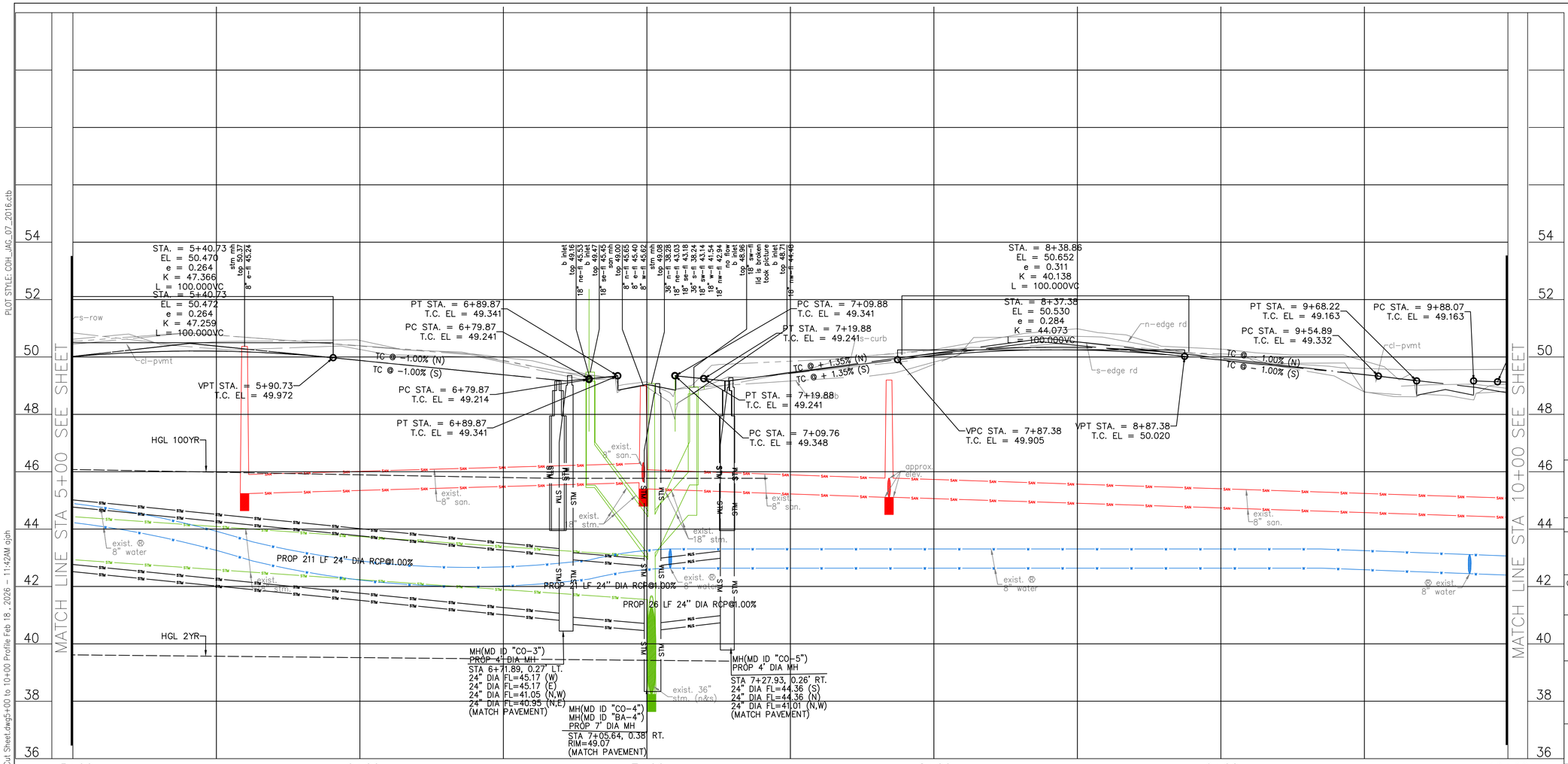
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CITY OF HOUSTON PM	
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PLOT STYLE: COH_JAG_07_2016.ctb
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SEE SHEET MATCH LINE STA 5+00
PROJECT END
COOK ST.
(ONE WAY STREET)
(35' R.O.W.)
WILSON ST.
(15' R.O.W.)
BAILEY ST.
(WEST WEBSTER DOG PARK)
BLOCK 1 W.R. BAKER ADDITION S.S.B.B.F. UNRECORDED
BLOCK 1 COOK STREET COURT F.C. NO. 488097, H.C.M.R.
BLOCK 1 COOK STREET TOWNHOMES F.C. NO. 532034, H.C.M.R.
BLOCK 1 UNRESTRICTED RESERVE "A" FAIRGROUNDS APARTMENTS REPLAT F.C. NO. 458095, H.C.M.R.
℄ COOK STA. 6+99.92
℄ BAILEY STA. 5+37.66
℄ COOK STA. 9+79.98
℄ WILSON STA. 1+08.20
"CO-6" PROP INLET TY BB STA 6+71.86, 10.00' LT TC = 49.161 24" DIA FL=44.45 (S,E)
MH(MD ID "CO-3") PROP 4' DIA MH STA 6+71.89, 0.27' LT. RIM=50.26 (MATCH PAVEMENT)
PROP 9 LF 24" DIA RCP@1.00%
"CO-4" MH(MD ID "CO-4") MH(MD ID "BA-4") PROP 7' DIA MH STA 7+05.64, 0.38' RT. RIM=49.07 (MATCH PAVEMENT)
"CO-8" PROP INLET TY BB STA 7+27.86, 10.00' LT TC = 49.161 24" DIA FL=44.45 (S,E)
MH(MD ID "CO-5") PROP 4' DIA MH STA 7+27.93, 0.26' RT. RIM=49.27 (MATCH PAVEMENT)
PROP 9 LF 24" DIA RCP@1.00%
ASPHALT PAVING (±23' WIDTH)
"CO-7" PROP INLET TY BB STA 7+28.23, 10.00' RT TC =49.159 24" DIA FL=44.45 (N,W)
PROP 26 LF 24" DIA RCP@1.00%
PROP 21 LF 24" DIA RCP@1.00%
PROP 9 LF 24" DIA RCP@1.00%
"CO-5" PROP INLET TY BB STA 6+71.86, 10.00' RT TC =49.161 24" DIA FL=44.45 (N,W)
PROP 211 LF 24" DIA RCP@1.00%
12' SHARED DRIVEWAY F.C. NO. 460006, H.C.M.R.
4' GARAGE SETBACK
10' B.L.
17' GARAGE B.L.
LOT 1
LOT 2
LOT 3
LOT 8
LOT 13
LOT 15
LOT 16
LOT 17
exist 18" rcp stm.
exist 8" pvc water
exist 8" pvc san.
4" ip stl gas main
CenterPoint Energy
VISIBILITY TRIANGLE (approx. location)
12" ip stl gas main
exist 12" rcp stm.
exist 8" pvc sanitary sewer
exist 8" pvc water
exist 8" pvc storm sewer
exist 12" pvc water
exist 6" pvc water
exist 8" pvc sanitary sewer
exist 8" pvc storm sewer
exist 8



KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

CITY OF HOUSTON

GRAPHIC SCALE

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GRAY AND TAFT AREA PAVING AND DRAINAGE

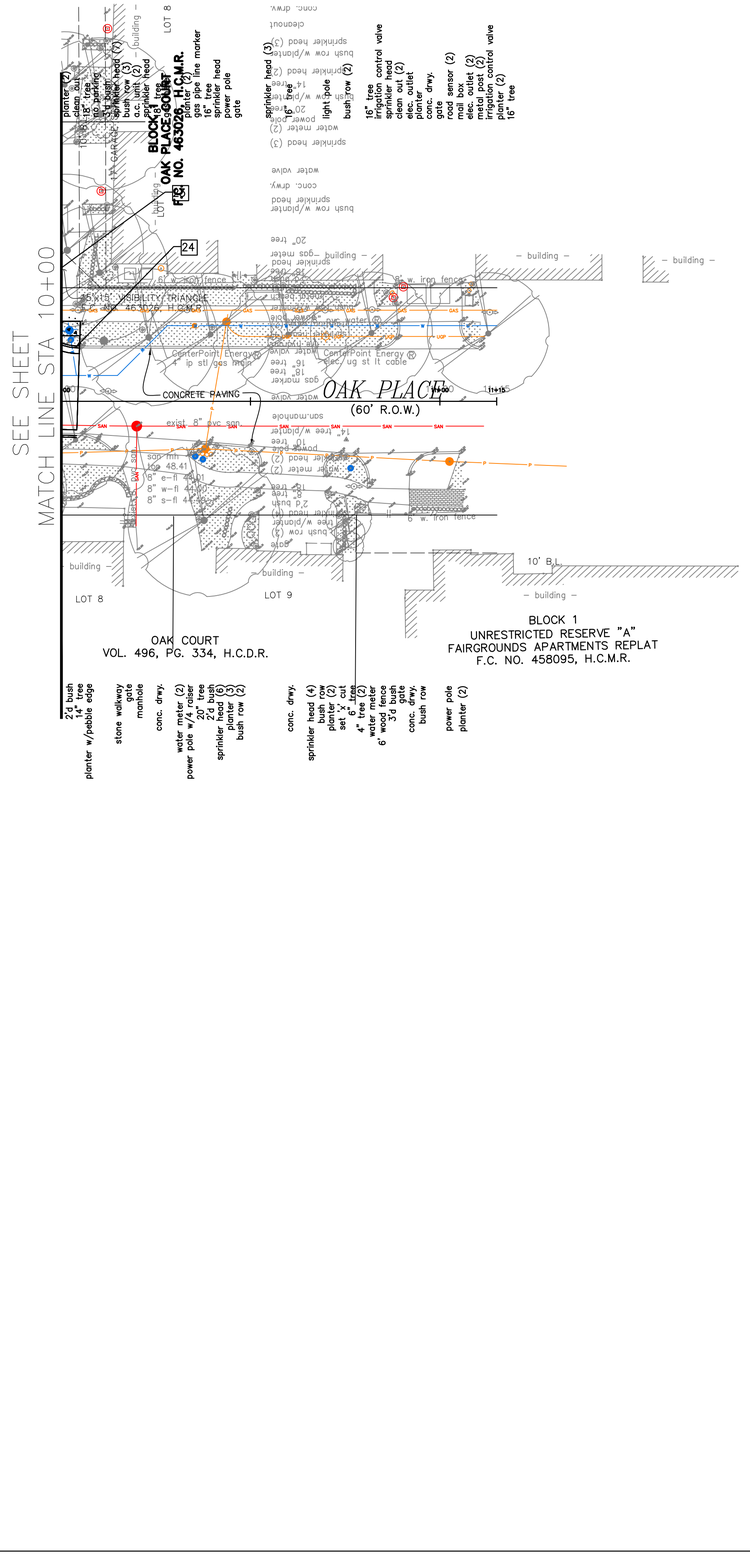
PROFILE
COOK STREET
STA 5+00 TO STA 10+00

SHEET 4 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

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W:\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Cook St Cut Sheet.dwg 10+00 to 11+50 Plan Feb 20 , 2026 - 8:23AM glenn

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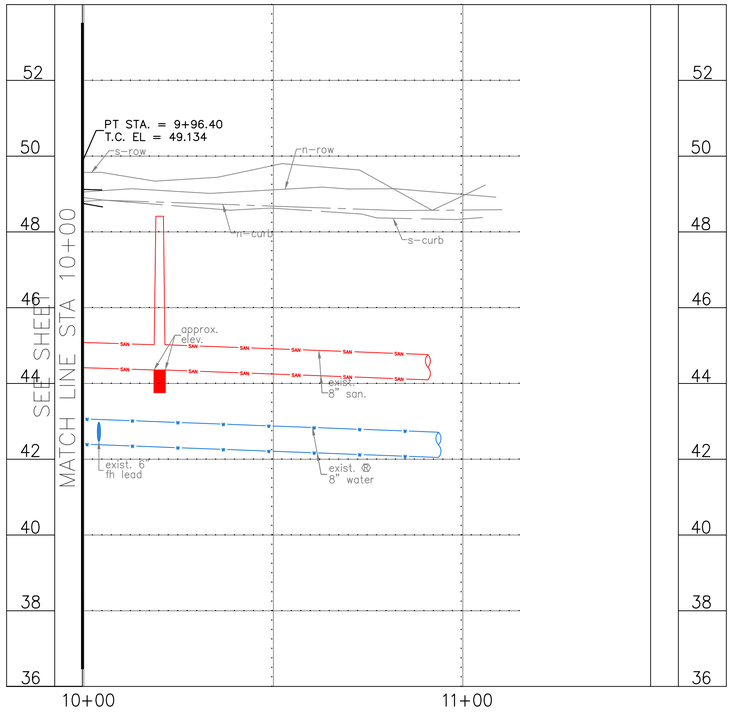
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GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
COOK STREET
STA 10+00 TO STA 11+15

SHEET 5 OF 6

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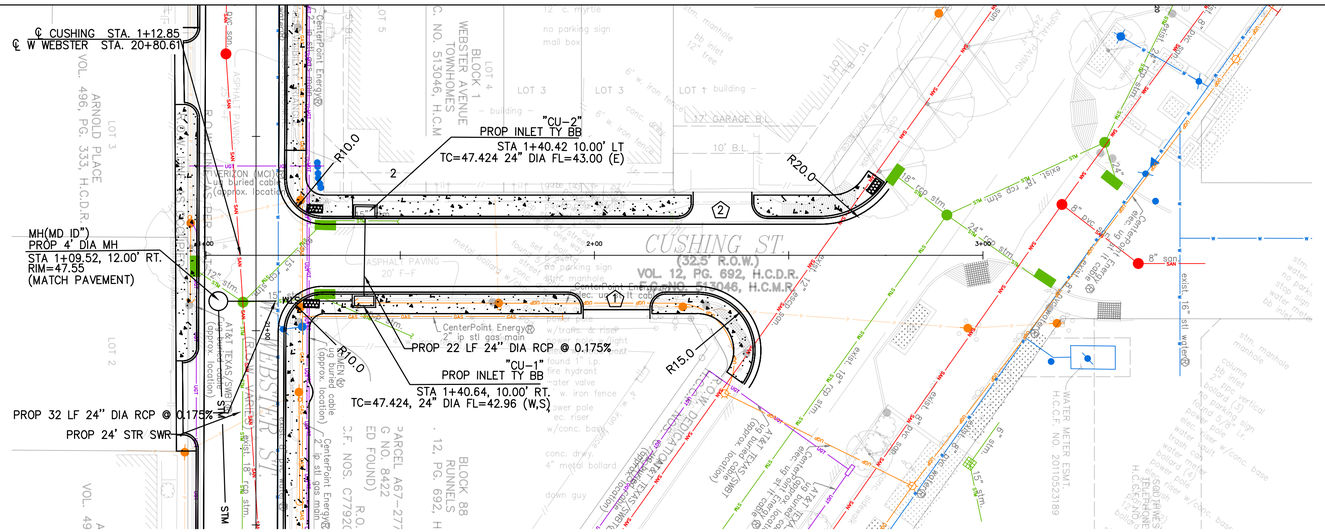
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COOK STREET
STA 10+00 TO STA 11+15

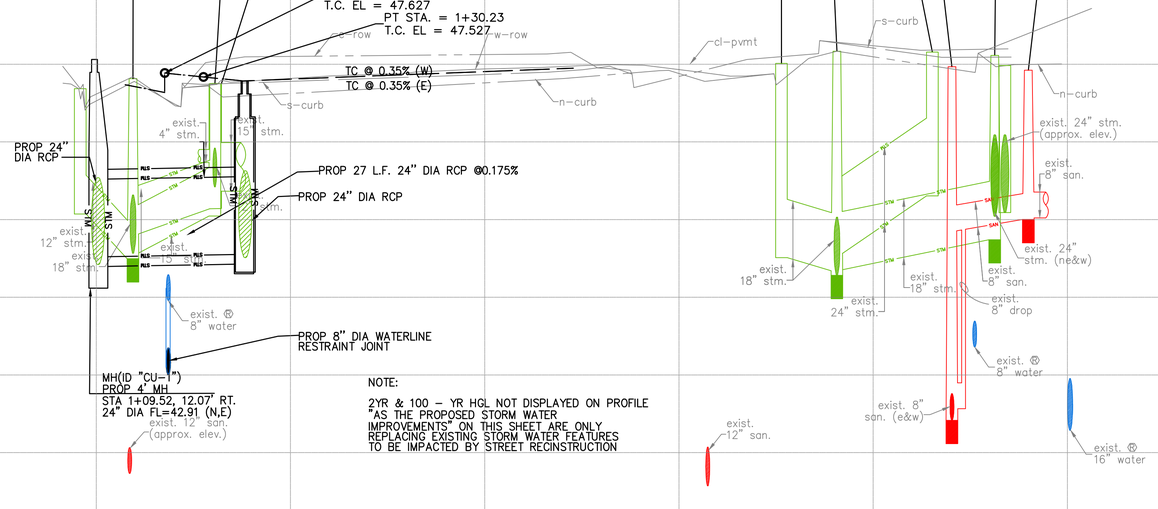
SHEET 1 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

W:\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Cook St Cut Sheet.dwg10+00 to 11+50 Profile Feb 20 , 2026 - 8:32AM glenn





b inlet top 47.37 12" ne-fl 44.14

stm mh top 47.63 15" n-fl 43.54 18" e-fl 43.13 12" sw-fl 42.99 15" nw-fl 43.63

b inlet top 47.60 12" n-fl 44.84 4" s-fl 45.47 15" s-fl 44.09

b inlet top 47.50 15" n-fl 44.73 15" se-fl 44.28

bb inlet top 48.02 18" n-fl 43.02

stm mh top 48.33 24" n-fl 43.13 24" e-fl 42.56 18" s-fl 42.68 18" nw-fl 42.71

bb inlet top 48.31 24" sw-fl 44.61

son mh top 47.83 8" n-fl 39.13 8" n-fl 43.71 8" e-fl 38.83 8" w-fl 38.85

stm mh top 47.22 24" ne-fl 44.18 18" se-fl 43.48 24" w-fl 44.08

bb inlet top 47.84 8" nw-fl 44.04 8" sw-fl 44.00

1+00 2+00 3+00

KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

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1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN & PROFILE
CUSHING STREET
STA 1+00 TO STA 3+00

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb

\\IMS-FILEFORCE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Cushing St Cut Sheet.dwgC.018.000.plan_profile.dwg Feb 18, 2026 - 3:15PM gjah

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Dennis St Cut Sheet.dwg 1+00 to 5+00 Plan Feb 18, 2026 - 2:22PM ojah

LEGEND

- WM — WATER METER
- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH / WV — FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE

NOTE;
1) PLACE ONE (1) FULL SECTION (18' MIN) OF WL CENTERED AT SS CROSSING. PROVIDE RESTRAINED JOINTS ON WL. SPACED AT LEAST 9' HORTIZONTALLY FROM THE CENTERLINE OF SS.

2) REMOVE AND REPLACE EXIST WATERLINE FROM FROM PROP GATE VALVE TO 8" CROSS.

3) ROUTE PROPOSED WATERLINE AROUND LIGHT POLE FOUNDATION.

4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

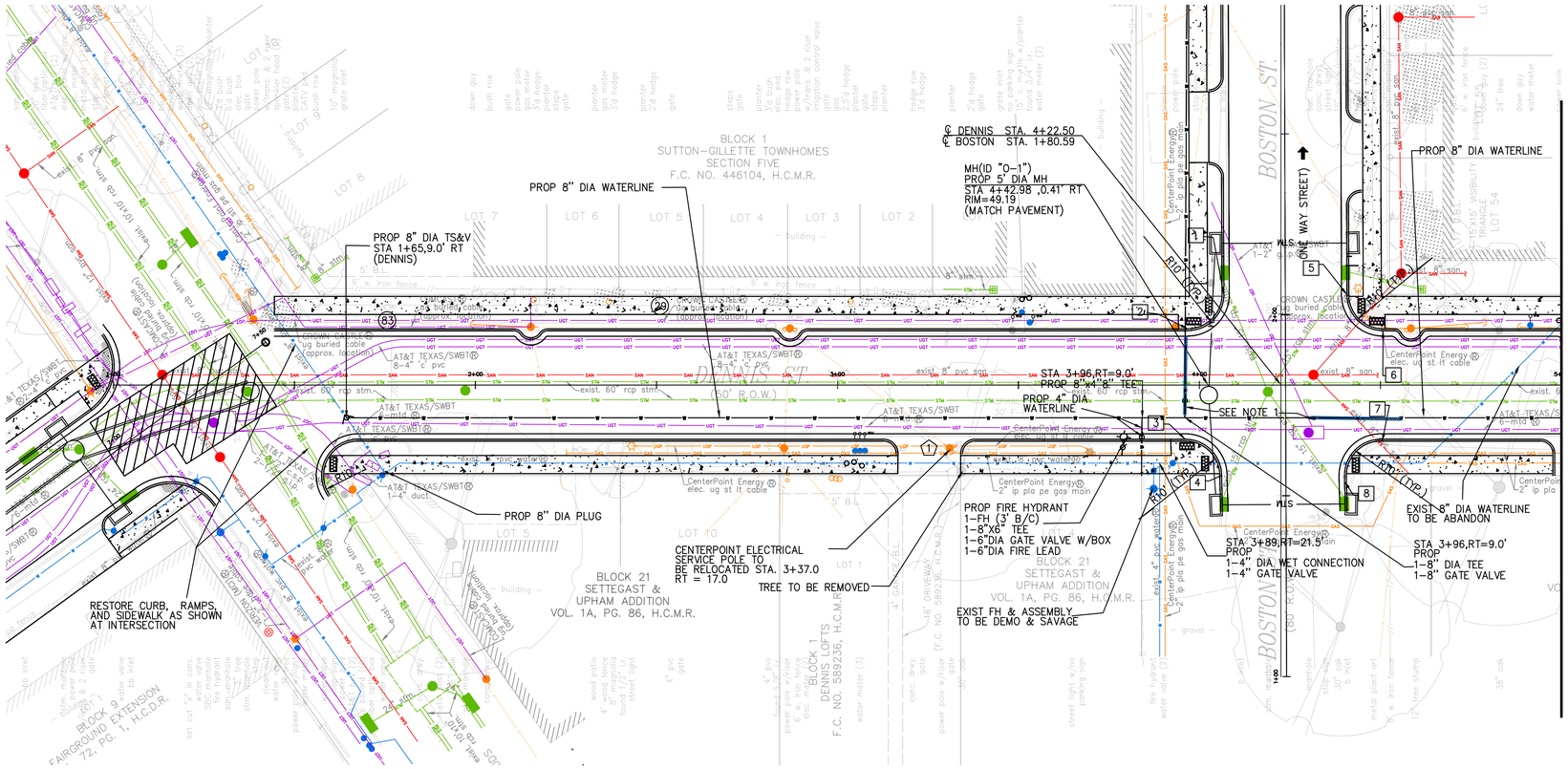
(XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

(XX) DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.



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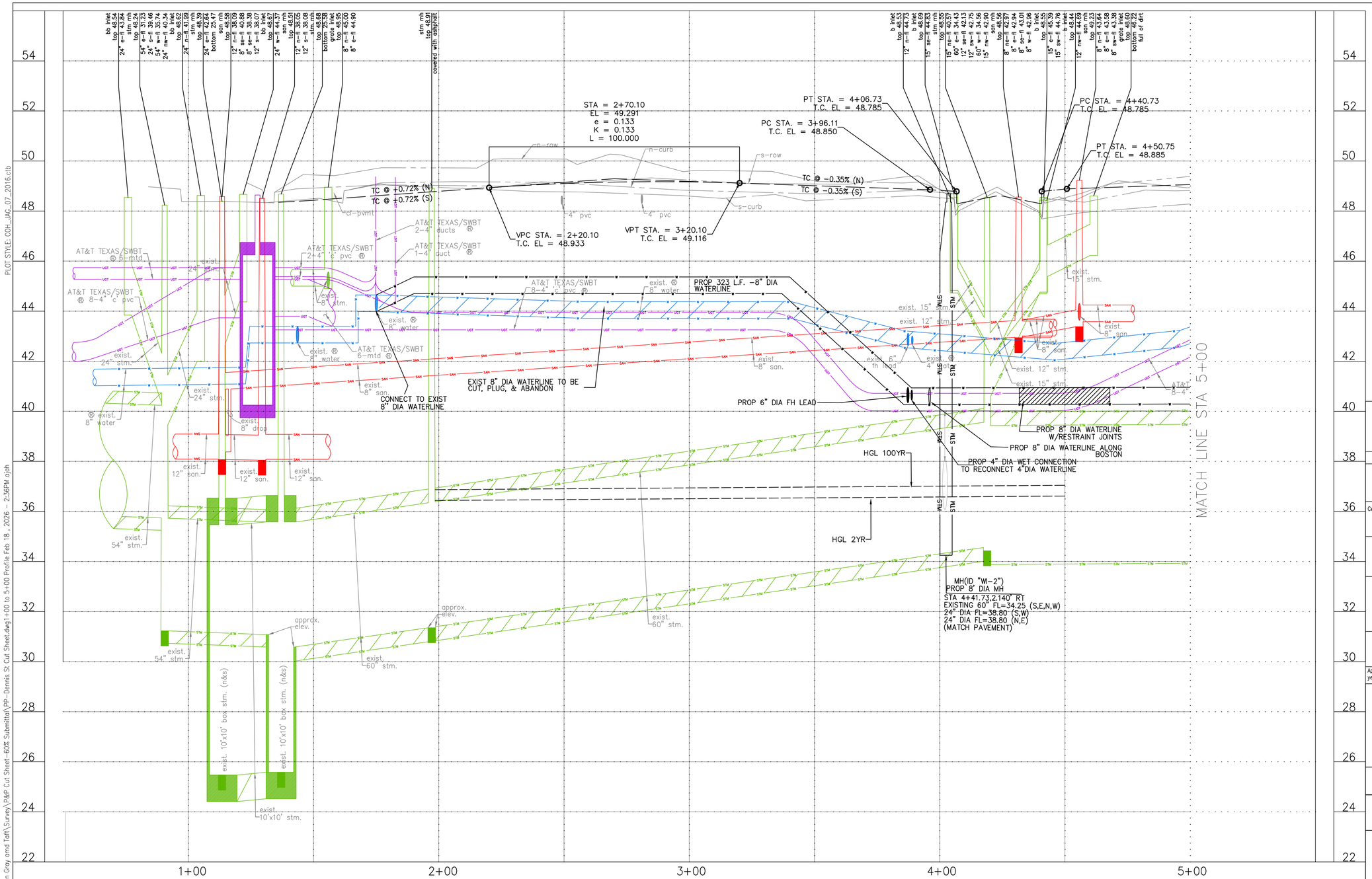
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
DENNIS STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	



XX KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

XX DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
DENNIS STREET
STA 1+00 TO STA 5+00

SHEET 2 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60ft Submittal\PP-Dennis St Cut Sheet.dwg 1+00 to 5+00 Profile Feb 18, 2026 - 2:36PM ojah

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray amd Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Dennis St Cut Sheet.dwg5+00 to 8+92 Plan Feb 18 , 2026 - 2:46PM ajah

(XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

(XX) DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

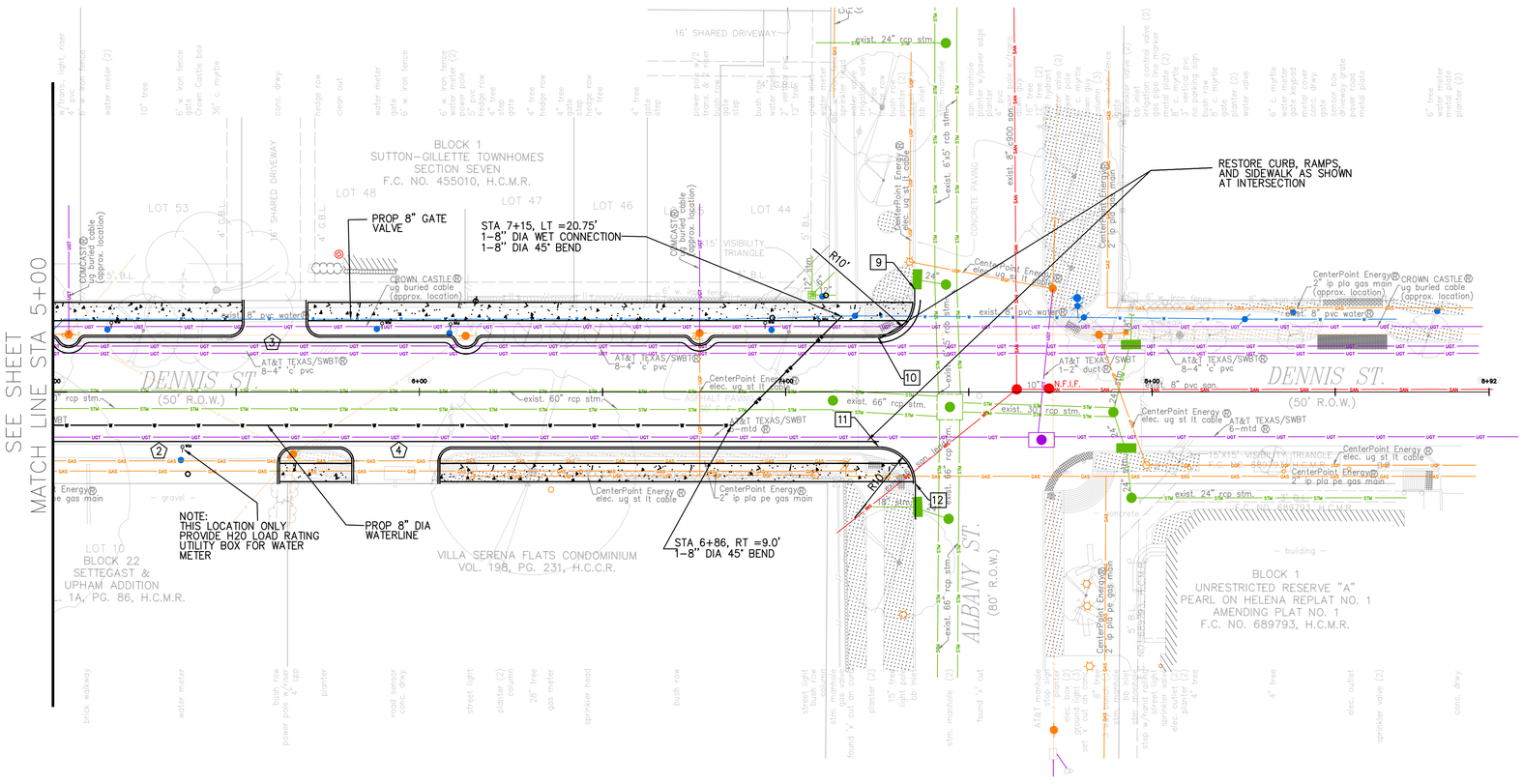
LEGEND

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- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH — FIRE HYDRANT/FLUSHING VALVE
- WV — TAPPING SLEEVE & VALVE

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.



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ims
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TX Firm 18572

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CITY OF HOUSTON

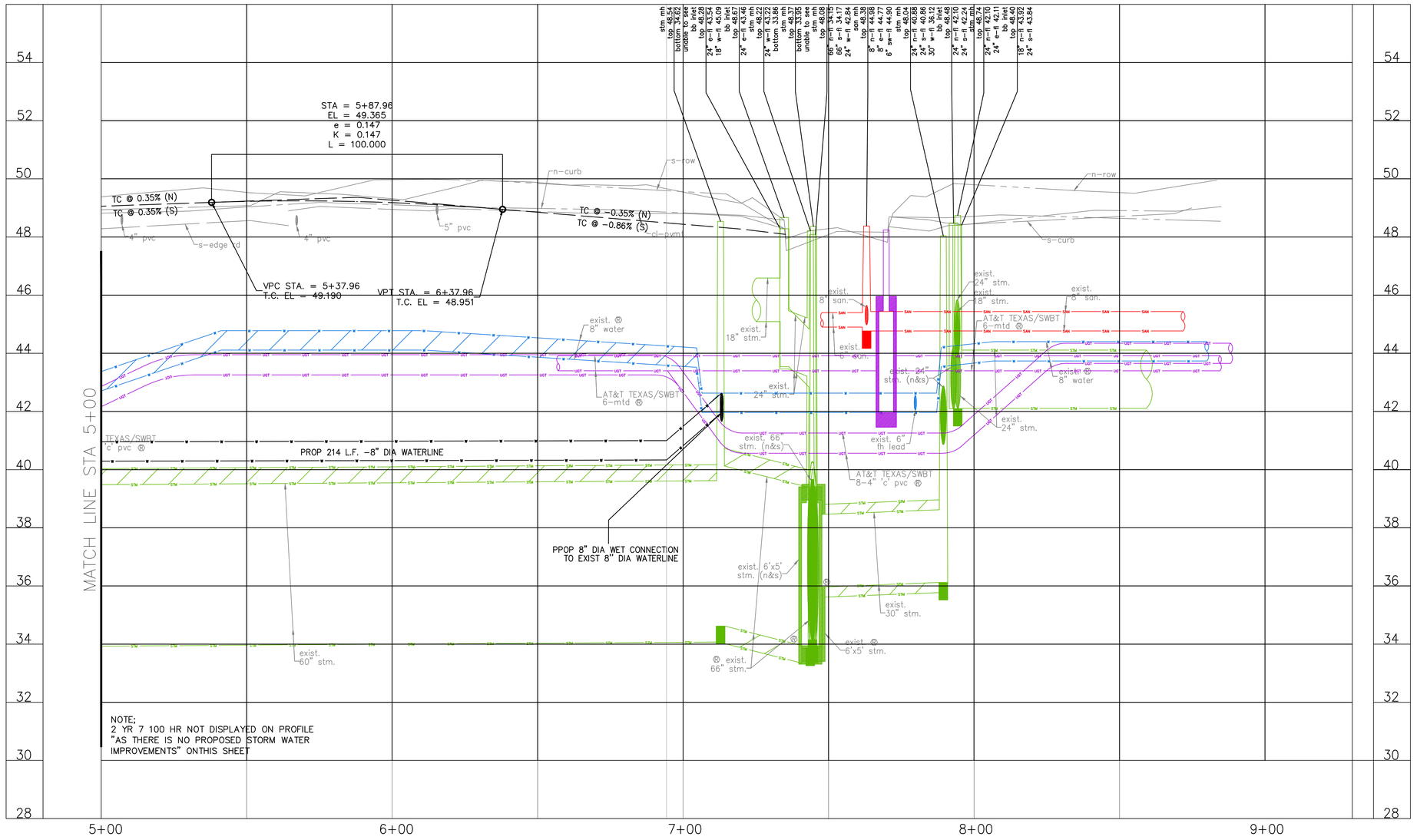
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
DENNIS STREET
STA 5+00 TO STA 8+92

SHEET 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	



(XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

(XX) DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

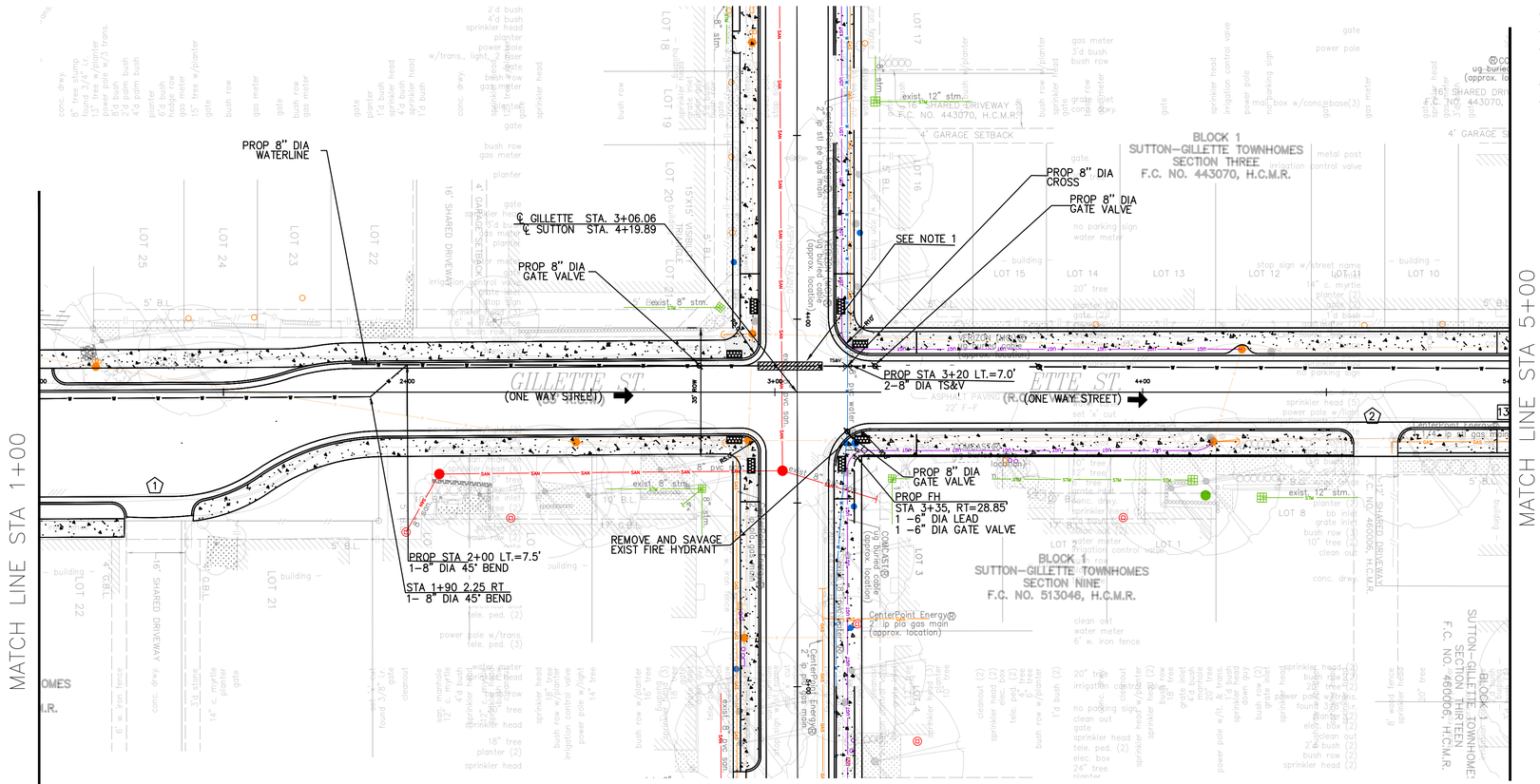
PROFILE
DENNIS STREET
STA 5+00 TO STA 8+92

SHEET 4 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
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SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Dennis St Cut Sheet.dwg5+00 to 8+92 Profile Feb 18 , 2026 - 2:57PM ojah



LEGEND

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3) ROUTE PROPOSED WATERLINE AROUND LIGHT POLE FOUNDATION.

4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

CITY OF HOUSTON
GRAPHIC SCALE

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN & PROFILE
GILLETTE STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 3

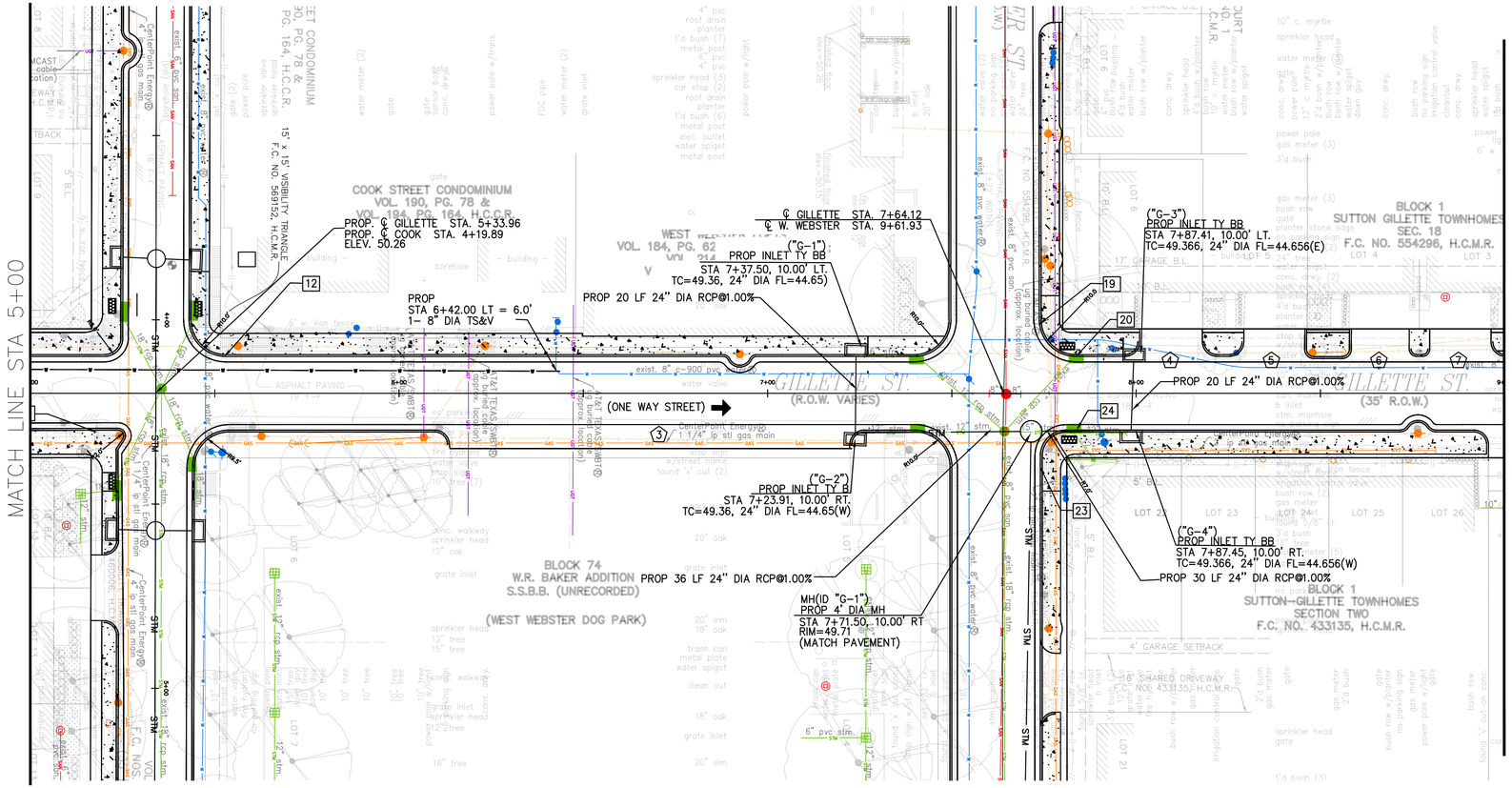
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
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PLOT STYLE: COH_IMG_07_2016.ctb
Feb 23, 2026 - 9:19AM ojoh
\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Gillette St Cut Sheet.dwg 1+00 to 5+00

PLOT STYLE: COH_JAG_07_2016.ctb

Feb 23, 2026 - 10:47AM ojoh

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Gillette St Cut Sheet.dwg5+00 to 9+00 Feb 23, 2026



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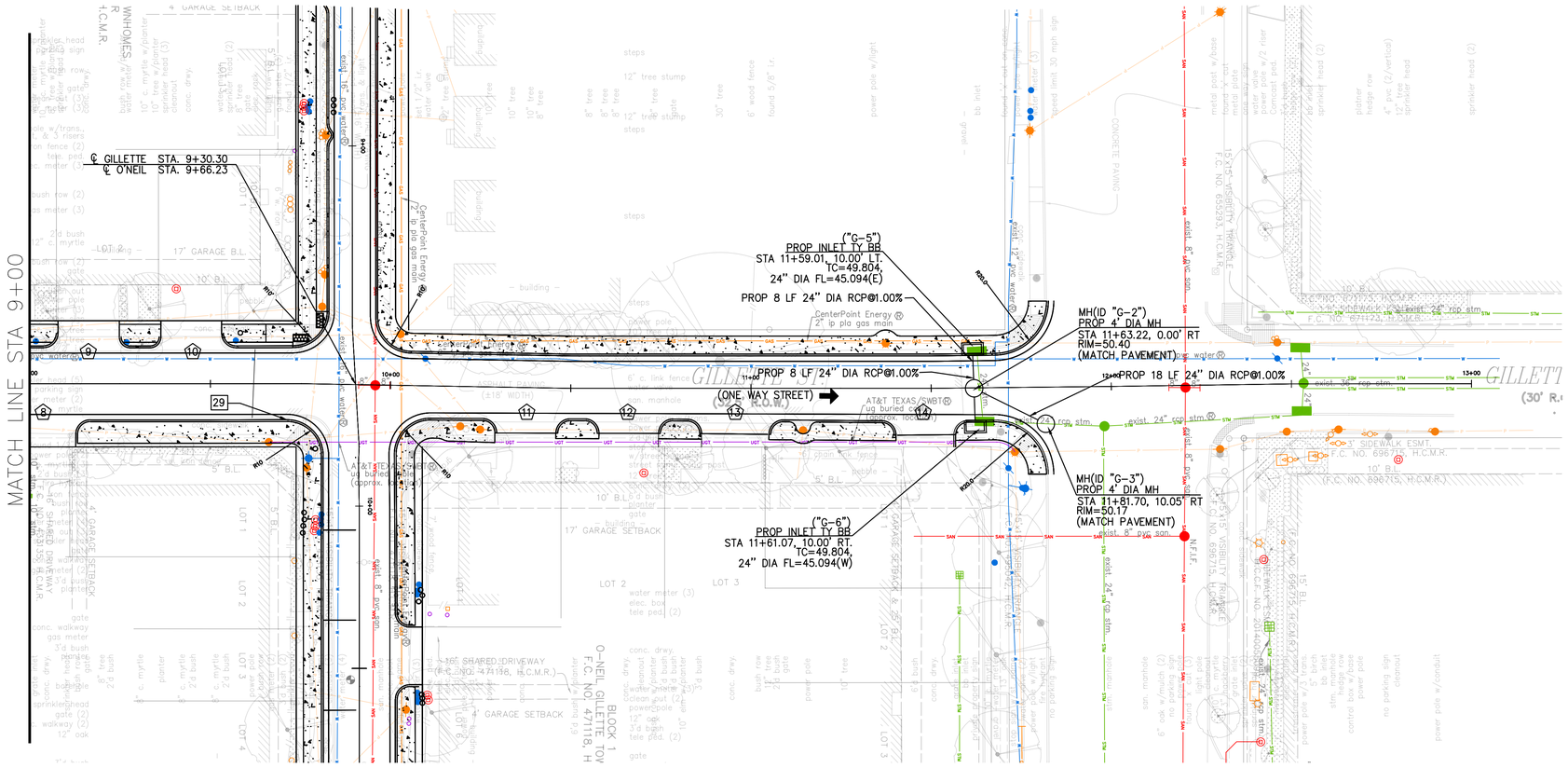
GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN & PROFILE
GILLETTE STREET
STA 5+00 TO STA 9+00

SHEET 2 OF 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb


MATCH LINE STA 9+00
℄ GILLETTE STA. 9+30.30
℄ O'NEIL STA. 9+66.23
("G-5")
PROP INLET TY BB
STA 11+59.01, 10.00' LT.
TC=49.804,
24" DIA FL=45.094(E)
PROP 8 LF 24" DIA RCP@1.00%
("G-6")
PROP INLET TY BB
STA 11+61.07, 10.00' RT.
TC=49.804,
24" DIA FL=45.094(W)
PROP 8 LF 24" DIA RCP@1.00%
(ONE WAY STREET)
MH(ID "G-2")
PROP 4' DIA MH
STA 11+63.22, 0.00' RT
RIM=50.40
(MATCH PAVEMENT)
PROP 18 LF 24" DIA RCP@1.00%
MH(ID "G-3")
PROP 4' DIA MH
STA 11+81.70, 10.05' RT
RIM=50.17
(MATCH PAVEMENT)
GILLETTE ST.
(50' R.O.W.)
O'NEIL ST.
(30' R.O.W.)
WNHOMES, LLC
F.C.N. 671125, H.C.M.R.
O'NEIL GILLETTE TOWNHOMES
F.C. NO. 671125, H.C.M.R.
16' SHARED DRIVEWAY
(F.C. NO. 471186, H.C.M.R.)
BLOCK 1
O'NEIL GILLETTE TOWNHOMES
F.C. NO. 471186, H.C.M.R.
3' SIDEWALK ESMT.
F.C. NO. 696715, H.C.M.R.
F.C. NO. 696715, H.C.M.R.
F.C. NO. 696715, H.C.M.R

PLOT STYLE: COH_JAG_07_2016.ctb

W:\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Mason St Cut Sheet.dwg 1+00 to 5+00 Plan Mar 03, 2026 - 11:12AM glenn

LEGEND

- WM — WATER METER
- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH / WV — FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE

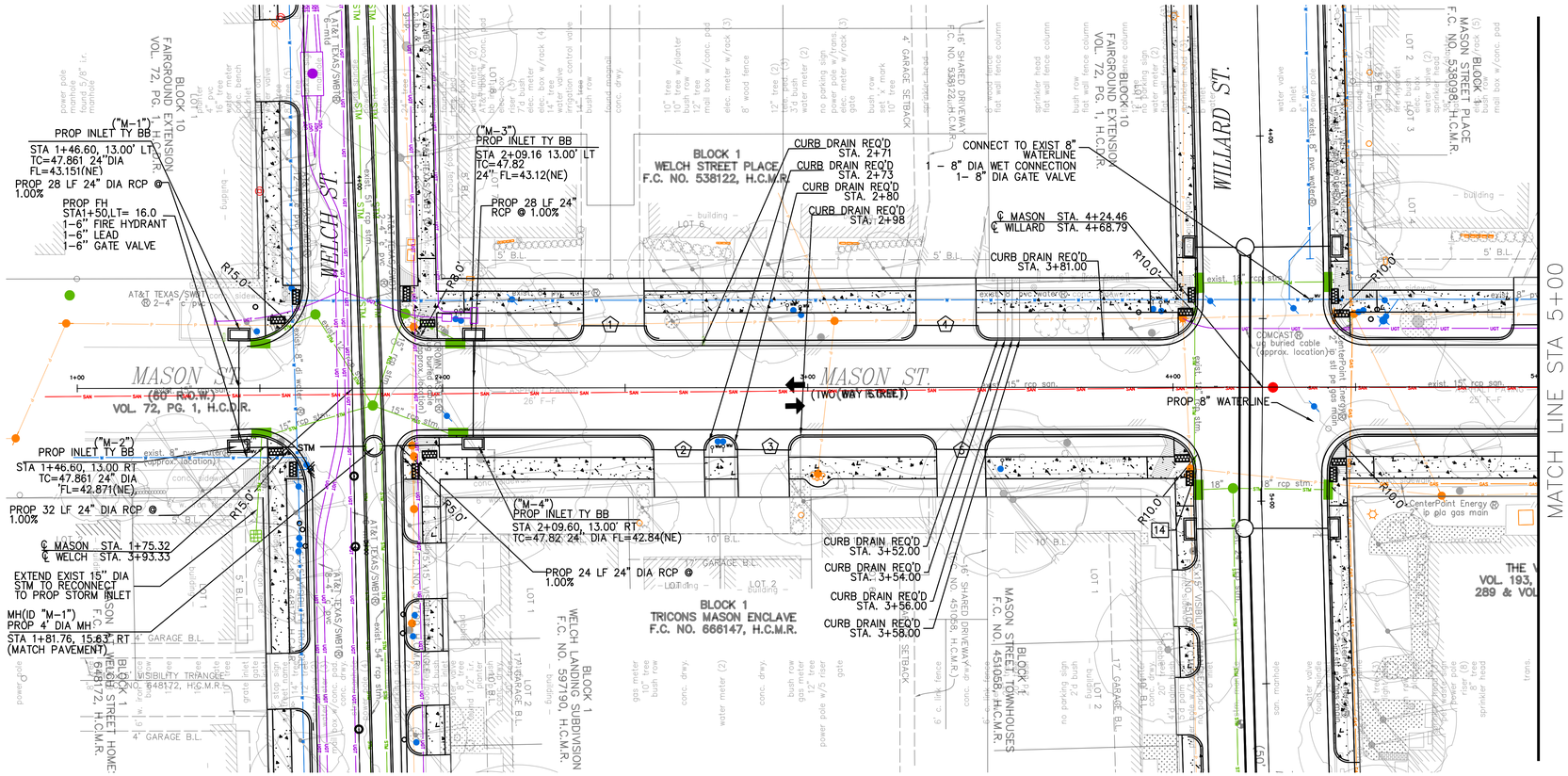
KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.



BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.99989317.

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

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Signature valid for six months.

Date

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1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

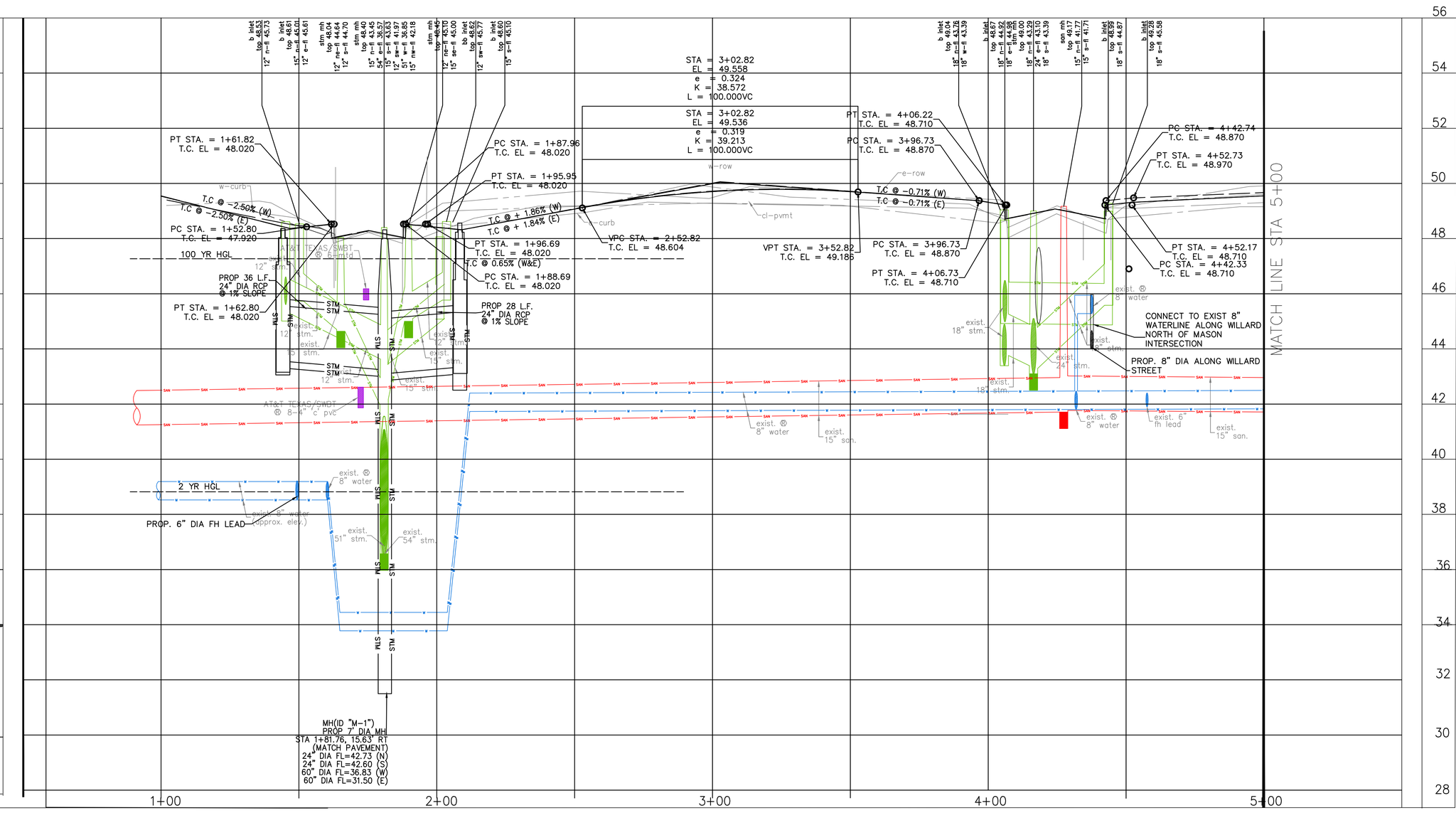
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
MASON STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	



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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
MASON STREET
STA 1+00 TO STA 5+00

SHEET 2 OF 6

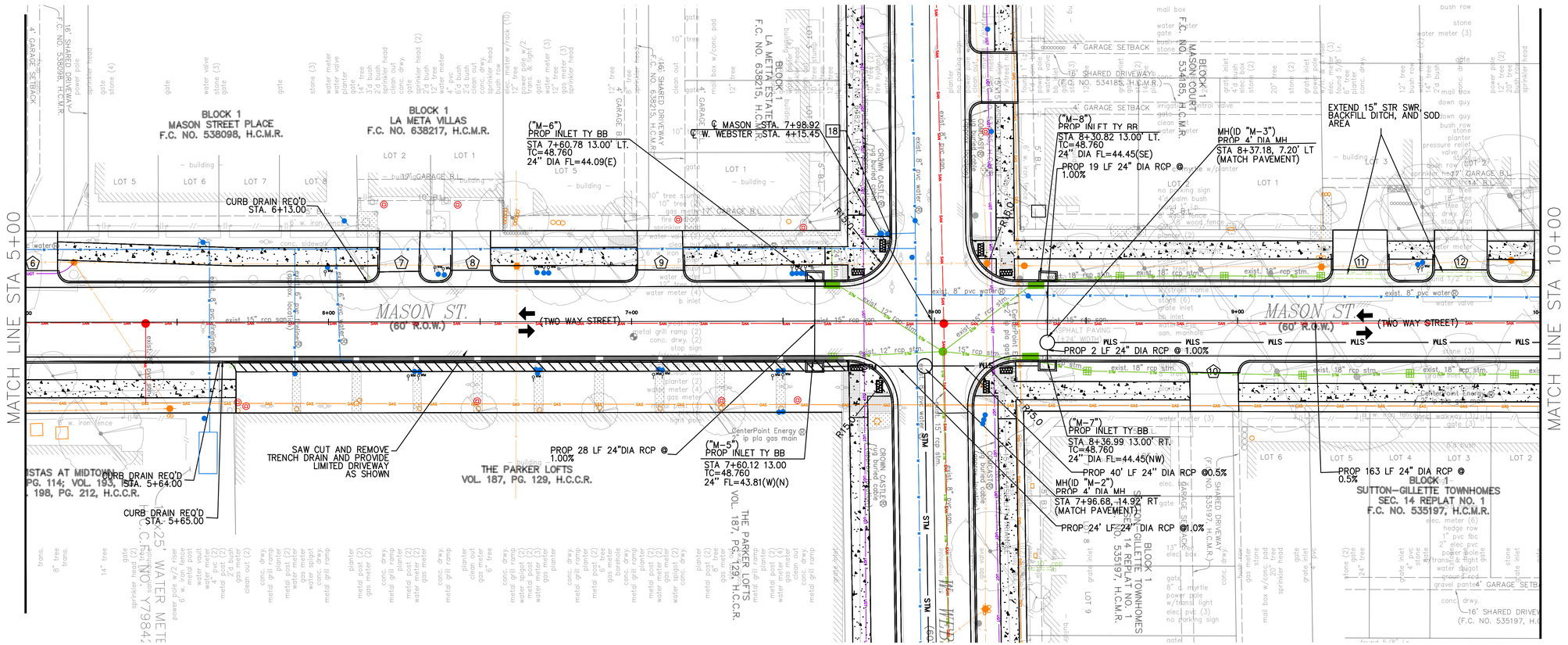
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SHEET NO. OF	

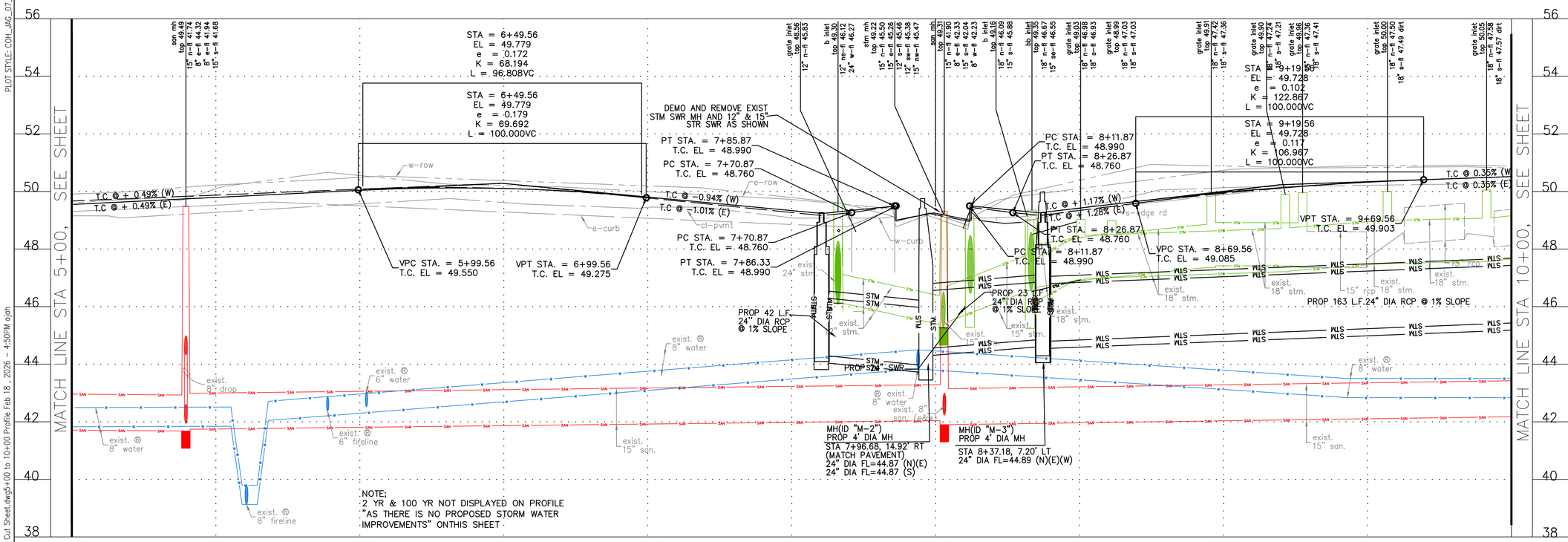
PLOT STYLE: COH_IAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60ft Submittal\PP-Mason St Cut Sheet.dwg1+00 to 5+00 Profile Feb 18, 2026 - 4:30PM ajoh

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Mason St Cut Sheet.dwg5+00 to 10+00 Plan Feb 18, 2026 - 4:48PM ojoh


MATCH LINE STA 5+00
MATCH LINE STA 10+00
MASON ST.
(60' R.O.W.)
(TWO WAY STREET)
BLOCK 1
MASON STREET PLACE
F.C. NO. 538098, H.C.M.R.
BLOCK 1
LA META VILLAS
F.C. NO. 638217, H.C.M.R.
BLOCK 1
LA META ESTATES
F.C. NO. 638215, H.C.M.R.
BLOCK 1
MASON COURT
F.C. NO. 534185, H.C.M.R.
16' SHARED DRIVEWAY
(F.C. NO. 538098, H.C.M.R.)
16' SHARED DRIVEWAY
(F.C. NO. 638215, H.C.M.R.)
16' SHARED DRIVEWAY
(F.C. NO. 534185, H.C.M.R.)
4' GARAGE SETBACK
CURB DRAIN REQ'D
STA. 6+13.00
("M-6")
PROP INLET TY BB
STA 7+60.78 13.00' LT.
TC=48.760
24" DIA FL=44.09(E)
℄ MASON STA. 7+98.92
℄ W. WEBSTER STA. 4+15.45
("M-8")
PROP INLET TY BB
STA 8+30.82 13.00' LT.
TC=48.760
24" DIA FL=44.45(SE)
PROP 19 LF 24" DIA RCP @ 1.00%
MH(ID "M-3")
PROP 4' DIA MH
STA 8+37.18, 7.20' LT
(MATCH PAVEMENT)
EXTEND 15" STR SWR, BACKFILL DITCH, AND SOD AREA
("M-7")
PROP INLET TY BB
STA 8+36.99 13.00' RT.
TC=48.760
24" DIA FL=44.45(NW)
PROP 40' LF 24" DIA RCP @0.5%
MH(ID "M-2")
PROP 4' DIA MH
STA 7+96.68, 14.92' RT
(MATCH PAVEMENT)
PROP 24' LF 24" DIA RCP @1.0%
PROP 2 LF 24" DIA RCP @ 1.00%
PROP 163 LF 24" DIA RCP @ 0.5%
BLOCK 1
SUTTON-GILLETTE TOWNHOMES
SEC. 14 REPLAT NO. 1
F.C. NO. 535197, H.C.M.R.
SAW CUT AND REMOVE TRENCH DRAIN AND PROVIDE LIMITED DRIVEWAY AS SHOWN
PROP 28 LF 24"DIA RCP @ 1.00%
("M-5")
PROP INLET TY BB
STA 7+60.12 13.00
TC=48.760
24" FL=43.81(W)(N)
THE PARKER LOFTS
VOL. 187, PG. 129, H.C.C.R.
CURB DRAIN REQ'D
STA. 5+64.00
CURB DRAIN REQ'D
STA. 5+65.00
STAS AT MIDTOWN
PG. 114; VOL. 193,
198, PG. 212, H.C.C.R.
25" WATER METER
C.C.F. NO. Y79842
exist. 8" pvc water
exist. 8" pvc san.
exist. 15" rcp storm
exist. 18" rcp storm
exist. 12" rcp storm
exist. 10" rcp storm
exist. 6" pvc water
exist. 12" pvc water
exist. 16" rcp storm
exist. 24" rcp storm
exist. 15" rcp storm
exist. 8" pvc san.
exist. 6" pvc san.
exist. 10" pvc water
exist. 8" pvc water
exist. 12" pvc water
exist. 16" pvc water
exist. 18" pvc water
exist. 24" pvc water
exist. 6" pvc water
exist. 8" pvc san.
exist. 10" pvc san.
exist. 12" pvc san.
exist. 15" pvc san.
exist. 18" pvc san.
exist. 24" pvc san.
exist. 30" pvc san.
exist. 36" pvc san.
exist. 42" pvc san.
exist. 48" pvc san.
exist. 54" pvc san.
exist. 60" pvc san.
exist. 72" pvc san.
exist. 84" pvc san.
exist. 96" pvc san.
exist. 108" pvc san.
exist. 120" pvc san.
exist. 132" pvc san.
exist. 144" pvc san.
exist. 156" pvc san.
exist. 168" pvc san.
exist.



KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
MASON STREET
STA 5+00 TO STA 10+00

SHEET 4 OF 6

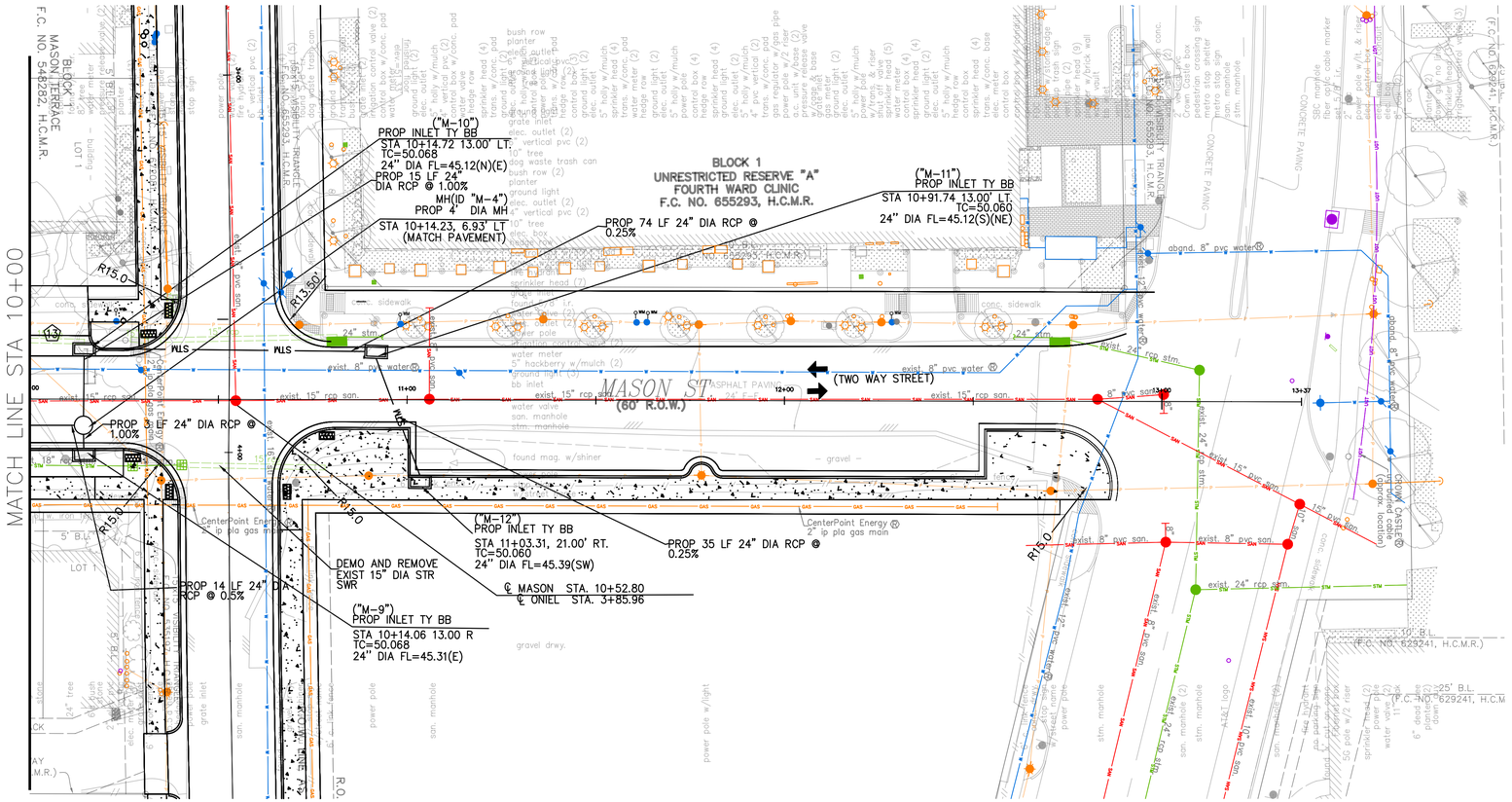
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IAG_07_2016.ctb

Plotted: Feb 18, 2026 - 4:50PM ojah

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Mason St Cut Sheet.dwg5+00 to 10+00 Profile Feb 18

PLOT STYLE: COH_IAG_07_2016.ctb
\\IMS-FILEFORCE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Mason St Cut Sheet.dwg10+00 to 13+37 Plan Feb 18, 2026 - 4:59PM ajoh



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CITY OF HOUSTON

GRAPHIC SCALE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

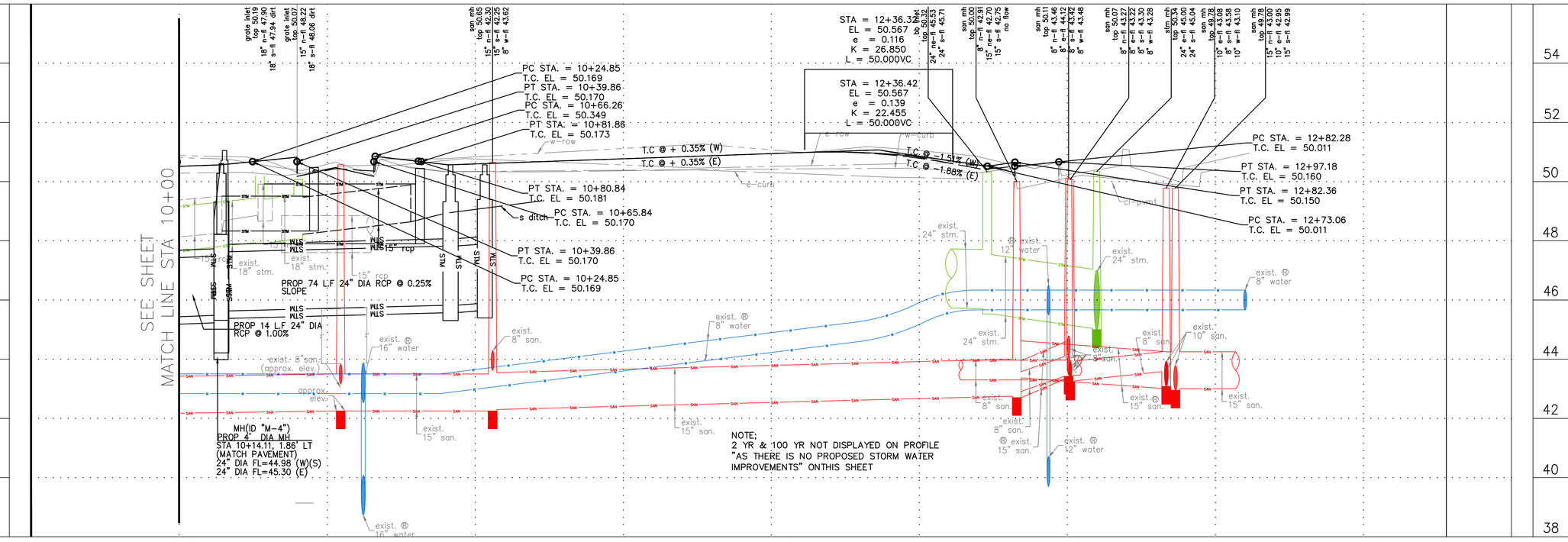
PLAN
MASON STREET
STA 10+00 TO STA 13+37

SHEET 5 OF 6

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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CITY OF HOUSTON PM	
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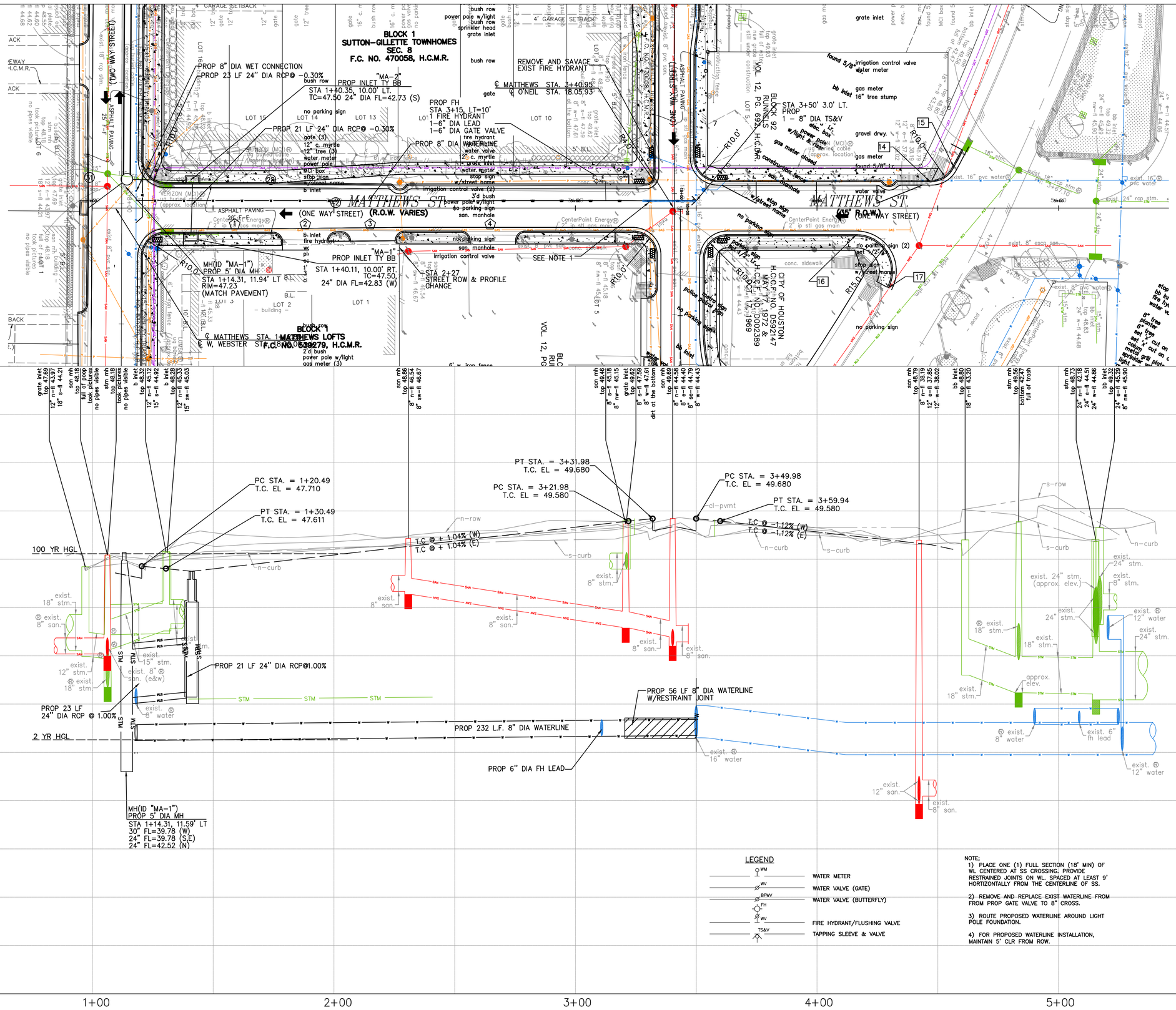
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
MASON STREET
STA 10+00 TO STA 13+37

SHEET 6 OF 6

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- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH / WV — FIRE HYDRANT/FLUSHING VALVE
- TS&V — TAPPING SLEEVE & VALVE

NOTE:
1) PLACE ONE (1) FULL SECTION (18' MIN) OF WL CENTERED AT SS CROSSING. PROVIDE RESTRAINED JOINTS ON WL. SPACED AT LEAST 9' HORTIZONTALLY FROM THE CENTERLINE OF SS.

2) REMOVE AND REPLACE EXIST WATERLINE FROM FROM PROP GATE VALVE TO 8" CROSS.

3) ROUTE PROPOSED WATERLINE AROUND LIGHT POLE FOUNDATION.

4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN & PROFILE

MATTHEWS STREET

STA 1+00 TO STA 5+00

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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W:\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Matthews St Cut Sheet.dwgCT.012.000.pvmt_section.dwg Feb 20, 2026 - 11:19AM glenn

PLOT STYLE: COH_IMG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-Matthews St Cut Sheet.dwgCT.012.000.pvmt_section.dwg Feb 19 , 2026 - 5:23PM ojah

BLOCK 1
SUTTON-GILLETTE TOWNHOMES
SEC. 8
F.C. NO. 470058, H.C.M.R.

BLOCK 1
MATTHEWS LOFTS
F.C. NO. 639279, H.C.M.R.

PROP 8" DIA WET CONNECTION
PROP 23 LF 24" DIA RCP@ -0.30%
PROP INLET TY BB
STA 1+40.35, 10.00' LT.
TC=47.50 24" DIA FL=42.73 (S)
PROP 21 LF 24" DIA RCP@ -0.30%
PROP FH
STA 3+15, LT=10'
1 FIRE HYDRANT
1-6" DIA LEAD
1-6" DIA GATE VALVE
PROP 8" DIA WATERLINE
REMOVE AND SAVAGE EXIST FIRE HYDRANT
℄ MATTHEWS STA. 3+40.95
℄ O'NEIL STA. 18.05.93
STA 3+50' 3.0' LT.
PROP
1 - 8" DIA TS&V
"MA-2"
PROP 5' DIA MH
STA 1+14.31, 11.94' LT
RIM=47.23
(MATCH PAVEMENT)
"MA-1"
PROP INLET TY BB
STA 1+40.11, 10.00' RT.
TC=47.50,
24" DIA FL=42.83 (W)
STA 2+27
STREET ROW & PROFILE CHANGE
SEE NOTE 1
℄ MATTHEWS STA. 1+12.88
℄ W. WEBSTER STA. 18.02.00
MH(ID "MA-1")
PROP 5' DIA MH
STA 1+14.31, 11.59' LT
30" FL=39.78 (W)
24" FL=39.78 (S,E)
24" FL=42.52 (N)
PROP 23 LF
24" DIA RCP @ 1.00%
PROP 21 LF 24" DIA RCP@1.00%
PROP 56 LF 8" DIA WATERLINE
W/RESTRAINT JOINT
PROP 232 LF. 8" DIA WATERLINE
PROP 6" DIA FH LEAD
PC STA. = 1+20.49
T.C. EL = 47.710
PT STA. = 1+30.49
T.C. EL = 47.611
PT STA. = 3+31.98
T.C. EL = 49.680
PC STA. = 3+21.98
T.C. EL = 49.580
PC STA. = 3+49.98
T.C. EL = 49.680
PT STA. = 3+59.94
T.C. EL = 49.580
T.C @ + 1.04% (W)
T.C @ + 1.04% (E)
T.C @ -1.12% (W)
T.C @ -1.12% (E)
100 YR HGL
2 YR HGL
MATTHEWS ST.
(ONE WAY STREET) (R.O.W. VARIES)
ASPHALT PAVING
(TWO WAY STREET)
(ONE WAY STREET)
CITY OF HOUSTON
H.C.C.F. NO. D59147
VOL. 12, PG. 69, H.C.M.R.

KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

CITY OF HOUSTON
GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

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Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE
PLAN & PROFILE
MATTHEWS STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

LEGEND

- WM — WATER METER
- WV — WATER VALVE (GATE)
- BFWV — WATER VALVE (BUTTERFLY)
- FH / WV — FIRE HYDRANT/FLUSHING VALVE
- TS&V — TAPPING SLEEVE & VALVE

NOTE:
1) PLACE ONE (1) FULL SECTION (18' MIN) OF WL CENTERED AT SS CROSSING. PROVIDE RESTRAINED JOINTS ON WL. SPACED AT LEAST 9' HORTIZONTALLY FROM THE CENTERLINE OF SS.

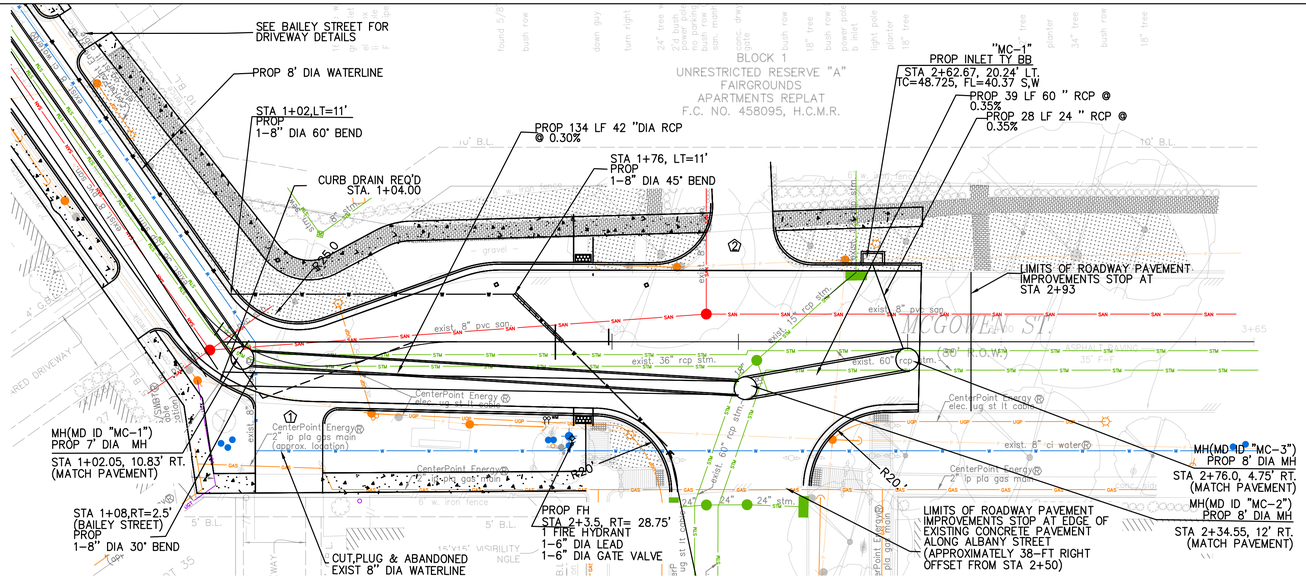
2) REMOVE AND REPLACE EXIST WATERLINE FROM FROM PROP GATE VALVE TO 8" CROSS.

3) ROUTE PROPOSED WATERLINE AROUND LIGHT POLE FOUNDATION.

4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

56 54 52 50 48 46 44 42 40 38 36 34 32 30

1+00 2+00 3+00 4+00 5+00



WM — WATER METER

WV — WATER VALVE (GATE)

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CITY OF HOUSTON

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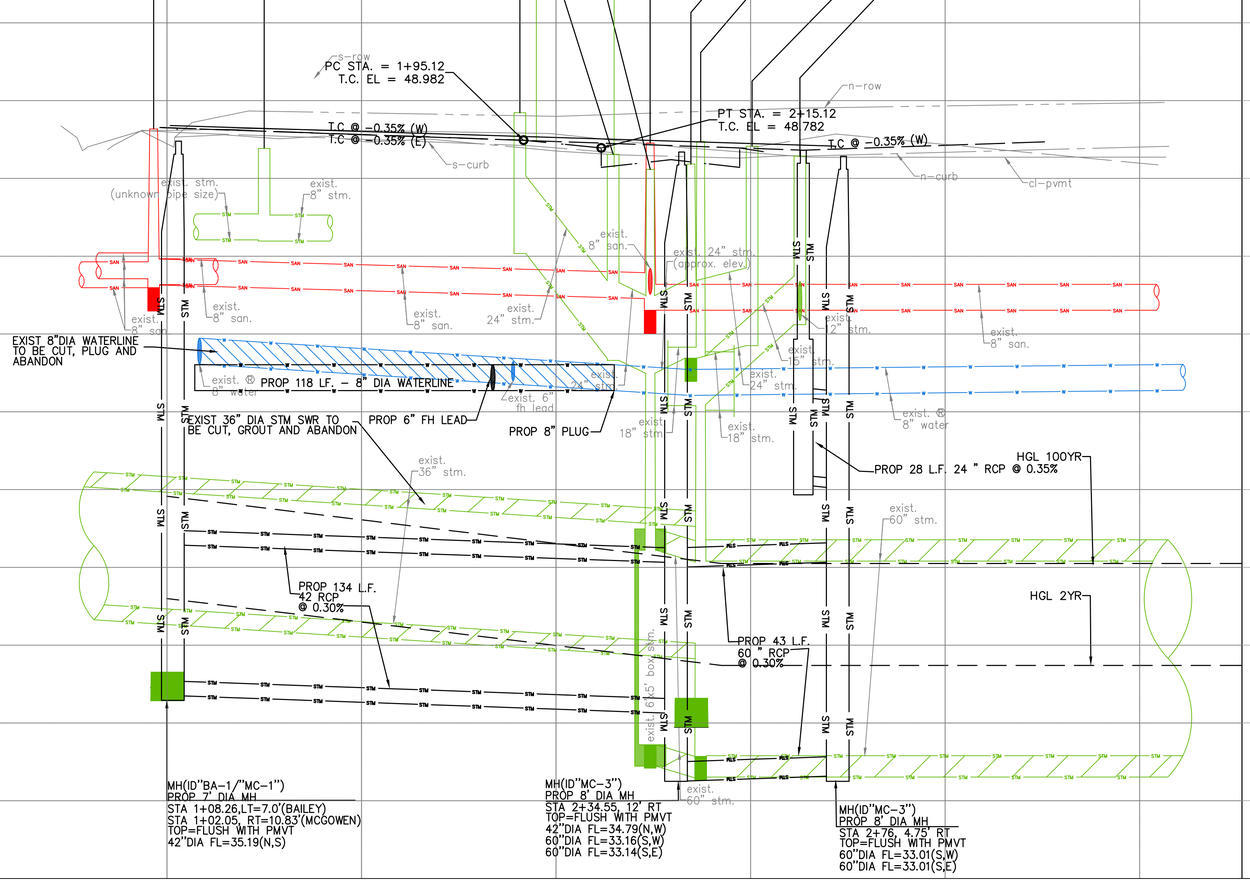
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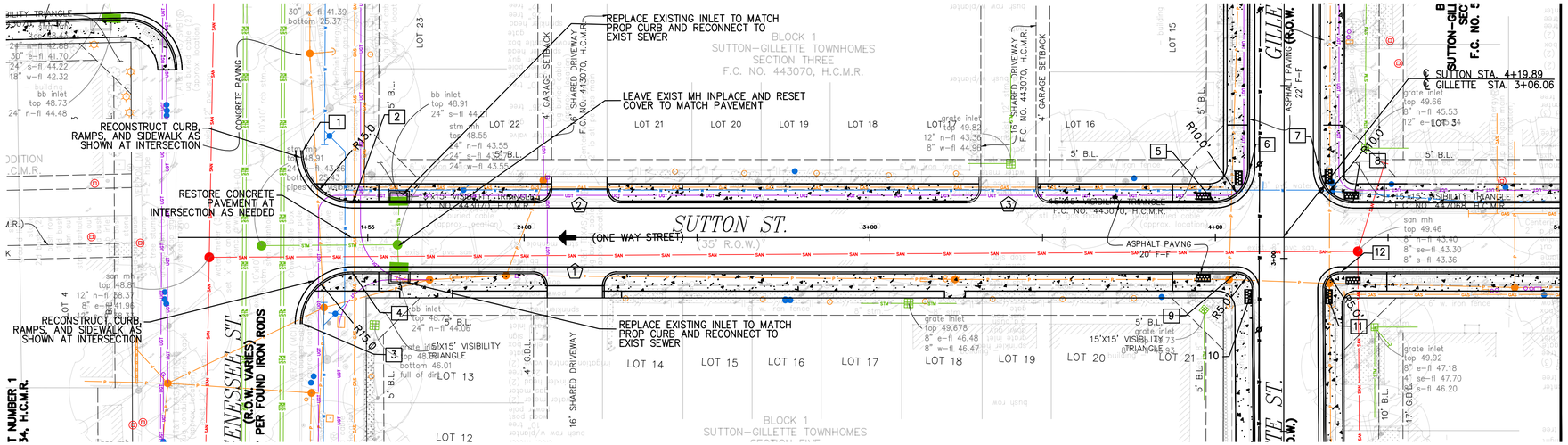
PLAN & PROFILE
MCGOWEN STREET
STA 1+00 TO STA 3+65

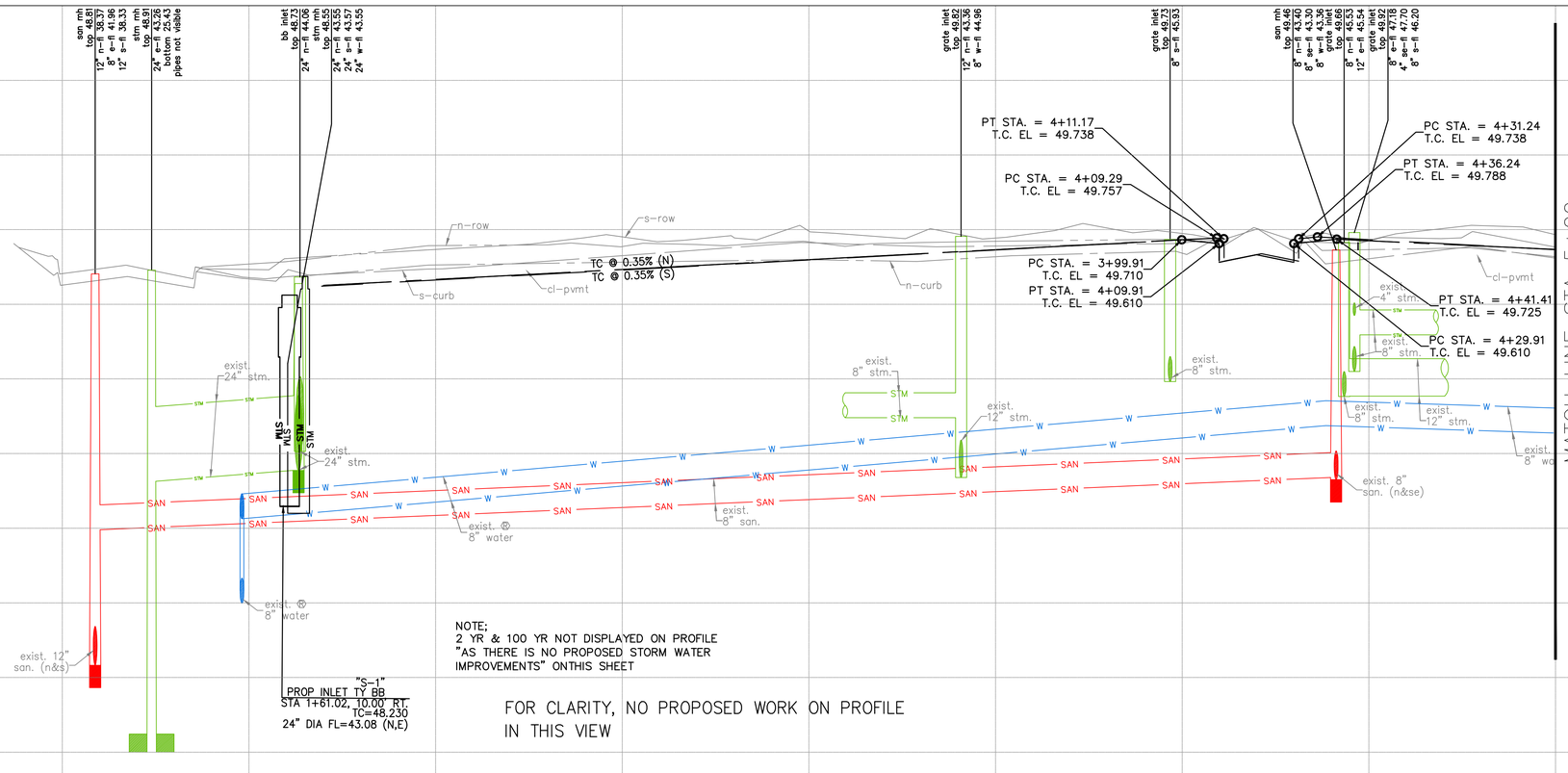
SHEET 1 OF 1

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SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

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KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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CITY OF HOUSTON

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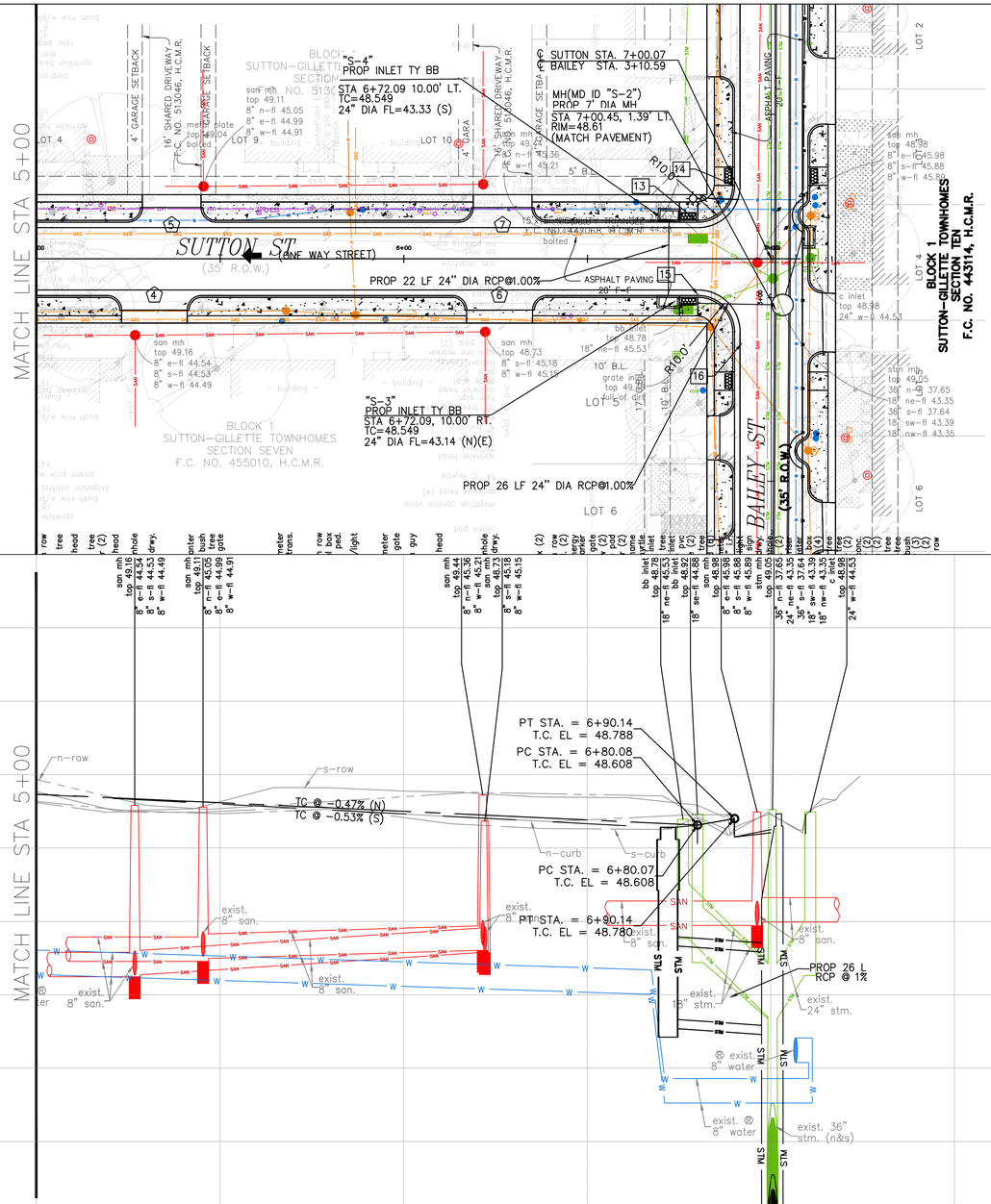
PLAN & PROFILE
SUTTON STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IAG_07_2016.ctb

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XX KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

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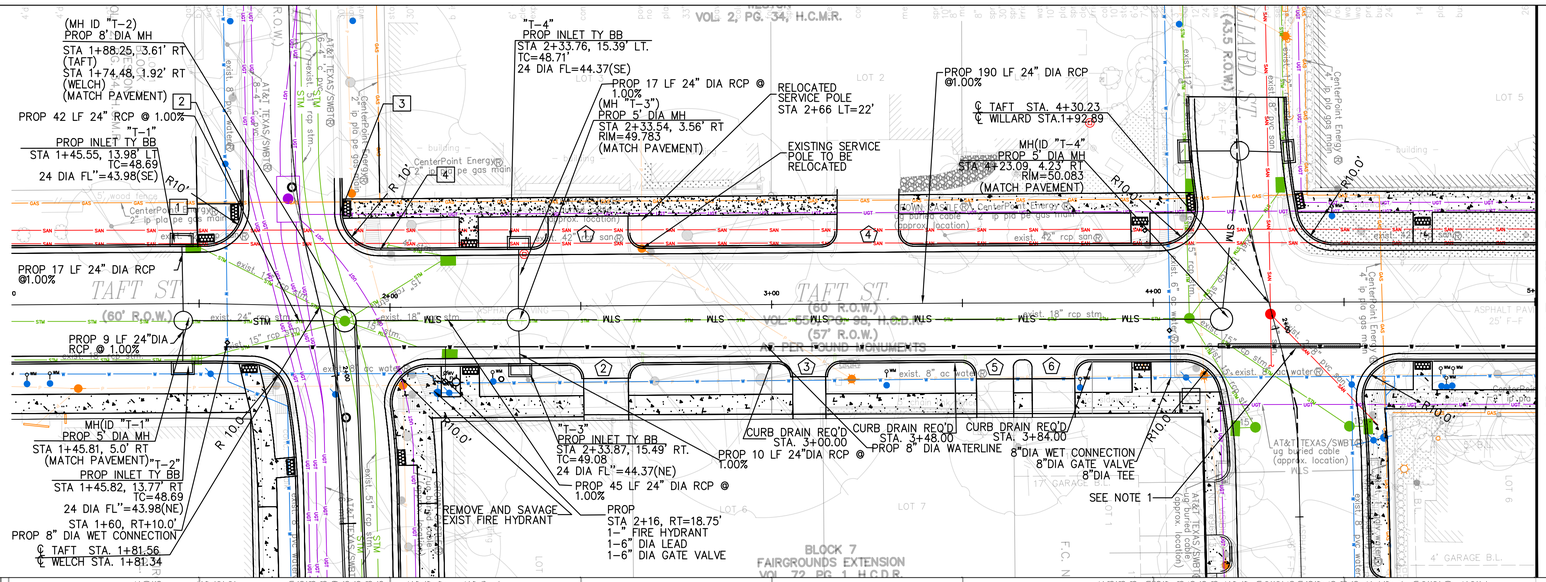
PLAN & PROFILE
SUTTON STREET
STA 5+00 TO STA 7+00

SHEET 2 OF 2

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SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb
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PLOT STYLE: COH_JAG_07_2016.ctb



LEGEND

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CITY OF HOUSTON

GRAPHIC SCALE

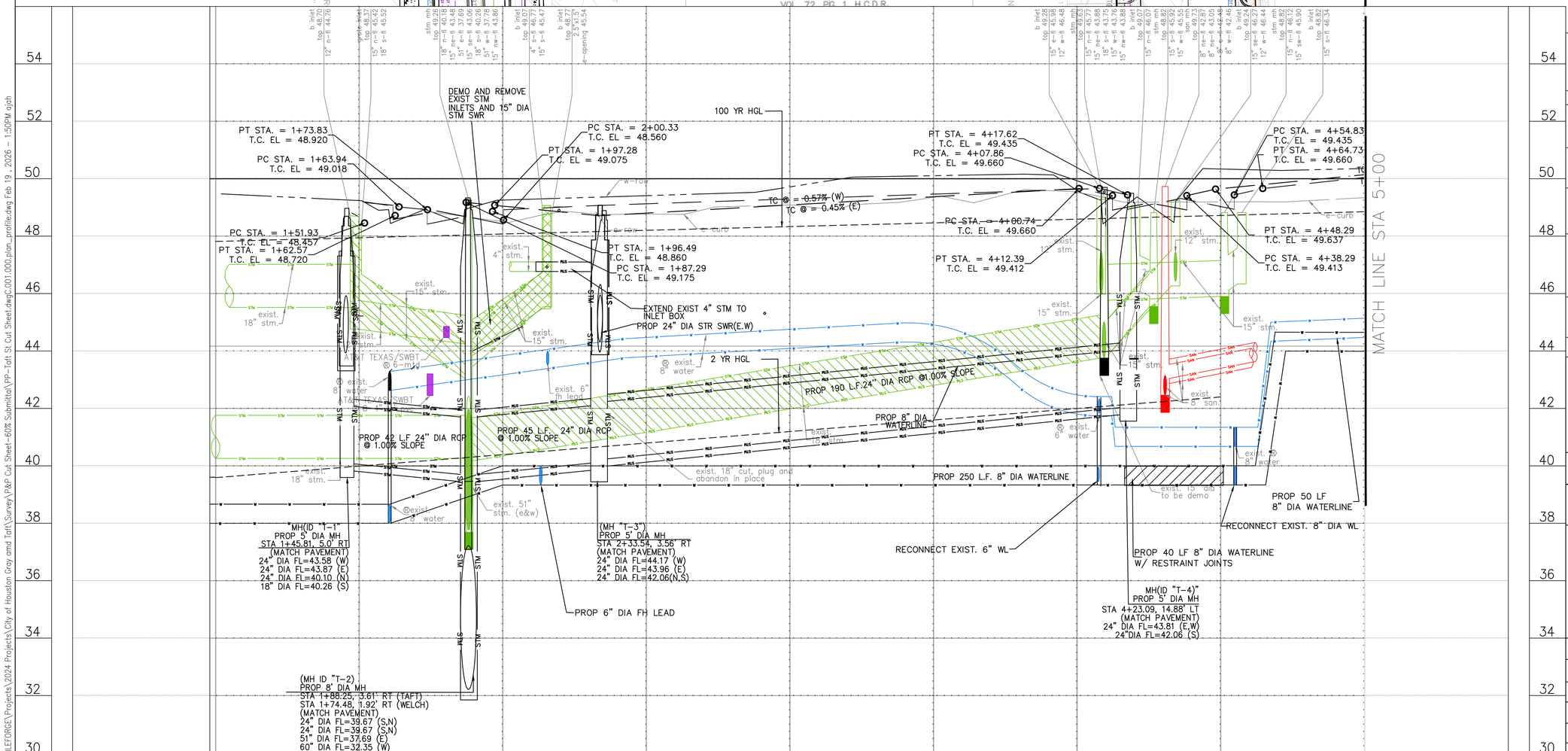
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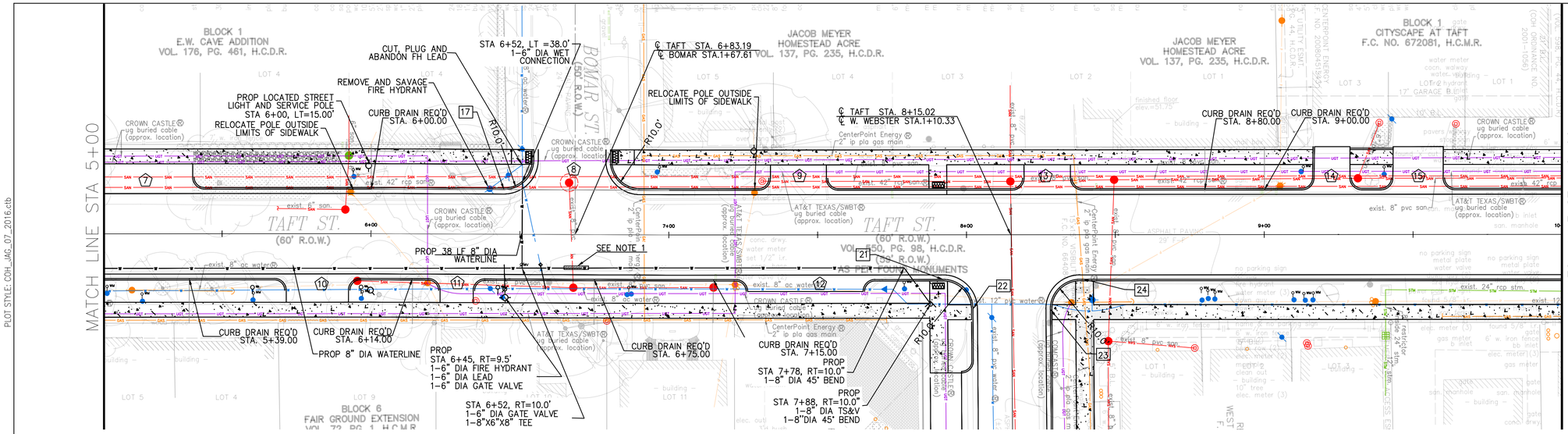
PLAN & PROFILE
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STA 1+00 TO STA 5+00

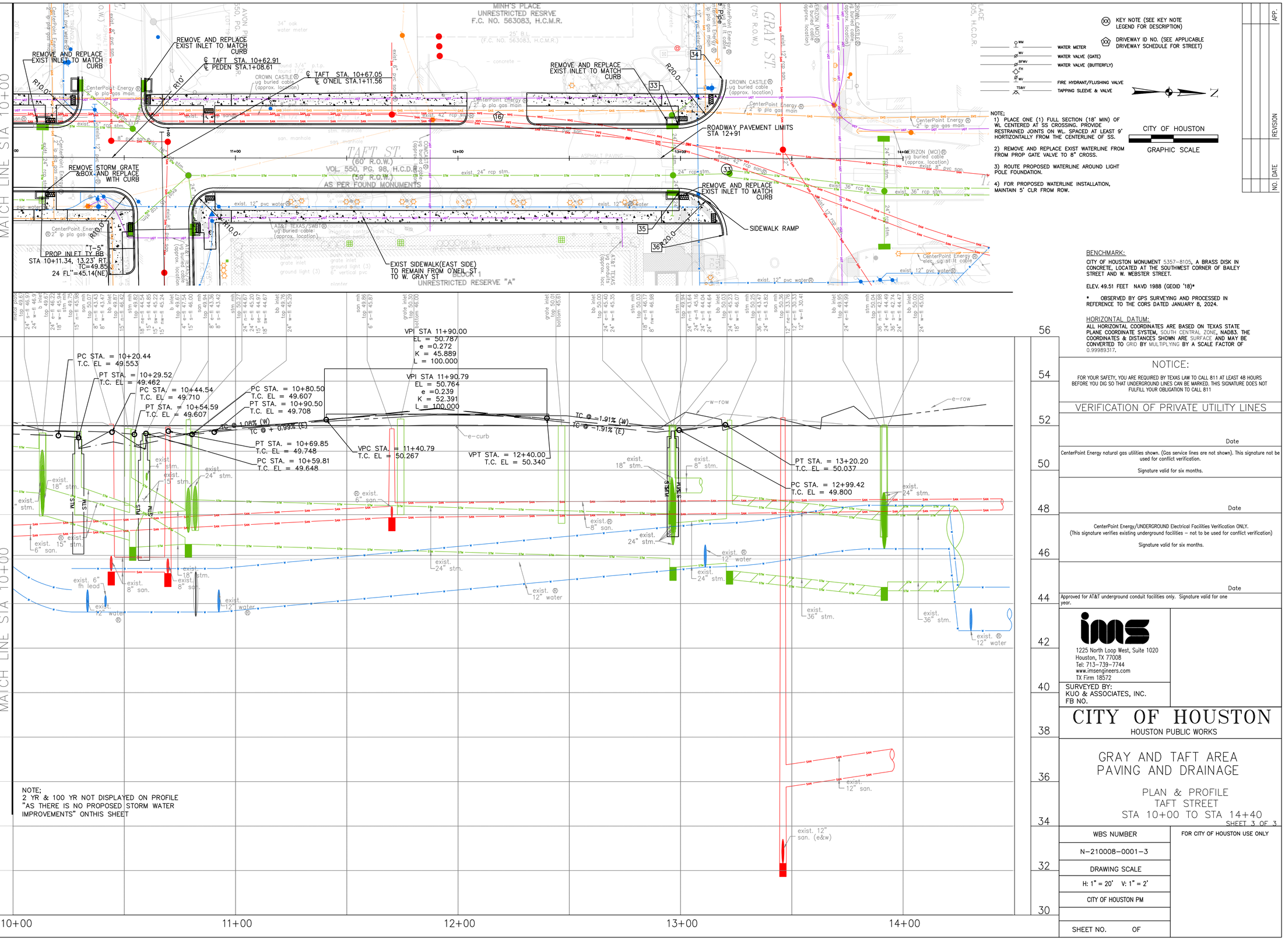
SHEET 1 OF 3

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PLOT STYLE: COH_JAG_07_2016.ctb


MATCH LINE STA 5+00
MATCH LINE STA 10+00
BLOCK 1
E.W. CAVE ADDITION
VOL. 176, PG. 461, H.C.D.R.
JACOB MEYER
HOMESTEAD ACRE
VOL. 137, PG. 235, H.C.D.R.
BLOCK 1
CITYSCAPE AT TAFT
F.C. NO. 672081, H.C.M.R.
BLOCK 6
FAIR GROUND EXTENSION
VOL. 72, PG. 1, H.C.M.R.
TAFT ST.
(60' R.O.W.)
BOMAR ST.
(50' R.O.W.)
W. WEBSTER ST.
(50' R.O.W.)
VOL. 50, PG. 98, H.C.D.R.
AS PER FOUND MONUMENTS
CUT, PLUG AND ABANDON FH LEAD
STA 6+52, LT =38.0'
1-6" DIA WET CONNECTION
℄ TAFT STA. 6+83.19
℄ BOMAR STA.1+67.61
REMOVE AND SAVAGE FIRE HYDRANT
PROP LOCATED STREET LIGHT AND SERVICE POLE STA 6+00, LT=15.00'
RELOCATE POLE OUTSIDE LIMITS OF SIDEWALK
RELOCATE POLE OUTSIDE LIMITS OF SIDEWALK
℄ TAFT STA. 8+15.02
℄ W. WEBSTER STA.1+10.33
CURB DRAIN REQ'D STA. 6+00.00
CURB DRAIN REQ'D STA. 8+80.00
CURB DRAIN REQ'D STA. 9+00.00
CURB DRAIN REQ'D STA. 5+39.00
CURB DRAIN REQ'D STA. 6+14.00
CURB DRAIN REQ'D STA. 6+75.00
CURB DRAIN REQ'D STA. 7+15.00
PROP 38 LF 8" DIA WATERLINE
SEE NOTE 1
PROP 8" DIA WATERLINE
PROP STA 6+45, RT=9.5' 1-6" DIA FIRE HYDRANT 1-6" DIA LEAD 1-6" DIA GATE VALVE
STA 6+52, RT=10.0' 1-6" DIA GATE VALVE 1-8"X6"X8" TEE
PROP STA 7+78, RT=10.0' 1-8" DIA 45° BEND
PROP STA 7+88, RT=10.0' 1-8" DIA TS&V 1-8"DIA 45° BEND
R10.0'
exist. 8" san.
exist. 42" rcp san.
exist. 8" ac water
exist. 12" pvc water
exist. 8" pvc san.
exist. 24" rcp stm.
CROWN CASTLE ug buried cable (approx. location)
AT&T TEXAS/SWBT ug buried cable (approx. location)
CenterPoint Energy 2" lp pla gas main
6" w. iron fence
gas meter
gas valve
water meter
water valve
fire hydrant
light pole
sign
no parking sign
metal plate
water valve
manhole
inlet
elec. meter (3)
10" tree
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 9
LOT 11
17' GARAGE B.L.
20' B.L.
5' UTILITY ESMT.
CENTERPOINT ENERGY
(VOL. 20080195, P.C.O.P.R.)
(VOL. 20080196, P.C.O.P.R.)
(VOL. 20080197, P.C.O.P.R.)
(VOL. 20080198, P.C.O.P.R.)
(VOL. 20080199, P.C.O.P.R.)
(VOL. 20080200, P.C.O.P.R.)
(VOL. 20080201, P.C.O.P.R.)
(VOL. 20080202, P.C.O.P.R.)
(VOL. 20080203, P.C.O.P.R.)
(VOL. 20080204, P.C.O.P.R.)
(VOL. 20080205, P.C.O.P.R.)
(VOL. 20080206, P.C.O.P.R.)
(VOL. 20080207, P.C.O.P.R.)
(VOL.



