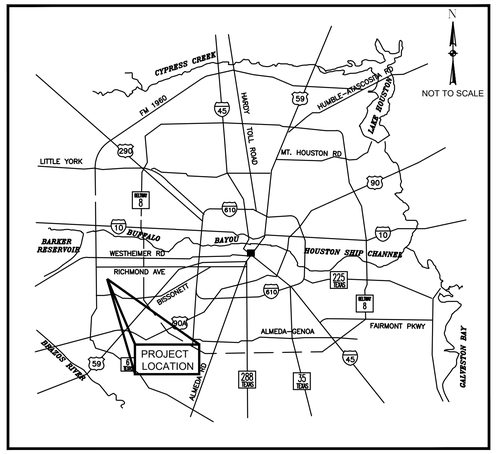
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

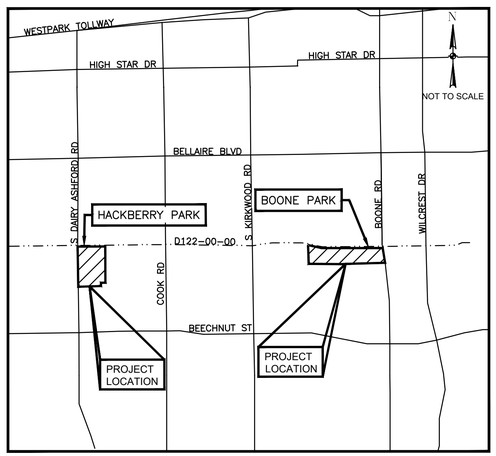
CAPITAL PROJECTS

BOONE PARK & HACKBERRY PARK DETENTION BASINS

WBS NO. M-430296-0018-3



LOCATION MAP



VICINITY MAP
KEY MAP NO 528 M
(HACKBERRY PARK)
KEY MAP NO 529 K
(BOONE PARK)

TDLR EABPR _____

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

GANNETT FLEMING
ADDRESS; 3100 WEST ALABAMA, HOUSTON, TX 77098
TELEPHONE NUMBER: (713) 520-9570
TX FIRM NUMBER: #1800

SURVEYED BY: KUO
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PARKS-FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

FOR CITY OF HOUSTON USE ONLY

CITY ENGINEER DATE

DIRECTOR OF HOUSTON PUBLIC WORKS DATE

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4	–	SYMBOLS
5	–	GENERAL NOTES
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NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

SHEET INDEX

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 2 OF 144	

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ABBREVIATIONS:

&	AND
@	AT
AB	ALL BELL
AC	ACRE / ASBESTOS CEMENT
AI/VR	AIR INLET / VACUUM RELIEF
APPROX	APPROXIMATELY
ASPH	ASPHALT
AVE	AVENUE
℄	BASELINE
B/B	BACK TO BACK
BC	BACK OF CURB
BFV	BUTTERFLY VALVE
BL	BUILDING LINE
BLDG	BUILDING
BLVD	BOULEVARD
℄	CENTER LINE
C/C	CENTER TO CENTER
CGMP	CORRUGATED GALVANIZED METAL PIPE
CMP	CORRUGATED METAL PIPE
CIP	CAST IRON PIPE
CLR	CLEARANCE
CO	CLEAN OUT
COH	CITY OF HOUSTON
CONC	CONCRETE
CONSTR	CONSTRUCTION
CPEE	CENTERPOINT ENERGY ELECTRIC
CPEG	CENTERPOINT ENERGY GAS
DEPPOL	DEPTH
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DR	DRIVE
DWG	DRAWING
DWY	DRIVEWAY
E	EAST
EL	ELEVATION
EP	EDGE OF PAVEMENT
E/R	END OF RADIUS
ESMT	EASEMENT
EXST	EXISTING
FC	FACE OF CURB
F/F	FACE TO FACE
FH	FIRE HYDRANT
℄	FLOW LINE
FM	FORCE MAIN
FT	FEET
GPS	GLOBAL POSITIONING SYSTEM
GV	GATE VALVE
GV&B	GATE VALVE AND BOX
HCFCD	HARRIS COUNTY FLOOD CONTROL DISTRICT
HDPE	HIGH-DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HP	HIGH PRESSURE
INV EL	INVERT ELEVATION
IP	INTERMEDIATE PRESSURE
IR	IRON ROD