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PLAN & PROFILE
TAFT STREET
STA 10+00 TO STA 14+40

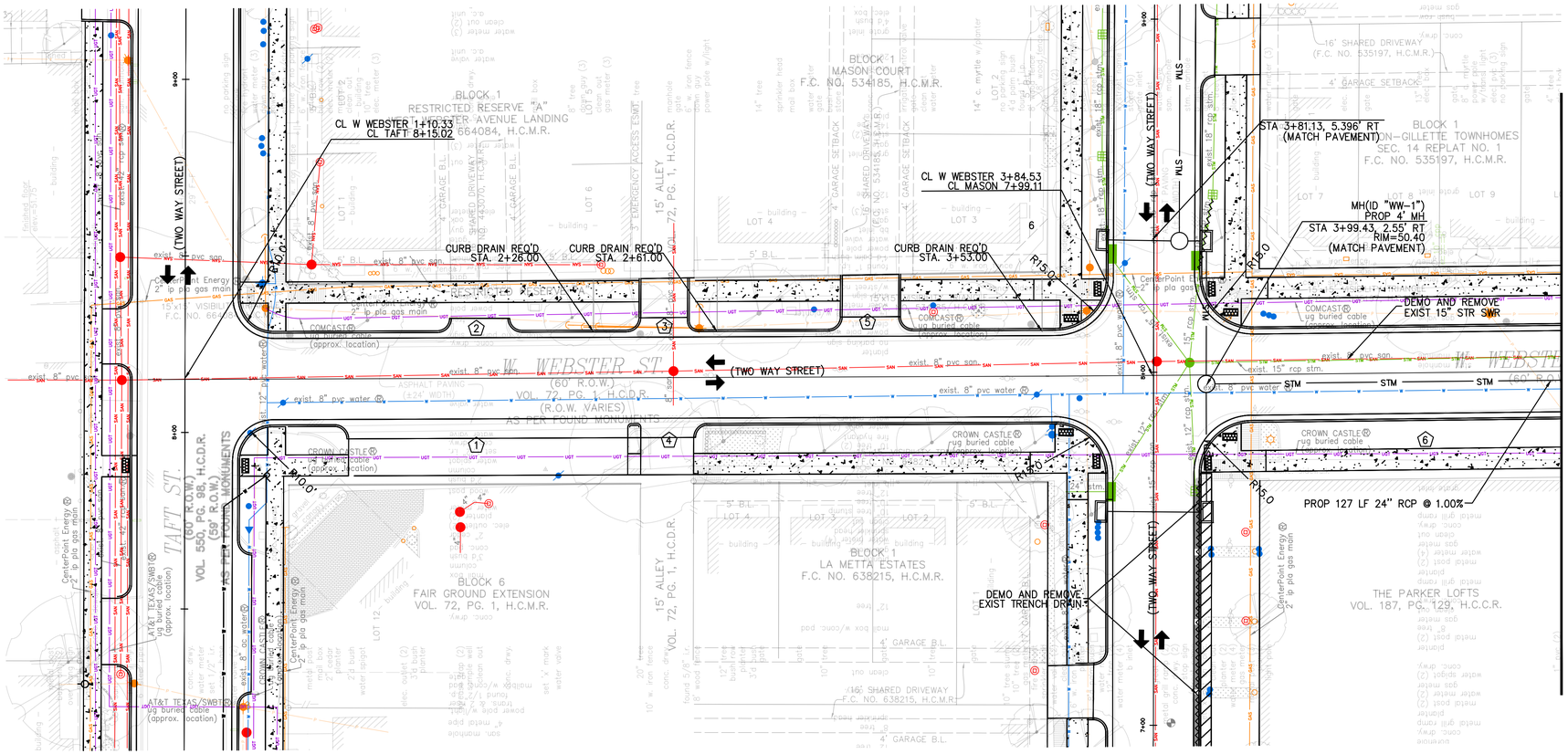
SHEET 3 OF 3

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Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE PLAN

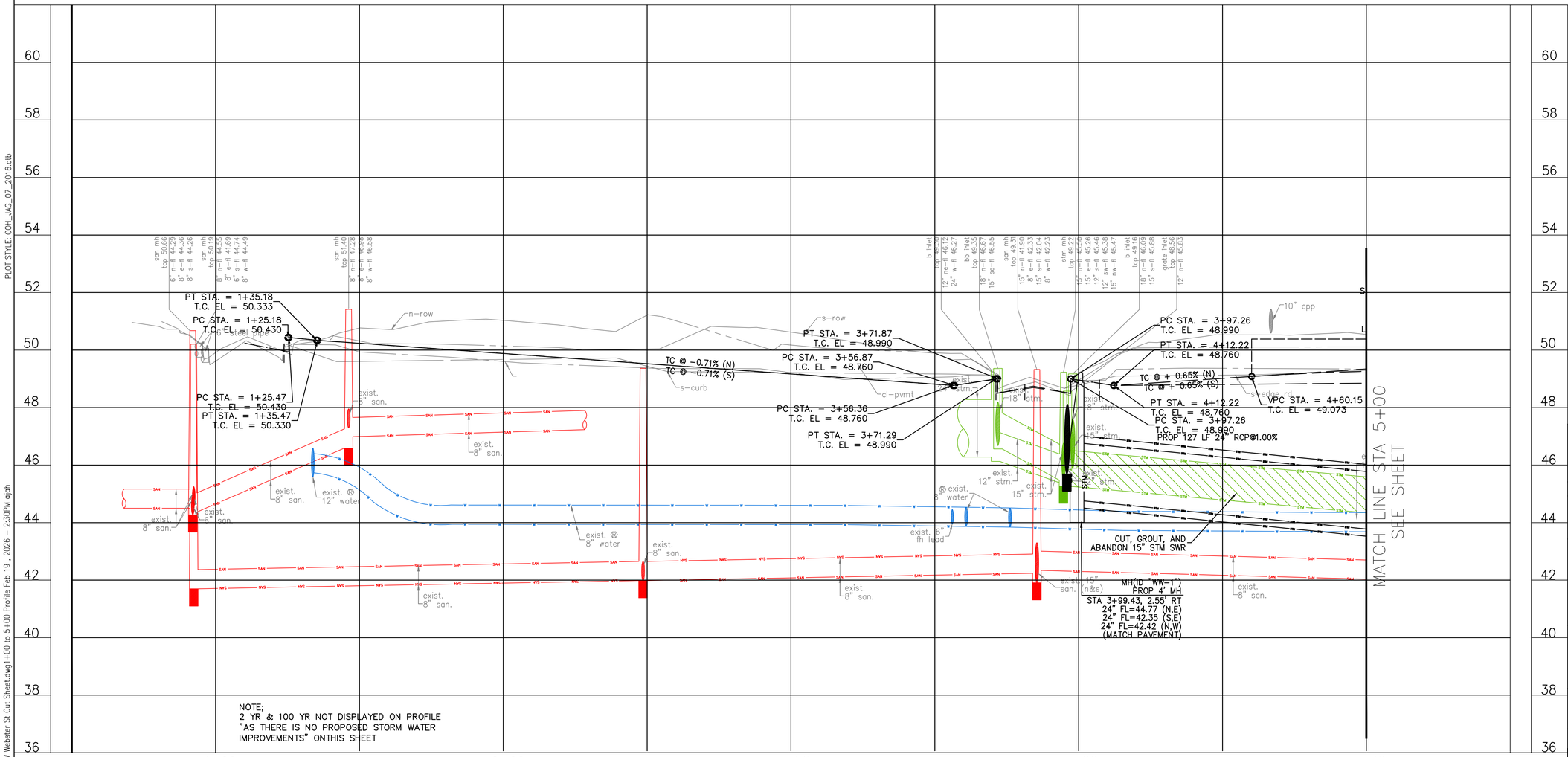
W. WEBSTER STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-W Webster St Cut Sheet.dwg 1+00 to 5+00 Plan Feb 19, 2026 - 2:22PM ojah



NOTE;
2 YR & 100 YR NOT DISPLAYED ON PROFILE "AS THERE IS NO PROPOSED STORM WATER IMPROVEMENTS" ONTHIS SHEET

XX KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

XX DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

CITY OF HOUSTON
GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357–8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
W. WEBSTER STREET
STA 1+00 TO STA 5+00

SHEET 2 OF 10

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CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IAG_07_2016.ctb

\\IMS–FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet–60% Submittal\PP–W Webster St Cut Sheet.dwg 1+00 to 5+00 Profile Feb 19, 2026 – 2:30PM ajph

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60ft Submittal\PP-W Webster St Cut Sheet.dwg5+00 to 10+00 Plan Feb 19 , 2026 - 3:07PM ajah

MATCH LINE STA 5+00

MATCH LINE STA 10+00 SEE SHEET

PROP STR GRATE/BOX STA 5+19, RT=30' 24" FL=45.08

BLOCK 1 SUTTON-GILLETTE TOWNHOMES SEC. 19 AMENDING PLAT NO. 1 F.C. NO. 557082, H.C.M.R.

BLOCK 1 SUTTON-GILLETTE TOWNHOMES SECTION FOUR NO. 428148, H.C.M.R.

BLOCK 1 WEST WEBSTER COURT AMENDING PLAT NO. 1 F.C. NO. 586293, H.C.M.R.

DEMO AND REMOVE EXIST. 15" STR SWR

CONNECT PROP 24" STR SWR TO EXIST STR MH STA 6+41, RT=4'

PROP 106 LF 24" RCP@1.00%

LIMITS OF CONCRETE PAVEMENT REPAIR

(TWO WAY STREET)

W. WEBSTER ST. (31.25' R.O.W.)

CURB DRAIN REQ'D STA. 7+43.00

CURB DRAIN REQ'D STA. 7+98.00

CURB DRAIN REQ'D STA. 7+91.00

CURB DRAIN REQ'D STA. 8+00.00

CURB DRAIN REQ'D STA. 9+00.00

CURB DRAIN REQ'D STA. 8+84.00

CURB DRAIN REQ'D STA. 3+48.00

MH(ID "WW-4") PROP 4' DIA MH STA 9+71.80, 7.606' LT RIM=49.60 (MATCH PAVEMENT)

CL W WEBSTER 9+61.63
CL GILLETTE 7+64.12

MH(ID "WW-2") PROP 4' MH STA 5+30.59, 2.55' LT RIM=50.13 (MATCH PAVEMENT)

MH(ID "WW-3") PROP 4' MH STA 6+39.19, 2.62' LT RIM=49.22 (MATCH PAVEMENT)

15' ALLEY ABANDONED PER C.O.H. DRAWING NO. 9522K

VISTAS AT WILLOWS VOL. 193, PG. 114; VOL. 193, PG. 289 & VOL. 198, PG. 212, H.C.C.R.

WEST WEBSTER LOFTS VOL. 184, PG. 62; VOL. 213, PG. 52; VOL. 214, PG. 69 & VOL. 215, PG. 591, H.C.C.R.

GILLETTE ST. (R.O.W. VARIES)

KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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CITY OF HOUSTON

GRAPHIC SCALE

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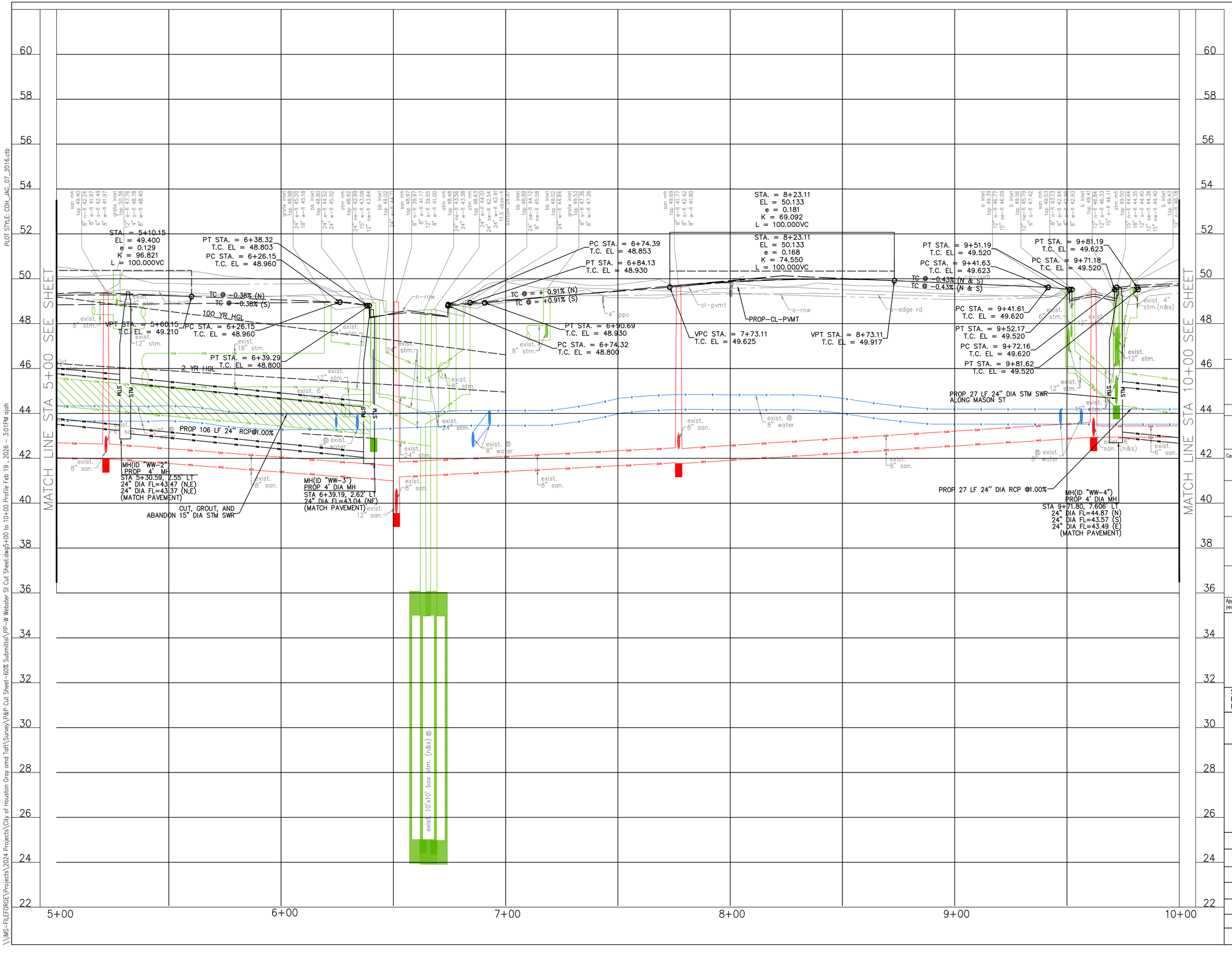
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
W. WEBSTER STREET
STA 5+00 TO STA 10+00

SHEET 3 OF 10

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GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
W. WEBSTER STREET
STA 5+00 TO STA 10+00

SHEET 4 OF 10

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CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb

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PLOT STYLE: COH_IMG_07_2016.ctb

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LEGEND

WV — WATER VALVE (GATE)

BFWV — WATER VALVE (BUTTERFLY)

FH / WV — FIRE HYDRANT/FLUSHING VALVE

TS&V — TAPPING SLEEVE & VALVE

NOTES:

1) PLACE ONE (1) FULL SECTION (18' MIN) OF WL CENTERED AT SS CROSSING. PROVIDE RESTRAINED JOINTS ON WL, SPACED AT LEAST 9' HORIZONTALLY FROM CENTERLINE OF SS.

2) REMOVE AND REPLACE EXIST WATERLINE FROM PROP GATE VALVE TO 8" CROSS.

3) ROUTE PROPOSED WATERLINE AROUND LIGHT POLE FOUNDATION.

4) FOR PROPOSED WATERLINE INSTALLATION, MAINTAIN 5' CLR FROM ROW.

(XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

(XX) DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

MATCH LINE STA 10+00

PROP 258 LF 24" RCP @ 0.50%

BLOCK 1
SUTTON-GILLETTE TOWNHOMES
SECTION TWO
F.C. NO. 433135, H.C.M.R.

EXIST FH TO REMAIN

MH(ID "WW-5")
PROP 5' DIA MH
STA 12+46.50, 3.90' LT
RIM=49.95
(MATCH PAVEMENT)

(ONE WAY STREET)

CL W WEBSTER 12+41.43
CL BAILEY 7+67.66

STA 12+53, 10.5 LT
PROP
1- 8" WET CONNECTION
1- 8" GATE VALVE
1- 8" DIA TEE

EXIST 8" DIA WATERLINE TO BE CUT, PLUG AND ABANDON

CURB DRAIN REQ'D
STA. 13+01.00

PROP 265 LF 30" RCP@ 0.52%

BLOCK 1
SUTTON-GILLETTE TOWNHOMES SECTION SIX
F.C. NO. 452062, H.C.M.R.

PROP 8" DIA WATERLINE

(TWO WAY STREET)

PROP STA 12+01.5, 9.5 LT
1- 8" DIA 45° BEND
1- 8" WET CONNECTION
1- 8" GATE VALVE
1- 8" PLUG

PROP 8" DIA WATERLINE

SEE NOTE 1

BLOCK 74
W.R. BAKER ADDITION
S.S.B.B. (UNRECORDED)

(WEST WEBSTER DOG PARK)

SEE NOTE 1

CURB DRAIN REQ'D
STA. 12+87.00

EXIST 3/4" TO 1" DIA WATERLINE TO BE CUT, PLUG, AND ABANDON

CURB DRAIN REQ'D
STA. 14+33.00

CURB DRAIN REQ'D
STA. 14+60.00

BLOCK 1
SUTTON-GILLETTE TOWNHOMES
SECTION ONE
F.C. NO. 429002, H.C.M.R.

MATCH LINE STA 15+00

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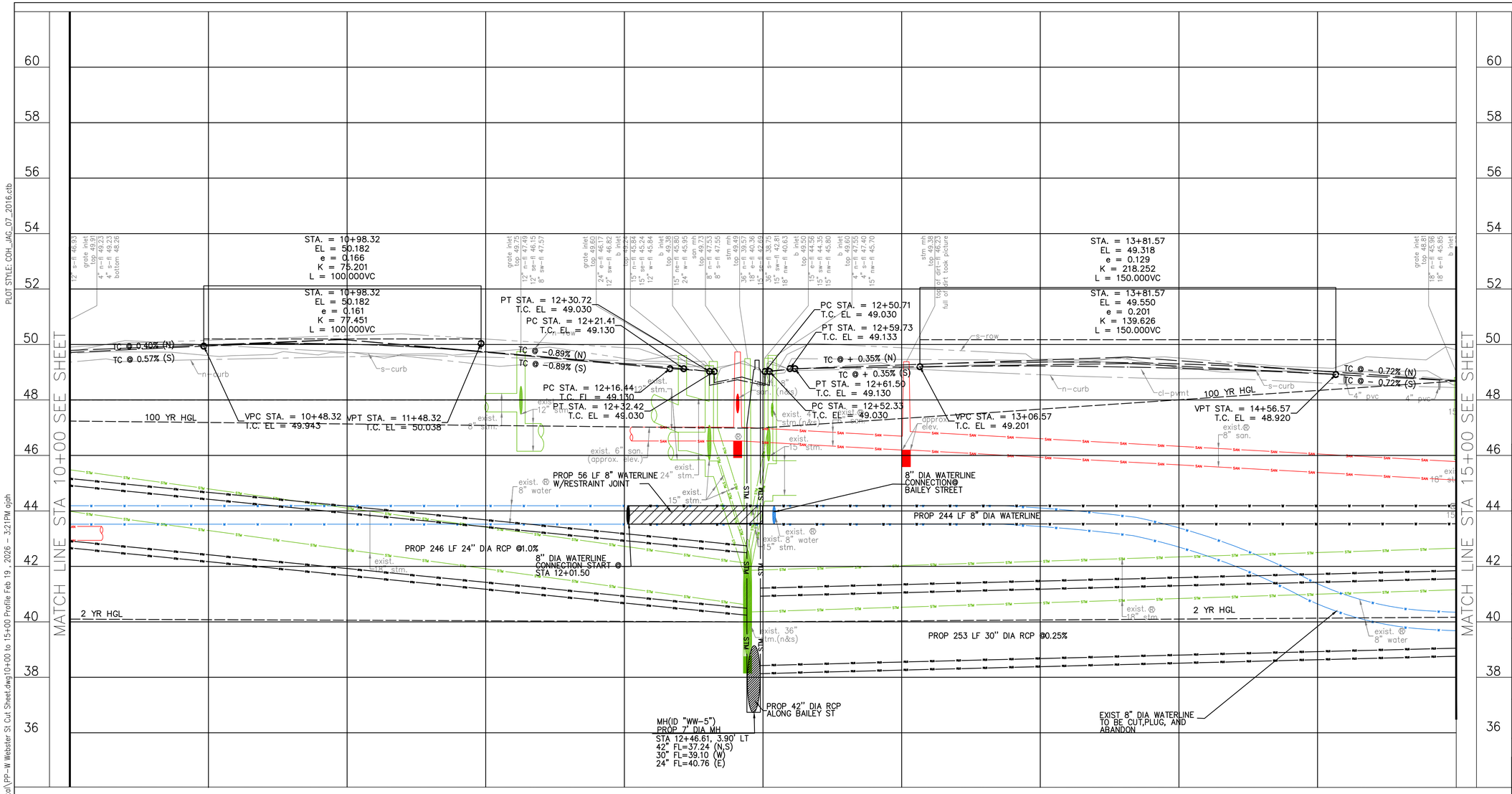
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
W. WEBSTER STREET
STA 10+00 TO STA 15+00

SHEET 5 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. 3 OF 5	



PLOT STYLE: COH_IMG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-W Webster St Cut Sheet.dwg10+00 to 15+00 Profile Feb 19, 2026 - 3:21PM gjoh

(XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

(XX) DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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PROFILE
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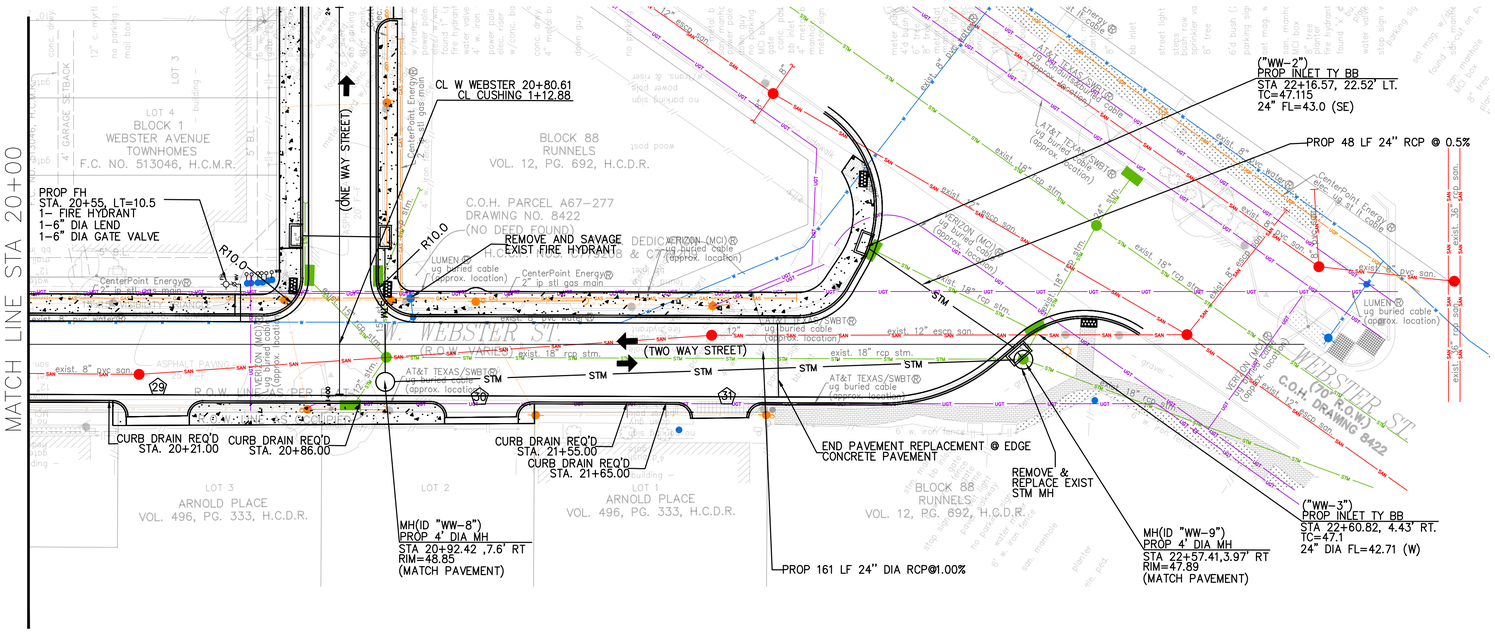
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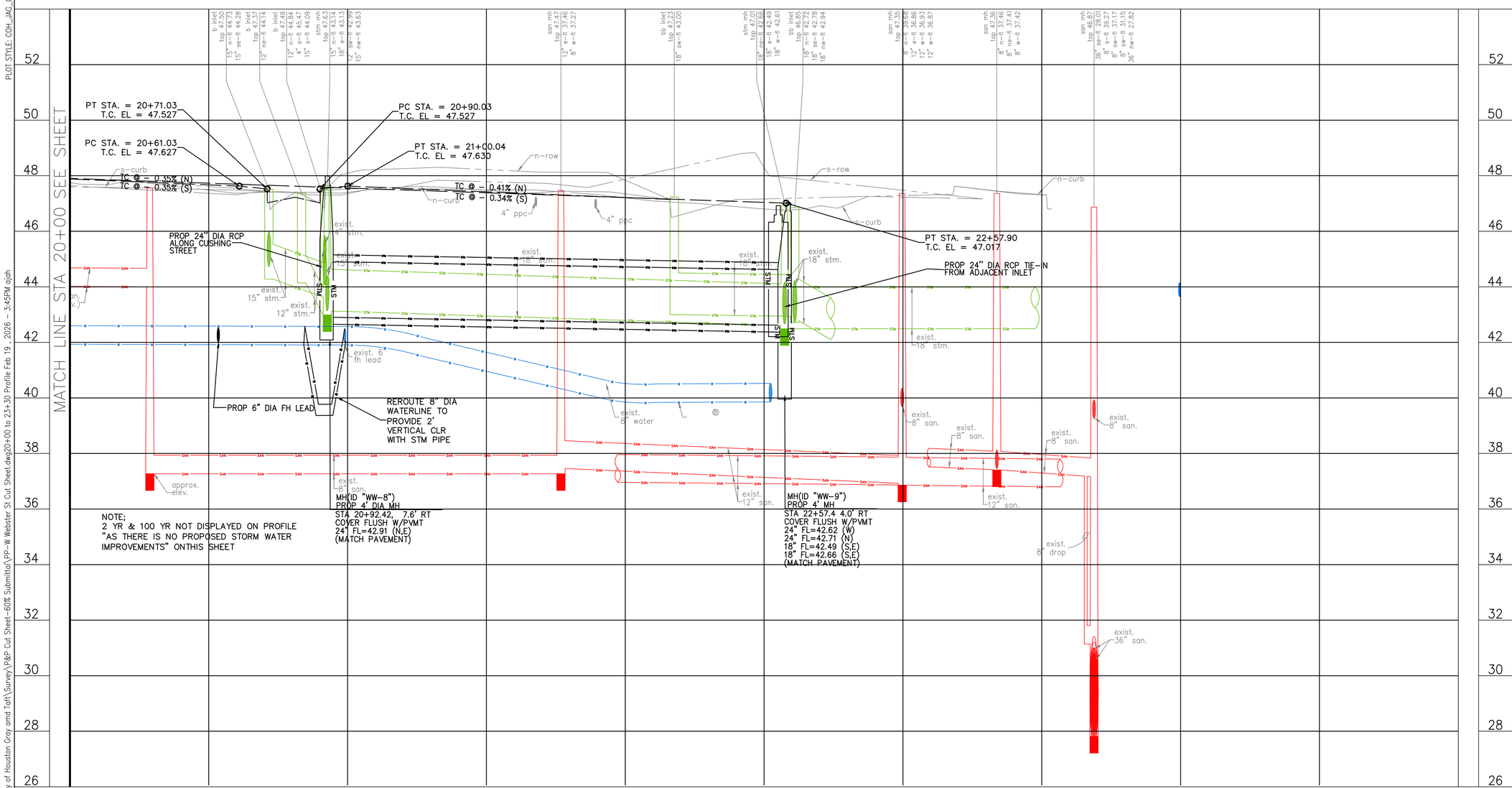
PLAN
W. WEBSTER STREET
STA 20+00 TO STA 23+30

SHEET 9 OF 10

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GRAY AND TAFT AREA PAVING AND DRAINAGE

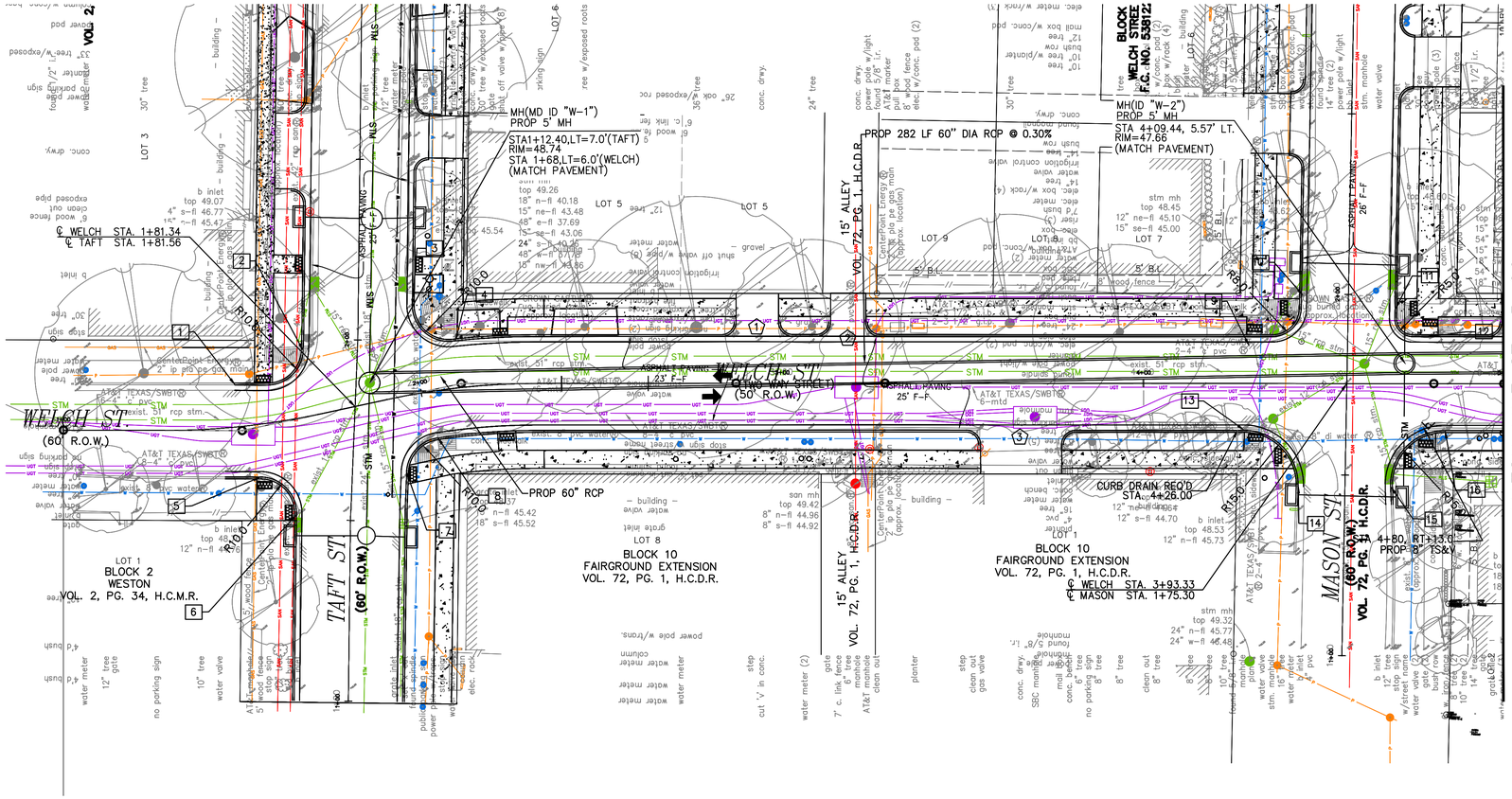
PROFILE
W. WEBSTER STREET
STA 20+00 TO STA 23+30

SHEET 10 OF 10

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb

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XX KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

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TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
WELCH STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 4

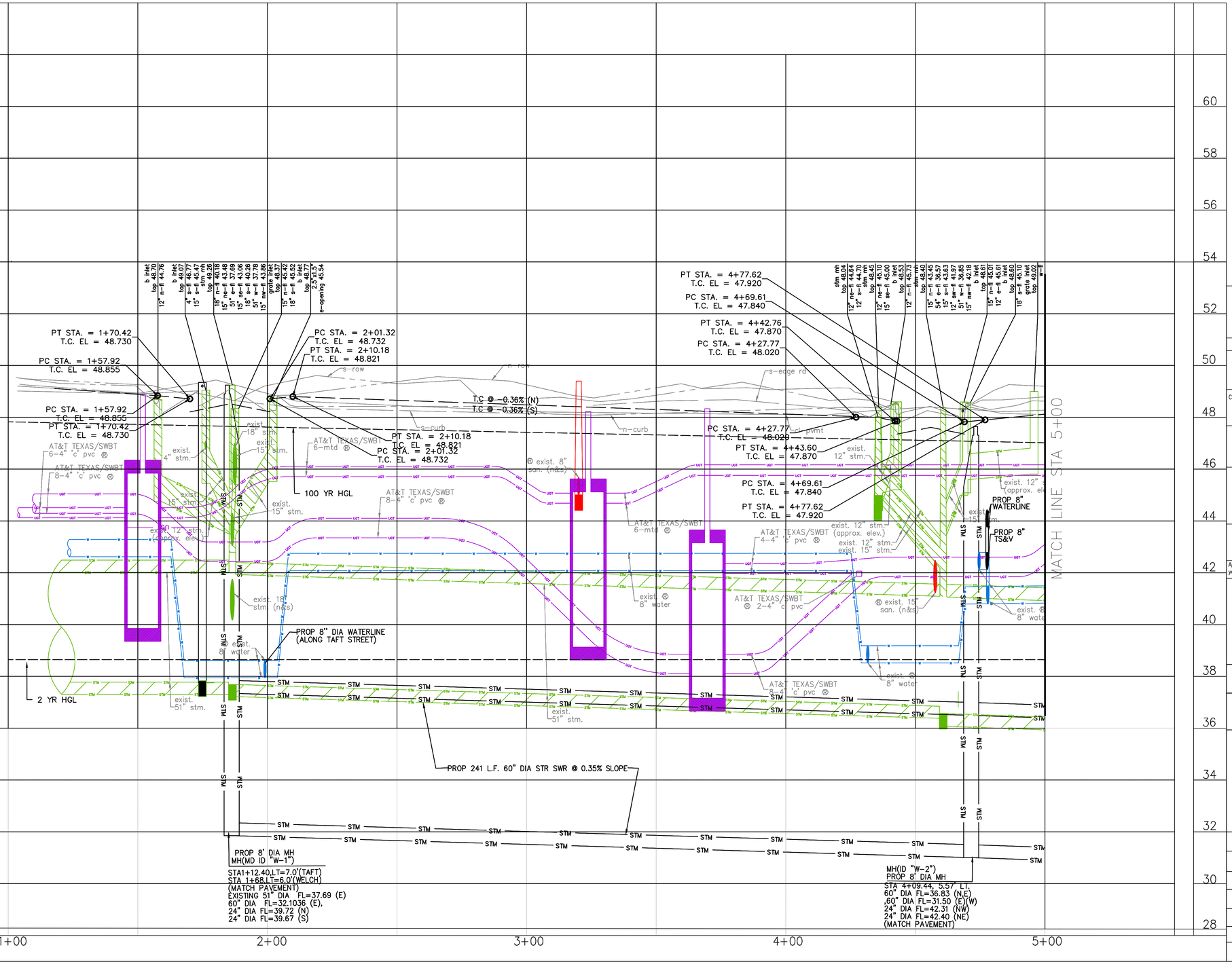
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PLOT STYLE: COH_IAG_07_2016.ctb

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PLOT STYLE: COH_JAG_07_2016.ctb

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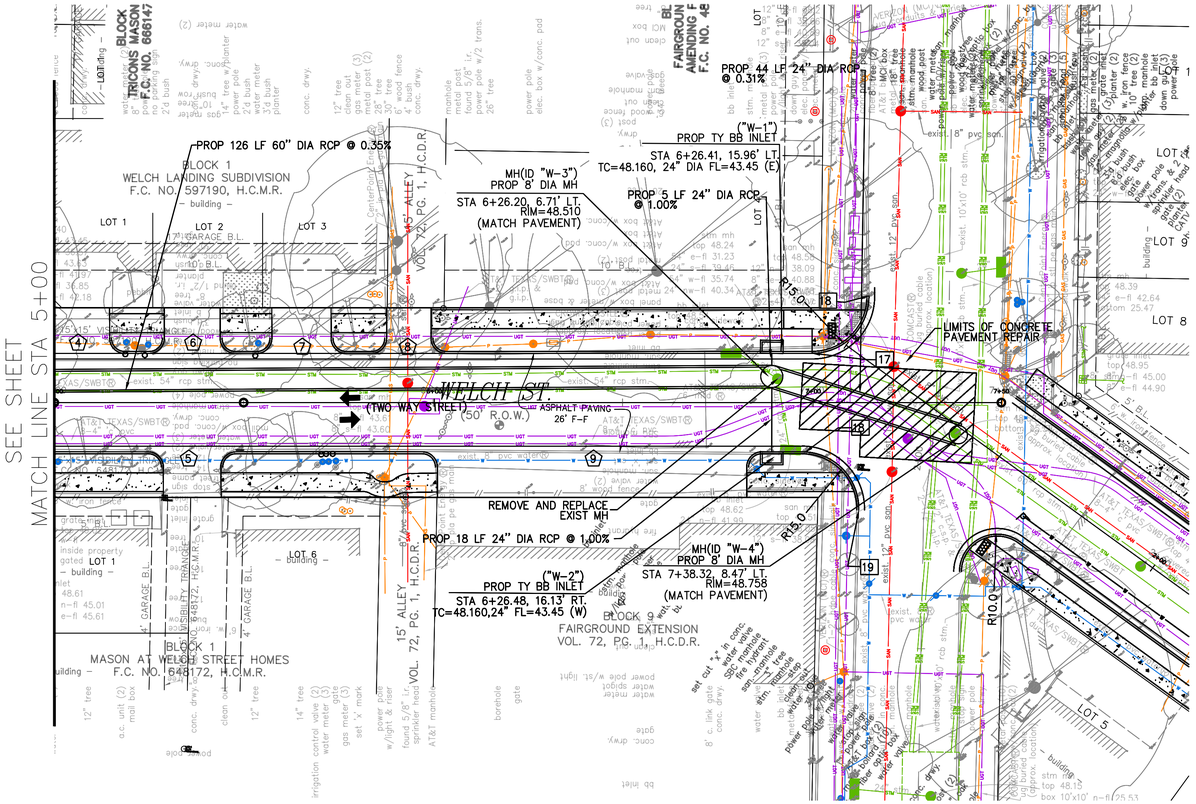
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GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
WELCH STREET
STA 1+00 TO STA 5+00

SHEET 2 OF 4

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PLAN
WELCH STREET
STA 5+00 TO STA 7+50

SHEET 3 OF 4

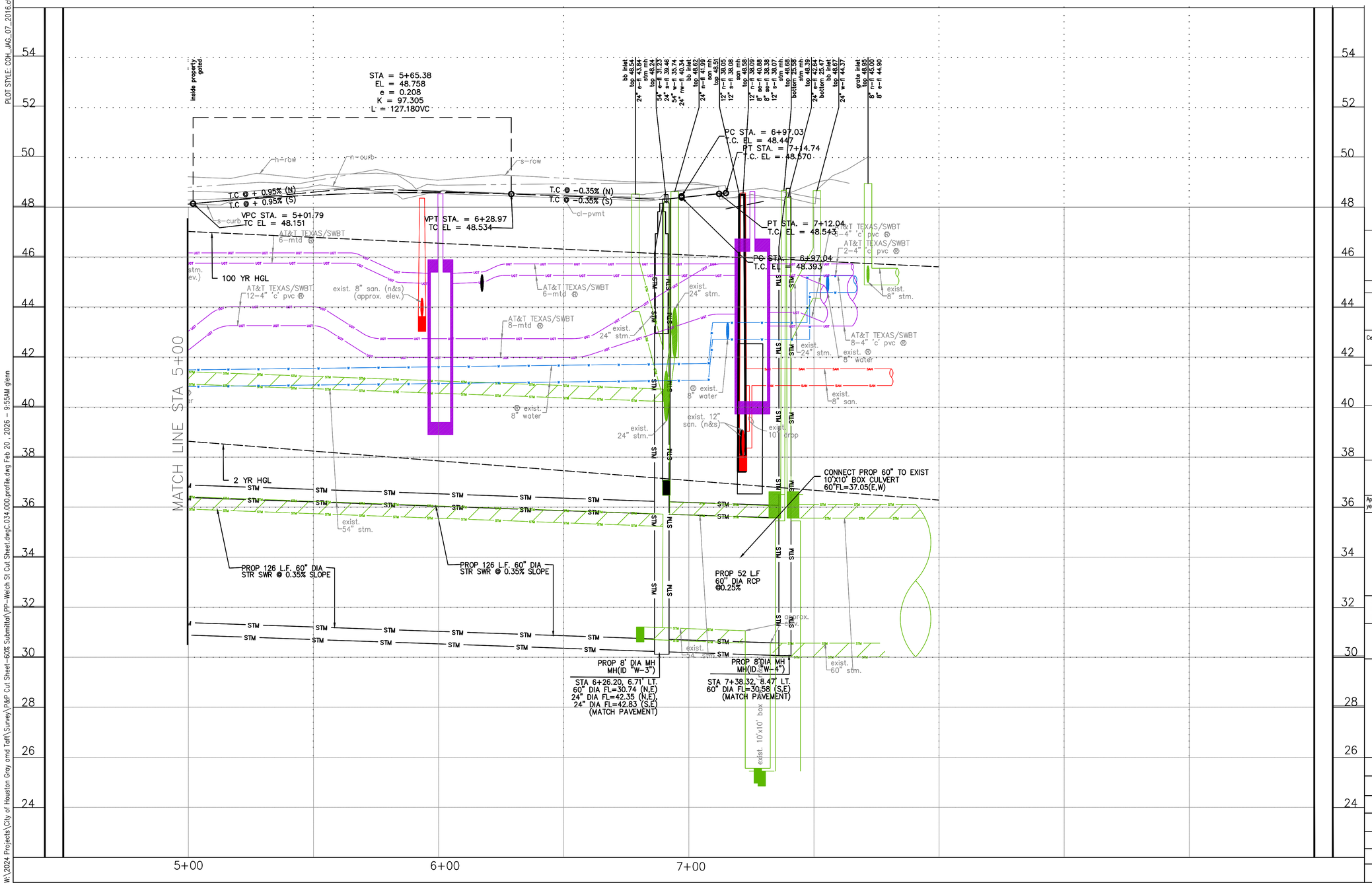
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PLOT STYLE: COH_JAG_07_2016.ctb

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CITY OF HOUSTON

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NO.	DATE	REVISION	APP.

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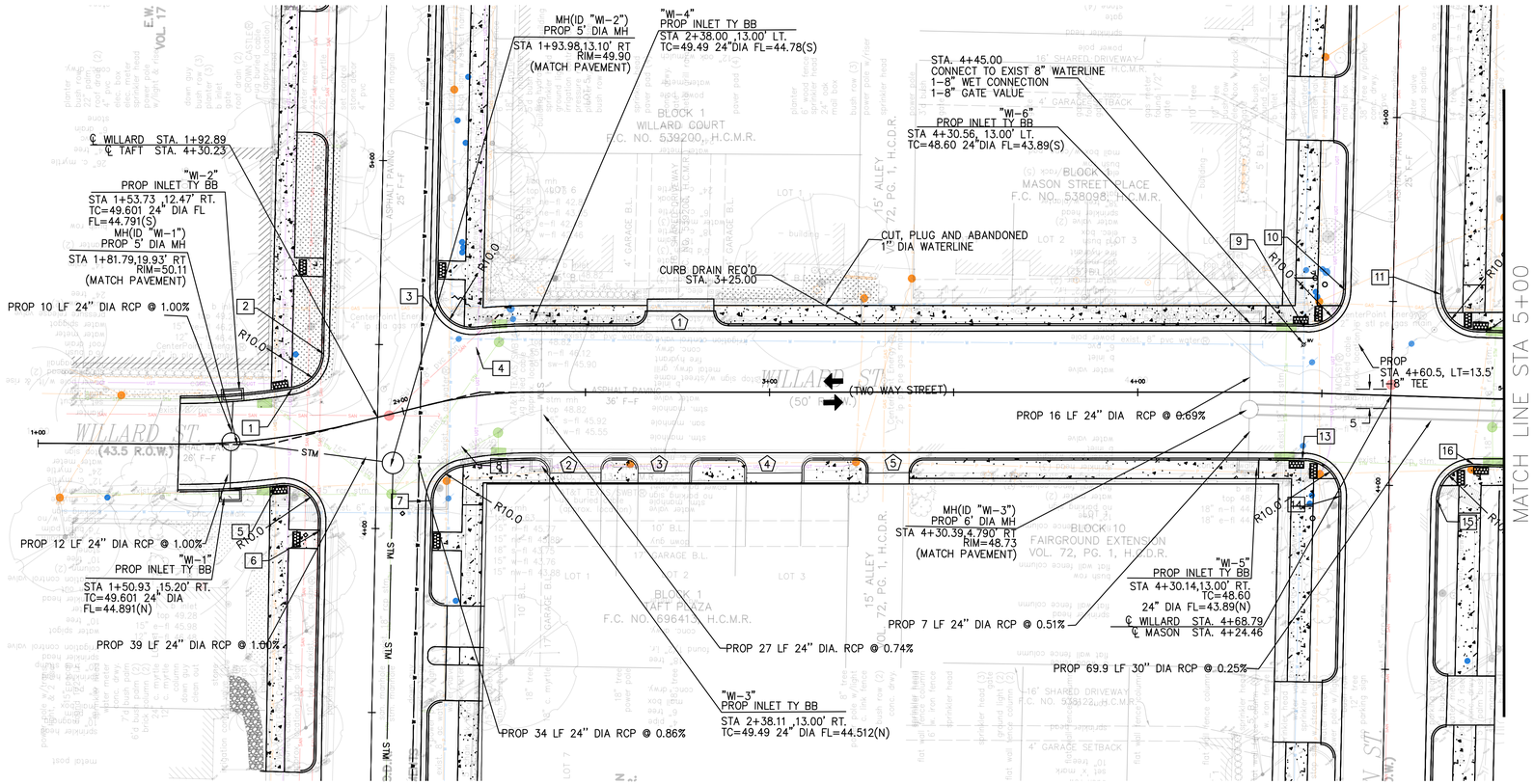
GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
WELCH STREET
STA 5+00 TO STA 7+50

SHEET 4 OF 4

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N-210008-0001-3	
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PLOT STYLE: COH_IAC_07_2016.ctb



XX KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

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LEGEND

- WM — WATER METER
- WV — WATER VALVE (GATE)
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- FH WV — FIRE HYDRANT/FLUSHING VALVE
- — TAPPING SLEEVE & VALVE

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CITY OF HOUSTON

GRAPHIC SCALE

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NO.	DATE	REVISION	APP.

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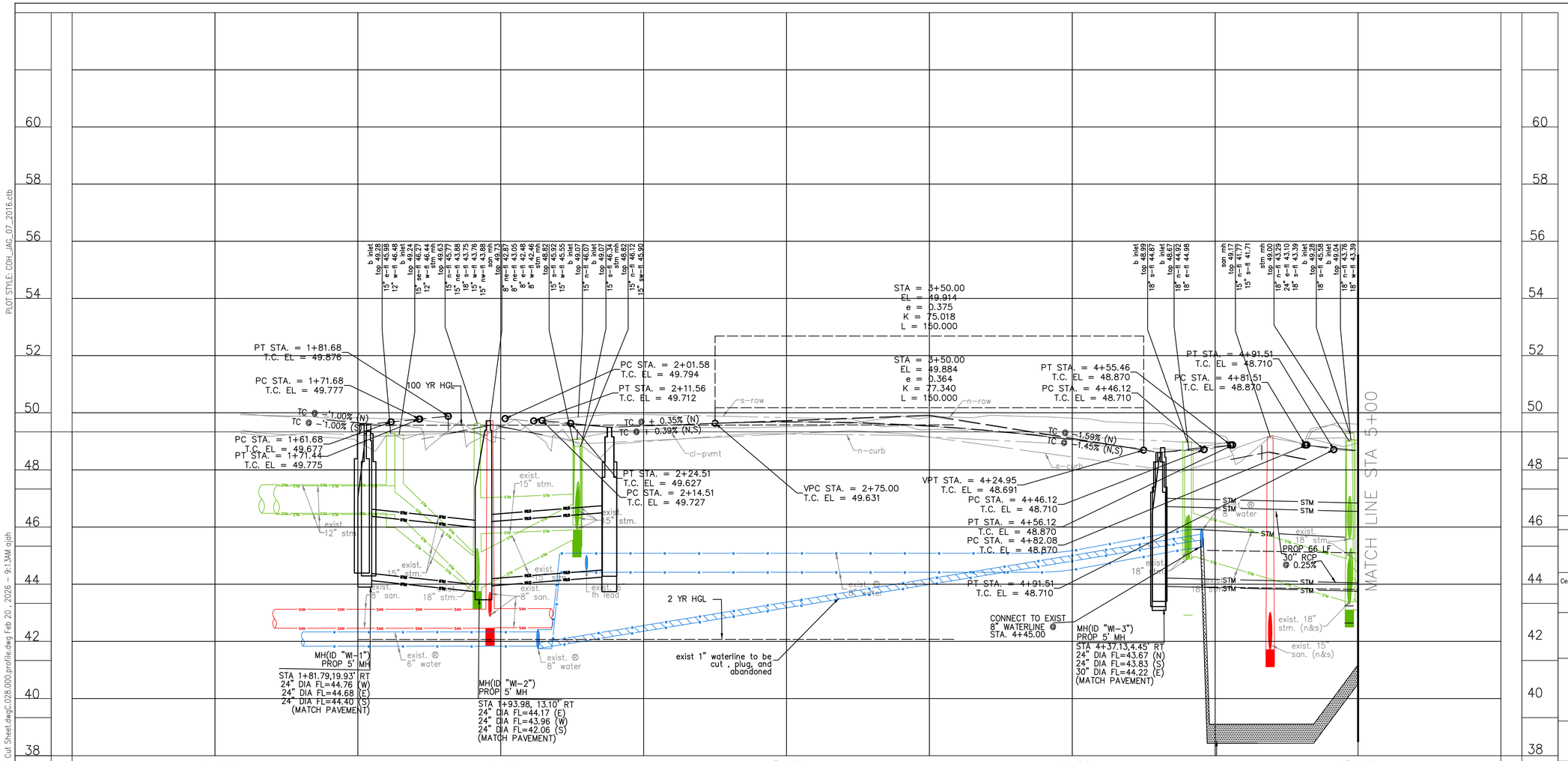
GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN
WILLARD STREET
STA 1+00 TO STA 5+00

SHEET 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

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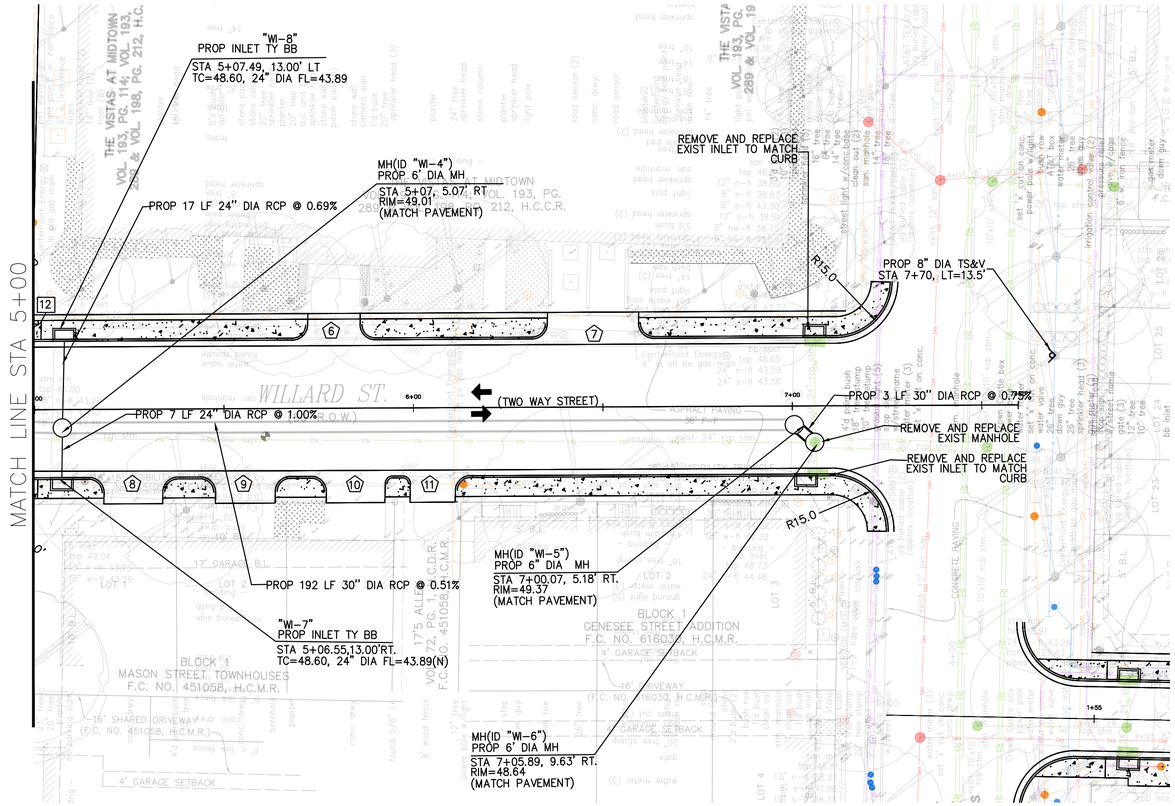
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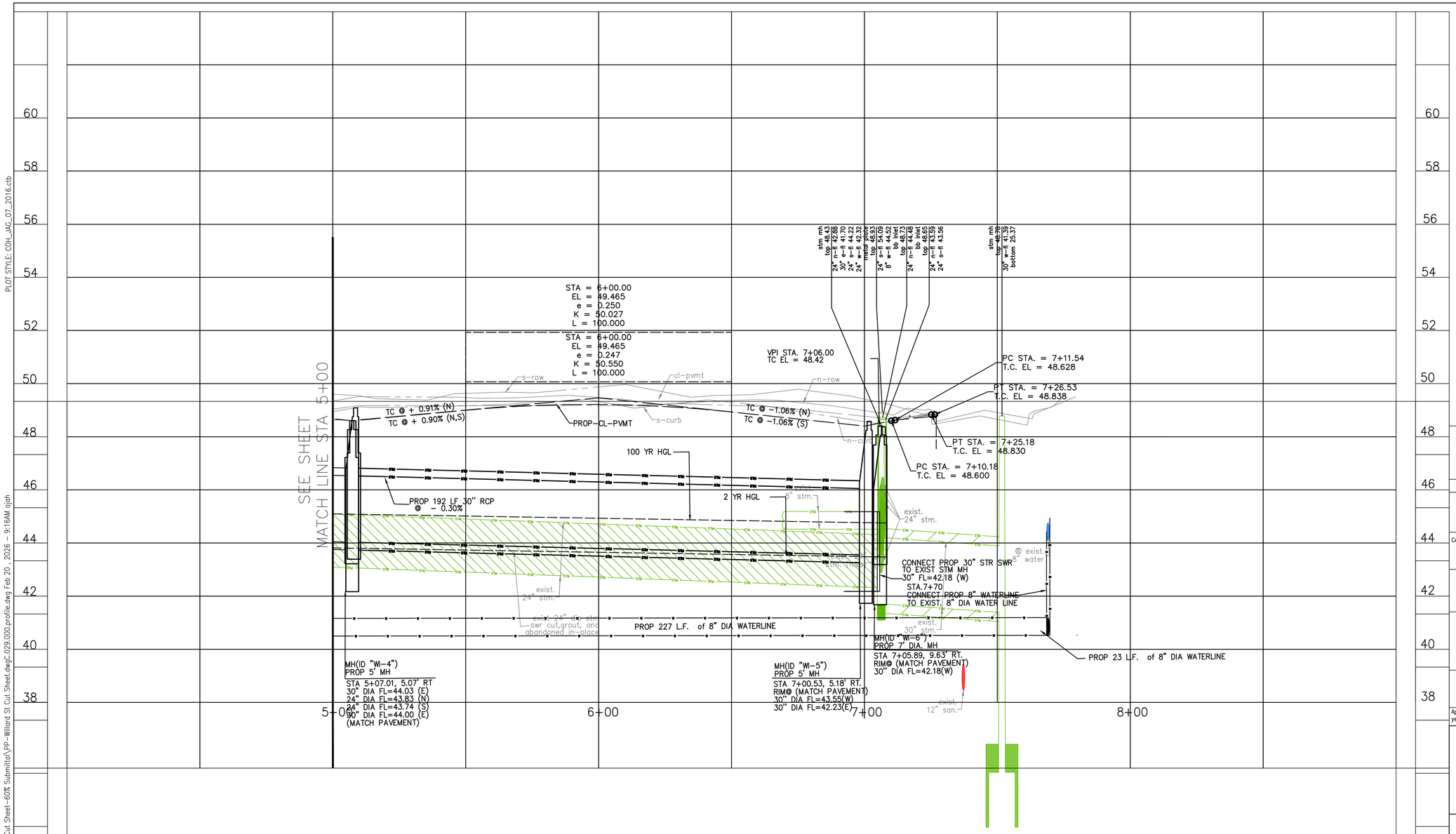
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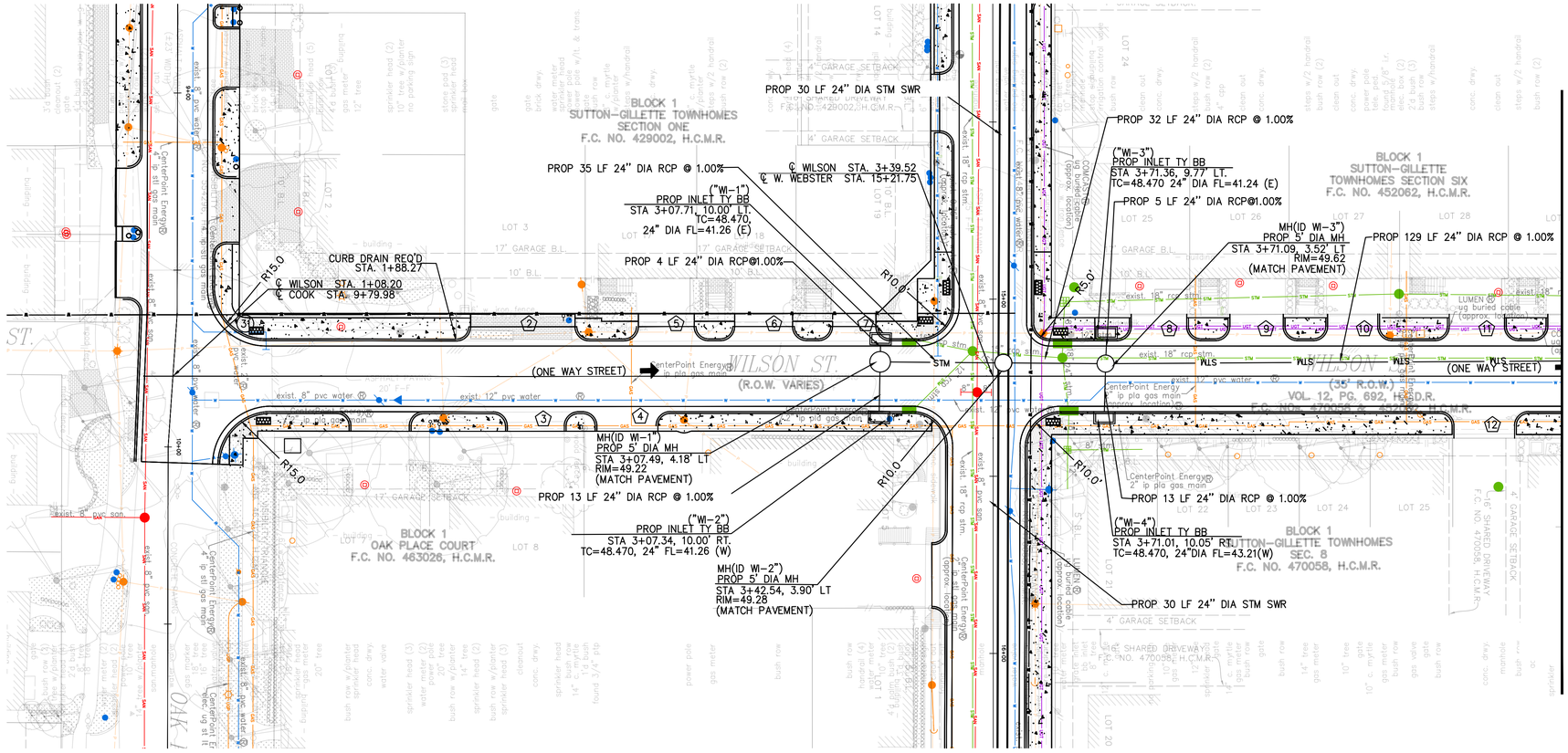
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CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

HORIZONTAL DATUM:

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1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PLAN

WILSON STREET

STA 1+00 TO STA 5+00

SHEET 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

\\WS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60ft Submittal\PP-Wilson St Cut Sheet.dwg, 0.015.000 profile.dwg Feb 19, 2026 - 4:49PM ajah

KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

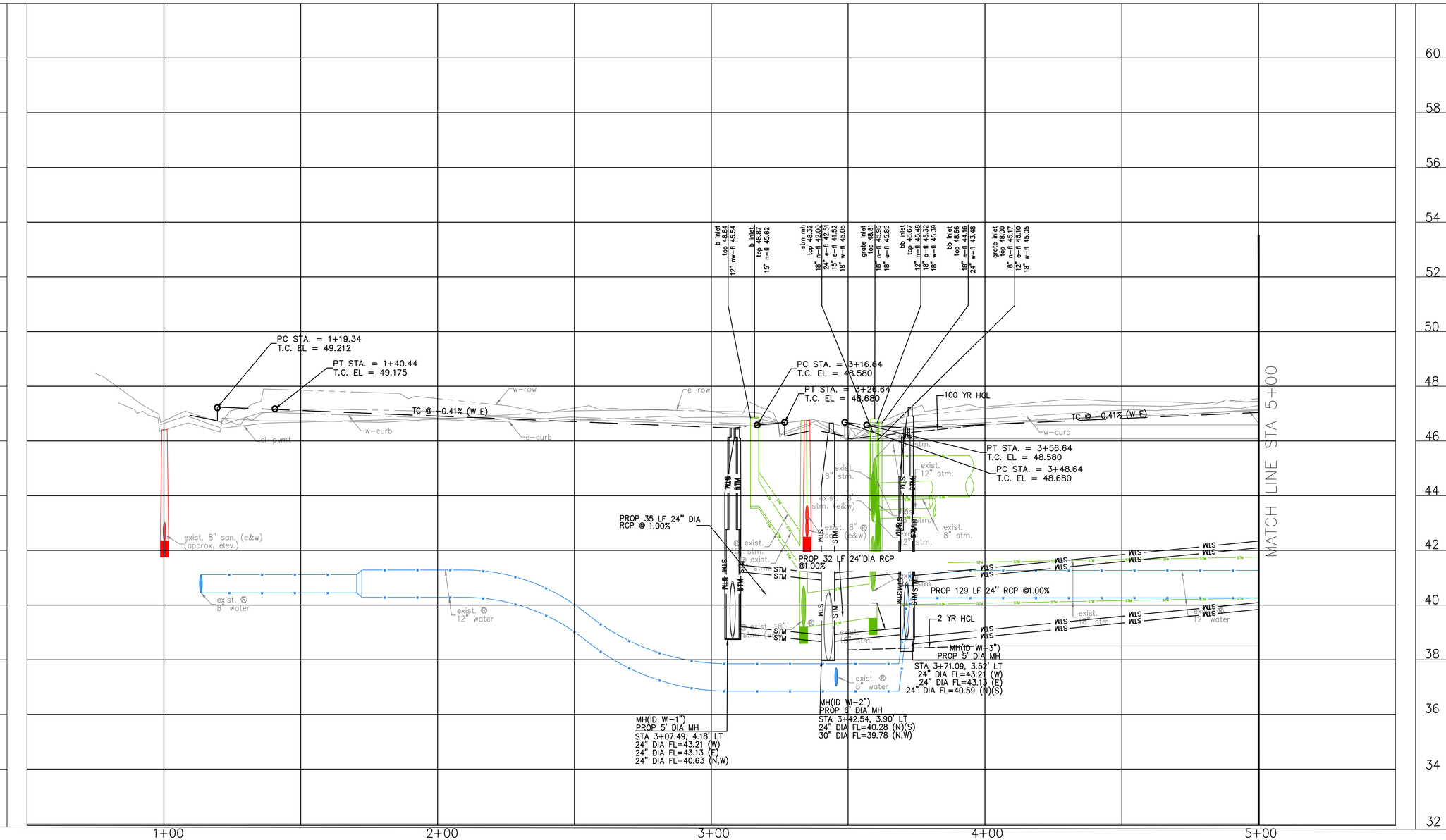
DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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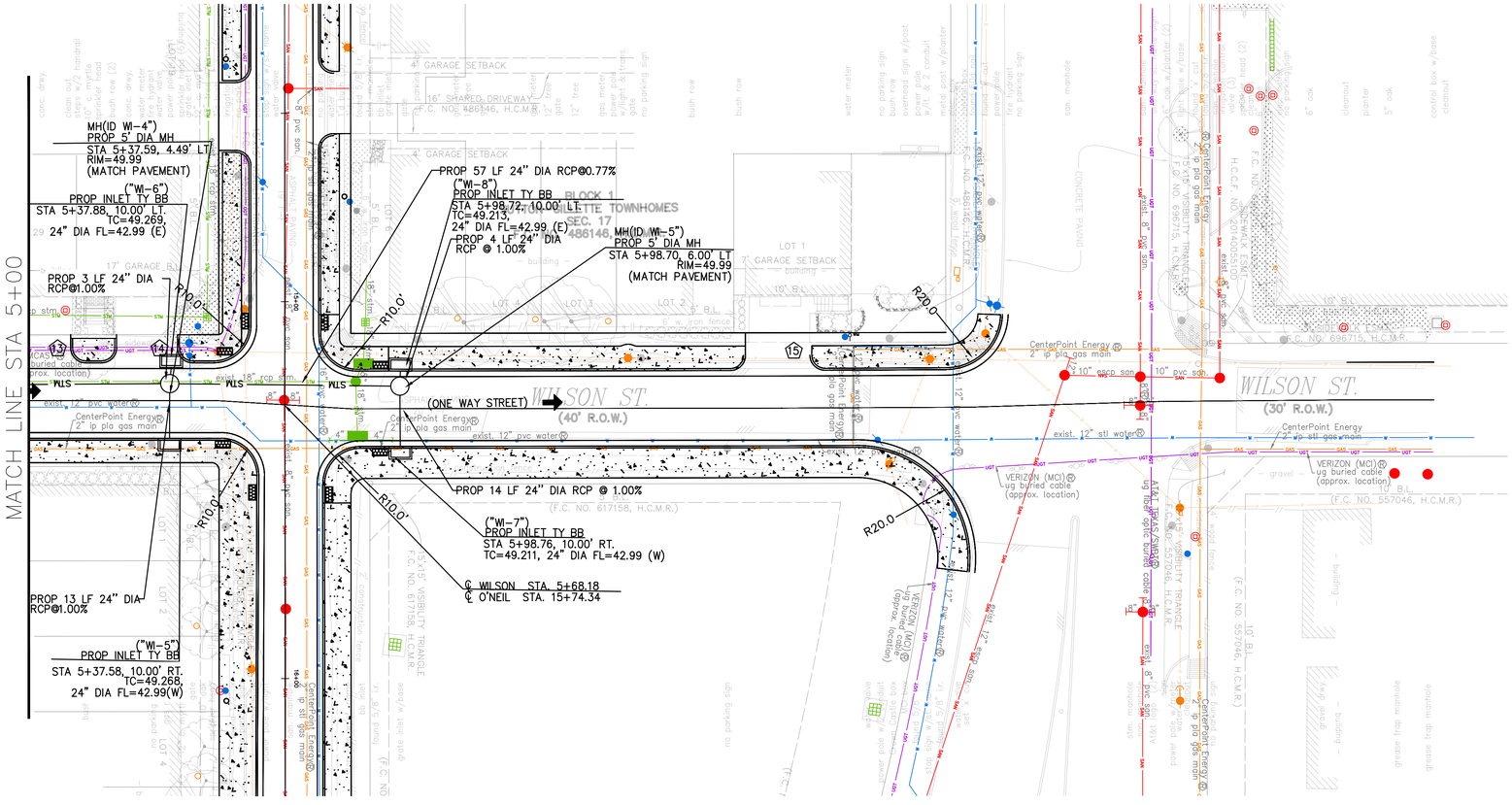
PROFILE

WILSON STREET

STA 1+00 TO STA 5+00

SHEET 2 OF 4

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N-210008-0001-3	
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WILSON STREET

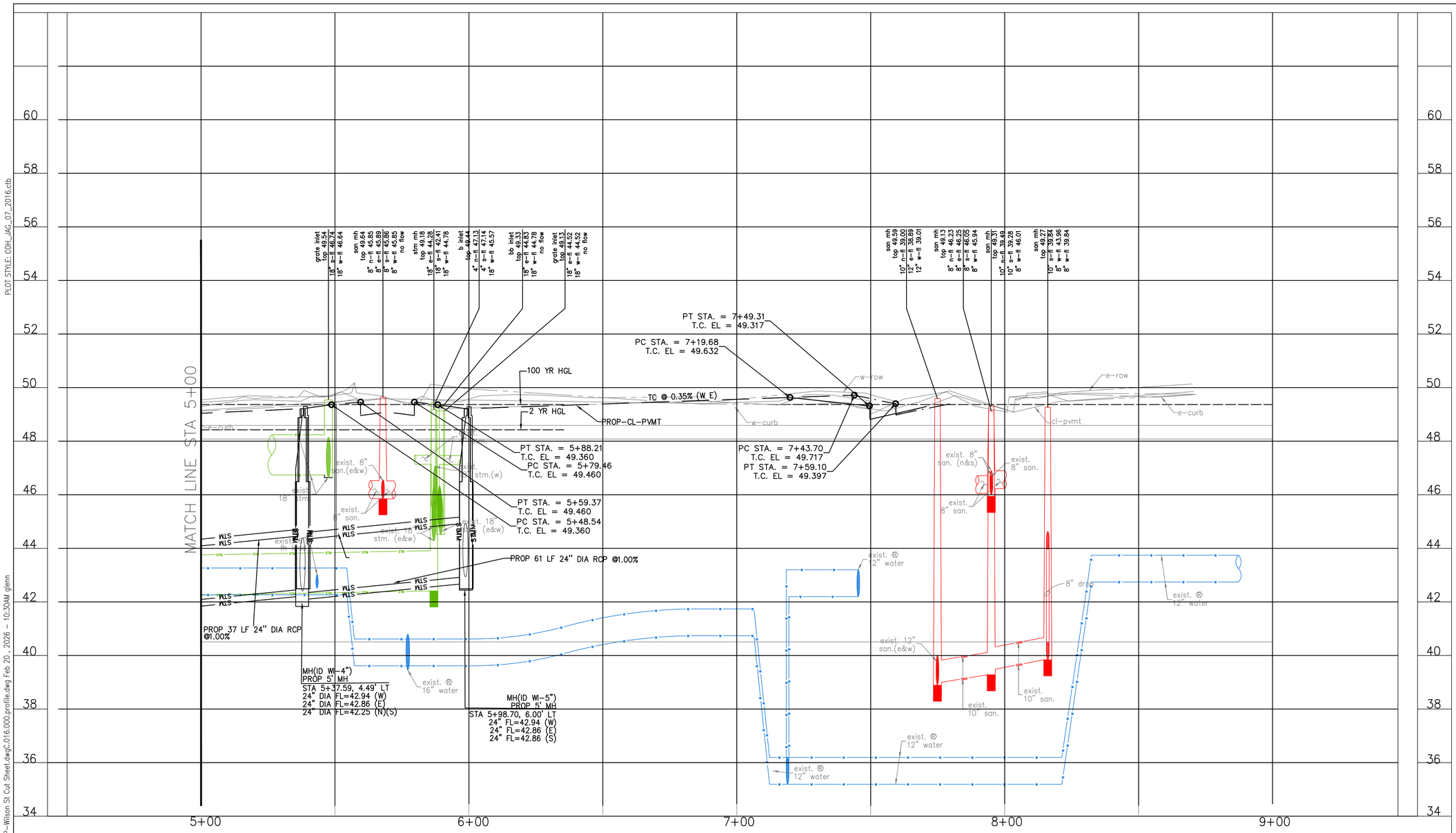
STA 5+00 TO STA 8+73

SHEET 3 OF 4

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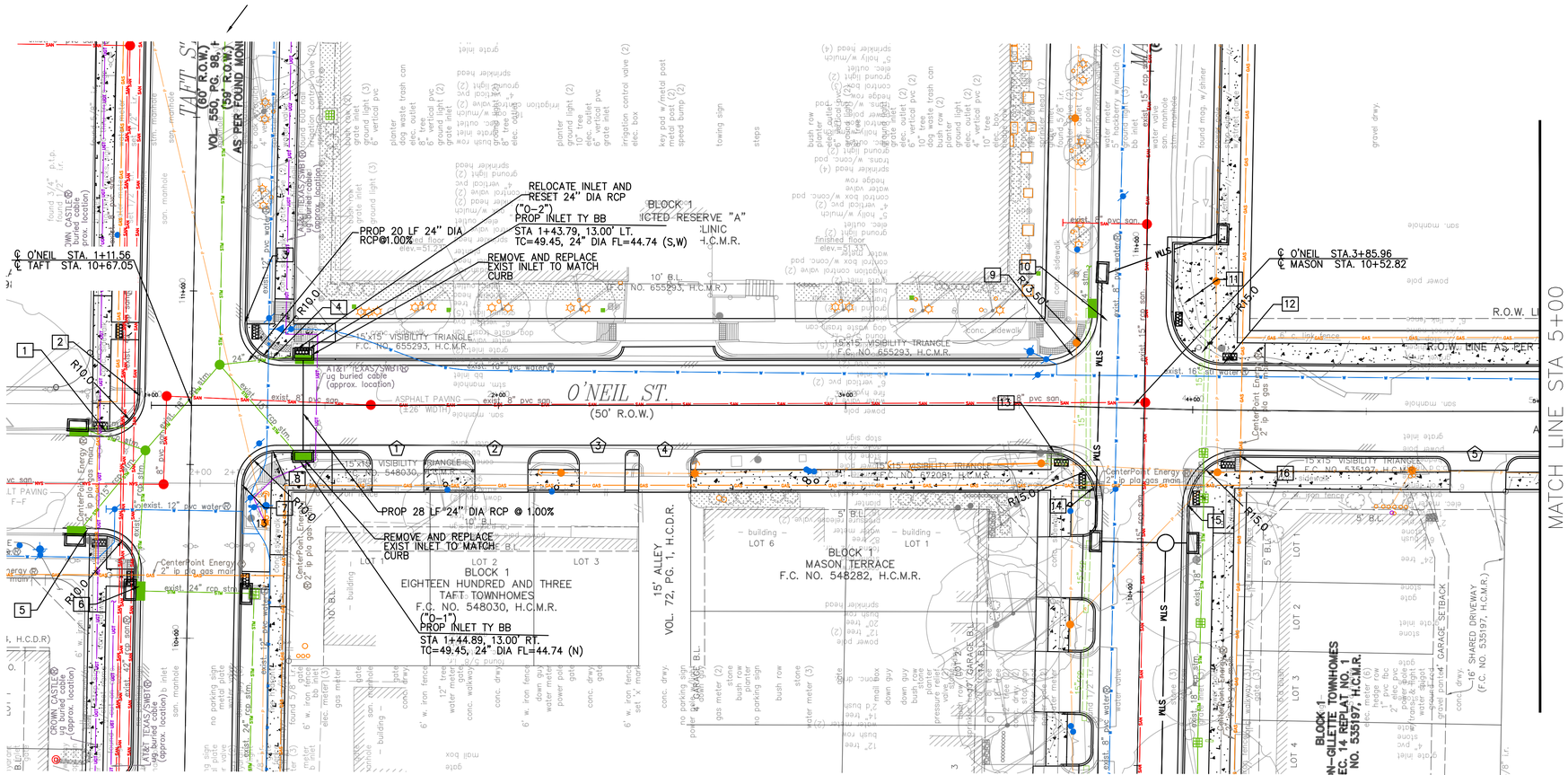
PROFILE
WILSON STREET
STA 5+00 TO STA 8+73

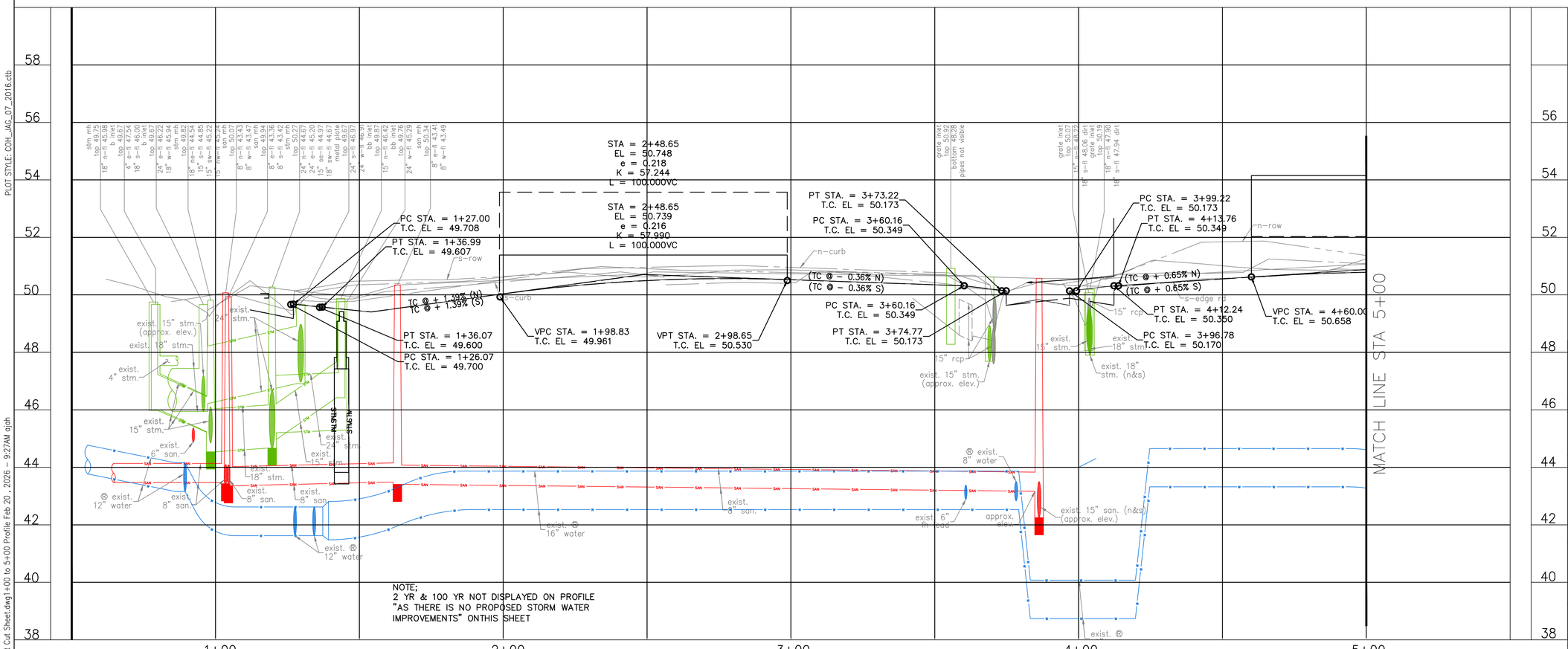
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PLOT STYLE: COH_IMG_07_2016.ctb


TAFT ST.
(60' R.O.W.)
VOL. 550, PG. 98, H.C.D.R.
(59' R.O.W.)
AS PER FOUND MON
O'NEIL ST.
(50' R.O.W.)
℄ O'NEIL STA. 1+11.56
℄ TAFT STA. 10+67.05
℄ O'NEIL STA.3+85.96
℄ MASON STA. 10+52.82
MATCH LINE STA 5+00
RELOCATE INLET AND RESET 24" DIA RCP ("0-2")
PROP INLET TY BB
STA 1+43.79, 13.00' LT.
TC=49.45, 24" DIA FL=44.74 (S,W)
PROP 20 LF 24" DIA RCP@1.00%
REMOVE AND REPLACE EXIST INLET TO MATCH CURB
PROP 28 LF 24" DIA RCP @ 1.00%
REMOVE AND REPLACE EXIST INLET TO MATCH CURB
PROP INLET TY BB
STA 1+44.89, 13.00' RT.
TC=49.45, 24" DIA FL=44.74 (N)
BLOCK 1
EIGHTEEN HUNDRED AND THREE
TAFT TOWNHOMES
F.C. NO. 548030, H.C.M.R.
BLOCK 1
MASON TERRACE
F.C. NO. 548282, H.C.M.R.
15' ALLEY
VOL. 72, PG. 1, H.C.D.R.
BLOCK 1
N-GILLETTE TOWNHOMES
EC. 14 REPLAT NO. 1
NO. 535197, H.C.M.R.
16' SHARED DRIVEWAY
(F.C. NO. 535197, H.C.M.R.)
15'x15' VISIBILITY TRIANGLE
F.C. NO. 655293, H.C.M.R.
10'x15' VISIBILITY TRIANGLE
F.C. NO. 535197, H.C.M.R.
R10.0
R15.0
R15.50
WLS
XLS
ASPHALT PAVING
(±26' WIDTH)
R.O.W. LINE AS PER
BLOCK 1
RESTRICTED RESERVE "A"
H.C.M.R.
10' B.L.
(F.C. NO. 655293, H.C.M.R.)
5' B.L.
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
GARAGE
SETBACK
DRIVEWAY
CROWN CASTLE
ug buried cable
(approx. location)
AT&T TEXAS/SWBTO
ug buried cable
(approx. location)
CenterPoint Energy
2" ip pig gas main
exist. 12" pvc water
exist. 24" rcp storm
exist. 8" pvc water
exist. 16" cip water
exist. 15" rcp storm
exist. 8" pvc san
exist. 6" pvc san
exist. 18" pvc san
exist. 10" low waterline
exist. 12" pvc water
exist. 8" pvc water
exist. 24" rcp storm
exist. 42" rcp storm
exist. 12" pvc water
exist. 15" rcp storm
exist. 8" pvc water
exist. 8" pvc san
exist. 15" rcp storm
exist. 16" cip water
exist. 8" pvc water
exist. 8" pvc san
exist. 18" pvc san
exist. 8" pvc water
exist. 8" pvc san
exist. 8" pvc water
exist. 8" pvc san
exist. 8" pvc water
exist. 8



NOTE:
2 YR & 100 YR NOT DISPLAYED ON PROFILE "AS THERE IS NO PROPOSED STORM WATER IMPROVEMENTS" ONTHIS SHEET

(XX) KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

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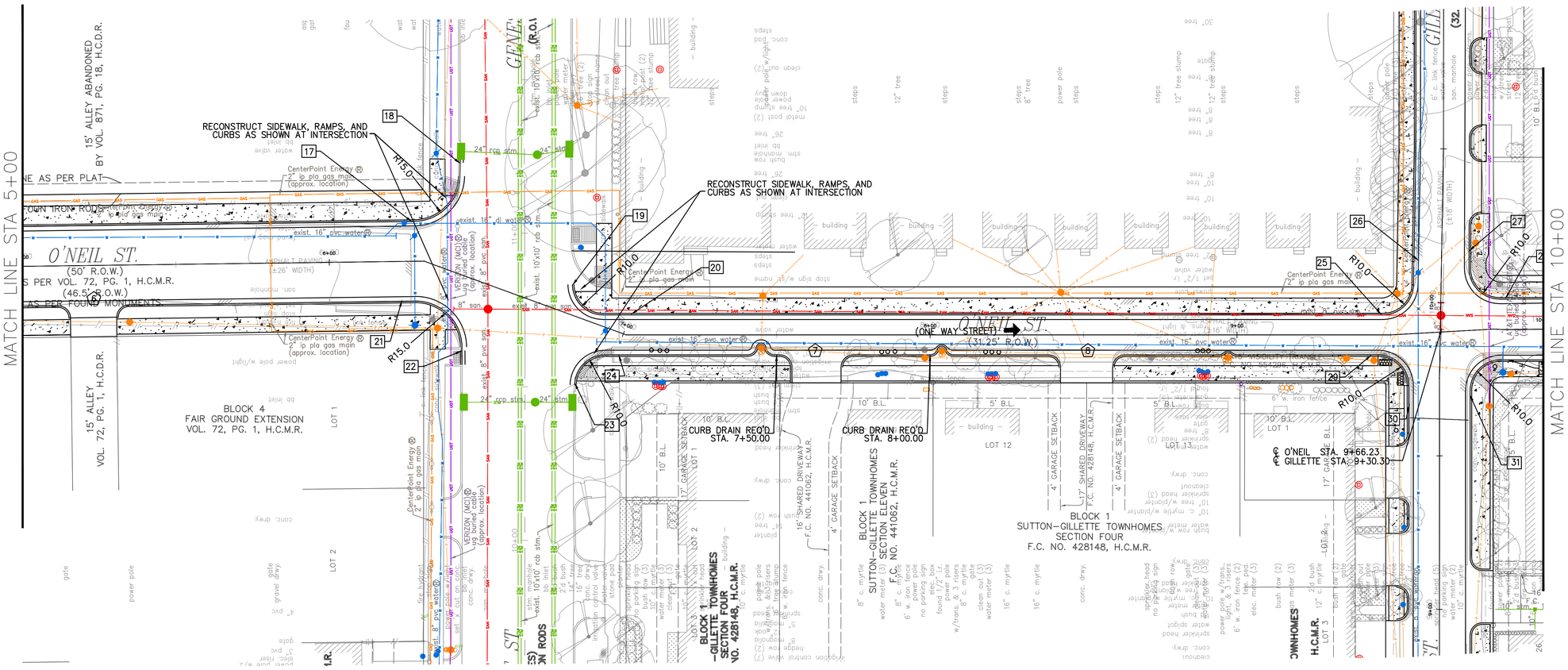
PROFILE
O'NEIL STREET
STA 1+00 TO STA 5+00

SHEET 2 OF 8

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PLOT STYLE: COH_IMG_07_2016.ctb

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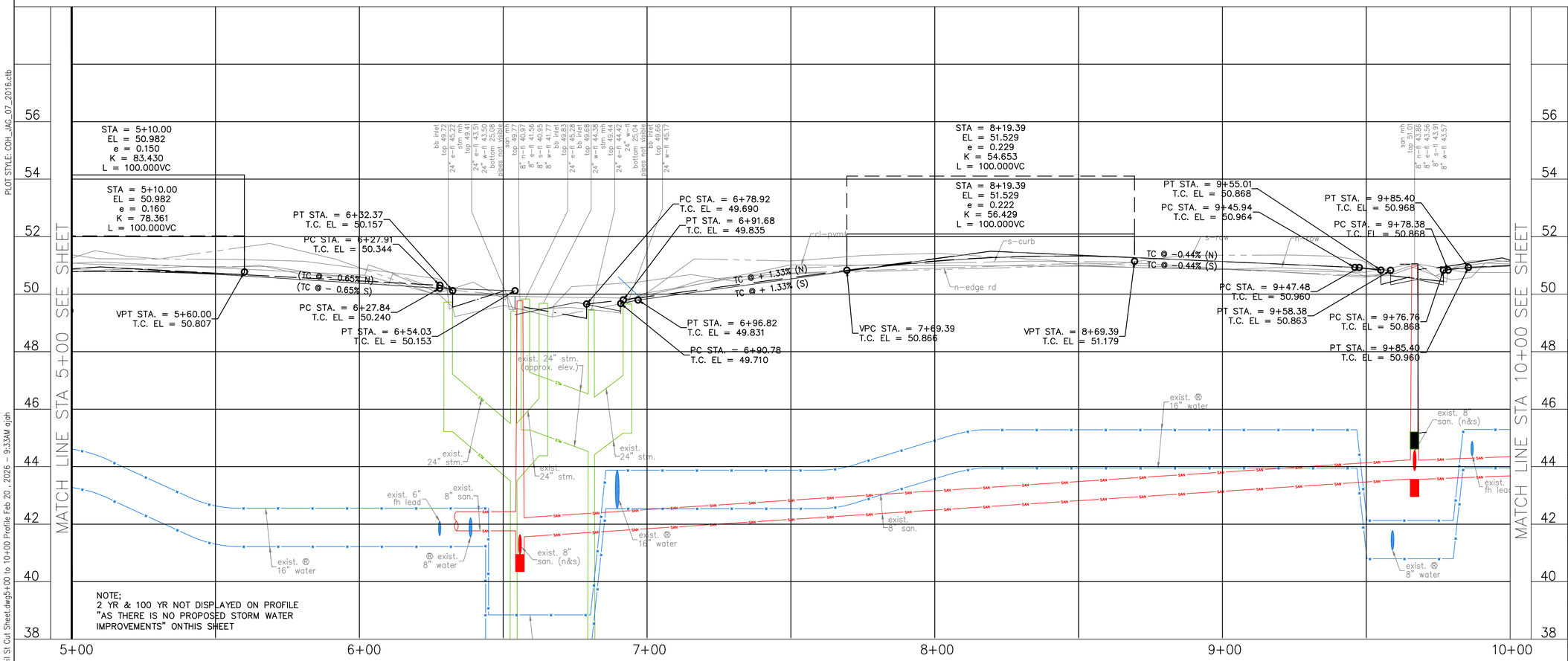
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Plan Feb 20, 2026 - 9:29AM djoh

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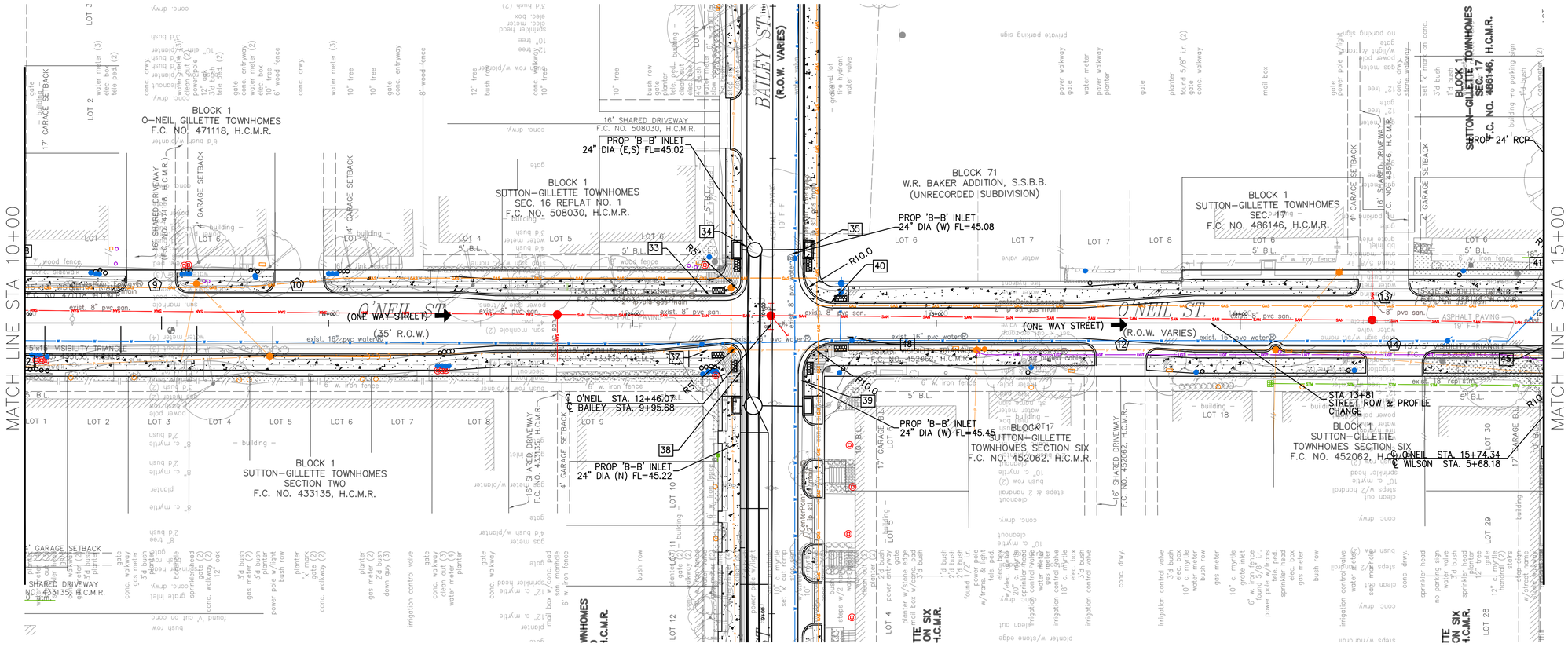
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SPECIAL NOTE:

1) PROCEED WITH CAUTION! EXIST 2 INCH NATURAL GAS LINE IN AREA

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

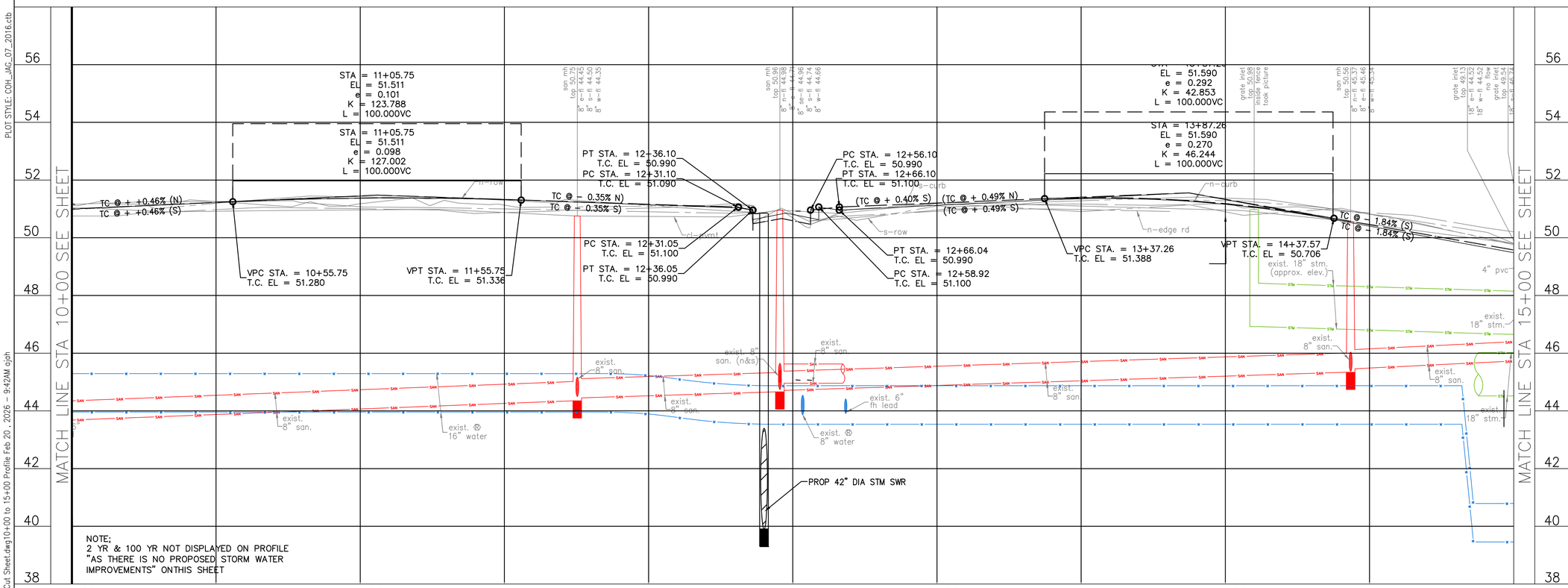
PLAN
O'NEIL STREET
STA 10+00 TO STA 15+00

SHEET 5 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_IMG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-O'Neil St Cut Sheet.dwg10+00 to 15+00 Plan Feb 20, 2026 - 9:35AM ajah



NOTE;
2 YR & 100 YR NOT DISPLAYED ON PROFILE "AS THERE IS NO PROPOSED STORM WATER IMPROVEMENTS" ONTHIS SHEET

Ⓚ KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

Ⓓ DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5357-8105, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHWEST CORNER OF BAILEY STREET AND W. WEBSTER STREET.