ABBREVIATIONS:

J-BOX	JUNCTION BOX
JT	JOINT
JUNCT	JUNCTION
LF	LINEAR FEET
LN	LANE
LPT	LOW POINT
LT	LEFT
LS	LIFT STATION
MAX	MAXIMUM
METRO	METROPOLITAN TRANSIT AUTHORITY
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
N	NORTH
NA	NOT APPLICABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NG	NATURAL GROUND
NO	NUMBER
NTS	NOT TO SCALE
OCC	ZERO CURB CUT
OS	OFFSET
OH	OVERHEAD
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVATURE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PERM	PERMANENT
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNT	POINT
PPCA	POTENTIALLY PETROLEUM CONTAMINATED AREA
PRC	POINT OF REVERSE
PROP	PROPOSED
PSI	POUND PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE PIPE / POINT OF VERTICAL CURVATURE
PVMT	PAVEMENT
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY

ABBREVIATIONS:

(R)	RECORD DRAWING
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REINF	REINFORCED
REM	REMOVABLE
RJ	RESTRAINED JOINT
ROW	RIGHT OF WAY
RR	RAILROAD
RRPM	REFLECTIVE REMOVABLE PAVEMENT MARKERS
RT	RIGHT
S	SOUTH
SAN	SANITARY
SCHED	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SSE	SANITARY SEWER EASEMENT
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STM	STORM
SWBT	SOUTHWESTERN BELL TELEPHONE
SWR	SEWER
SY	SQUARE YARD
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TEMP	TEMPORARY
TOB	TOP OF BANK
TOC	TOP OF CURB
TOP	TOP OF PAVEMENT
TOS	TOP OF STACK
TS&V	TAPPING SLEEVE AND VALVE
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TYP	TYPICAL
UE	UTILITY EASEMENT
UGND	UNDERGROUND
VC	VERTICAL CURVE
VPI	VERTICAL POINT OF INTERSECTION
W	WEST
W/	WITH
WL	WATER LINE
WLE	WATER LINE EASEMENT
WM	WATER METER
WP	WOOD POLE
WSEL	WATER SURFACE ELEVATION
WV	WATER VALVE
WWTP	WASTE WATER TREATMENT PLANT

NO.	DATE	REVISION	APP.

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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
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- 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
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PROPOSED PROFILE VIEW

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- 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
- REVISION CLOUD/DELTA
- DETAIL/SECTION TITLE
- SECTION CALLOUT
- DETAIL CALLOUT

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M-430296-0018-3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 4 OF 144	

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PRIVATE UTILITY NOTES:

AT&T TEXAS/ SWBT FACILITIES:

1. THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL CALL 1–800–344–8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON–MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
4. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.
6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER ROOSEVELT LEE JR. AT (713) 567–4552 OR EMAIL HIM AT RL7259@ATT.COM, IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

1. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1–800–545–6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
   - –WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL 713–945–8036 OR 713–945–8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
   - –WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON–MECHANIZED EXCAVATION PROCEDURES.
   - –WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
   - –FOR EMERGENCIES REGARDING GAS LINES CALL 713–659–3552 OR 713–207–4200
2. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:
   - –ANY ACTIVITY WHERE PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
   - –OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.
2. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT 713–207–2222.

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

STANDARD NOTES FOR CONSTRUCTION DRAWINGS (HCFCD):

1. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM ENGINEER, IF NECESSARY. OBTAIN PERMIT (CERTIFICATION) FROM HARRIS COUNTY ENGINEER TO ENTER HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT–OF–WAY.
2. NOTIFY THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT IN WRITING AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. SUBMIT THE HCFCD 48 HOUR PRE–CONSTRUCTION NOTIFICATION FORM, A COPY OF THE APPROVED CONSTRUCTION DRAWINGS, AND A COPY OF THE CORPS OF ENGINEERS INDIVIDUAL SECTION 404 PERMIT, IF APPLICABLE, TO HCFCD, 9900 NORTHWEST FREEWAY, HOUSTON, TEXAS 77092, ATTN: PROPERTY MANAGEMENT DEPT. BY HAND DELIVERY, OR FAX TO 713–684–4129 (FAX NUMBER).
3. ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT REQUESTING INSPECTION OF ITEMS CONSTRUCTED IN HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT–OF–WAY. PRIOR TO REQUESTING INSPECTION, THE DRAINAGE RIGHT–OF–WAY AND/OR EASEMENTS SHALL BE STAKED AND FLAGGED.
4. PROTECT, MAINTAIN, AND RESTORE EXISTING BACKSLOPE 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. BACKFILL IN ACCORDANCE WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02315 – EXCAVATING AND BACKFILLING, OR EQUIVALENT.
8. EXCAVATE CHANNEL FLOWLINE TO DESIGN ELEVATION AS SHOWN ON PLANS AND DOWNSTREAM, AS NECESSARY, TO ENSURE NO WATER REMAINS IN THE FACILITY (STORM SEWER, LATERAL CHANNEL, OR DRY BOTTOM DETENTION BASIN) DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL, SO THE FACILITY WILL FUNCTION AS INTENDED. FOR WET BOTTOM DETENTION BASINS, ENSURE NO WATER IS ABOVE THE DESIGN LEVEL IN THE WET BOTTOM DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL.
9. MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.
10. REMOVE ALL EXCAVATED MATERIAL FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT OR DRAINAGE RIGHT–OF–WAY. NO FILL IS TO BE PLACED WITHIN A DESIGNATED FLOOD PLAIN AREA WITHOUT FIRST OBTAINING A FILL PERMIT FROM THE APPROPRIATE JURISDICTIONAL AUTHORITY.

GENERAL NOTES – METRO:

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

1. CONTRACTOR SHALL COORDINATE WITH METRO TO REMOVE EXISTING AMENITIES.
2. BUS STOPS SHALL CONSTRUCTED PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL AND MEET CURRENT ADA REQUIREMENTS

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P–6328

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AMY E. DZIUK
P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

GENERAL NOTES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 5 OF 144	

PLOT STYLE: Coh_ctb_230809 – MOD.ctBLOTTED: 7/23/2025 9:50 AM
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\GEN–GENERALNOTES.dwg

1. PROPERTY DESCRIPTION

I. LOCATION INFORMATION

A. HARRIS COUNTY COMMISSIONER'S PRECINCT:
☐ 1 ☐ 2 ☐ 3 ☐ 4

B. KEY MAP: _____

C. ADDRESS: _____

II. LEGAL DESCRIPTION

A. ACREAGE: _____

B. ☐ SUBDIVISION: _____

☐ SURVEY & ABSTRACT: _____

C. ADJACENT ROADS: _____

III. PLATTING

A. SUBDIVISION PLAT
☐ PROPOSED PLAT / REPLAT
☐ RECORDED PLAT / REPLAT

B. STREETS PROPOSED
☐ PUBLIC
☐ PRIVATE
☐ PUBLIC & PRIVATE
☐ NONE

PLAT NAME: _____

IV. JURISDICTIONS

☐ CITY OF _____
☐ ETJ, CITY OF HOUSTON
☐ ETJ, CITY OF _____
☐ NO ETJ
☐ UTILITY DISTRICT (NAME)_____

V. HCAD ACCOUNT NOS. (ALL)

_____

_____

_____

2. SITE DETENTION DRAINAGE

I. PROPOSED DRAINAGE AREA

☐ NEW DEVELOPMENT AREA: _____
☐ RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): _____
☐ LOW IMPACT DEVELOPMENT (LID)
METHOD/DESCRIPTION _____

II. METHODOLOGY

HCFCD PCPM DETENTION METHOD USED:
☐ METHOD 1 (LESS THAN 20 ACRES)
☐ METHOD 2 (20 ACRES TO 640 ACRES)
☐ METHOD 3 (GREATER THAN 640 ACRES)
☐ OTHER _____

III. DETENTION VOLUME & OUTFALL

OUTFALL TO:
☐ .65, H.C.F.C.D. CHANNEL, (H.C.F.C.D. UNIT NO.) _____
☐ .75, EXISTING STORM SEWER (OWNER & OPERATOR) _____
☐ 1.00, ROADSIDE DITCH, (OWNER & ROAD NAME) _____
☐ OTHER (OWNER & OPERATOR) _____

IV. STORMWATER DETENTION BASIN INFORMATION

A. HCFCD PCPM SUMMARY TABLE SEE SHEET _____ OF THESE PLANS.

DETENTION BASIN SERVICE AREA		acres	
STORM EVENT	50% EXCEEDANCE (2-YEAR)	10% EXCEEDANCE (10-YEAR)	1% EXCEEDANCE (100-YEAR)
MAXIMUM ALLOWABLE OUTFLOW (PRE-DEVELOPMENT PEAK FLOW)			
MAXIMUM OUTFLOW PROVIDED (PEAK FLOW FROM BASIN)			
LOWEST NATURAL/FINISHED GROUND OR FINISHED FLOOR ELEVATION ESTIMATE			
DESIGN WATER SURFACE ELEVATION			
MINIMUM STORAGE REQUIRED (ac-ft)			
DETENTION STORAGE PROVIDED (ac-ft)			
STORAGE RATE PROVIDED (ac-ft/ac)			
OUTFLOW VELOCITY INTO CHANNEL (ft/sec)			
DRAIN TIME – 1% ONLY (hours)			
EMERGENCY OVERFLOW (TYPE, SIZE, ELEVATION, ETC.)			

B. DETENTION BASIN TO BE MAINTAINED BY _____

C. DETENTION SERVICE AREA MAP ON SHEET _____

D. ADDITIONAL CRITERIA FOR PUMPED DETENTION BASINS
VOLUME OF PUMPED 1% EXCEEDANCE STORAGE VOLUME = _____ ACFT _____ % OF TOTAL VOLUME
MAXIMUM DESIGN OUTFLOW VELOCITY INTO HCFCD CHANNEL = _____ FT/SEC
DRAIN TIME FOR BASIN = _____ HOURS BASED ON _____HEAD CONDITIONS

V. DETENTION PROVIDED IN OTHER PLANS:

HCFCD PROJECT No. _____ DATE SIGNED BY HCFCD: _____
PLAN TITLE _____
DETENTION POND SERVICE AREA MAP IS PROVIDED ON SHEET _____
ENGINEERING FIRM _____
DETENTION BASIN MAINTAINED BY: _____

VI. FLOW RESTRICTOR SIZE

OUTFALL PIPE SIZE: _____
RESTRICTOR PIPE SIZE: _____
RESTRICTOR PLATE DIMENSION: _____

VII. DETENTION PROVIDED BY

☐ REGIONAL DETENTION BASIN SYSTEM (APPROVED H.C. PRJ NO.): _____

FOR PROJECTS LOCATED IN ANY FLOODPLAIN

Development constructed or placed in accordance with these plans will comply with all provisions of the designated Floodplain Administrator.
No net fill is allowed in the flood plain and no fill is allowed in the floodway.

OFFSITE SHEET FLOW: (100 YEAR)

OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMODATIONS ARE SHOWN ON SHEET ____ OR, AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED _____.

TOTAL ACREAGE = ____
TOTAL DISCHARGE = ____

NOTE: ALL OFFSITE SHEET FLOW FROM ADJACENT PROPERTIES MUST BE IDENTIFIED AND PROPERLY ACCOUNTED FOR IN THE PROJECT. THE SIGNING ENGINEER HEREBY CERTIFIES THAT THESE AREAS HAVE BEEN ADDRESSED.

3. SWQ DISCHARGE INTO FCD FACILITY

I. SWPPP: CONSTRUCTION MEASURES. (Must complete)

☐ DISTURBS >1AC. SITE PLAN & DETAILS ON SHEET(S) _____

☐ DISTURBS <1AC. N/A

*II. APPLICABILITY FOR PERMANENT FEATURES. (Must complete)

EXEMPT NEW DEVELOPMENT:
☐ PROJECT IS ON A PARCEL (A COMMON PLAN OF DEVELOPMENT) LESS THAN 5 ACRES. (Must be verified with plat)

EXEMPT REDEVELOPMENT:
☐ PROJECT DOES NOT MEET THE DEFINITION OF SIGNIFICANT REDEVELOPMENT (Part A,Sec. 2.39 of Regulations of Harris County, Texas for Stormwater Quality Management)