ELEV. 49.51 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 8, 2024.

HORIZONTAL DATUM:

ALL HORIZONTAL COORDINATES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. THE COORDINATES & DISTANCES SHOWN ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.99989317.

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.

1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

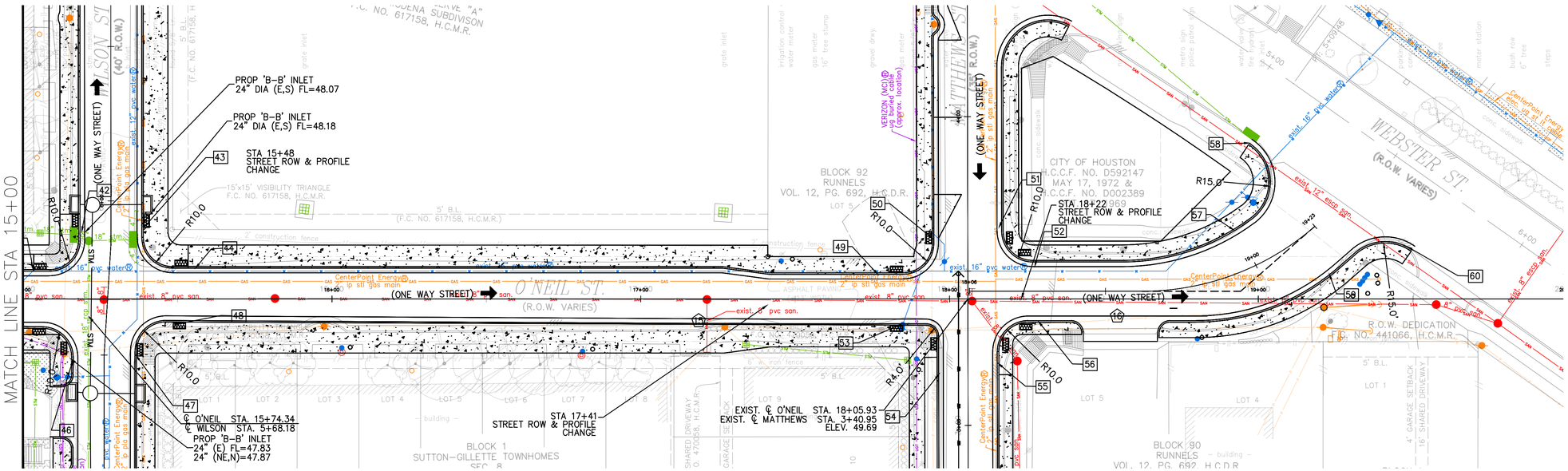
PROFILE
O'NEIL STREET
STA 10+00 TO STA 15+00

SHEET 6 OF 8

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
H: 1" = 20' V: 1" = 2'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60ft Submittal\PP-O'Neil St Cut Sheet.dwg10+00 to 15+00 Profile Feb 20, 2026 - 9:42AM ojah



KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

N

CITY OF HOUSTON

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

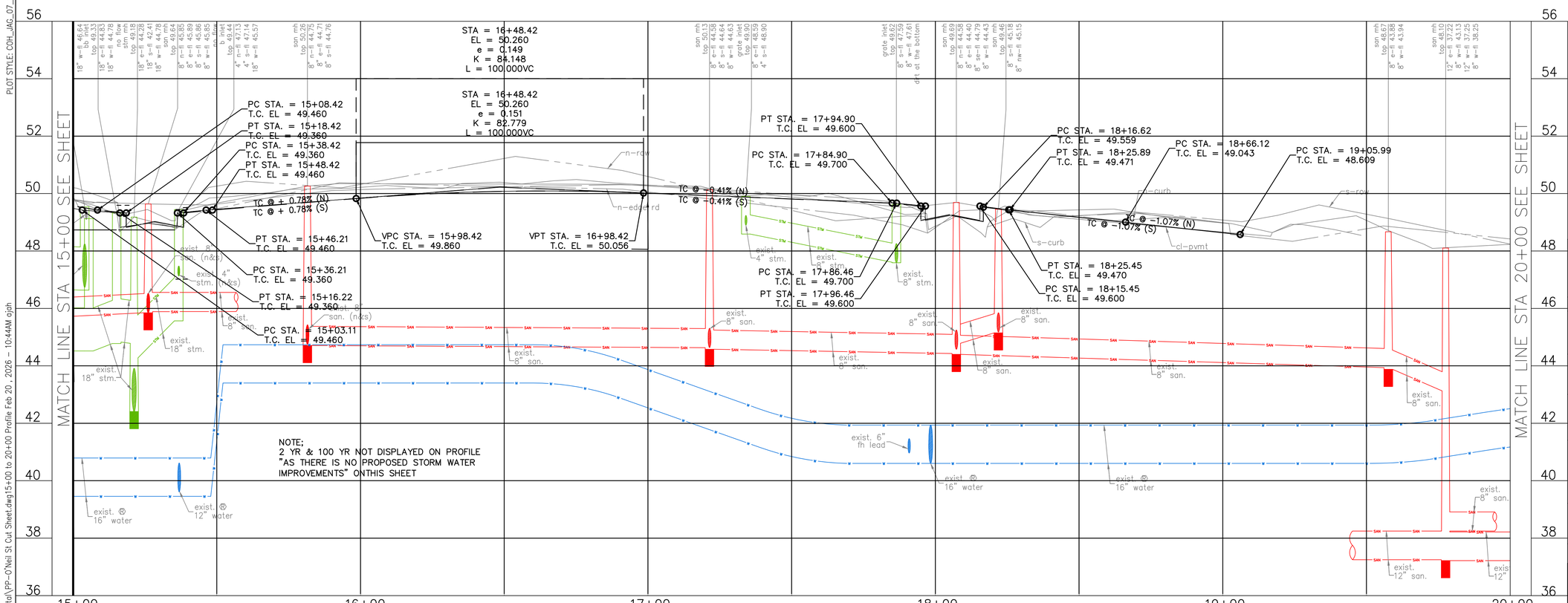
PLAN
O'NEIL STREET
STA 15+00 TO STA 20+00

SHEET 7 OF 8

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CITY OF HOUSTON PM	
SHEET NO. OF	

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\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-O'Neil St Cut Sheet.dwg15+00 to 20+00 Plan Feb 23 , 2026 - 11:53AM gjph



KEY NOTE (SEE KEY NOTE LEGEND FOR DESCRIPTION)

DRIVEWAY ID NO. (SEE APPLICABLE DRIVEWAY SCHEDULE FOR STREET)

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CITY OF HOUSTON

GRAPHIC SCALE

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

PROFILE
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SHEET 8 OF 8

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\\IMS-FILEFORGE\Projects\2024 Projects\City of Houston Gray and Taft\Survey\P&P Cut Sheet-60% Submittal\PP-O'Neil St Cut Sheet.dwg15+00 to 20+00 Profile Feb 20, 2026 - 10:44AM gjah

TRAFFIC CONTROL PHASING NARRATIVE

FOR ALL PHASES AND STEPS:

I. PLACE CONSTRUCTION ADVANCE WARNING SIGNS, DRUMS, LPCB, CHEVRON, BARRICADES, AND SIGNS PER TMUTCD AS NEEDED. LPTBS SHOULD HAVE REFLECTOR BARRIERS ONCE PUT IN PLACE ON THE PROJECT SITE.

II. PLACE FILTER FABRIC FENCING, INLET PROTECTION BARRIERS, AND OTHER SWPPP MEASURES AS NEEDED.

III. CONSTRUCT PROPOSED WATER LINE AND SANITARY SEWER OFFSETS (WHEREVER SHOWN ON PLANS) PRIOR TO STORM SEWER CONSTRUCTION.

IV. PEDESTRIAN SAFETY AROUND THE WORK AREA MUST BE ALWAYS KEPT FROM DEBRIS OR OBSTRUCTION WHEN CONSTRUCTION IS ACTIVE.

V. NO ADJACENT INTERSECTIONS OR STREETS TO BE CONSTRUCTED TOGETHER.

VI. FOR TYPICAL 4-WAY AND TEE INTERSECTIONS, REFER TO SHEET TCP: XX AND TCP: XX RESPECTIVELY.

VII. DO NOT START ANY NEW CONSTRUCTION BEFORE THE PREVIOUS PHASE/STEP IS COMPLETED.

PHASE 1

INSTALL ONE WAY ONLY STREET SIGNS FOR

- O'NIEL ST (BETWEEN GENESSE AND WEBSTER ST), TRAVEL DIRECTION, WEST TO EAST
- COOK ST (BETWEEN GENESSEE AND WILSON ST), TRAVEL DIRECTION, WEST TO EAST
- SUTTON ST (BETWEEN GENESSE AND BAILEY ST), TRAVEL DIRECTION, EAST TO WEST
- GILLETTE ST (BETWEEN DENNIS ST TO W. GRAY ST), TRAVEL DIRECTION, SOUTH TO NORTH
- BAILEY ST (BETWEEN W. GRAY ST TO ALBANY ST), TRAVEL DIRECTION, NORTH TO SOUTH
- WILSON ST (BETWEEN COOK ST TO W. GRAY ST), TRAVEL DIRECTION, SOUTH TO NORTH
- MATHEWS ST (BETWEEN WEBSTER TO W. WEBSTER ST), TRAVEL DIRECTION, NORTH TO SOUTH
- CUSHING ST (BETWEEN W. WEBSTER TO WEBSTER), TRAVEL DIRECTION, SOUTH TO NORTH

PHASE2

ALLOW ONE-LANE ONE WAY TRAFFIC FLOW ONTO THE STREETS WITH FLAGGER OPERATION FOR INSTALL OF UTILITY MAIN (WATER AND STORM). ONLY UTILITY MAIN INSTALLED IN THIS PHASE 2

I. O'NEIL (BETWEEN GILLET ST AND WILSON ST), W. WEBSTER (BETWEEN MASON & GENESSEE ST AND GILLET ST &WILSON ST), WILLARD (BETWEEN TAFT AND GENESSEE ST) AND WELCH ST (BETWEEN TAFT AND GENESSEE ST)

II. ALL UTILITY MAIN CONSTRUCTION WILL KEEP ROLLING WORKZONE SEGMETN OF <= 200-FT AND ALLOW LOCAL ACCESS.

III. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

I. ALLOW ONE-LANE TRAFFIC ONTO THE TEMPORARY PAVEMENT, WITH A FLAGGER OPERATION

II. RESTORE THE EXISTING PAVEMENT WITH TEMPORARY ASPHALT AFTER UTILITIES ARE INSTALLED AND OPEN FOR TRHU TRAFFIC

PHASE 3 (STEP 1 THROUGH 6)

PHASE 3, STEP 1

I. O'NEIL, WEBSTER, WILLARD AND WELCH (BETWEEN TAFT AND GENESSEE ST),

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE TWO-WAY TRAFFIC ONTO THE SOUTHSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2, THE PROPOSED PAVEMENT, CURB & DRIVEWAY.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 3, STEP 2

I. O'NEIL, WEBTER, WILLARD AND WELCH (BETWEEN TAFT AND GENESSEE ST),

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE TWO-WAY TRAFFIC ONTO THE NORTHSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 2, STEP1, WITH A FLAGGER OPERATION. INSTALL LATERLAS OF THE PROPOSED PAVEMENT, CURB & DRIVEWAY

IV. INSTALL THE PROPOSED CURBS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 3, STEP 3

I. MASON ST (BETWEEN W.GRAY AND WELCH ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE TWO-WAY TRAFFIC ONTO THE WESTSIDE EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 3, STEP 4

I. MASON ST (BETWEEN W.GRAY AND WELCH ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE TWO-WAY TRAFFIC ONTO THE EASTSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 3, STEP3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 3, STEP 5

I. TAFT ST (BETWEEN W.GRAY AND WELCH ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE TWO-WAY TRAFFIC ONTO THE WESTSIDE EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 3, STEP 6

I. TAFT ST (BETWEEN W.GRAY AND WELCH ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE TWO-WAY TRAFFIC ONTO THE EASTSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 3, STEP 5, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 1.

IV. INSTALL THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS USING HIGH EARLY STRENGTH CONCRETE. PROVIDE A DETOUR AROUND WORK STREET.

V. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4 (STEP 1 THROUGH 12)

PHASE 4, STEP 1

I. O'NEIL (BETWEEN GILLETTE ST AND BAILEY ST), COOK (BETWEEN GENESSEE ST AND BAILEY ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE, ONLY ONE WAY (WEST TO EAST) TRAFFIC ONTO THE SOUTHSIDE EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 2

1. O'NEIL (BETWEEN GILLETTE ST AND BAILEY ST), COOK (BETWEEN GENESSEE ST AND BAILEY ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE NORTHSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 4, STEP1, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 3

I. W. WEBSTER (BETWEEN GENESSEE ST AND BAILEY ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE, ONLY ONE WAY (WEST TO EAST) TRAFFIC ONTO THE SOUTHSIDE EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 4

I. W. WEBSTER (BETWEEN GENESSEE ST AND BAILEY ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE NORTHSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 4, STEP1, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 5

I. GILLETTE ST (BETWEEN SUTTONT AND W. GRAY ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE, ONLY ONE WAY ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 6

I. GILLETTE ST (BETWEEN SUTTON AND W. GRAY ST)

II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.

III. ALLOW ONE-LANE, ONLY ONE WAY ONTO THE EASTSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 4, STEP3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.

IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

V. PROVIDE A DETOUR AROUND WORK STREET.

CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

90% SUBMITTAL

Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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ims
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TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TRAFFIC CONTROL PLANS
CONSTRUCTION NARRATIVE

01 OF 03

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
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CITY OF HOUSTON PM	
TCP: 01 SHEET NO. OF	

TRAFFIC CONTROL PHASING NARRATIVE

PHASE 4, STEP 7

I. SUTTON (BETWEEN GENESSE ST AND BAILEY ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (SOUTH TO NORTH) ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 8

I. SUTTON (BETWEEN GENESSE ST AND BAILEY ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (SOUTH TO NORTH) ONTO THE EASTSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 4, STEP3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 9

I. GILLETTE ST (BETWEEN SUTTON AND DENNIS ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 10

I. GILLETTE ST (BETWEEN SUTTON AND DENNIS ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY ONTO THE EASTSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 4, STEP3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 11

I. DENNIS ST (BETWEEN GENESSE ST AND ALBANY ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (SOUTH TO NORTH) ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4, STEP 12

I. DENNIS ST (BETWEEN GENESSE ST AND ALBANY ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (SOUTH TO NORTH) ONTO THE EASTSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 4, STEP3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4B (STEP 1 THROUGH 3)
PHASE 4B, STEP 1

I. O'NEIL ST (BETWEEN GENESSE ST AND STA. 7+63)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 7+63), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM GILLETTE ST TO O'NEIL ST STA. 7+63 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4B, STEP 2

I. O'NEIL ST (BETWEEN STA. 7+63 AND STA. 8+50)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAYS HALF OPEN (STA. 7+63 AND STA. 8+50), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM GENESSE ST TO O'NEIL ST STA. 7+63 AND GILLETTE ST TO O'NEIL ST STA. 8+50 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER DURING INSTALLATION OF LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4B, STEP 3

I. O'NEIL ST (BETWEEN STA. 8+50 TO GILLETTE ST.)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 8+50), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM GENNESSE ST TO O'NEIL ST STA. 8+50 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER DURING INSTALLATION OF LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4C (STEP 1 AND 2)
PHASE 4C, STEP 1

I. O'NEIL ST (BETWEEN BAILEY ST AND STA. 13+60)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 13+60), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM WILSON ST TO O'NEIL ST STA. 13+60 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER DURING INSTALLATION OF LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 4C, STEP 2

I. O'NEIL ST (BETWEEN STA. 13+60 AND STA. 13+85)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAYS HALF OPEN (STA. 13+60), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM WILSON ST TO O'NEIL ST STA. 13+85 AND BAILEY ST TO O'NEIL ST STA. 13+60 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER DURING INSTALLATION OF LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5 (STEP 1 THROUGH 10)
PHASE 5, STEP 1

I. ONIEL ST (BETWEEN STA. 13+80 AND WEBSTER ST), AND COOK ST (BETWEEN BAILEY AND WILSON ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE NORTHSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 2

I. ONIEL (BETWEEN STA. 13+80 AND WEBSTER ST), AND COOK ST (BETWEEN BAILEY AND WILSON ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE SOUTHSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 5, STEP 3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 3

I. W. WEBESTER (BETWEEN BAILEY AND WEBSTER ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE NORTHSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 4

I. W. WEBESTER (BETWEEN BAILEY AND WEBSTER ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE SOUTHSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 5, STEP 3, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 5

I. WILSON ST (BETWEEN W GRAY ST AND COOK ST), CUSHING ST (BETWEEN WEBSTER ST AND W WEBESTER STREET)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (NORTH TO SOUTH) ONTO THE EASTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 6

I. WILSON ST (BETWEEN W GRAY ST AND COOK ST), CUSHING ST (BETWEEN WEBSTER ST AND W WEBESTER STREET)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (WEST TO EAST) ONTO THE SOUTHSIDE, NEW PAVEMENT, CONSTRUCTED AS PART OF PHASE 5, STEP 5, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
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TRAFFIC CONTROL PLANS
CONSTRUCTION NARRATIVE

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TRAFFIC CONTROL PHASING NARRATIVE

PHASE 5, STEP 7

I. BAILEY ST (BETWEEN SUTTON AND W. GRAY ST) & MATTHEW ST (STA. 2+27 TO W. O'NEIL ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (NORTH TO SOUTH) ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 8

I. BAILEY ST (BETWEEN SUTTON AND W. GRAY ST) & MATTHEW ST (STA. 2+27 TO W. O'NEIL ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (NORTH TO SOUTH) ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IIJ. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 9

I. BAILEY ST (BETWEEN SUTTON AND ALBANY ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (NORTH TO SOUTH) ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IIJ. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5, STEP 10

I. BAILEY ST (BETWEEN SUTTON AND ALBANY ST)
II. CLOSE SMALL SEGMENTS OF THE EXISTING ROAD IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN PARK OUTSIDE THE WORKZONE.
III. ALLOW ONE–LANE, ONLY ONE WAY (NORTH TO SOUTH) ONTO THE WESTSIDE, EXISTING PAVEMENT, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IIJ. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5B (STEP 1 THROUGH 4)

PHASE 5B, STEP 1

I. METHEWS ST (BETWEEN O'NEIL ST AND WEST GRAY ST)
II. ROAD CLOSED FOR ALL TRAFFIC.
III. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.

CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5B, STEP 2

I. MATHEWS ST (BETWEEN WEBSTER ST AND STA. 1+50)
II. ROAD CLOSED FOR ALL TRAFFIC.
III. ALLOW TWO–LANE TRAFFIC FROM O'NEIL ST TO MATHEWS ST STA. 1+50 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.
VII. REPURPOSE THE FINISHED ROAD FOR ON–STREET PARKING FOR RESIDENTS WHOSE DRIVEWAYS GET AFFECTED IN THE NEXT STEP

PHASE 5B, STEP 3

I. METHEWS ST (BETWEEN STA. 1+50 AND STA. 1+87)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 1+87)IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM O'NEIL ST TO MATHEWS ST STA. 1+87 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.
VII. RESIDENTS WILL USE NEW PAVEMENT CONSTRUCTED IN STEP 2 AS PARKING AND ALSO PARK ALONG WEST WEBSTER ST.

PHASE 5B, STEP 4

I. METHEWS ST (BETWEEN STA. 1+87 AND STA. 2+27)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 1+87)IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM O'NEIL ST TO MATHEWS ST STA. 2+27 AND WEBSTER ST TO MATHWES ST STA. 1+87 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.
VII. RESIDENTS WILL USE NEW PAVEMENT CONSTRUCTED IN STEP 3 AS PARKING AND CAN USE ANY ONE SIDE OF EXISTING STREET ROAD AS ON–STREET PARKING

PHASE 5C (STEP 1 THROUGH 5)

PHASE 5C, STEP 1

I. WILSON ST (BETWEEN COOK ST AND STA. 1+68)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 1+68), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM WEBSTER ST TO WILSON ST STA. 1+68 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5C, STEP 2

I. WILSON ST (BETWEEN STA. 1+68 AND STA. 2+10)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAYS HALF OPEN (STA. 1+68 AND STA. 2+10), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM WEBSTER ST TO WILSON ST STA. 2+10(THROUGH EXISTING PAVEMENT) AND COOK ST TO WILSON ST STA. 1+68(THROUGH NEW PAVEMENT) ONLY FOR LOCAL/RESIDENTIAL TRAFFIC OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.

PHASE 5C, STEP 3

I. WILSON ST (BETWEEN STA. 2+10 TO STA. 2+24)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 2+10), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM COOK ST TO WILSON ST STA. 2+10(THROUGH NEW PAVEMENT) ONLY FOR LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5C, STEP 4

I. WILSON ST (BETWEEN W. GRAY ST AND STA. 7+00)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA.7+00), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM W. GRAY ST TO WILSON ST STA. 7+00 ONLY TO LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.

CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

PHASE 5C, STEP 5

I. WILSON ST (BETWEEN STA. 7+00 TO O'NEIL ST)
II. ROAD STRETCH FULLY CLOSED WITH DRIVEWAY HALF OPEN (STA. 7+00), IN SUCH A WAY THAT MINIMUM HOUSES ARE AFFECTED AT A TIME AND THEY CAN UTILIZE THEIR DRIVEWAY.
III. ALLOW TWO–LANE TRAFFIC FROM O'NEIL ST TO WILSON ST STA. 7+00(THROUGH NEW PAVEMENT) ONLY FOR LOCAL/RESIDENTIAL TRAFFIC THROUGH EXISTING PAVEMENT OF THE STREET, WITH A FLAGGER OPERATION. INSTALL LATERLAS AND THE CONNECTIONS TO STORM, WATER MAINS INSTALLED DURING PHASE 2 AND INSTALLATION OF THE PROPOSED PAVEMENT, DRIVEWAYS AND CURBS.
IV. INSTALL STREET AND DRIVEWAYS USING HIGH EARLY STRENGTH CONCRETE.
V. PROVIDE A DETOUR AROUND WORK STREET.
VI. CONSTRUCT THE SIDEWALK AFTER FINISHING PAVEMENT CONSTRUCTION.

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1	09/23/2024	0	

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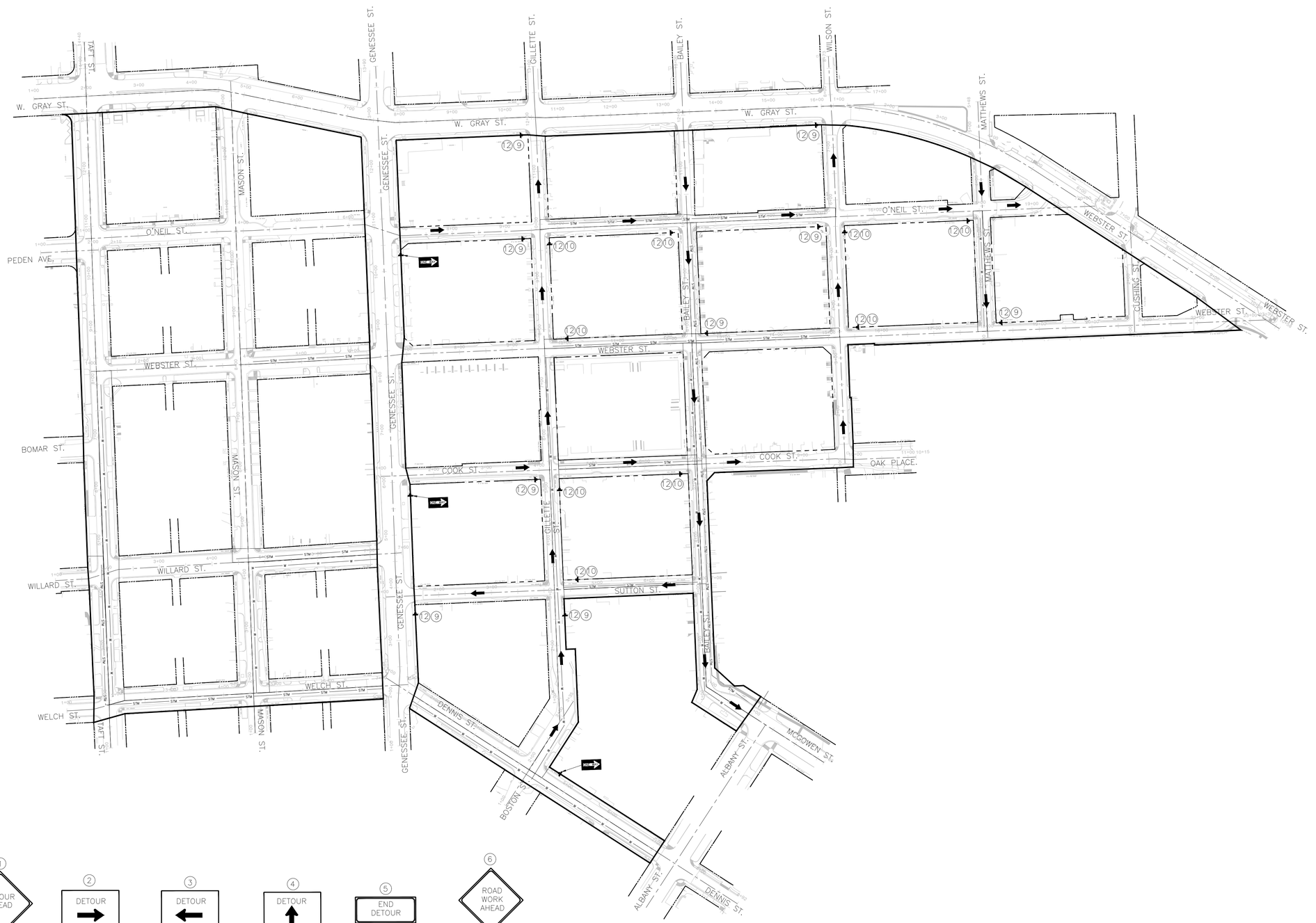
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03 OF 03

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TCP: 03	SHEET NO. OF



GRAPHIC SCALE

0 50 100 200

SCALE: 1" = 100'

LEGEND:

- CENTER LINE
- ROW LINE
- PROPOSED STORMWATER SEWER
- PROPOSED WATER LINE
- PROJECT BOUNDARY LINE
- PROPOSED TRAFFIC FLOW

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

1 DETOUR AHEAD — CW20-2, 36 X 36

2 DETOUR → — M4-9R, 30 X 24

3 DETOUR ← — M4-9L, 30 X 24

4 DETOUR ↑ — M4-9S, 30 X 24

5 END DETOUR — M4-8T, 24 X 18

6 ROAD WORK AHEAD — CW20-1, 36 X 36

7 ROAD CLOSED AHEAD — CW20-3, 36 X 36

8 ROAD CLOSED — R11-2, 48 X 30

9 — RS-1, 24 X 24

10 — RS-2, 24 X 24

11 LOCAL TRAFFIC ONLY — R11-3a, 60 X 30

12 STREET NAME — M4-9N, 30 X 12

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TX. REG: 117527

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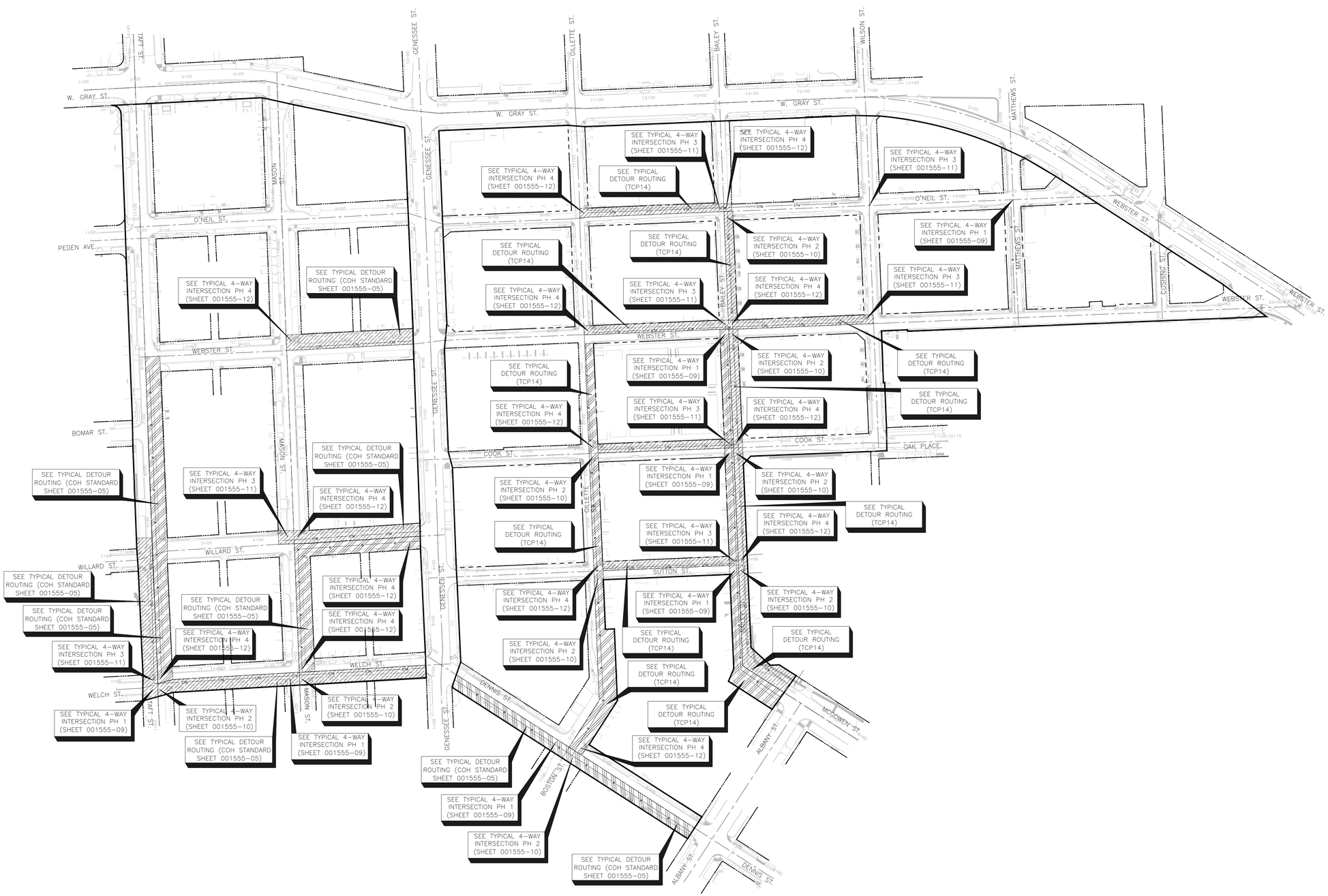
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Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 1 – CONVERT APPLICABLE STREETS TO ONE WAY TRAFFIC

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
TCP:04 SHEET NO. OF	



GRAPHIC SCALE

0 50 100 200

SCALE: 1" = 100'

LEGEND:

- CENTER LINE
- ROW LINE
- STM STM PROPOSED STORMWATER SEWER
- W W PROPOSED WATER LINE
- PROJECT BOUNDARY LINE
- PROPOSED STORMWATER SEWER
- PROPOSED WATERLINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

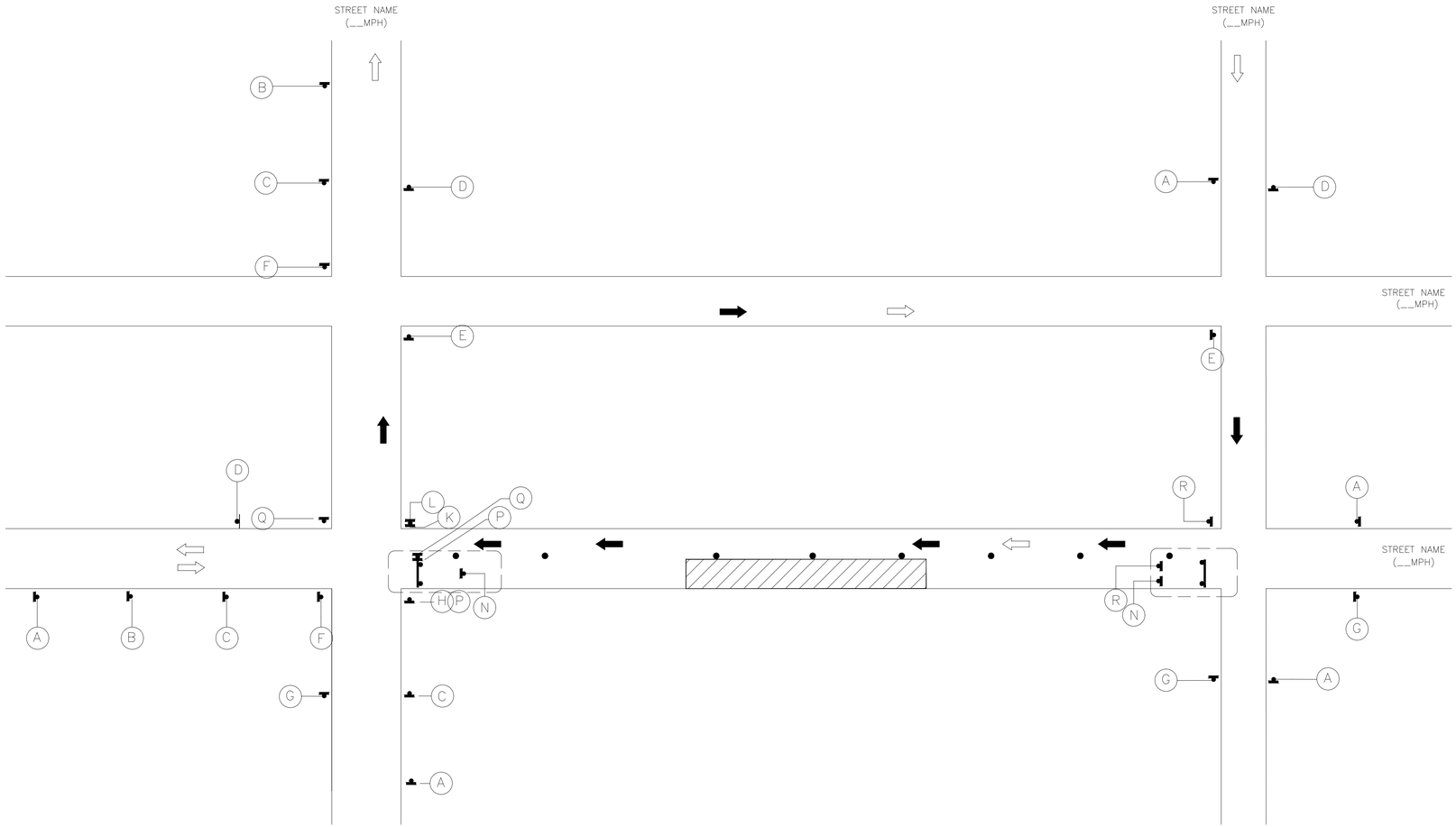
GRAY AND TAFT AREA PAVING AND DRAINAGE

PHASE 2 – TRAFFIC LAYOUT

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
TCP: 05 SHEET NO. OF	

A	B	C	D	E	F	G	H	I	J
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.

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 COH STANDARD SHEET 01555-01
4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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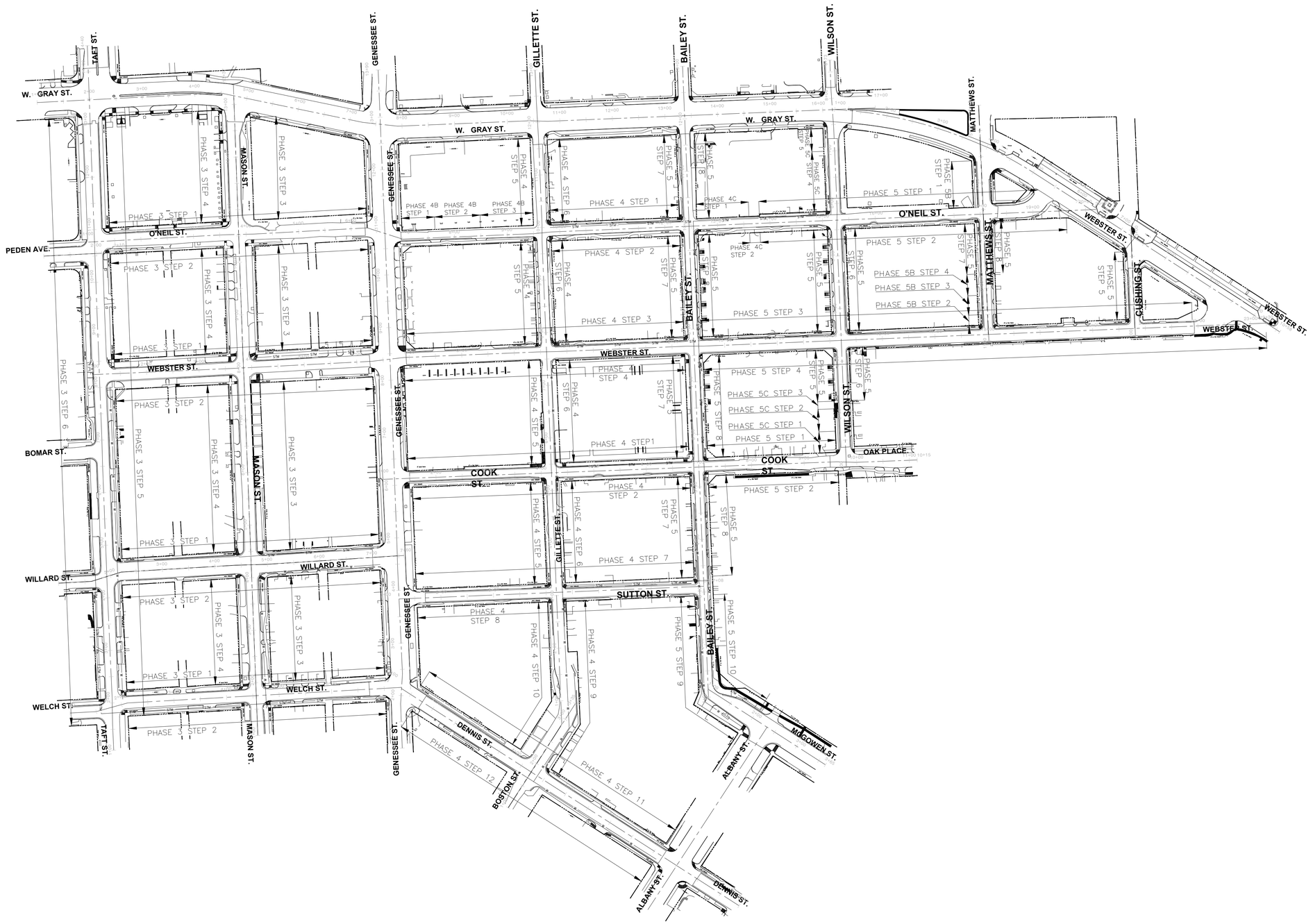
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE TYPICAL TCP FOR UTILITY INSTALLATION ON ONE WAY STREETS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	

TCP:06 SHEET NO. OF



GRAPHIC SCALE

0 50 100 200

SCALE: 1" = 100'-0"

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

LEGEND:

- CENTER LINE
- ROW LINE
- PROPOSED STORMWATER SEWER
- PROPOSED WATER LINE

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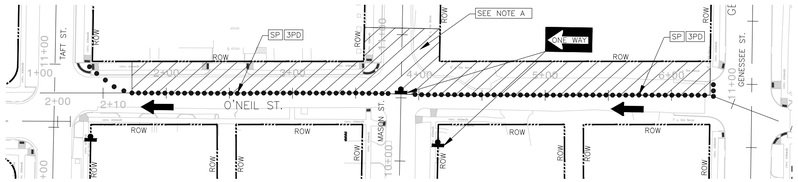
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

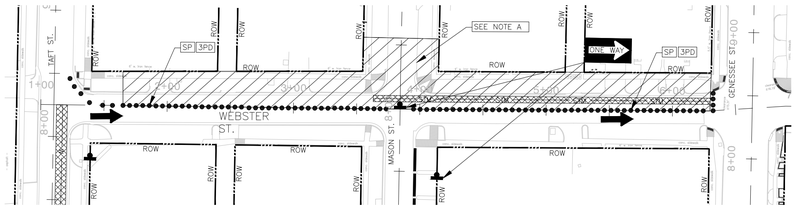
TCP OVERALL LAYOUT FOR STREET RECONSTRUCTION & SIDEWALK INSTALLATION

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 100'	
CITY OF HOUSTON PM	
SHEET NO. OF	

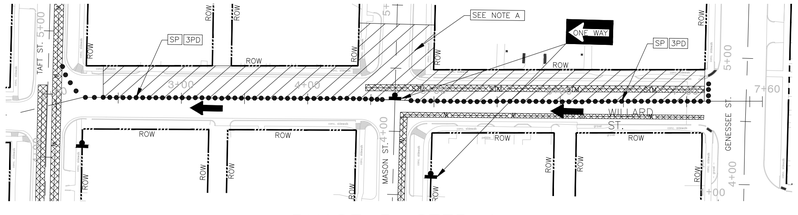
TCP:07



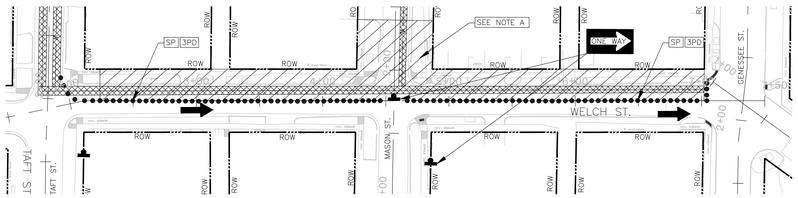
PHASE 3, STEP 1



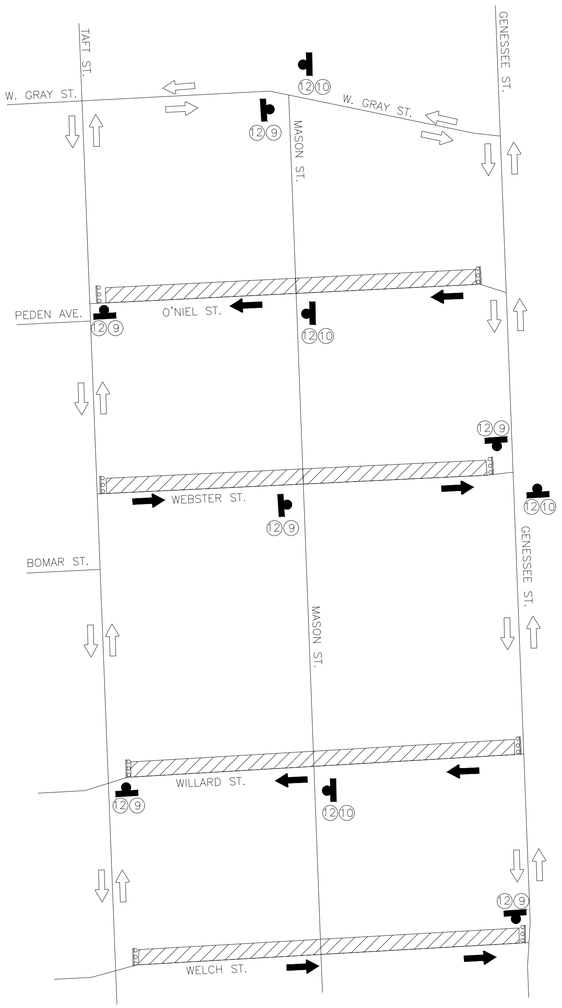
PHASE 3, STEP 1



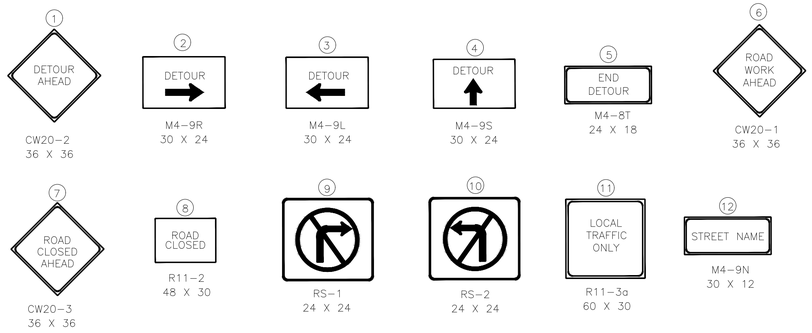
PHASE 3, STEP 1



PHASE 3, STEP 1



TYPICAL DETOUR PLAN FOR PHASE 3, STEP 1
(NTS)



NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2. CHANNELIZING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3. FOR THE TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER TO SHEETS FROM TCP: TO TCP:
4. NO TWO ADJACENT ROADS/INTERSECTIONS SHALL BE CLOSED SIMULTANEOUSLY.
5. INTERSECTIONS WILL BE CLOSED AND CONSTRUCTED FIRST ALONG WITH STORM JUNCTION BOXES, PAVEMENT CONSTRUCTION AT THE INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.
6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

LEGEND:

- CONST. WORK ZONE
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

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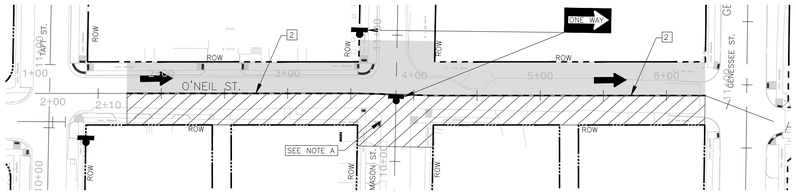
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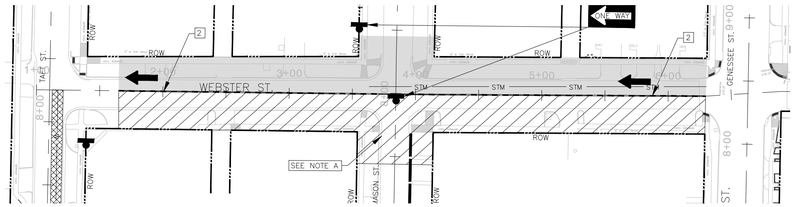
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE
PHASE 3 – STEP 1

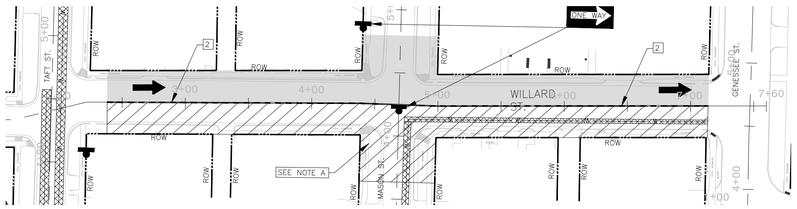
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 08	SHEET NO. OF



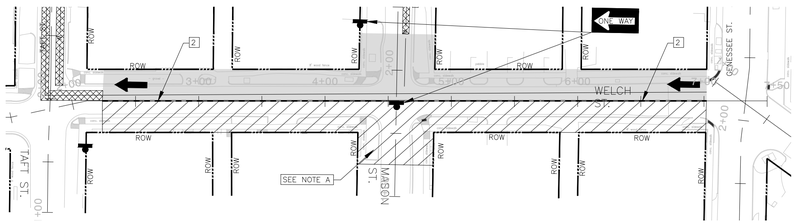
PHASE 3, STEP 2



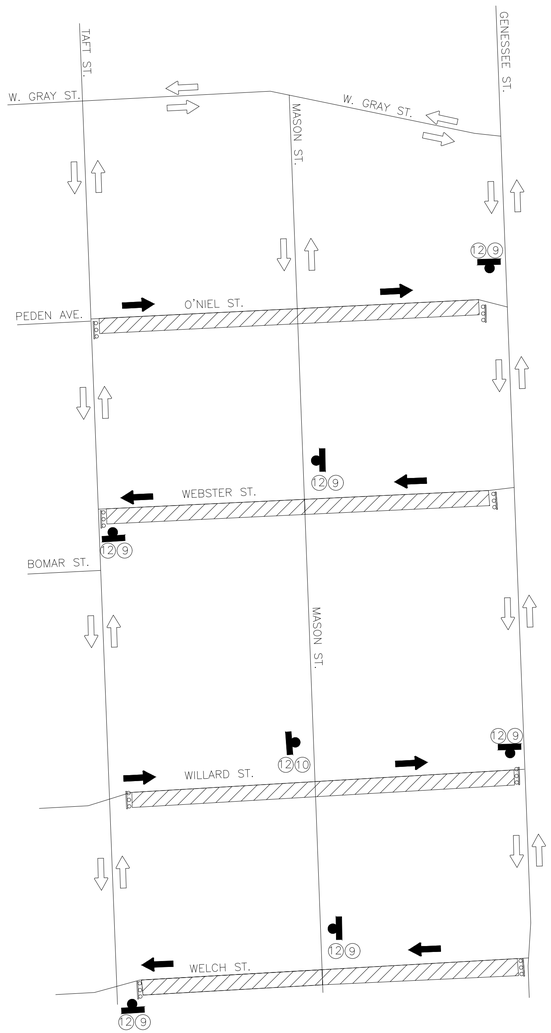
PHASE 3, STEP 2



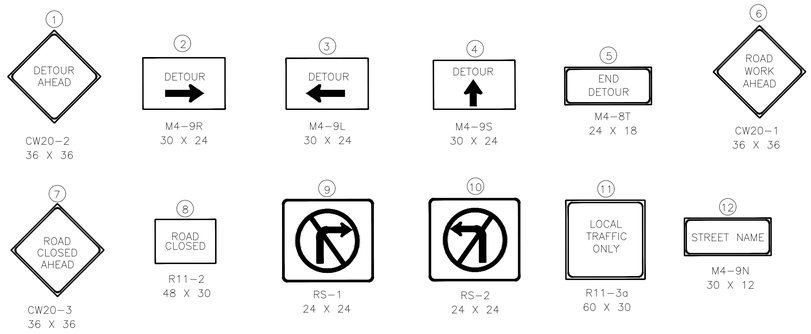
PHASE 3, STEP 2



PHASE 3, STEP 2



TYPICAL DETOUR PLAN FOR PHASE 3, STEP 2
(NTS)



NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
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8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM STM PROPOSED STORMWATER SEWER
- W W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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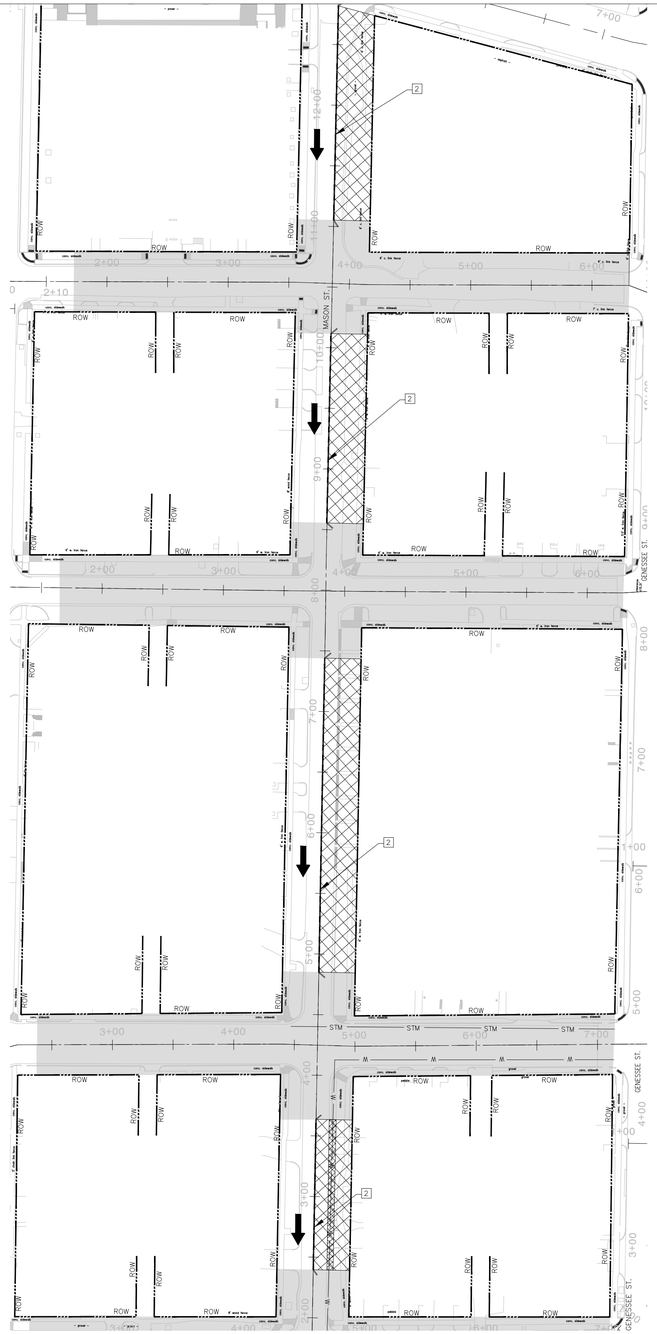
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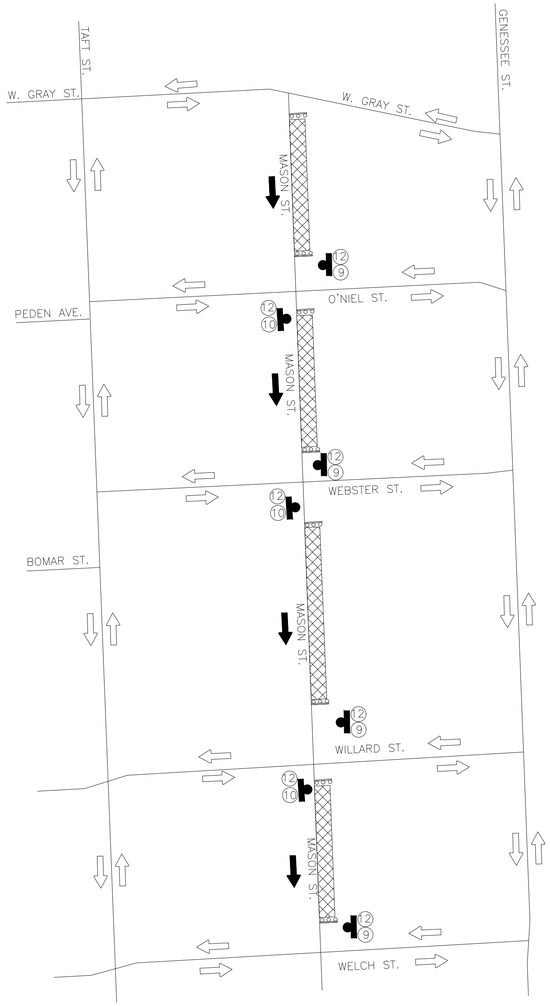
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE
PHASE 3 - STEP 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 09	SHEET NO. OF



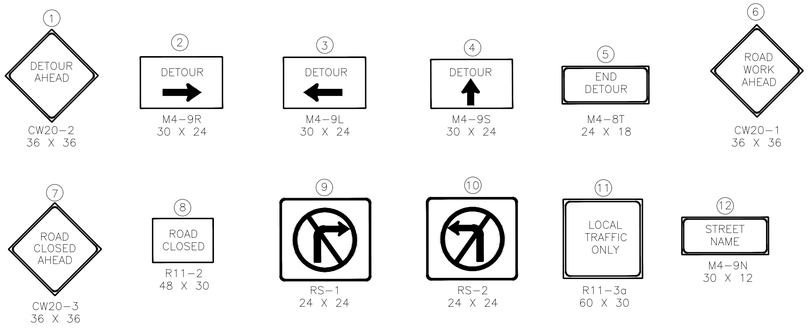
PHASE 3, STEP 3

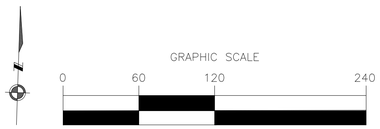


TYPICAL DETOUR PLAN FOR PHASE 3, STEP 3 (NTS)

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2. CHANNELIZING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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5. INTERSECTIONS WILL BE CLOSED AND CONSTRUCTED FIRST ALONG WITH STORM JUNCTION BOXES, PAVEMENT CONSTRUCTION AT THE INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.
6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.





LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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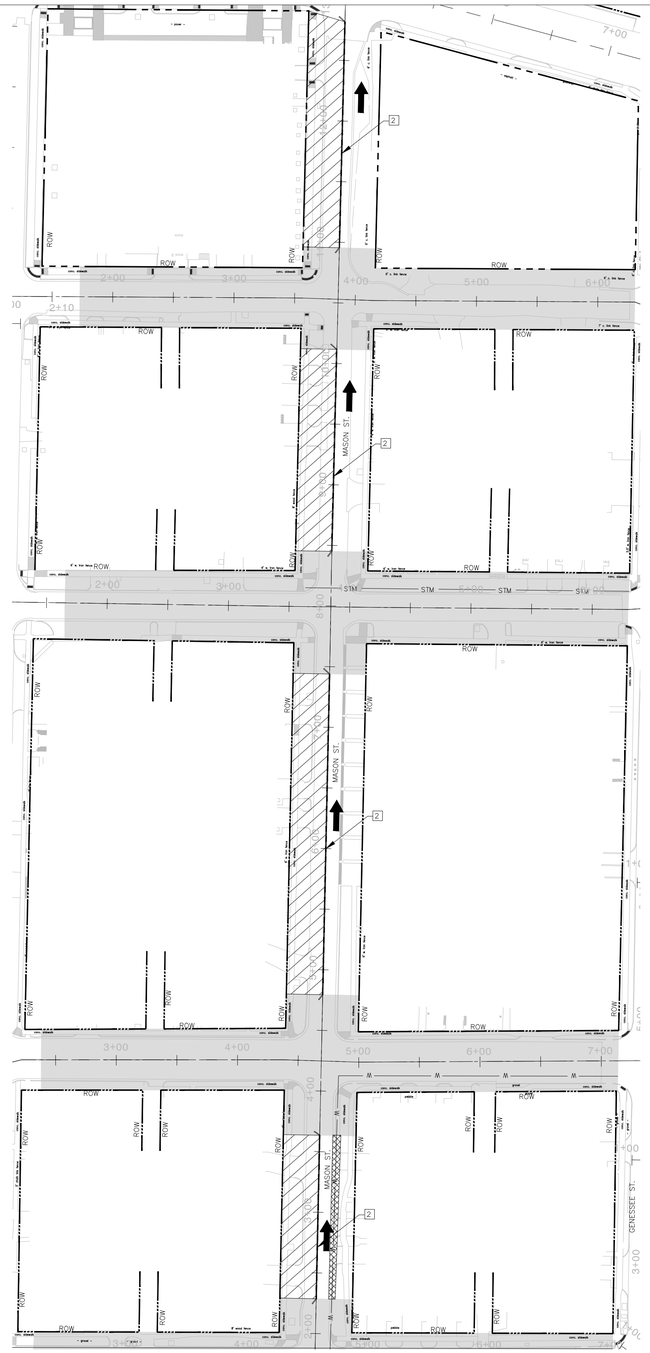
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

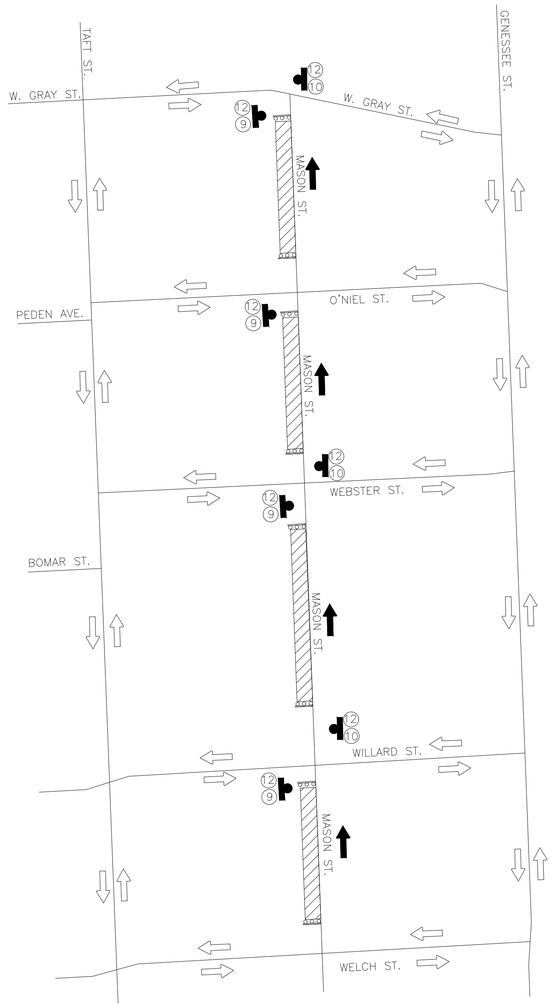
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 3 - STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 10	SHEET NO. OF



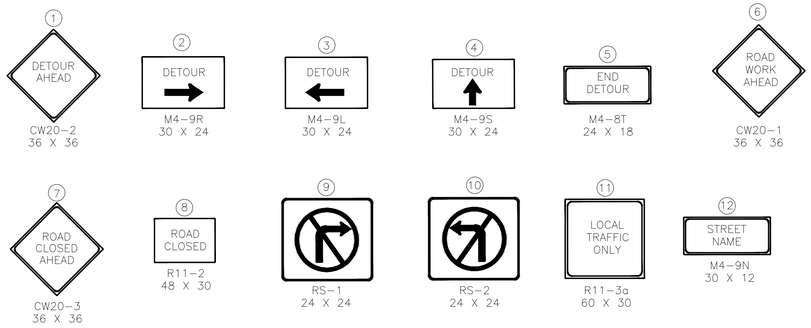
PHASE 3, STEP 4



TYPICAL DETOUR PLAN FOR PHASE 3, STEP 4
(NTS)

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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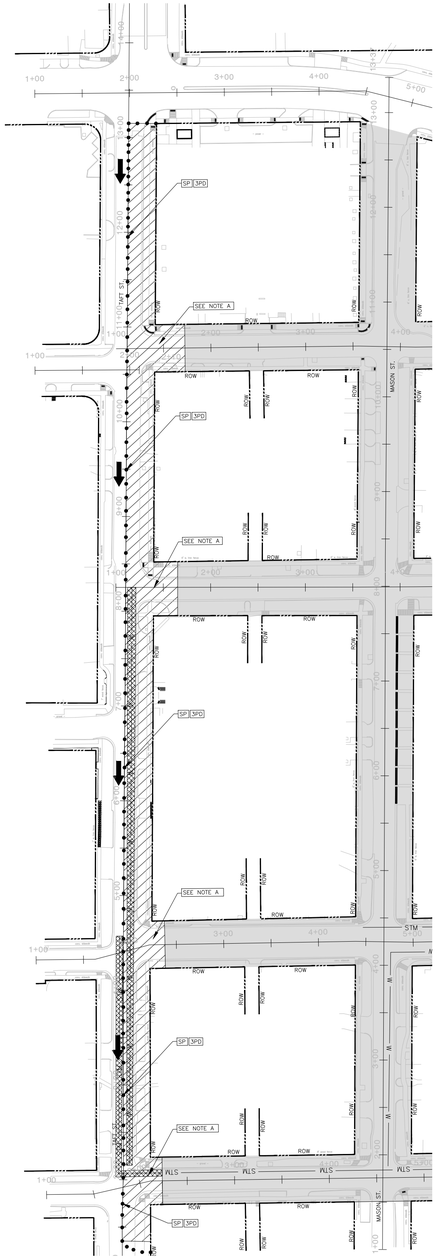
1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

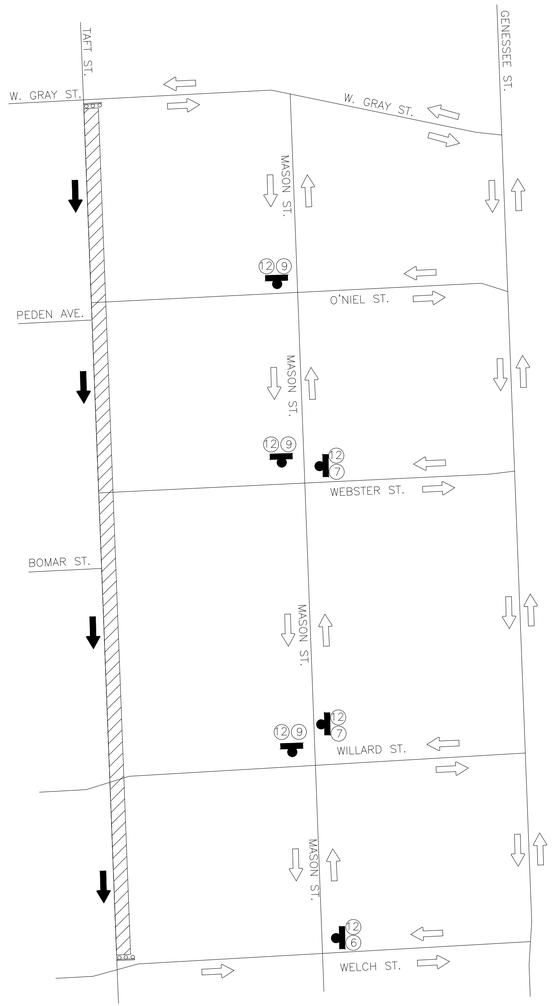
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 3 – STEP 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 11	SHEET NO. OF



PHASE 3, STEP 5



TYPICAL DETOUR PLAN FOR PHASE 3, STEP 5 (NTS)

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2. CHANNELIZING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3. FOR THE TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER TO SHEETS FROM TCP: TO TCP:
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5. INTERSECTIONS WILL BE CLOSED AND CONSTRUCTED FIRST ALONG WITH STORM JUNCTION BOXES, PAVEMENT CONSTRUCTION AT THE INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.
6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

1. DETOUR AHEAD — CW20-2, 36 X 36
2. DETOUR — M4-9R, 30 X 24
3. DETOUR — M4-9L, 30 X 24
4. DETOUR — M4-9S, 30 X 24
5. END DETOUR — M4-8T, 24 X 18
6. ROAD WORK AHEAD — CW20-1, 36 X 36
7. ROAD CLOSED AHEAD — CW20-3, 36 X 36
8. ROAD CLOSED — R11-2, 48 X 30
9. RS-1, 24 X 24
10. RS-2, 24 X 24
11. LOCAL TRAFFIC ONLY — R11-3a, 60 X 30
12. STREET NAME — M4-9N, 30 X 12

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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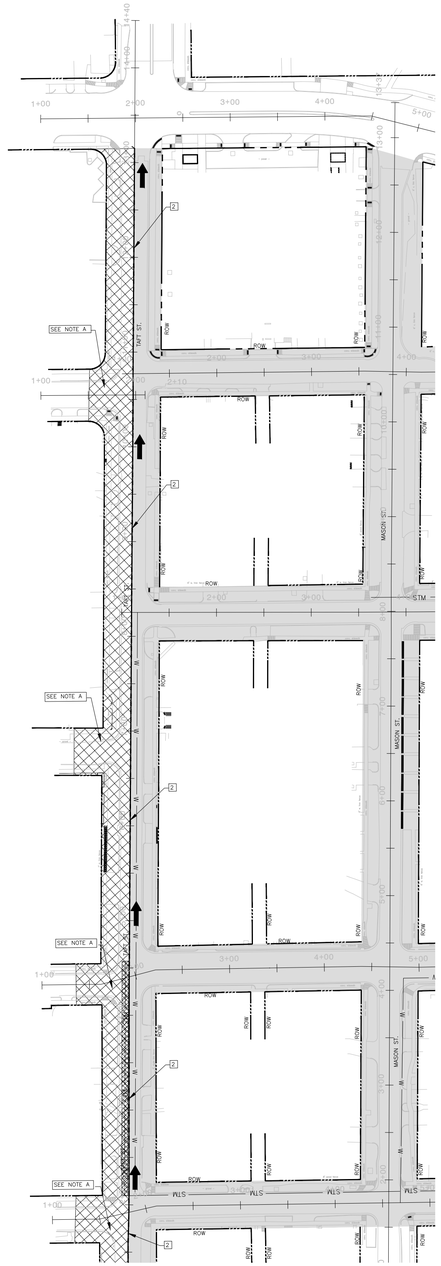
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TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

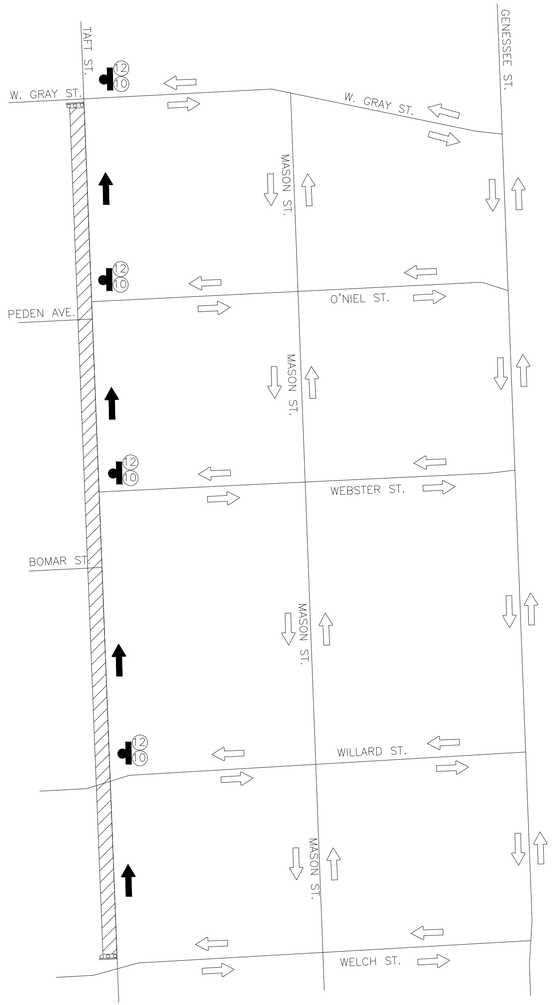
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 3 – STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 12	SHEET NO. OF



PHASE 3, STEP 6



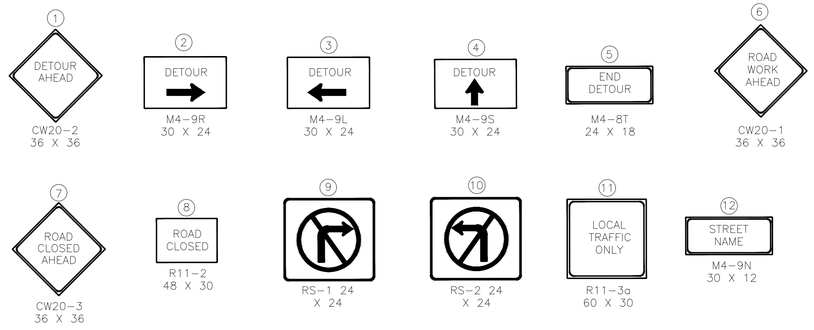
TYPICAL DETOUR PLAN FOR PHASE 3, STEP 6 (NTS)

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NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12



GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
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- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER

90% SUBMITTAL

NO.	DATE	REVISION	APP.
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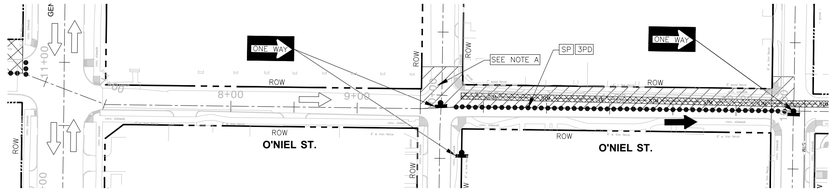
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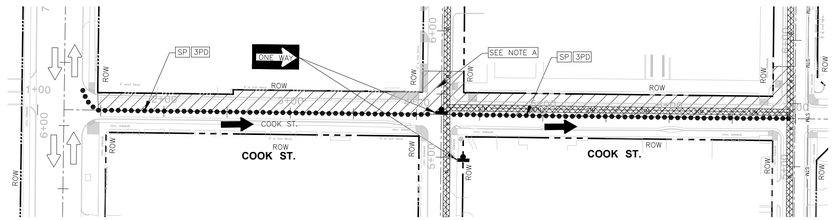
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 3 – STEP 6

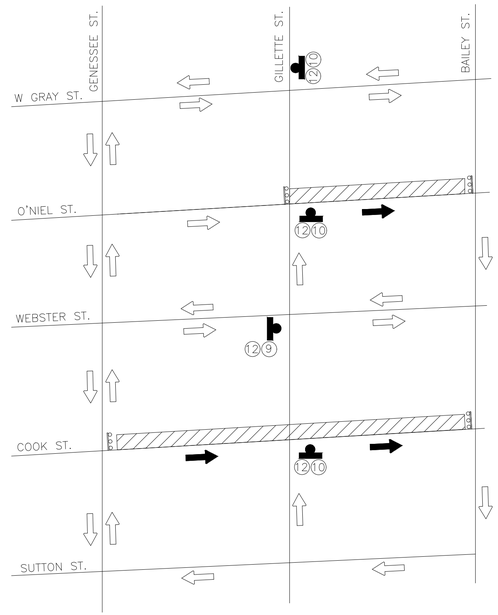
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 13	SHEET NO. OF



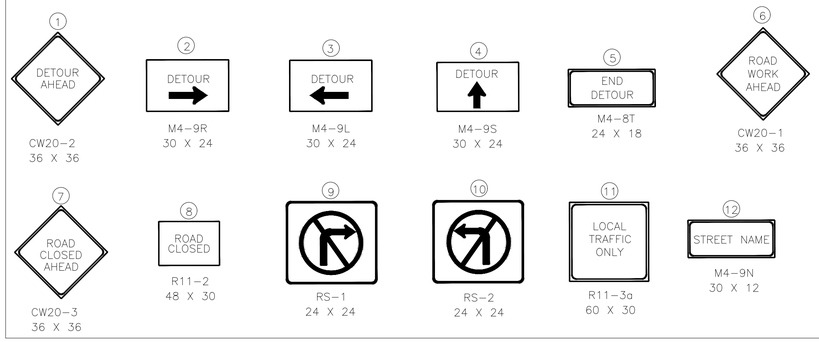
PHASE 4, STEP 1



PHASE 4, STEP 1



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 1
(NTS)

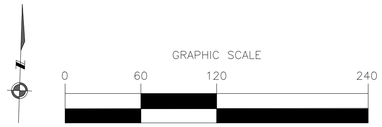


NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

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NO.	DATE	REVISION	APP.
1	09/23/2024	0	

LEGEND:

- CONST. WORK ZONE
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
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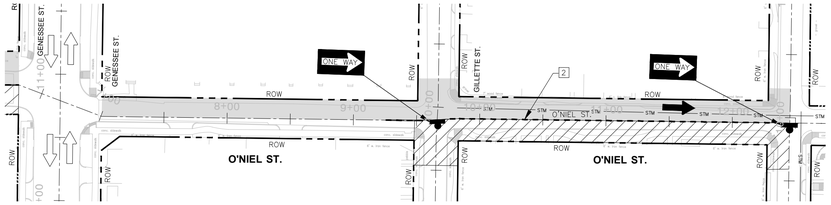
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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

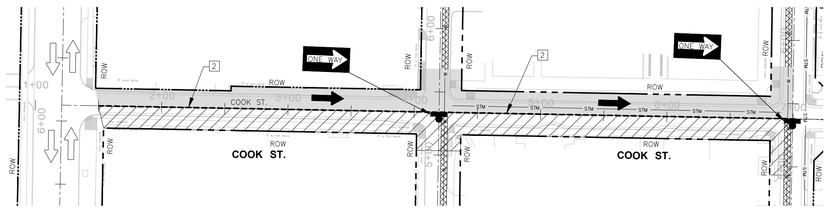
PHASE 4 – STEP 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
SHEET NO. OF	

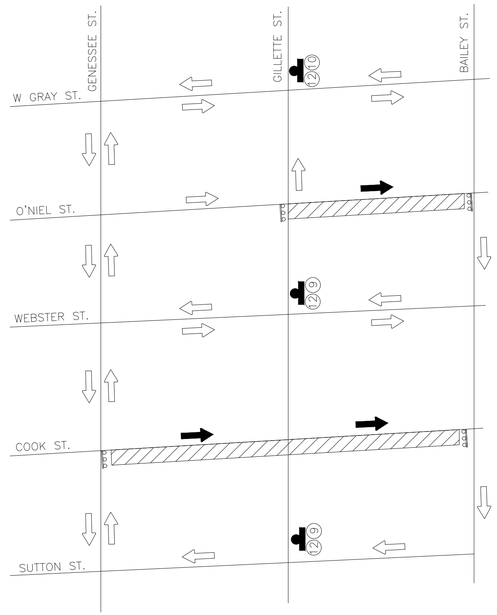
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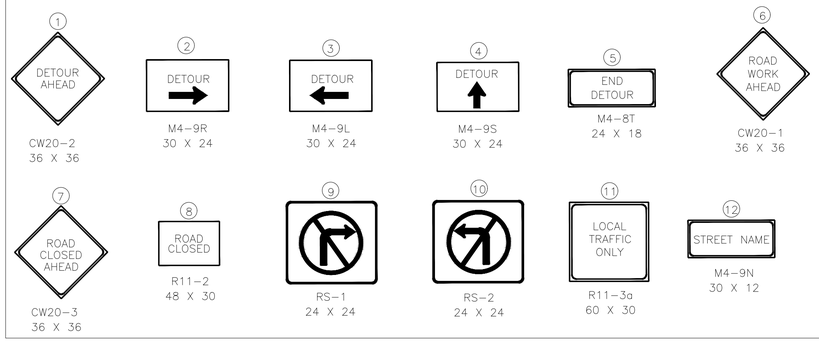
PHASE 4, STEP 2



PHASE 4, STEP 2



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 2
(NTS)

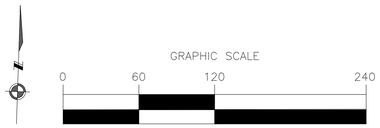


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LEGEND:

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NO.	DATE	REVISION	APP.
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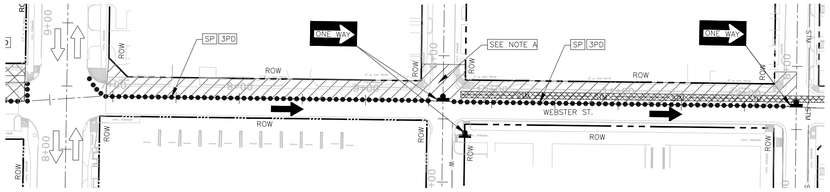
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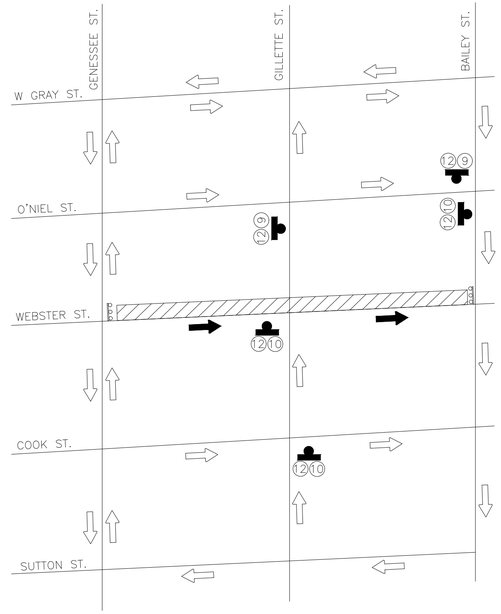
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 - STEP 2

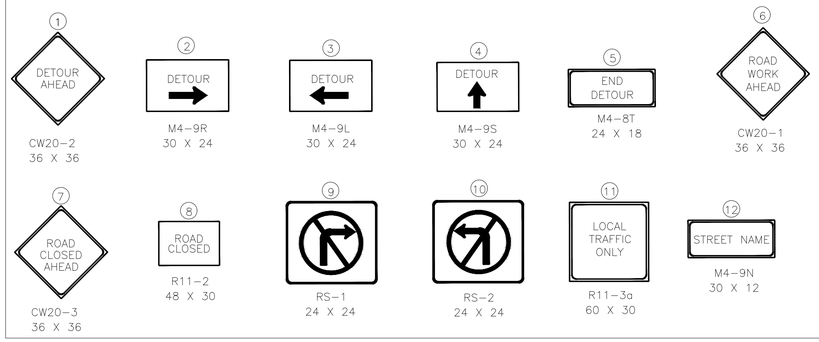
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 15	SHEET NO. OF



PHASE 4, STEP 3



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 3
(NTS)

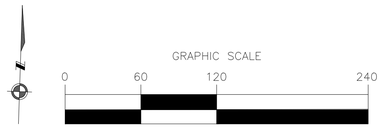


NOTE A:

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LEGEND:

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- ROW LINE
- STW PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
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TX. REG: 117527

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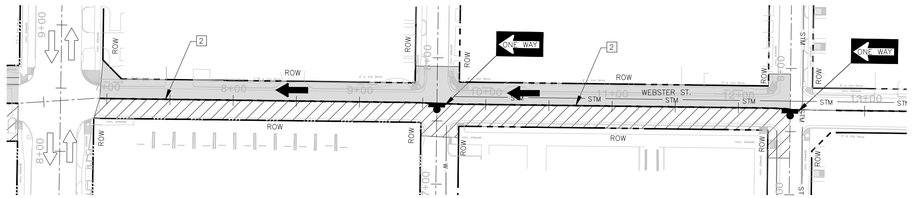
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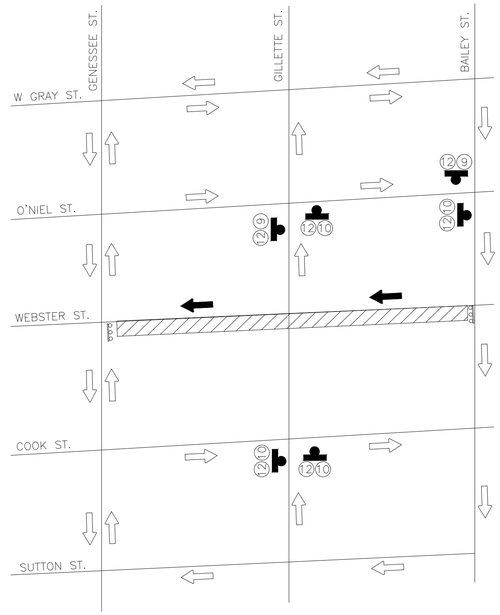
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 3

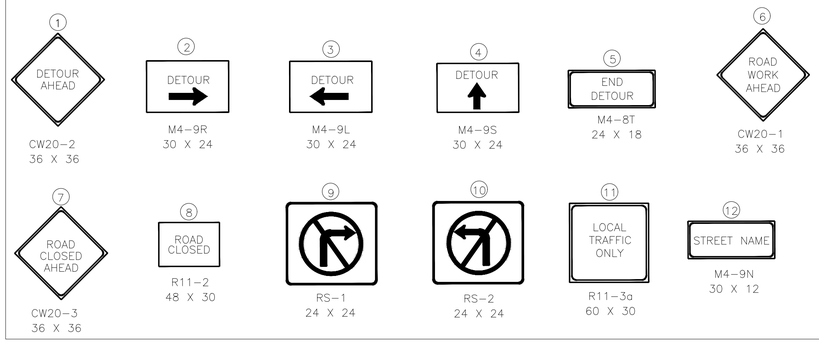
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 16	SHEET NO. OF



PHASE 4, STEP 4



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 4
(NTS)

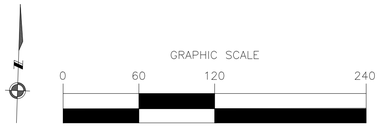


NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
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6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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TEJ KOUR, PE, PMP
TX. REG: 117527

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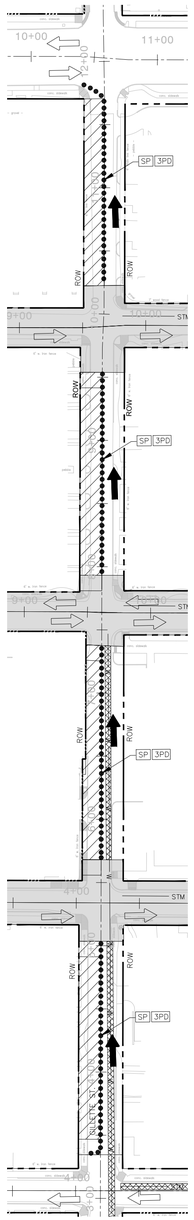
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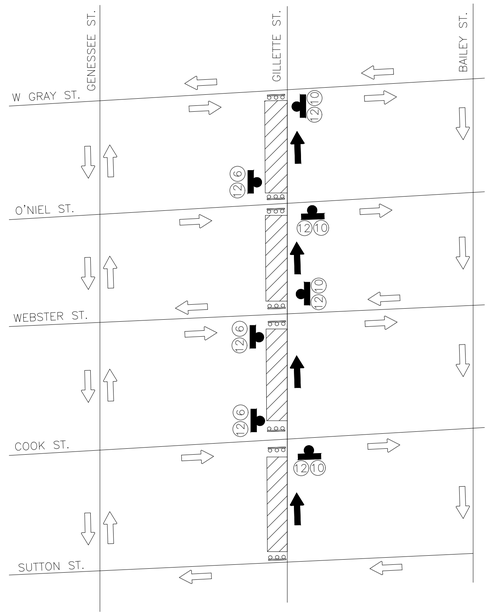
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 4

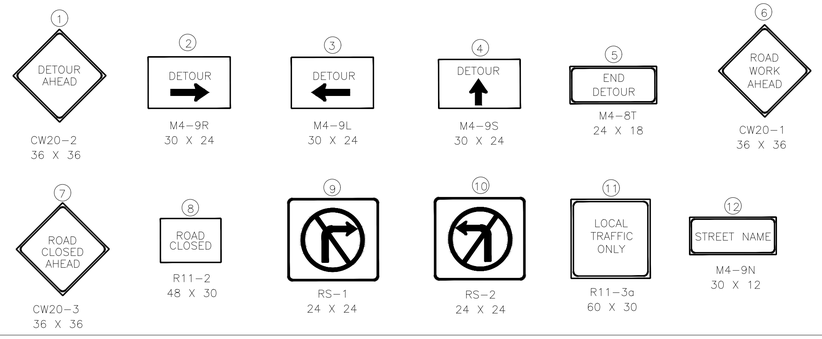
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 17 SHEET NO. OF	



PHASE 4, STEP 5



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 5
(NTS)



NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

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6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
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- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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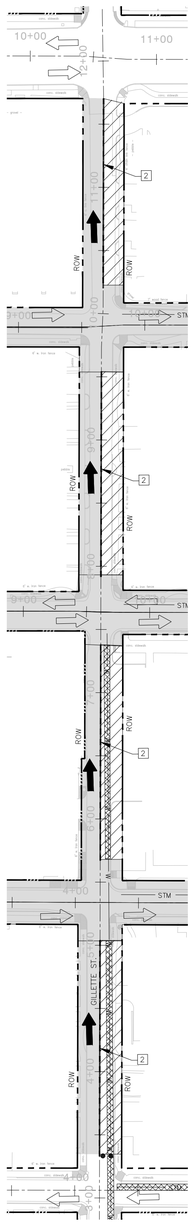
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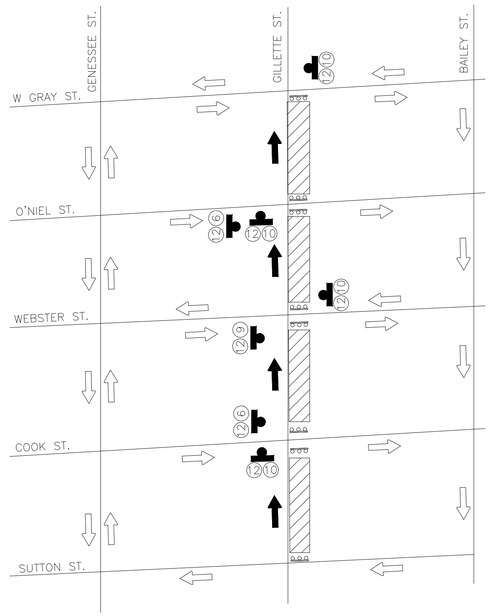
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 18	SHEET NO. OF



PHASE 4, STEP 6



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 6
(NTS)