EXEMPT GRANDFATHERED:
☐ PROJECT'S DRAINAGE TIES DIRECTLY INTO AN EXISTING DRAINAGE SYSTEM PRIOR TO OCTOBER 1, 2001.
(FOR VERIFICATION: PROVIDE ORIGINAL DRAINAGE AREA MAP INCLUDING CALCULATIONS)

GENERAL:
☐ PROJECT'S SWQ REQUIREMENTS FALL WITHIN THE JURISDICTION OF: _____
☐ STORMWATER QUALITY PERMIT REQUIREMENT IS COVERED BY AN EXISTING SWQMP WITHIN PROJECT TITLE: _____
HARRIS COUNTY PROJECT No _____ & SWQ PERMIT No.

STORMWATER QUALITY MANAGEMENT PLAN:
☐ SITE PLAN ON SHEET(S)

III. PERMANENT SWQ FEATURES. (COMPLETE IF NOT EXEMPT)

☐ VEGETATIVE CONTROLS USED: (FILTER STRIP, GRASSY SWALE, URBAN FORESTRY DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ POND STRUCTURE USED (WET, DRY, WETLANDS) DETAILS AND CALCULATIONSAPPEAR ON SHEET(S)_____
☐ HYDRODYNAMIC TYPE SEPARATOR MODEL: _____
☐ OTHER(S): _____

4. FLOOD PLAIN STATUS

I. GENERAL INFORMATION

FIRM PANEL(S) FOR PROPERTY: _____
FIRM PANEL(S) DATE: _____
STATUS OF PROPERTY ON MAP
☐ ENTIRELY LOCATED IN UNSHADED ZONE "X"
☐ LOCATED PARTIALLY OR ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", DELINEATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO._____) (1% BASE FLOOD LEVEL_____) (0.2% BASE FLOOD LEVEL_____)
☐ SITE REMOVED FROM FLOODPLAIN BY LOMR, LOMR-F, LOMA CASE NO._____ REVISED FLOODPLAIN IS SHOWN ON SHEET____

ELEVATION INFORMATION
BENCHMARK USED
☐ HARRIS COUNTY FLOODPLAIN REFERENCE MARK
☐ HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)
DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT *(2001 ADJ.)* _____

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION

☐ PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN SHADED ZONE "X"
☐ PROPERTY LIES PARTIALLY OR ENTIRELY BELOW THE BASE FLOOD LEVEL

III. FLOODPLAIN STORAGE SUMMARY

(APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FEMA REGULATORY FLOODPLAIN).

A. TOTAL VOLUME OF MATERIAL PROPOSED TO BE MOVED OR PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.): BELOW 0.2% BASE FLOOD ELEVATION (2001 ADJ.) _____ CUBIC YARDS _____

B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN: BELOW 0.2% BASE FLOOD ELEVATION (2001 ADJ.) ____ CUBIC YARDS _____ INCLUDING CALCULATIONS)

C. FILL AREA & VOLUME CALCULATIONS ARE SHOWN ON SHEET _____

5. WORK IN HCFCD RIGHT-OF-WAY

I. TYPE OF WORK TO BE PERFORMED IN HCFCD HCFCD ROW

A. BOND/NOTIFICATION INFORMATION
☐ HCFCD WATERSHED _____
☐ HCFCD UNIT No. _____
☐ NUMBER OF OUTFALLS _____
☐ UTILITY CROSSING
☐ ROADWAY BRIDGE/CULVERT CROSSING
☐ FILL ACTIVITY
☐ REHABILITATION OF CHANNEL
☐ MAINTENANCE
☐ TEMPORARY CROSSING
☐ TRAIL (LENGTH) _____
☐ OTHER _____
COST OF WORK IN HCFCD ROW _____

II. USACE ENVIRONMENTAL PERMIT

☐ US ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER(S) _____
☐ US ARMY CORPS OF ENGINEERS INDIVIDUAL PERMITS
☐ OTHER
☐ NO PERMITS REQUIRED
EXPLAIN: _____

III. REFERENCE / BASIS OF DETERMINATION

☐ ENVIRONMENTAL CONSULTANT REPORT
BY _____
REPORT TITLE _____
REPORT DATE _____
☐ OTHER _____

NOTES:
I. – III. REQUIRED ON PROJECTS WITH WORK IN A HCFCD CHANNEL. PLEASE REFERENCE SECTION 17 OF THE FLOOD CONTROL DISTRICT POLICY, CRITERIA, AND PROCEDURE MANUAL FOR MORE INFORMATION.

IV. HCFCD STANDARD NOTES: SEE SHEET _____ OF THESE PLANS.

V. HCFCD STANDARD DETAILS: SEE SHEET _____ OF THESE PLANS.

VI. HCFCD ACCESS PLAN: SEE SHEET _____ OF THESE PLANS.

VII. REFER TO THE FOLLOWING PLAN SHEETS: _____
FOR EXISTING AND PROPOSED RIGHT(S) OF WAY INCLUDING DELINEATION AND RECORDING INFORMATION PER HCFCD POLICY, CRITERIA, & PROCEDURE MANUAL (i.e., DRAINAGE EASEMENT, FEE STRIP, ETC.) AND GRANTEE (e.g. COH, HCFCD, PUBLIC, TXDOT, ETC.)

6. REPORTS/AGREEMENTS

I. HCFCD ACCEPTED REPORTS (ALL)

STORMWATER DRAINAGE DESIGN REPORT

REPORT TITLE _____
HCFCD PROJECT #_____
ENGINEERING FIRM _____
REPORT ACCEPTANCE DATE _____

GEOTECHNICAL INVESTIGATION REPORT

REPORT TITLE _____
HCFCD PROJECT #_____
ENGINEERING FIRM _____
REPORT ACCEPTANCE DATE _____

HCFCD APPROVED VARIANCE

DESCRIPTION OF VARIANCE _____
DOCUMENT ID #_____
VARIANCE ACCEPTANCE DATE _____

II. AGREEMENT TYPE & No.:

☐ INTERLOCAL (ILA): _____
☐ HCFCD MAINTENANCE _____
☐ TURF ESTABLISHMENT _____
☐ OTHER _____

HCFCD SIGNATURE BLOCK

PROJECT NAME: _____

ADDRESS: _____

WAS ACCEPTED BY HARRIS COUNTY FLOOD CONTROL DISTRICT FOR THE PURPOSES LISTED BELOW:

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION

BY_____
FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY

APPROVED:

BY_____
FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY

APPROVED:

BY_____
FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY

NO REVIEW REQUIRED:

BY_____
FINAL PERMITTING BY OTHERS

ADDITIONAL COMMENTS:

_____

_____

_____

_____

_____

THE PROJECT WAS REVIEWED, HOWEVER, THIS DOES NOT MEAN THE ENTIRE PROJECT, INCLUDING ALL SUPPORTING DATA AND CALCULATIONS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THESE DRAWINGS ARE SIGNED, DATED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS, WHICH THEREFORE CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY. THIS DOES NOT RELIEVE ANY PARTY FROM COMPLYING WITH APPROPRIATE FEDERAL, STATE AND LOCAL ENVIRONMENTAL RULES, LAWS, AND REGULATIONS AND ANY OTHER LEGALLY ADOPTED REGULATION OR ORDINANCE RELATED TO LAND DEVELOPMENT. IF THE CITY SIGNATURES ARE REQUIRED BY ORDINANCE, COUNTY PERMITS WILL NOT BE ISSUED UNTIL SUCH SIGNATURES ARE OBTAINED. PLAN APPROVAL EXPIRATION TO BE IN ACCORDANCE WITH LOCAL GOVERNEMENT CODE CH. 245.

ENGINEER'S CERTIFICATION

I, AMY E. DZIUK, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE.

ANY VIOLATIONS WILL BE FORWARDED TO THE HARRIS COUNTY DISTRICT ATTORNEY'S OFFICE FOR PROSECUTION.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS _____ THRU _____.