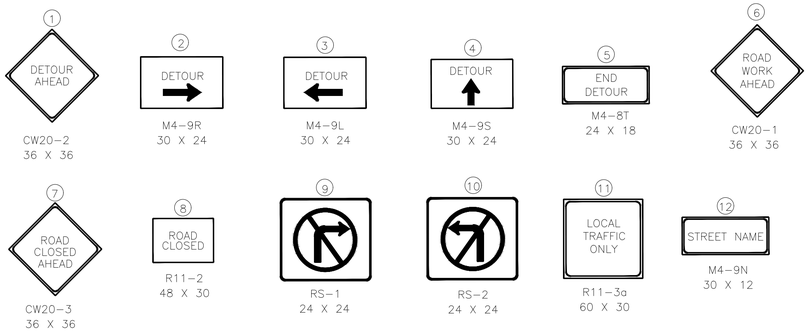


LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
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- 4 CR DRUM WITH CHEVRON (CW1–8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155–09 THROUGH 0155–12

NOTES:

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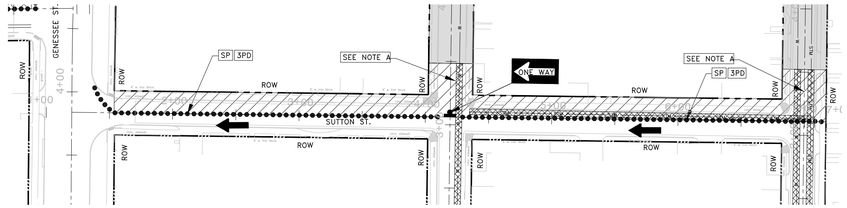
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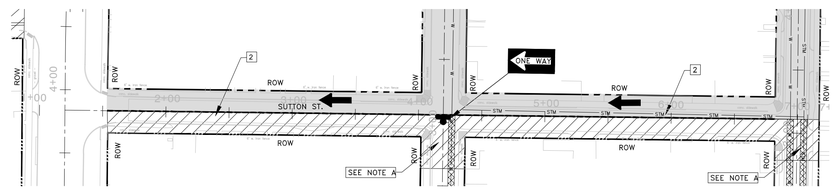
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 6

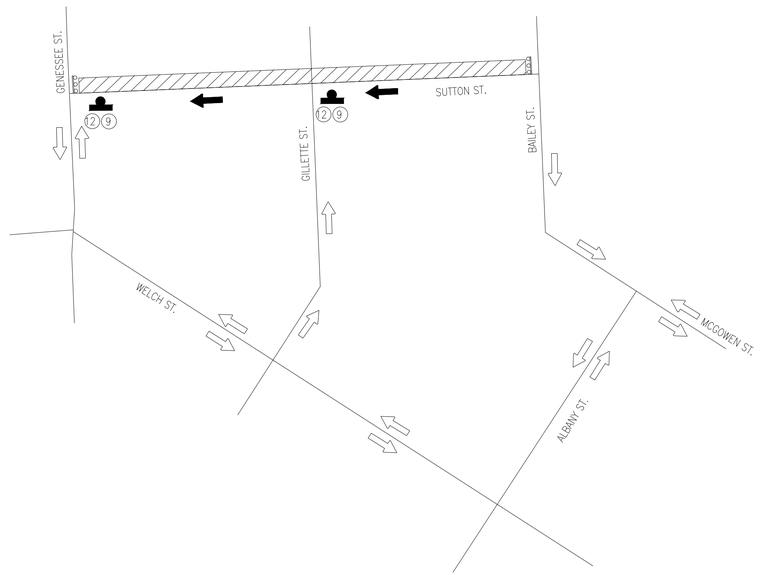
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 19	SHEET NO. OF



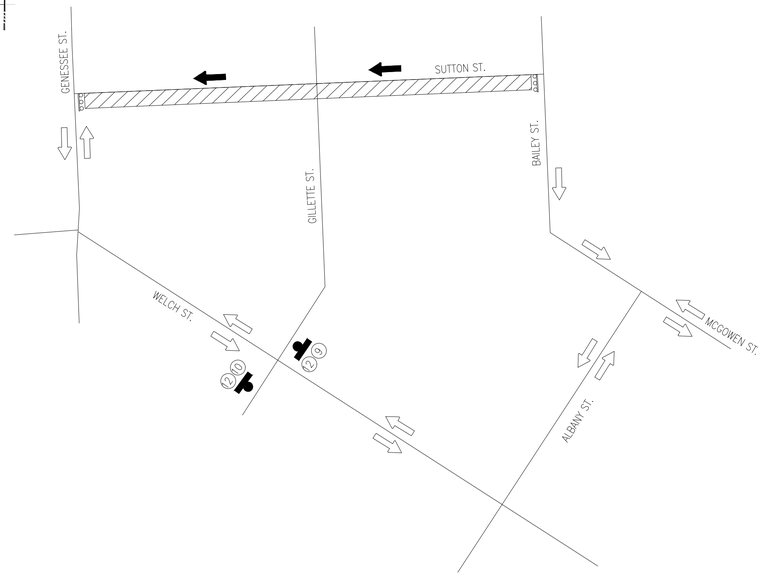
PHASE 4, STEP 7



PHASE 4, STEP 8



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 7
(NTS)



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 8
(NTS)

1. DETOUR AHEAD — CW20-2, 36 X 36
2. DETOUR — M4-9R 30 X 24
3. DETOUR — M4-9L 30 X 24
4. DETOUR — M4-9S 30 X 24
5. END DETOUR — M4-8T 24 X 18
6. ROAD WORK AHEAD — CW20-1, 36 X 36
7. ROAD CLOSED AHEAD — CW20-3, 36 X 36
8. ROAD CLOSED — R11-2 48 X 30
9. RS-1 24 X 24
10. RS-2 24 X 24
11. LOCAL TRAFFIC ONLY — R11-3a 60 X 30
12. STREET NAME — M4-9N 30 X 12

NOTE A:

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8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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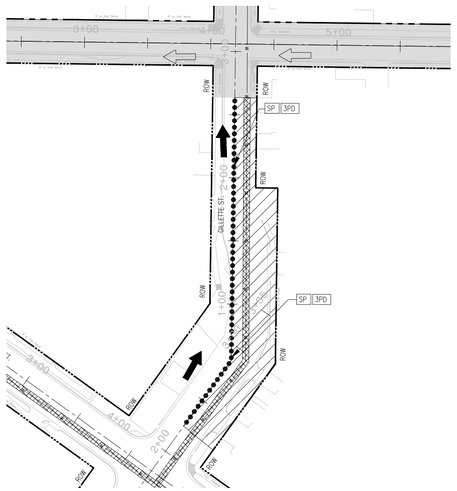
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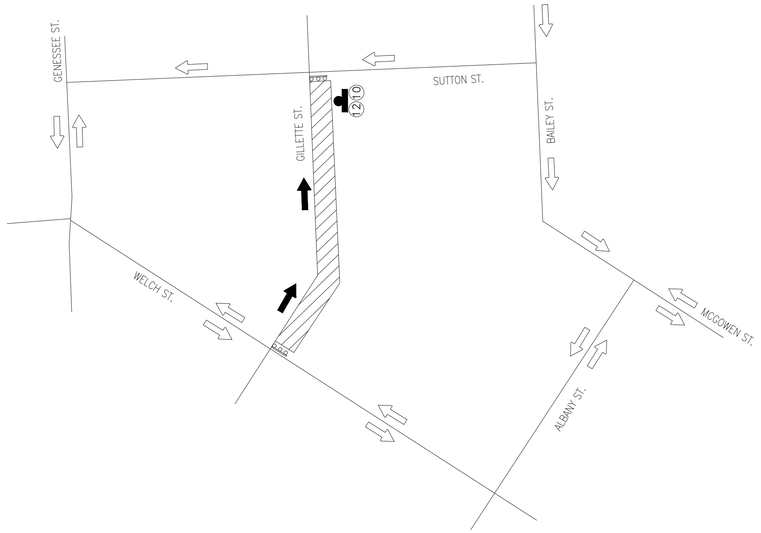
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 7 & 8

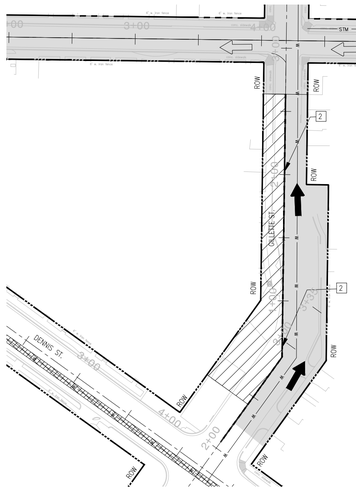
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 20	SHEET NO. OF



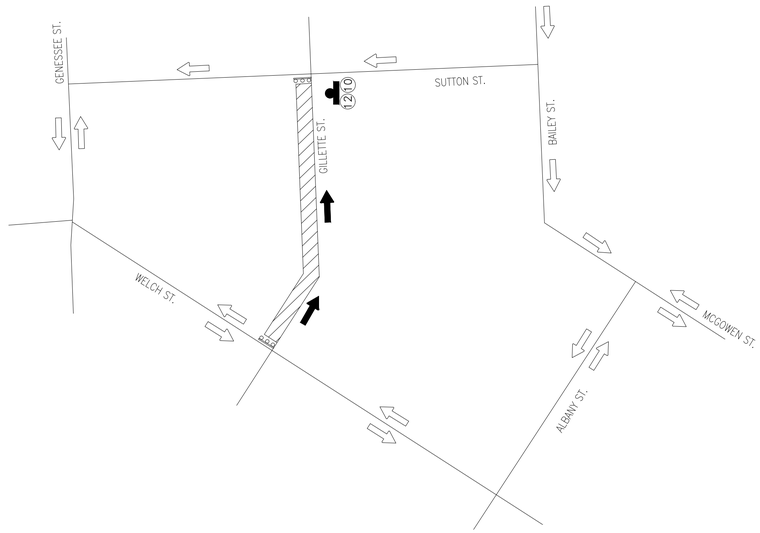
PHASE 4, STEP 9



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 9
(NTS)



PHASE 4, STEP 10



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 10
(NTS)

1. DETOUR AHEAD — CW20-2, 36 X 36
2. DETOUR → — M4-9R 30 X 24
3. DETOUR ← — M4-9L 30 X 24
4. DETOUR ↑ — M4-9S 30 X 24
5. END DETOUR — M4-8T 24 X 18
6. ROAD WORK AHEAD — CW20-1, 36 X 36
7. ROAD CLOSED AHEAD — CW20-3, 36 X 36
8. ROAD CLOSED — R11-2 48 X 30
9. RS-1 24 X 24
10. RS-2 24 X 24
11. LOCAL TRAFFIC ONLY — R11-3a 60 X 30
12. STREET NAME — M4-9N 30 X 12

NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

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8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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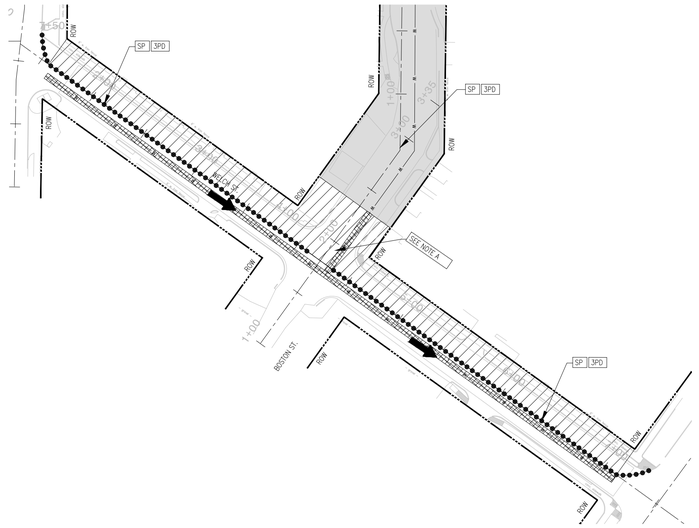
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

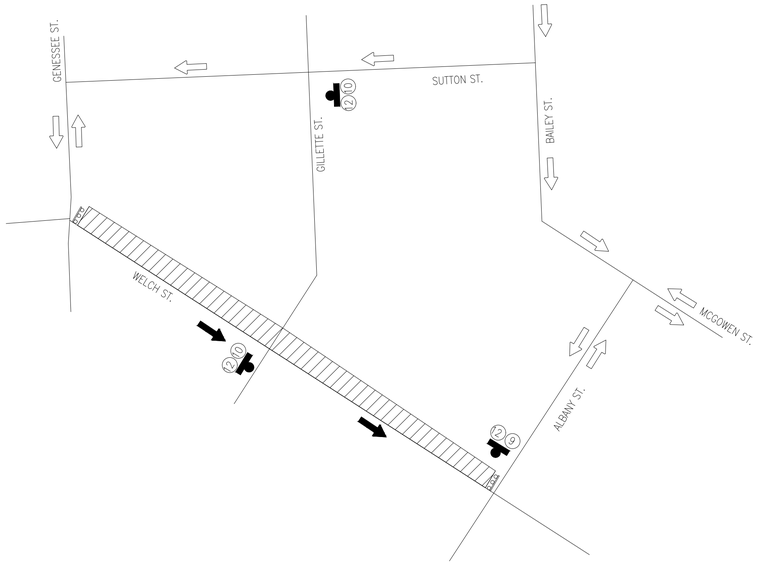
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 9 & 10

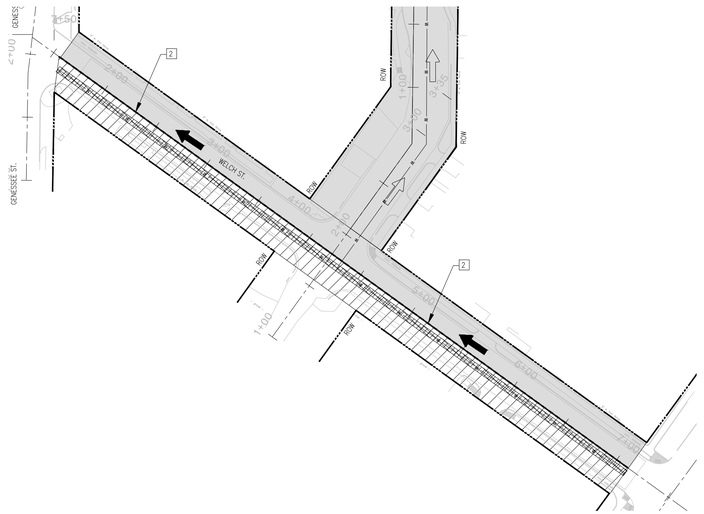
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 21	SHEET NO. OF



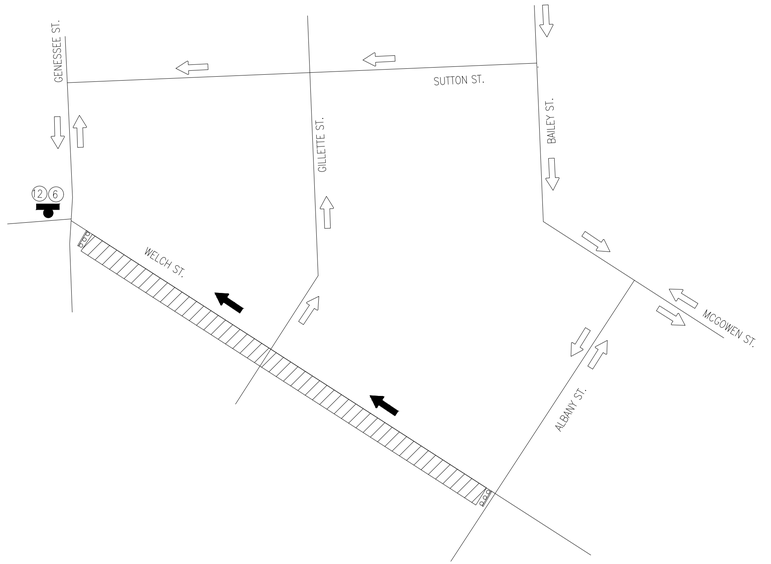
PHASE 4, STEP 11



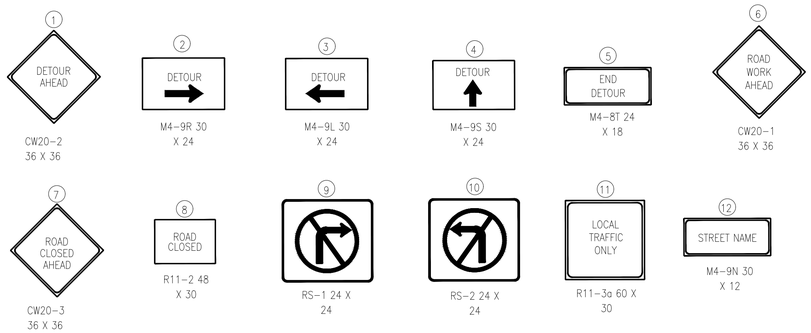
TYPICAL DETOUR PLAN FOR PHASE 4, STEP 11
(NTS)



PHASE 4, STEP 12



TYPICAL DETOUR PLAN FOR PHASE 4, STEP 12
(NTS)



NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

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6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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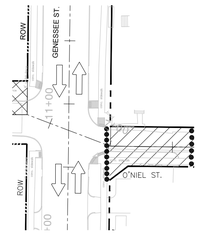
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1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4 – STEP 11 & 12

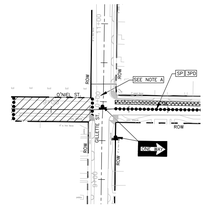
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CITY OF HOUSTON PM	
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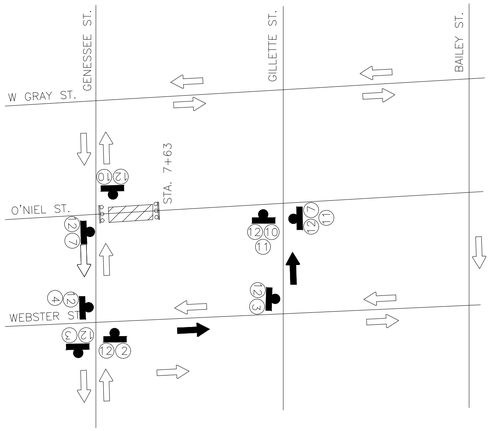
PHASE 4B, STEP 1



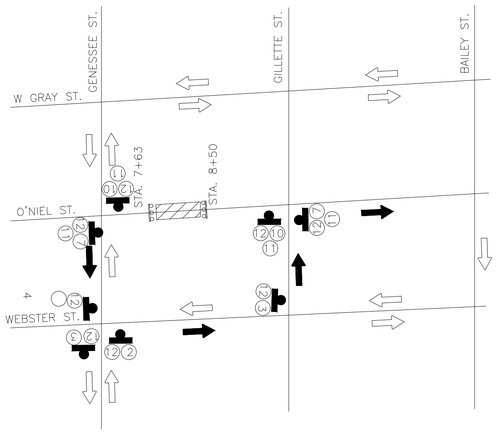
PHASE 4B, STEP 2



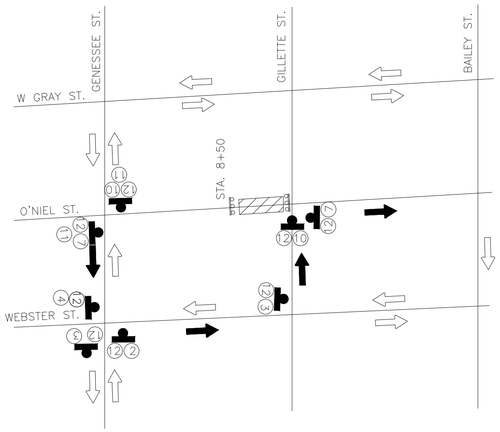
PHASE 4B, STEP 3



TYPICAL DETOUR PLAN FOR PHASE 4B, STEP 1
(NTS)



TYPICAL DETOUR PLAN FOR PHASE 4B, STEP 2
(NTS)



TYPICAL DETOUR PLAN FOR PHASE 4B, STEP 3
(NTS)

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

LEGEND:

- CONST. WORK ZONE
- PREVIOUS TEMPORARY CONSTRUCTION
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90% SUBMITTAL

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TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4B
STEP 1 THROUGH STEP 3

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 23	SHEET NO. OF

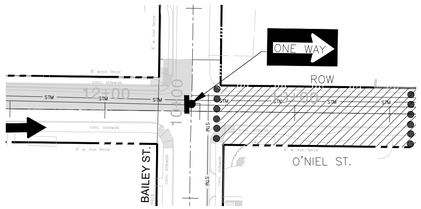
1 DETOUR AHEAD — CW20-2, 36 X 36
2 DETOUR — M4-9R, 30 X 24
3 DETOUR — M4-9L, 30 X 24
4 DETOUR — M4-9S, 30 X 24
5 END DETOUR — M4-8T, 24 X 18
6 ROAD WORK AHEAD — CW20-1, 36 X 36
7 ROAD CLOSED AHEAD — CW20-3, 36 X 36
8 ROAD CLOSED — R11-2, 48 X 30
9 RS-1, 24 X 24
10 RS-2, 24 X 24
11 LOCAL TRAFFIC ONLY — R11-3a, 60 X 30
12 STREET NAME — M4-9N, 30 X 12

NOTE A:

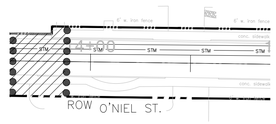
FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

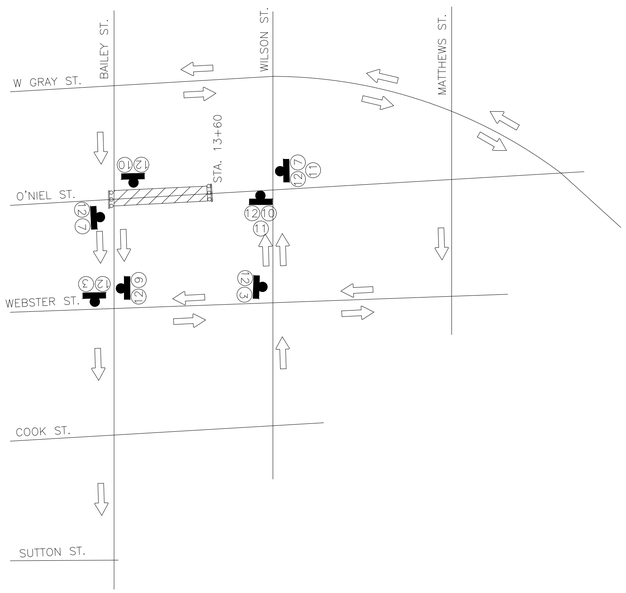
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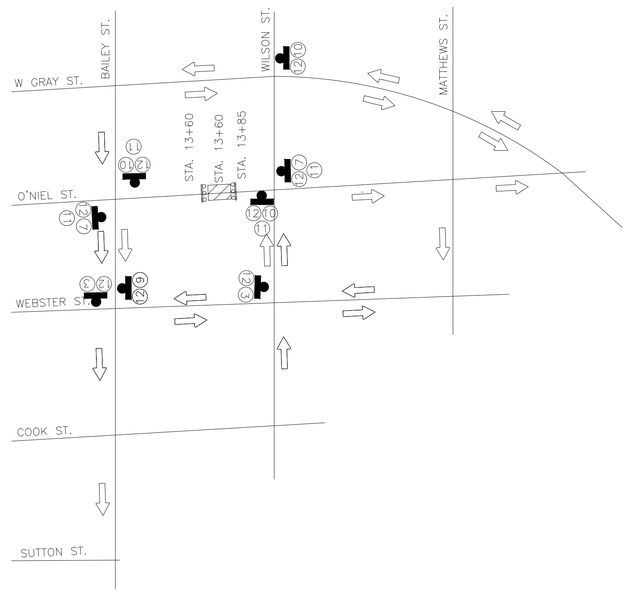
PHASE 4C, STEP 1



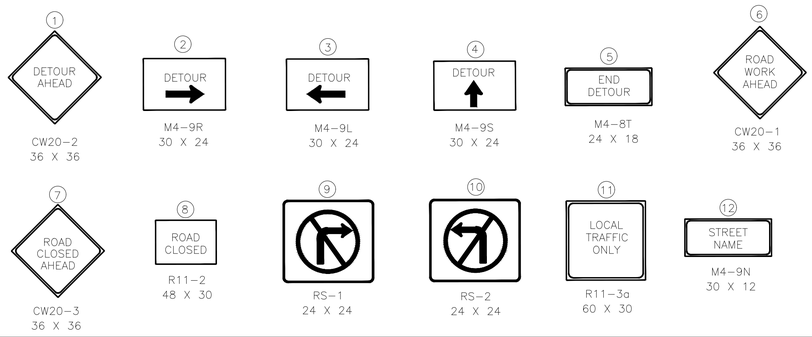
PHASE 4C, STEP 2



TYPICAL DETOUR PLAN FOR PHASE 4C, STEP 1
(NTS)



TYPICAL DETOUR PLAN FOR PHASE 4C, STEP 2
(NTS)

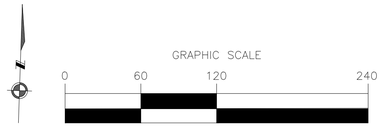


NOTE A:

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LEGEND:

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NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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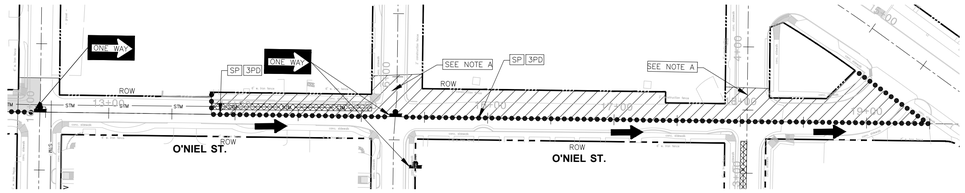
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

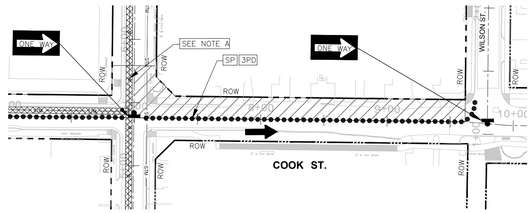
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 4C
STEP 1 AND STEP 2

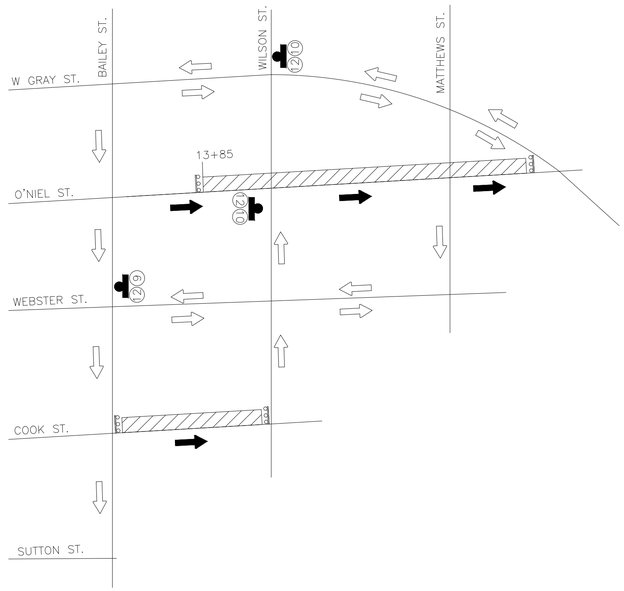
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 24 SHEET NO. OF	



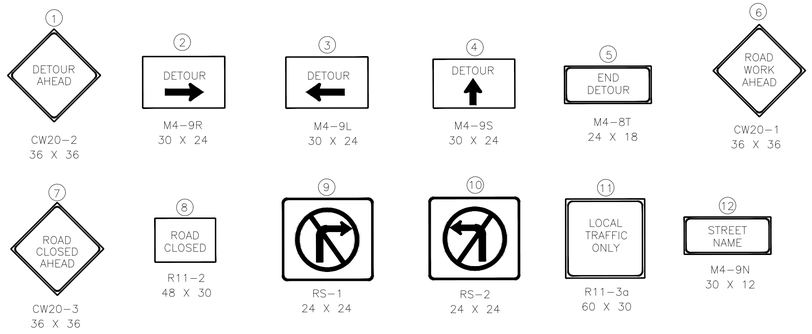
PHASE 5, STEP 1



PHASE 5, STEP 1



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 1
(NTS)



GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

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NOTE A:

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NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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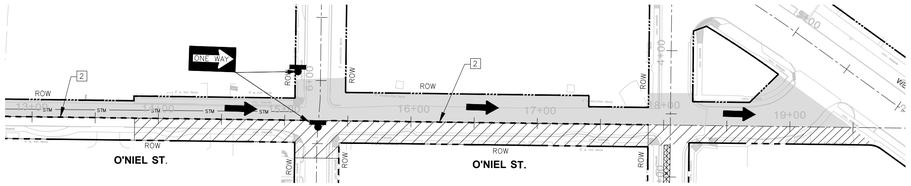
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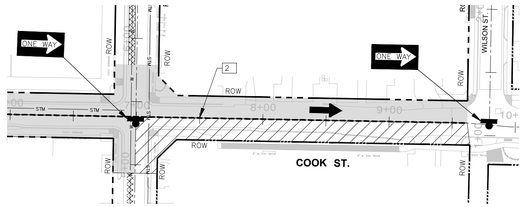
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 - STEP 1

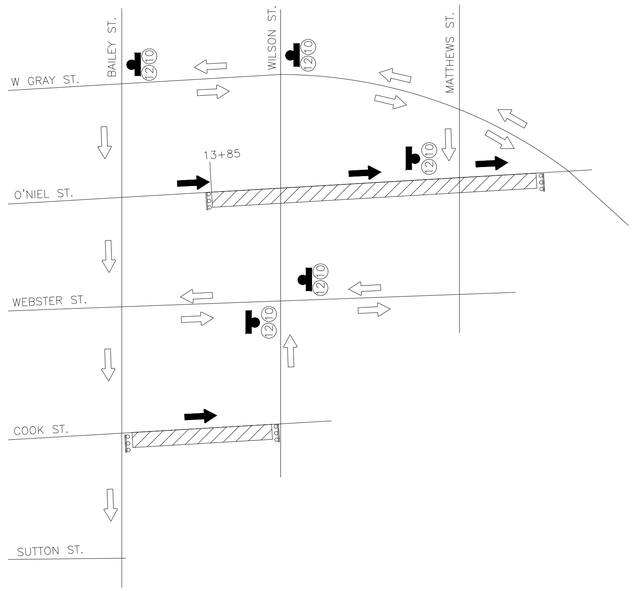
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1" = 60'	
CITY OF HOUSTON PM	
TCP: 25	SHEET NO. OF



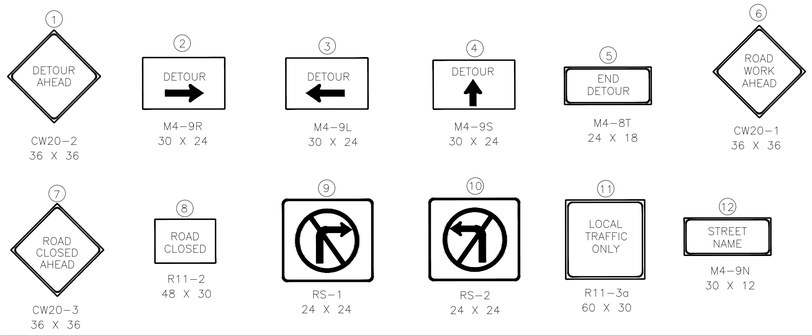
PHASE 5, STEP 2



PHASE 5, STEP 2



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 2
(NTS)

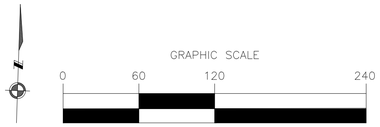


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8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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8901 Westheimer Rd, Suite #300
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TX. REG: 117527

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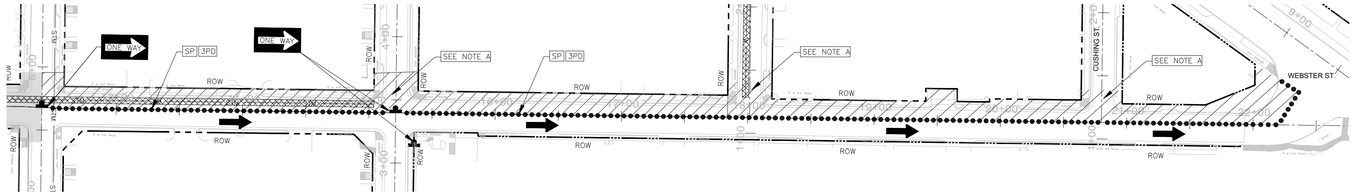
ims
1225 North Loop West, Suite 1020
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Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

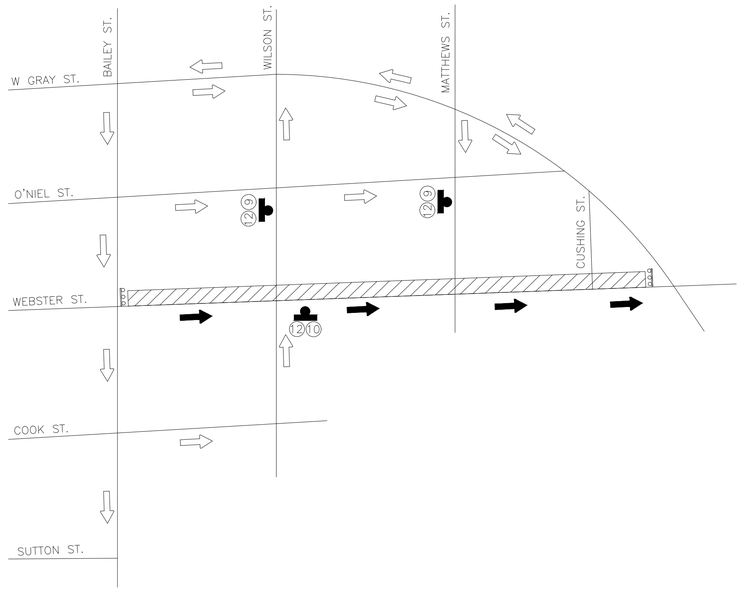
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 – STEP 2

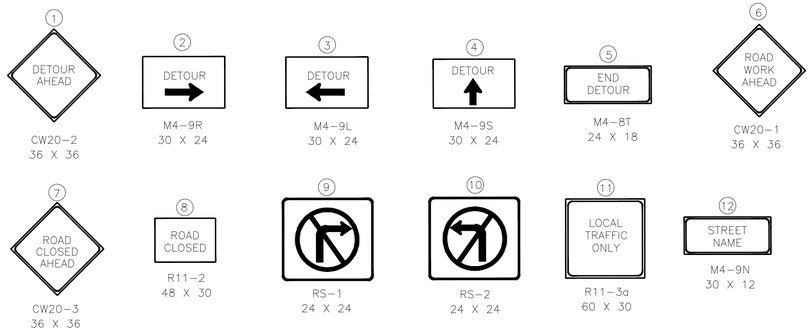
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 26 SHEET NO. OF	



PHASE 5, STEP 3



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 3
(NTS)



NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2. CHANNELIZING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
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5. INTERSECTIONS WILL BE CLOSED AND CONSTRUCTED FIRST ALONG WITH STORM JUNCTION BOXES, PAVEMENT CONSTRUCTION AT THE INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.
6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
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- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

90% SUBMITTAL

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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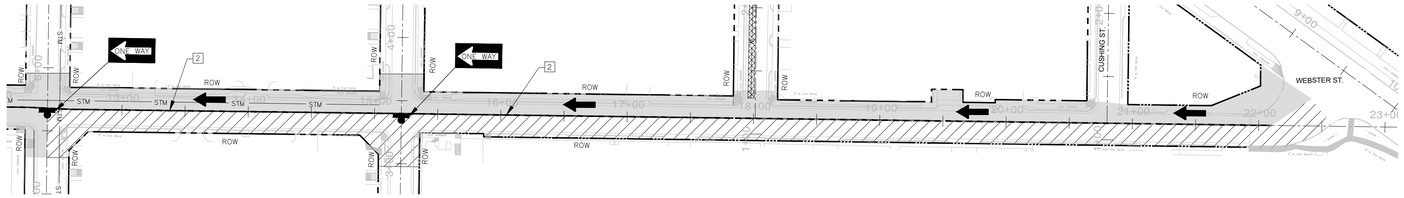
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Houston, TX 77008
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www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

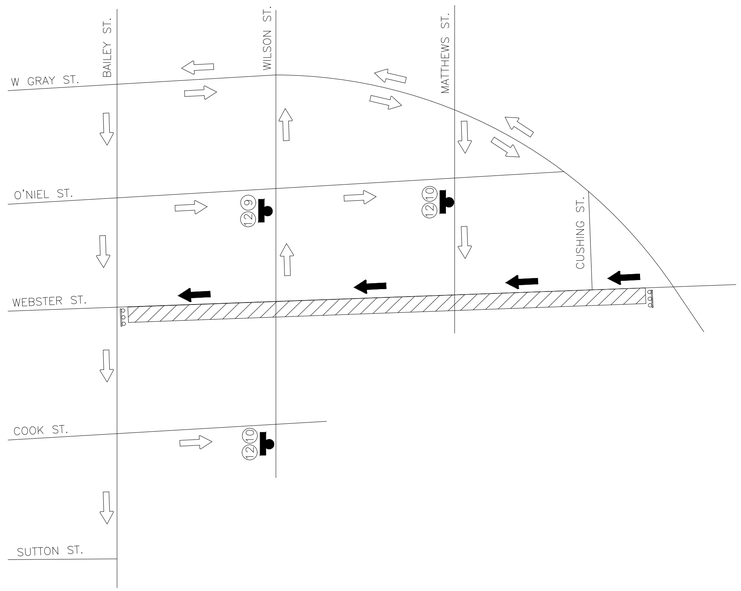
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 – STEP 3

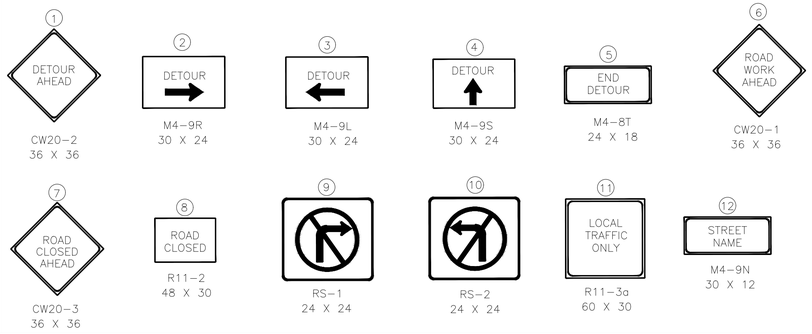
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 27	SHEET NO. OF



PHASE 5, STEP 4



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 4
(NTS)

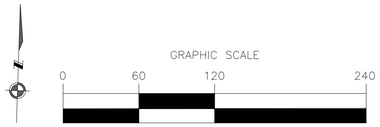


NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

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LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
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- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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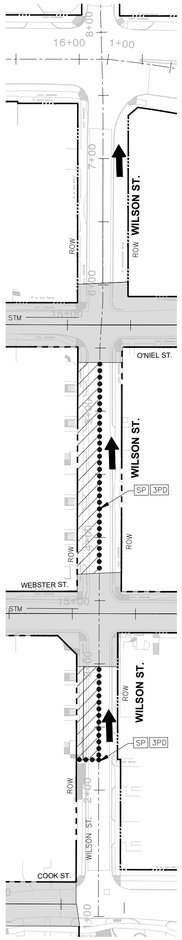
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

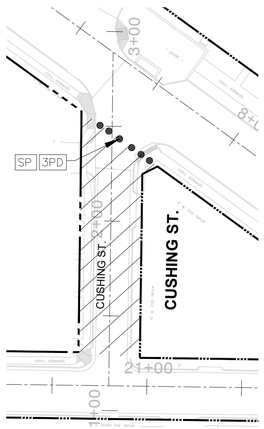
PHASE 5 - STEP 4

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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
SHEET NO. OF	

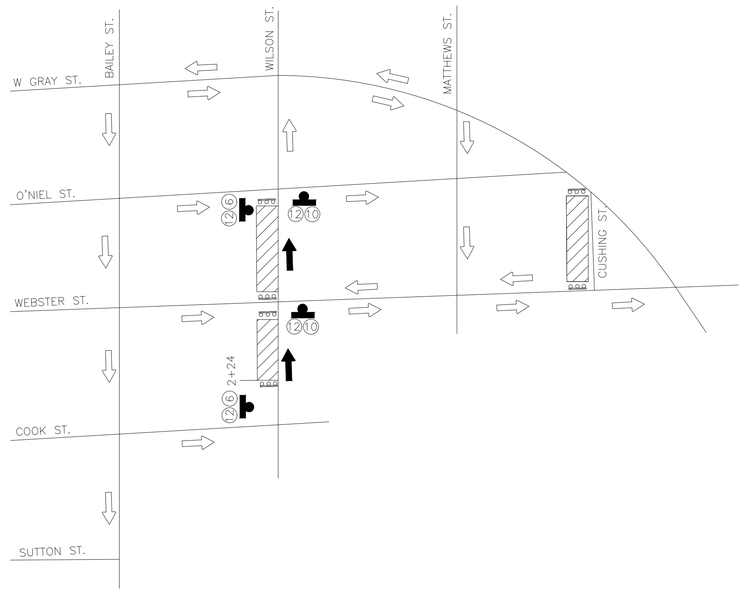
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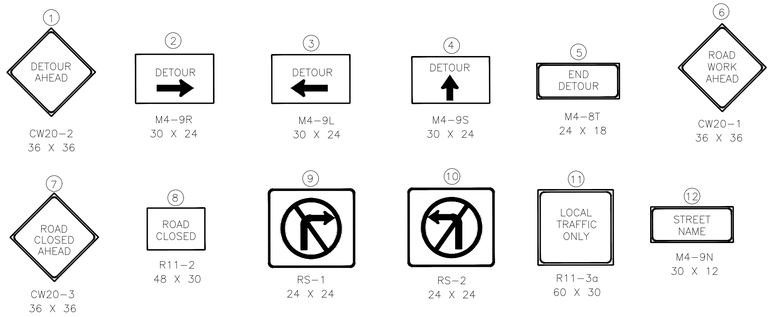
PHASE 5, STEP 5



PHASE 5, STEP 5
(SCALE=1"=40)



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 5
(NTS)

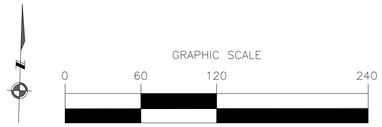


NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

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8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
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- PROPOSED TRAFFIC FLOW
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- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

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NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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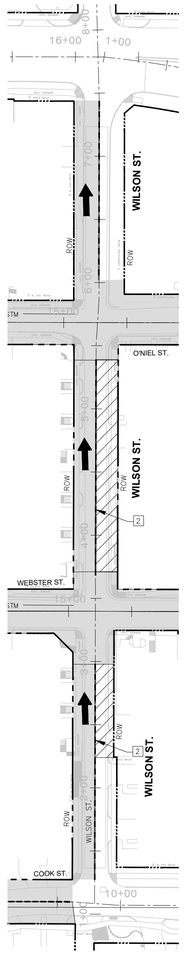
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HOUSTON PUBLIC WORKS

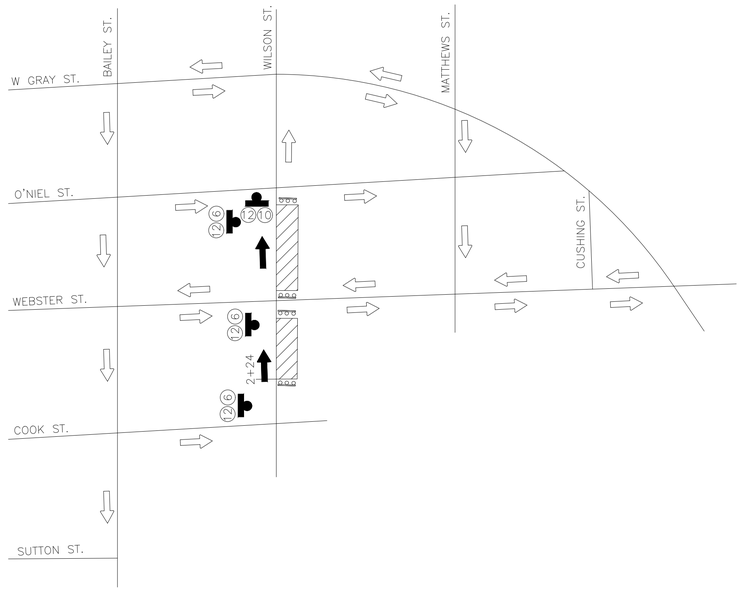
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 - STEP 5

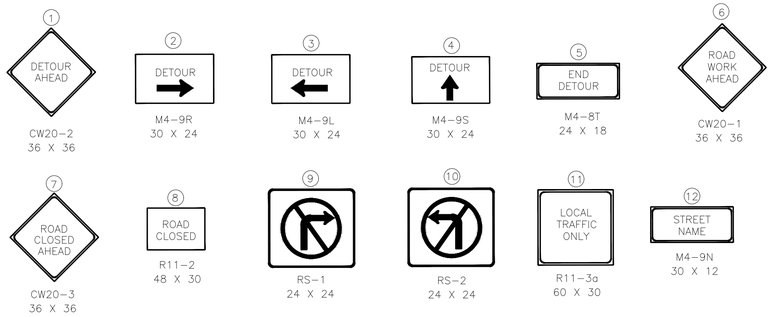
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 29	SHEET NO. OF



PHASE 5, STEP 6



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 6
(NTS)



NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

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8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.

GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
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- CENTER LINE
- ROW LINE
- STW PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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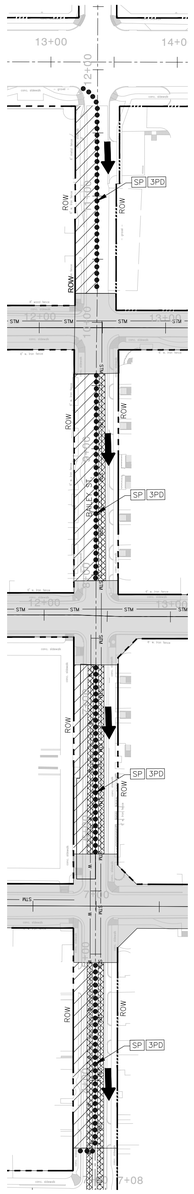
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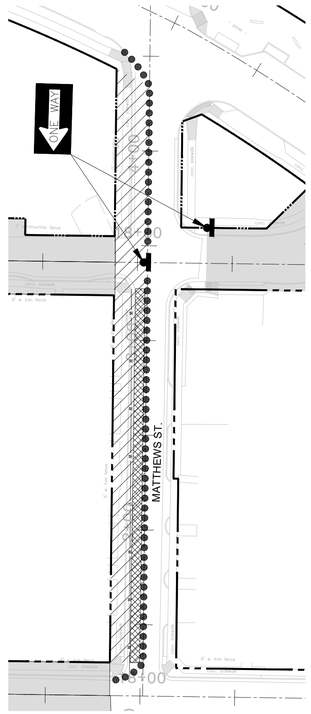
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 – STEP 6

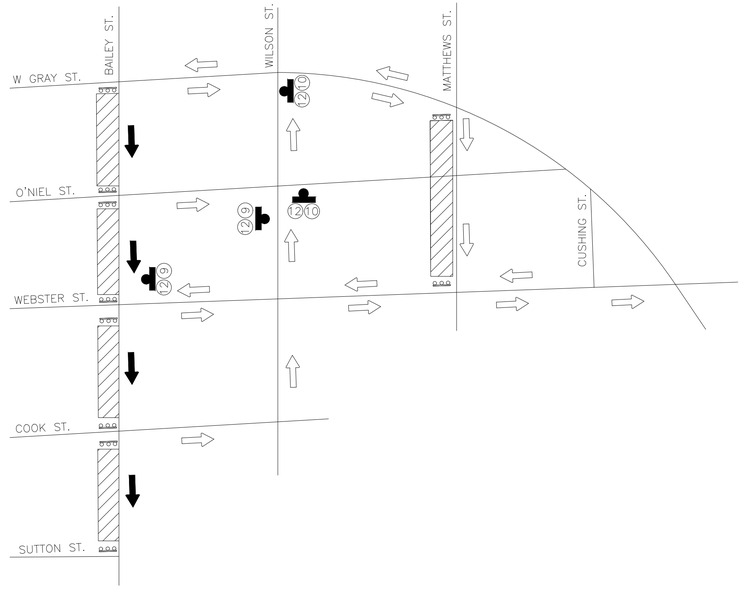
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 30	SHEET NO. OF



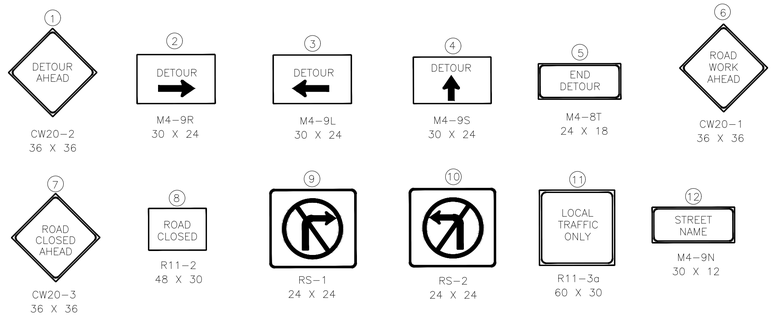
PHASE 5, STEP 7



PHASE 5, STEP 7
(SCALE=1"=40')



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 7
(NTS)



NOTE A:

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GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

- CONST. WORK ZONE
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90% SUBMITTAL

NO.	DATE	REVISION	APP.
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TEJ KOUR, PE, PMP
TX. REG: 117527

FOR REVIEW ONLY NOT FOR BIDDING PERMITS OR CONSTRUCTION 9/22/2024

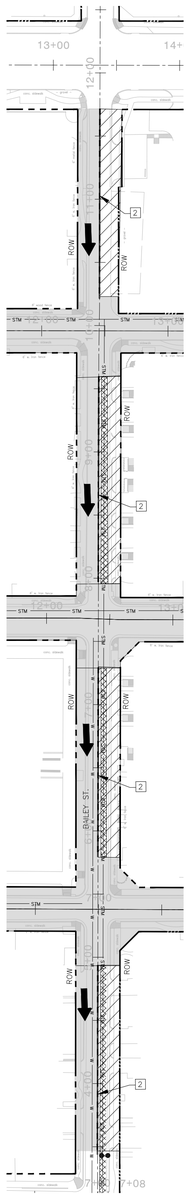
ims
1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

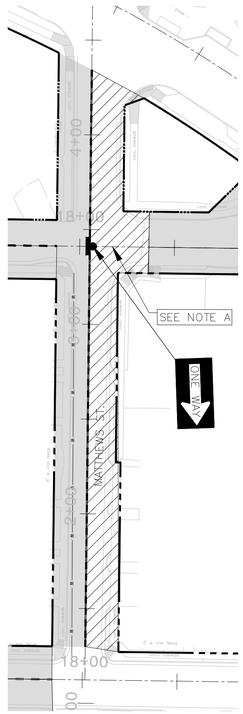
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 – STEP 7

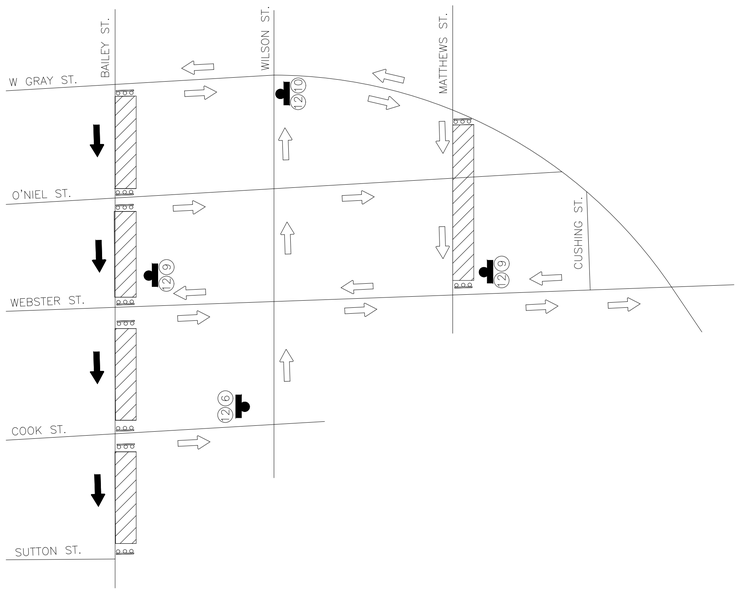
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 31	SHEET NO. OF



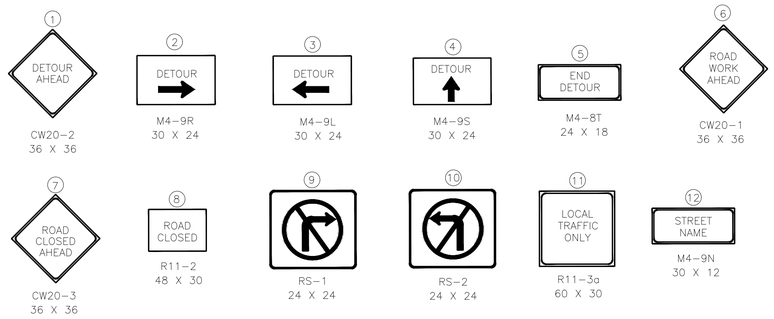
PHASE 5, STEP 8



PHASE 5, STEP 8
(SCALE=1"=40')



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 8
(NTS)

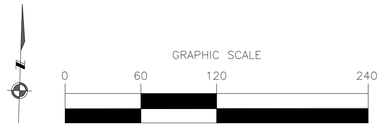


NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

NOTES:

1. ACCESS TO EXISTING BUSINESSES, RESIDENCIES, CHURCHES, DRIVEWAYS, ETC SHALL BE MAINTAINED AT ALL TIMES.
2. CHANNELIZING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3. FOR THE TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER TO SHEETS FROM TCP: TO TCP:
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5. INTERSECTIONS WILL BE CLOSED AND CONSTRUCTED FIRST ALONG WITH STORM JUNCTION BOXES, PAVEMENT CONSTRUCTION AT THE INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.
6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

90% SUBMITTAL

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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Houston, TX 77042 TBPE FIRM REG: F-24018

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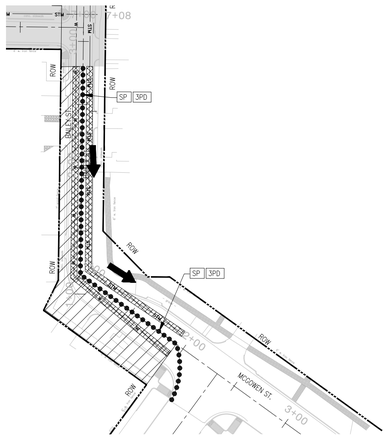
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

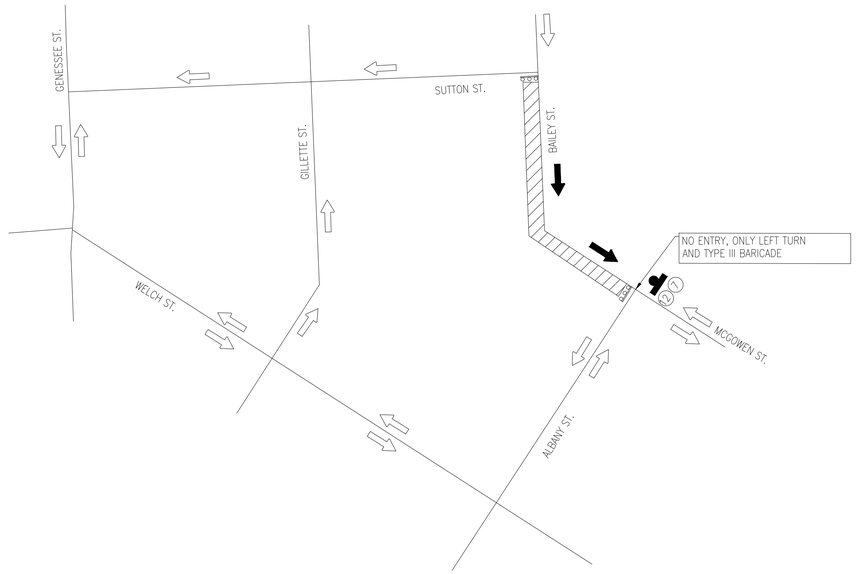
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 – STEP 8

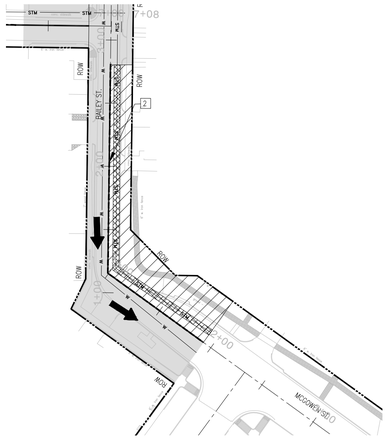
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 32	SHEET NO. OF



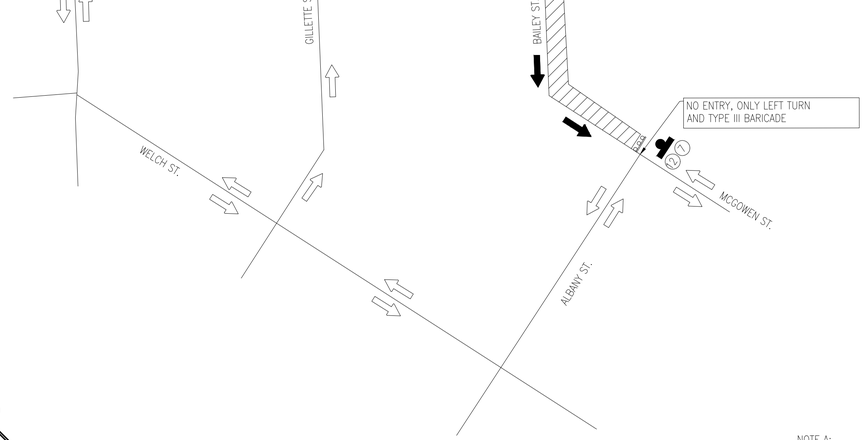
PHASE 5, STEP 9



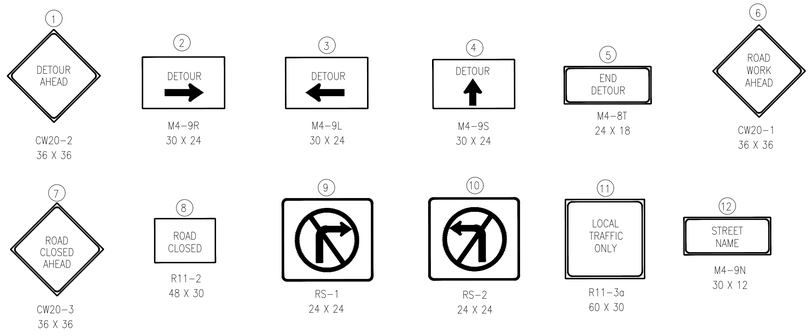
TYPICAL DETOUR PLAN FOR PHASE 5, STEP 9
(NTS)



PHASE 5, STEP 10



TYPICAL DETOUR PLAN FOR PHASE 5, STEP 10
(NTS)

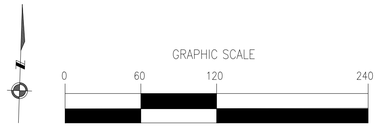


NOTE A:

FOR WORK ZONE DISTRIBUTION, SEE INTERSECTION SEQUENCING STANDARD DETAIL ON COH STANDARD DETAILS 0155-09 THROUGH 0155-12

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LEGEND:

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- PREVIOUS TEMPORARY CONSTRUCTION
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NO.	DATE	REVISION	APP.
1	09/23/2024	0	

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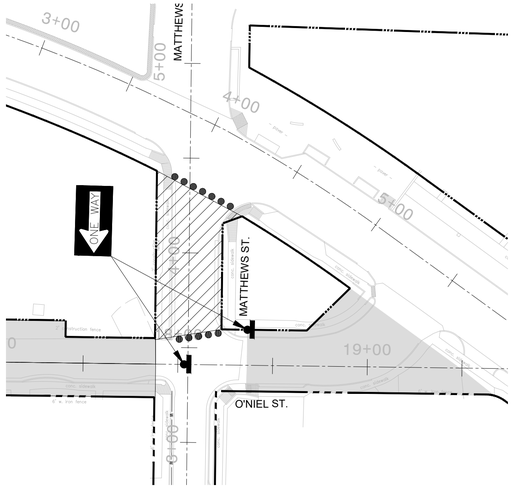
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HOUSTON PUBLIC WORKS

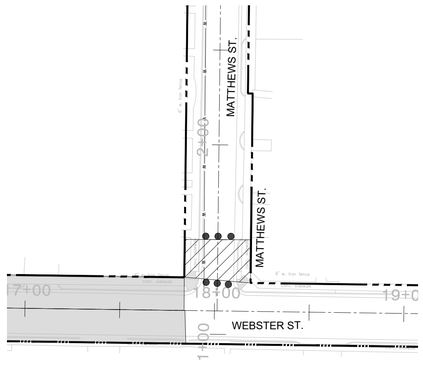
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5 – STEP 9 & 10

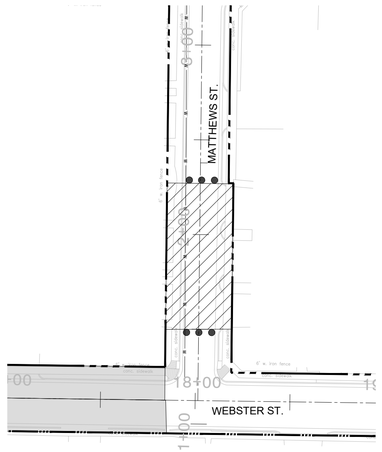
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 33 SHEET NO. OF	



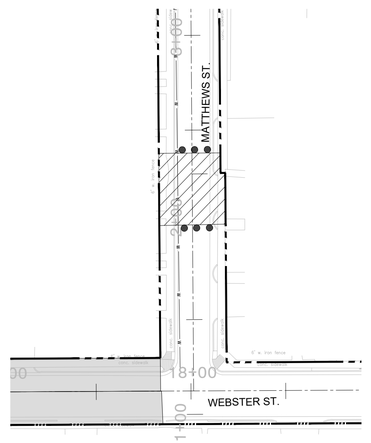
PHASE 5B, STEP 1
(SCALE=1"=40')



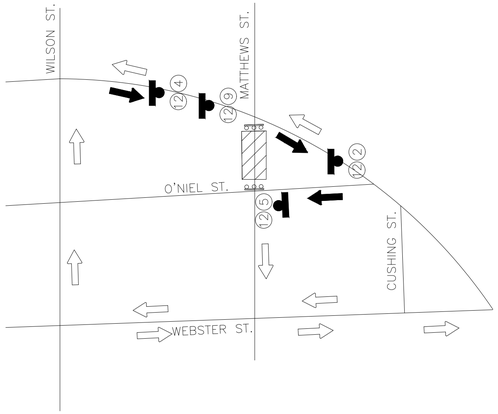
PHASE 5B, STEP 2
(SCALE=1"=40')



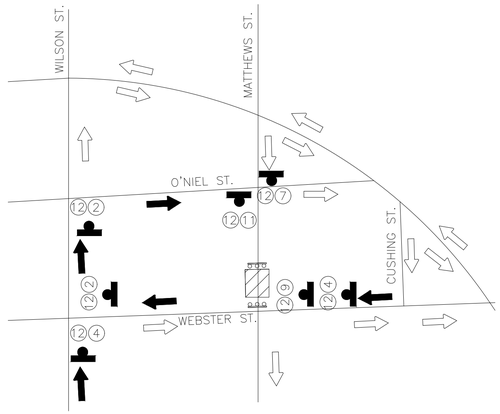
PHASE 5B, STEP 3
(SCALE=1"=40')



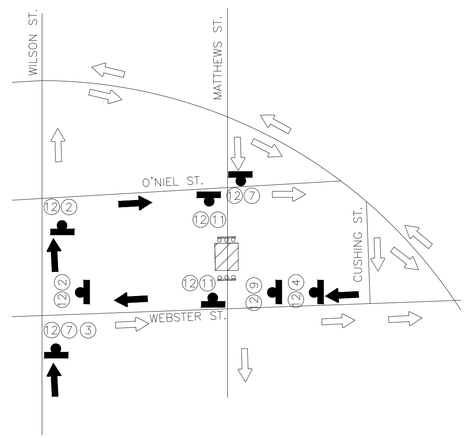
PHASE 5B, STEP 4
(SCALE=1"=40')



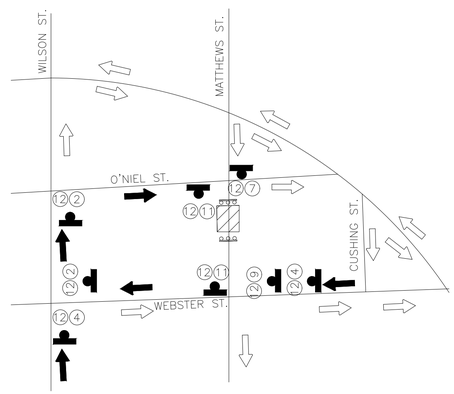
TYPICAL DETOUR PLAN FOR PHASE 5B, STEP 1 (NTS)



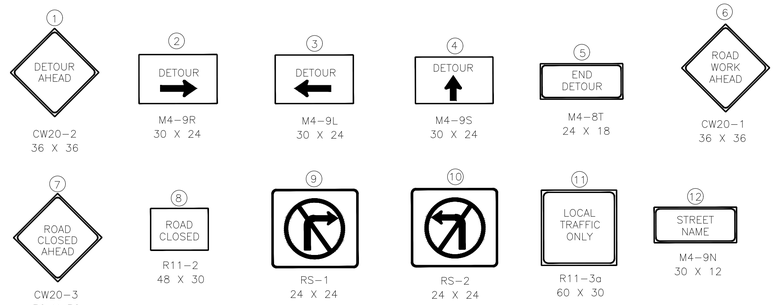
TYPICAL DETOUR PLAN FOR PHASE 5B, STEP 2 (NTS)



TYPICAL DETOUR PLAN FOR PHASE 5B, STEP 3 (NTS)



TYPICAL DETOUR PLAN FOR PHASE 5B, STEP 4 (NTS)



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GRAPHIC SCALE
0 60 120 240
SCALE: 1" = 60'

LEGEND:

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- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
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NO.	DATE	REVISION	APP.
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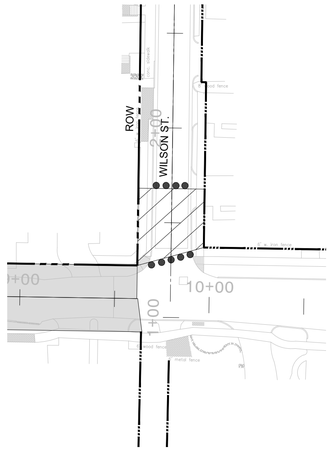
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CITY OF HOUSTON
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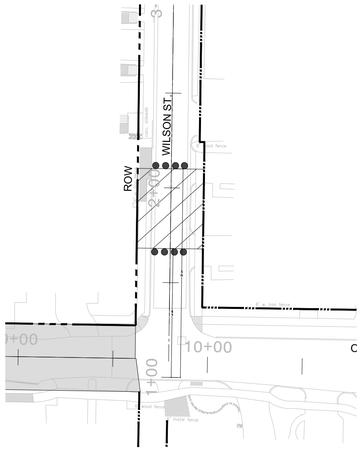
GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5B
STEP 1 THROUGH STEP 4

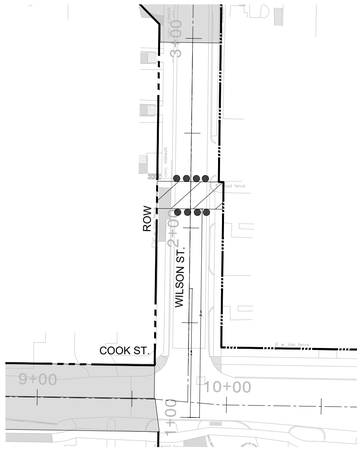
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DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
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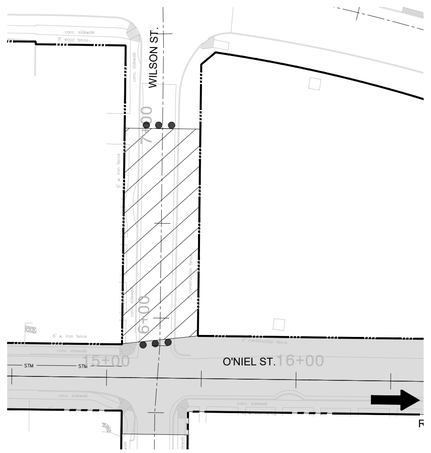
PHASE 5C, STEP 1
(SCALE=1"=40')



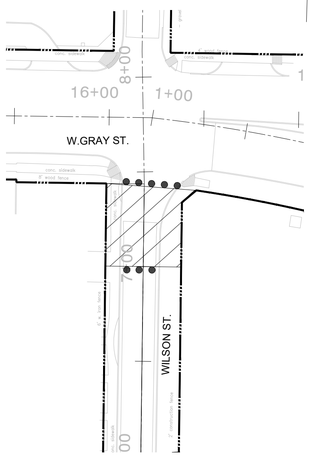
PHASE 5C, STEP 2
(SCALE=1"=40')



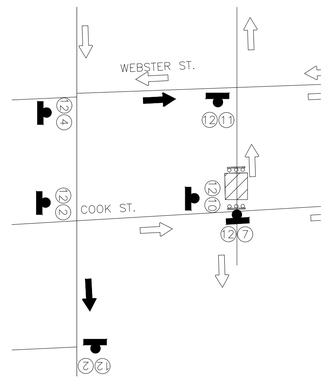
PHASE 5C, STEP 3
(SCALE=1"=40')



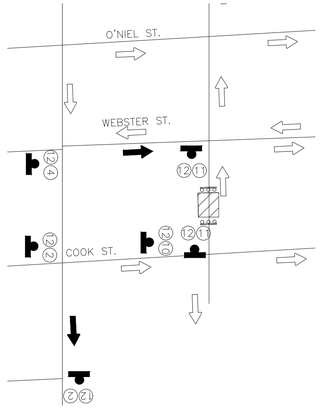
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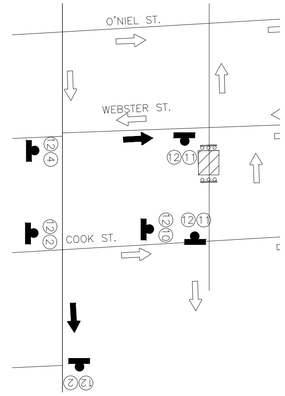
PHASE 5C, STEP 5
(SCALE=1"=40')



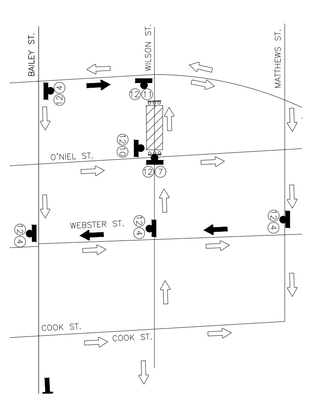
TYPICAL DETOUR PLAN
FOR PHASE 5B, STEP 1
(NTS)



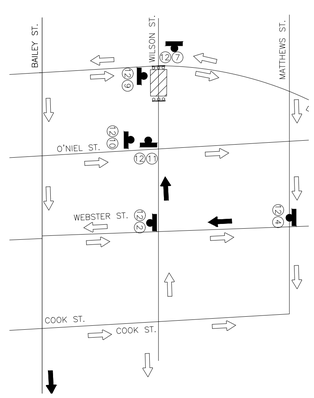
TYPICAL DETOUR PLAN
FOR PHASE 5B, STEP 2
(NTS)



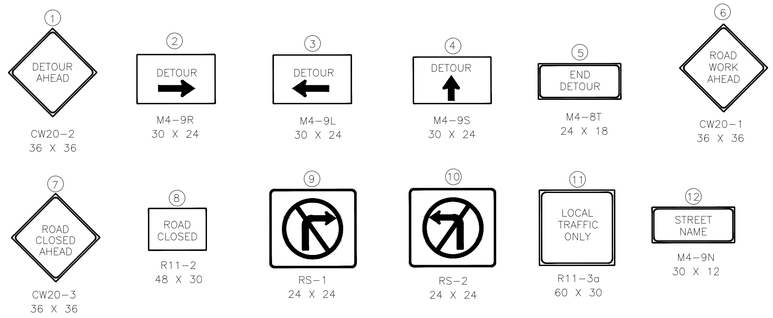
TYPICAL DETOUR PLAN
FOR PHASE 5B, STEP 3
(NTS)



TYPICAL DETOUR PLAN FOR
PHASE 5B, STEP 4 (NTS)



TYPICAL DETOUR PLAN FOR
PHASE 5B, STEP 5 (NTS)

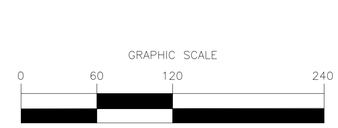


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2. CHANNELIZING DEVICES, BARRICADES, TRAFFIC SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF TEXAS MUTCD.
3. FOR THE TRAFFIC SIGNS AT INTERSECTIONS AND CROSS-STREET CONSTRUCTION, PLEASE REFER TO SHEETS FROM TCP: TO TCP:
4. NO TWO ADJACENT ROADS/INTERSECTIONS SHALL BE CLOSED SIMULTANEOUSLY.
5. INTERSECTIONS WILL BE CLOSED AND CONSTRUCTED FIRST ALONG WITH STORM JUNCTION BOXES, PAVEMENT CONSTRUCTION AT THE INTERSECTIONS SHOULD BE DONE USING HIGH EARLY STRENGTH CONCRETE.
6. DO NOT CONSTRUCT ADJACENT INTERSECTIONS OR STREETS AT THE SAME TIME.
7. HEAVY CONSTRUCTION VEHICLE TO AVOID NEWLY CONSTRUCTED PAVEMENTS TO PREVENT ANY STRUCTURAL DAMAGE (DURING HALF-HALF STEPS).
8. ALL LARGER STORM BOXES TO BE INSTALLED AND UNDERGROUND WORK TO BE DONE AS PART OF PHASE 1 BEFORE THE CONSTRUCTION OF THE PAVEMENT IS STARTED IN PHASE 2.



LEGEND:

- CONST. WORK ZONE
- PREVIOUS PERMANENT CONSTRUCTION
- PREVIOUS TEMPORARY CONSTRUCTION
- PLASTIC DRUM, CONE, OR TUBULAR MARKER
- PROPOSED SIGN POST
- 1 TYPE III BARRICADE
- PROPOSED TRAFFIC FLOW
- EXISTING TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- SP SPACED @ 20' C-C (ALONG WORK ZONE & TAPERS SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)
- 3 PD PLASTIC DRUM (SEE LEGEND SP FOR SPACING)
- 4 CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4 CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- CENTER LINE
- ROW LINE
- STM PROPOSED STORMWATER SEWER
- W PROPOSED WATER LINE

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GRAY AND TAFT AREA
PAVING AND DRAINAGE

PHASE 5C -
STEP1 THROUGH STEP 5

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1" = 60'	
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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.

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.

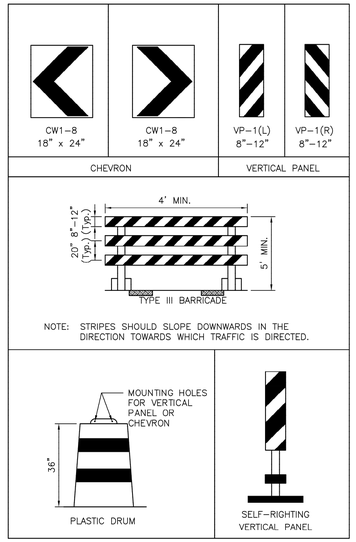
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

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

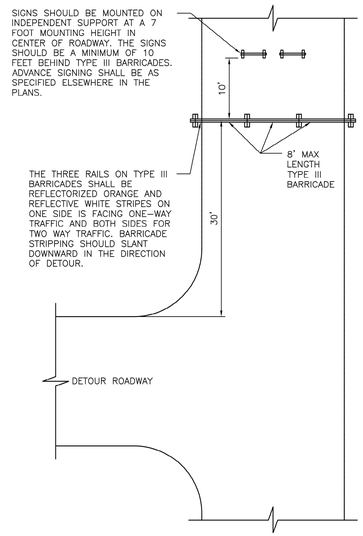
POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'	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: Sukat kanwar	DocuSigned by: HUNG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carl Haddock
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023	DWG NO: 01555–01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

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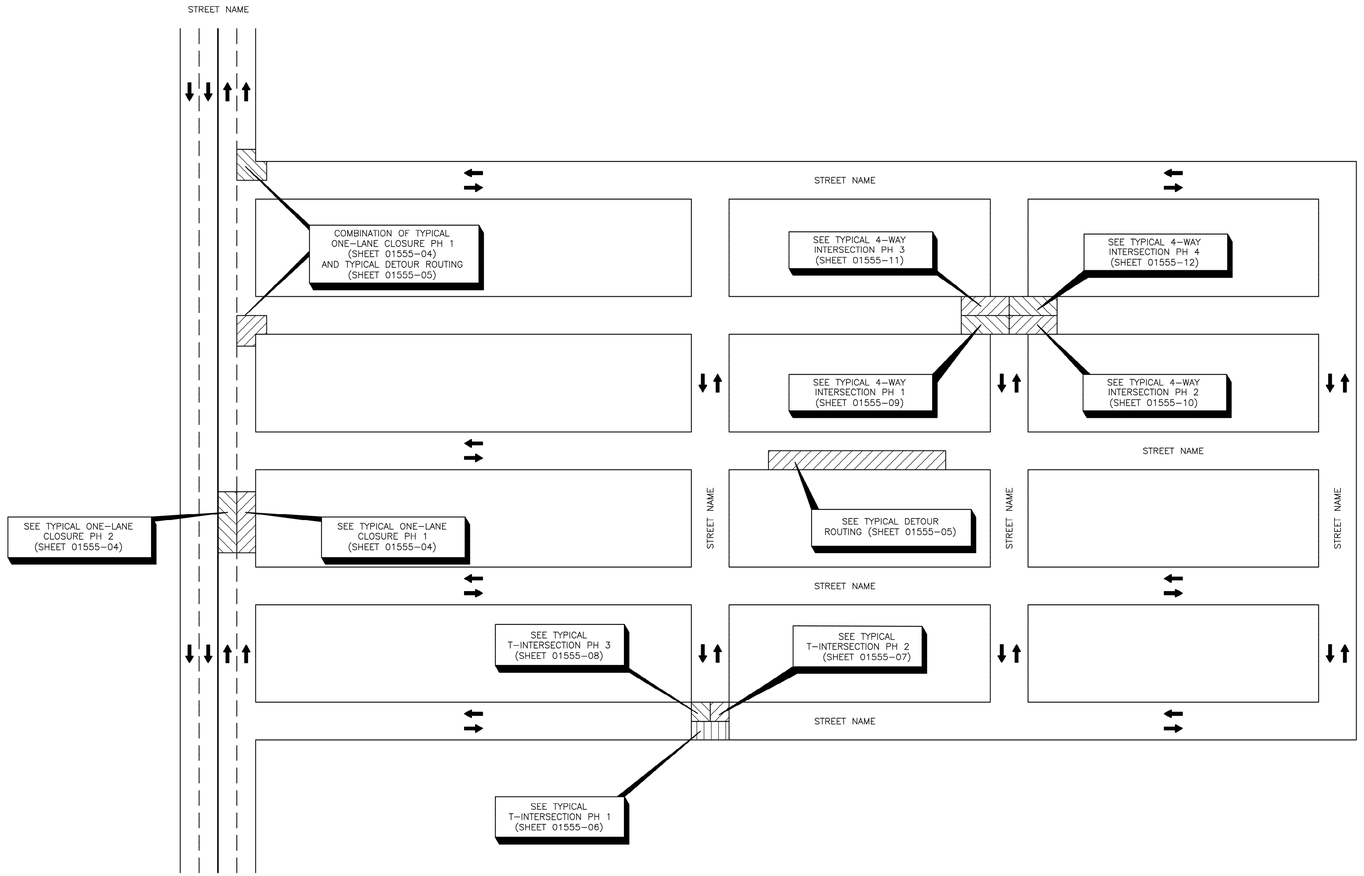
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP NOTES, CHANNELIZING DEVICES AND BARRICADES

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APPROVED BY: Docusigned by: Carl Haddock — 4A5CA18E7B3A4CL...	
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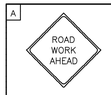
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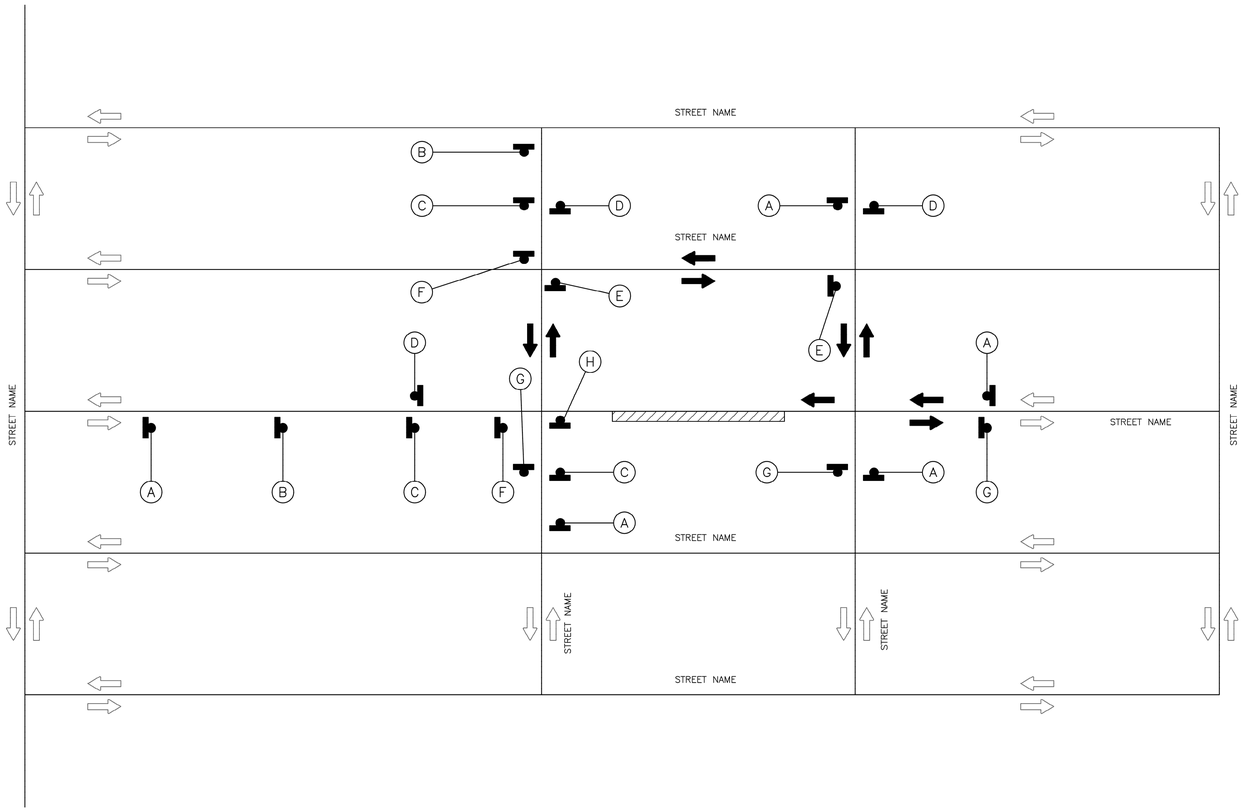
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GRAY AND TAFT AREA PAVING AND DRAINAGE TCP OVERALL TRAFFIC CONTROL LAYOUT

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A	B	C	D	E	F	G	H
							
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9T



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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CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
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TRAFFIC CONTROL LAYOUT

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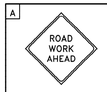
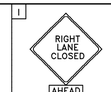
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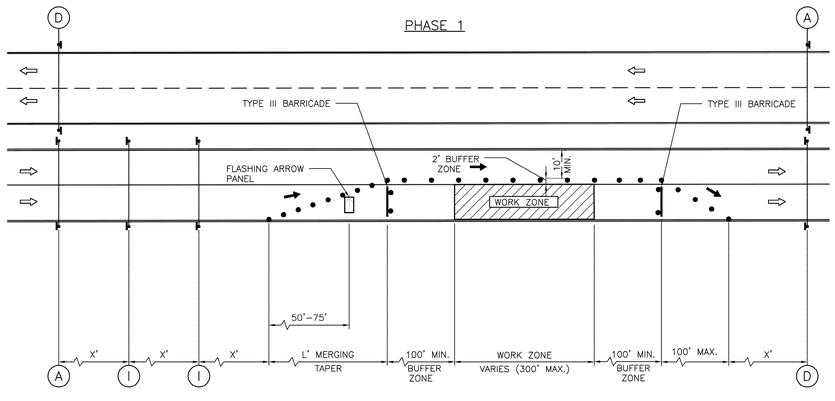
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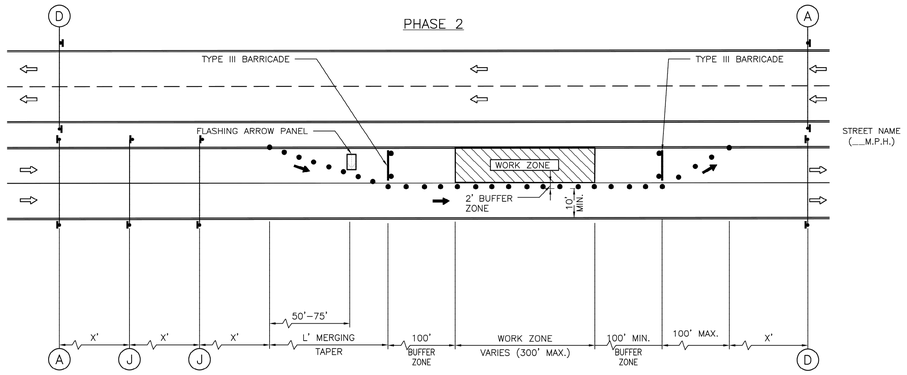
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LEGEND:

- 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: Sukul Kanwar	Docusigned by: kristine McAlpin
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
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CITY OF HOUSTON
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TCP ONE LANE CLOSURE
PHASE 1 & 2

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

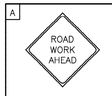
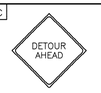
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP ONE LANE CLOSURE PHASE
1 & 2

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DRAWING SCALE	
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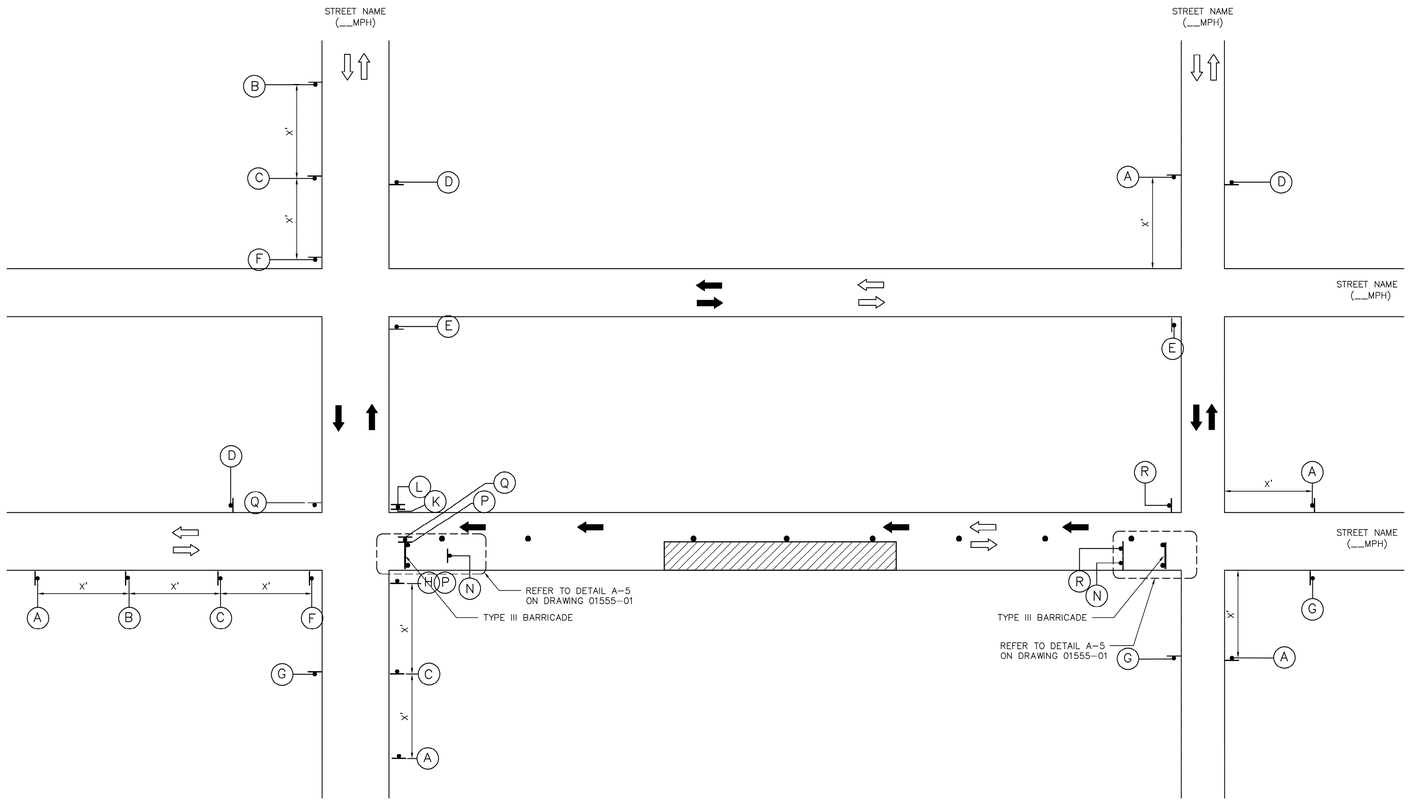
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R6-2(L)	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9T	CW20-5(2) CW16-3	CW20-5(1) CW16-3

K	L	M	N	O	P	Q	R	
								
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.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukul kanwar 9EFB80DC84191478...	DocuSigned by: kathleng McMillen 95AD9EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock 6A5CA13E1D0A4EA...	
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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DRAWING SCALE

NOT TO SCALE

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Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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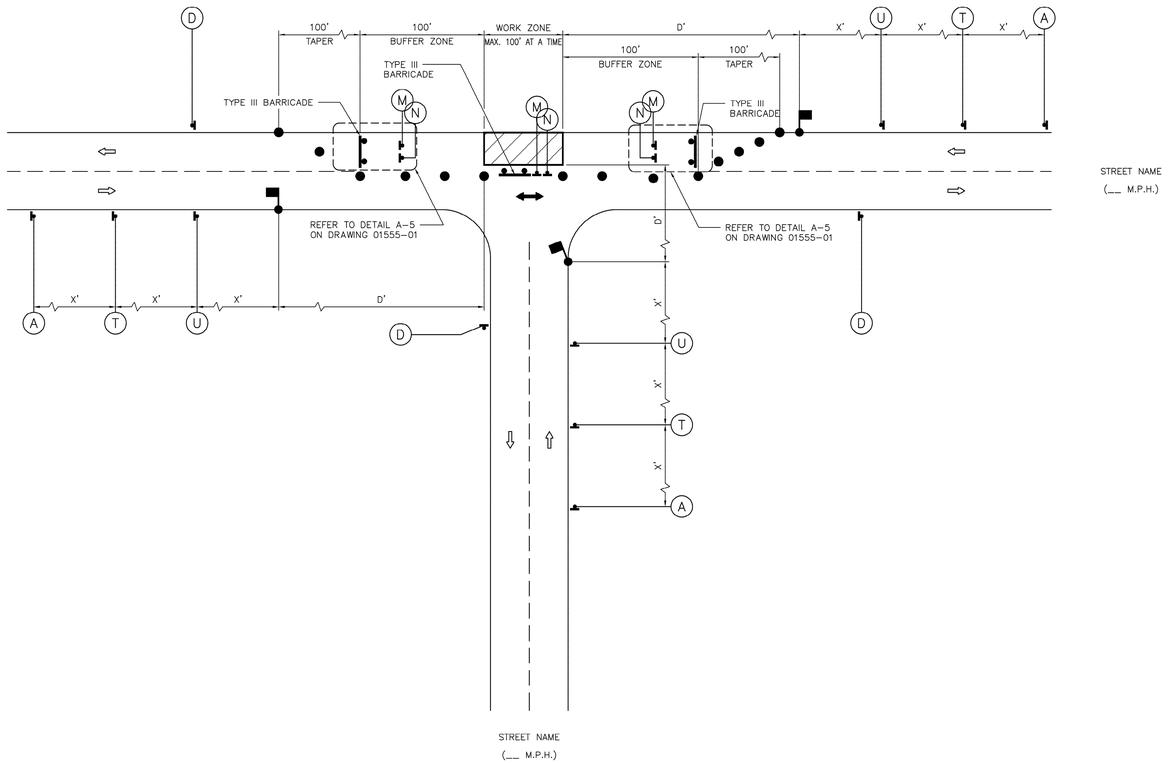
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP TYPICAL DETOUR ROUTING
WITH ONE LANE CLOSURE
(ONE BLOCK)

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CITY OF HOUSTON PM	

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A	T	U	D	M	N
					
CW20-1	CW20-4	CW20-7	G20-2	R5-1	R11-2



LEGEND:

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

NOTES:

1. 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: Sulad Kauwar 8EF880C64F1F4A76...	DocuSigned by: kating Nguyen 95A09EF0A7594C3...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A3DC4105726D453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-06

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 1 OF 3

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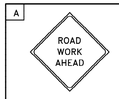
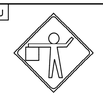
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

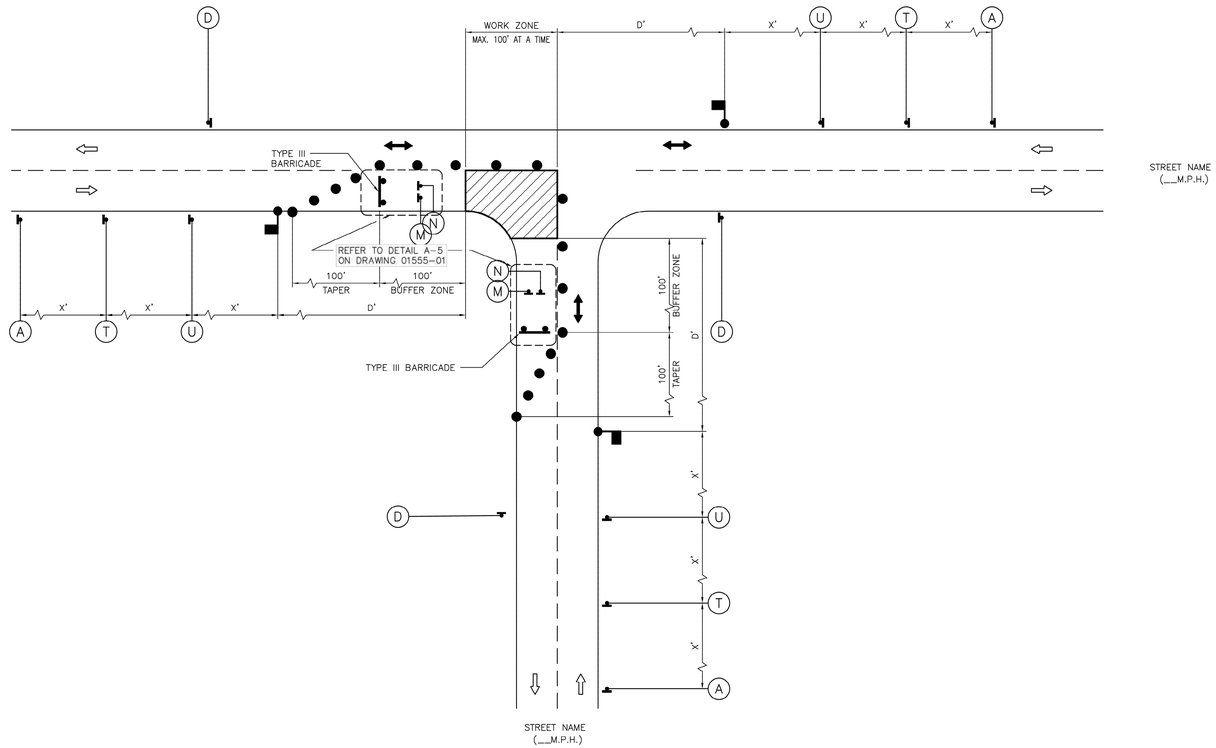
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP TYPICAL CONSTRUCTION ZONE AT T-INTERSECTION PHASE 1 OF 3

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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:

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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: Sulad Kanwar 82E5B0C841F5478...	DocuSigned by: HIEU NGUYEN 95A20EFDA758403...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A83C4108728245...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-07

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 2 OF 3

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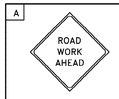
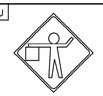
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 2 OF 3

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LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
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5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sulad Kaswar 8EF880C6A1F1A47...	DocuSigned by: kaiding Nguyen 95A09EF0A7594C3...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A3DCA1057260455...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-08

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP TYPICAL CONSTRUCTION ZONE AT A T-INTERSECTION PHASE 3 OF 3

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HOUSTON PUBLIC WORKS

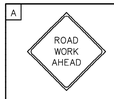
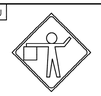
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP TYPICAL CONSTRUCTION
ZONE AT A T-INTERSECTION
PHASE 3 OF 3

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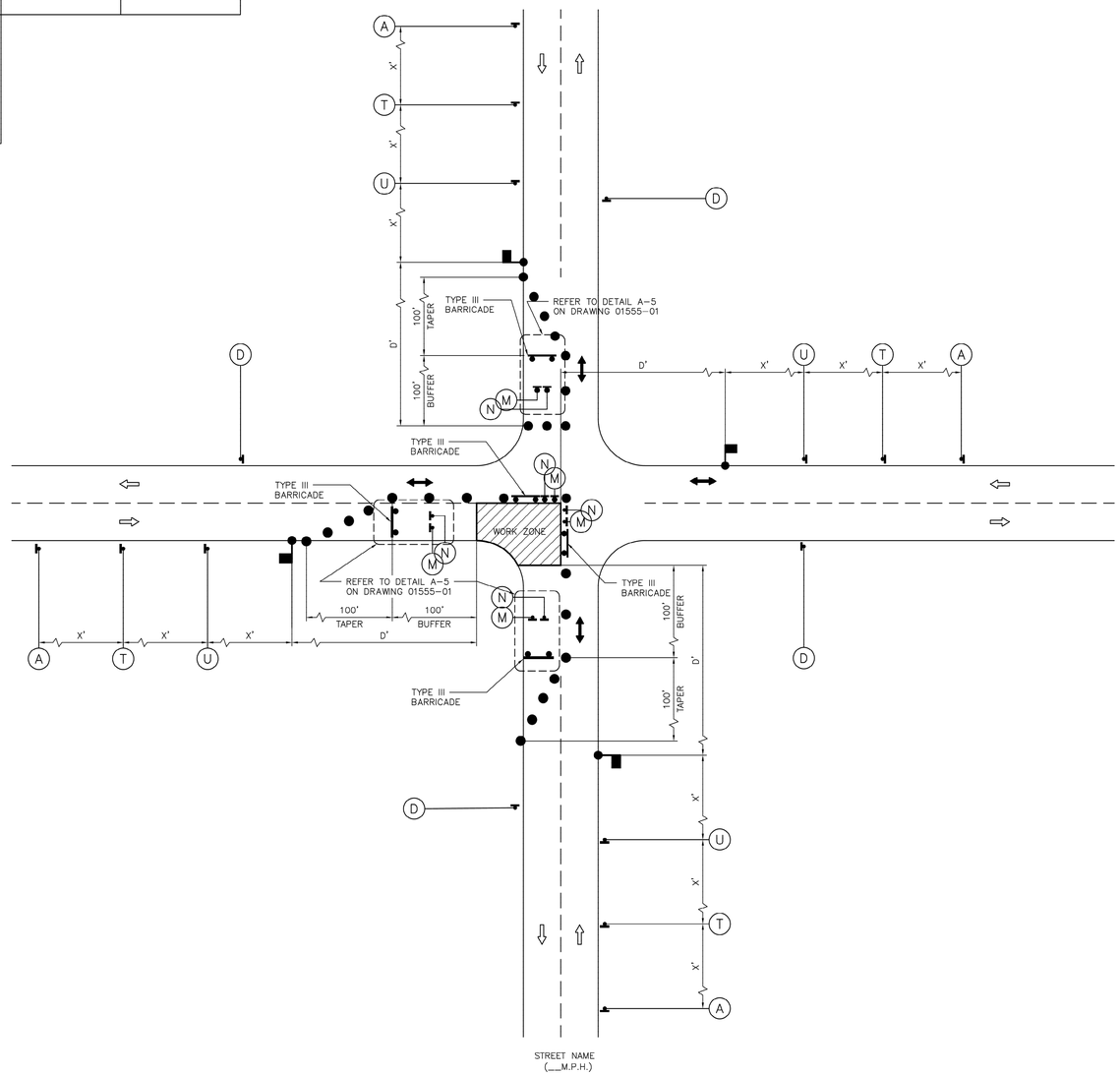
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CW20–1	CW20–4	CW20–7	G20–2

M	N
	
R5–1	R11–2



LEGEND:

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

NOTES:

1. 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: Sohail Kanwar 5EF5B0C0647F5A7B...	Docusigned by: kelling Nguyen 95A29EF0A7594A7B...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Docusigned by: Carl Stockdale A8DCA1587292A4D...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 01555–09

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

GRAY AND TAFT AREA PAVING AND DRAINAGE
TCP TYPICAL CONSTRUCTION ZONE AT A 4WAY–INTERSECTION (LOW VOLUME TRAFFIC) PHASE 1 OF 4

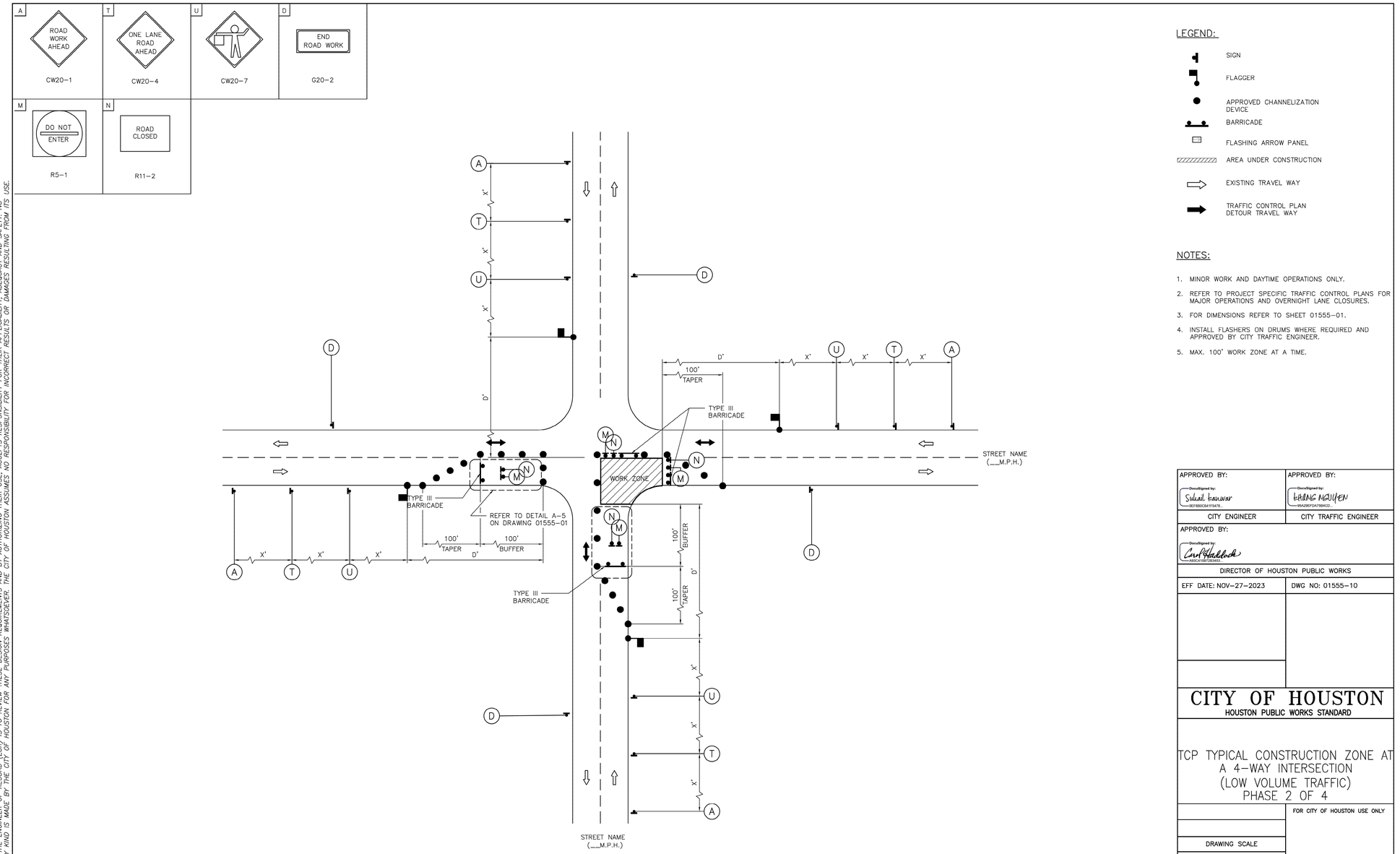
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LEGEND:

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

NOTES:

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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: Sulad Kaunar 8EFB80CB41F0475...	DocuSigned by: Hang Nguyen 95A2BEF2A1D84CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Hadlock A80CA1005F2B45A...	
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

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GRAY AND TAFT AREA PAVING AND DRAINAGE

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

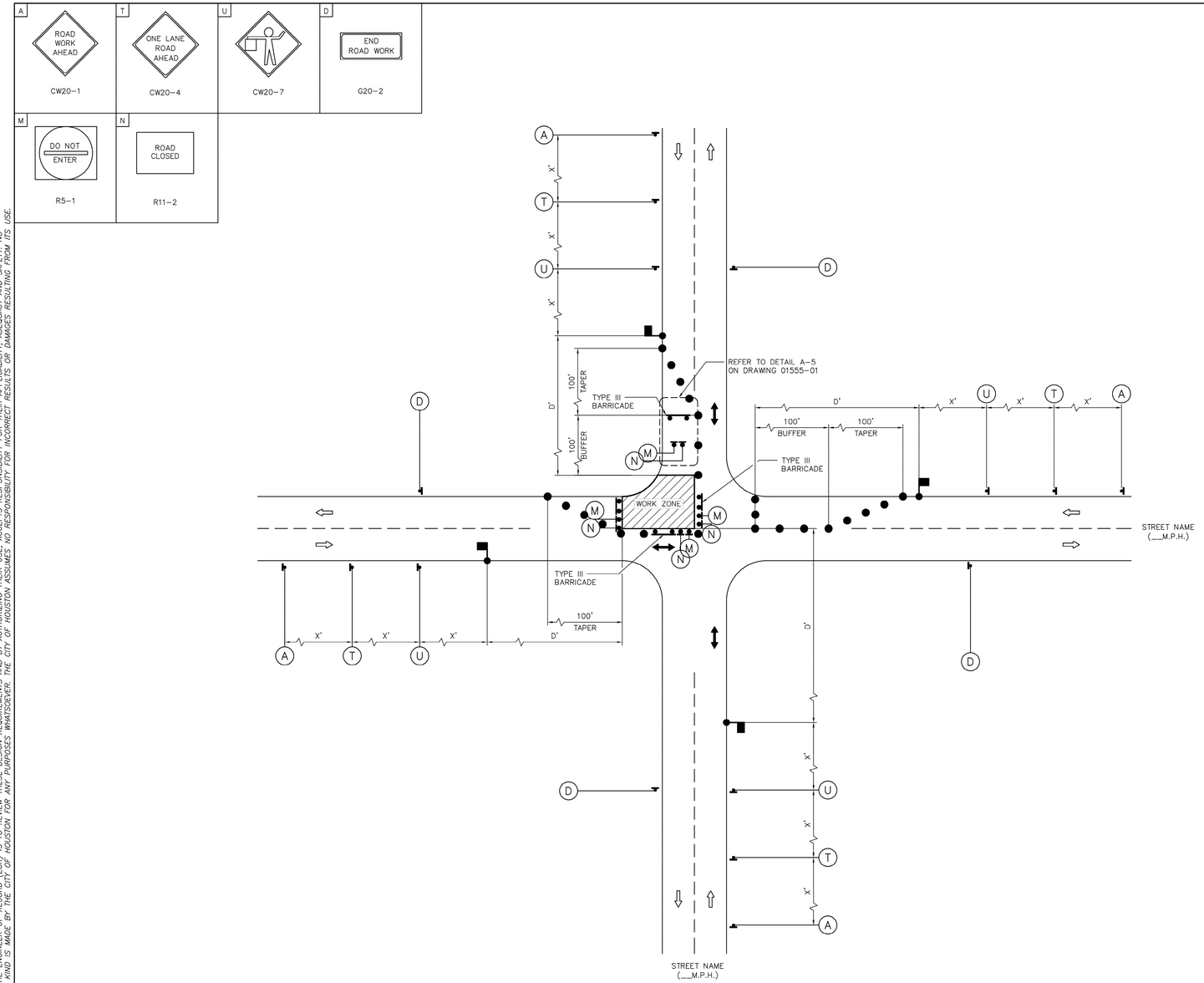
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CITY OF HOUSTON PM	

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LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
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5. MAX. 100' WORK ZONE AT A TIME.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sulail Kauwar 8EFB8DC8B1F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4C8...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A60CA1B5F2824E3...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-11

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

Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

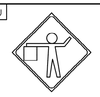
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP TYPICAL CONSTRUCTION ZONE AT A 4WAY-INTERSECTION (LOW VOLUME TRAFFIC) PHASE 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
N.T.S	
CITY OF HOUSTON PM	

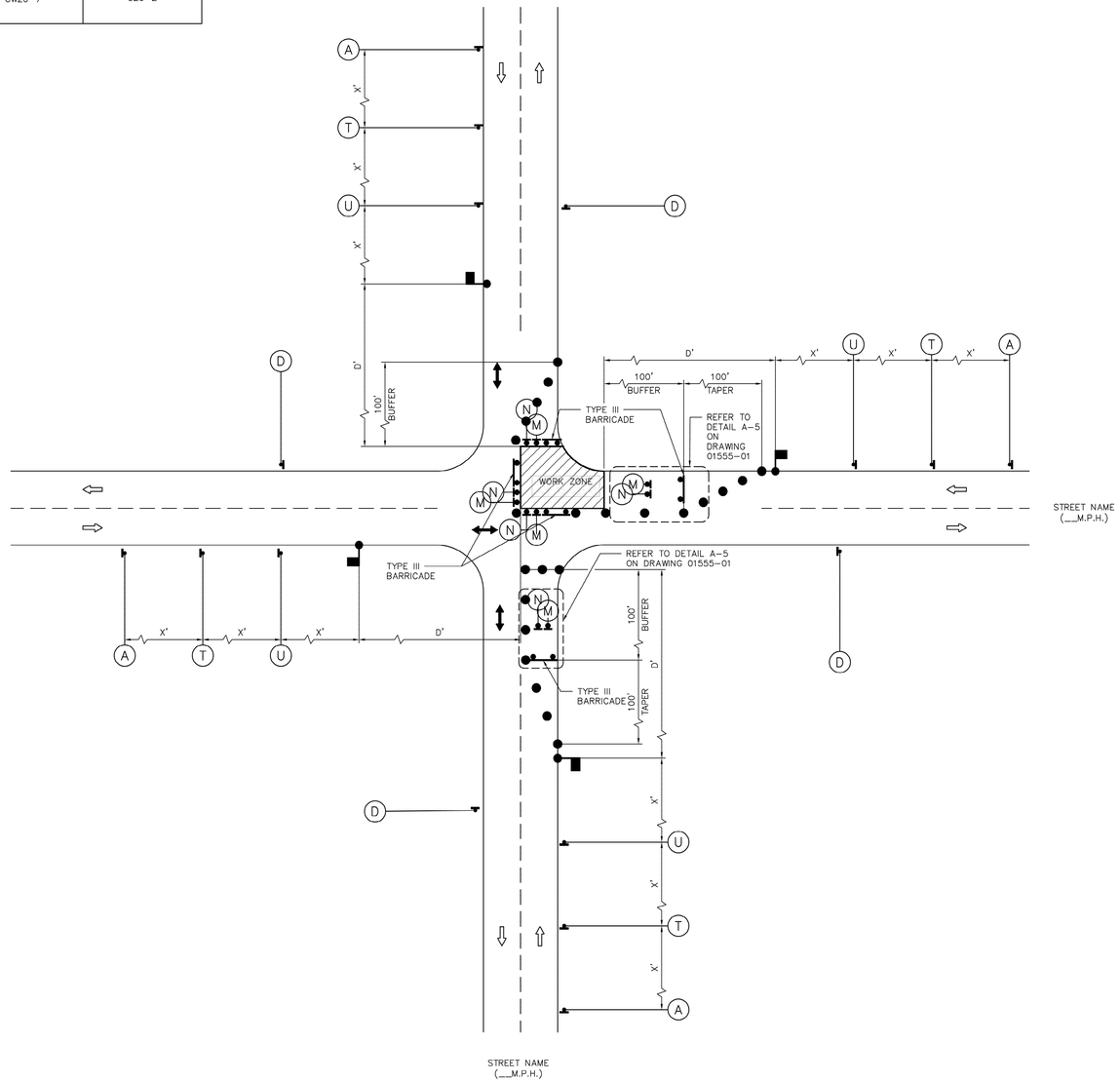
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A	T	U	D
			
CW20–1	CW20–4	CW20–7	C20–2

M	N
	
R5–1	R11–2



LEGEND:

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

NOTES:

1. 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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DocuSigned by: Sulad Kunwar 3EF5B0C0B1F13478...	DocuSigned by: HẢNG NGUYỄN 95A29EFDA75B4C4...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A92C4109F2B2453...	
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

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1	09/23/2024	0	

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Houston, TX 77042 TBPE FIRM REG: F–24018

TEJ KOUR, PE, PMP
TX. REG: 117527

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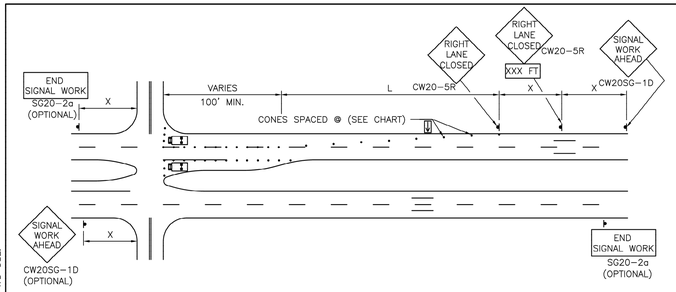
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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE
TCP TYPICAL CONSTRUCTION ZONE
AT A 4WAY–INTERSECTION
(LOW VOL.TRAFFIC)
PHASE 4 OF 4

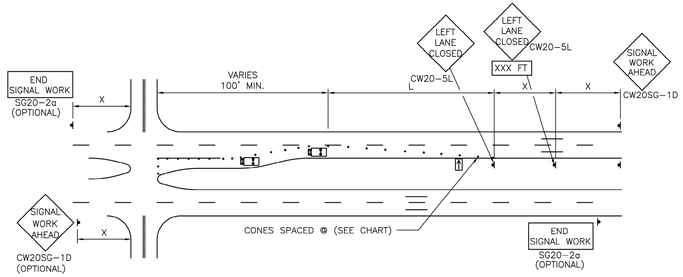
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DRAWING SCALE	
N.T.S	
CITY OF HOUSTON PM	

TCP: 47 SHEET NO. OF

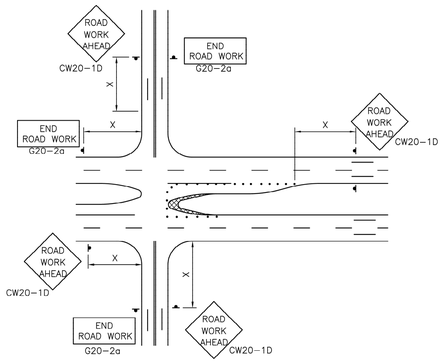
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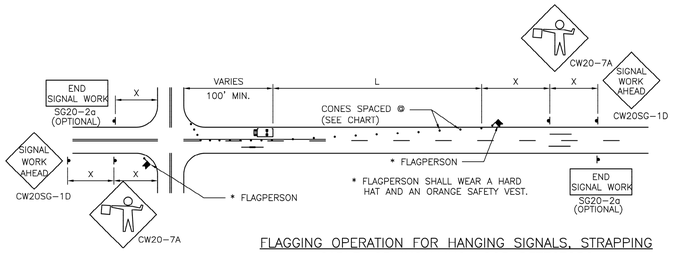
ONE LANE CLOSURE W/ RIGHT LANE AND/OR LEFT TURN LANE CLOSED



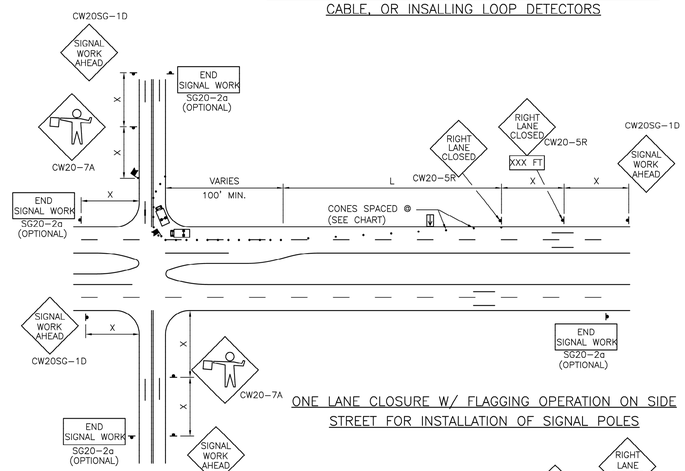
ONE LANE CLOSURE W/ LEFT LANE AND/OR LEFT TURN LANE CLOSED



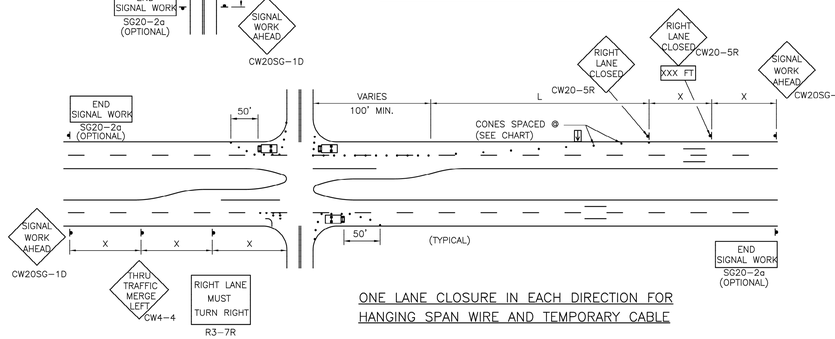
MEDIAN NOSE MODIFICATION



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=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		450'	495'	540'	45'	90'–110'	320'
50	L=WS	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: Salad Kanwar	DocuSigned by: HANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-13

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

FOR CITY OF HOUSTON USE ONLY

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TEJ KOUR, PE, PMP
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Houston, TX 77008
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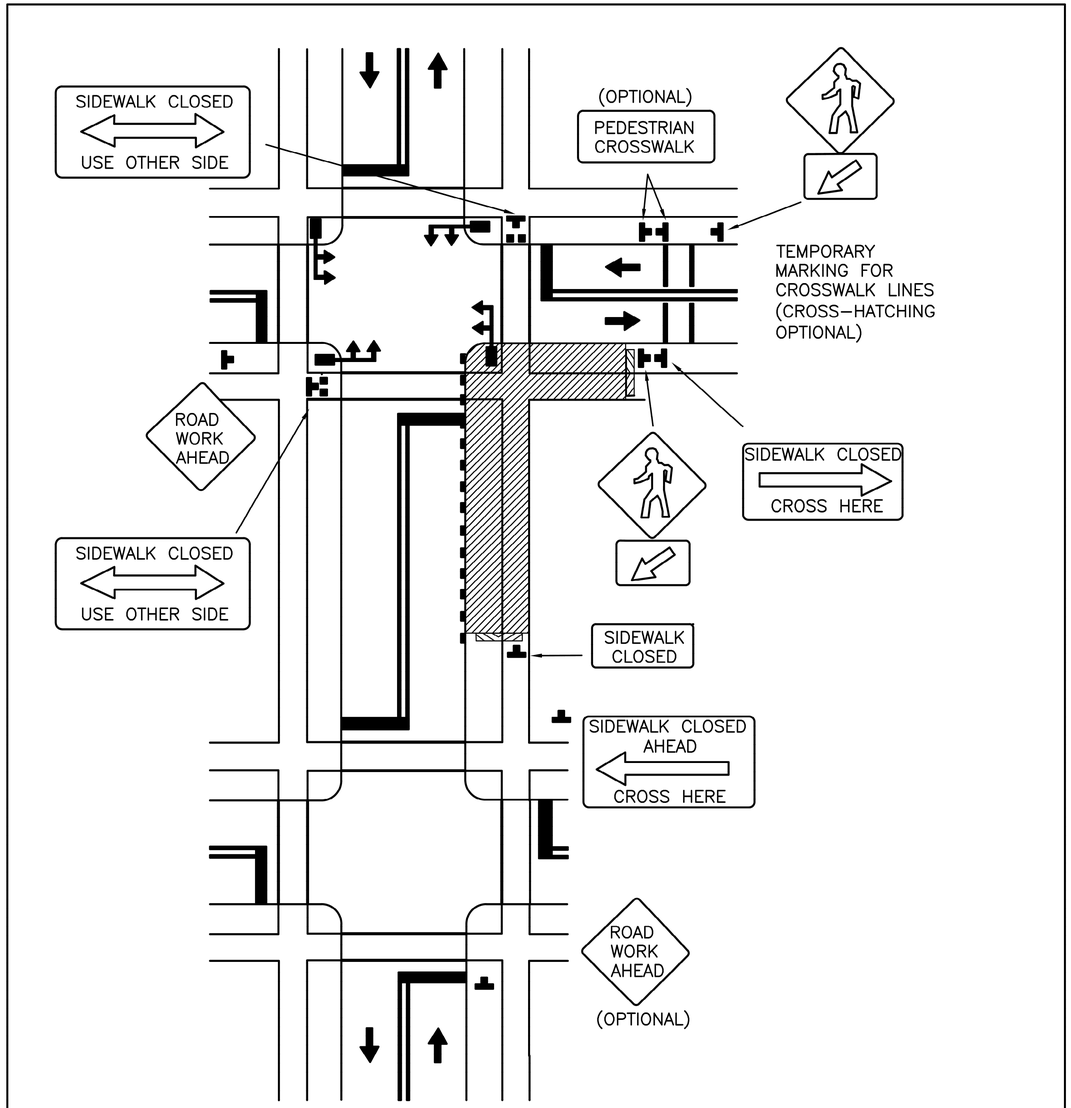
GRAY AND TAFT AREA
PAVING AND DRAINAGE
TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

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APPROVED BY:

DocuSigned by:	DocuSigned by:	DocuSigned by:
Suhail Kanwar 9EF8B0C641F5478...	KHANG NGUYEN 95A29EFDA75B4CD...	Carol Haddock A93C410B72B3453...
CITY ENGINEER	CITY TRAFFIC ENGINEER	DIRECTOR OF HPW

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

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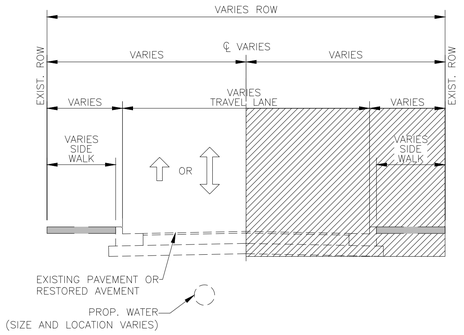
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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

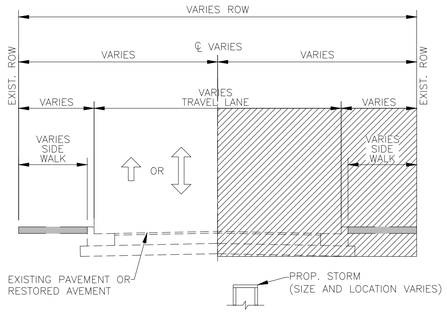
CROSSWALK CLOSURES AND PEDESTRIAN DETOURS

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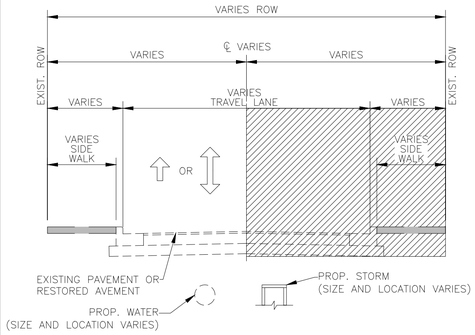
PHASE 3, STEP 1

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



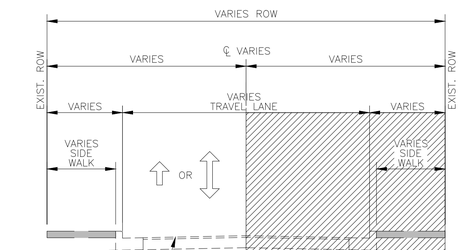
PHASE 3, STEP 1
PHASE 4, STEP 7

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



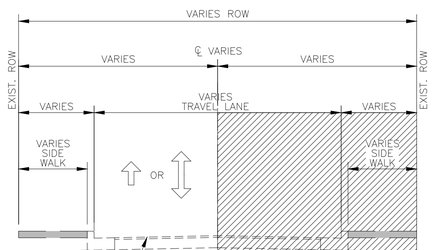
PHASE 3, STEP 1

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



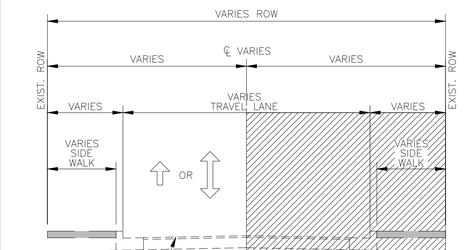
PHASE 3, STEP 3
PHASE 3, STEP 5
PHASE 4, STEP 6
PHASE 4, STEP 9
PHASE 5, STEP 7

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



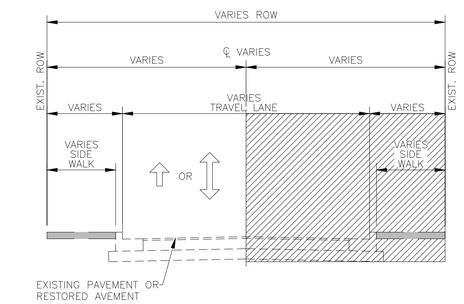
PHASE 4, STEP 2
PHASE 5, STEP 2
PHASE 5, STEP 7

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



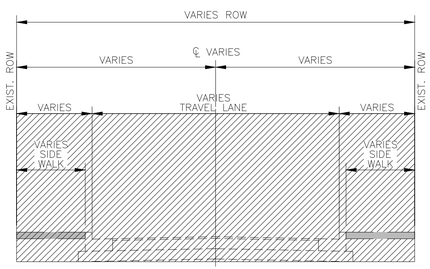
PHASE 3, STEP 5
PHASE 5, STEP 7
PHASE 5, STEP 9

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



PHASE 3, STEP 1	PHASE 4, STEP 6
PHASE 3, STEP 3	PHASE 4, STEP 7
PHASE 3, STEP 5	PHASE 5, STEP 2
PHASE 4, STEP 2	PHASE 5, STEP 6
PHASE 4, STEP 5	PHASE 5, STEP 7

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



PHASE 4B, STEP 1	PHASE 5B, STEP 1	PHASE 5C, STEP 1
PHASE 4B, STEP 2	PHASE 5B, STEP 2	PHASE 5C, STEP 2
PHASE 4B, STEP 3	PHASE 5B, STEP 3	PHASE 5C, STEP 3
PHASE 4C, STEP 1	PHASE 5B, STEP 4	PHASE 5C, STEP 4
PHASE 4C, STEP 2		PHASE 5C, STEP 5

TRAFFIC RESTRICTED WITH COMPLETE WORK ZONE

LEGEND:

CONST. WORK ZONE

NOTE:

FOR PHASE 4B, PHASE 4C, PHASE 5B AND PHASE 5C, THE ROAD WILL BE FULLY CLOSED.

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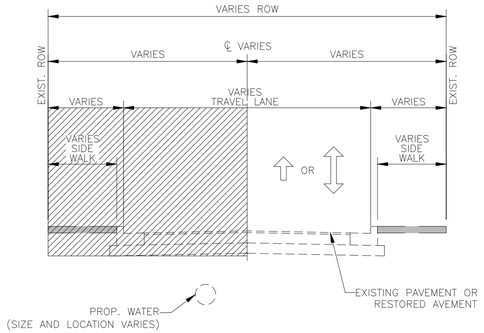
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

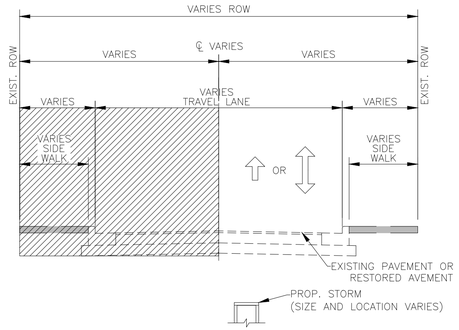
TRAFFIC CONTROL PLANS
TYPICAL SECTIONS
PHASE 2

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1" = 60'	
CITY OF HOUSTON PM	
TCP: 50	SHEET NO. OF



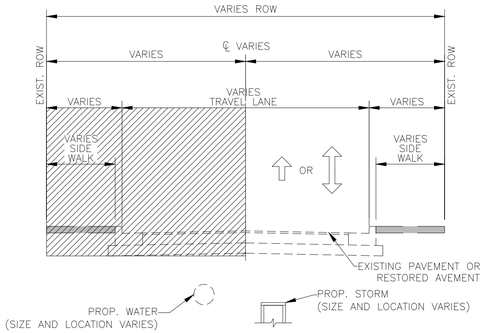
PHASE 3, STEP 2
PHASE 4, STEP 12

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



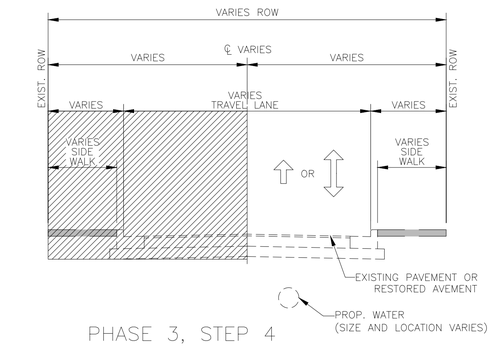
PHASE 3, STEP 2
PHASE 4, STEP 4
PHASE 4, STEP 8

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



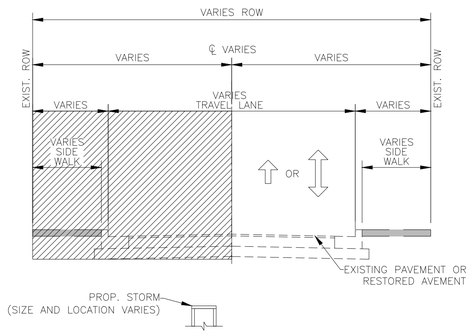
PHASE 3, STEP 2

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



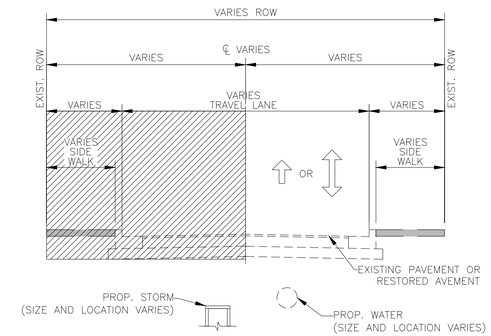
PHASE 3, STEP 4
PHASE 3, STEP 6
PHASE 4, STEP 5
PHASE 4, STEP 10
PHASE 4, STEP 11
PHASE 5, STEP 8

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



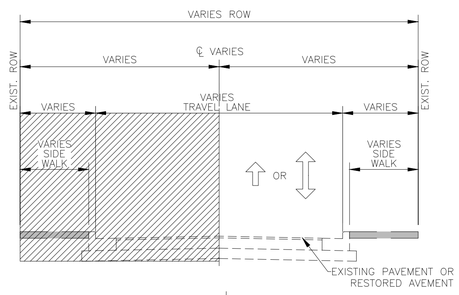
PHASE 4, STEP 1
PHASE 4, STEP 3
PHASE 5, STEP 1
PHASE 5, STEP 3
PHASE 5, STEP 8

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



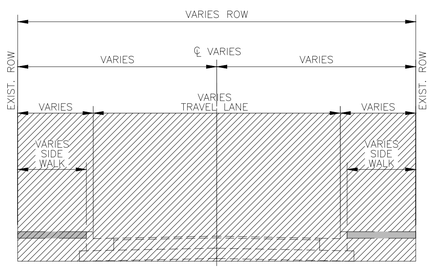
PHASE 3, STEP 6
PHASE 5, STEP 8
PHASE 5, STEP 10

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



PHASE 3, STEP 2
PHASE 3, STEP 4
PHASE 3, STEP 6
PHASE 4, STEP 1
PHASE 4, STEP 3
PHASE 4, STEP 4
PHASE 4, STEP 5
PHASE 4, STEP 8
PHASE 5, STEP 1
PHASE 5, STEP 3
PHASE 5, STEP 4
PHASE 5, STEP 5
PHASE 5, STEP 8

1–WAY TRAFFIC WITH UPSTREAM WORKZONE



PHASE 4B, STEP 1
PHASE 4B, STEP 2
PHASE 4B, STEP 3
PHASE 4C, STEP 1
PHASE 4C, STEP 2
PHASE 5B, STEP 1
PHASE 5B, STEP 2
PHASE 5B, STEP 3
PHASE 5B, STEP 4
PHASE 5C, STEP 1
PHASE 5C, STEP 2
PHASE 5C, STEP 3
PHASE 5C, STEP 4
PHASE 5C, STEP 5

TRAFFIC RESTRICTED WITH COMPLETE WORK ZONE

LEGEND:

CONST. WORK ZONE

NOTE:
FOR PHASE 4B, PHASE 4C, PHASE 5B AND PHASE 5C, THE ROAD WILL BE FULLY CLOSED.

NO.	DATE	REVISION	APP.
1	09/23/2024	0	

90% SUBMITTAL

Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300
Houston, TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, PE, PMP
TX. REG: 117527

FOR REVIEW ONLY NOT FOR BIDDING PERMITS OR CONSTRUCTION 9/22/2024

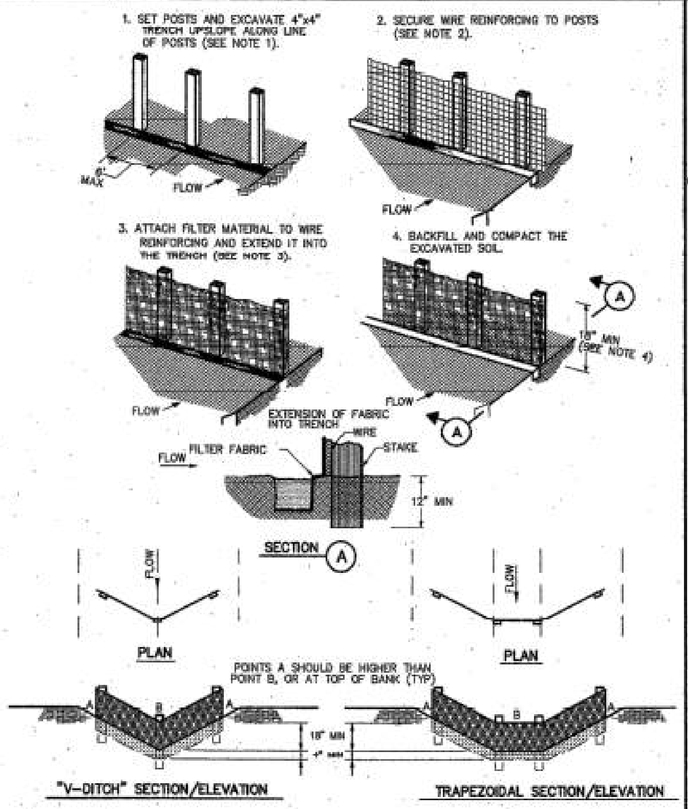
1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TRAFFIC CONTROL PLANS
TYPICAL SECTIONS
PHASE 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
TCP: 51 SHEET NO. OF	

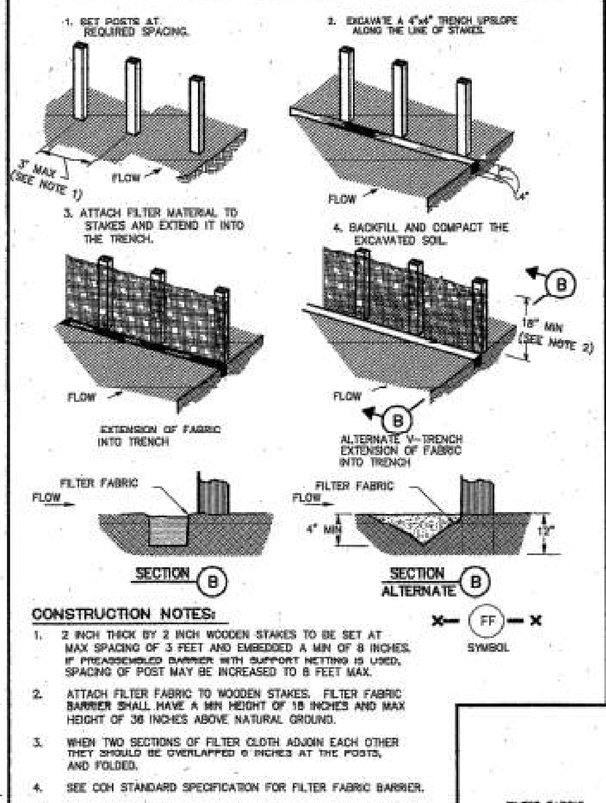


CONSTRUCTION NOTES:

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.

X— (RFB) —X
SYMBOL

REINFORCED FILTER FABRIC BARRIER

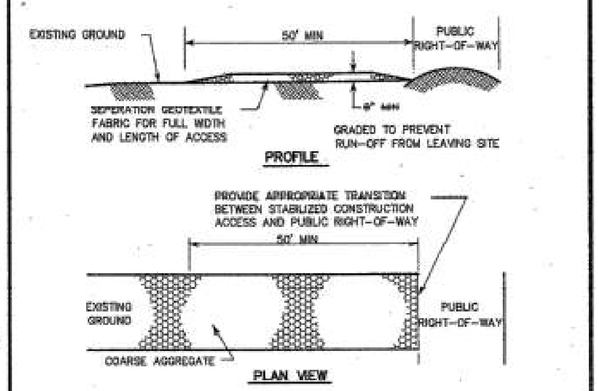


CONSTRUCTION NOTES:

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.

X— (FF) —X
SYMBOL

FILTER FABRIC BARRIER

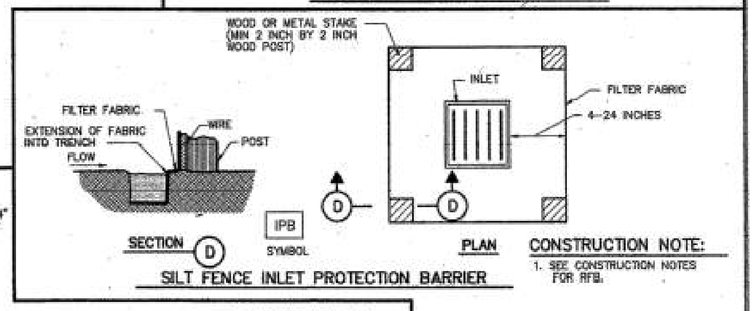


CONSTRUCTION NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 6 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.

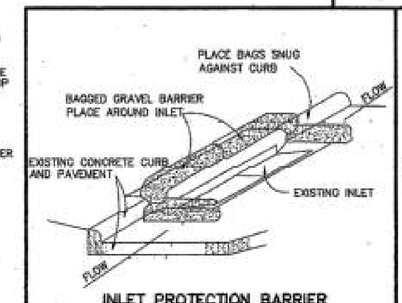
SC
SYMBOL

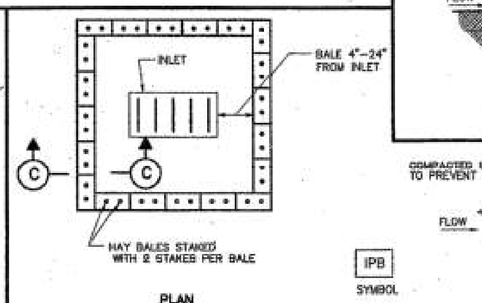
STABILIZED CONSTRUCTION ACCESS



CONSTRUCTION NOTE:

1. SEE CONSTRUCTION NOTES FOR RFB.





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

NO.	DATE	REVISION	APP.
1	04/07/2024	1	

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8901 Westheimer Rd, Suite #300
Houston, TX 77042
TBPE FIRM REG: F-24018

TEJ KOUR, P.E
TX. REG: 117527

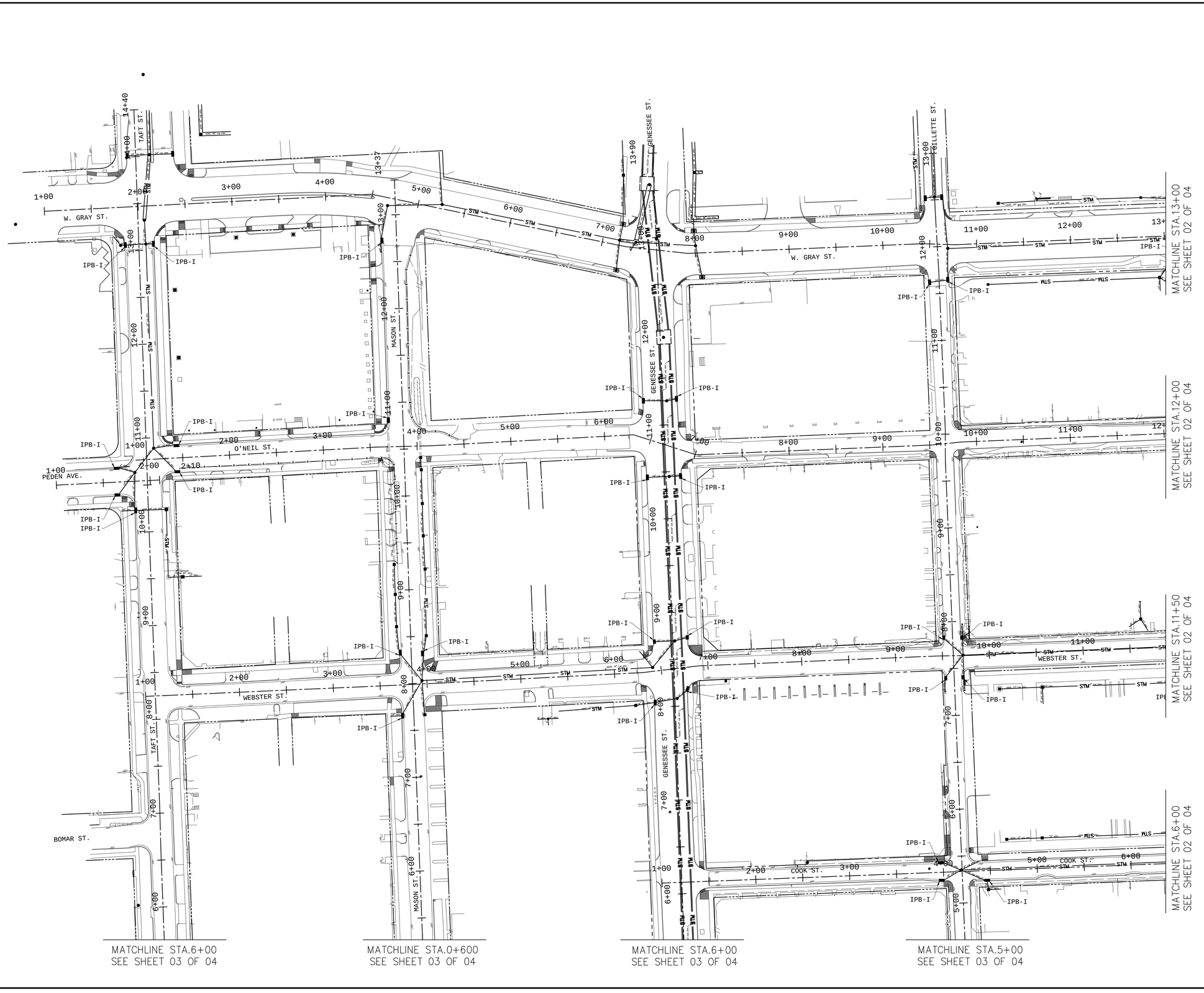
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4/1/2024

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TX Firm 18572

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
CITY OF HOUSTON PM	
TCP: SHEET NO. OF	



LEGEND:

- ROAD CENTER LINE
- ROW LINE
- EDGE LINE OF DITCH
- CENTER LINE OF DITCH
- STORM SEWER LINE
- FILTER FABRIC FENCE
- IPB-I — INLET PROTECTION BARRIER STAGE I

NO.	DATE	REVISION	APP.

Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300, Houston TX 77042 TBPE FIRM REG: F-24018

TEJ KOUR, P.E
TX REG: 117527

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www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

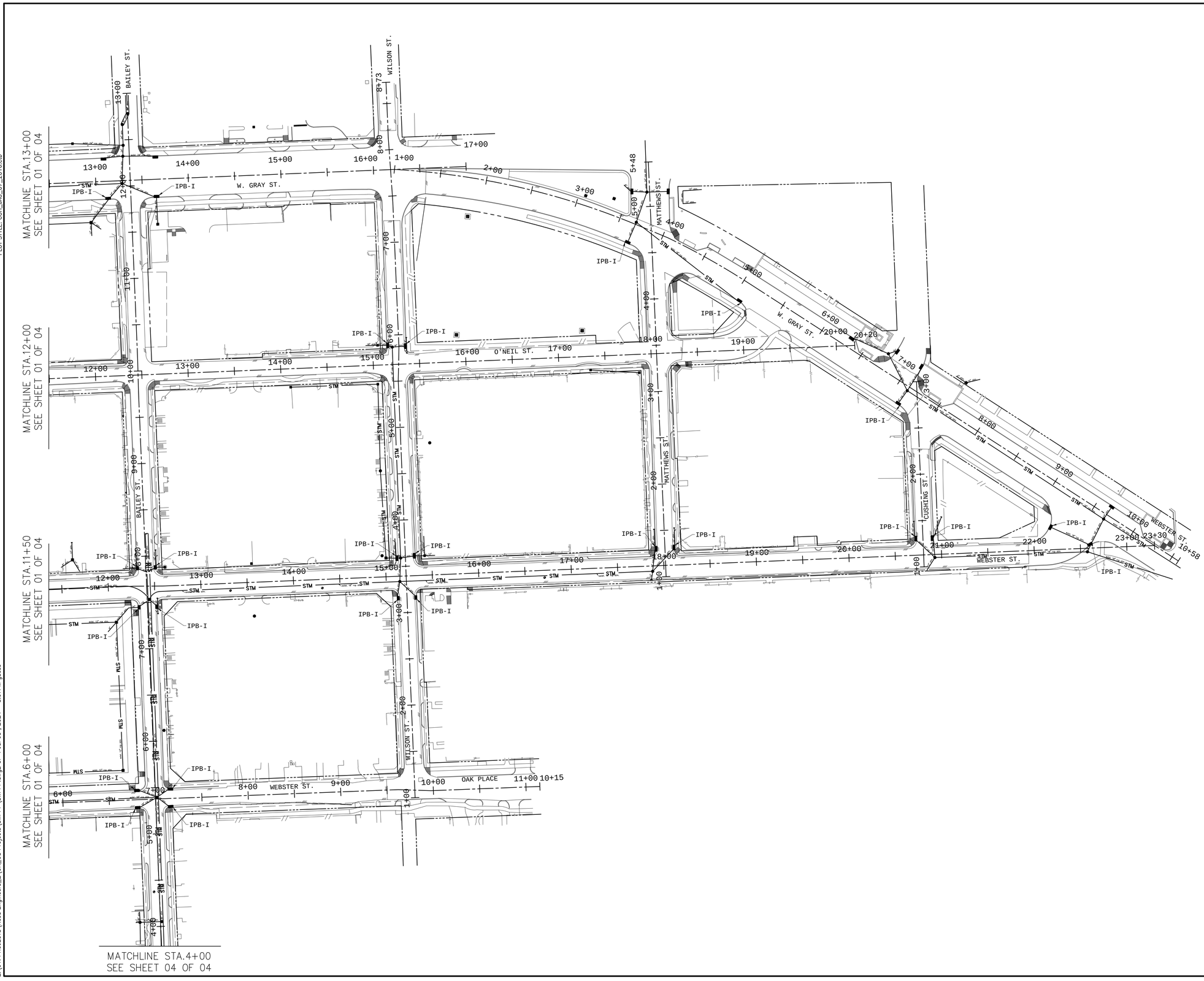
GRAY AND TAFT AREA PAVING AND DRAINAGE
STORM WATER POLLUTION PREVENTION PLAN

SHEET: 1 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1"=50'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

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N

GRAPHIC SCALE

0 25 50 100

SCALE: 1" = 50'-0"

NO.	DATE	REVISION	APP.

LEGEND:

- ROAD CENTER LINE
- ROW LINE
- EDGE LINE OF DITCH
- CENTER LINE OF DITCH
- STM — STORM SEWER LINE
- x x x — FILTER FABRIC FENCE
- IPB-I — INLET PROTECTION BARRIER STAGE I

Accelerate Engineering, LLC
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FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

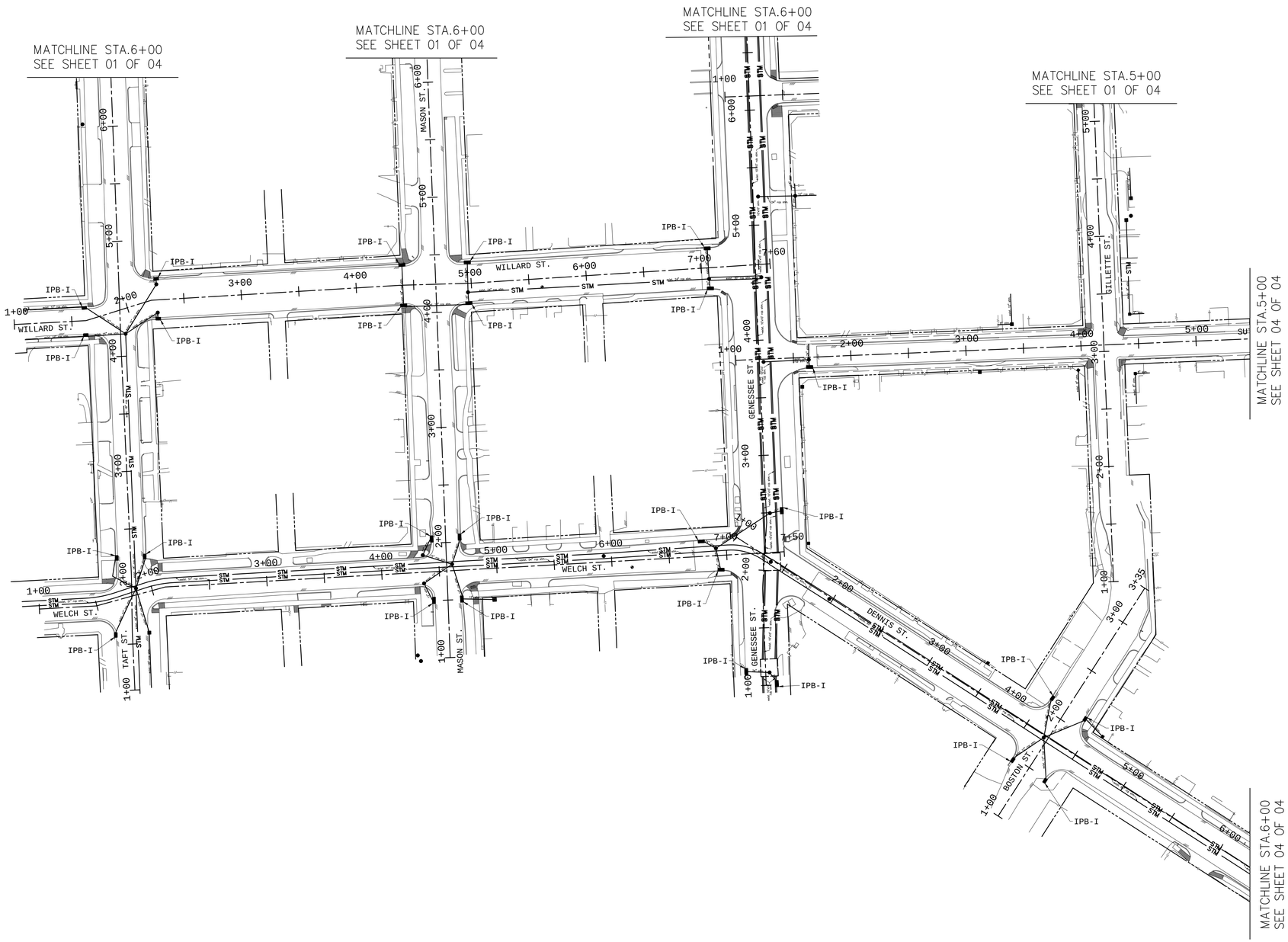
GRAY AND TAFT AREA PAVING AND DRAINAGE
STORM WATER POLLUTION PREVENTION PLAN

SHEET: 2 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1"=50'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

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N

GRAPHIC SCALE

0 25 50 100

SCALE: 1" = 50'-0"

NO.	DATE	REVISION	APP.

LEGEND:

- ROAD CENTER LINE
- ROW LINE
- EDGE LINE OF DITCH
- CENTER LINE OF DITCH
- STORM SEWER LINE (STM)
- FILTER FABRIC FENCE (x x x)
- IPB-I — INLET PROTECTION BARRIER STAGE I

Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300, Houston TX 77042 TBPE FIRM REG: F-24018

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

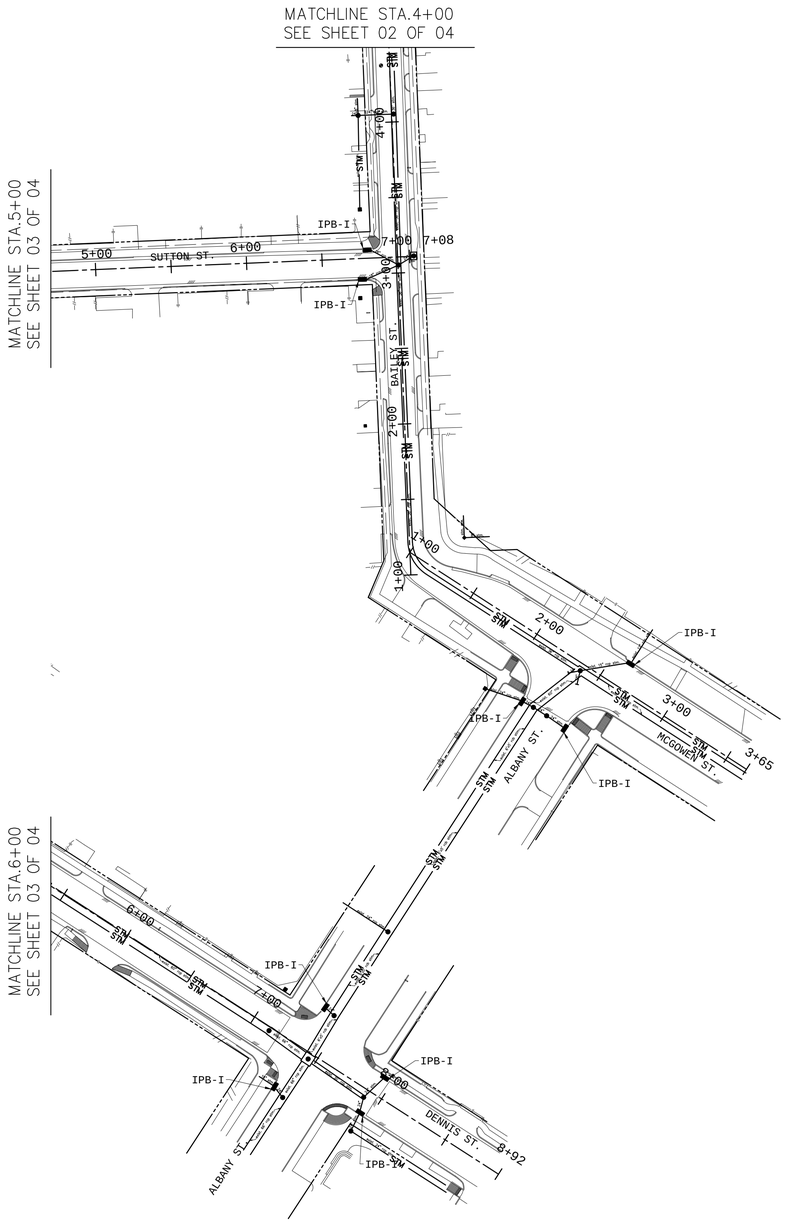
STORM WATER POLLUTION PREVENTION PLAN

SHEET: 3 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1"=50'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

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N

GRAPHIC SCALE

0 25 50 100

SCALE: 1" = 50'-0"

LEGEND:

- ROAD CENTER LINE
- ROW LINE
- EDGE LINE OF DITCH
- CENTER LINE OF DITCH
- STM — STORM SEWER LINE
- x x x — FILTER FABRIC FENCE
- IPB-I — INLET PROTECTION BARRIER STAGE I

NO.	DATE	REVISION	APP.

Accelerate Engineering, LLC
8901 Westheimer Rd, Suite #300, Houston
TX 77042 TBPE
FIRM REG: F-24018

TEJ KOUR, P.E
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SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

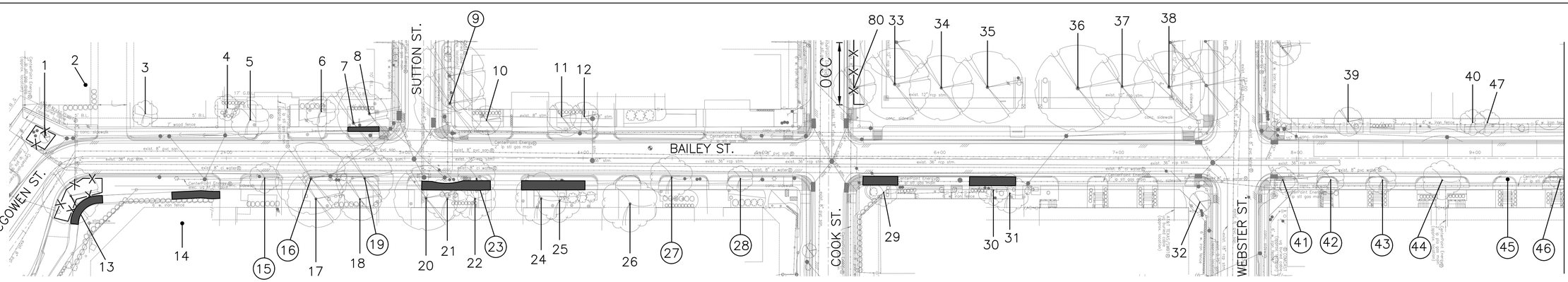
STORM WATER POLLUTION PREVENTION PLAN

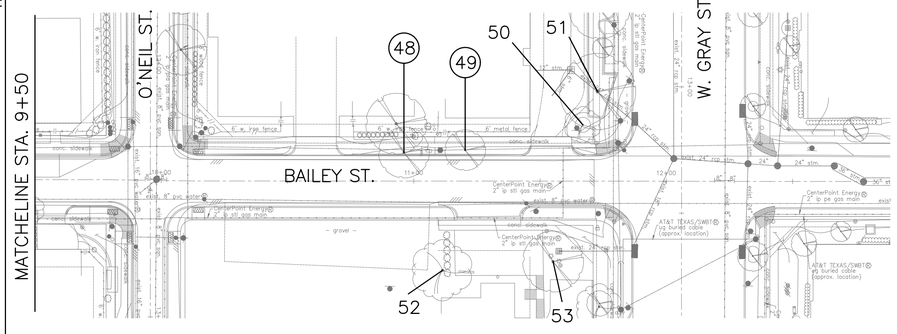
SHEET: 4 OF 4

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
1"=50'	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: COH_JAG_07_2016.ctb

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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
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED FEBRUARY 2026. 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.
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 TREE LOCATED ON OR ADJACENT TO THIS PROJECT.
3. IN AREAS 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.
4. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF TREES TO BE PLANTED AND OBTAIN APPROVAL BY CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING OR EXCAVATING PLANTING HOLE OF EACH TREE.

N

30 0 30 60

SCALE: 1"=30'

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Bailey Street					
1	2034 Bailey	3" Live Oak	Protected		Fence
2	2034 Bailey	2" Little Gem Magnolia	Not protected	Private tree, not impacted	
3	2014 Bailey	14" Crepe Myrtle	Not protected	Private tree, not impacted	
4	2010 Bailey	13" Crepe Myrtle	Not protected	Private tree, not impacted	
5	2010 Bailey	18" Crepe Myrtle	Not protected	Private tree	Clearance prune
6	2006 Bailey	13" Crepe Myrtle	Not protected	Private tree, not impacted	
7	2002 Bailey	18" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
8	2002 Bailey	17" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
9	1924 Bailey	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
10	1924 Bailey	3" Crepe Myrtle	Not protected	Private tree	Clearance prune
11	1920 Bailey	5" Holly	Not protected	Hedged, Private, Not impacted	
12	1920 Bailey	5" Holly	Not protected	Hedged, Private, Not impacted	
13	2007 Bailey	15" Live Oak	Protected	Broken top	Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
14	2007 Bailey	17" Shumard Oak	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
15	2007 Bailey	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
16	2005 Bailey	16" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
17	2005 Bailey	12" Little Gem Magnolia	Not protected	Private tree, not impacted	
18	1931 Bailey	11" Little Gem Magnolia	Not protected	Private tree, not impacted	
19	1931 Bailey	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
20	1931 Bailey	17" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
21	1931 Bailey	12" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
22	1927 Bailey	18" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
23	1927 Bailey	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
24	1923 Bailey	16" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
25	1919 Bailey	15" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
26	1911 Bailey	19" Crepe Myrtle	Not protected	Private tree, not impacted	
27	1911 Bailey	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
28	1909 Bailey	11" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
29	1414 Cook	18" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
30	1420 Cook	17" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
31	1420 Cook	16" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
32	1901 Bailey	2" Crepe Myrtle	Not protected	Private tree, not impacted	
33	W Webster Park	13" Baldcypress	Protected	Not impacted	
34	W Webster Park	12" Baldcypress	Protected	Not impacted	
35	W Webster Park	14" Baldcypress	Protected	Not impacted	
36	W Webster Park	16" Baldcypress	Protected	Not impacted	
37	W Webster Park	13" Baldcypress	Protected	Not impacted	
38	W Webster Park	15" Baldcypress	Protected	Not impacted	
39	1816 Bailey	2" Live Oak	Not protected	Private tree	Clearance prune
40	1808 Bailey	12" Crepe Myrtle	Not protected	Private tree, not impacted	
41	1823 Bailey	13" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
42	1823 Bailey	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
43	1819 Bailey	14" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
44	1815 Bailey	17" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
45	1807 Bailey	10" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
46	1807 Bailey	9" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
47	1806 Bailey	11" Crepe Myrtle	Not protected	Private tree	
48	1722 O'Neil	12" Lacebark Elm	Protected	Remove for walk	Remove tree, Provide 12" in replacement/mitigation
49	1722 O'Neil	7" Trident Maple	Protected	Remove for walk	Remove tree, Provide 7" in replacement/mitigation
50	201 W Gray	6" Crepe Myrtle	Not protected	Private tree, not impacted	
51	201 W Gray	15" Live Oak	Not protected	Private tree, not impacted	
52	177 W Gray	11" Crepe Myrtle	Not protected	Private tree, not impacted	
53	177 W Gray	14" Shumard Oak	Not protected	Private tree	Root prune for walk, Clearance prune

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. ◦ Katy, Texas 77493
281–391–0022 ckoehl@koehlurbanforestry.com

APPROVED:

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Tel: 713–739–7744
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TX Firm 18572

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KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION PLAN

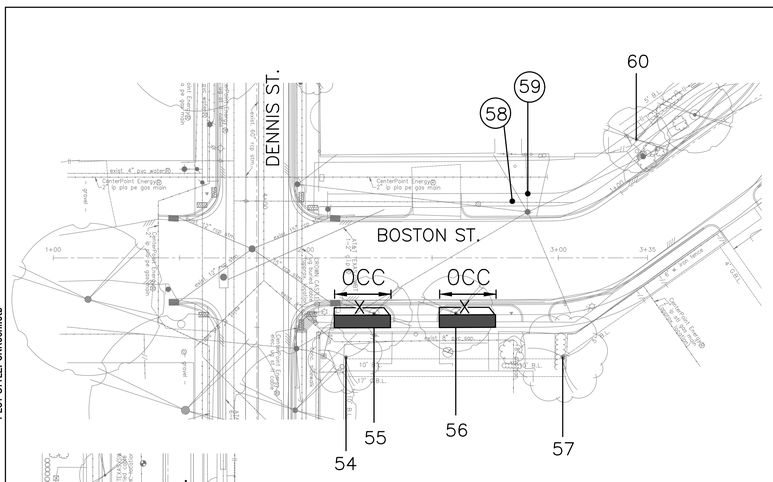
SHEET 1 OF 17

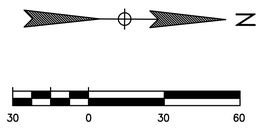
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–210008–0001–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
SHEET NO. OF	

NO.	DATE	REVISION	APP.

PLOT STYLE: COH_JAG_07_2016.ctb

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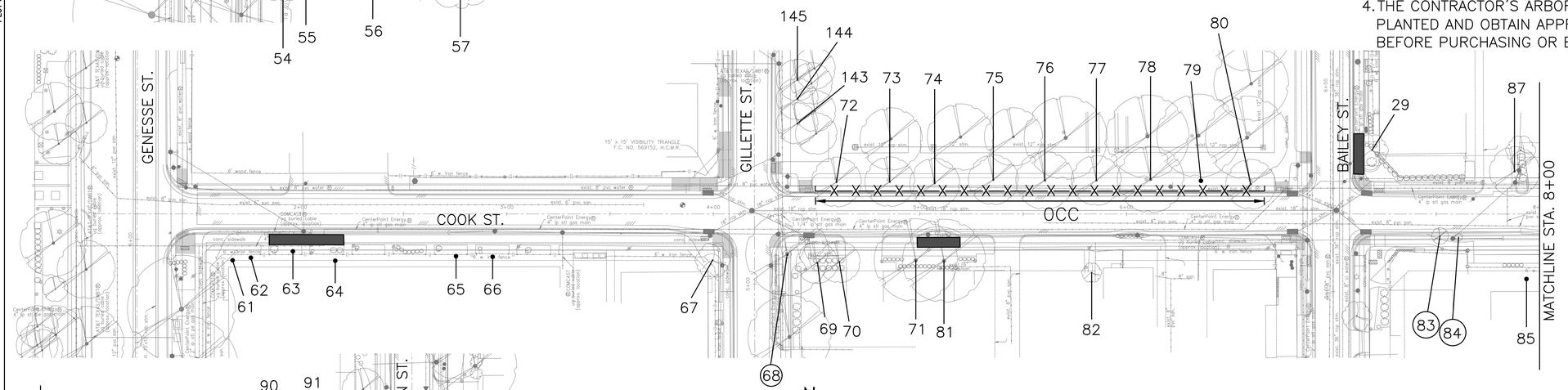




Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Boston Street					
54	2611 Boston	16" Crepe Myrtle	Not protected	Private tree, not impacted	
55	2611 Boston	18" Shumard Oak	Protected	*Ganoderma* infestation, Poor condition	Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
56	2607 Boston	18" Shumard Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
57	2603 Boston	5" Ligustrum	Not protected	Private tree, not impacted	
58	2130 Boston	3" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
59	2130 Boston	3" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
60	2130 Boston	18" Bradford Pear	Not protected	Topped by CPE	Clearance prune

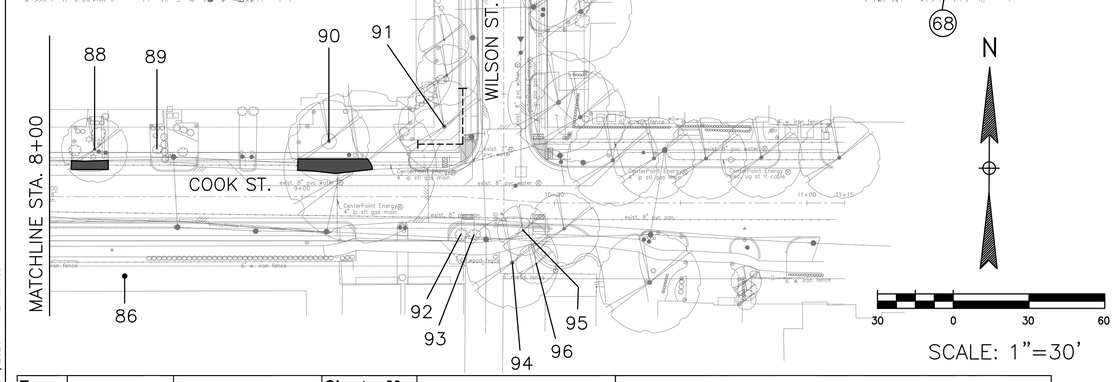
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NO.	DATE	REVISION	APP.



TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ----- ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION



Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Cook Street					
61	1915 Cook	4" Holly	Not protected	Private tree, not impacted	
62	1915 Cook	4" Holly	Not protected	Private tree, not impacted	
63	1917 Cook	13" Little Gem Magnolia	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
64	1917 Cook	13" Little Gem Magnolia	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
65	1925 Cook	9" Loquat	Not protected	Private tree	Clearance prune
66	1927 Cook	7" Loquat	Not protected	Private tree	Clearance prune
67	1931 Cook	9" Crepe Myrtle	Not protected	Private tree	Clearance prune
68	1539 Cook	15" Shumard Oak	Protected	Remove for walk	Remove tree, Provide 15" replacement
69	1539 Cook	9" Little Gem Magnolia	Not protected	Private tree	Clearance prune
70	1539 Cook	11" Little Gem Magnolia	Not protected	Private tree	Clearance prune
71	1531 Cook	16" Crepe Myrtle	Not protected	Private tree, not impacted	
72	W Webster Park	14" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
73	W Webster Park	10" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
74	W Webster Park	12" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
75	W Webster Park	10" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Cook Street					
76	W Webster Park	13" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
77	W Webster Park	11" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
78	W Webster Park	12" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
79	W Webster Park	11" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
80	W Webster Park	10" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
81	1531 Cook	17" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
82	Not available	4" Crepe Myrtle	Not protected	Private tree, not impacted	
83	Not available	1" Crepe Myrtle	Not protected	Remove for walk	Remove tree, no replacement required
84	Not available	5" Ligustrum	Not protected	Remove for walk	Remove tree, no replacement required
85	Not available	16" Pine	Not protected	30% dieback, Private, Not impacted	
86	Not available	17" Pine	Not protected	30% dieback, Private, Not impacted	
87	1412 Cook	7" Vitex	Not protected	Private tree	Clearance prune
88	1412 Cook	13" Live Oak	Not protected	Beryl damage, Pruned by CPE, Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
89	1410 Cook	4' Sago	Not protected	Private tree, not impacted	
90	1404 Cook	13" Live Oak	Not protected	Pruned by CPE, Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
91	1402 Cook	15" Live Oak	Not protected	Private tree	Root prune for walk, Clearance prune
92	Not available	2" Privet	Not protected		
93	Not available	2" Privet	Not protected		
94	Not available	13" Crepe Myrtle	Not protected		
95	Not available	10" Crepe Myrtle	Not protected		
96	Not available	7" Vitex	Not protected		

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CITY OF HOUSTON
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GRAY AND TAFT AREA
PAVING AND DRAINAGE

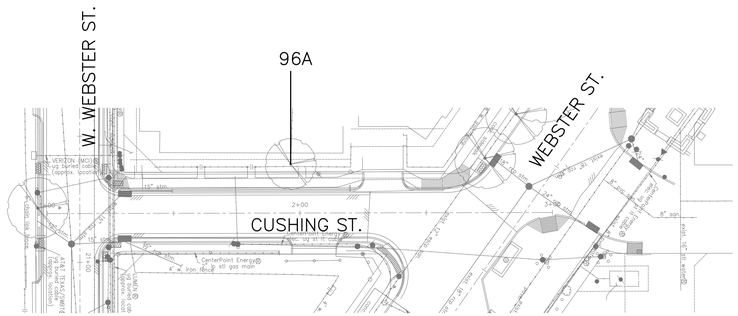
TREE PROTECTION PLAN

SHEET 2 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–210008–0001–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
SHEET NO. OF	

PLOT STYLE: CNKoehl.ctb

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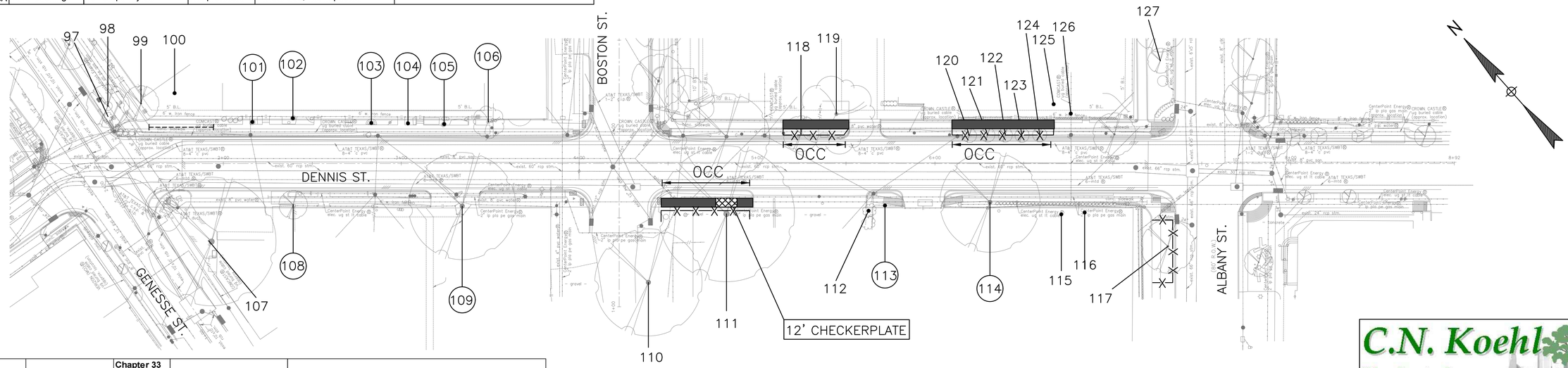


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TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ------ ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Cushing Street					
96A	1810 Cushing	10" Crepe Myrtle	Not protected	Private tree, not impacted	



Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Dennis Street					
97	1625 Dennis	3" Ligustrum	Not protected		Clearance prune
98	1625 Dennis	13" Magnolia	Not protected	Private tree	Clearance prune
99	1625 Dennis	10" Little Gem Magnolia	Not protected	Private tree, not impacted	
100	1625 Dennis	21" Live Oak	Protected	Corridor tree	Root prune for walk, Clearance prune
101	1629 Dennis	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
102	1631 Dennis	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
103	1635 Dennis	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
104	1639 Dennis	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
105	1639 Dennis	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
106	1641 Dennis	10" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
107	Not available	28" Arizona Ash	Not protected	Private tree, not impacted	
108	90 Genesee	5" Loquat	Not protected	Remove for walk	Remove tree, No replacement required
109	92 Genesee	25" American Elm	Protected	Remove for drive approach	Remove tree, Provide 25" replacement/mitigation
110	Not available	28" Live Oak	Protected	Not impacted	
111	Not available	33" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
112	98 Genesee	2" Photinia	Not protected	Private tree, not impacted	
113	Not available	22" American Elm	Protected	Remove for walk	Remove tree, Provide 22" replacement
114	Not available	23" Tallow	Protected	Remove for walk	Remove tree, Provide 23" replacement
115	Not available	10" Little Gem Magnolia	Not protected	Private tree, not impacted	
116	Not available	10" Little Gem Magnolia	Not protected	Private tree, not impacted	
117	Not available	18" Live Oak	Protected		Fence
118	75 Dennis	13" Chinese Pistache	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
119	75 Dennis	16" Crepe Myrtle	Not protected	Private tree, not impacted	
120	Not available	5" Holly	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
121	Not available	5" Holly	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
122	Not available	5" Holly	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
123	Not available	5" Holly	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
124	Not available	5" Holly	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
125	Not available	10" Crepe Myrtle	Not protected	Private tree, not impacted	
126	Not available	10" Crepe Myrtle	Not protected	Private tree, not impacted	
127	Not available	17" Live Oak	Protected	Not impacted	

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30 0 30 60

SCALE: 1"=30'

NO.	DATE	REVISION	APP.

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GRAY AND TAFT AREA PAVING AND DRAINAGE

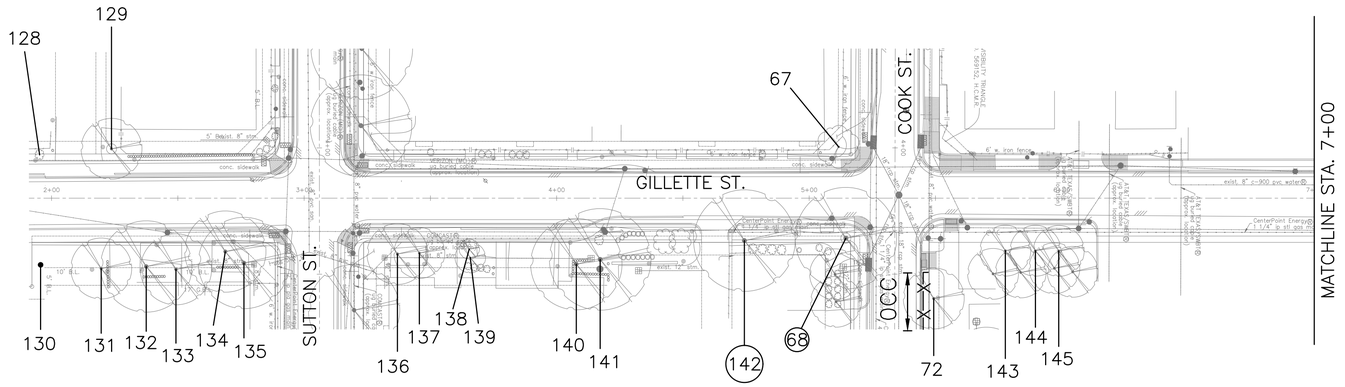
TREE PROTECTION PLAN

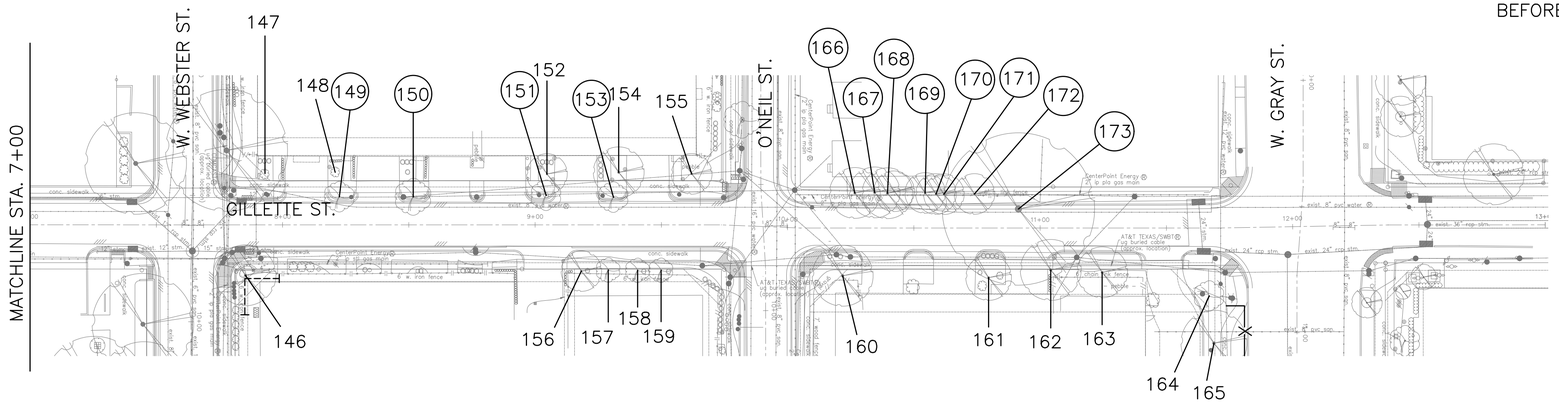
SHEET 3 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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PLOT STYLE: CNKoehl.ctb

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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
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

N

30 0 30 60

SCALE: 1"=30'

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Gillette Street					
128	2126 Gillette	12" Little Gem Magnolia	Not protected	Private tree	Clearance prune
129	2126 Gillette	10" Little Gem Magnolia	Not protected	Trunk scars, Private tree	Clearance prune
130	2111 Gillette	10" Crepe Myrtle	Not protected	Private tree, not impacted	
131	2107 Gillette	11" Crepe Myrtle	Not protected	Private tree, not impacted	
132	2107 Gillette	10" Holly	Not protected	Private tree, not impacted	
133	2107 Gillette	10" Holly	Not protected	Private tree, not impacted	
134	2103 Gillette	17" Crepe Myrtle	Not protected	Private tree, not impacted	
135	2103 Gillette	13" Crepe Myrtle	Not protected	Private tree, not impacted	
136	2017 Gillette	10" Holly	Not protected	Private tree	Clearance prune
137	2017 Gillette	8" Holly	Not protected	Private tree	Clearance prune
138	2013 Gillette	1" Crepe Myrtle	Not protected	Private tree, not impacted	
139	2013 Gillette	4" Vitex	Not protected	Private tree, not impacted	
140	2009 Gillette	11" Crepe Myrtle	Not protected	Private tree, not impacted	
141	2009 Gillette	16" Crepe Myrtle	Not protected	Private tree, not impacted	
142	1539 Cook	16" Red Maple	Protected	Remove for walk	Remove tree, provide 16" in replacement
143	W Webster Park	9" Crepe Myrtle	Not protected	Not impacted	
144	W Webster Park	9" Crepe Myrtle	Not protected	Not impacted	
145	W Webster Park	9" Crepe Myrtle	Not protected	Not impacted	
146	Not available	12" Little Gem Magnolia	Not protected	Private tree	Root prune for walk, Clearance prune
147	1822 Gillette	4" Holly	Not protected	Private tree, not impacted	
148	1818 Gillette	4" Holly	Not protected	Private tree, not impacted	
149	1818 Gillette	9" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Gillette Street					
150	1814 Gillette	10" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
151	1810 Gillette	8" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
152	1810 Gillette	4" Burford Holly	Not protected	Private tree, not impacted	
153	1810 Gillette	9" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
154	1810 Gillette	10" Little Gem Magnolia	Not protected	Private tree, not impacted	
155	1802 Gillette	5" Burford Holly	Not protected	Private tree, not impacted	
156	1519 O'Neil	4" Crepe Myrtle	Not protected	Private tree	Clearance prune
157	1519 O'Neil	4" Crepe Myrtle	Not protected	Private tree	Clearance prune
158	1519 O'Neil	4" Crepe Myrtle	Not protected	Private tree	Clearance prune
159	1519 O'Neil	4" Crepe Myrtle	Not protected	Private tree	Clearance prune
160	1715 Gillette	10" Bradford Pear	Not protected	Private tree	Clearance prune
161	1711 Gillette	8" Holly	Not protected	Private tree	Clearance prune
162	1711 Gillette	11" Bradford Pear	Not protected	Pruned by CPE, Private tree	
163	1711 Gillette	9" Bradford Pear	Not protected	Private tree	Clearance prune
164	231 W Gray	5" Crepe Myrtle	Not protected	Private tree, not impacted	
165	231 W Gray	16" Live Oak	Protected		Fence
166	Not available	4" Sugarberry	Not protected	Remove for walk	Remove tree, No replacement required
167	Not available	7" American Elm	Protected	Remove for walk	Remove tree, Provide 7" replacement
168	Not available	6" American Elm	Protected	Remove for walk	Remove tree, Provide 6" replacement
169	Not available	5" Sugarberry	Not protected	Remove for walk	Remove tree, No replacement required
170	Not available	5" Sugarberry	Not protected	Remove for walk	Remove tree, No replacement required
171	Not available	5" Sugarberry	Not protected	Remove for walk	Remove tree, No replacement required
172	Not available	5" Sugarberry	Not protected	Remove for walk	Remove tree, No replacement required
173	Not available	4" Live Oak	Protected	Remove for walk	Remove tree, provide 4" replacement

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GRAY AND TAFT AREA
PAVING AND DRAINAGE

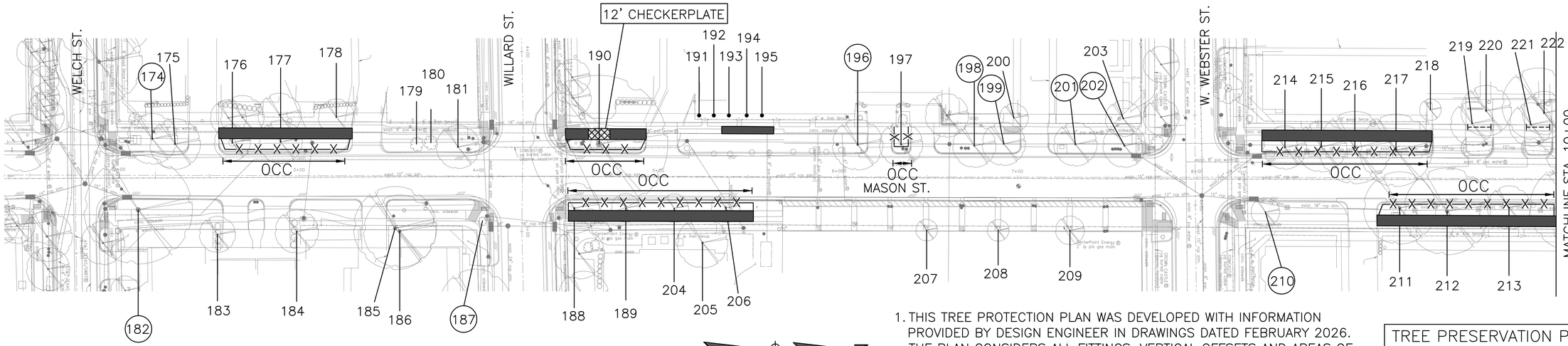
TREE PROTECTION PLAN

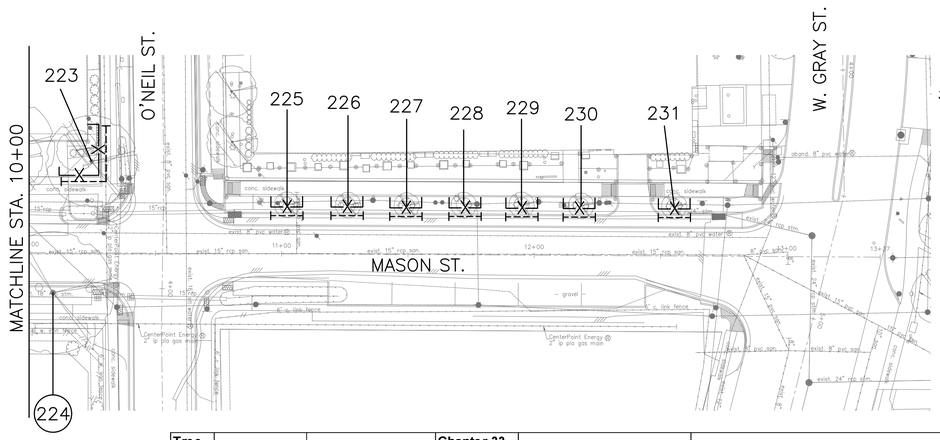
SHEET 4 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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PLOT STYLE: CNKoehl.ctb

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SCALE: 1"=30'

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TREE PRESERVATION PLAN LEGEND

- 1 / (1) — TREE NUMBER/LOCATION, TREE TO BE REMOVED
- –X–X– — TREE PROTECTION FENCE
- ------ — ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Mason Street					
174	2012 Mason	12" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
175	2012 Mason	11" Crepe Myrtle	Not protected		Clearance prune
176	2014 Mason	6" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
177	2014 Mason	10" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
178	2010 Mason	9" Crepe Myrtle	Not protected	Private tree, not impacted	
179	2002 Mason	Bamboo	Not protected		
180	2002 Mason	Bamboo	Not protected		
181	2002 Mason	10" Lead Tree	Not protected	90% dead	
182	2015 Welch	27" American Elm	Protected	Remove for storm & walk	Remove tree, Provide 27" replacement
183	2015 Welch	7" Crepe Myrtle	Not protected	Private tree, not impacted	
184	2013 Mason	7" Crepe Myrtle	Not protected	Private tree, not impacted	
185	Not available	18" Weeping Willow	Not protected		Clearance prune
186	Not available	13" Red Bay	Not protected	90% dead, Private, Not impacted	
187	Not available	5' Sago	Not protected	Remove for walk	Remove tree, No replacement required
188	Not available	12" Magnolia	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
189	Not available	4" Little Gem Magnolia	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
190	Not available	31" Tallow	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
191	1908 Mason	7" Holly	Not protected	Private tree	Clearance prune
192	1908 Mason	7" Holly	Not protected	Private tree	Clearance prune
193	1908 Mason	11" Holly	Not protected	Private tree	Clearance prune
194	1906 Mason	13" Magnolia	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
195	1906 Mason	14" Magnolia	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
196	1900 Mason	13" Live Oak	Protected	Remove for walk	Remove tree, Provide 13" replacement
197	1900 Mason	8" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
198	1900 Mason	11" Lacebark Elm	Protected	Remove for walk	Remove tree, Provide 11" replacement
199	1900 Mason	10" Lacebark Elm	Protected	Remove for walk	Remove tree, provide 10" replacement
200	1900 Mason	4" Was Myrtle	Not protected	Private tree	Clearance prune
201	1801 W Webster	10" Lacebark Elm	Protected	Remove for walk	Remove tree, provide 10" replacement

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Mason Street					
202	1801 W Webster	10" Lacebark Elm	Protected	Remove for storm & walk	Remove tree, provide 10" replacement
203	1801 W Webster	6" Crepe Myrtle	Not protected	Private tree, not impacted	
204	Not available	5" Little Gem Magnolia	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
205	Not available	13" Magnolia	Not protected	Private tree, not impacted	
206	Not available	5" Little Gem Magnolia	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
207	Not available	2" Wisteria Vine	Not protected		
208	Not available	2" Wisteria Vine	Not protected		
209	Not available	2" Wisteria Vine	Not protected		
210	1716 W Webster	12" Lacebark Elm	Protected	Remove for storm & walk	Remove tree, Provide 12" replacement
211	1811 Mason	18" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
212	1809 Mason	16" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
213	1805 Mason	15" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
214	Not available	14" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
215	Not available	12" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
216	Not available	13" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
217	Not available	14" Crepe Myrtle	Not protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
218	1806 Mason	4" Yew	Not protected	90% dead, Private, Not impacted	
219	1806 Mason	9" Shumard Oak	Not protected	Private tree	Root prune for walk, Clearance prune
220	1804 Mason	10" Shumard Oak	Not protected	Private tree	Root prune for walk, Clearance prune
221	1804 Mason	9" Shumard Oak	Not protected	Private tree	Root prune for walk, Clearance prune
222	1802 Mason	8" Shumard Oak	Not protected	Private tree	Root prune for walk, Clearance prune
223	1802 Mason	14" Shumard Oak	Not protected	Private tree	Root prune for walk, Fence, Clearance prune
224	1801 Mason	19" Lacebark Elm	Protected	Remove for storm & walk	Remove tree, Provide 19" replacement
225	Not available	6" Holly	Protected		Fence, Root prune for street
226	Not available	6" Holly	Protected		Fence, Root prune for street
227	Not available	6" Holly	Protected		Fence, Root prune for street
228	Not available	6" Holly	Protected		Fence, Root prune for street
229	Not available	6" Holly	Protected		Fence, Root prune for street
230	Not available	6" Holly	Protected		Fence, Root prune for street
231	Not available	6" Holly	Protected		Fence, Root prune for street

NO.	DATE	REVISION	APP.

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281–391–0022 ckoehl@koehlurbanforestry.com

APPROVED:

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Tel: 713–739–7744
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TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

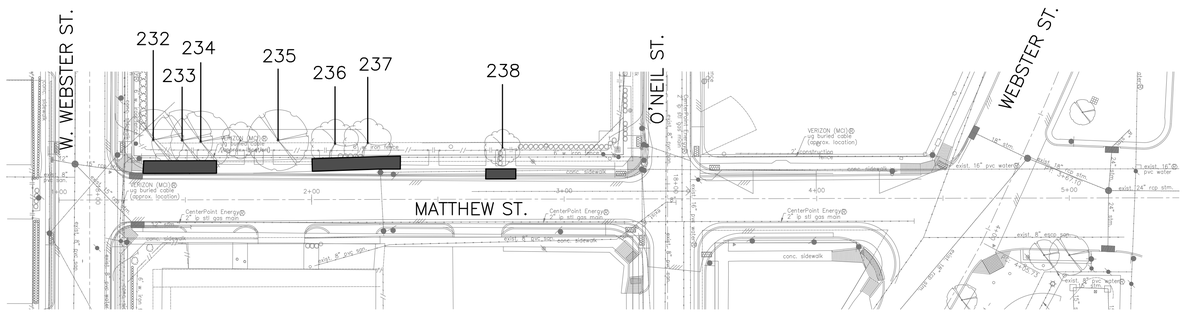
TREE PROTECTION PLAN

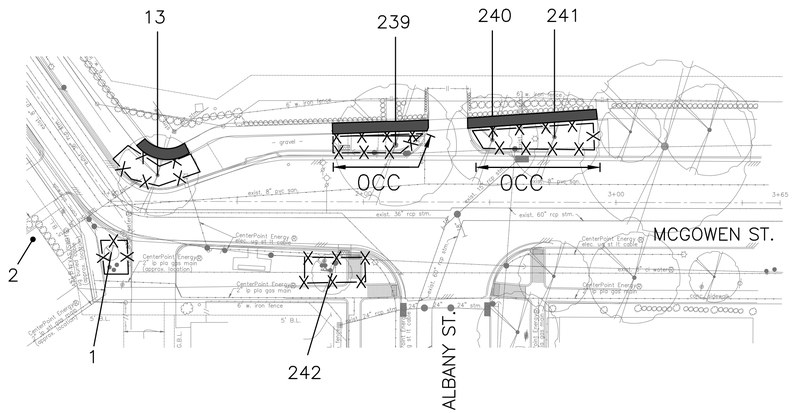
SHEET 5 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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CITY OF HOUSTON PM	
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PLOT STYLE: CNKoehl.ctb

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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Mathews Street					
232	1816 Mathews	6" Ligustrum	Not protected	Private tree, not impacted	
233	1816 Mathews	15" Crepe Myrtle	Not protected	Private tree, not impacted	
234	1816 Mathews	15" Crepe Myrtle	Not protected	Private tree, not impacted	
235	1814 Mathews	9" Holly	Not protected	Private tree, not impacted	
236	1812 Mathews	17" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
237	1812 Mathews	17" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
238	1806 Mathews	13" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
Trees on McGowen Street					
239	Not available	18" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
240	Not available	18" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
241	Not available	17" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
242	Not available	7" Holly	Protected		Clearance prune, Fence

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED FEBRUARY 2026. 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.
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 TREE LOCATED ON OR ADJACENT TO THIS PROJECT.
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4. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF TREES TO BE PLANTED AND OBTAIN APPROVAL BY CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING OR EXCAVATING PLANTING HOLE OF EACH TREE.

N

30 0 30 60

SCALE: 1"=30'

NO.	DATE	REVISION	APP.

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GRAY AND TAFT AREA
PAVING AND DRAINAGE

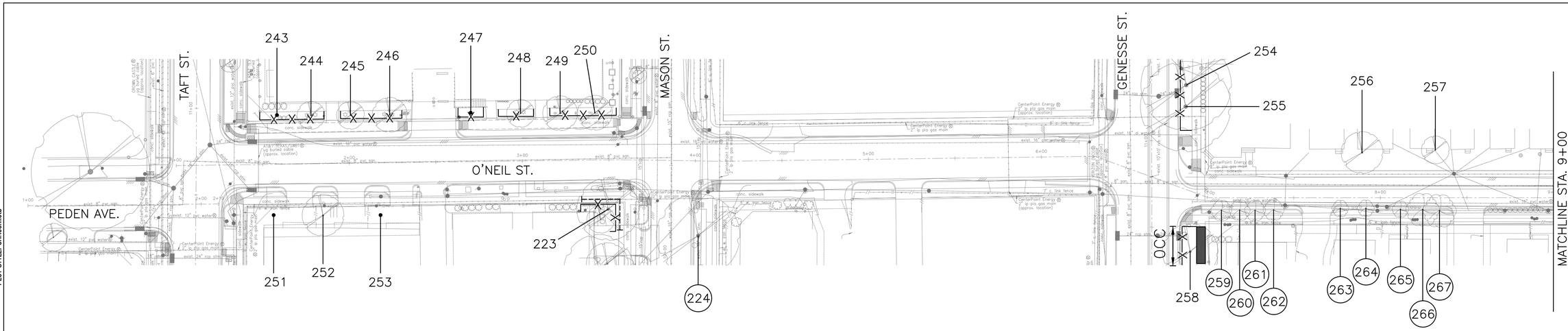
TREE PROTECTION PLAN

SHEET 6 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on O'Neil Street					
243	Not available	11" Live Oak	Not protected	Private tree	Fence
244	Not available	8" Live Oak	Not protected	Private tree	Fence
245	Not available	8" Live Oak	Not protected	Private tree	Fence
246	Not available	8" Live Oak	Not protected	Private tree	Fence
247	Not available	9" Live Oak	Not protected	Private tree	Fence
248	Not available	9" Live Oak	Not protected	Private tree	Fence
249	Not available	9" Live Oak	Not protected	Private tree	Fence
250	Not available	7" Live Oak	Not protected	Private tree	Fence
251	1803 O'Neil	10" River birch	Not protected	Private tree	Clearance prune
252	1803 O'Neil	11" River birch	Not protected	Private tree	Clearance prune
253	1803 O'Neil	12" River birch	Not protected	Private tree	Clearance prune
254	1614 O'Neil	23" Sycamore	Protected		Fence
255	1614 O'Neil	16" Sycamore	Protected		Fence
256	1614 O'Neil	10" Arborvitae	Not protected	Private tree	Clearance prune
257	1612 O'Neil	5" Loquat	Not protected	Private tree, not impacted	
258	1625 O'Neil	12" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
259	1625 O'Neil	7" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
260	1625 O'Neil	7" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
261	1625 O'Neil	7" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
262	1625 O'Neil	7" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
263	1625 O'Neil	4" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
264	1625 O'Neil	6" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
265	1625 O'Neil	14" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
266	1625 O'Neil	15" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
267	1625 O'Neil	13" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required

TREE PRESERVATION PLAN LEGEND

- 1 / (1) — TREE NUMBER/LOCATION; TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ------ ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED FEBRUARY 2026. 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.
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 TREE LOCATED ON OR ADJACENT TO THIS PROJECT.
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4. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF TREES TO BE PLANTED AND OBTAIN APPROVAL BY CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING OR EXCAVATING PLANTING HOLE OF EACH TREE.