_____ _____
SIGNATURE DATE

SEAL

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REVISIONS

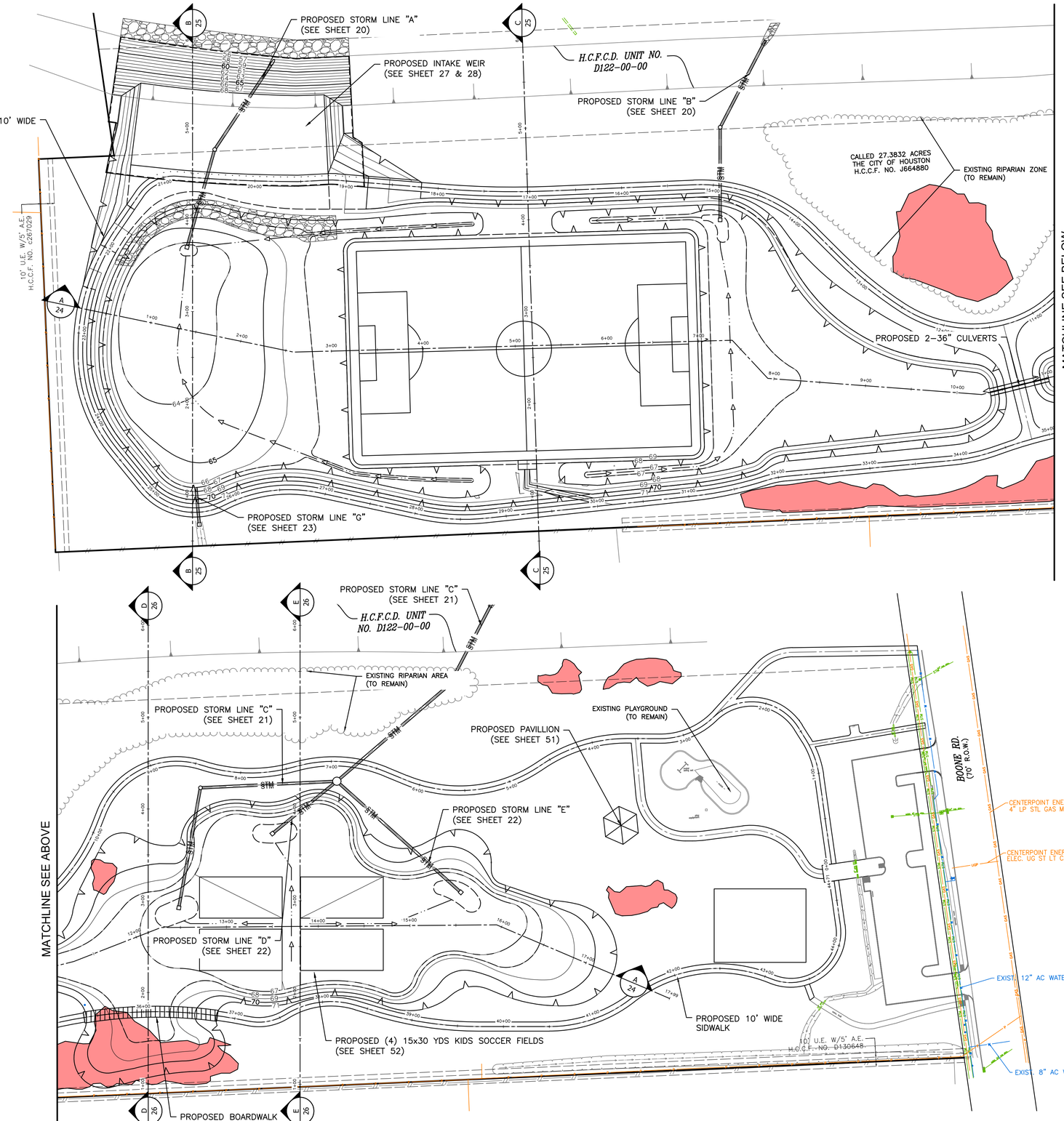
NOTE: REVISION BLOCK IS TO BE USED ONLY FOR CHANGES MADE AFTER PLANS HAVE BEEN APPROVED BY HARRIS COUNTY FLOOD CONTROL.

DATE	SHEET NO.	DESCRIPTION	P.E. INITIAL	H.C.F.C.D APPROVED DATE

HARRIS COUNTY FLOOD CONTROL DISTRICT REVIEW SHEET

VERSION 1.0 OCTOBER 2019

HARRIS COUNTY FLOOD CONTROL PROJECT NO.