N

30 0 30 60

SCALE: 1"=30'

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
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GRAY AND TAFT AREA
PAVING AND DRAINAGE

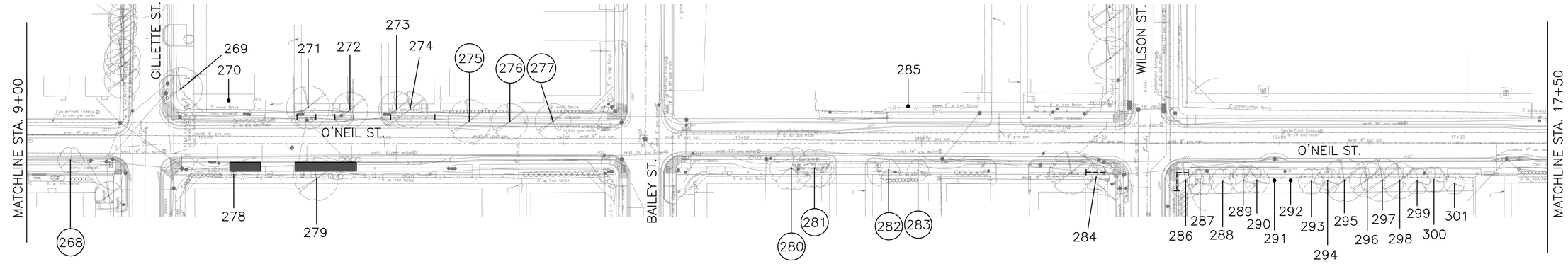
TREE PROTECTION PLAN

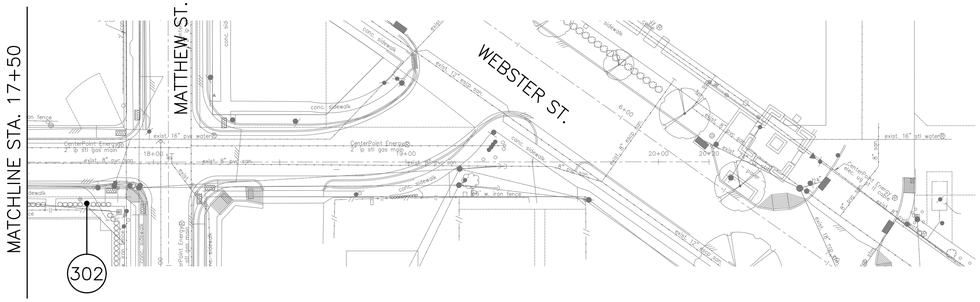
SHEET 7 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on O'Neil Street					
268	1625 O'Neil	12" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, No replacement required
269	1518 O'Neil	9" Bradford Pear	Not protected	Private tree, not impacted	
270	1518 O'Neil	11" Bradford Pear	Not protected	Private tree, not impacted	
271	1518 O'Neil	9" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
272	1518 O'Neil	6" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
273	1518 O'Neil	9" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
274	1518 O'Neil	9" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
275	1722 Bailey	13" Lacebark Elm	Protected	Remove for walk	Remove tree, Provide 13" replacement
276	1722 Bailey	10" Lacebark Elm	Protected	Remove for walk	Remove tree, provide 10" replacement
277	1722 Bailey	10" Lacebark Elm	Protected	Remove for walk	Remove tree, provide 10" replacement
278	1519 O'Neil	8" Magnolia	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
279	1515 O'Neil	8" Magnolia	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
280	1437 O'Neil	12" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
281	1437 O'Neil	17" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
282	1417 O'Neil	7" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
283	1417 O'Neil	6" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
284	1802 Wilson	15" Crepe Myrtle	Not protected	Private tree	Root prune for walk, Clearance prune
285	1402 O'Neil	2" Pecan	Not protected	Private tree, not impacted	
286	1323 O'Neil	6" Live Oak	Not protected	Private tree	Root prune for walk, Clearance prune
287	1323 O'Neil	14" Crepe Myrtle	Not protected	Private tree	Clearance prune
288	1321 O'Neil	12" Crepe Myrtle	Not protected	Private tree	Clearance prune
289	1321 O'Neil	14" Crepe Myrtle	Not protected	Private tree	Clearance prune
290	1321 O'Neil	11" Crepe Myrtle	Not protected	Private tree	Clearance prune
291	1319 O'Neil	9" Holly	Not protected	Private tree, not impacted	
292	1319 O'Neil	9" Holly	Not protected	Private tree, not impacted	
293	1317 O'Neil	12" Crepe Myrtle	Not protected	Private tree	Clearance prune
294	1317 O'Neil	12" Crepe Myrtle	Not protected	Private tree	Clearance prune
295	1315 O'Neil	14" Holly	Not protected	Private tree	Clearance prune
296	1315 O'Neil	10" Holly	Not protected	Private tree	Clearance prune
297	1311 O'Neil	15" Holly	Not protected	Private tree	Clearance prune
298	1311 O'Neil	15" Holly	Not protected	Private tree	Clearance prune
299	1309 O'Neil	14" Crepe Myrtle	Not protected	Private tree	Clearance prune
300	1309 O'Neil	14" Crepe Myrtle	Not protected	Private tree	Clearance prune
301	1307 O'Neil	5" Crepe Myrtle	Not protected	Private tree	Clearance prune
302	1802 Mathews	18" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ------ ROOT PRUNING TRENCH
- OCC ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED FEBRUARY 2026. 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.
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N

30 0 30 60

SCALE: 1"=30'

NO.	DATE	REVISION	APP.

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GRAY AND TAFT AREA
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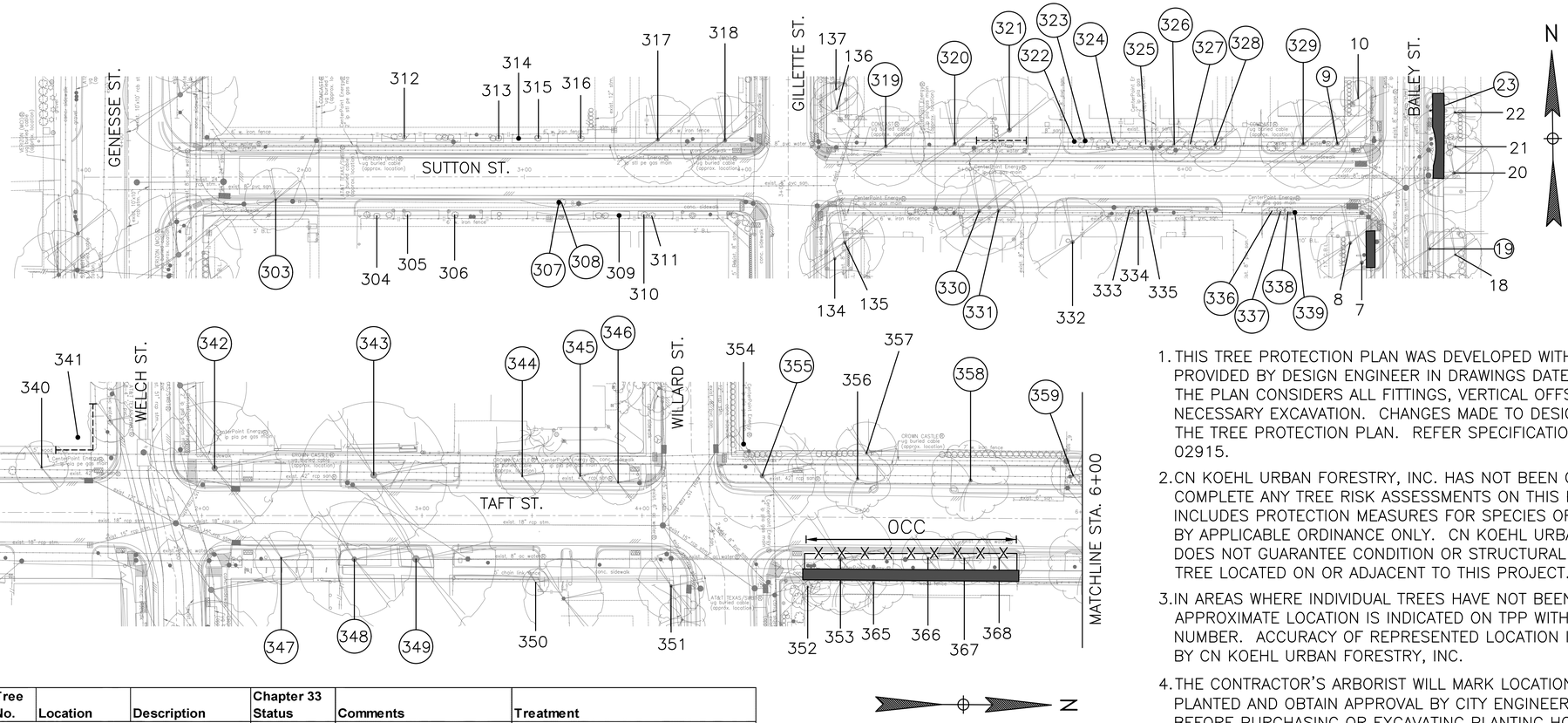
TREE PROTECTION PLAN

SHEET 8 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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TREE PRESERVATION PLAN LEGEND

- TREE NUMBER/LOCATION
- TREE TO BE REMOVED
- TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

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30 0 30 60

SCALE: 1"=30'

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Sutton Street					
303	1615 Genesee	13" Live Oak	Protected	Remove for walk	Remove tee, provide 13" replacement
304	2116 Sutton	2" Ligustrum	Not protected		
305	2114 Sutton	2" Ligustrum	Not protected		
306	2112 Sutton	2" Ligustrum	Not protected		
307	2108 Sutton	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
308	2108 Sutton	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
309	2106 Sutton	2" Pineapple Bush	Not protected		Clearance prune
310	2106 Sutton	2" Pineapple Bush	Not protected		Clearance prune
311	2104 Sutton	2" Pineapple Bush	Not protected		Clearance prune
312	1620 Sutton	1" Texas Sage	Not protected		Clearance prune
313	1614 Sutton	15" Crepe Myrtle	Not protected	Private tree, not impacted	
314	1614 Sutton	6" Juniper	Not protected	Private tree, not impacted	
315	1612 Sutton	2" Ligustrum	Not protected		Clearance prune
316	1612 Sutton	2" Ligustrum	Not protected		Clearance prune
317	1602 Gillette	18" Crepe Myrtle	Not protected		
318	1602 Gillette	16" Crepe Myrtle	Not protected		
319	2017 Gillette	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
320	2017 Gillette	16" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
321	1526 Sutton	17" Live Oak	Not protected	Private tree	Root prune for walk, Clearance prune
322	1514 Sutton	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
323	1514 Sutton	1" Citrus	Not protected	Remove for walk	Remove tree, No replacement required
324	1514 Sutton	2" Yew	Not protected	Remove for walk	Remove tree, No replacement required
325	1514 Sutton	2" Yew	Not protected	Remove for walk	Remove tree, No replacement required
326	1514 Sutton	5" Sweet Viburnum	Not protected	Remove for walk	Remove tree, No replacement required
327	1514 Sutton	4" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
328	1514 Sutton	10" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
329	1514 Sutton	16" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
330	1535 Sutton	15" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
331	1535 Sutton	13" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
332	1515 Sutton	19" Crepe Myrtle	Not protected	Private tree, not impacted	
333	1515 Sutton	2" Ligustrum	Not protected		Clearance prune
334	1515 Sutton	2" Ligustrum	Not protected		Clearance prune
335	1505 Sutton	2" Ligustrum	Not protected		Clearance prune
336	2002 Bailey	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
337	2002 Bailey	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
338	2002 Bailey	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required
339	2002 Bailey	2" Ligustrum	Not protected	Remove for walk	Remove tree, No replacement required

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Taft Street					
340	Not available	13" Crepe Myrtle	Not protected		
341	Not available	28" Live Oak	Protected	Corridor tree	Root prune for walk, Clearance prune
342	2010 Taft	24" Magnolia	Protected	Remove for street widening	Remove tree, Provide 24" replacement
343	2010 Taft	32" Arizona Ash	Protected	Remove for street widening	Remove tree, Provide 32" replacement
344	2008 Taft	10" Magnolia	Protected	Remove for street widening	Remove tree, provide 10" replacement
345	2008 Taft	11" Vitex	Not protected	Remove for street widening	Remove tree, No replacement required
346	2008 Taft	9" Vitex	Not protected	Remove for street widening	Remove tree, No replacement required
347	214 Welch	8" Redbud	Protected	Remove for storm & street widening	Remove tree, Provide 8" replacement
348	214 Welch	24" Live Oak	Protected	Remove for street widening	Remove tree, Provide 24" replacement
349	214 Welch	35" Live Oak	Protected	Remove for street widening	Remove tree, Provide 35" replacement
350	Not available	8" Pear	Not protected	Private tree, not impacted	
351	Not available	15" Magnolia	Protected	Severely damaged by sidewalk construction with new home construction, Not impacted	
352	1909 Taft	15" Crepe Myrtle	Not protected	Private tree, not impacted	
353	1909 Taft	20" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
354	1918 Taft	7" Ligustrum	Not protected	Private tree	Clearance prune
355	1918 Taft	21" Sycamore	Protected	Remove for street widening	Remove tree, Provide 21" replacement
356	1918 Taft	10" Crepe Myrtle	Not protected		
357	1918 Taft	7" Ligustrum	Not protected		Clearance prune
358	1918 Taft	15" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, no replacement required
359	1912 Taft	13" Crepe Myrtle	Not protected	Remove for street widening	Remove tree, no replacement required
365	1909 Taft	11" Crepe Myrtle	Not protected	Private tree, not impacted	
366	1909 Taft	10" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
367	1909 Taft	13" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
368	1909 Taft	14" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION PLAN

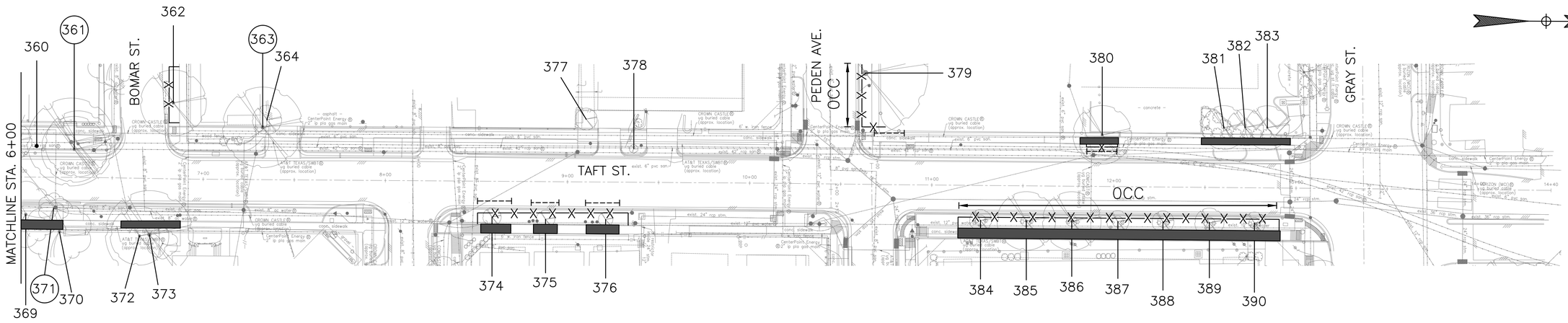
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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Taft Street					
360	1912 Taft	4' Sago	Not protected		
361	1912 Taft	28" Camphor	Protected	Remove for street widening	Remove tree, Provide 28" replacement
362	Not available	17" Pecan	Protected		Fence, Clearance prune
363	Not available	24" Water Oak	Protected	Remove for pole relocate & walk	Remove tree, Provide 24" replacement
364	Not available	10" Sugarberry	Not protected	Private tree, not impacted	
369	1909 Taft	12" Crepe Myrtle	Not protected		
370	1907 Taft	21" Crepe Myrtle	Protected		Demo-form-pour walk without damage to tree roots 1" diameter or larger
371	1907 Taft	10" Crepe Myrtle	Not protected	Remove for walk	Remove tree, No replacement required
372	1907 Taft	21" Sugarberry	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
373	1905 Taft	10" Crepe Myrtle	Not protected	Topped, Private tree, Not impacted	
374	1809 Taft	7" Live Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
375	1809 Taft	6" Live Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
376	1809 Taft	6" Live Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
377	1808 Taft	7" Shumard Oak	Not protected	Private tree, not impacted	
378	1808 Taft	2" Crepe Myrtle	Not protected		
379	Not available	35" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
380	303 W Gray	17" Live Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger
381	303 W Gray	15" Live Oak	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
382	303 W Gray	11" Live Oak	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
383	303 W Gray	14" Live Oak	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
384	Not available	9" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
385	Not available	10" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
386	Not available	9" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
387	Not available	9" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
388	Not available	8" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
389	Not available	10" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
390	Not available	7" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune

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3. IN AREAS 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.
4. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF TREES TO BE PLANTED AND OBTAIN APPROVAL BY CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING OR EXCAVATING PLANTING HOLE OF EACH TREE.

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ------ ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

30 0 30 60

SCALE: 1"=30'

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HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION PLAN

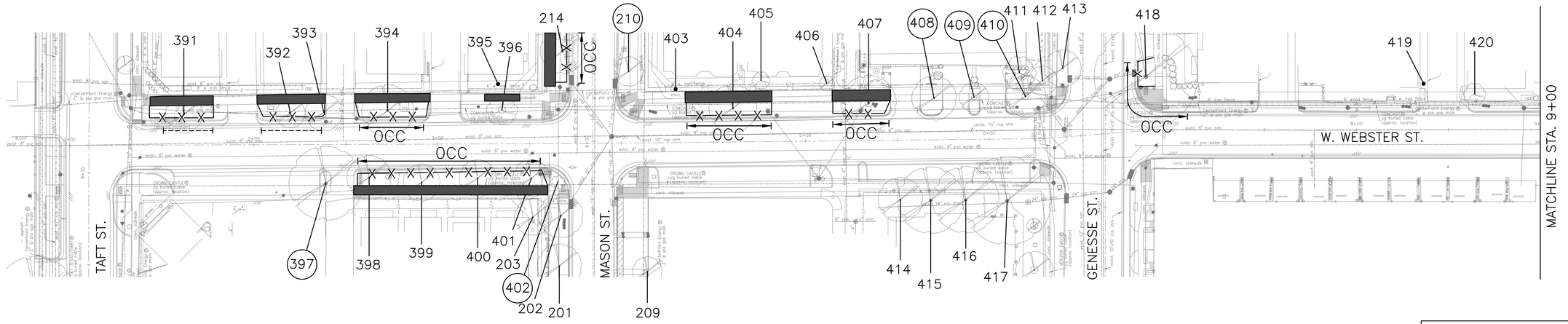
SHEET 10 OF 17

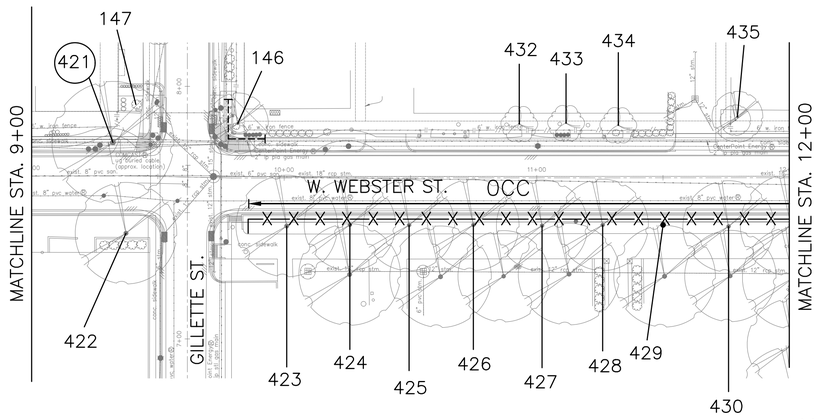
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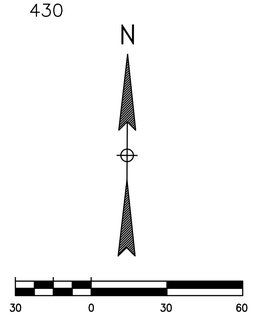
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1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED FEBRUARY 2026. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915.
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4. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF TREES TO BE PLANTED AND OBTAIN APPROVAL BY CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING OR EXCAVATING PLANTING HOLE OF EACH TREE.

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on W Webster Street					
391	1806 W Webster	6" Live Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
392	1806 W Webster	5" Live Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
393	1806 W Webster	8" Water Oak	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
394	1806 W Webster	12" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
395	1806 W Webster	24" Crepe Myrtle	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
396	1806 W Webster	9" Crepe Myrtle	Not protected		
397	1801 W Webster	35' Palm	Not protected	Remove for drive & walk	Remove tree, No replacement required
398	1801 W Webster	9" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
399	1801 W Webster	8" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
400	1801 W Webster	5" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
401	1801 W Webster	11" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
402	1801 W Webster	5' Sago	Not protected	Remove for walk	Remove tree, No replacement required
403	1716 W Webster	10" Crepe Myrtle	Not protected	Private tree	Clearance prune
404	1714 W Webster	15" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
405	1712 W Webster	10" Crepe Myrtle	Not protected	Private tree	Clearance prune
406	1706 W Webster	9" Lacebark Elm	Not protected	Private tree	Clearance prune
407	1706 W Webster	16" Lacebark Elm	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
408	1704 W Webster	11" Lacebark Elm	Protected	Remove for walk	Remove tree, Provide 11" replacement
409	1704 W Webster	10" Red Maple	Protected	Remove for walk	Remove tree, Provide 10" replacement
410	1702 W Webster	12" Red Maple	Protected	Remove for walk	Remove tree, Provide 12" replacement
411	1702 W Webster	11" Crepe Myrtle	Not protected	Private tree, not impacted	
412	1702 W Webster	7" Sweetgum	Not protected	Private tree, not impacted	
413	1702 W Webster	5" Red Bay	Not protected		
414	Not available	12" Magnolia	Not protected	Private tree, not impacted	
415	Not available	14" Magnolia	Not protected	Private tree, not impacted	
416	Not available	14" Magnolia	Not protected	Private tree, not impacted	
417	Not available	15" Magnolia	Not protected	Private tree, not impacted	
418	1823 W Webster	22" Live Oak	Protected		Zero Curb Cutback, Fence, Clearance prune
419	1823 Genesee	13" Sugarberry	Not protected	Private tree	Clearance prune
420	1822 Gillette	9" Crepe Myrtle	Not protected	Private tree	Clearance prune
421	1822 Gillette	21" Tallow	Protected	Remove for walk	Remove tree, Provide 21" replacement
422	1601 Gillette	13" Red Maple	Not protected	Private tree, not impacted	
423	W Webster Park	14" Live Oak	Protected		Fence, Clearance prune
424	W Webster Park	16" Live Oak	Protected		Fence, Clearance prune
425	W Webster Park	13" Live Oak	Protected		Fence, Clearance prune
426	W Webster Park	14" Live Oak	Protected		Fence, Clearance prune
427	W Webster Park	15" Live Oak	Protected		Fence, Clearance prune
428	W Webster Park	14" Live Oak	Protected		Fence, Clearance prune
429	W Webster Park	15" Live Oak	Protected		Fence, Clearance prune
430	W Webster Park	15" Live Oak	Protected		Fence, Clearance prune
432	Not available	6" Crepe Myrtle	Not protected	Private tree, not impacted	
433	Not available	8" Crepe Myrtle	Not protected	Private tree, not impacted	
434	Not available	6" Crepe Myrtle	Not protected	Private tree, not impacted	
435	Not available	9" Crepe Myrtle	Not protected	Private tree, not impacted	

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- –X–X– — TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

NO.	DATE	REVISION	APP.

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PAVING AND DRAINAGE

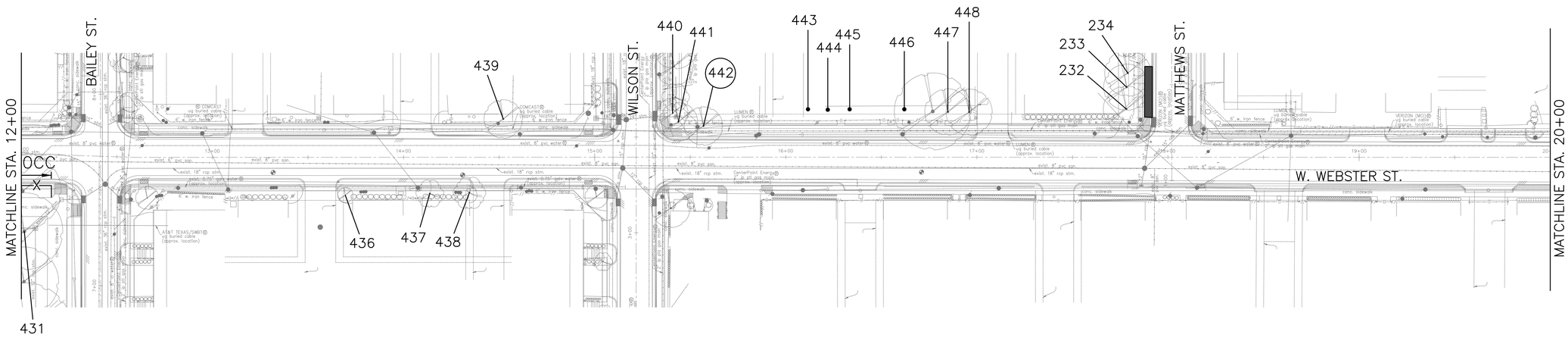
TREE PROTECTION PLAN

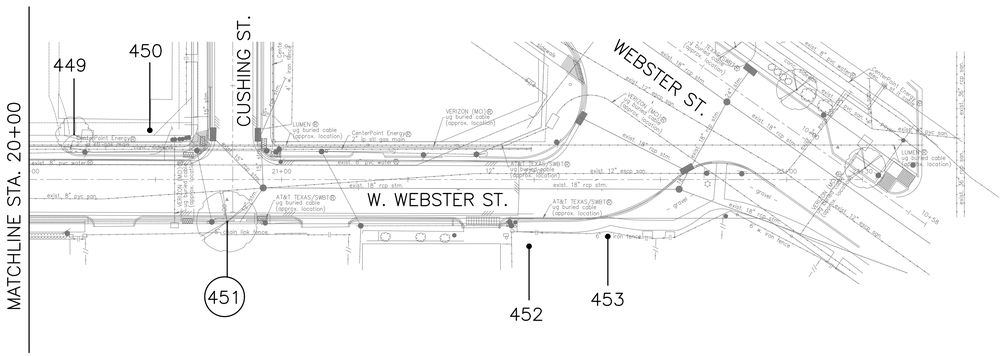
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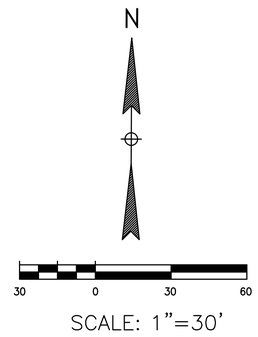
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SCALE: 1"=30'

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on W Webster Street					
431	W Webster Park	16" Live Oak	Protected		Fence, Clearance prune
436	Not available	5" Crepe Myrtle	Not protected	Private tree, not impacted	
437	Not available	7" Crepe Myrtle	Not protected	Private tree, not impacted	
438	Not available	8" Crepe Myrtle	Not protected	Private tree, not impacted	
439	Not available	10" Sugarberry	Not protected	Private tree, not impacted	
440	1310 W Webster	5" Italian Cypress	Not protected		
441	1310 W Webster	8" Italian Cypress	Not protected		
442	1310 W Webster	10" Citrus	Not protected	Remove for walk	Remove tree, No replacement required
443	1310 W Webster	17" Crepe Myrtle	Not protected	Private tree	Clearance prune
444	1310 W Webster	19" Crepe Myrtle	Not protected	Private tree	Clearance prune
445	1314 W Webster	12" Holly	Not protected	Private tree	Clearance prune
446	1310 W Webster	15" Crepe Myrtle	Not protected	Private tree	Clearance prune
447	1310 W Webster	9" Sugarberry	Not protected	Private tree	Clearance prune
448	1310 W Webster	12" Holly	Not protected	Private tree	Clearance prune
449	Not available	12" Crepe Myrtle	Not protected	Private tree	Clearance prune
450	Not available	7" Crepe Myrtle	Not protected	Private tree, not impacted	
451	Not available	11" Corkscrew Willow	Not protected	Remove for walk	Remove tree, no replacement required
452	200 Webster	17" Crepe Myrtle	Not protected	Private tree	Clearance prune
453	200 Webster	18" Sugarberry	Not protected		

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

NO.	DATE	REVISION	APP.

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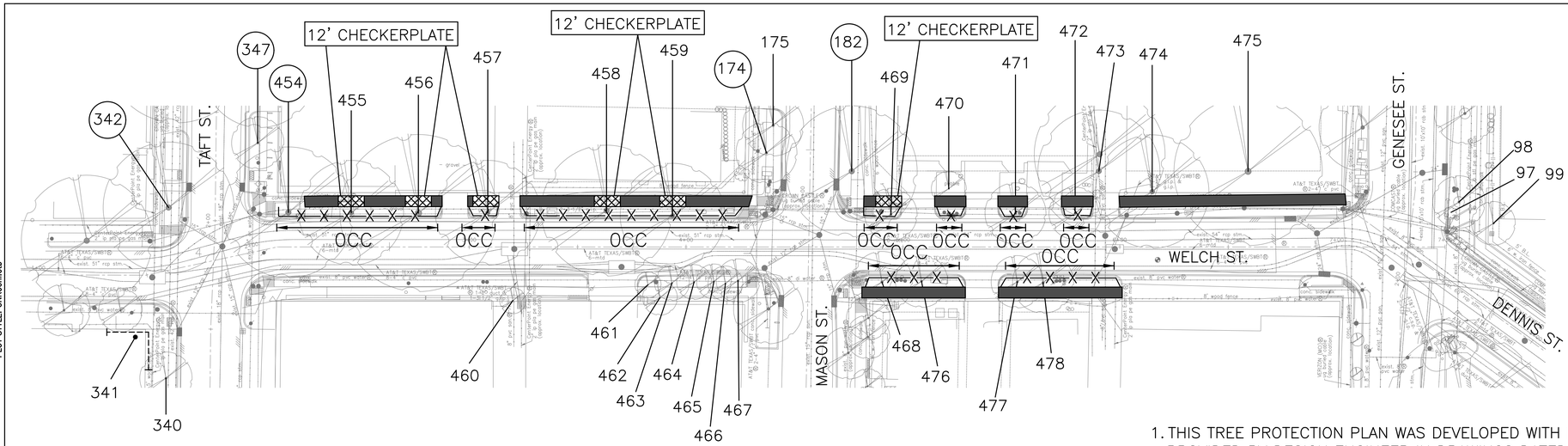
TREE PROTECTION PLAN

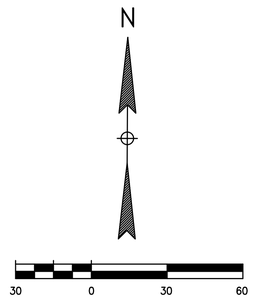
SHEET 12 OF 17

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SCALE: 1"=30'

Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Welch Street					
454	Not available	25" Live Oak	Protected	Remove for proposed ramp and landing	Remove tree, Provide 25" in replacement/mitigation
455	Not available	24" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
456	Not available	33" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
457	Not available	26" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
458	Not available	24" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
459	Not available	25" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
460	205 Welch	4" Crepe Myrtle	Not protected	Private tree, not impacted	
461	205 Welch	5" Crepe Myrtle	Not protected		
462	205 Welch	5" Loquat	Not protected		
463	205 Welch	9" Crepe Myrtle	Not protected		
464	205 Welch	6" Crepe Myrtle	Not protected		
465	205 Welch	5" Crepe Myrtle	Not protected		
466	205 Welch	4" Loquat	Not protected		
467	205 Welch	7" Crepe Myrtle	Not protected		
468	Not available	12" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
469	Not available	11" Live Oak	Protected		12' checkerplate, Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
470	Not available	7" Vitex	Not protected	Private tree, not impacted	
471	Not available	14" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
472	Not available	12" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
473	Not available	17" Sugarberry	Not protected	Private tree, not impacted	
474	Not available	25" Pecan	Protected	Corridor tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
475	Not available	34" American Elm	Protected	Corridor tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
476	Not available	12" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
477	Not available	10" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
478	Not available	14" Live Oak	Protected		Zero Curb Cutback, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED FEBRUARY 2026. 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.
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4. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF TREES TO BE PLANTED AND OBTAIN APPROVAL BY CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING OR EXCAVATING PLANTING HOLE OF EACH TREE.

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- –X–X– — TREE PROTECTION FENCE
- ------ — ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

NO.	DATE	REVISION	APP.

C.N. Koehl
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281–391–0022 ckoehl@koehlurbanforestry.com

APPROVED:

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TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

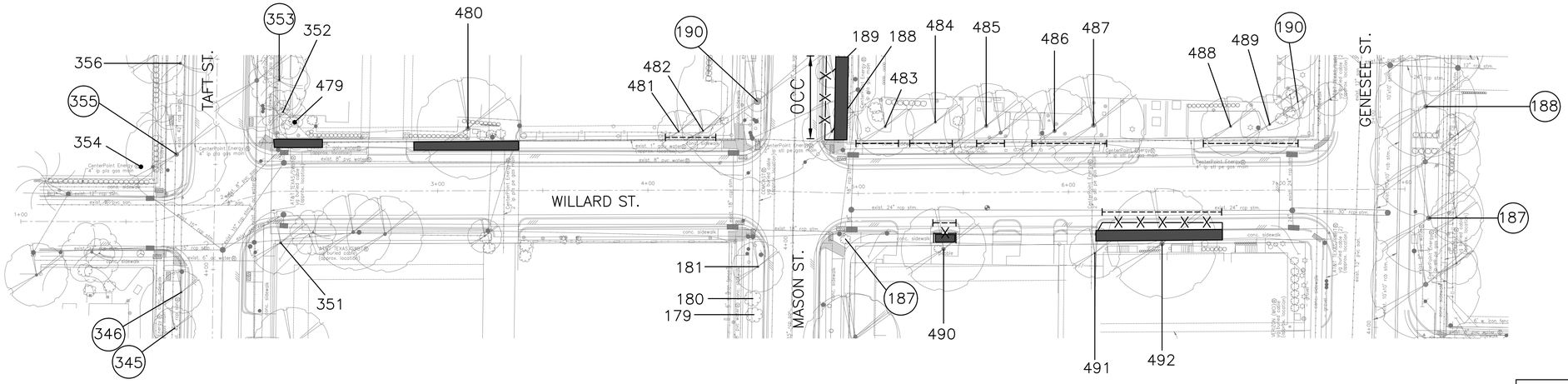
TREE PROTECTION PLAN

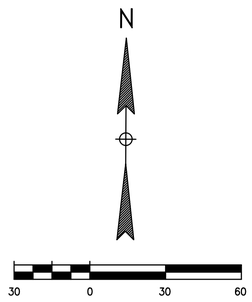
SHEET 13 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Willard Street					
479	228 Willard	15" River birch	Not protected	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
480	228 Willard	18" Live Oak	Protected	Corridor tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger
481	202 Willard	9" Magnolia	Not protected	Private tree	Root prune for walk, Clearance prune
482	202 Willard	9" Magnolia	Not protected	Private tree	Root prune for walk, Clearance prune
483	100 Willard	14" Magnolia	Not protected	Private tree	Root prune for walk
484	100 Willard	12" Magnolia	Not protected	Private tree	Root prune for walk
485	100 Willard	15" Crepe Myrtle	Not protected	Private tree	Root prune for walk
486	100 Willard	15" Crepe Myrtle	Not protected	Private tree	Root prune for walk
487	100 Willard	18" Magnolia	Not protected	Private tree	Root prune for walk
488	100 Willard	13" Magnolia	Not protected	Private tree	Root prune for walk
489	100 Willard	11" Magnolia	Not protected	Private tree	Root prune for walk
490	119 Willard	15" Willow Oak	Not protected	Private tree	Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger
491	107 Willard	9" Crepe Myrtle	Not protected	Private tree, not impacted	
492	107 Willard	16" Baldcypress	Protected		Root prune for street, Fence, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune

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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
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

NO.	DATE	REVISION	APP.

C.N. Koehl
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GRAY AND TAFT AREA
PAVING AND DRAINAGE

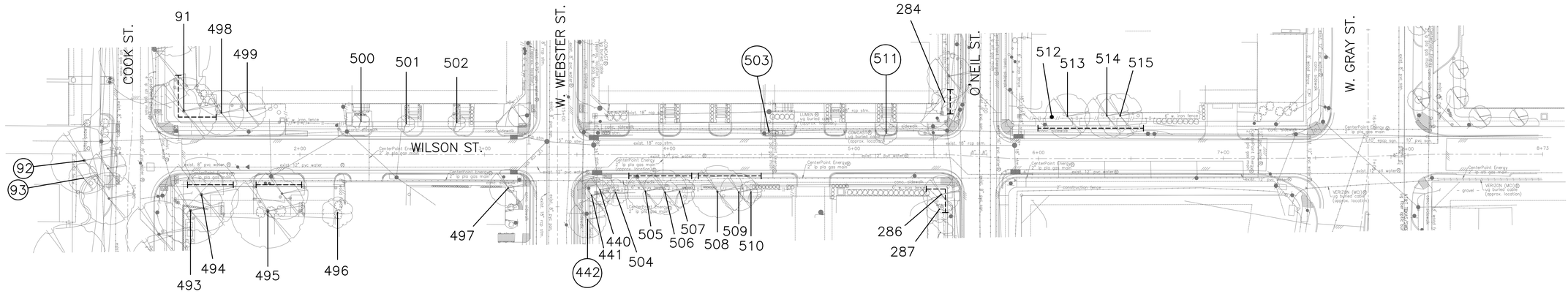
TREE PROTECTION PLAN

SHEET 14 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–210008–0001–3	
DRAWING SCALE	
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Tree No.	Location	Description	Chapter 33 Status	Comments	Treatment
Trees on Wilson Street					
493	1929 Wilson	11" Crepe Myrtle	Not protected	Private tree, not impacted	
494	1929 Wilson	17" Live Oak	Not protected	Private tree	Root prune for street, Clearance prune
495	1929 Wilson	14" Live Oak	Not protected	Private tree	Root prune for street, Clearance prune
496	1929 Wilson	13" Crepe Myrtle	Not protected	Private tree, not impacted	
497	1319 W Webster	18' Palm	Not protected	Private tree, not impacted	
498	1402 Cook	7" Ligustrum	Not protected	Private tree	Clearance prune
499	1402 Cook	7" Ligustrum	Not protected	Private tree	Clearance prune
500	1906 Wilson	5" Crepe Myrtle	Not protected		
501	1906 Wilson	5" Crepe Myrtle	Not protected		
502	1904 Wilson	3" Crepe Myrtle	Not protected		
503	1810 Wilson	3" Burford Holly	Not protected	Remove for walk	Remove tree, no replacement required
504	1817 Wilson	15" Crepe Myrtle	Not protected	Private tree, not impacted	
505	1817 Wilson	14" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
506	1817 Wilson	9" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
507	1817 Wilson	15" Crepe Myrtle	Not protected	Private tree	Root prune for walk, Clearance prune
508	1809 Wilson	13" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
509	1809 Wilson	11" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
510	1809 Wilson	13" Crepe Myrtle	Not protected	Private tree	Root prune for walk, Clearance prune
511	1802 Wilson	8" Crepe Myrtle	Not protected	Remove for walk	Remove tree, no replacement required
512	1720 Wilson	10" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
513	1720 Wilson	10" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
514	1716 Wilson	9" Holly	Not protected	Private tree	Root prune for walk, Clearance prune
515	1716 Wilson	11" Holly	Not protected	Private tree	Root prune for walk, Clearance prune

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ------ ROOT PRUNING TRENCH
- OCC — ZERO CURB CUTBACK
- SIDEWALK ON GRADE
- CHECKERPLATE SECTION

N

30 0 30 60

SCALE: 1"=30'

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NO.	DATE	REVISION	APP.

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KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION PLAN

SHEET 15 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–210008–0001–3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
SHEET NO. OF	

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Tree Removal List

Tree No.	Location	Description	Replacement requirement
9	1924 Bailey	15" Crepe Myrtle	0
15	2007 Bailey	15" Crepe Myrtle	0
16	2005 Bailey	16" Crepe Myrtle	0
19	1931 Bailey	15" Crepe Myrtle	0
23	1927 Bailey	15" Crepe Myrtle	0
27	1911 Bailey	15" Crepe Myrtle	0
28	1909 Bailey	11" Crepe Myrtle	0
41	1823 Bailey	13" Crepe Myrtle	0
42	1823 Bailey	15" Crepe Myrtle	0
43	1819 Bailey	14" Crepe Myrtle	0
44	1815 Bailey	17" Crepe Myrtle	0
45	1807 Bailey	10" Crepe Myrtle	0
46	1807 Bailey	9" Crepe Myrtle	0
48	1722 O'Neil	12" Lacebark Elm	12
49	1722 O'Neil	7" Trident Maple	7
58	2130 Boston	3" Ligustrum	0
59	2130 Boston	3" Ligustrum	0
68	1539 Cook	15" Shumard Oak	15
83	Not available	1" Crepe Myrtle	0
84	Not available	5" Ligustrum	0
101	1629 Dennis	2" Ligustrum	0
102	1631 Dennis	2" Ligustrum	0
103	1635 Dennis	2" Ligustrum	0
104	1639 Dennis	2" Ligustrum	0
105	1639 Dennis	2" Ligustrum	0
106	1641 Dennis	10" Crepe Myrtle	0
108	90 Genesee	5" Loquat	0
109	92 Genesee	25" American Elm	25
113	Not available	22" American Elm	22
114	Not available	23" Tallow	23
142	1539 Cook	16" Red Maple	16
149	1818 Gillette	9" Crepe Myrtle	0
150	1814 Gillette	10" Crepe Myrtle	0
151	1810 Gillette	8" Crepe Myrtle	0
153	1810 Gillette	9" Crepe Myrtle	0
166	Not available	4" Sugarberry	0
167	Not available	7" American Elm	7
168	Not available	6" American Elm	6
169	Not available	5" Sugarberry	0
170	Not available	5" Sugarberry	0
171	Not available	5" Sugarberry	0
172	Not available	5" Sugarberry	0
173	Not available	4" Live Oak	4
174	2012 Mason	12" Crepe Myrtle	0
182	2015 Welch	27" American Elm	27
187	Not available	5' Sago	0
196	1900 Mason	13" Live Oak	13
198	1900 Mason	11" Lacebark Elm	11
199	1900 Mason	10" Lacebark Elm	10
201	1801 W Webster	10" Lacebark Elm	10
202	1801 W Webster	10" Lacebark Elm	10
210	1716 W Webster	12" Lacebark Elm	12
224	1801 Mason	19" Lacebark Elm	19
259	1625 O'Neil	7" Crepe Myrtle	0
260	1625 O'Neil	7" Crepe Myrtle	0
261	1625 O'Neil	7" Crepe Myrtle	0
262	1625 O'Neil	7" Crepe Myrtle	0
263	1625 O'Neil	4" Crepe Myrtle	0
264	1625 O'Neil	6" Crepe Myrtle	0
265	1625 O'Neil	14" Crepe Myrtle	0
266	1625 O'Neil	15" Crepe Myrtle	0
267	1625 O'Neil	13" Crepe Myrtle	0
268	1625 O'Neil	12" Crepe Myrtle	0
275	1722 Bailey	13" Lacebark Elm	13
276	1722 Bailey	10" Lacebark Elm	10
277	1722 Bailey	10" Lacebark Elm	10
280	1437 O'Neil	12" Crepe Myrtle	0

Tree Removal List

Tree No.	Location	Description	Replacement requirement
281	1437 O'Neil	17" Crepe Myrtle	0
282	1417 O'Neil	7" Crepe Myrtle	0
283	1417 O'Neil	6" Crepe Myrtle	0
302	1802 Mathews	18" Crepe Myrtle	0
303	1615 Genesee	13" Live Oak	13
307	2108 Sutton	2" Ligustrum	0
308	2108 Sutton	2" Ligustrum	0
319	2017 Gillette	15" Crepe Myrtle	0
320	2017 Gillette	16" Crepe Myrtle	0
322	1514 Sutton	2" Ligustrum	0
323	1514 Sutton	1" Citrus	0
324	1514 Sutton	2" Yew	0
325	1514 Sutton	2" Yew	0
326	1514 Sutton	5" Sweet Viburnum	0
327	1514 Sutton	4" Ligustrum	0
328	1514 Sutton	10" Crepe Myrtle	0
329	1514 Sutton	16" Crepe Myrtle	0
330	1535 Sutton	15" Crepe Myrtle	0
331	1535 Sutton	13" Crepe Myrtle	0
336	2002 Bailey	2" Ligustrum	0
337	2002 Bailey	2" Ligustrum	0
338	2002 Bailey	2" Ligustrum	0
339	2002 Bailey	2" Ligustrum	0
342	2010 Taft	24" Magnolia	24
343	2010 Taft	32" Arizona Ash	32
344	2008 Taft	10" Magnolia	10
345	2008 Taft	11" Vitex	0
346	2008 Taft	9" Vitex	0
347	214 Welch	8" Redbud	8
348	214 Welch	24" Live Oak	24
349	214 Welch	35" Live Oak	35
355	1918 Taft	21" Sycamore	21
358	1918 Taft	15" Crepe Myrtle	0
359	1912 Taft	13" Crepe Myrtle	0
361	1912 Taft	28" Camphor	28
363	Not available	24" Water Oak	24
371	1907 Taft	10" Crepe Myrtle	0
397	1801 W Webster	35' Palm	0
402	1801 W Webster	5' Sago	0
408	1704 W Webster	11" Lacebark Elm	11
409	1704 W Webster	10" Red Maple	10
410	1702 W Webster	12" Red Maple	12
421	1822 Gillette	21" Tallow	21
442	1310 W Webster	10" Citrus	0
451	Not available	11" Corkscrew Willow	0
454	Not available	25" Live Oak	25
503	1810 Wilson	3" Burford Holly	0
511	1802 Wilson	8" Crepe Myrtle	0
		TOTAL REPLACEMENT INCHES REQUIRED	**580**

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	
0-5.99"	4	$ 302.12	$ **1,208.48**
6-11.99"	120	$ 503.55	$ **60,426.00**
12" +	456	$ 671.40	$ **306,158.40**
		TOTAL REQUIRED MITIGATION FEE	$ **367,792.88**

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TREE PROTECTION PLAN

SHEET 16 OF 17

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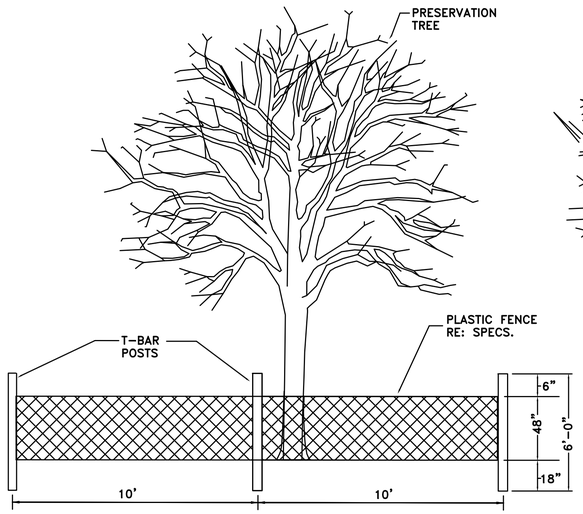
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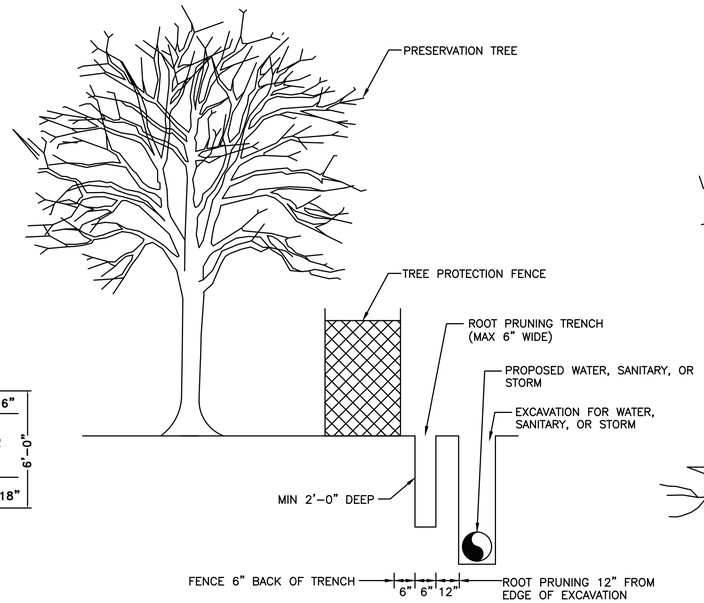
Arboriculturally Significant Tree List

Tree No.	Location	Description
107	Not available	28" Arizona Ash
109	92 Genesee	25" American Elm
110	Not available	28" Live Oak
111	Not available	33" Live Oak
182	2015 Welch	27" American Elm
190	Not available	31" Tallow
341	Not available	28" Live Oak
342	2010 Taft	24" Magnolia
343	2010 Taft	32" Arizona Ash
348	214 Welch	24" Live Oak
349	214 Welch	35" Live Oak
361	1912 Taft	28" Camphor
363	Not available	24" Water Oak
379	Not available	35" Live Oak
395	1806 W Webster	24" Crepe Myrtle
454	Not available	25" Live Oak
455	Not available	24" Live Oak
456	Not available	33" Live Oak
457	Not available	26" Live Oak
458	Not available	24" Live Oak
459	Not available	25" Live Oak
474	Not available	25" Pecan
475	Not available	34" American Elm

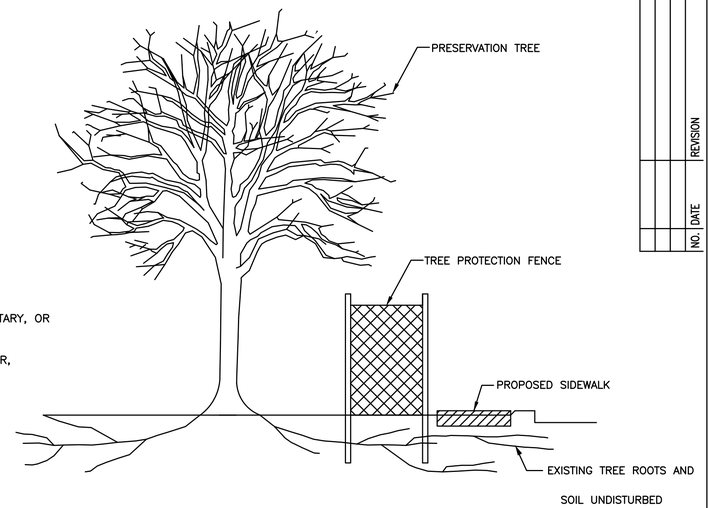
Trees Identified by City of Houston Forestry/Parks & Recreation Department as Arboriculturally Significant are identified here and/or in treatment schedule included on TPP sheets. Arboriculturally Significant trees are to be pruned under direct supervision of City of Houston Forestry. Minimal pruning 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.



TREE PROTECTION FENCING DETAIL A
NOT TO SCALE

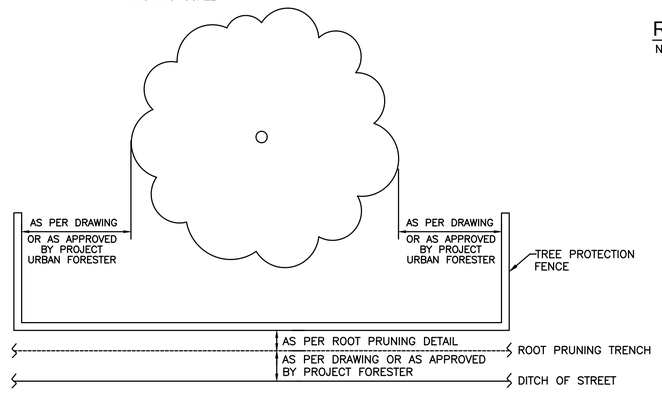


ROOT PRUNE FOR WATER, SANITARY, OR STORM LINE
NOT TO SCALE

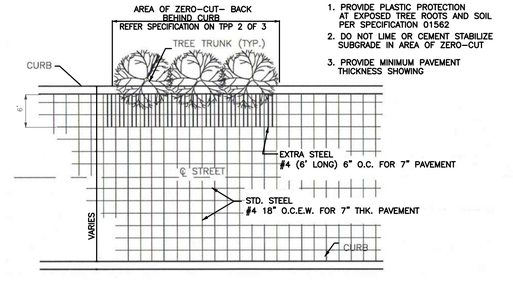


DEMO-FORM-POUR WALK WITHOUT DAMAGE TO TREE ROOTS 1" DIAMETER OR LARGER
NOT TO SCALE

NO.	DATE	REVISION	APP.

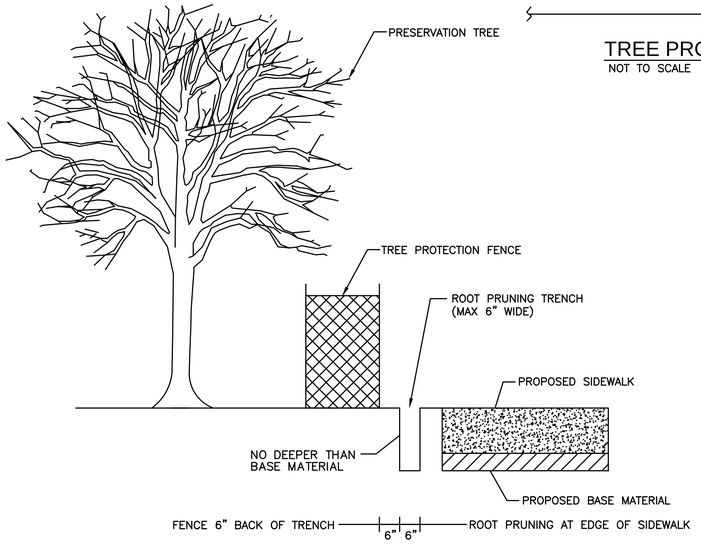


TREE PROTECTION FENCING DETAIL B
NOT TO SCALE

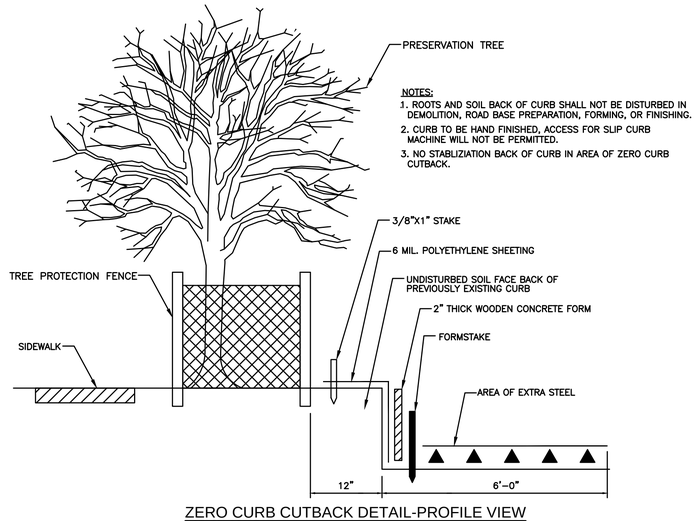


NOTE:
1. PROVIDE PLASTIC PROTECTION AT EXPOSED TREE ROOTS AND SOIL PER SPECIFICATION 01562
2. DO NOT LIME OR CEMENT STABILIZE SUBGRADE IN AREA OF ZERO-CUT
3. PROVIDE MINIMUM PAVEMENT THICKNESS SHOWING

ZERO CURB CUTBACK DETAIL
EXTRA STEEL BEHIND CURB
NOT TO SCALE



ROOT PRUNE FOR SIDEWALK
NOT TO SCALE



ZERO CURB CUTBACK DETAIL-PROFILE VIEW
NOT TO SCALE

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. ◦ Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com

APPROVED:

1225 North Loop West, Suite 1020
Houston, TX 77008
Tel: 713-739-7744
www.imsengineers.com
TX Firm 18572

SURVEYED BY:
KUO & ASSOCIATES, INC.
FB NO.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GRAY AND TAFT AREA PAVING AND DRAINAGE

TREE PROTECTION PLAN

SHEET 17 OF 17

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-210008-0001-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
SHEET NO. OF	

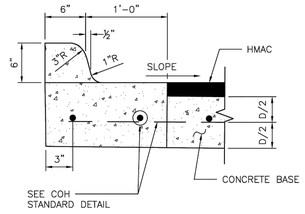
PLOT STYLE: CNKoehl.ctb

C:\Users\Ned\Desktop\NEW CNK\IMS GRAY AND TAFT\IMS TAFT TP-17.dwgModel Feb 24, 2026 - 11:23AM Ned

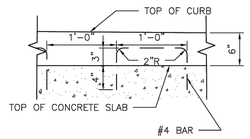
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Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\905 SUBMITTAL PLAN SET\281_CURB_CURB AND GUTTER AND HEADER DETAILS (02771-01).DWG?LUK[SAVED: Wednesday, February 25, 2026[COH_KAI.CTB[PLOTTED: Wednesday, February 25, 2026

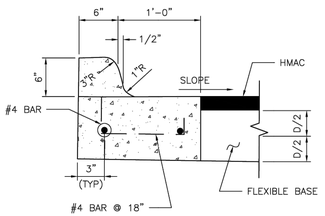
DISCLAIMER:
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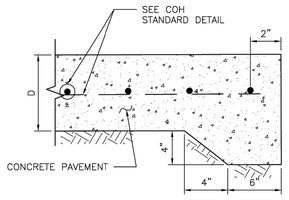
ESPLANADE CURB CONNECTED TO CONCRETE BASE



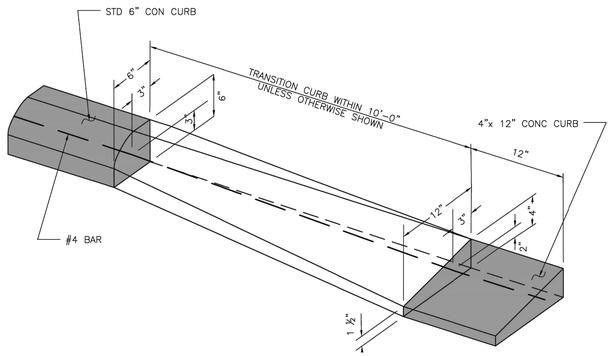
ALTERNATE CONCRETE CURB REINFORCEMENT



ESPLANADE CURB CONNECTED TO FLEXIBLE BASE



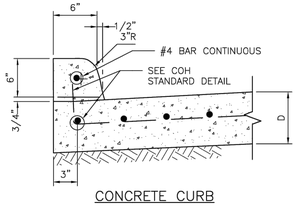
STANDARD CONCRETE PAVING HEADER



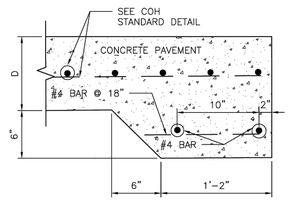
CURB TRANSITION
(SEE NOTES)

4"x12" MONOLITHIC AND TRANSITION CURB NOTES:

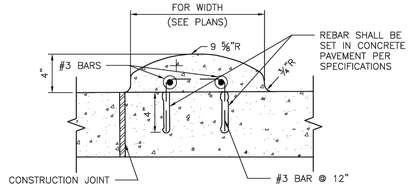
1. 6–INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS, NON–RESIDENTIAL STREETS, AND RESIDENTIAL STREETS.
2. TRANSITIONS FROM 6– INCH CONCRETE CURB TO 4–INCH x 12–INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10–FEET TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN IN "4–INCH x 12–INCH TRANSITION CURB" IS TO BE INSTALLED.



CONCRETE CURB

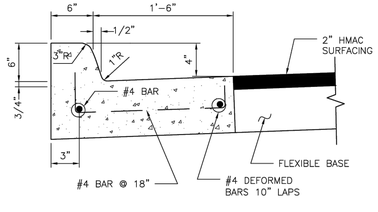


STANDARD RAILROAD HEADER

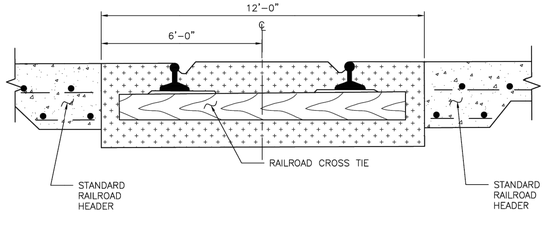


MOUNTABLE CURB

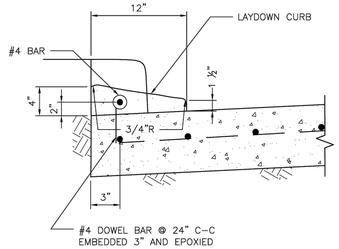
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 BAR @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT.
SET #4 DOWEL BARS, 25" LONG AT 12" C–C WHEN PAVEMENT SECTION POURED.



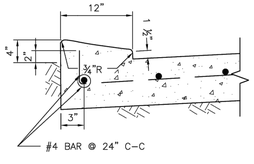
MONOLITHIC CURB AND GUTTER



STANDARD RAILROAD CROSSING – SINGLE TRACK



4–INCH x 12–INCH TRANSITION CURB
(SEE NOTES)



4–INCH x 12–INCH MONOLITHIC CURB
(SEE NOTES)

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukul Tanwar 917B80C841F5478...	DocuSigned by: KHANG NGUYEN 95A2567DA7564CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A5CC47B73B1A43...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02771–01

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www.imsengineers.com
TX Firm 18572

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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	

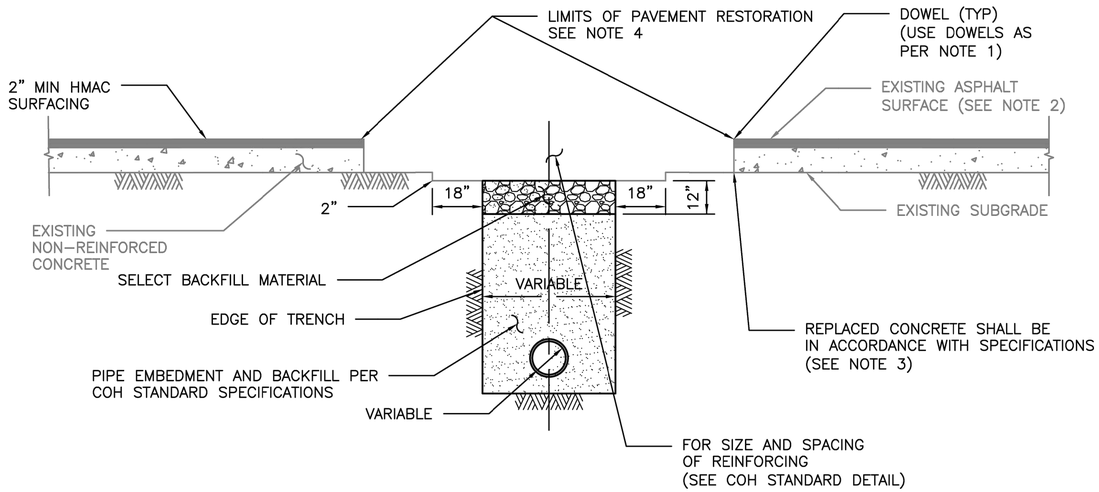
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

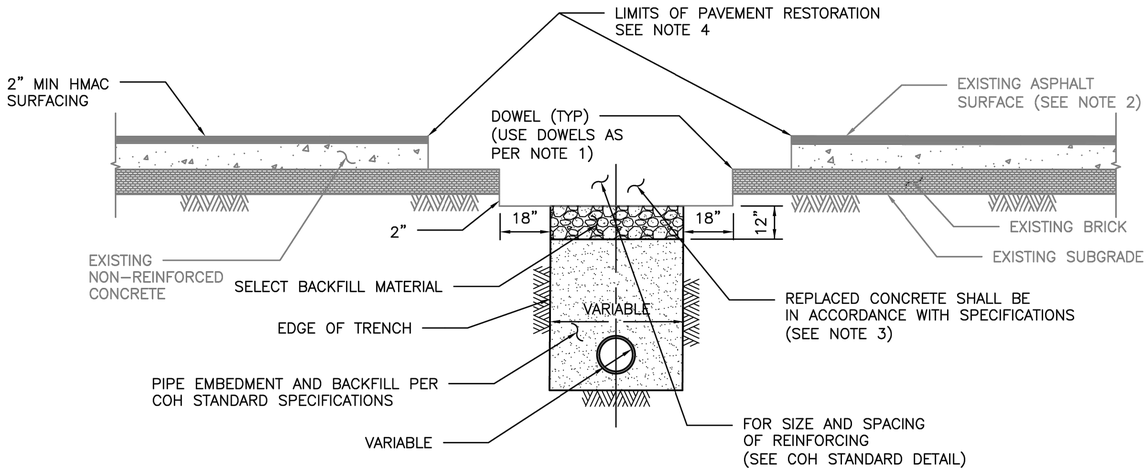
CURB, CURB, AND GUTTER AND HEADER DETAILS

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

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ELEVATION C
REPAIR OF NON–REINFORCED CONCRETE PAVEMENT



ELEVATION D
REPAIR OF NON–REINFORCED CONCRETE PAVEMENT WITH BRICK

NOTES:

1. EXPOSE 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BAR, 24" LONG, 24" C–C, DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB. WITH "PO ROC" OR EQUAL.
2. IF REINFORCED CONCRETE IS OVERLAYED REPLACE WITH SAME THICKNESS OF HMAC SURFACING.
3. REFER TO STANDARD DETAIL 02751–01 FOR REINFORCING STEEL REQUIREMENT
4. REFER TO STANDARD DETAILS 02951–01 THROUGH 03 FOR PAVEMENT RESTORATION LIMITS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT REPAIR DETAIL
FOR STREET CUTS
(NON–REINFORCED CONCRETE & BRICK PAVEMENT)
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sulail Kanwar — 9EFB80C841F5478...
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: 02951–05

ims
1225 NORTH LOOP WEST
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www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

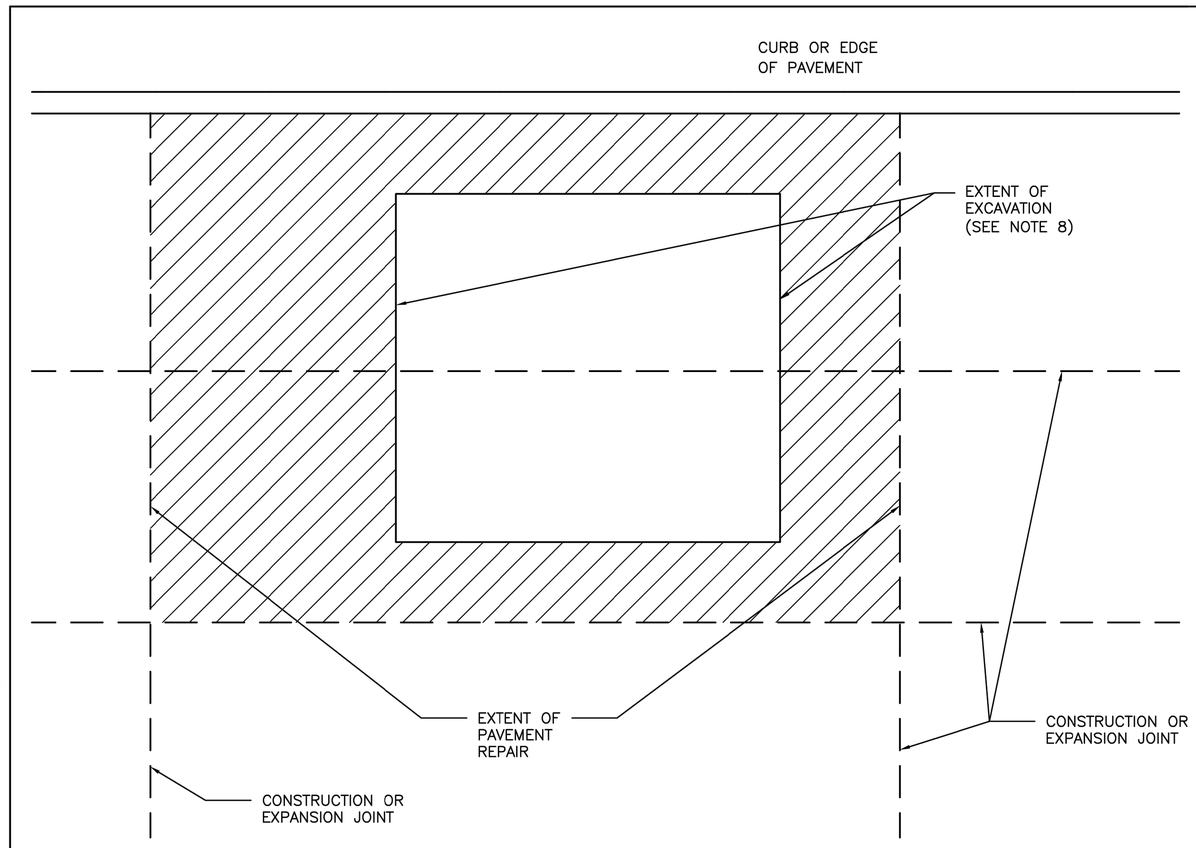
PAVEMENT REPAIR DETAIL
FOR STREET CUTS
(NON–REINFORCED CONCRETE & BRICK PAVEMENT)

WBS#:	N–210008–0001–3
DRAWING SCALE:	NOT TO SCALE
CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF

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Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\982_PAVEMENT REPAIR DETAIL FOR STREET CUTS_02951-05.DWG[TURNSAVED: Wednesday, February 25, 2026][OH_KAI.CTB][PLOTTED: Wednesday, February 25, 2026

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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. REPLACE ENTIRE PANEL WIDTH AND LENGTH TO NEAREST CONSTRUCTION OR EXPANSION JOINT BEYOND EDGE OF EXCAVATION.
3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL WITHIN EXISTING PAVEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION) IF EXISTING REINFORCING IS BROKEN OFF.
4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
5. MAINTAIN EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
6. SPECIALTY PAVEMENTS (IE: BRICK PAVERS) TO BE REPLACED WITH MATCHING PAVEMENT IN ALL CASES.
7. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764–RAISED PAVEMENT MARKERS AND 02767–THERMOPLASTIC PAVEMENT MARKINGS.
8. EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT & CONCRETE PAVEMENT).

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT ≤ 5YRS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF880C841F5478...
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: 02951–01

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

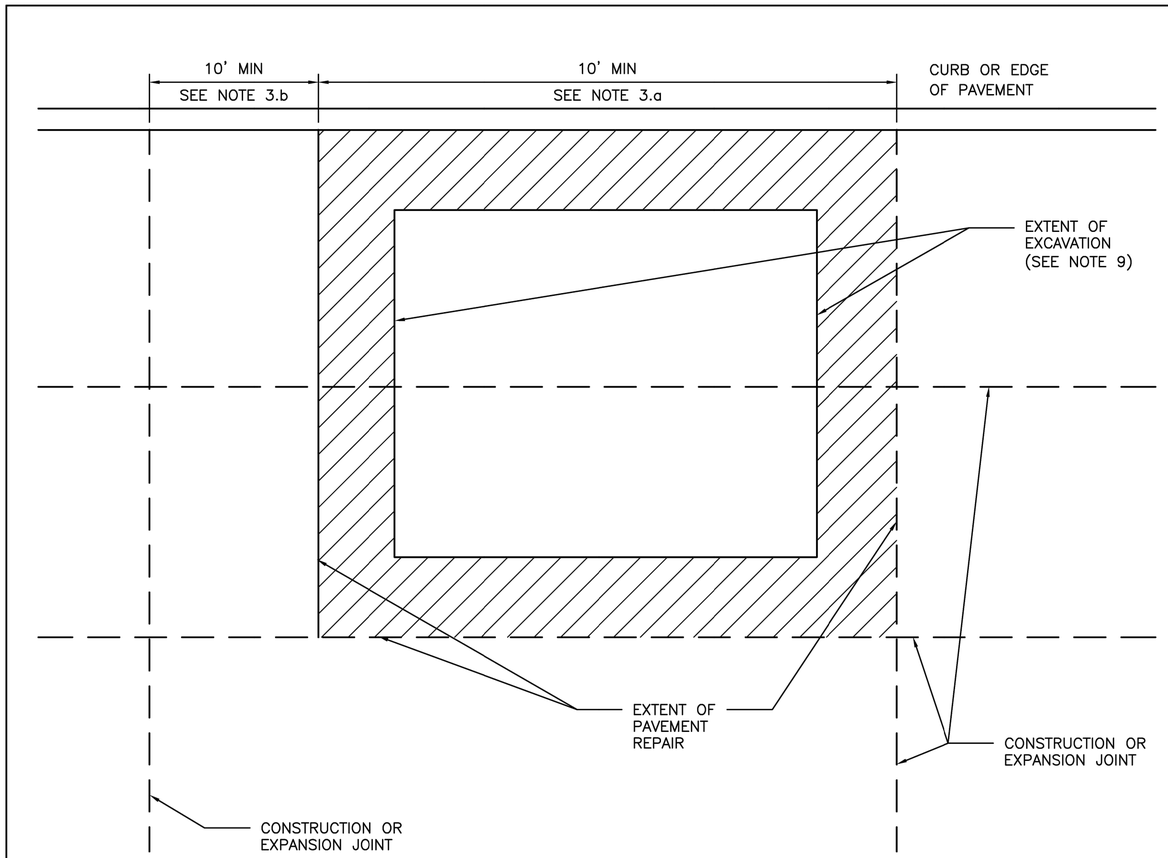
GRAY AND TAFT AREA
PAVING AND DRAINAGE

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT ≤ 5YRS

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II - GRAY&TAFT\004 DESIGN\60% SUBMITTAL PLAN SET\284-STREET CUT FOR CONCRETE PAVEMENT REPLACEMNET LESSER OR EQUAL 5YRS_02951-01.DWG|TURISAVED: Tuesday, September 30, 2025|CDH_AKA|CTB|PLOTTED: Monday, March 02, 2026

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6



NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. WIDTH:
   REPLACE PANEL WIDTH TO NEAREST CONSTRUCTION OR EXPANSION JOINT BEYOND EDGE OF EXCAVATION.
3. LENGTH:
   a. MINIMUM LENGTH OF PAVEMENT REPAIR ALONG TRAVEL WAY IS 10' FROM THE NEAREST JOINT.
   b. IF EXTENT OF PAVEMENT REPAIR IS LESS THAN 10' FROM EXISTING CONSTRUCTION OR EXPANSION JOINT, EXTEND PAVEMENT REPAIR TO EXISTING JOINT.
4. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF PANEL REPLACEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION) IF REINFORCING IS BROKEN OFF OR DOES NOT EXIST.
5. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
6. MAINTAIN EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
7. SPECIALTY PAVEMENTS (IE: BRICK PAVERS) TO BE REPLACED WITH MATCHING PAVEMENT IN ALL CASES.
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9. EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT & CONCRETE PAVEMENT).

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT > 5YRS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF880C841F5478...
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: 02951–02

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TX Firm 18572

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FB NO.: P–6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

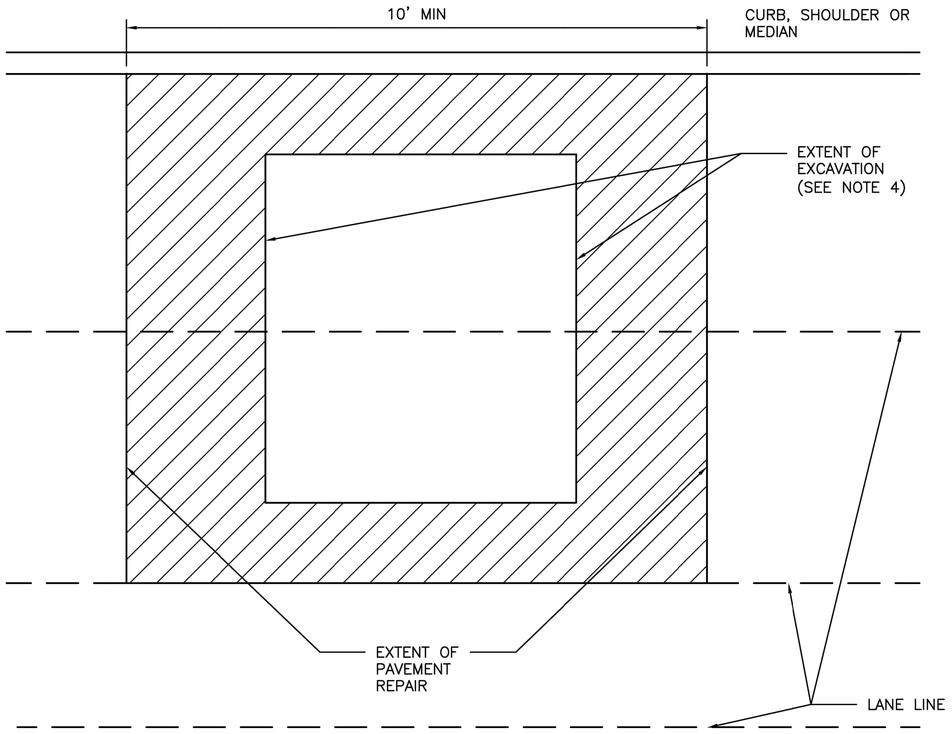
GRAY AND TAFT AREA
PAVING AND DRAINAGE

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT > 5YRS

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\05% SUBMITTAL PLAN SET\285_STREET CUT FOR CONCRETE PAVEMENT REPLACEMNET BIGGER THAN 5YRS_02951_02.DWG(TLM)SAVED: Tuesday, September 30, 2025(CDH_KAI.CTB)PLOTTED:Monday, March 02, 2026

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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. FLEXIBLE BASE: REPLACE BASE TO SAME THICKNESS PLUS TWO INCHES (2") FOR EXTENT OF EXCAVATION. USE APPROVED BASE MATERIAL TYPE.*
3. SURFACE COURSE:
   - 3.1. WIDTH: SURFACE MILL AND OVERLAY FULL WIDTH OF LANE(S) TO NEAREST LANE DIVIDER BEYOND EDGE OF EXCAVATION.
   - 3.2. LENGTH: MINIMUM LENGTH OF SURFACE MILL ALONG TRAVEL WAY IS 10'.
   - 3.3. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764–RAISED PAVEMENT MARKERS AND 02767–THERMOPLASTIC PAVEMENT MARKINGS.
4. EXTENT OF EXCAVATION INCLUDES 18" OVER CUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT AND CONCRETE PAVEMENT).
5. ADDITIONAL REQUIREMENTS FOR ASPHALT OVERLAY ON CONCRETE PAVEMENT:
   - 5.1. REPLACE CONCRETE FOR EXTENT OF EXCAVATION. REPLACE TO SAME THICKNESS PLUS TWO INCHES (2").
   - 5.2. WIDTH:
     - 5.2.1. IF EXCAVATION EXTENDS MORE THAN HALF OF A LANE, REPLACE ENTIRE LANE OF CONCRETE. OTHERWISE USE STANDARD DETAIL 02951–04 THROUGH 05.
   - 5.3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF CONCRETE REPLACEMENT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION.
   - 5.4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
   - 5.5. MAINTAIN CONCRETE EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE APPROVED BY CITY ENGINEER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR ASPHALT PAVEMENT REPLACEMENT/RESTORATION FOR PAVEMENT OF ALL AGES
(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: 02951–03**

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SURVEYED BY: KUO & ASSOCIATES
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

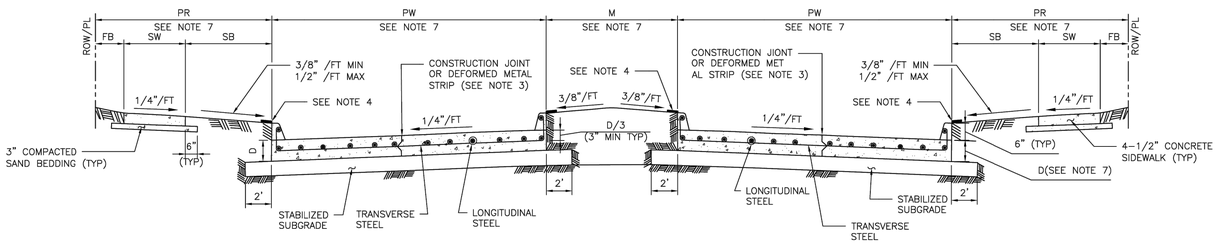
STREET CUT FOR ASPHALT PAVEMENT REPLACEMENT/RESTORATION FOR PAVEMENT OF ALL AGES

WBS#: N–210008–0001–3	
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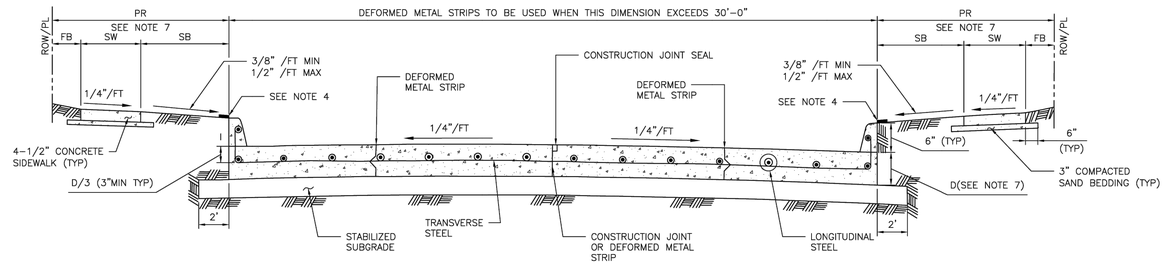
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X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\286_STREET CUT FOR ASPHALT PAVEMENT REPLACEMNET ALL AGES_02951_03.DWG\TUKBS\AVED: Tuesday, September 30, 2025\DOH_JAI.CTB\PLOTTED: Monday, March 02, 2026

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TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

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"
fc' = 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
10	44	44	12.00	4.00	29	18.50	4.5	–	–	–	24	36	36
10	45	44	12.50	3.00	29	19.00	3.0	–	–	–	24	36	36
11	25	27	11.25	3.00	17	18.25	4.0	12	26.75	3	36	36	36
11	34	36	11.50	2.75	24	17.50	2.5	17	25.00	4	24	36	36
11	35	37	11.50	3.00	24	18.00	3.0	17	25.75	4	24	36	36
11	36	40	11.00	2.00	25	17.75	3.0	17	26.50	4	24	36	36
11	44	48	11.125	2.50	30	18.00	3.0	21	26.00	4	24	36	36
11	45	49	11.125	3.00	31	17.75	4.0	22	25.50	3	24	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

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 IDM 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.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sahal Kanwar — 8EF5B0C641F5478...	DocuSigned by: HUNG NGUYEN — 95A0B3FDA7594CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carl Haddock — A93C410E72B5465...
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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NOT TO SCALE	

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Suite 1020
Houston, TX 77008
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TX Firm 18572

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

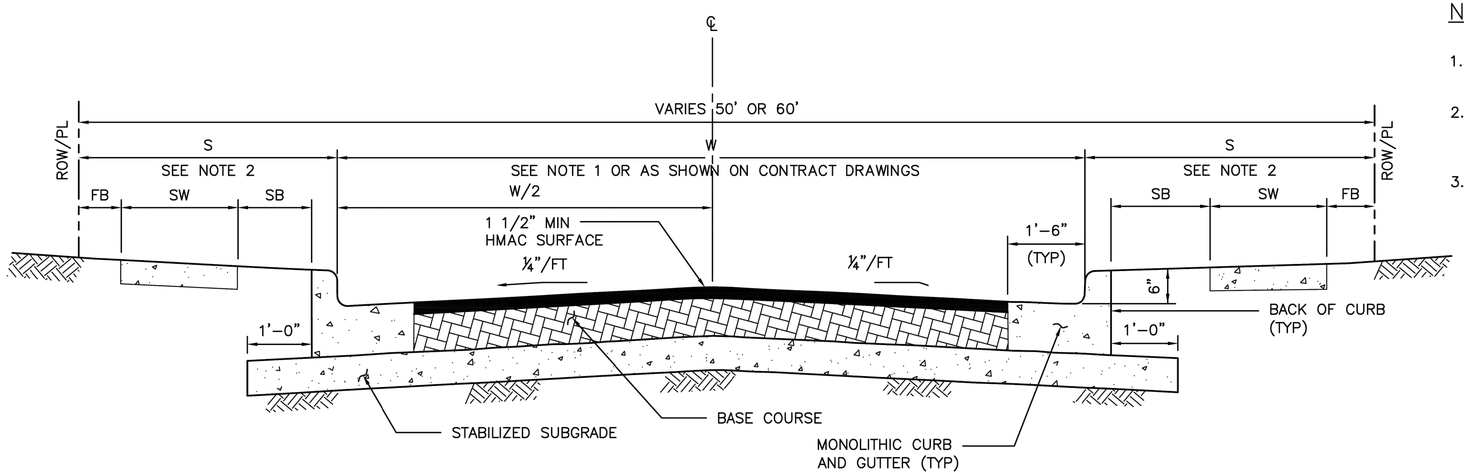
CONCRETE PAVEMENT DETAILS

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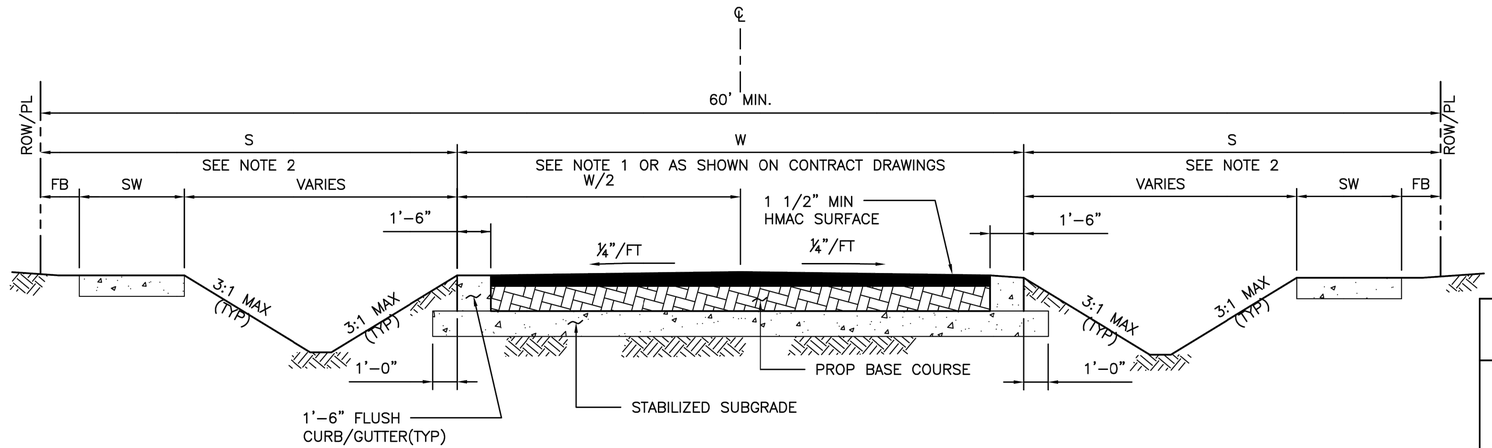
Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\905 SUBMITTAL PLAN SET\287_CONCRETE PAVEMENT DETAILS_02751_01.DWG|LAYOUT:SAVED: Tuesday, September 30, 2025|CH_KALCTBP|LOTTED:Monday, March 02, 2026

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HMAC PAVEMENT – CURB & GUTTER SECTION

(NOT APPLICABLE TO ETJ OF CITY OF HOUSTON)



HMAC PAVEMENT – DITCH SECTION

(NOT APPLICABLE TO ETJ OF CITY OF HOUSTON)

NOTES:

1. FOR TRAVEL WAY WIDTH (W) REFER TO IDM SECTION 10.3.03.A.
2. REFER TO CONTRACT DRAWINGS FOR "S" DIMENSION (S), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
3. BASE COURSE SHALL BE:
   ALTERNATES:
   A) 6" (MIN) HOT MIX ASPHALTIC CONCRETE.
   B) 8" (MIN) CRUSHED CONCRETE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

HOT MIX ASPHALTIC CONCRETE PAVEMENT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukait Kanwar 9EF8B0C841F5478...
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: 02741–01

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GRAY AND TAFT AREA
PAVING AND DRAINAGE

HOT MIX ASPHALTIC CONCRETE PAVEMENT DETAILS

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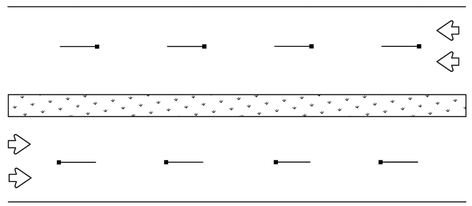
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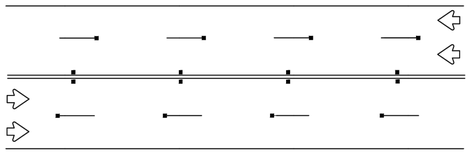
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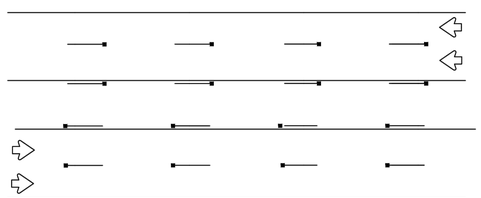
LANE LINES FOR DIVIDED STREET



LANE & CENTER LINES FOR MULTILANE UNDIVIDED STREETS

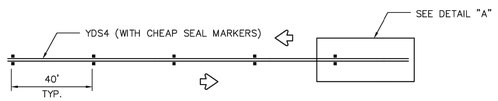


TWO–WAY LEFT TURN LANE



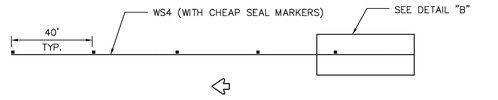
TEMPORARY PAVEMENT MARKINGS PLACEMENT DETAILS

DOUBLE YELLOW LINE



SOLID LINES

EDGE LINE OR SINGLE NO–PASSING LINE

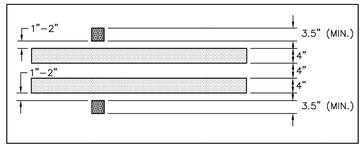


BROKEN LINE

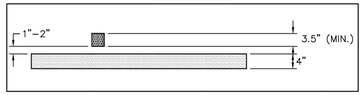


YELLOW DOUBLE BROKEN LINE

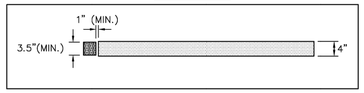
DETAIL "A"



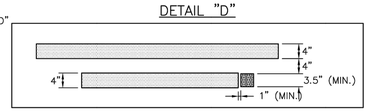
DETAIL "B"



DETAIL "C"



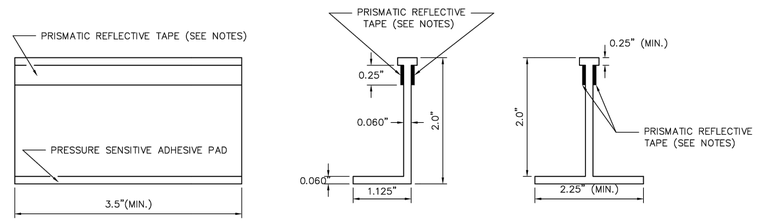
DETAIL "D"



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: DocuSigned by: Carol Haddock A80C4105725B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02760–06

CITY OF HOUSTON
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REFLECTIVE CHIP SEAL MARKER USE FOR TEMPORARY MARKINGS

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TX Firm 18572

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

REFLECTIVE CHIP SEAL MARKER USE FOR TEMPORARY MARKINGS

WBS#: N–210008–0001–3	
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OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
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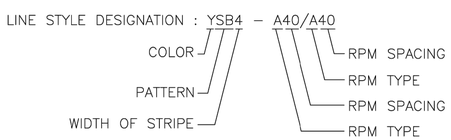
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DESCRIPTION AND APPLICATION OF PAVEMENT MARKING LINES

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.



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).

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A6DC41EB1E6E4E5...	
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

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CITY OF HOUSTON
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GRAY AND TAFT AREA
PAVING AND DRAINAGE

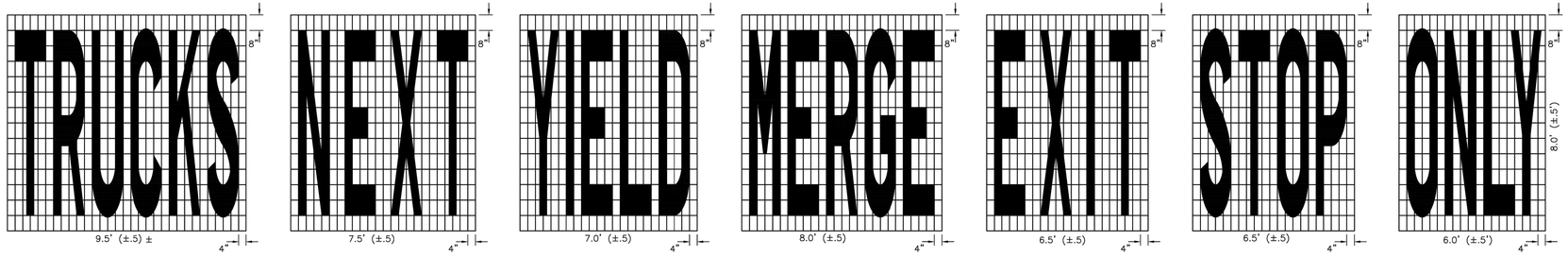
PAVEMENT MARKINGS GENERAL NOTES AND LEGENDS

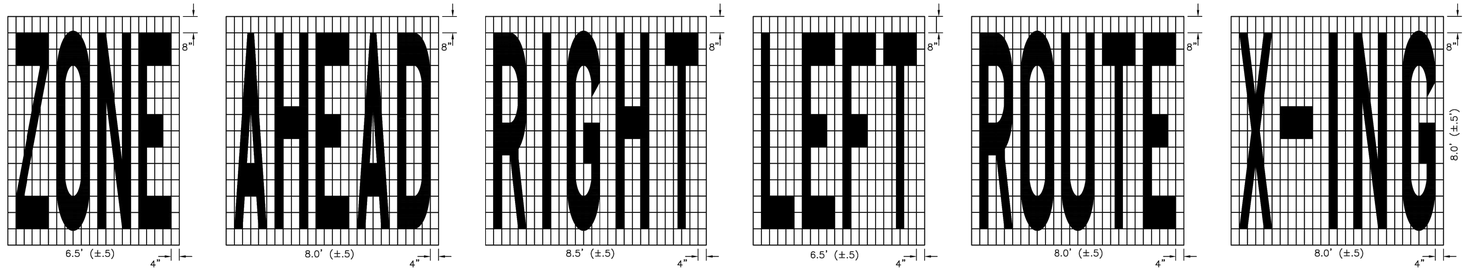
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EFF DATE: NOV-27-2023	DWG NO: 02760-03

CITY OF HOUSTON
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STANDARD PAVEMENT MARKING – (WORDS)

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

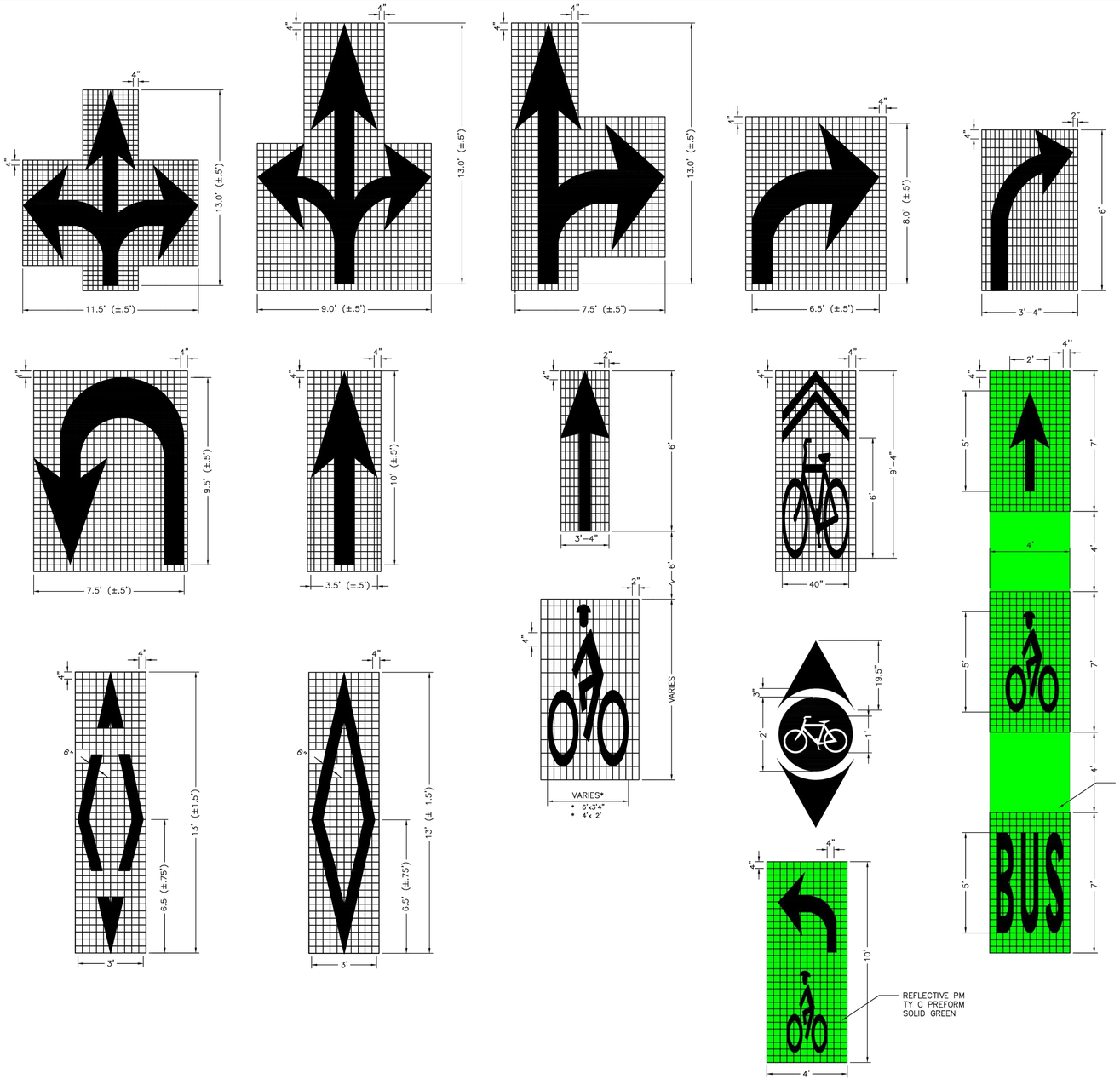
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NOTES FOR PAVEMENT MARKINGS "SYMBOLS" AND "ARROWS":

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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DIRECTOR OF HOUSTON PUBLIC WORKS	
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STANDARD PAVEMENT MARKING – SYMBOLS

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

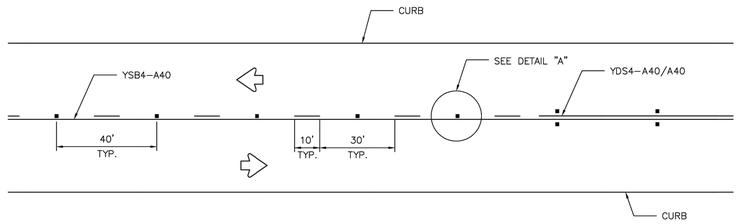
STANDARD PAVEMENT
MARKING – SYMBOLS

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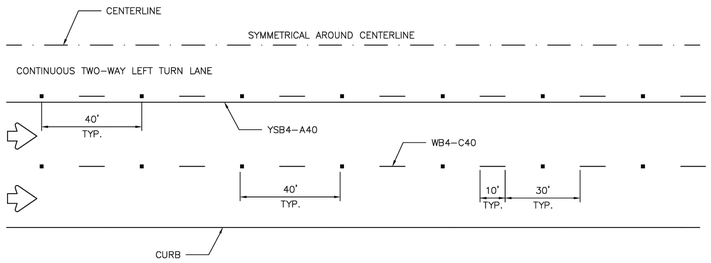
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CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE



CENTERLINE & LANE LINES FOR TWO–WAY LEFT TURN LANE

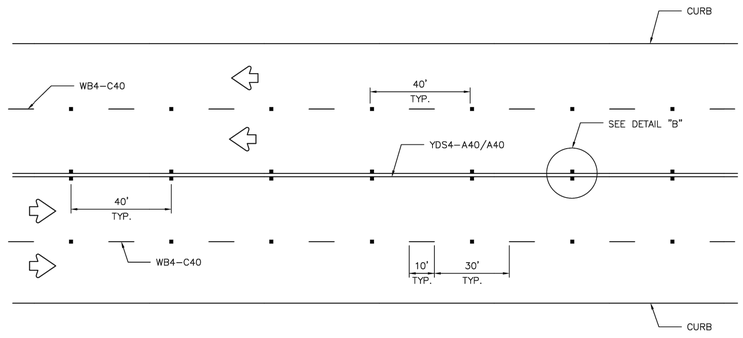


GENERAL NOTES:

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.

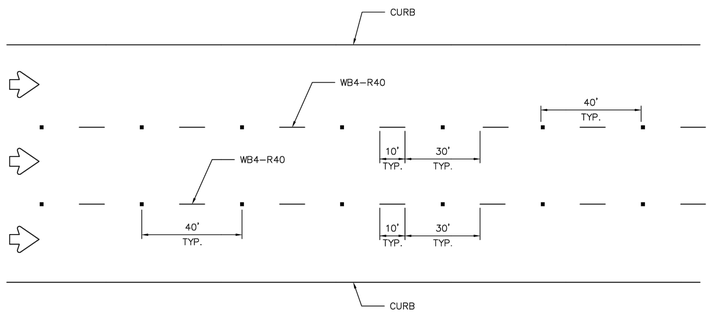
CENTERLINE & LANE LINES FOR FOUR LANE TWO–WAY STREETS

RRPM TYPE C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE PLACED ON 40–FOOT CENTERS.

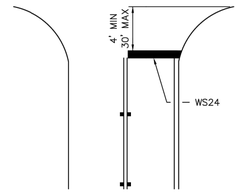


LANE LINES FOR ONE–WAY MULTILANE STREET

RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG–WAY TRAFFIC.

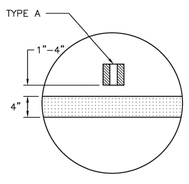


GUIDE FOR PLACEMENT OF STOP LINES & CENTERLINE

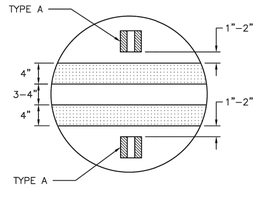


APPROVED BY:	APPROVED BY:
DocuSigned by: Sukut Kunwar — 5EFB80C641F5478...	DocuSigned by: HANG NGUYEN — 95A25EFDA7594CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock — A30C4158F2B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02760–05

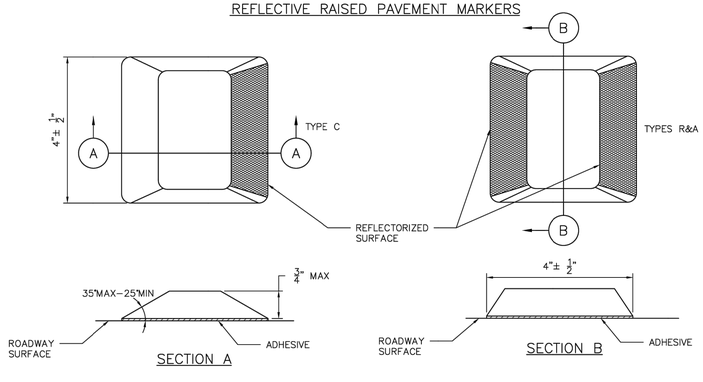
DETAIL "A"



DETAIL "B"



REFLECTIVE RAISED PAVEMENT MARKERS



CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713–739–7744
Fax: 713–739–7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE

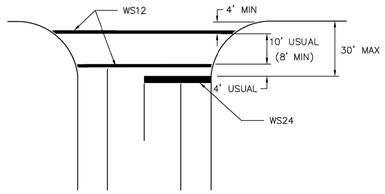
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DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

DISCLAIMER:
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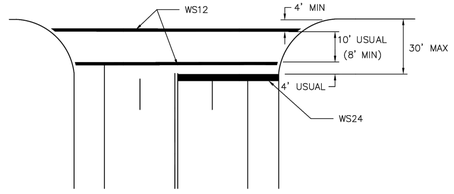
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DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5

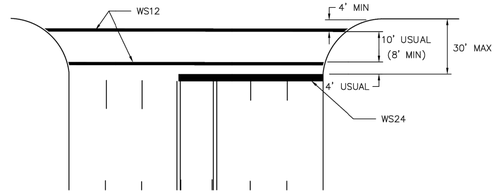
TWO LANES WITH SHOULDERS



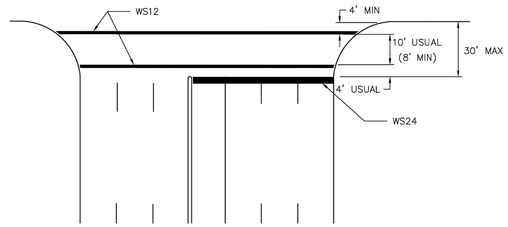
FOUR LANES WITH SHOULDERS



MULTI – LANES



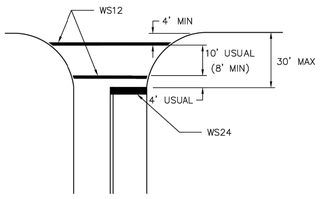
MULTI – LANE WITH MEDIAN



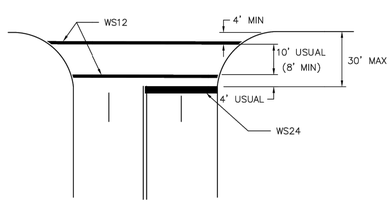
NOTES:

1. CROSSWALKS AND STOP LINES SHALL BE WHITE.
2. "D" IS EQUAL TO ONE HALF THE WIDTH OF TRAVEL LANE.

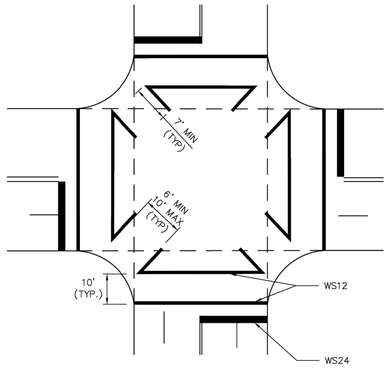
TWO LANES



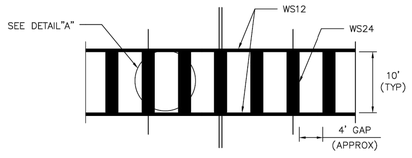
FOUR LANES



EXCLUSIVE PEDESTRIAN PHASE

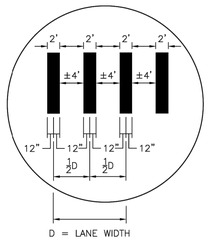


HIGH VISIBILITY CROSSWALK DETAIL



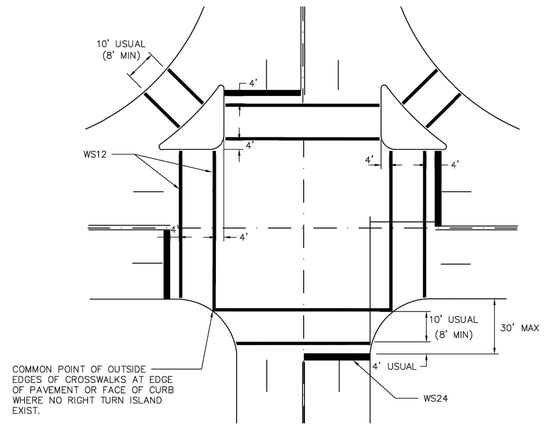
TYPICALLY USED AT SIGNALIZED AND NON–SIGNALIZED CROSSINGS ON COLLECTOR AND ARTERIAL ROADWAYS AND AT LOCATIONS REQUIRING EXTRA EMPHASIS.

DETAIL "A"



D = LANE WIDTH

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:
DocuSigned by: Sulaid Kawwar –9EF880C841F5478...	DocuSigned by: HANG NGUYEN –59A29EFDA7B64CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock –A83C41667283453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02760–12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CROSSWALK DETAILS

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NOT TO SCALE	

IMS
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713–739–7744
Fax: 713–739–7746
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TYPICAL CROSSWALK DETAILS

WBS#: N–210008–0001–3	
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OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

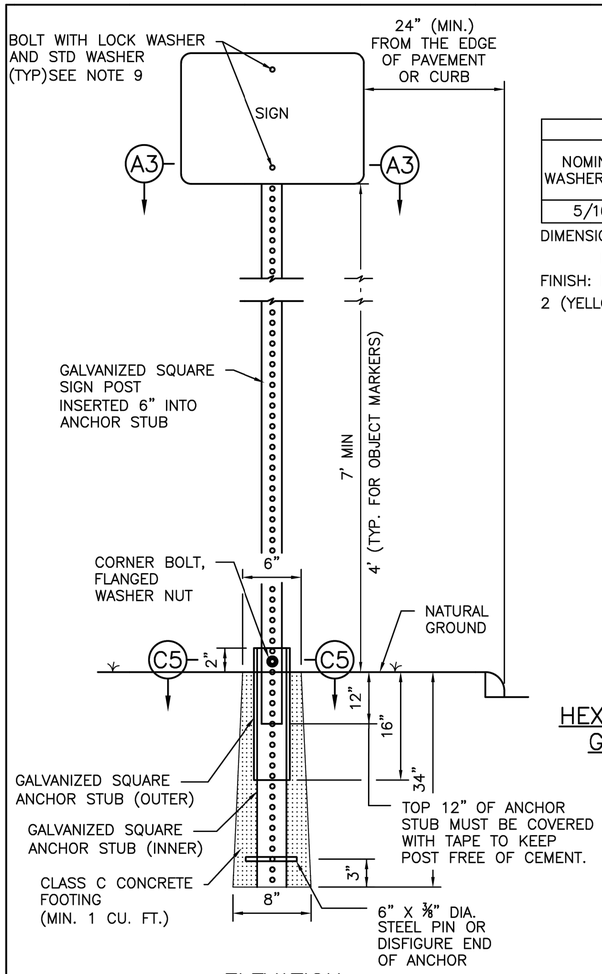
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Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\294_TYPICAL CROSSWALK DETAILS_02760_12.DWG|YLW|SAVED:Monday, March 02, 2026|CDH_KAI.CTB|PLOTTED:Monday, March 02, 2026

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\905 SUBMITTAL PLAN SET\295_GENERAL NOTES AND GROUND MOUNTING SIGN_01554_01.DWG|TLK|SAVED: Wednesday, October 01, 2025|COH_KALCTB|PLOTTED: Monday, March 02, 2026

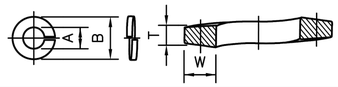
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ELEVATION

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)



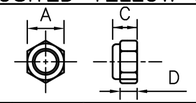
NOMINAL WASHER SIZE	A INSIDE DIAMETER MAX	A INSIDE DIAMETER MIN	B OUTSIDE DIAMETER MAX	T MEAN SECTION (THICKNESS)	W SECTION WIDTH
5/16"	0.332"	0.314"	0.583"	0.078"	0.125"

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

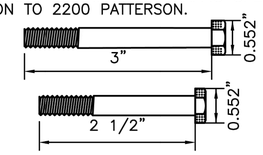
MATERIAL: CARBON STEEL, GRADE 8 PER ASME B18.16.6, NYLON ⅚

THREAD REQUIREMENTS: ASME B1.1 UNC & UNF CLASS 2B

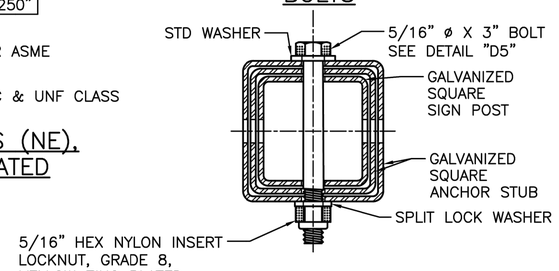
HEX NYLON INSERT LOCKNUTS (NE), GRADE 8, YELLOW ZINC PLATED

NOTES:

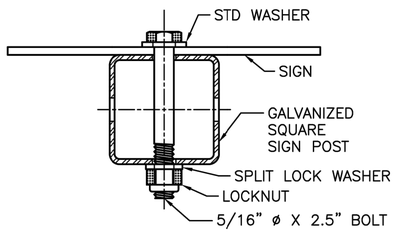
1. THE EXISTING SIGNS LOCATED ON PUBLIC CONSTRUCTION SITE ARE THE PROPERTY OF THE CITY OF HOUSTON. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS 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.



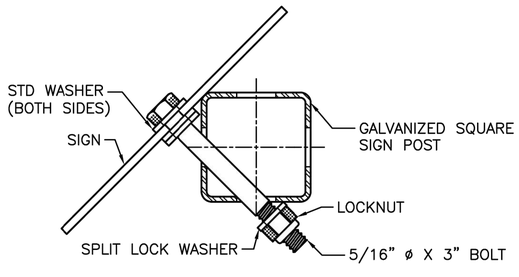
SECTION D5 BOLTS



SECTION C5 CORNER BOLT



STANDARD ORIENTATION



NON–STANDARD ORIENTATION

SECTION A3: SIGN CONNECTION DETAILS

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 ⅜" 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.

ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713–739–7744
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TX Firm 18572

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

GENERAL NOTES AND GROUND MOUNTING SIGN

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C410D72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023

DWG NO: 01554–01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

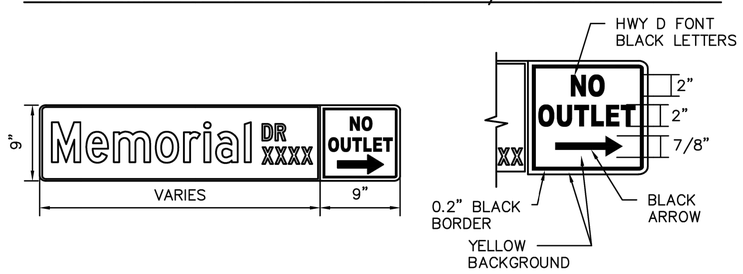
GRAY AND TAFT AREA PAVING AND DRAINAGE

GENERAL NOTES AND GROUND MOUNTING SIGN

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

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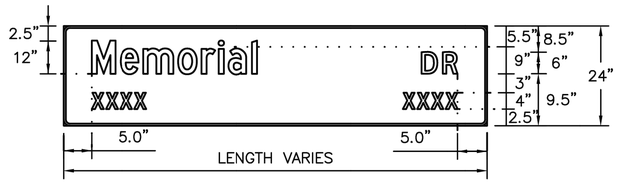
POST MOUNTED STREET NAME SIGN W/ NO OUTLET SIGN



D3 – POST MOUNTED STREET NAME SIGN



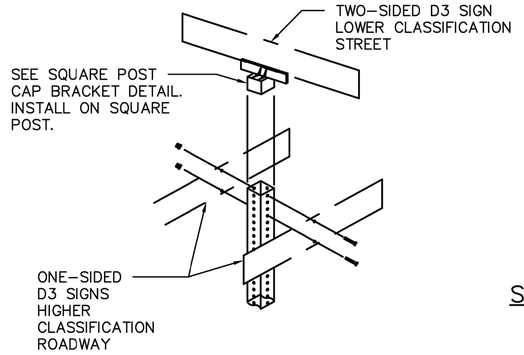
OVERHEAD STREET NAME SIGN DETAIL



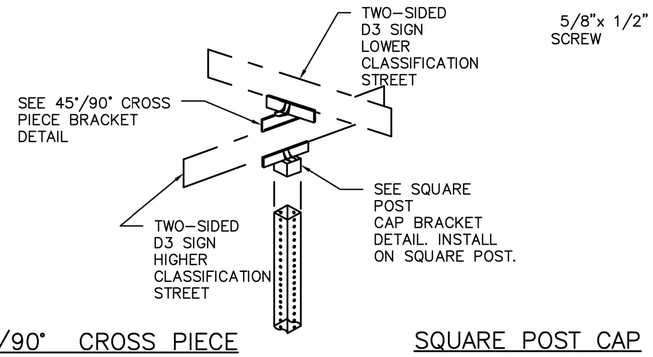
D3 – STREET NAME SIGN

	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	

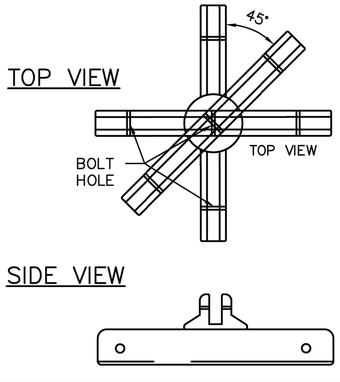
D3 SIGNS GREATER THAN 42" PLATES IN LENGTH



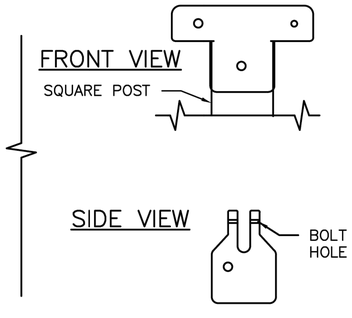
D3 SIGNS LESS THAN OR EQUAL TO 42" PLATES IN LENGTH



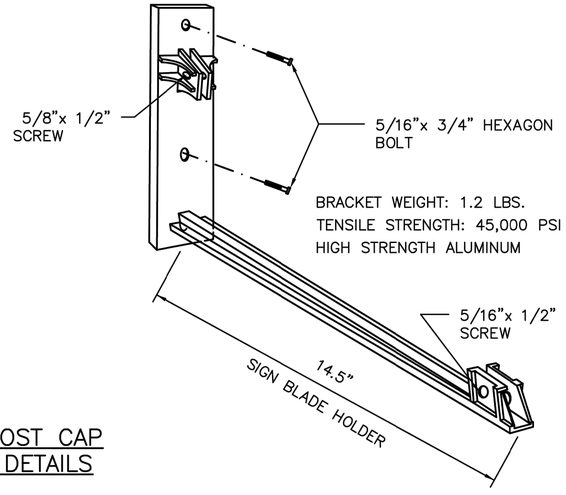
45°/90° CROSS PIECE SIGN BRACKET



SQUARE POST CAP BRACKET DETAILS



SIGNAL POLE MOUNTING DETAIL



NOTES:

1. TYPICAL SIGN PLATE SHOULD BE 30" MAX.
2. LONGER SIGN PLATE MUST BE APPROVED BY THE CITY TRAFFIC ENGINEER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET NAME SIGN AND SIGN MOUNTING

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C841F5478... CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA7584CD... CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A93C41087283453... DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 01554–03

ims
1225 NORTH LOOP WEST
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Houston, TX 77008
Tel: 713–739–7744
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www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

STREET NAME SIGN AND SIGN MOUNTING

WBS#:	N–210008–0001–3
DRAWING SCALE:	NOT TO SCALE
CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF

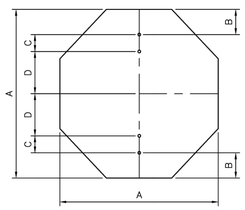
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR 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.

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\286_STREET NAME SIGN AND SIGN MOUNTING_01554_03.DWG\TUKSAVED: Wednesday, October 01, 2025\CDH_KAI.CTB\PLOTTED: Monday, March 02, 2026

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

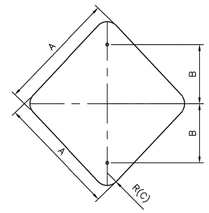
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DISCLAIMER:
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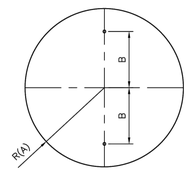
OCTAGONAL

A	B	C	D	T
24	3	3	12	0.08
36	3	3	24	0.08



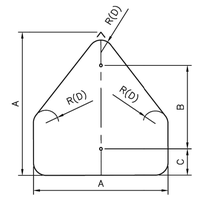
DIAMOND

A	B	C	T
24	12	1 1/2	0.08
30	15	1 1/2	0.08
36	18	1 1/2	0.08



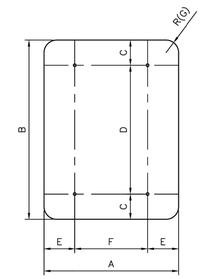
CIRCLE

A	B	T
15	15	0.08
18	12	0.08



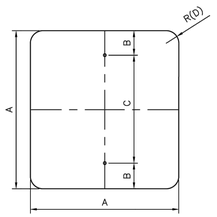
PENTAGON (SCHOOL)

A	B	C	D	T
36	24	3	1 1/2	0.08



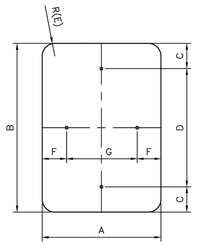
VERTICAL RECTANGLE

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



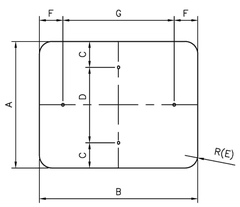
SQUARE (A)

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



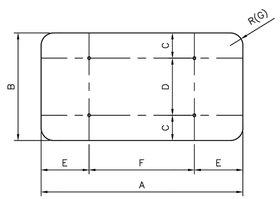
VERTICAL/HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
12	18	1 1/2	15	1 1/2	1 1/2	9	0.08
12	36	3	30	1 1/2	1 1/2	9	0.08
18	24	3	18	1 1/2	1 1/2	15	0.08
24	30	3	24	1 1/2	3	18	0.08
24	36	3	30	1 1/2	3	18	0.08
24	48	3	36	1 1/2	3	18	0.08
30	36	3	30	1 1/2	3	24	0.08



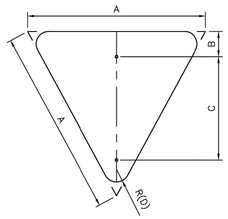
HORIZONTAL/VERTICAL RECTANGLE

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	9	1	10	1 1/2	–	–	0.08
24	12	1 1/2	9	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	9	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

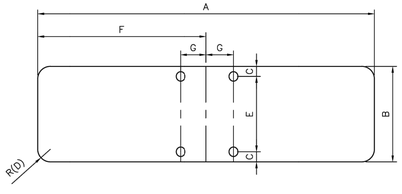


TABLE – D3 SIGNS (BRACKETS)

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

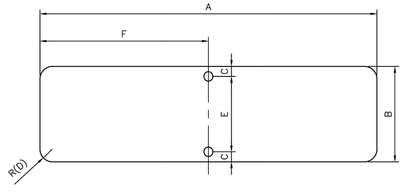


TABLE – D3 SIGNS

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

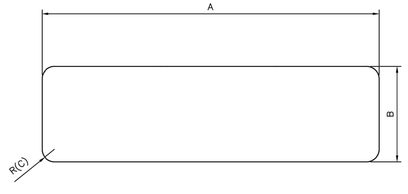
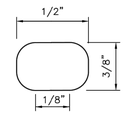


TABLE – D1 SIGNS

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:	APPROVED BY:
DocuSigned by: Sukait Kauwar — 0EF8B8C0841F5478...	DocuSigned by: KHANG NGUYEN — 95A29EF0A25B4C0...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Hackbarth — 68FC4159729D463...	
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

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
Fax: 713-739-7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

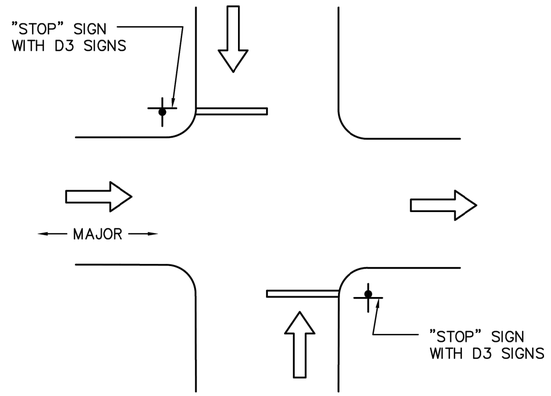
GRAY AND TAFT AREA
PAVING AND DRAINAGE

GROUND MOUNTED
SIGN SIZES

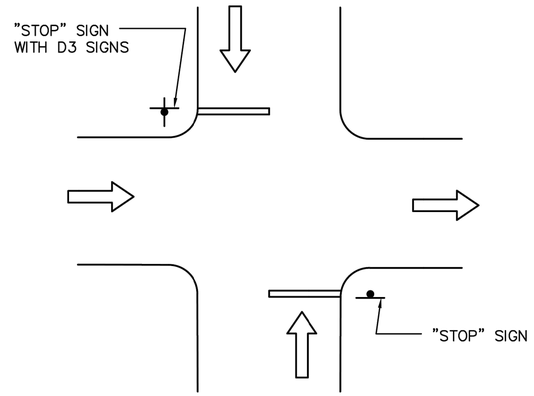
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NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

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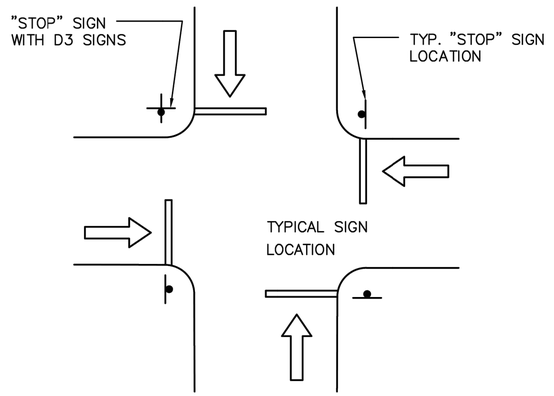
TYPICAL SIGN PLACEMENT



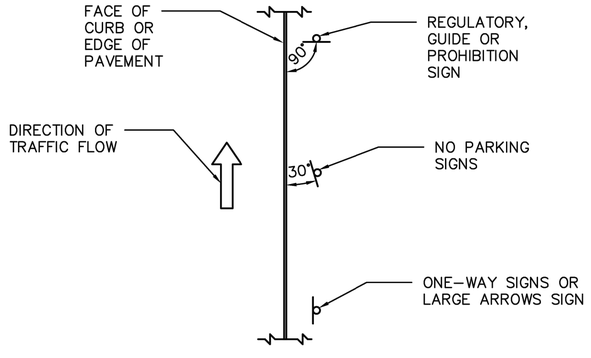
TWO–WAY STOP
AND ONE–WAY OPERATION
ON MAJOR/LOCAL INTERSECTION



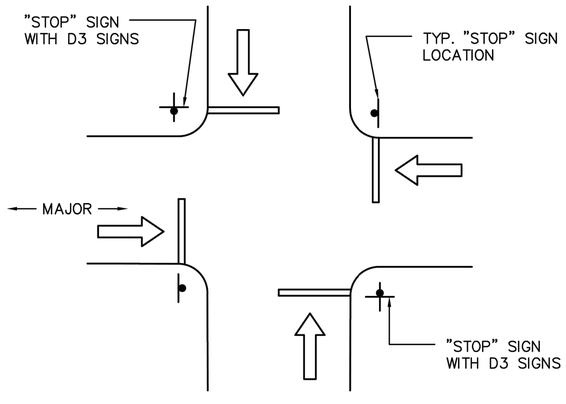
TWO–WAY STOP
AND ONE–WAY OPERATION
ON LOCAL/LOCAL INTERSECTION



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:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL SIGN PLACEMENT

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF880C841F5478...
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: 01554–07

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TYPICAL SIGN PLACEMENT

WBS#:	N–210008–0001–3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\298_TYPICAL SIGN PLACEMENT_01554_07.DWG|YLINK|SAVED: Wednesday, October 01, 2025|JCOH_KAI.CTB|PLOTTED: Monday, March 02, 2026

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 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	CW20-1	36X36
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	36X36
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

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock 4E9C4165738A4A7...	
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

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

TYPICAL CITY OF HOUSTON SIGNS

SHEET 1 OF 2

WBS#:	N-210008-0001-3
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SHEET NO.	OF

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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

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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

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SURVEYED BY: KUO & ASSOCIATES
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

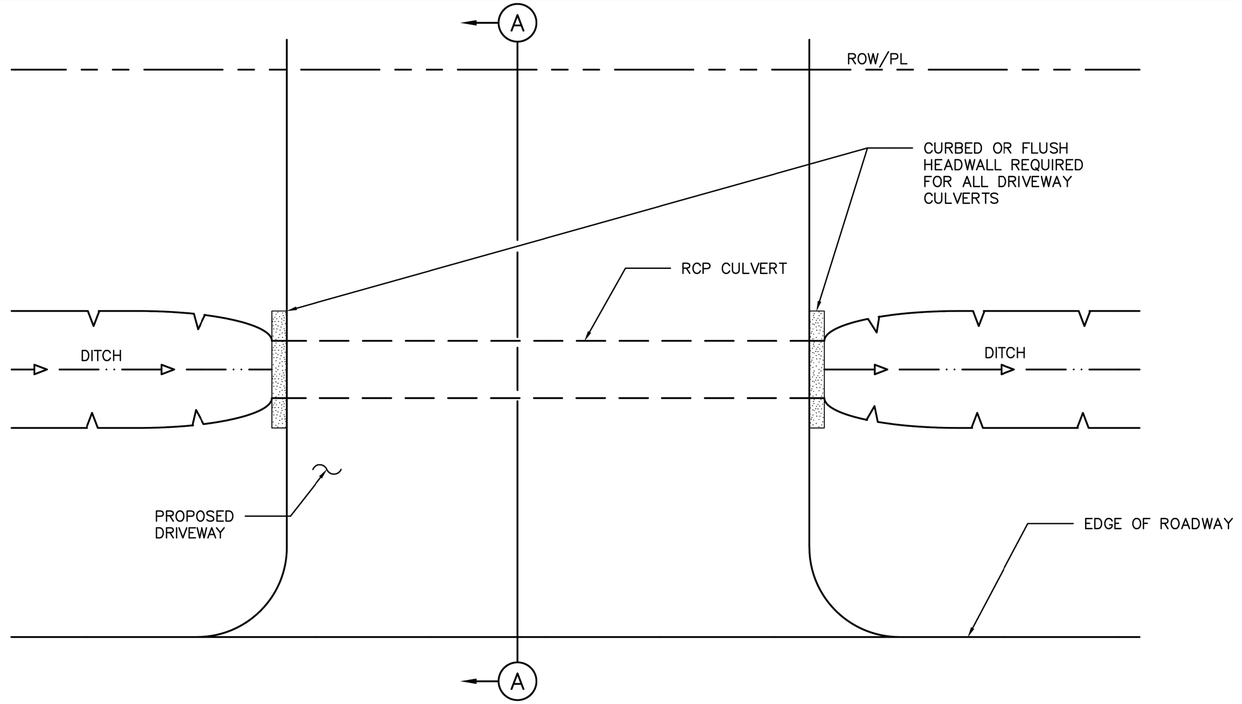
TYPICAL CITY OF HOUSTON SIGNS

SHEET 2 OF 2

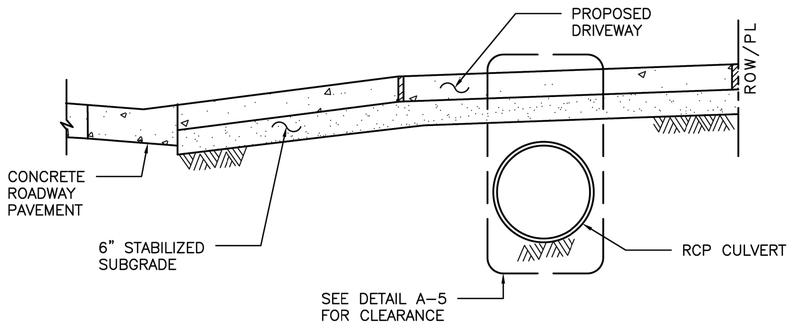
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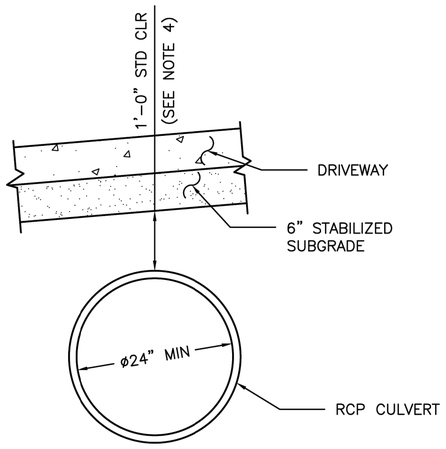
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PLAN VIEW
STANDARD OPEN DITCH DRIVEWAY



SECTION A–A
STANDARD PIPE CULVERT CLEARANCE



DETAIL A–5
CULVERT CLEARANCE

NOTES:

1. PIPE CULVERTS SHALL CONFORM TO CHAPTER 9 DESIGN REQUIREMENTS OF THE INFRASTRUCTURE DESIGN MANUAL AND MATERIAL REQUIREMENTS OF STANDARD CONSTRUCTION SPECIFICATION SECTION 02631.
2. RCP CULVERT SIZE WILL BE APPROVED BY CITY ENGINEER WITH 24" DIAMETER MINIMUM.
3. DRIVEWAY MATERIAL WITHIN THE RIGHT OF WAY SHALL BE CONCRETE OR ASPHALT.
4. WHERE STANDARD 1'–0" CLEARANCE IS NOT FEASIBLE, MINIMUM CLEARANCE OF 6" IS ALLOWED WHEN APPROVED BY THE OFFICE OF THE CITY ENGINEER (OCE).
5. DITCH FLOW LINE DIRECTION DEPICTED IS SHOWN AS AN EXAMPLE AND MAY NOT MATCH SITE SPECIFIC CONDITIONS. REFER TO CONTRACT DRAWINGS FOR FLOW LINE DIRECTION AND ELEVATIONS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRIVEWAYS WITH CULVERTS ON OPEN DITCH TYPE STREETS

(SCALE: NOT TO SCALE)

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DocuSigned by: Suhail Kanwar 9EF880C841F5478... CITY ENGINEER	DocuSigned by: Carol Haddock A93C41087283453... DIRECTOR OF HPW
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EFF DATE: NOV–27–2023	DWG NO: 02754–02

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HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

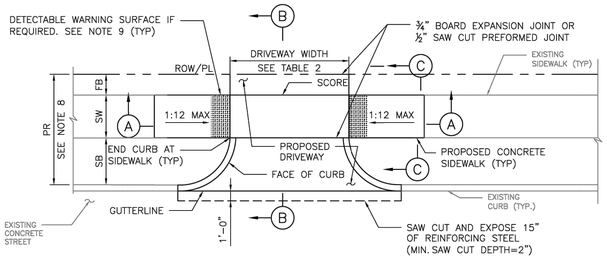
DRIVEWAYS WITH CULVERTS ON OPEN DITCH TYPE STREETS

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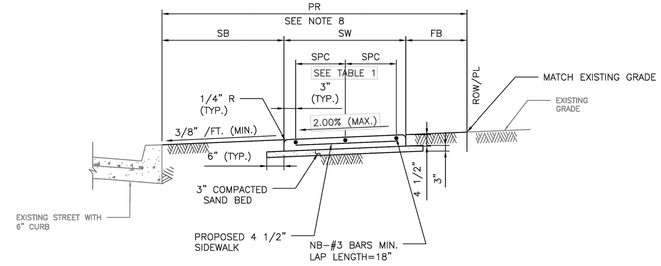
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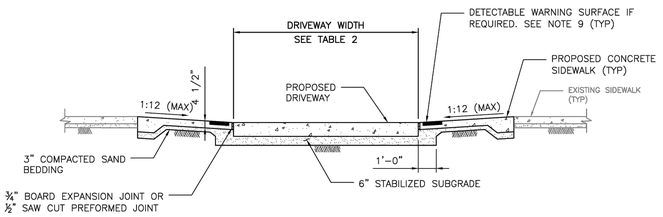
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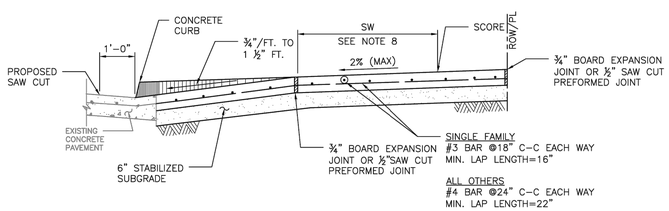
PLAN VIEW
DRIVEWAY



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

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.

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"	LONGITUDINAL STEEL #3 BARS SPACING "SPC" (IN)	LONGITUDINAL STEEL #3 BARS 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	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.

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar 8EF8B0C8415F478...	DocuSigned by: HANG NGUYEN 95A26EFDA7884CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A8AC41087B8A43...	
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	

ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713–739–7744
Fax: 713–739–7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

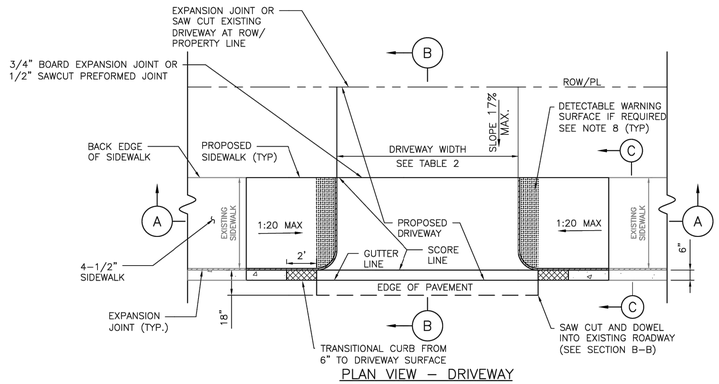
DRIVEWAY DETAIL WITH 6" CURBED STREETS

WBS#:	N–210008–0001–3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

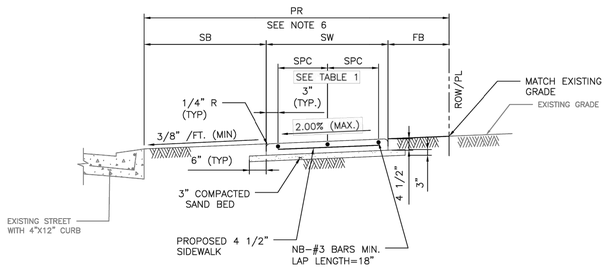
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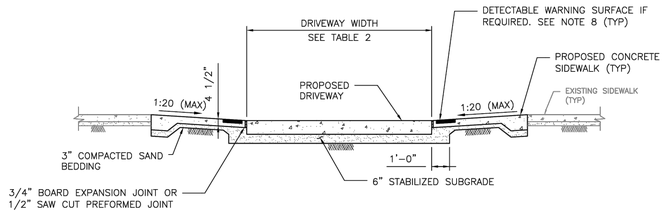
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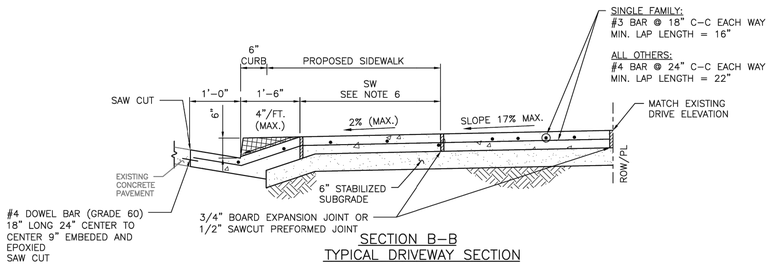
PLAN VIEW – DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY



SECTION B–B
TYPICAL DRIVEWAY SECTION

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. 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), FRONTAGE BUFFER (FB), 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
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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		NO. OF BARS "NB"	SPACING "SPC" (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(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.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukat Kanwar 3EF8B0BCB4F1447B...	DocuSigned by: HANG NGUYEN 99AC80FF0A7B4ADD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A80C41087B0A483...	
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

ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713–739–7744
Fax: 713–739–7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

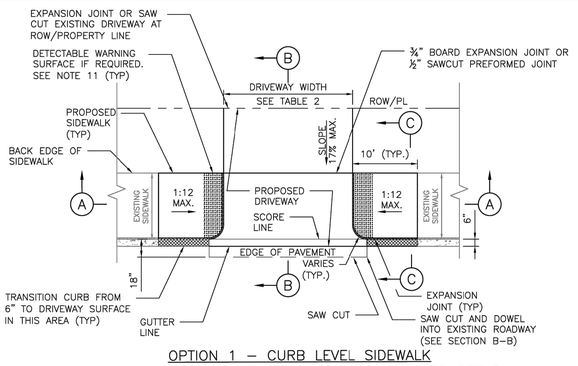
PROPOSED SIDEWALK THROUGH DRIVEWAY WITH MINIMAL ELEVATION DIFFERENCE

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

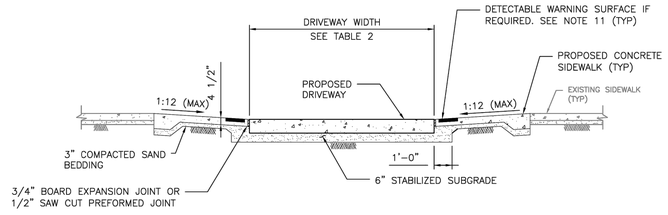
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Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\90R SUBMITTAL PLAN SET\303_PROPOSED SIDEWALK THROUGH DRIVEWAY WITH MINIMAL ELEVATION DIFFERENCE_02754_04.DWG?LM(SAVED: Wednesday, October 01, 2025|COH_KAI.CTB|PLOTTED: Monday, March 02, 2026

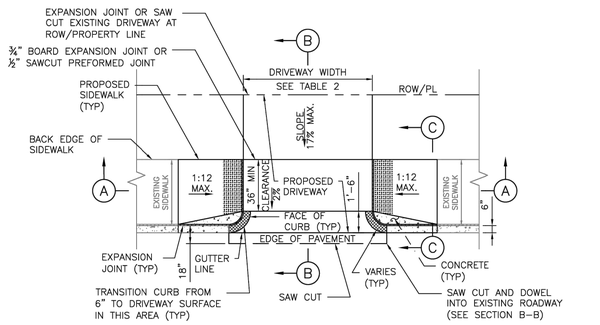
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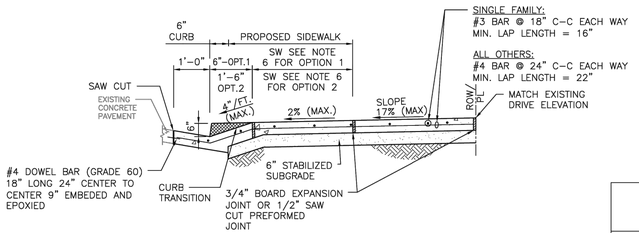
OPTION 1 – CURB LEVEL SIDEWALK
PLAN VIEW – DRIVEWAY WITHOUT CURB AT CURB RETURN



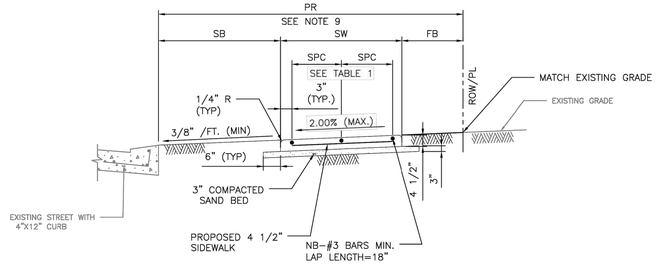
SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY



OPTION 2 – CURB LEVEL SIDEWALK
PLAN VIEW – DRIVEWAY WITH CURB AT CURB RETURN



SECTION B–B
TYPICAL DRIVEWAY SECTION THROUGH DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION

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 ACCESSIBILITY 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.

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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		NO. OF BARS "NB"	SPACING "SPC" (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(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.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukut Kanwar SEFBB0C641F5478...	DocuSigned by: HANG NGUYEN 95A26EFDA7B84CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A80C410B72B3453...	
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

ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
Fax: 713-739-7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

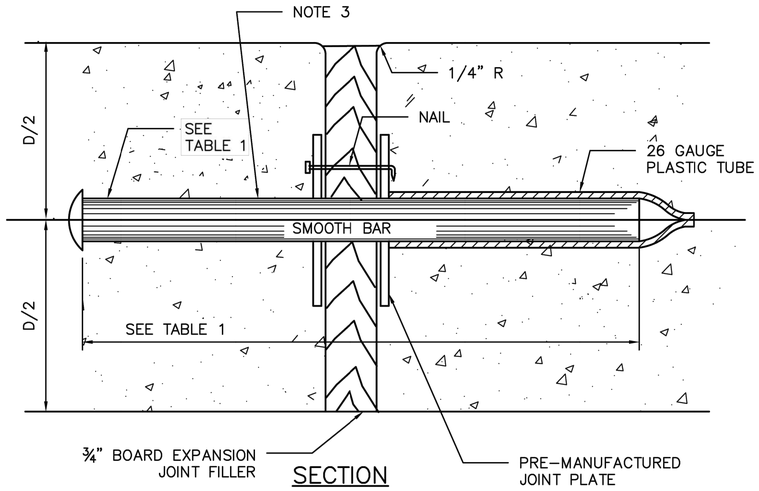
PROPOSED SIDEWALK THROUGH DRIVEWAY WITH EXCESSIVE ELEVATION DIFFERENCE

WBS#:	N-210008-0001-3
DRAWING SCALE:	NOT TO SCALE
CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF

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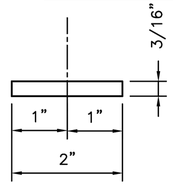
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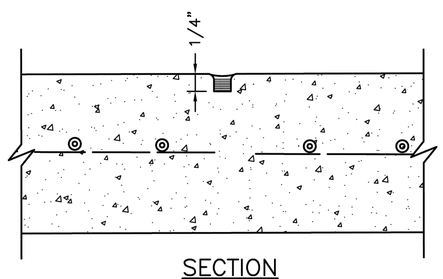
SECTION

DOWEL TYPE EXPANSION JOINT



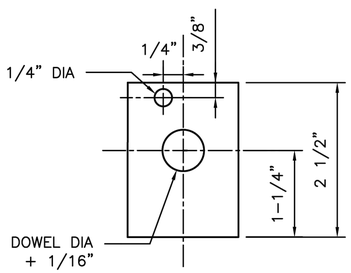
PLAN VIEW

JOINT PLATE



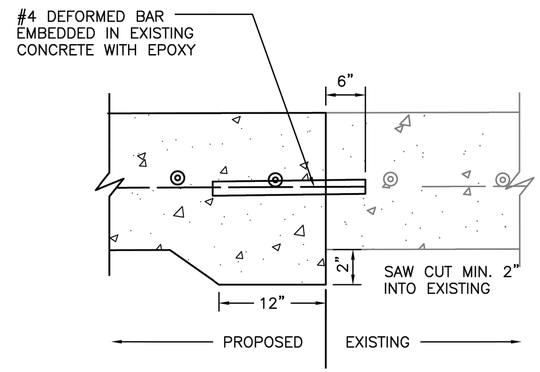
SECTION

CONTROL JOINT



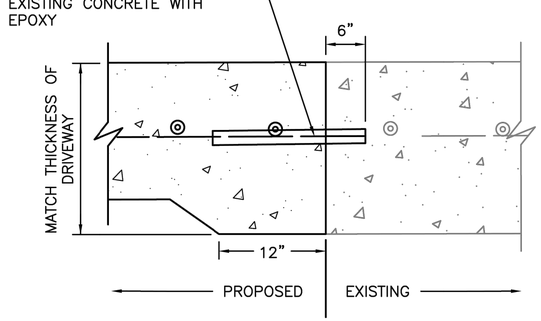
ELEVATION VIEW

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.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0CB41F5478...
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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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

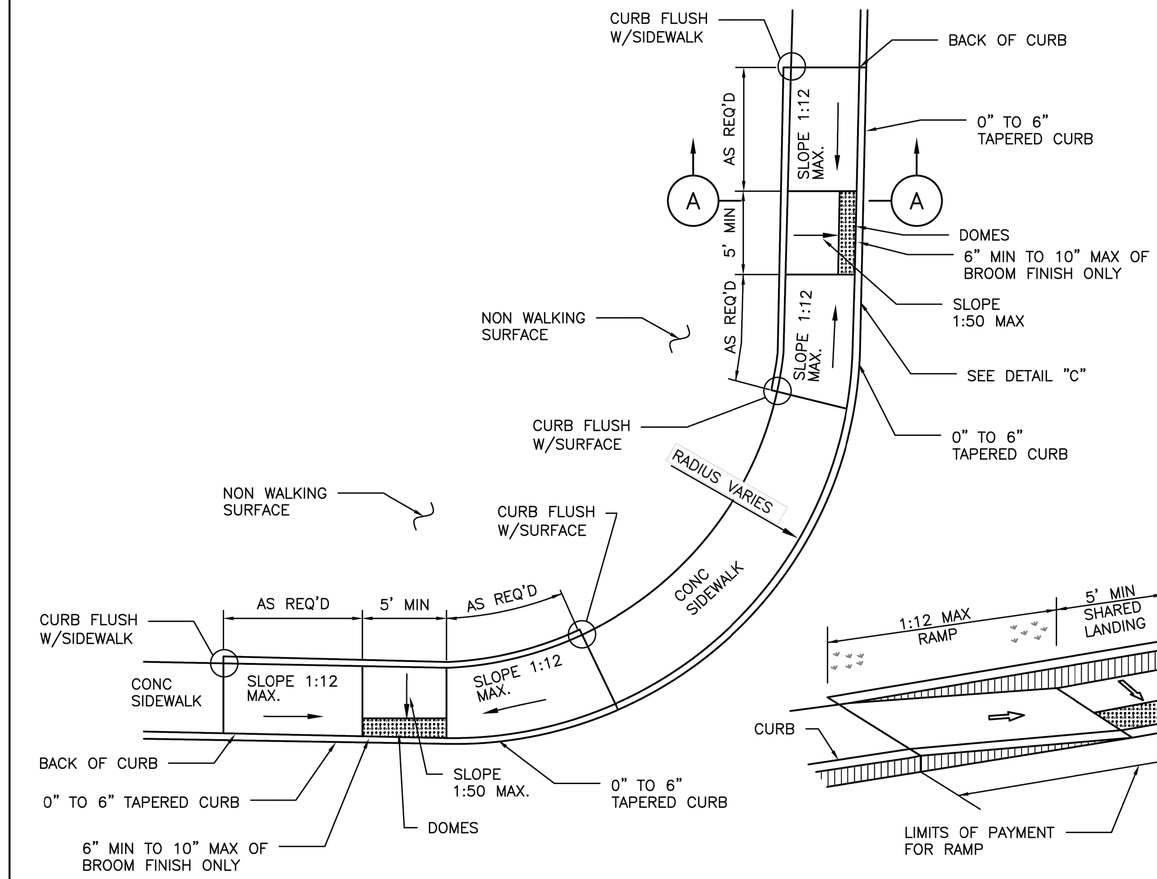
GRAY AND TAFT AREA PAVING AND DRAINAGE

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

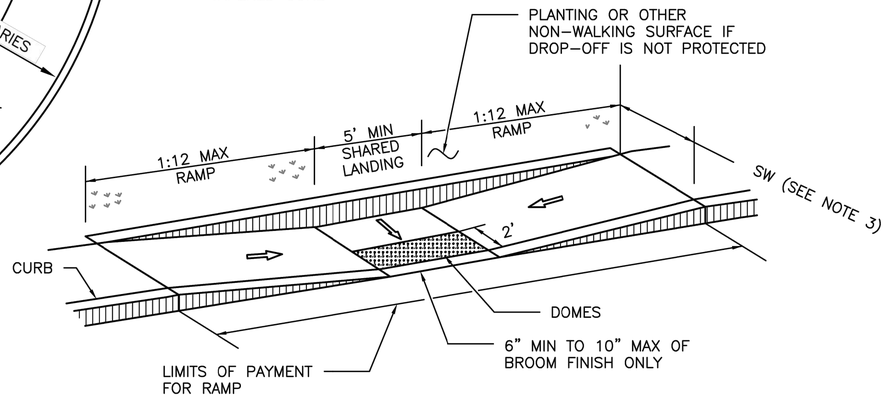
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CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF

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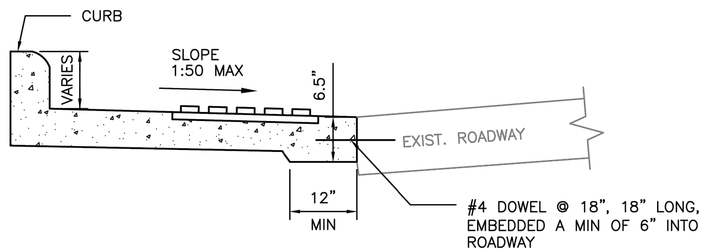
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SIDEWALK ON BACK OF CURB



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:

DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...
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: 02775-03

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HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

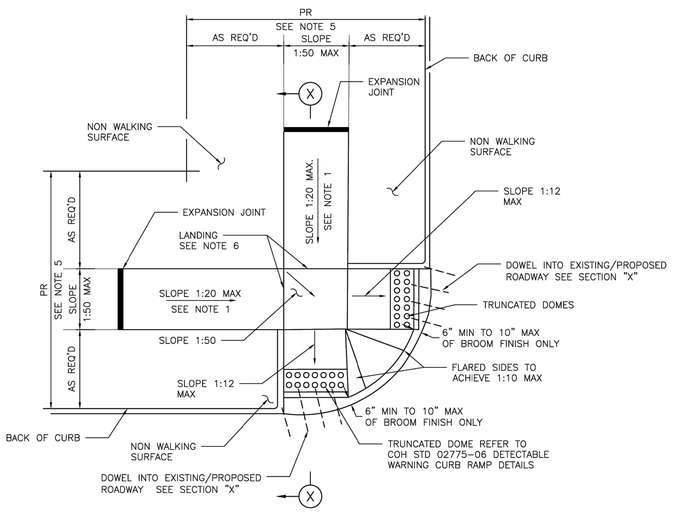
PARALLEL CURB RAMP

WBS#:	N-210008-0001-3
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CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
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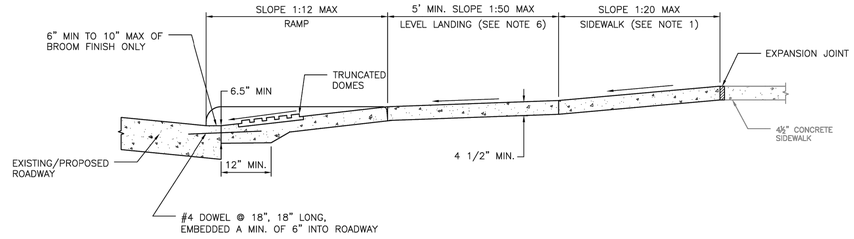
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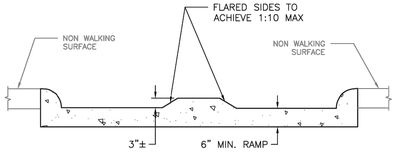
STREETS WITH NON– WALKING SURFACE BEHIND CURB
SEE NOTE–7



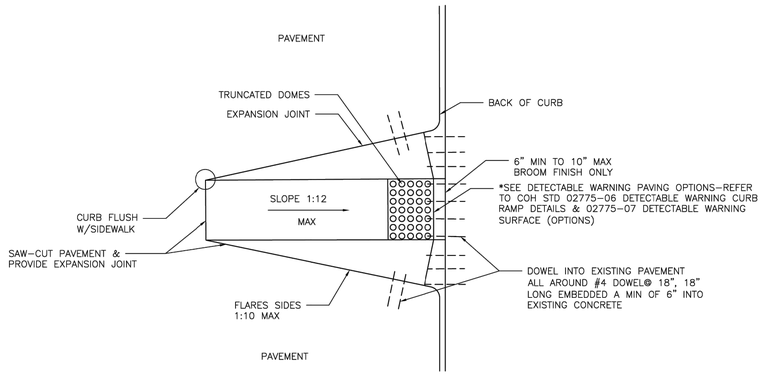
SECTION X–X

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

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CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Curt Hahlbeck 5B0C41BB1B5A453...	
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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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

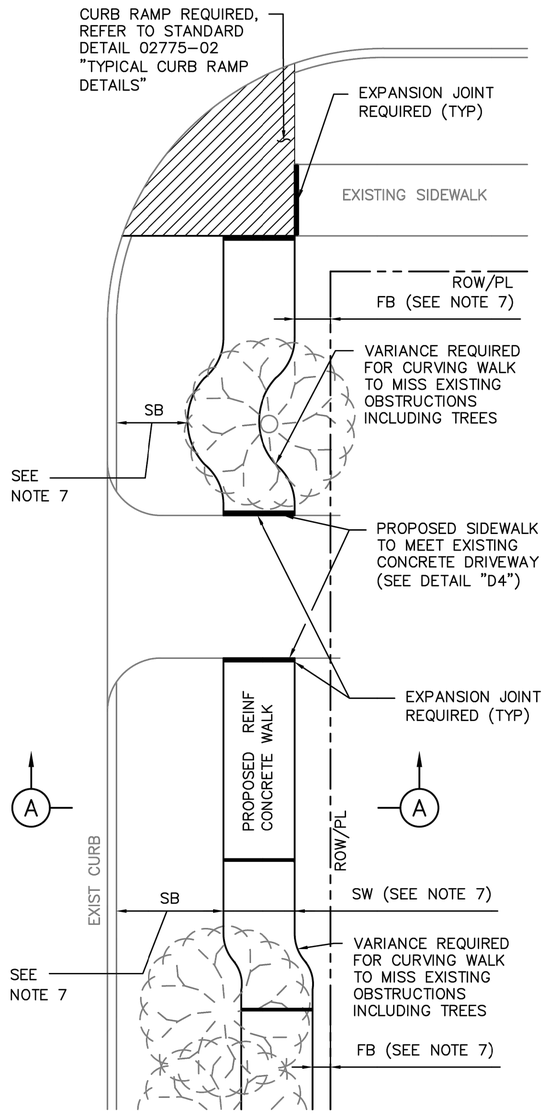
TYPICAL CURB RAMP DETAILS

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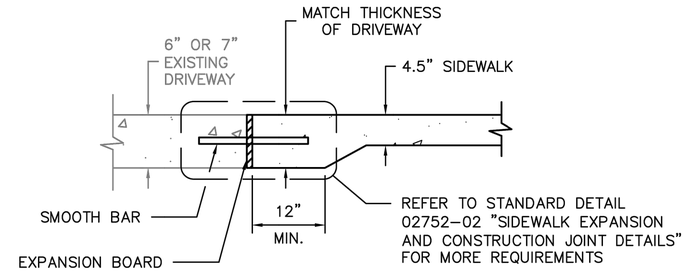
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PLAN VIEW

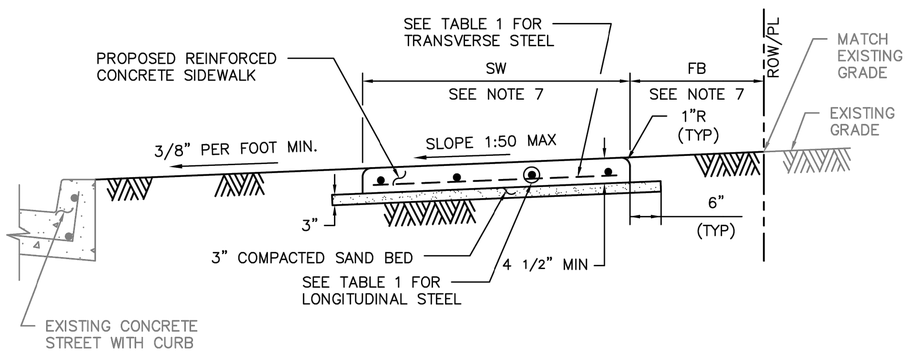


DETAIL D4
DRIVEWAY/SIDEWALK HEADER

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
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			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		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 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 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:

DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA7584CD...
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

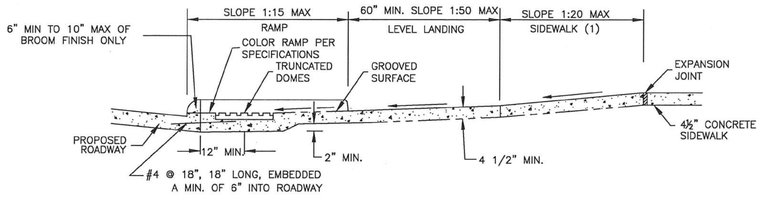
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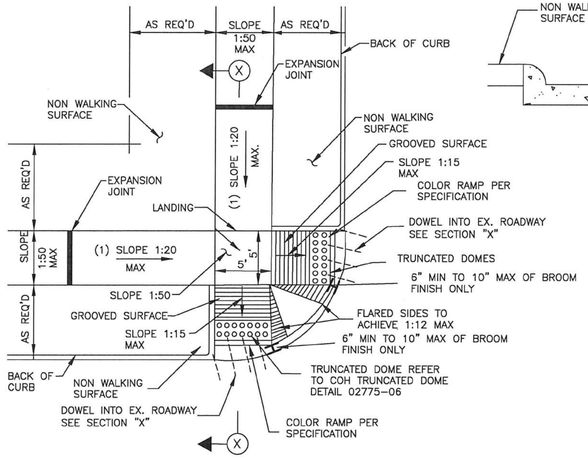
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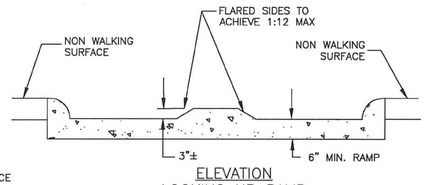
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02775-02



SECTION (X)



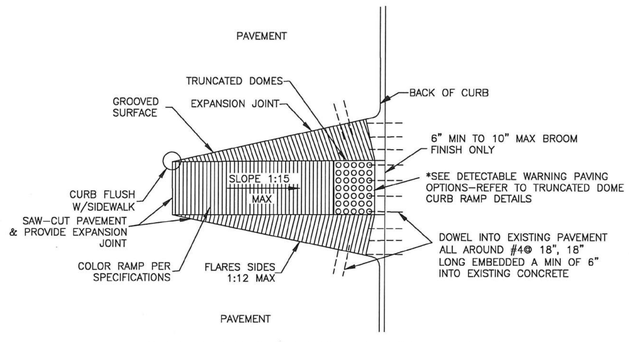


ELEVATION
LOOKING UP RAMP
NTS

NOTES:

1. REPLACE EXISTING SIDEWALK FROM LEVEL LANDING AS NECESSARY TO ACHIEVE 1:20 SLOPE
2. SLOPES GREATER THAN 1:20 BUT LESS THAN 1:15 (MAX) REQUIRE GROOVES AND COLORING
3. BROOM FINISH IS MEASURED FROM FACE OF CURB.
4. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, 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 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

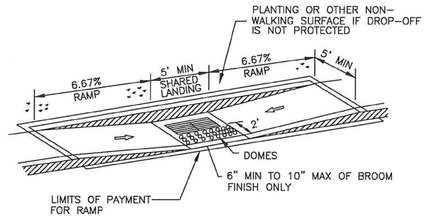
STREETS WITH NON- WALKING SURFACE BEHIND CURB
NTS



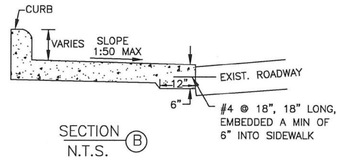
RAMP CONSTRUCTION FOR EXISTING PAVEMENT

WHEEL CHAIR RAMP DETAILS
NTS

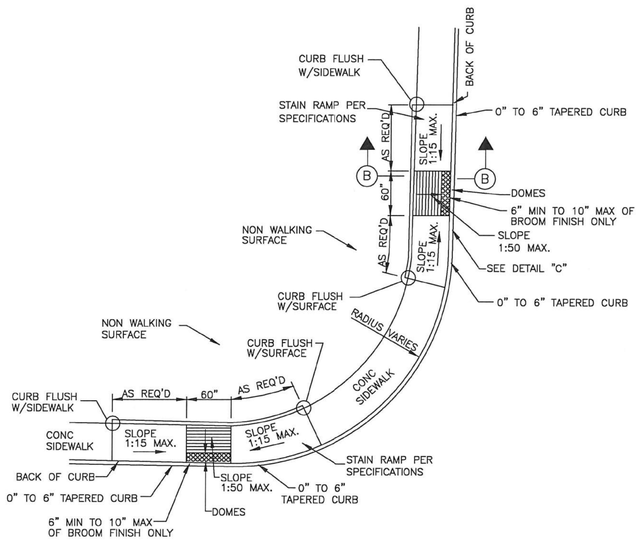
02775-03



DETAIL "C"



SECTION (B)
N.T.S.



SIDEWALK ON BACK OF CURB
N.T.S.

PARALLEL CURB RAMP
NTS

NOTES:

1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, 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 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STREET PAVING AND SIDEWALK
02775-02 THROUGH 02775-03

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DEPUTY DIRECTOR

APPROVED BY:
DIRECTOR OF HOUSTON PUBLIC WORKS

EFFECTIVE DATE: JUL-01-2020
FOR CITY OF HOUSTON USE ONLY

SHEET NO.

ims
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TX Firm 18572

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

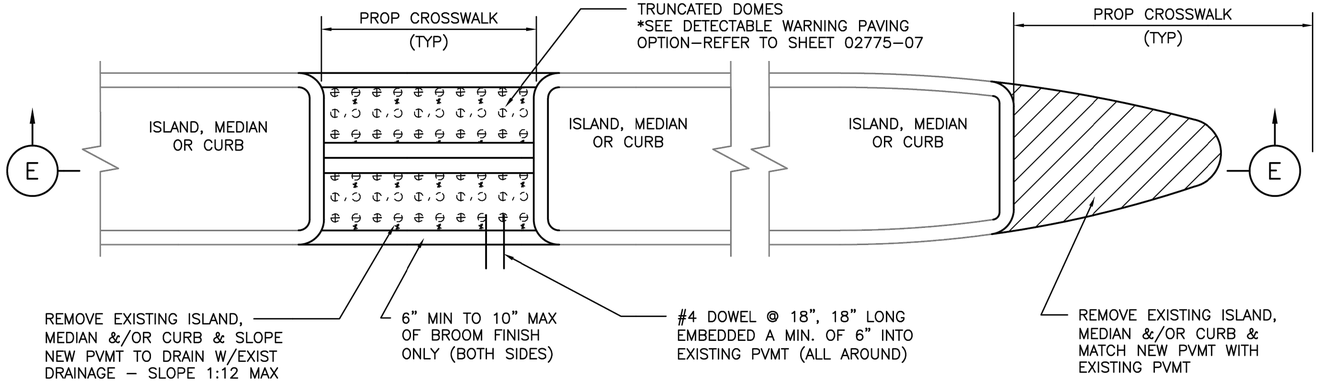
GRAY AND TAFT AREA
PAVING AND DRAINAGE

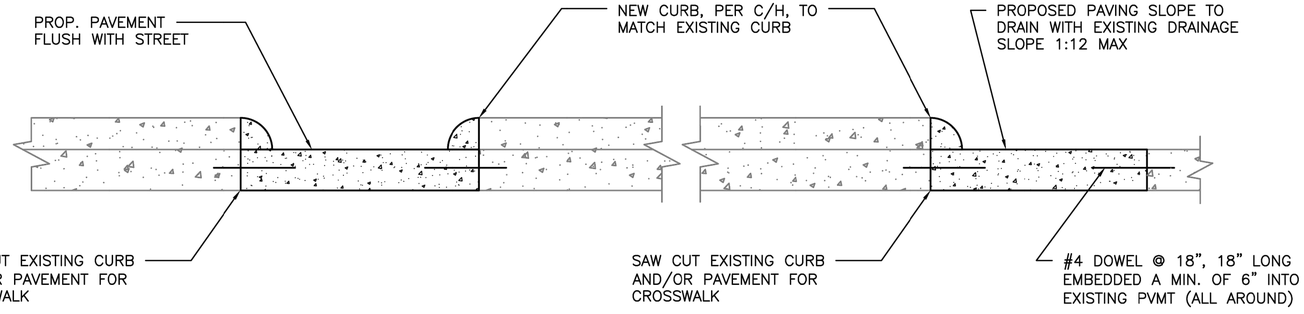
STREET PAVING AND SIDEWALK
02775-02 THROUGH 02775-03

WBS#: N-210008-0001-3	
DRAWING SCALE:	
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\309_STREET PAVING AND SIDEWALK 02775_02 THROUGH 02775_03.DWG\TyLER(SAVED: Wednesday, October 01, 2025|COH_KAI.CTB|PLOTTED: Monday, March 02, 2026

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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 9EF8B0C641F547B...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock A83C410B72B3453...
DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02775–04

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

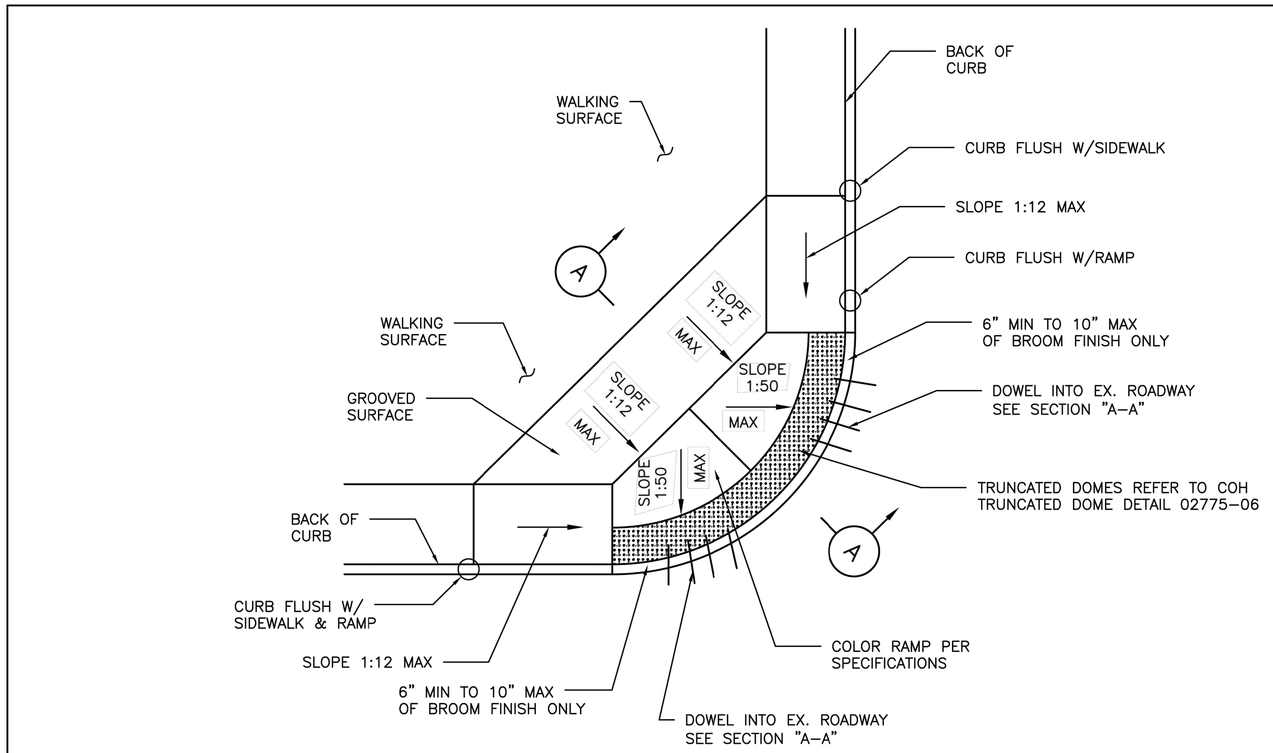
CURB MODIFICATION FOR CURB RAMPS & CROSSWALKS

WBS#:	N–210008–0001–3
DRAWING SCALE:	NOT TO SCALE
CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF

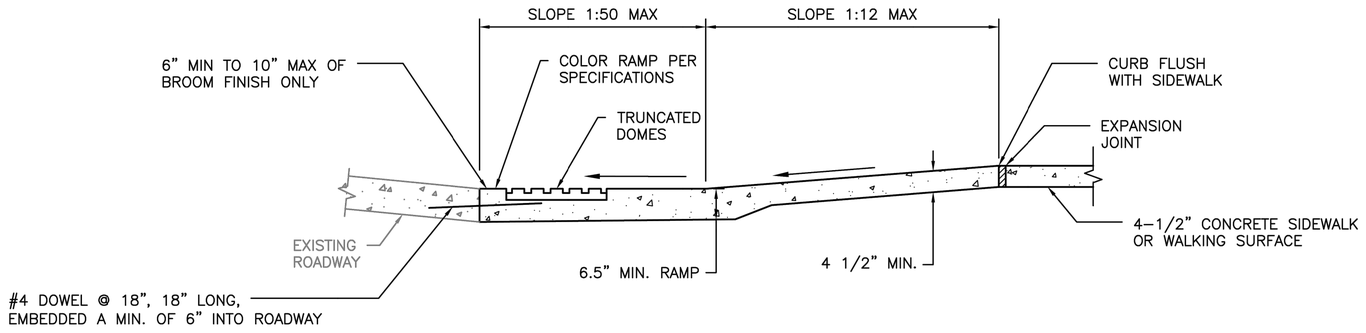
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR 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.

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II – GRAY&TAFT\004 DESIGN\005 SUBMITTAL PLAN SET\310_CURB MODIFICATION FOR CURB RAMPS & CROSSWALKS_02775_04.DWG|TLM|SAVED: Wednesday, October 01, 2025|COH_JKA|CTB|PLOTTED: Friday, February 27, 2026

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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.

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.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

COMMERCIAL & HIGH DENSITY CONDITIONS CURB RAMP DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukail kanwar — 9EF8B0C841F5478...
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: 02775–05

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www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

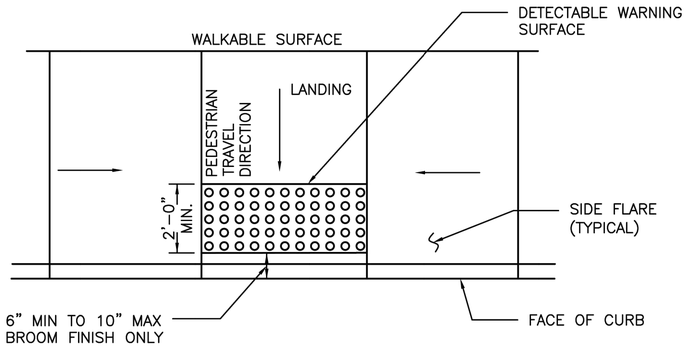
GRAY AND TAFT AREA
PAVING AND DRAINAGE

COMMERCIAL & HIGH DENSITY CONDITIONS CURB RAMP DETAILS

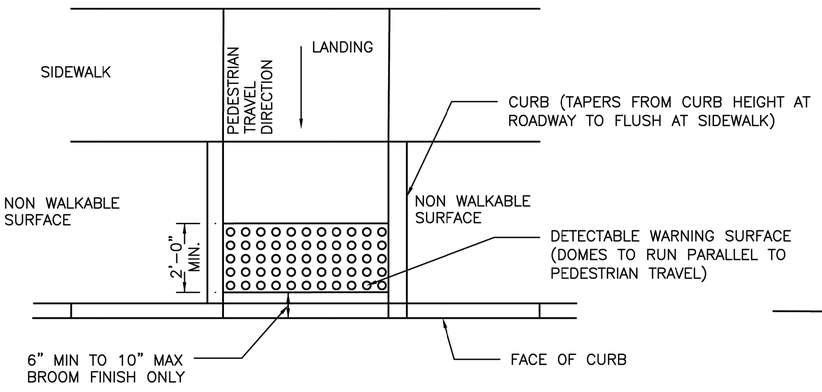
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

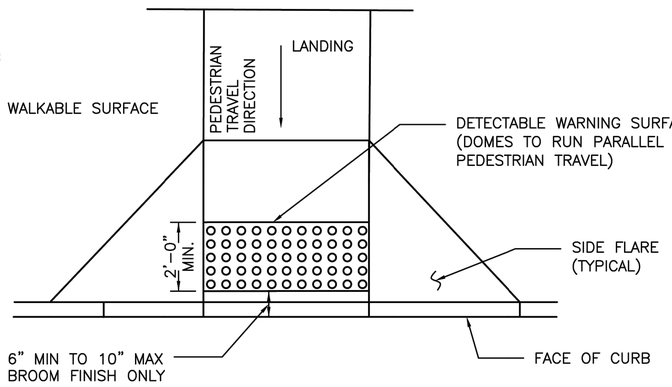
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TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE





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.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DETECTABLE WARNING CURB RAMP DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EFB80C841F5478...
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: 02775–06

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

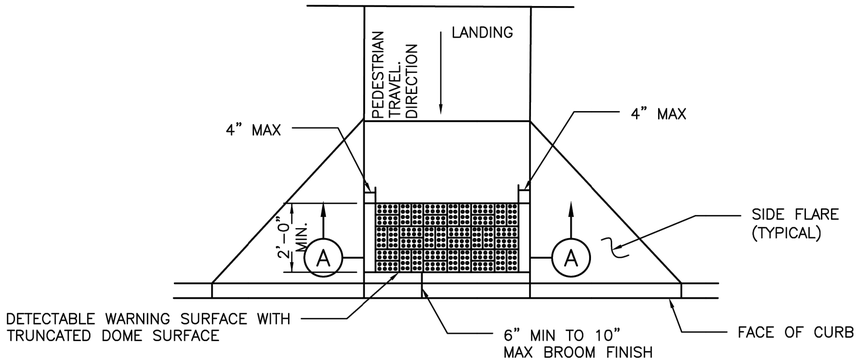
DETECTABLE WARNING CURB RAMP DETAILS

WBS#: N–210008–0001–3	
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CITY OF HOUSTON PM	
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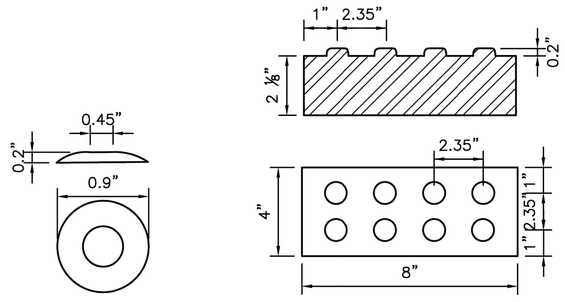
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DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



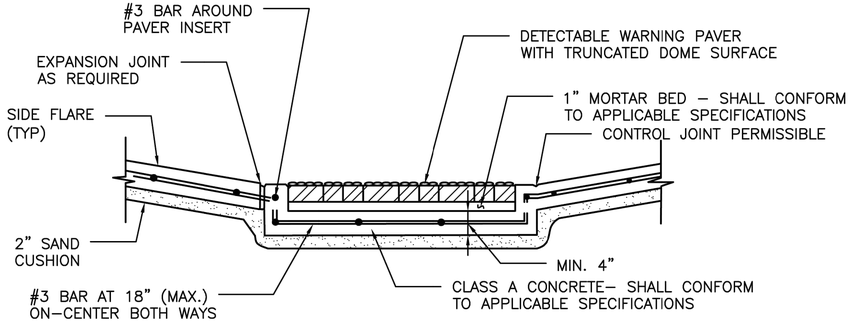
PLAN VIEW

DETECTABLE WARNING SURFACE



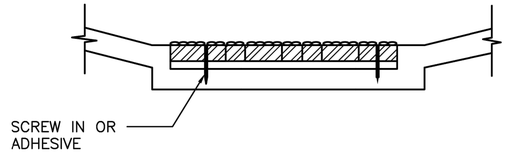
DETAIL

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

DISCLAIMER:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DETECTABLE WARNING SURFACE (OPTIONS)

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF880C841F5478...
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: 02775–07

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SURVEYED BY: KUO & ASSOCIATES
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

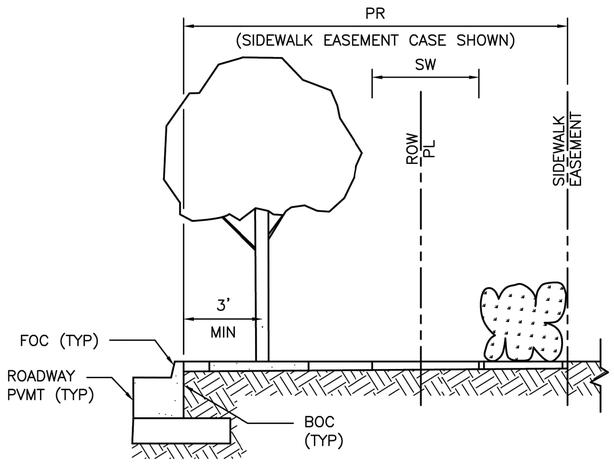
GRAY AND TAFT AREA PAVING AND DRAINAGE

DETECTABLE WARNING SURFACE (OPTIONS)

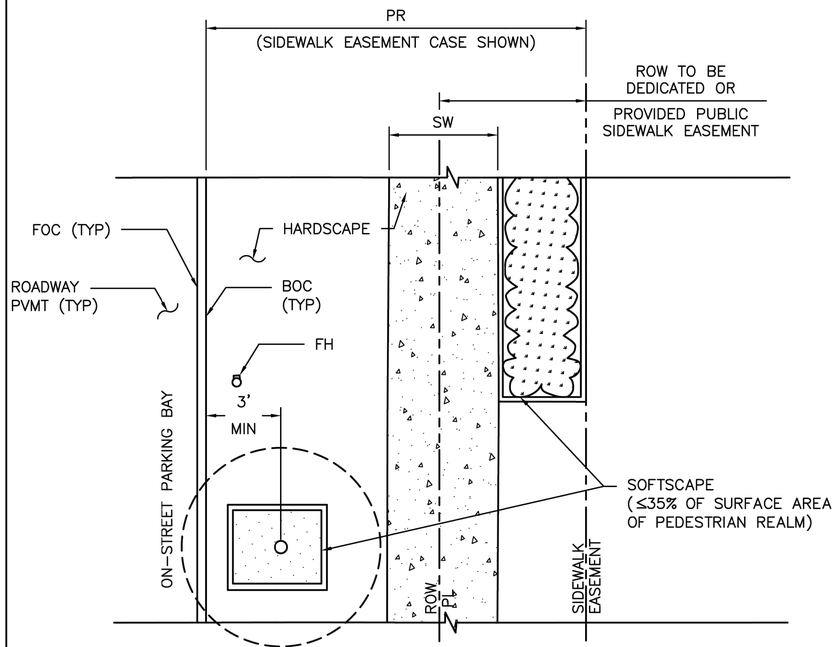
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NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\WORK SUBMITTAL PLAN SET\3X3_DETECTABLE WARNING SURFACE (OPTIONS).DWG[TABLOTTED] Friday, February 27, 2026

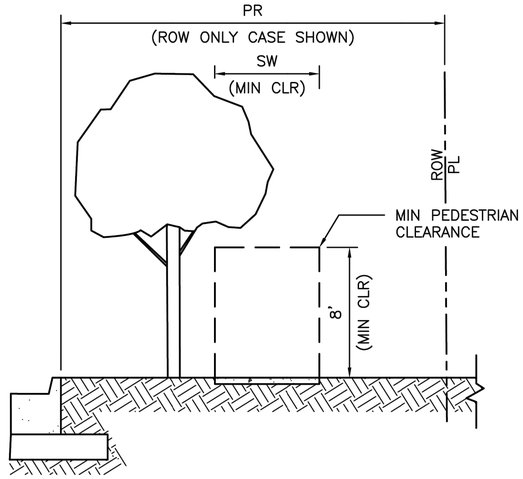
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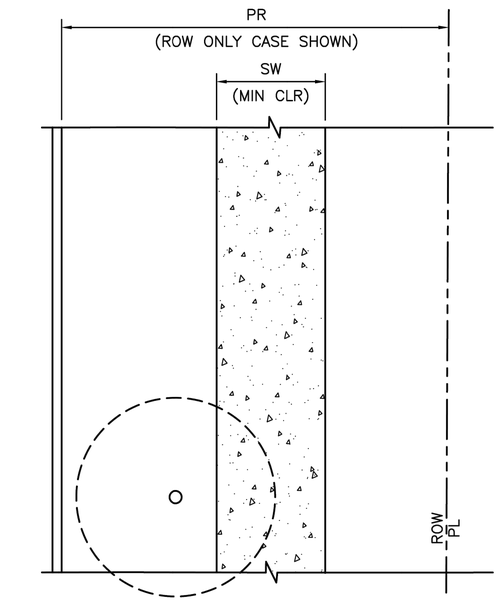
ELEVATION



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
9EF8B0C841F5478...
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

IMS
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713–739–7744
Fax: 713–739–7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

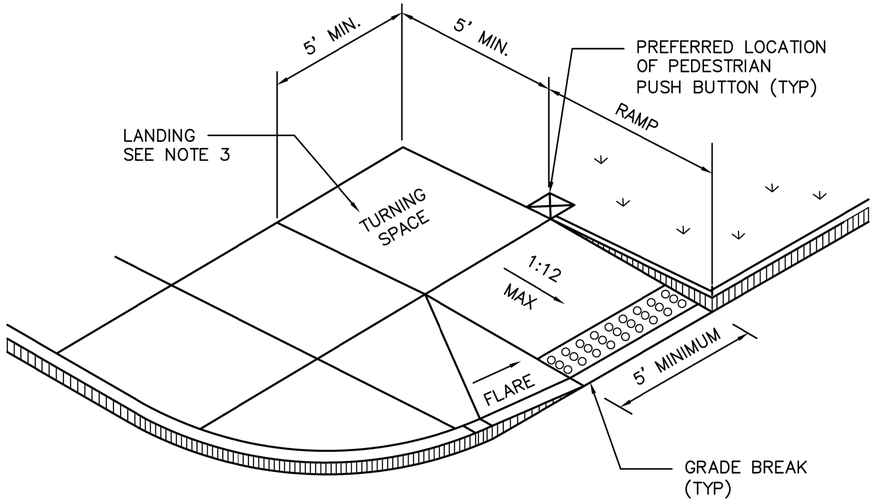
SIDEWALK AND CLEAR ZONE
TRANSIT CORRIDOR STREET

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

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.

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\313_SIDEWALK AND CLEAR ZONE TRANSIT CORRIDOR STREET_02775_08.DWG\\K(SAVED: Wednesday, October 01, 2025\SOH_KALCTB)PLOTTED: Thursday, February 26, 2026

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



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. 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.

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:

CITY ENGINEER	CITY TRAFFIC ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...	DocuSigned by: Carol Haddock A93C410B72B3453...

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PERPENDICULAR CURB RAMP

(SCALE: NOT TO SCALE)

EFF DATE: NOV-27-2023 | DWG NO: 02775-09

ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
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Fax: 713-739-7746
www.imsengineers.com
TX Firm 18572

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

PERPENDICULAR CURB RAMP

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\02% SUBMITTAL PLAN SET\314_PERPENDICULAR CURB RAMP_02775_09.DWG(PLAN)(SAVED: Wednesday, February 25, 2026)(CCH_KAI.CTBP)(LOTTED: Wednesday, February 25, 2026

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\315_STORM SEWER_02317_03 THROUGH_07.DWG\KIA\SAVED: Wednesday, October 01, 2025\SCPH_KAI.CTB\PLOTTED: Thursday, February 26, 2026

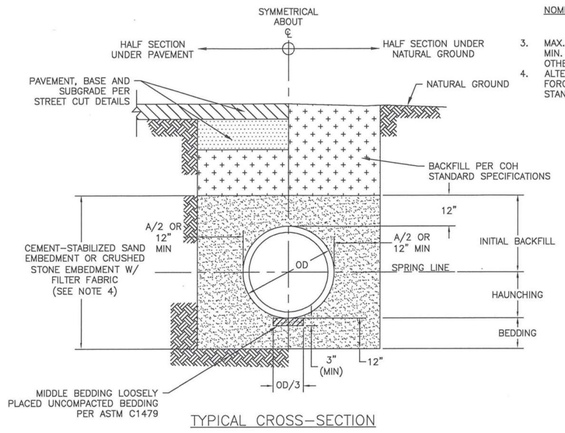
02317–03

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.



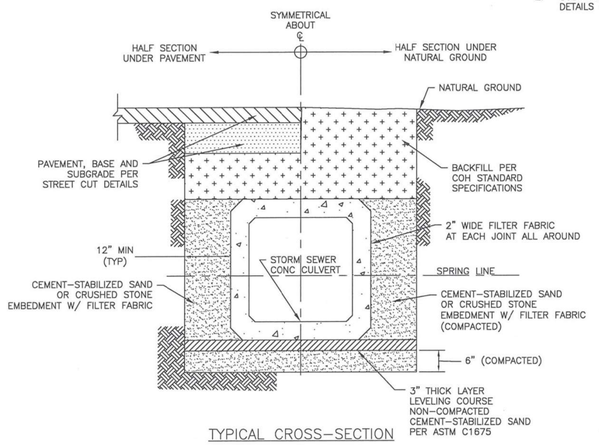
TYPICAL CROSS–SECTION

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–05

NOTES:

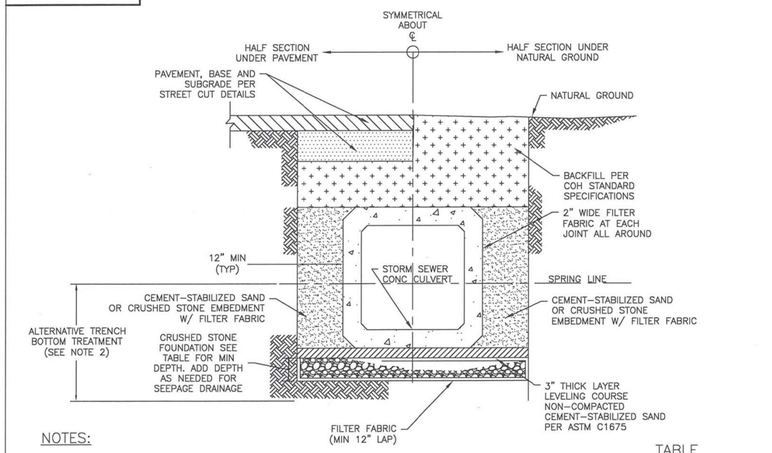
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. SUBGRADE AND PAVEMENT FOR STREET CUT DETAILS – 02951.



TYPICAL CROSS–SECTION

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–06



NOTES:

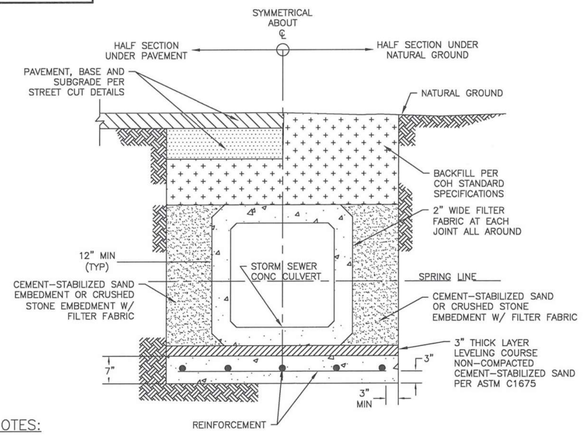
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY OF ENGINEERS AND AS PAID FOR IN THE PROPOSAL.

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

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1225 NORTH LOOP WEST
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Houston, TX 77008
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Fax: 713–739–7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

STORM SEWER
02317–03 THROUGH 07

WBS#:	N–210008–0001–3
DRAWING SCALE:	NOT TO SCALE
CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\316_STORM SEWER_02081_01 THROUGH_04.DWG?LUKSAVED: Wednesday, October 01, 2025|COH_KAI.CTB|PLOTTED: Thursday, February 26, 2026

02081–01

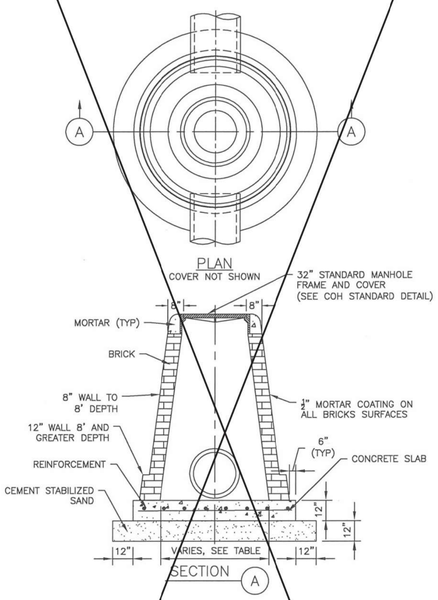


TABLE
SEWER SIZE VS MANHOLE SIZE

SEWER SIZE (INCHES)	MANHOLE BASE DIAMETER
42"	5'–0"
36"	4'–6"
30" AND LESS	4'–0"

STORM SEWER MANHOLE TYPE 'C'
FOR 42" DIAMETER RCP AND SMALLER
NTS

COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019

REFER TO COH STANDARD DETAIL 02082-12 "STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE"

02081–03

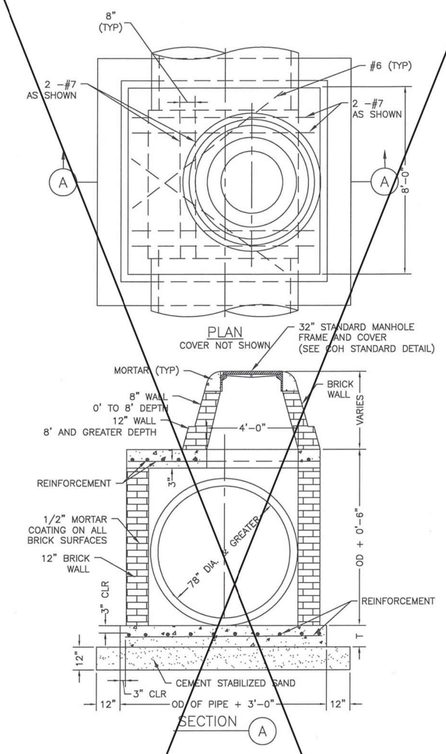


TABLE 1
PIPE DIAMETER VS SLAB THICKNESS

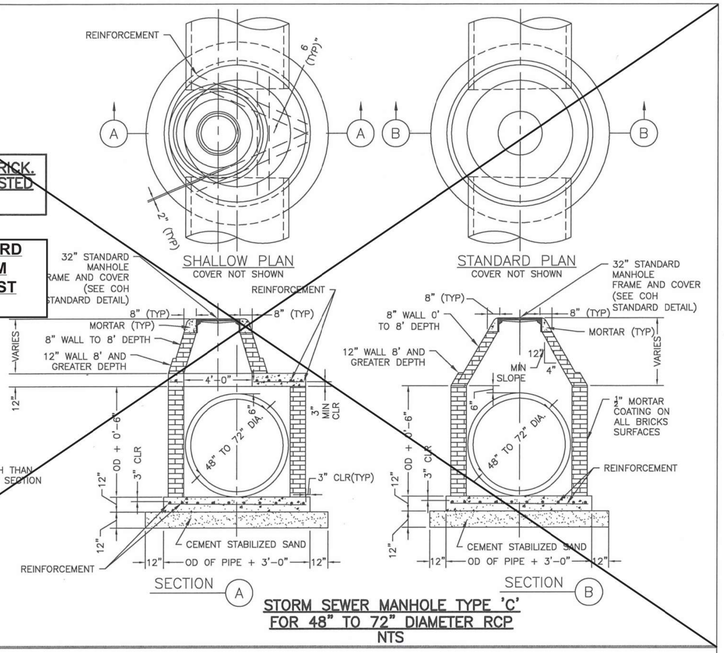
PIPE DIAMETER (INCHES)	SLAB THICKNESS T (INCHES)
78	12
84	12
90	13
96	14
102	14
108	15

STORM SEWER MANHOLE TYPE 'C'
FOR 78" DIAMETER RCP AND GREATER
NTS

COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019

REFER TO COH STANDARD DETAIL 02082-13 "STORM SEWER PRECAST BOX MANHOLE"

02081–02



COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019

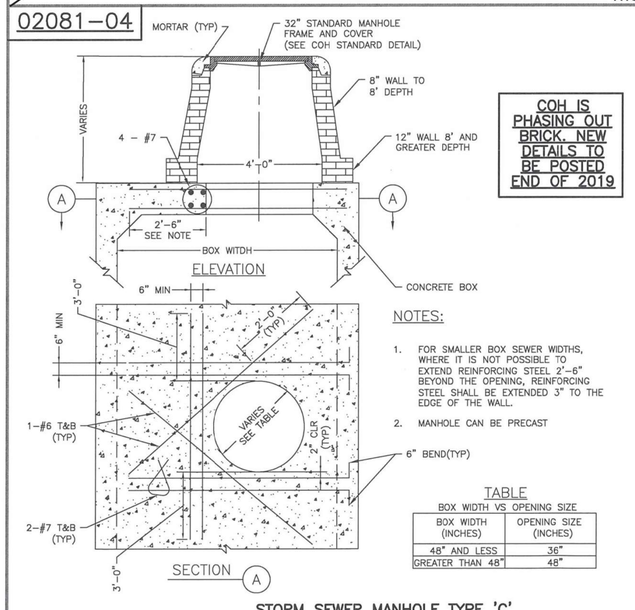
REFER TO COH STANDARD DETAIL 02082-12 "STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE"

NOTE:

1. WHEN MANHOLE HAS LESS DEPTH THAN MIN. SHOWN ON TABLE 1, BUILD SECTION A OTHERWISE BUILD SECTION B.

STORM SEWER MANHOLE TYPE 'C'
FOR 48" TO 72" DIAMETER RCP
NTS

02081–04



COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019

NOTES:

1. FOR SMALLER BOX SEWER WIDTHS, WHERE IT IS NOT POSSIBLE TO EXTEND REINFORCING STEEL 2"–6" BEYOND THE OPENING, REINFORCING STEEL SHALL BE EXTENDED 3" TO THE EDGE OF THE WALL.
2. MANHOLE CAN BE PRECAST

TABLE
BOX WIDTH VS OPENING SIZE

BOX WIDTH (INCHES)	OPENING SIZE (INCHES)
48" AND LESS	36"
GREATER THAN 48"	48"

STORM SEWER MANHOLE TYPE 'C'
FOR PROPOSED CONCRETE BOX SEWER
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02081–01 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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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

STORM SEWER
02081–01 THROUGH 04

WBS#: N–210008–0001–3

DRAWING SCALE:
NOT TO SCALE

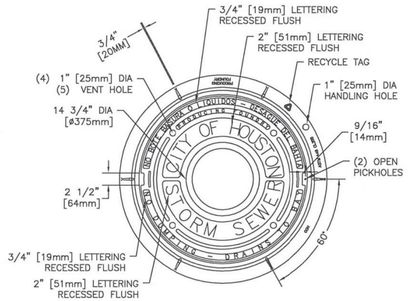
CITY OF HOUSTON PM
OMAR ABDULKAREEM, P.E.

DRAWING NO:

SHEET NO. OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\60% SUBMITTAL PLAN SET\317_STORM SEWER_02084_02 THROUGH_04.DWG [USAVED: Wednesday, October 01, 2025] [COH_KAI.CTB] [PLOTTED: Thursday, February 26, 2026

02084-02

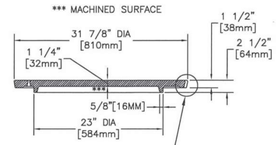




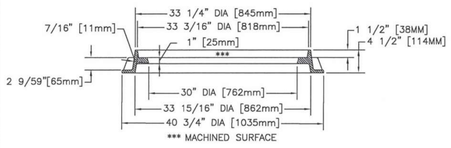
BOTTOM VIEW OF COVER

NOTES:

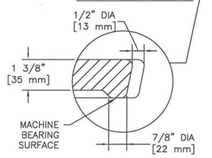
1. APPROXIMATE WEIGHTS.
   FRAME – 170 LBS (77KGS)
   COVER – 270 LBS (123KGS)
   UNIT – 440 LBS (200KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-1420 ASY OR APPROVED EQUAL



COVER SECTION



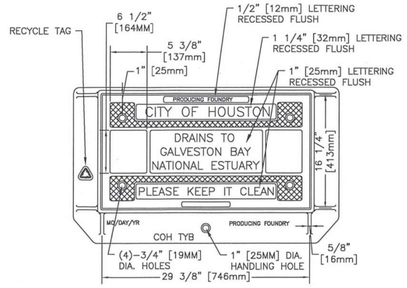
FRAME SECTION

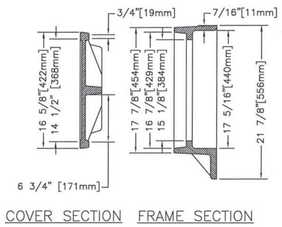


OPEN PICKHOLE DETAIL

STORM SEWER MANHOLE FRAME AND COVER
NTS

02084-03

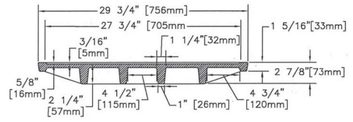




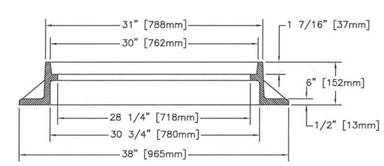
COVER SECTION FRAME SECTION

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



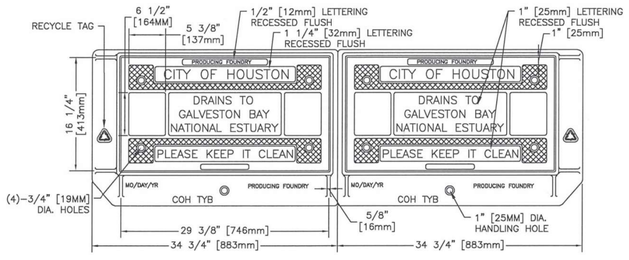
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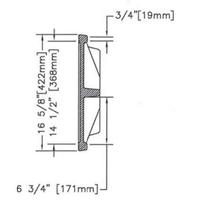


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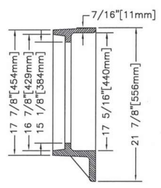
STORM SEWER TYPE "B" INLET ASSEMBLY
NTS

02084-04





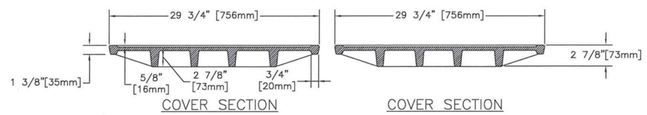
COVER SECTION



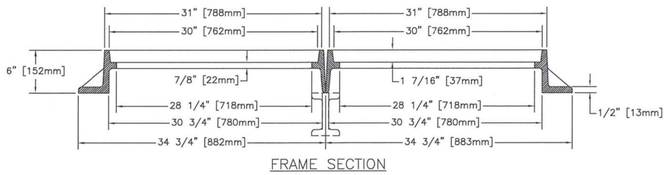
FRAME SECTION

NOTES:

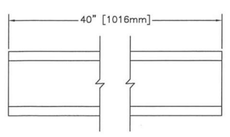
1. APPROXIMATE WEIGHTS.
   FRAME – 125 LBS (57KGS)
   COVER – 120 LBS (55KGS)
   I BEAM – 107 LBS (49KGS)
   UNIT – 597 LBS (271KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-4243 ASY OR APPROVED EQUAL

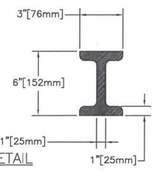


COVER SECTION COVER SECTION



FRAME SECTION





I BEAM DETAIL

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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ims
1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
Tel: 713-739-7744
Fax: 713-739-7746
www.imsengineers.com
TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

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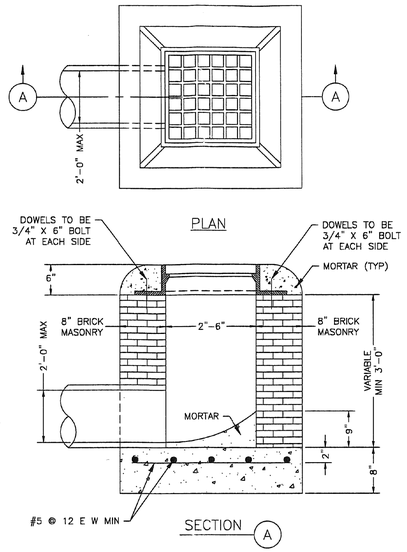
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

STORM SEWER
02084-02 THROUGH 04

WBS#: N-210008-0001-3
DRAWING SCALE:
NOT TO SCALE
CITY OF HOUSTON PM
OMAR ABDULKAREEM, P.E.
DRAWING NO:
SHEET NO. OF

02632-01

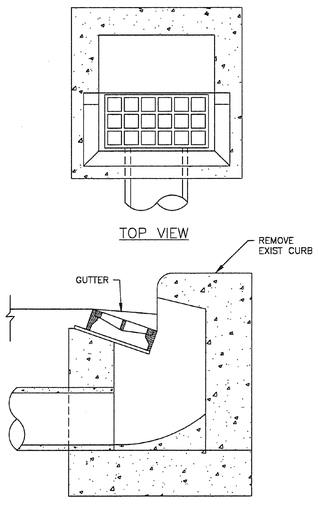


STORM SEWER TYPE "A" GRATE INLET
NTS

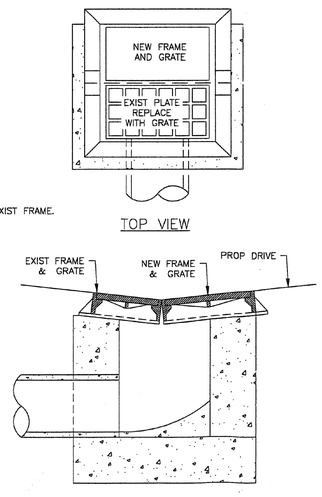
COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019

02632-03

STEP 1: EXIST TYPE "B" INLET



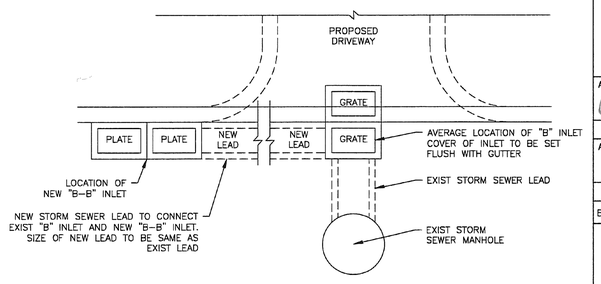
STEP 2:



NOTES:

1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
2. REPLACE EXIST PLATE WITH 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.

STEP 3: CONSTRUCT NEW TYPE "B-B" INLET ON CURB RETURN OF PROPOSED DRIVEWAY



STORM SEWER TYPE "B" INLET RELOCATION
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-01 AND 03

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DEPUTY DIRECTOR
APPROVED BY:	
DIRECTOR OF PUBLIC WORKS AND ENGINEERING	
EFFECTIVE DATE: JUL-01-2019	
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

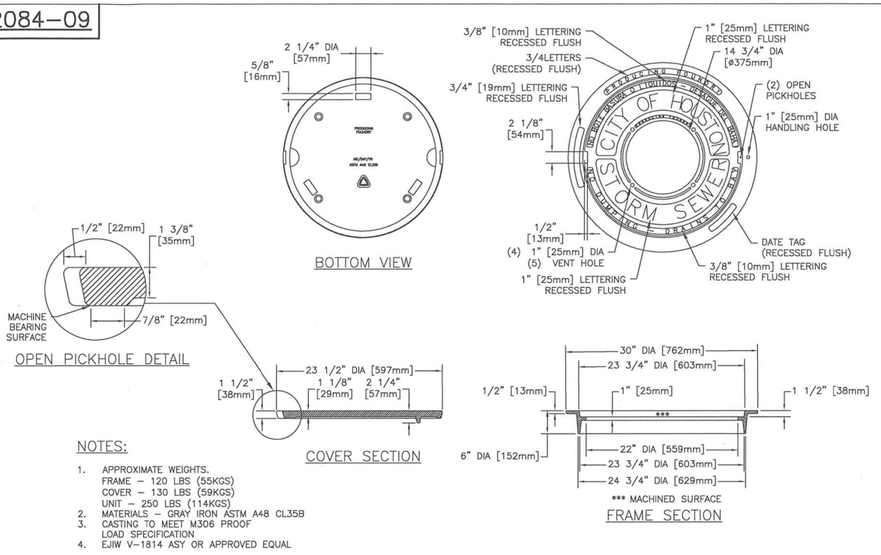
STORM SEWER
02632-01 AND 03

WBS#:	N-210008-0001-3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\318_STORM SEWER_02632_01 AND_03.DWG\M.DWG, SAVED: Wednesday, October 01, 2025\COH_KAILCTB\PLOTTED: Thursday, February 26, 2026

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\319_STORM SEWER_02084_09 THROUGH_11 AND 02317_02.DWG\KUKSAKED: Wednesday, October 01, 2025\CON_KAI CTB\PLOTTED: Thursday, February 26, 2026

02084–09

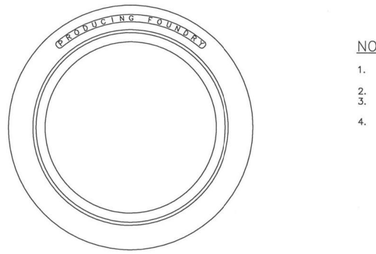


NOTES:

1. APPROXIMATE WEIGHTS.
   FRAME – 120 LBS (55KGS)
   COVER – 130 LBS (59KGS)
   UNIT – 250 LBS (114KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–1814 ASY OR APPROVED EQUAL

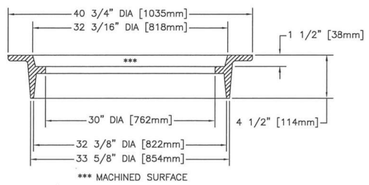
STORM SEWER TYPE "C–1, C–2, C–2A" AND "H–2" INLET FRAME AND COVER
NTS

02084–10



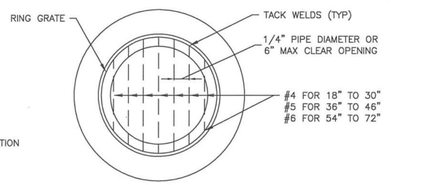
NOTES:

1. APPROXIMATE WEIGHTS.
   FRAME – 190 LBS (86KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–1816 ASY OR APPROVED EQUAL



32" INVERTED MANHOLE FRAME
NTS

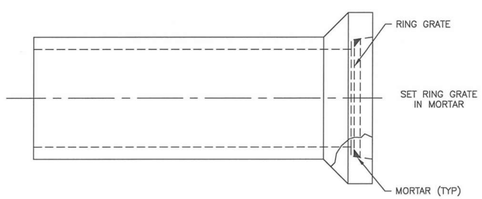
02084–11



NOTES:

1. GALVANIZED GRATE AFTER FABRICATION

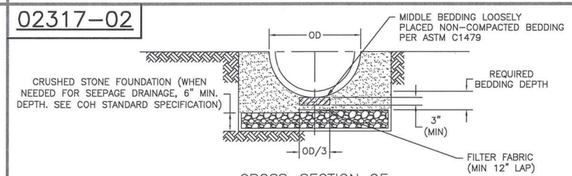
END VIEW



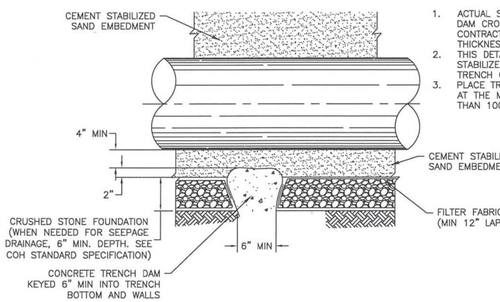
SIDE VIEW

STORM SEWER RING GRATE FOR OPEN END OF 18" TO 72" RCP STUBS TO DITCH
NTS

02317–02



CROSS–SECTION OF CRUSHED STONE FOUNDATION



LONGITUDINAL SECTION ALONG PIPE ℄ AT FOUNDATION TRENCH DAM

NOTES:

1. ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
2. THIS DETAIL SHALL BE USED WITH CEMENT STABILIZED SAND EMBEDMENT, IN WET STABLE TRENCH CONDITIONS.
3. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.

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

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

EFFECTIVE DATE: JUL–01–2019

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

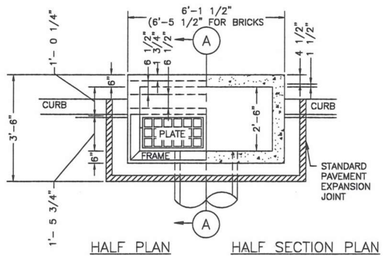
GRAY AND TAFT AREA
PAVING AND DRAINAGE

STORM SEWER
02084–09 THROUGH 11
AND 02317–02

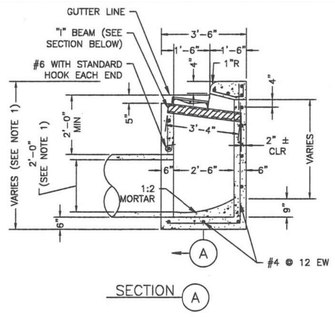
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DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\60% SUBMITTAL PLAN SET\320_STORM SEWER_02632_04 THROUGH_05.DWG[XLSAVED: Wednesday, October 01, 2025][OH_KAI_CTB][PLOTTED: Thursday, February 26, 2026

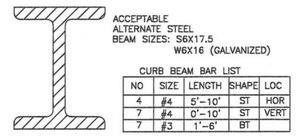
02632-04



HALF PLAN HALF SECTION PLAN



SECTION (A)



CURB BEAM BAR LIST

NO	SIZE	LENGTH	SHAPE	LOC
4	#4	5'-10"	ST	HOR
7	#4	0'-10"	ST	VERT
7	#3	1'-6"	BT	

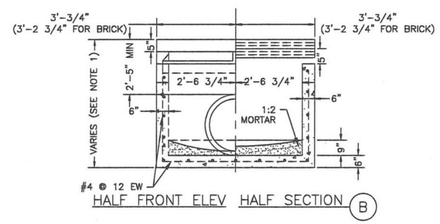
SECTION THRU BEAM

NOTES:

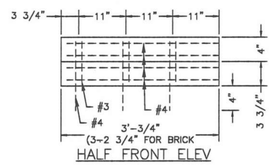
1. DIMENSION VARIES BASED ON PIPE DIAMETER AND WALL THICKNESS.
2. CENTER REINFORCING IN SLAB AND WALLS. CENTER STEEL BEAM ON INLET AND CAST INTO WALLS AS SHOWN.
3. WHEN TOP OF CURB TO FLOWLINE IS GREATER THAN 8 FEET USE TYPE "C" INLET.

GENERAL NOTES:

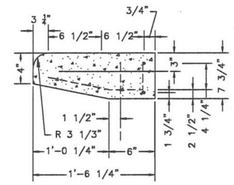
USE STANDARD CAST IRON FRAME & PLATES. LEAD SHALL LEAVE INLET AT LOCATION AND GRADE REQUIRED.



HALF FRONT ELEV HALF SECTION



HALF FRONT ELEV



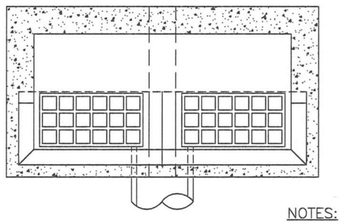
TRANSVERSE SECTION

PRECAST CURB BEAM

STORM SEWER TYPE "B-B" INLET
NTS

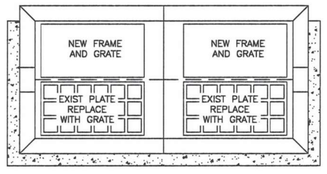
02632-05

STEP 1: EXIST TYPE "B" INLET



TOP VIEW

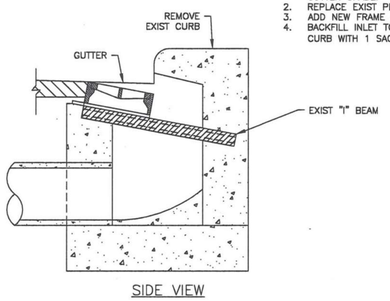
STEP 2:



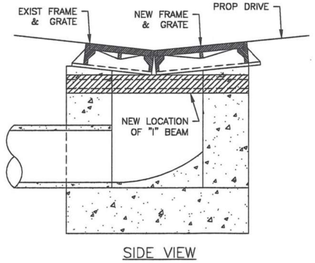
TOP VIEW

NOTES:

1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
2. REPLACE EXIST PLATE WITH 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.



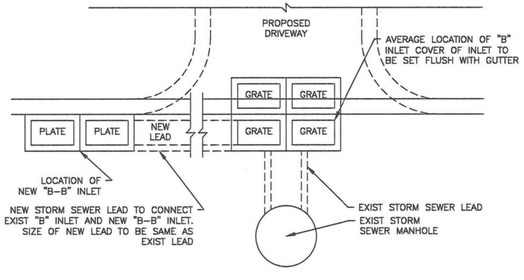
SIDE VIEW



SIDE VIEW

STORM SEWER TYPE "B" INLET RELOCATION
NTS

STEP 3: CONSTRUCT NEW TYPE "B-B" INLET ON CURB RETURN OF PROPOSED DRIVEWAY



FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-04 THROUGH 05

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

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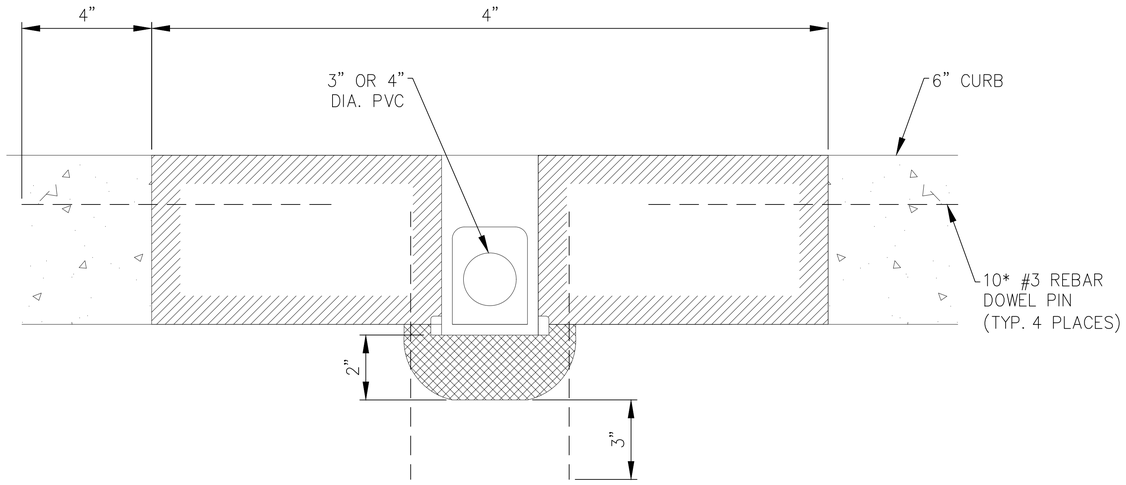
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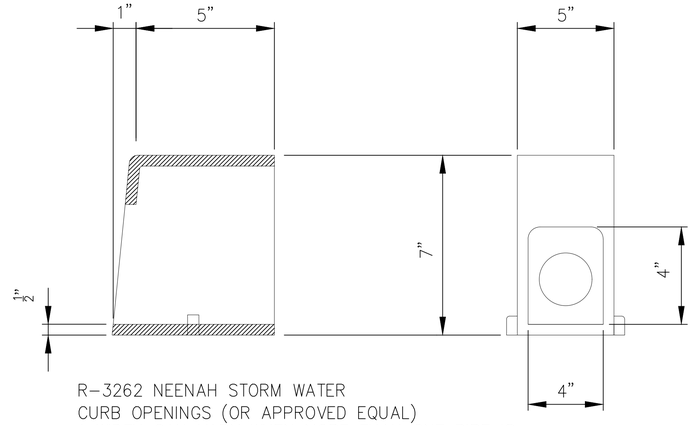
CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

STORM SEWER
02632-04 THROUGH 05

WBS#:	N-210008-0001-3
DRAWING SCALE:	NOT TO SCALE
CITY OF HOUSTON PM	OMAR ABDULKAREEM, P.E.
DRAWING NO:	
SHEET NO.	OF



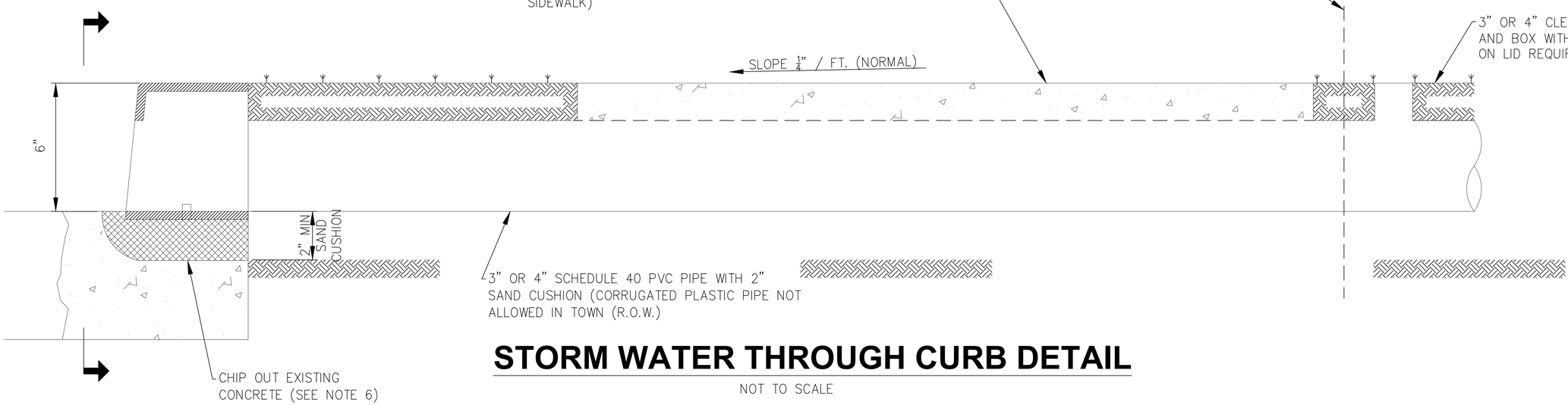


R-3262 NEENAH STORM WATER
CURB OPENINGS (OR APPROVED EQUAL)
* WIDTH CAN VARY WHEN MORE THAN ONE PIPE IS BROUGHT THROUGH THE CURB

SECTION A-A

NOT TO SCALE

IF GRADE (FALL) IS A PROBLEM, THE SIDEWALK CAN BE REDUCED TO 2" (MINIMUM) THICKNESS OVER PIPE. REINFORCEMENT SHALL BE #3 REBAR @ 8 ½" ON CENTER EACH WAY (DOWEL 4" INTO EXISTING SIDEWALK)

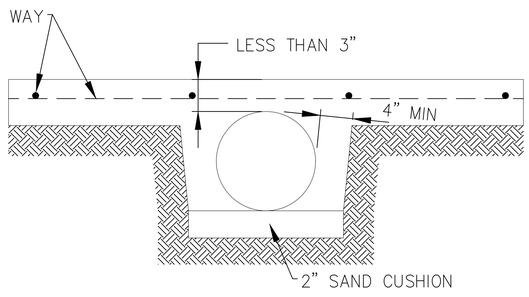


STORM WATER THROUGH CURB DETAIL

NOT TO SCALE

NOTES:

1. REMOVE AND REPLACE ONE 5 FOOT SECTION OF SIDEWALK.
2. IF PIPE COMING FROM PRIVATE PROPERTY IS LARGER THAN4" IN DIAMETER, A "MANIFOLD" WILL BE USED SO THAT ONLY 3-INCH OR 4-INCH PIPES WILL BE BROUGHT TO AND THROUGH THE SIDEWALK CURB.
3. IF THICKNESS OF SIDEWALK IS LESS THAN 3-INCJES OVER THE PIPE (I.E. WHEN SIDWALK IS ADJACENT TO CURB, THEN USE CONCRETE ENCASED PIPE (SEE DETAIL).
4. THERE SHALL BE A DUMMY JOINT IN THE SIDEWALK AT CENTERLINE OF DRAIN PIPE.
5. ROOF DRAIN DISCHARGE TO CURB ALLOWED BY TOWN APPROVAL.
6. IF DRAIN TO BE INSTALLED ALONG "EXISTING" CURB & GUTTER, CHIP OUT CONCRETE AS SHOWN. NOT REQUIRED FOR NEW CURB & GUTTER INSTALLS.



CONCRETE ENCASED DETAIL

(REQUIRED WHEN LESS 3" CONCRETE OVER PIPE)
NOT TO SCALE

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FB NO.: P-6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

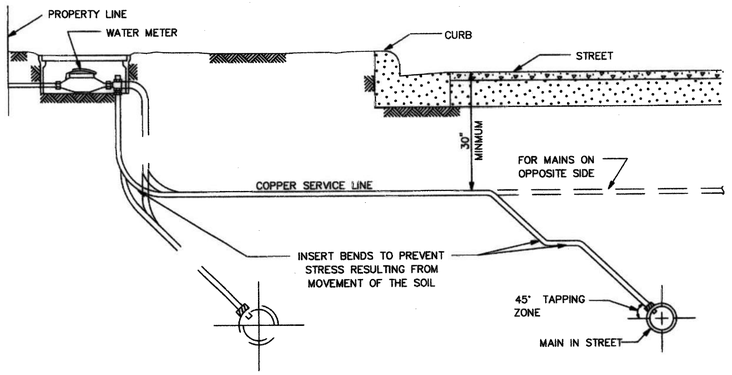
CURB DRAIN DETAIL

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

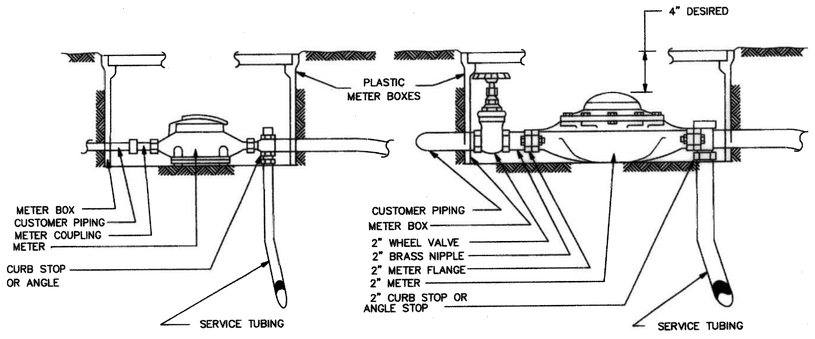
Y:\002_PROJECTS_CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\21_CURB DRAIN DETAIL.DWG|YUKI|SAVED: Thursday, October 02, 2025|COH_KAI.CTB|PLOTTED: Thursday, February 26, 2026

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

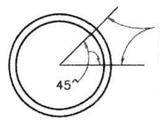
2" METER SET

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

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

ims
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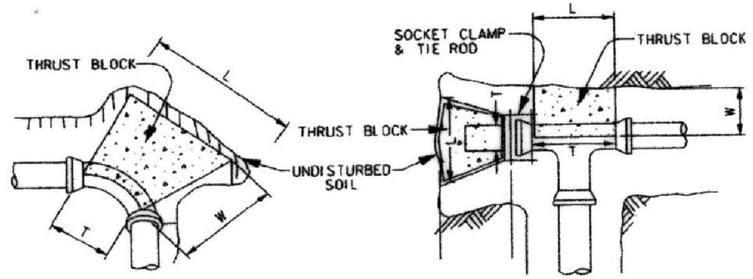
CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA PAVING AND DRAINAGE

TYPICAL METER SETTINGS AND SERVICE TAPS

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

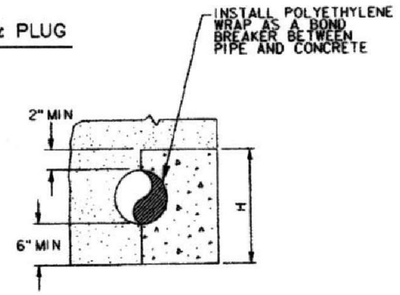
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90° BEND

(45° BENDS SIMILAR)

TEE & PLUG



PIPE
CROSS SECTION

MINIMUM BLOCKING DIMENSION IN INCHES												
PIPE SIZE	90° BEND				45° BEND				TEE/PLUG			
	W	H	L	T	W	H	L	T	W	H	L	T
4"	6	12	14	10	6	8	11	8	6	10	12	12
6"	8	14	26	12	8	14	14	12	8	14	19	19
8"	10	16	40	16	10	18	20	16	10	18	26	26
10"	12	24	42	18	12	22	25	18	12	24	30	30
12"	14	36	40	30	14	26	30	22	14	26	40	40

CORRECTION FACTORS		
SOIL TYPE	SOIL BEARING STRENGTH S_b (lb/ft²)	MULTIPLY "L" AND "H" BY
SOFT CLAY	1000	1.73
SILT	1500	1.41
SANDY SILT	3000	1.00
SAND	4000	0.87
SANDY CLAY	6000	0.71
HARD CLAY	9000	0.58

NOTES:

1. DEPTH "W" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE.
2. BLOCKING MUST BE PLACED AGAINST UNDISTURBED EARTH. WHERE THIS IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
3. PROVIDE CONCRETE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 03315 – CONCRETE FOR UTILITY CONSTRUCTION.
4. BLOCKING DIMENSIONS SHOWN ARE BASED ON 3000 PSI SOIL BEARING STRENGTH AND 125 PSI INTERNAL WATER PRESSURE. FOR OTHER SOIL CONDITIONS, MULTIPLY DIMENSIONS "L" AND "H" BY THE APPROPRIATE CORRECTION FACTOR.

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

THRUST BLOCK DETAIL FOR WATER LINES (4–INCH TO 12 INCH)

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY–01–2010	DWG NO: 02511–02

1225 NORTH LOOP WEST
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TX Firm 18572

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

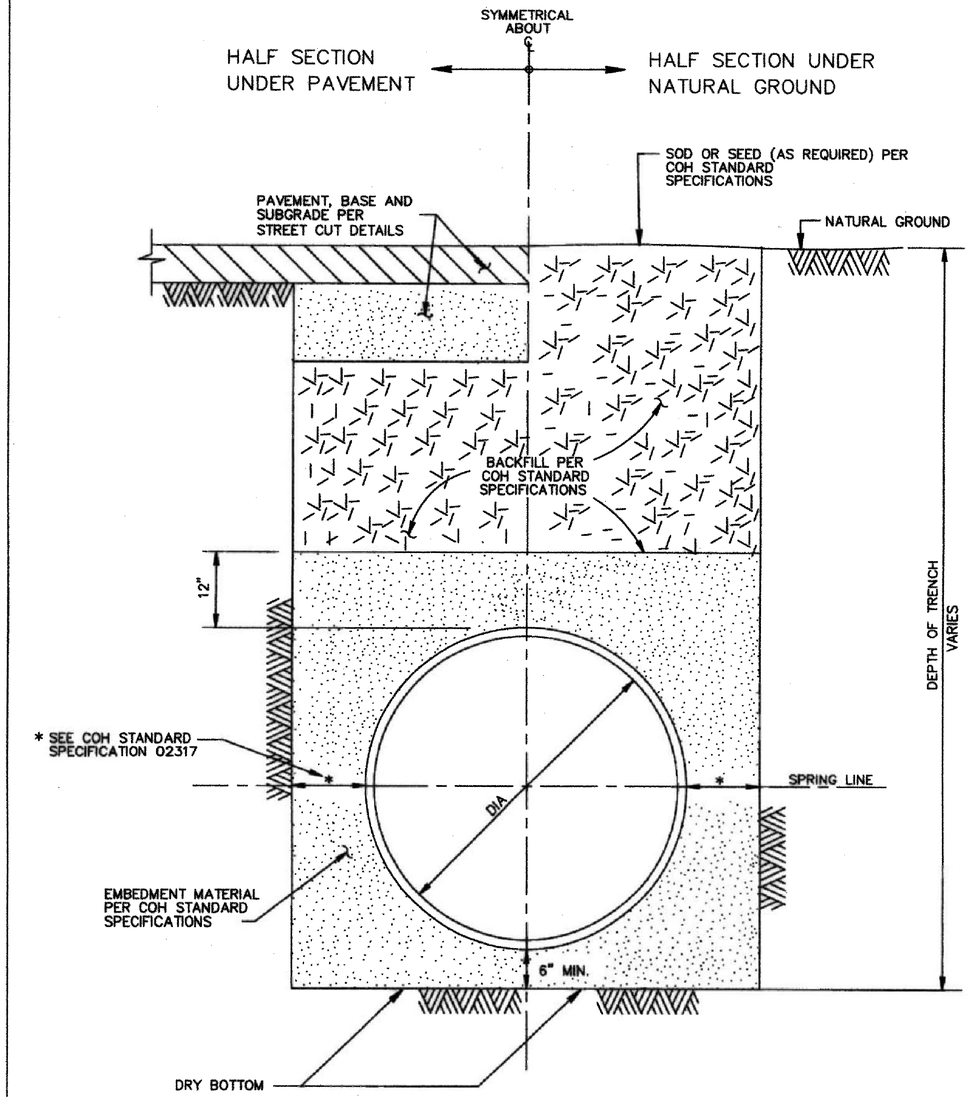
GRAY AND TAFT AREA
PAVING AND DRAINAGE

THRUST BLOCK DETAIL
FOR WATER LINES
(4–INCH TO 12 INCH)

WBS#: N–210008–0001–3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\323_THRUST BLOCK DETAIL FOR WATER LINES (4–INCH TO 12–INCH)_02511_02.DWG[K.KALCTB]PLOTTED: Thursday, February 26, 2026 8:04 AM BY: KALCTB[SAVED: Thursday, February 26, 2026]ICON_KALCTB[PLOTTED: Thursday, February 26, 2026

Y:\002_PROJECTS_CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\324_WATER DISTRIBUTION MAIN BEDDING AND BACKFILL FOR OPEN CUT TRENCHES_02317_04.DWG(KLIKISAVED:Thursday, October 02, 2025|COH_KALCTB|PLOTTED:Wednesday, February 25, 2026



COH

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

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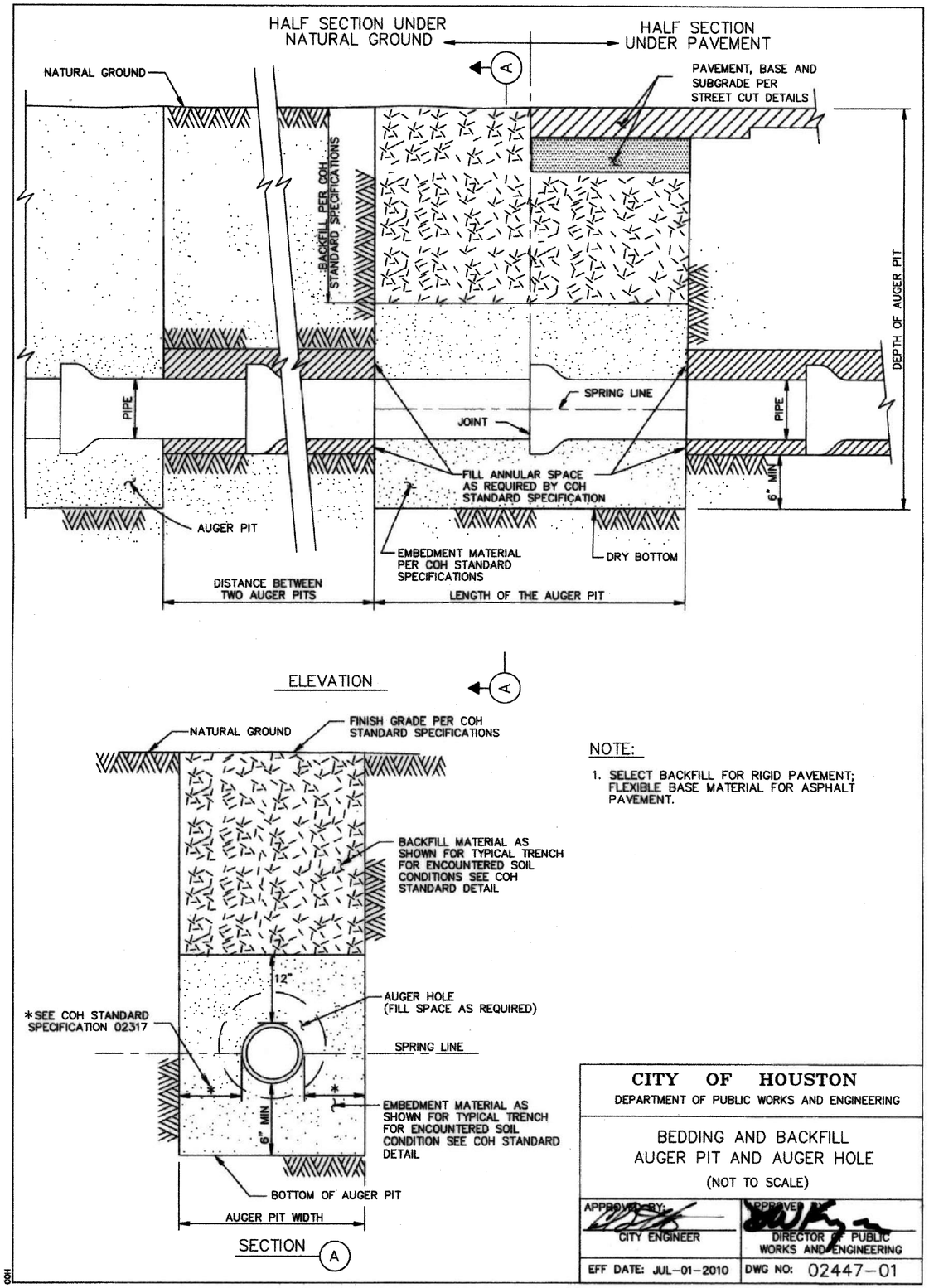
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FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

WATER DISTRIBUTION MAIN
BEDDING AND BACKFILL FOR
OPEN CUT TRENCHES

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	



NOTE:

1. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

BEDDING AND BACKFILL
AUGER PIT AND AUGER HOLE
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02447-01

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

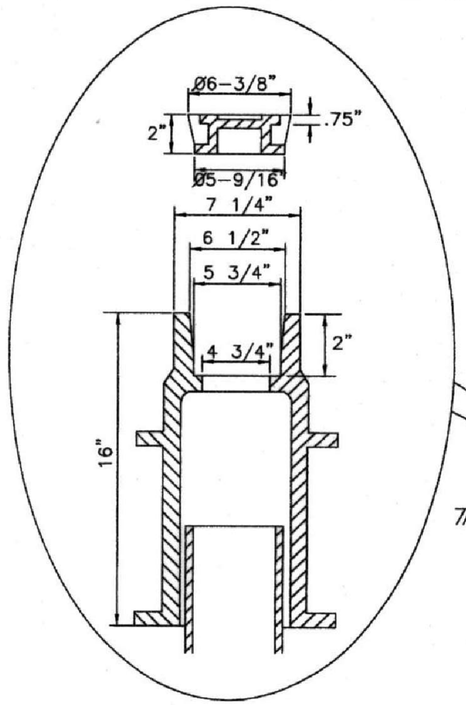
GRAY AND TAFT AREA
PAVING AND DRAINAGE

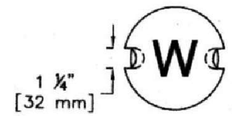
BEDDING AND BACKFILL
AUGER PIT AND AUGER HOLE

WBS#: N-210008-0001-3	
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

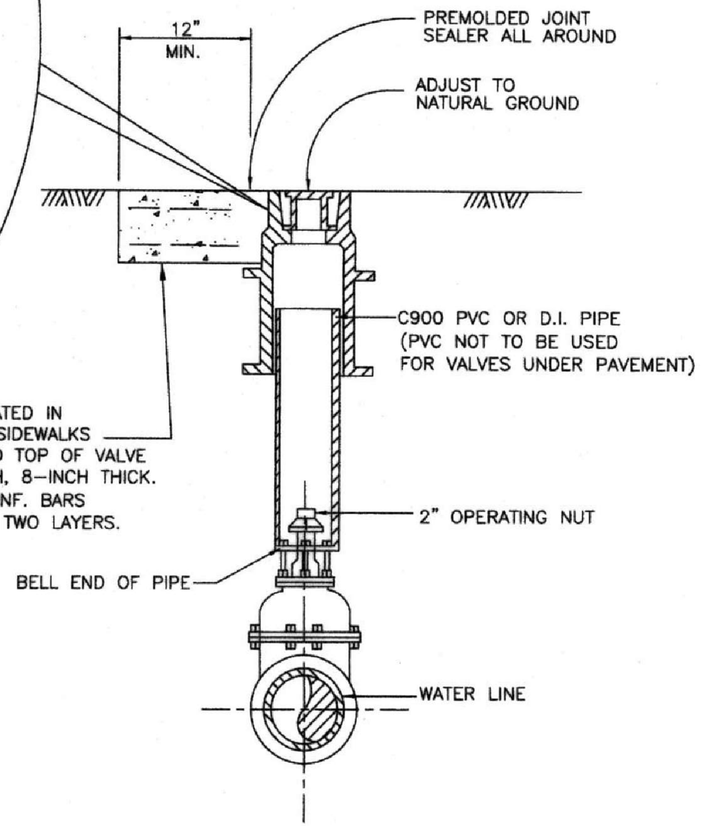
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COVER TOP VIEW



WHEN VALVES ARE LOCATED IN ROADS, DRIVEWAYS OR SIDEWALKS CONCRETE DISC AROUND TOP OF VALVE BOXES 30 SQUARE INCH, 8-INCH THICK. REINFORCE WITH #3 REINF. BARS @ 8' C-C BOTH WAYS, TWO LAYERS.

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

ims
1225 NORTH LOOP WEST
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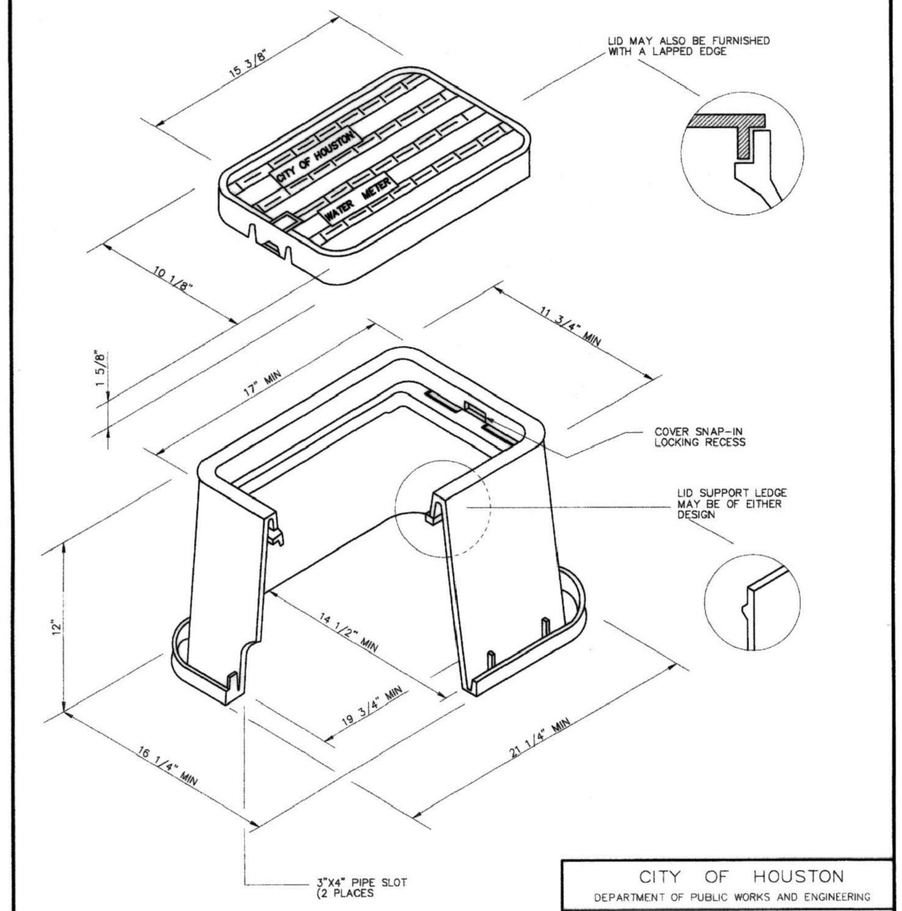
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

VALVE BOX DETAIL

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

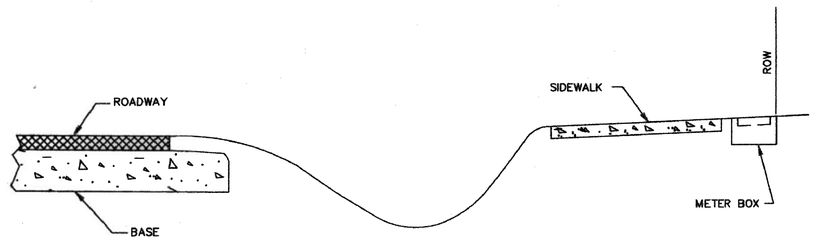
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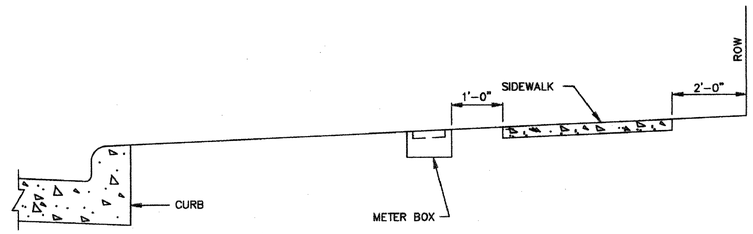
NOTE

1. LID MUST BE ABLE TO ACCEPT THE CITY'S AMR TRANSMITTING ENDPOINT.

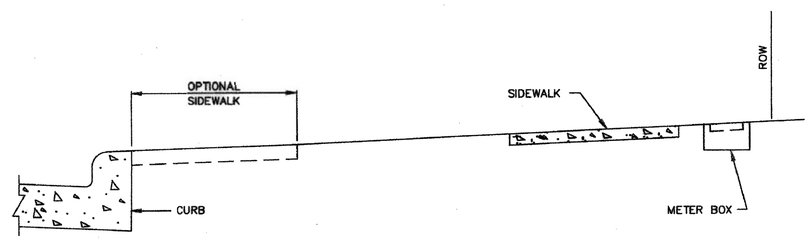
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
STANDARD PLASTIC METER BOX FOR 5/8" AND 1" METERS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-01



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

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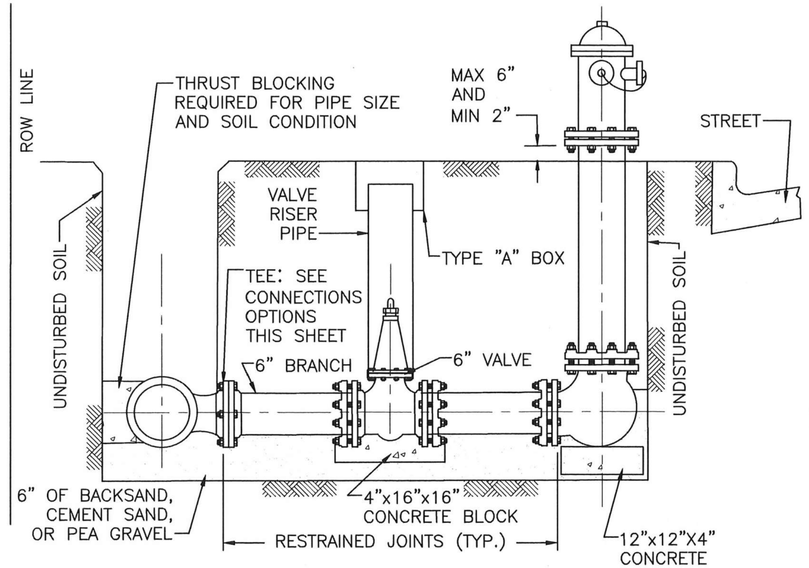
CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

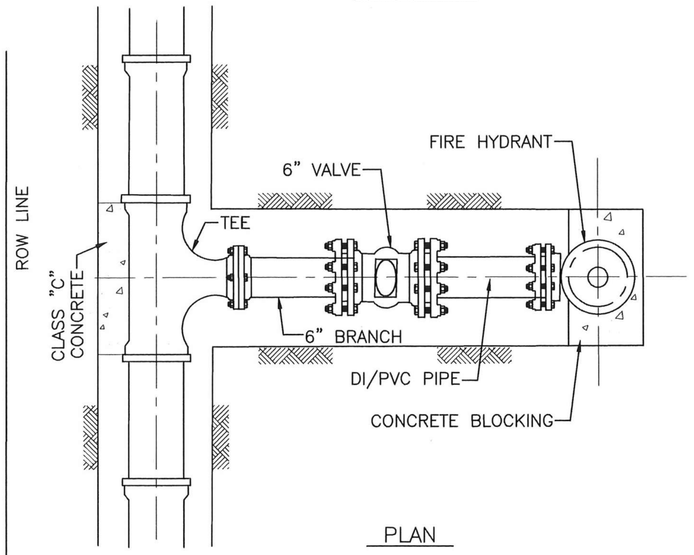
STANDARD PLASTIC METER BOX FOR 5/8" AND 1"METERS/ LOCATION OF WATER METER BOX FOR 2" DIAMETER AND LESS

WBS#:	N-210008-0001-3
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\327_STANDARD METER BOX AND LOCATION_02085_01 AND _02.DWG\XIS\SAVED: Thursday, October 02, 2025|CCH_KAI.CTB|PLOTTED: Wednesday, February 25, 2026

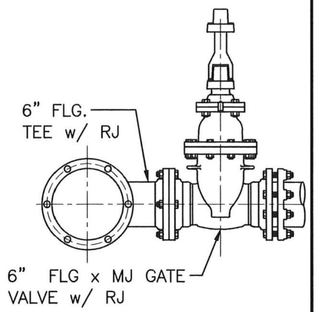


SECTION

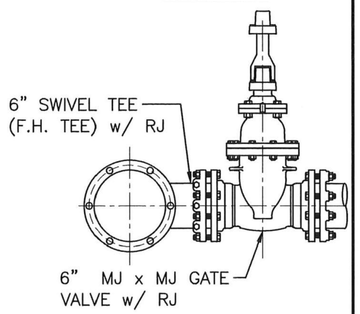


PLAN

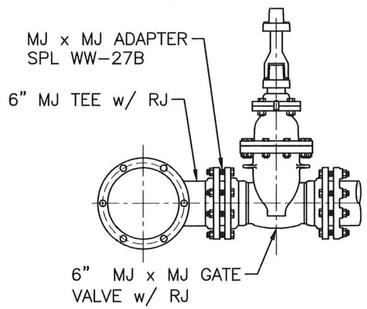
CONNECTION TO MAIN



OPTION 1



OPTION 2



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:	APPROVED BY:
Sushail Kanwar CITY ENGINEER	Carol Haddock DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL - 01 - 2021	DWG NO: 02520-01

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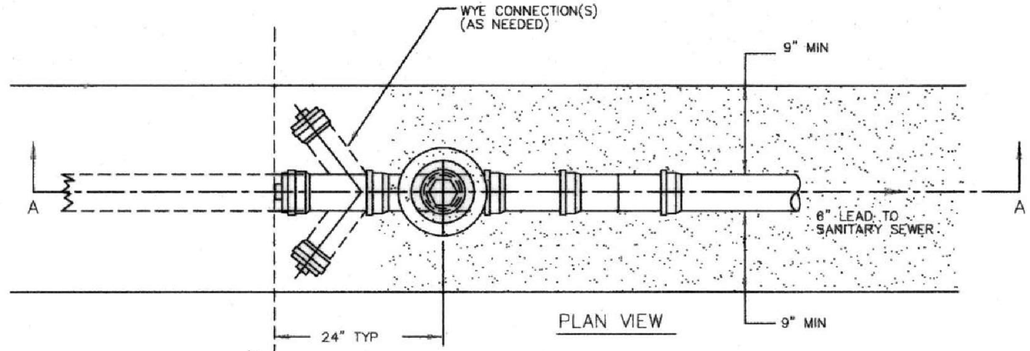
CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

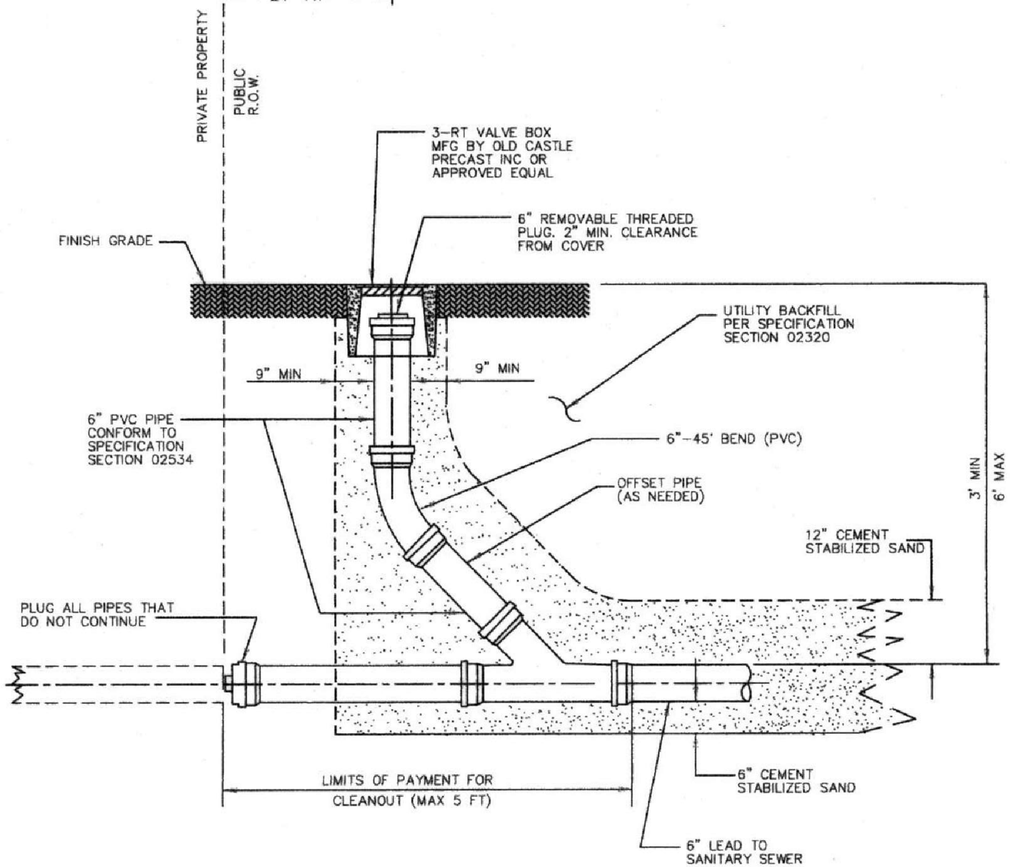
STANDARD
FIRE HYDRANT DETAIL

WBS#: N-210008-0001-3	
DRAWING SCALE:	
NOT TO SCALE	
CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

X:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\328_STANDARD FIRE HYDRANT DETAIL_02520_01.DWG\\IMS\SAVED: Thursday, October 02, 2025\COH_KAI.CTB\PLOTTED: Wednesday, February 25, 2026



PLAN VIEW



SECTION A-A

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

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

STANDARD CLEANOUT
DETAIL ON SERVICE LEAD

WBS#: N-210008-0001-3	
DRAWING SCALE:	
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CITY OF HOUSTON PM	
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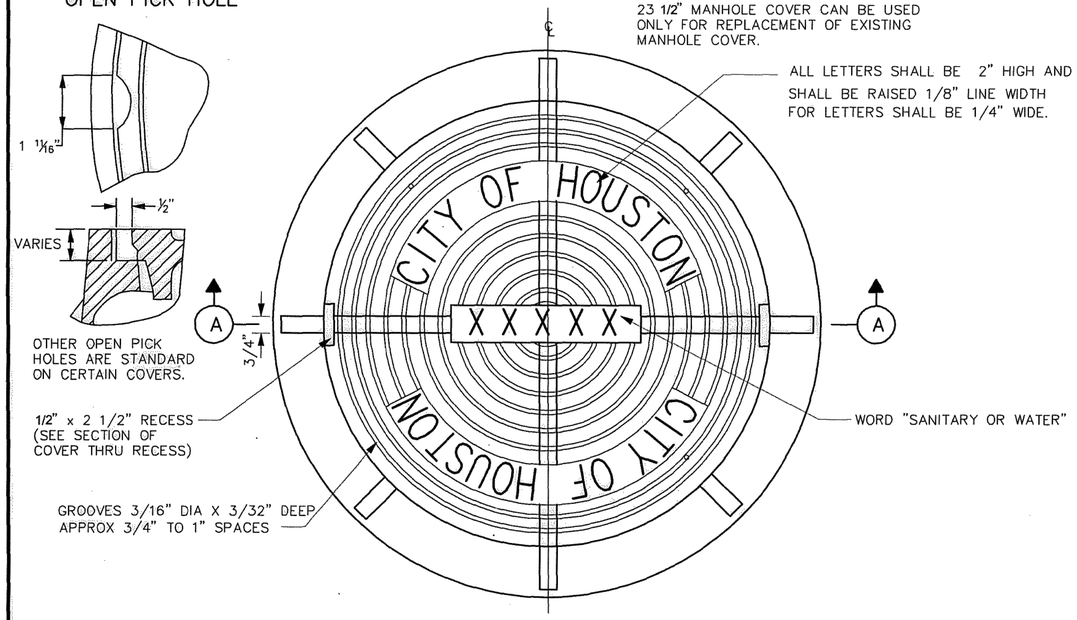
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TYPE 1
OPEN PICK HOLE

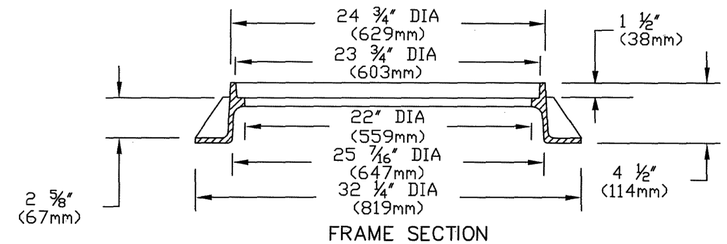
OTHER OPEN PICK HOLES ARE STANDARD ON CERTAIN COVERS.

NOTE:
23 1/2" MANHOLE COVER CAN BE USED ONLY FOR REPLACEMENT OF EXISTING MANHOLE COVER.

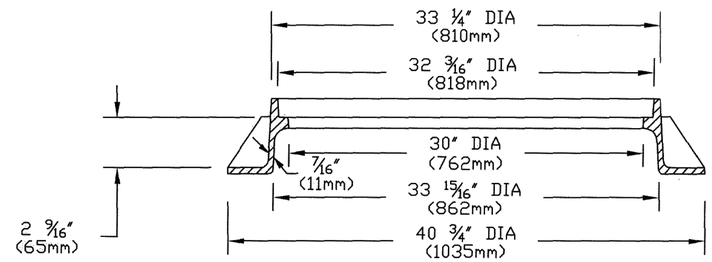


PLAN

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:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016	DWG NO: 02090-01

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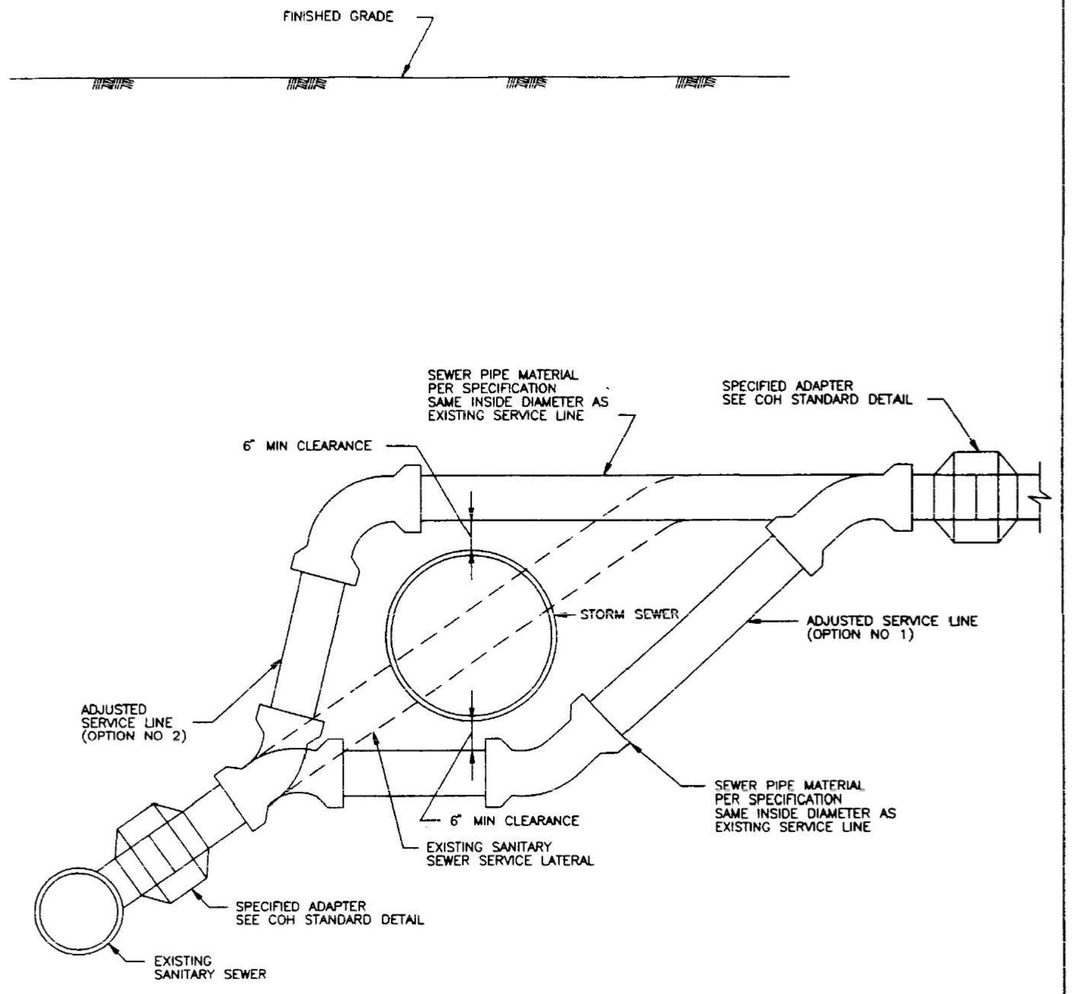
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

SANITARY SEWER AND WATER
MANHOLE FRAME AND COVER

WBS#: N-210008-0001-3	
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OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	



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

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

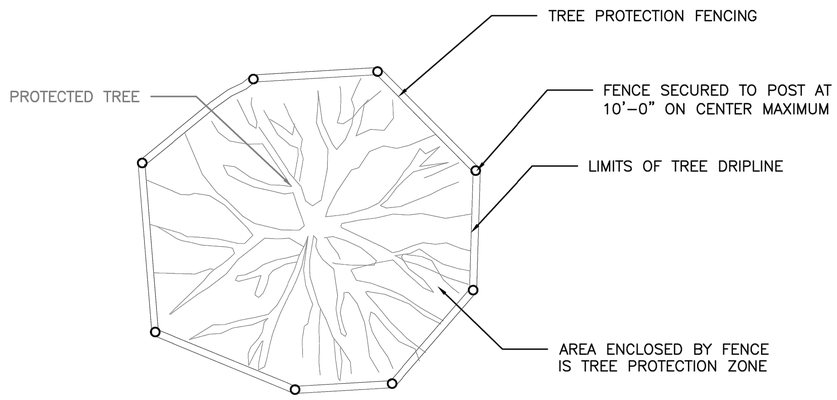
SANITARY SEWER
SERVICE LINE RECONNECTION
FOR STORM SEWER CONFLICTS

WBS#: N-210008-0001-3	
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
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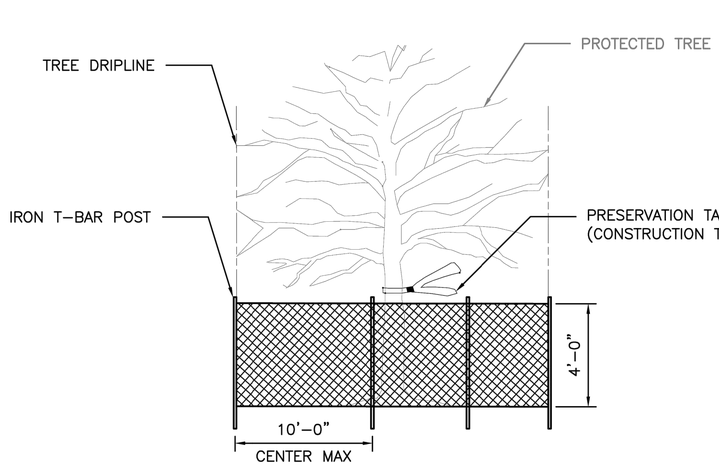
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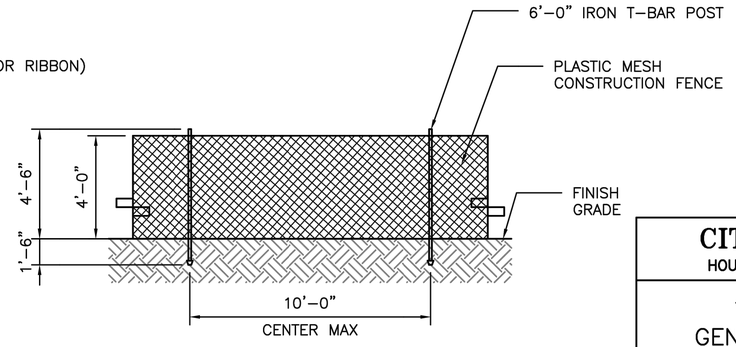
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PLAN VIEW
TREE PROTECTION FENCING DETAIL



FRONT VIEW
TREE PROTECTION FENCING DETAIL



DETAIL B–4
PROTECTIVE PLASTIC MESH FENCE

NOTES:

FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
GENERAL REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: Carl Haddock A93C410B72B3453...
EFF DATE: NOV–27–2023	DWG NO: 01562–01

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SURVEYED BY: KUO & ASSOCIATES
FB NO.: P–6194

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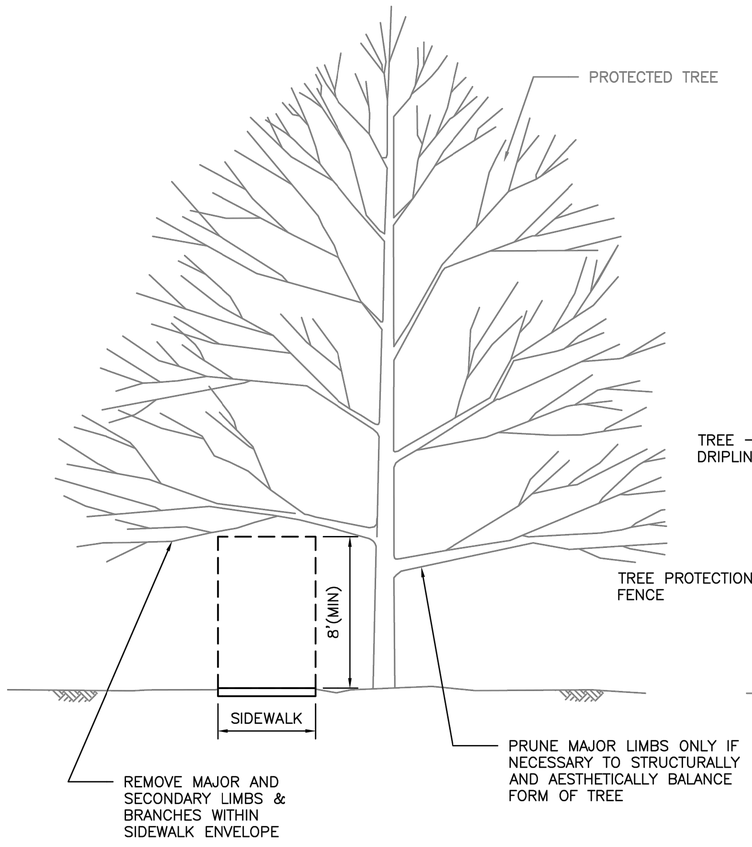
CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

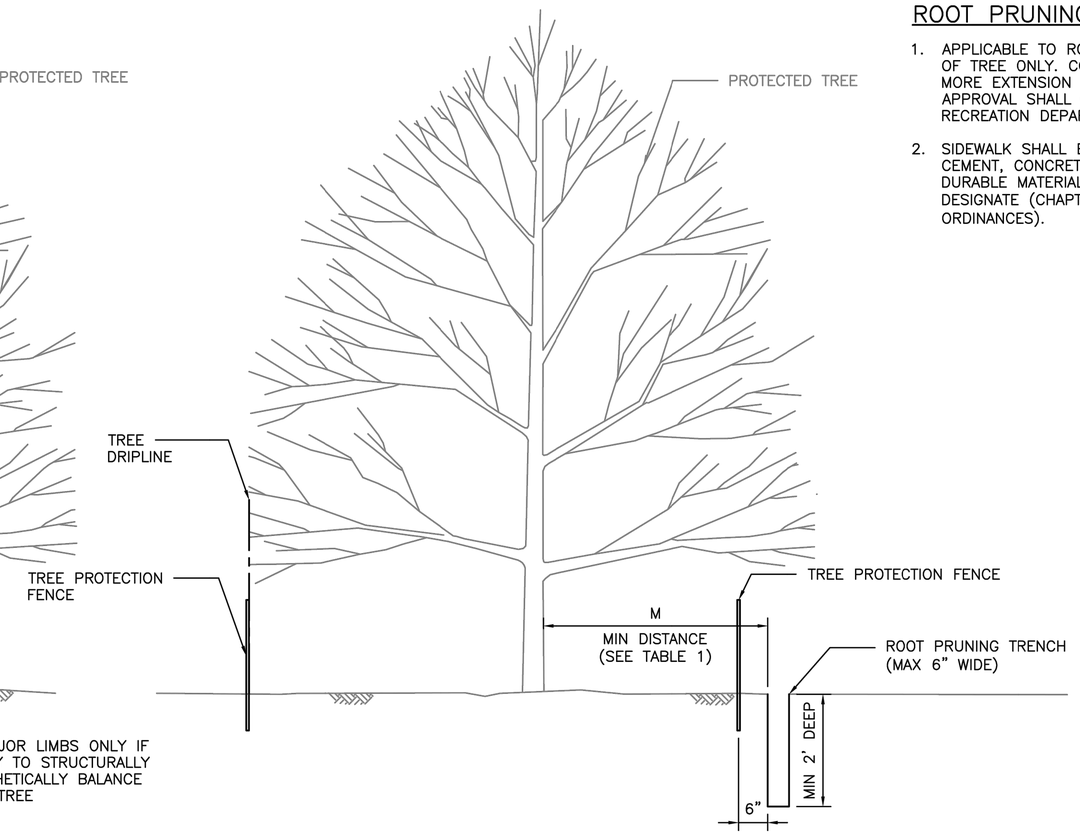
TREE PROTECTION
GENERAL REQUIREMENTS

WBS#: N–210008–0001–3	
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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:

DocuSigned by: Sulail kanwar 9EF8B0C641F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 01562–02

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION
TREE AND ROOT PRUNING

WBS#: N–210008–0001–3
DRAWING SCALE:
NOT TO SCALE
CITY OF HOUSTON PM
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Y:\002 PROJECTS CLIENTS\001 CITY OF HOUSTON\001 PUBLIC WORKS ENGINEERING\004 PHASE II _ GRAY&TAFT\004 DESIGN\90% SUBMITTAL PLAN SET\333_TREE PROTECTION TREE AND ROOT PRUNING_01562_02.DWG?LUKS|SAVED:Friday, October 03, 2025|CDH_KAI.CTB|PLOTTED:Wednesday, February 25, 2026

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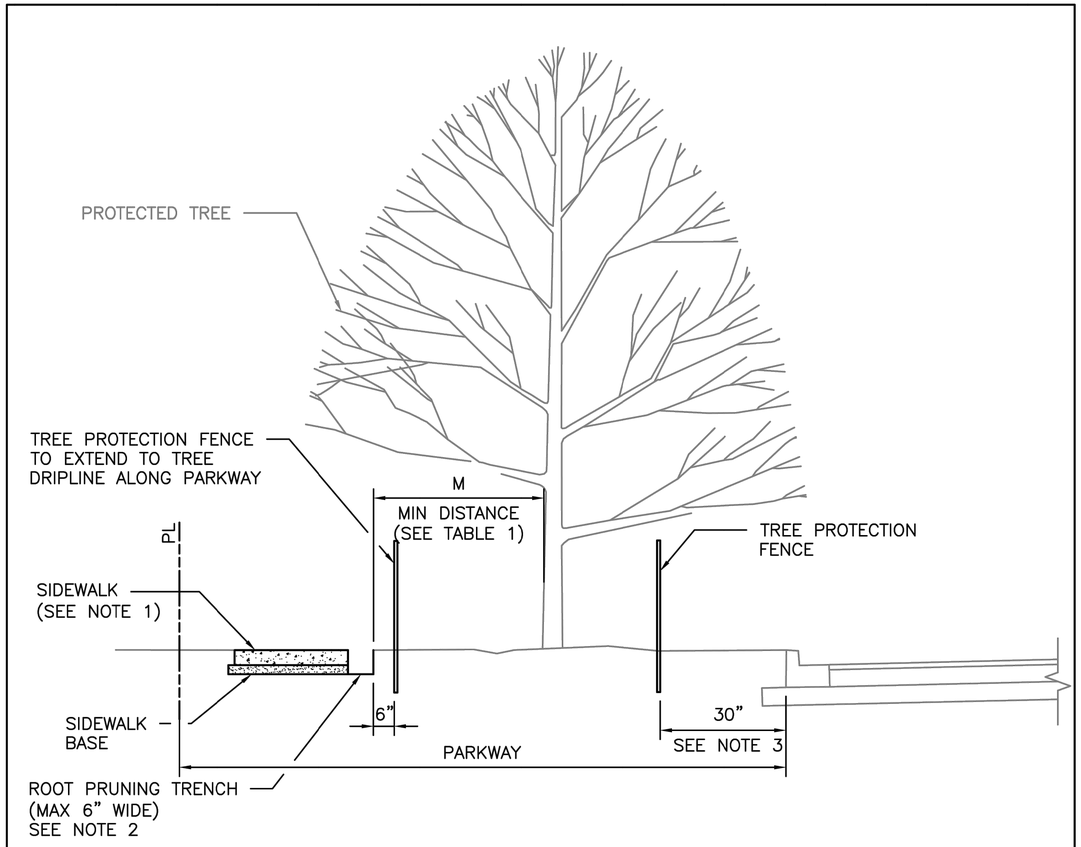


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< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.–INCH
> 20"	CONSULT CITY ARBORIST

*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.

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CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C841F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...

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

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HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

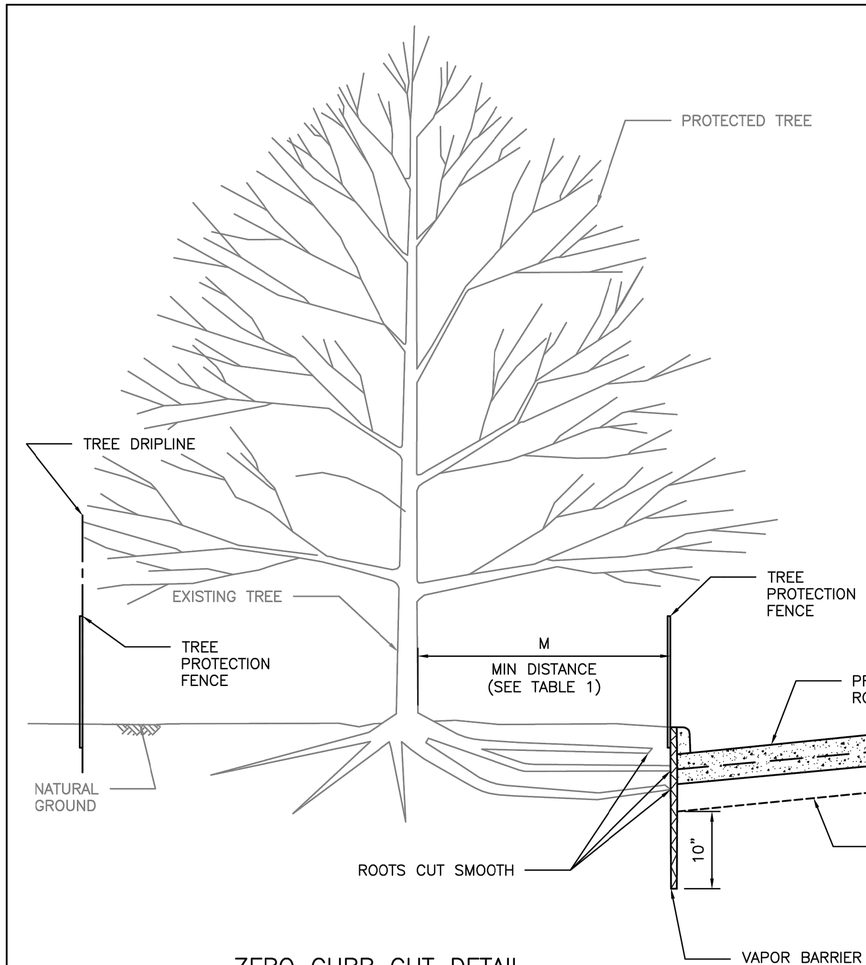
GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION/
IN SIDEWALK REPAIRS
IN PARKWAY AREAS

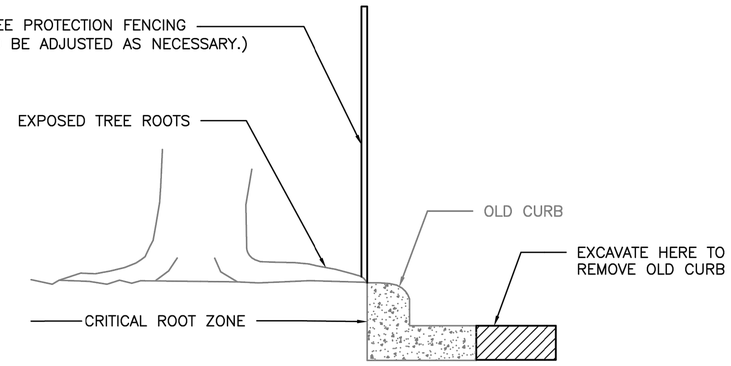
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ZERO CURB CUT DETAIL



OLD CURB REMOVAL

TABLE 1 "M" DISTANCE TABLE	
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
ZERO CURB CUT

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by:	DocuSigned by:
Suhail Kanwar 9EFBB0C841F5478...	Carol Haddock A93C410B72B3453...
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 01562–04

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SURVEYED BY: KUO & ASSOCIATES
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

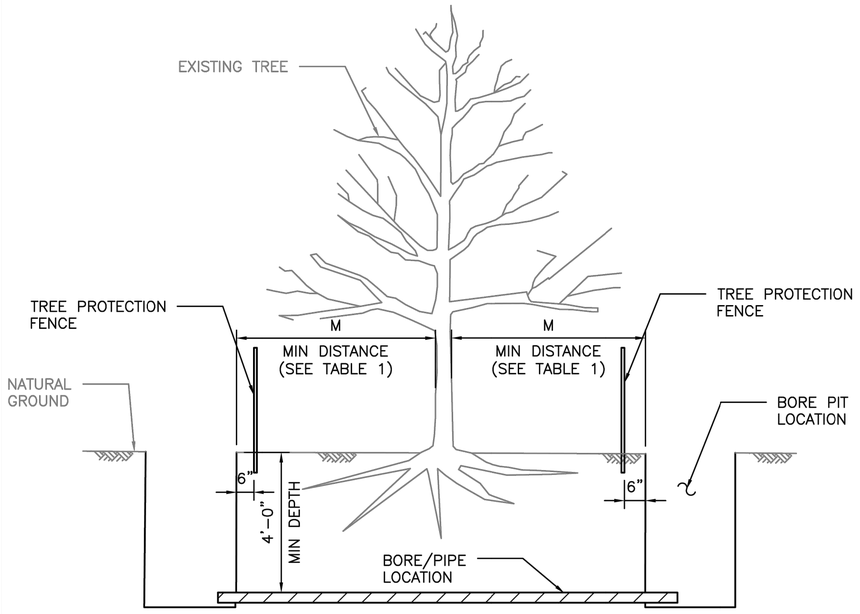
TREE PROTECTION
ZERO CURB CUT

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SHEET NO.	OF

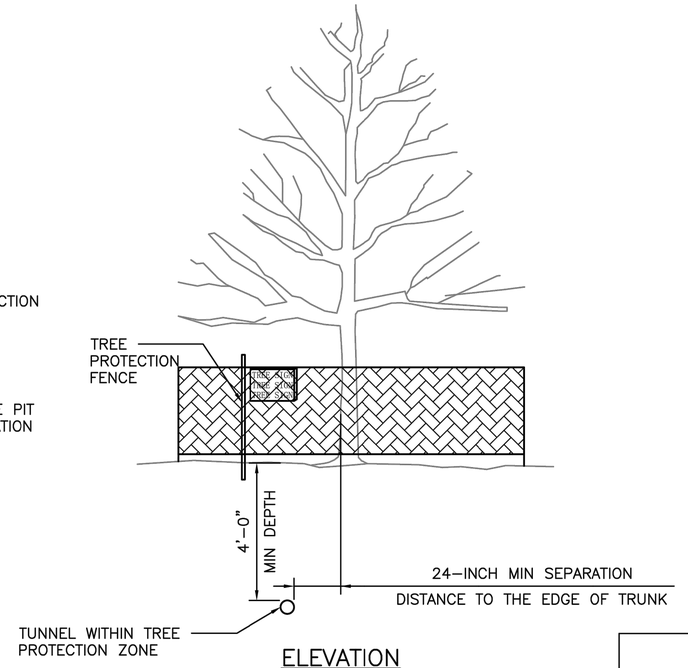
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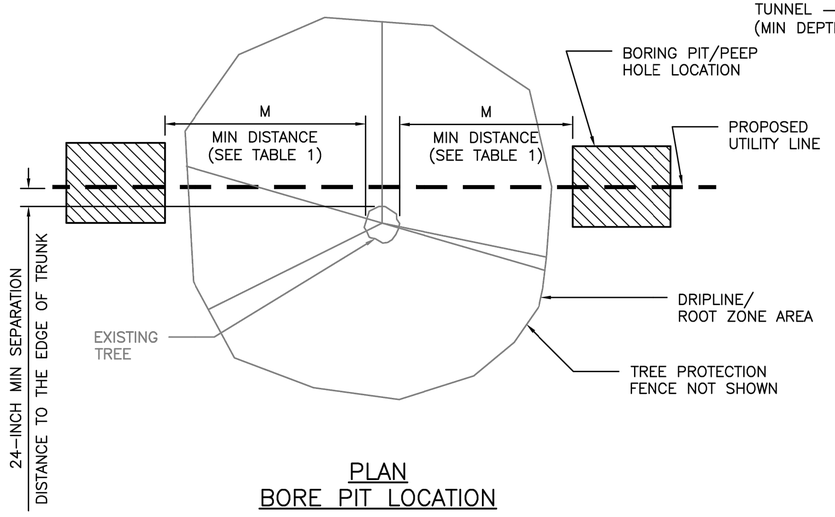
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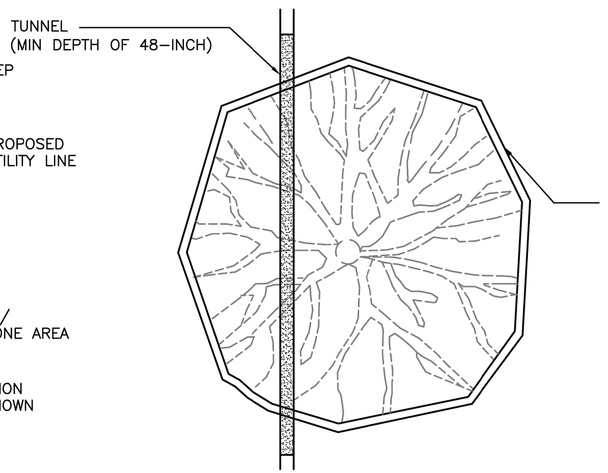
ELEVATION
BORE PIT LOCATION



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:

DocuSigned by:	DocuSigned by:
Suhail Kanwar 9EF8B0C841F5478...	Carol Haddock A93C410B72B3453...
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01562-05

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1225 NORTH LOOP WEST
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TX Firm 18572

SURVEYED BY: KUO & ASSOCIATES
FB NO.: P-6194

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

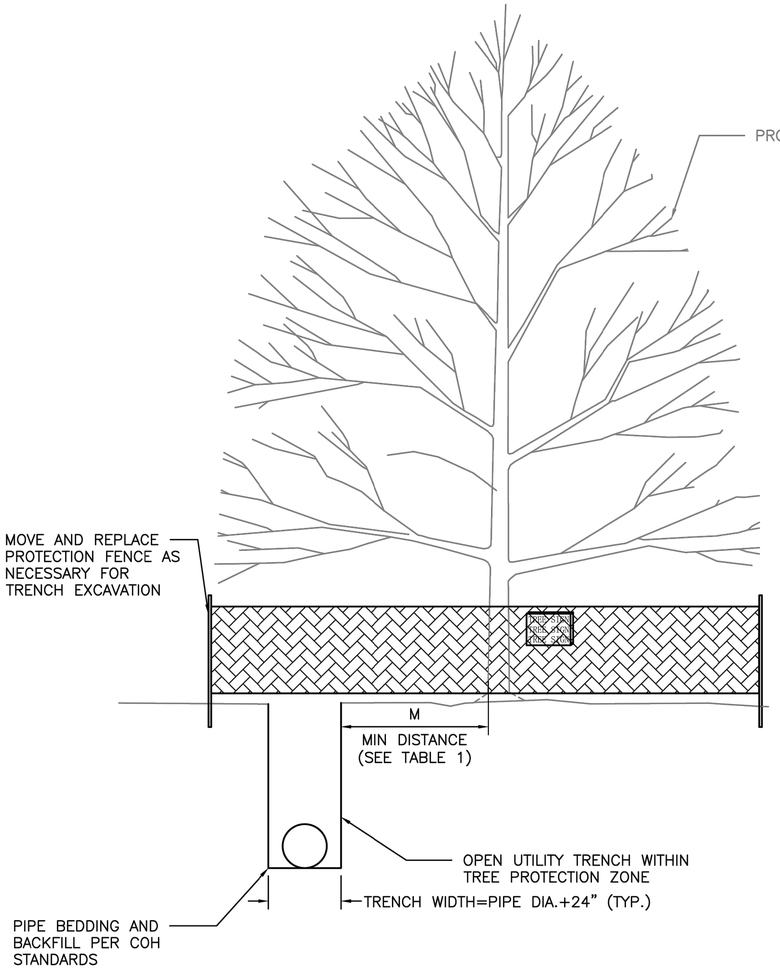
TREE PROTECTION
TUNNELING REQUIREMENTS

WBS#: N-210008-0001-3	
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
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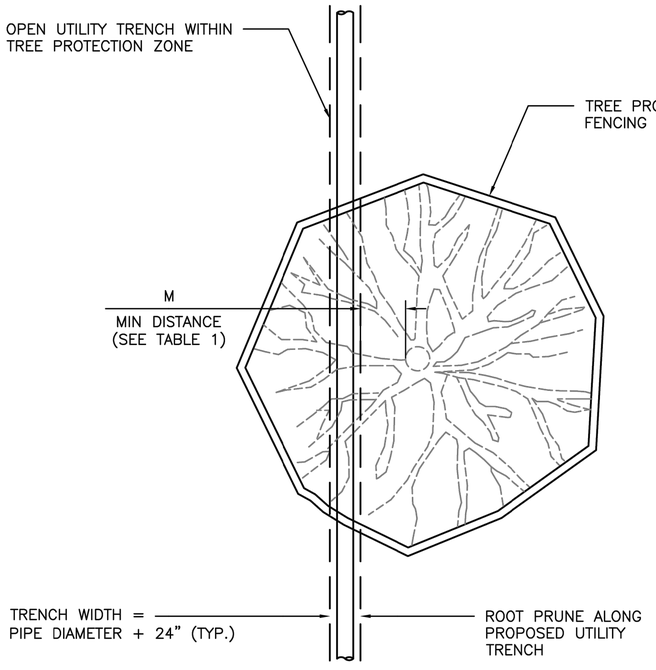
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ELEVATION
TRENCH EXCAVATION



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:

DocuSigned by: Suhail Kanwar 9EF880C841F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 01562–06

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TX Firm 18572

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

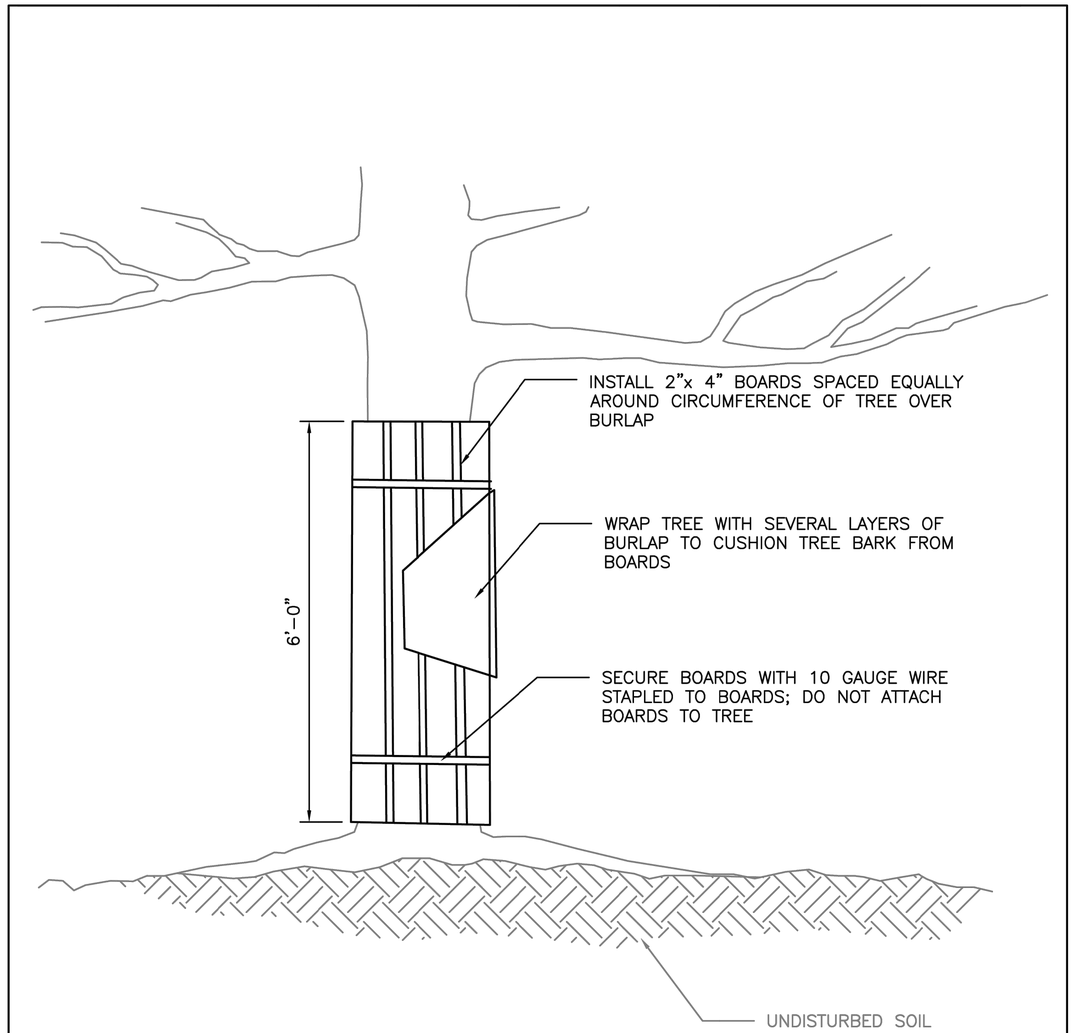
GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE PROTECTION
TRENCH REQUIREMENTS

WBS#:	N–210008–0001–3
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO.	OF

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ELEVATION

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APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Sukait Kanwar 9EF8B0C841F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE BOARDING

(SCALE: NOT TO SCALE)

EFF DATE: NOV-27-2023	DWG NO: 01562-07

ims
1225 NORTH LOOP WEST
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www.imsengineers.com
TX Firm 18572

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SURVEYED BY: KUO & ASSOCIATES
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS - CAPITAL PROJECTS

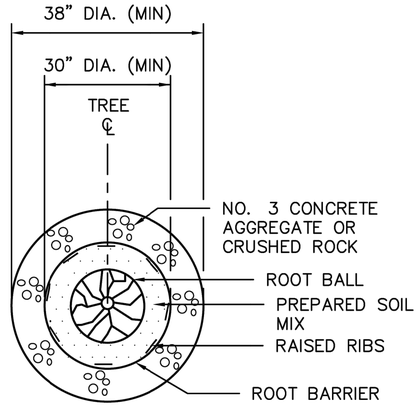
GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE BOARDING

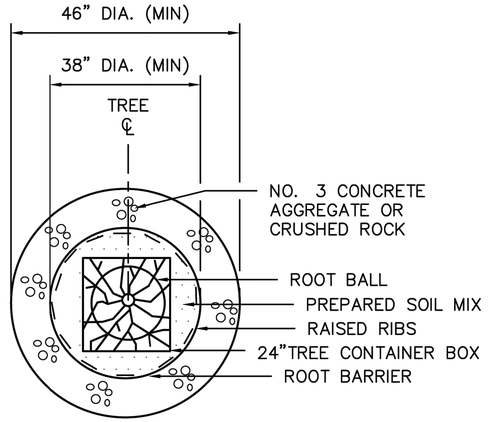
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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

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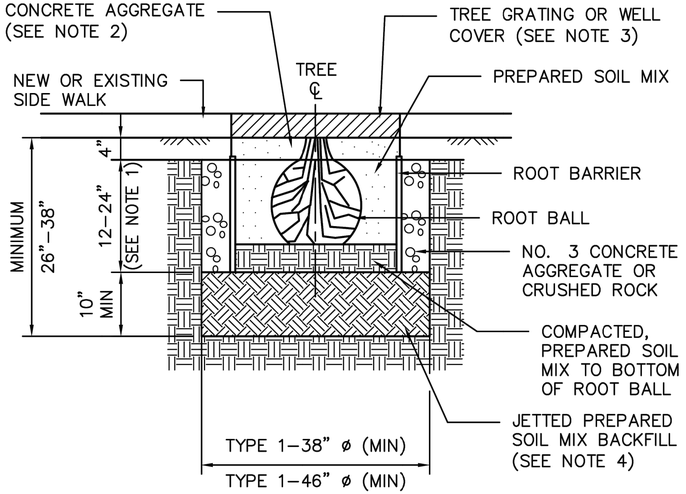
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PLAN VIEW A
TYPE 1 (15 GAL./4 PANELS)



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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APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: Carol Haddock A93C410B72B3453...

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE ROOT BARRIERS
(CIRCULAR)

(SCALE: NOT TO SCALE)

EFF DATE: NOV–27–2023 | DWG NO: 02912–01

1225 NORTH LOOP WEST
Suite 1020
Houston, TX 77008
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Fax: 713–739–7746
www.imsengineers.com
TX Firm 18572

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FB NO.: P–6194

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HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

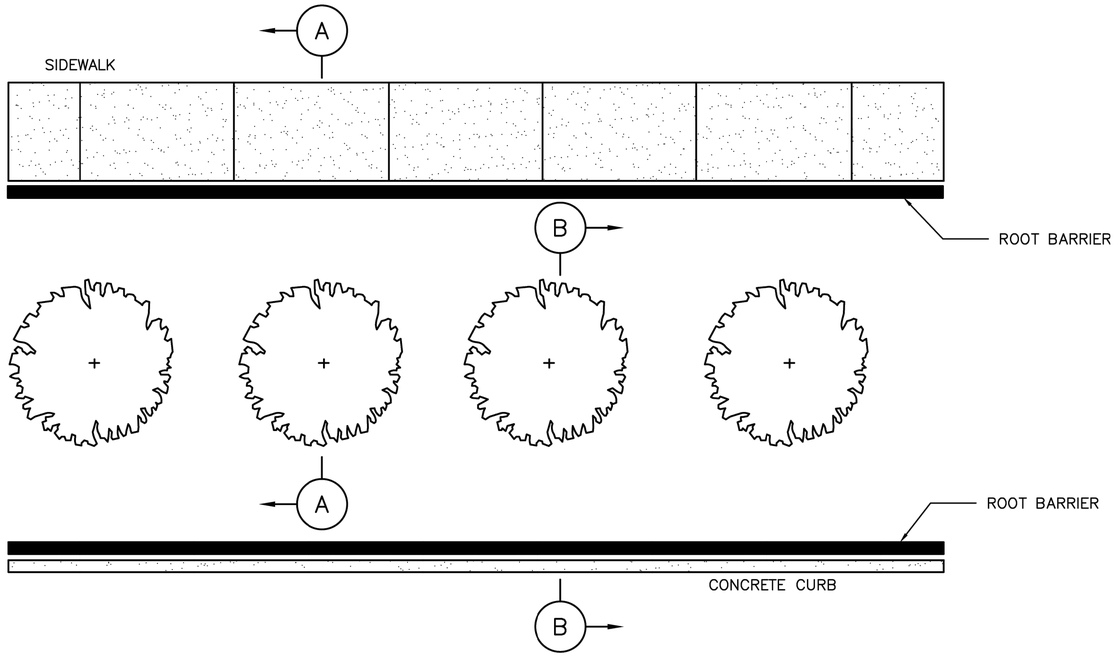
GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE ROOT BARRIERS
(CIRCULAR)

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CITY OF HOUSTON PM	
OMAR ABDULKAREEM, P.E.	
DRAWING NO:	
SHEET NO. OF	

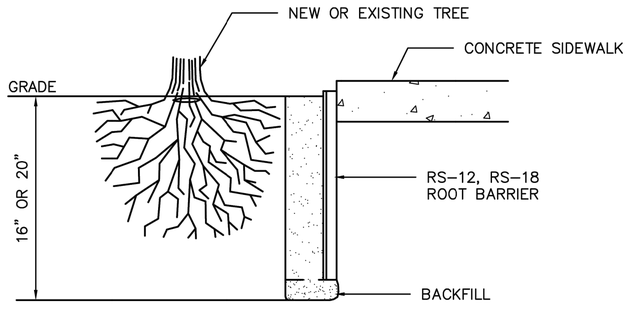
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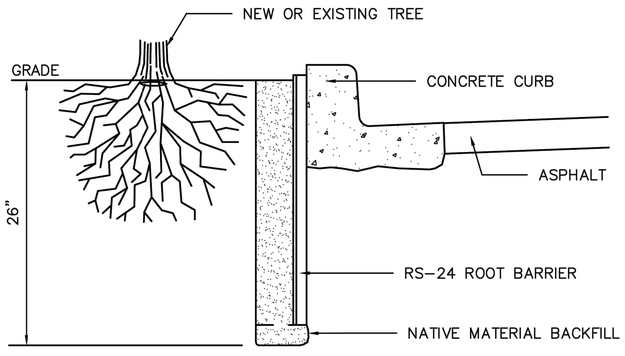


NOTES:

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:

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EFF DATE: NOV–27–2023	DWG NO: 02912–02

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS – CAPITAL PROJECTS

GRAY AND TAFT AREA
PAVING AND DRAINAGE

TREE ROOT BARRIERS
(LINEAR)

WBS#:	N–210008–0001–3
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