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0 30 60 120
SCALE IN FEET

NO.	DATE	REVISION	APP.

PARK DETENTION INFORMATION:
PARK AREA: 24.75 AC
DETENTION PROVIDED: 24.50 AC-FT
FIRM INFO: MAP 48201C0830L
EFFECTIVE DATE: 6/18/2007

ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY BEFORE COMMENCEMENT OF WORK

REFERENCE DRAWINGS:

1. SEE SHEET 17 FOR DEMOLITION.
2. SEE SHEETS 20 – 23 FOR STORM OUTFALL PROFILES.
3. SEE SHEETS 24 – 26 FOR POND SECTIONS.
4. SEE SHEET 28 FOR WEIR INTAKE STRUCTURE & SHEET 27 FOR INTAKE WEIR STRUCTURAL LAYOUT.

LEGEND

WETLANDS

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.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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P.E. #133701

SURVEYED BY: KUO
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE PARK PROJECT LAYOUT

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 7 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:50 AM

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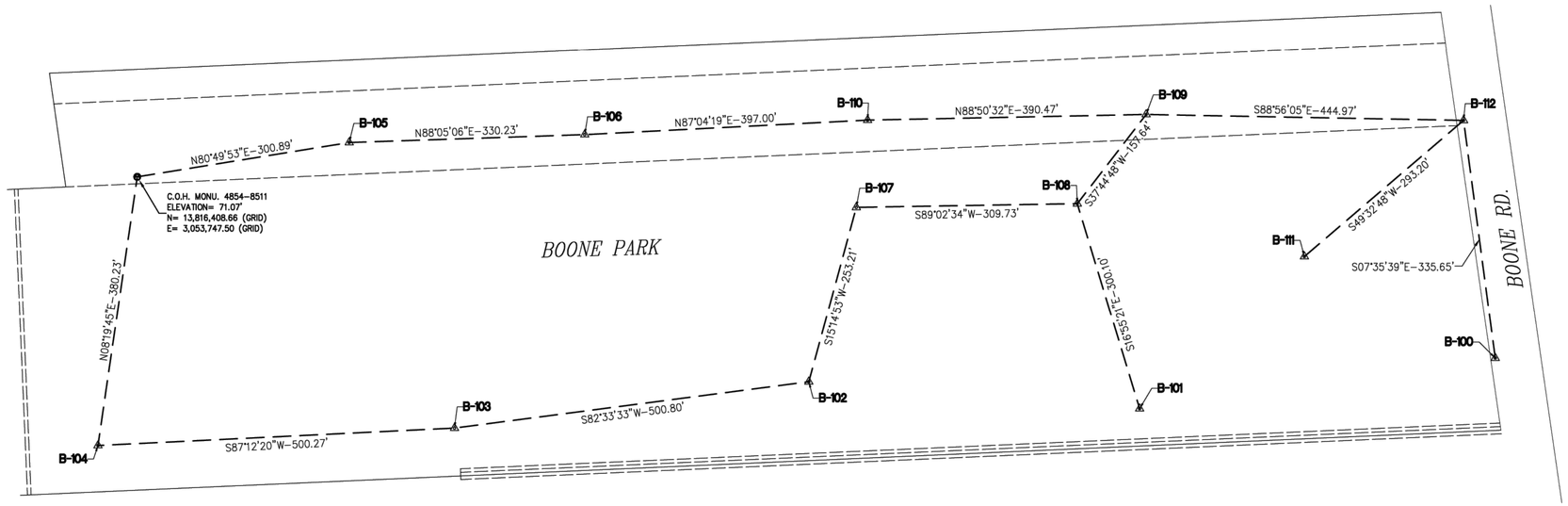
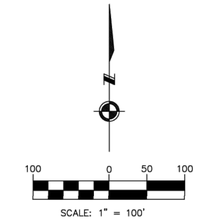




NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 4854-8511 (ALSO HCFCD REFERENCE MARK 040560), A BRASS DISC IN CONCRETE, LOCATED ON CONCRETE APRON OF A GRATE INLET ABOUT 220 FT SOUTH OF BANEWAY DR DEAD END APPROXIMATELY 0.5 MILE SOUTH FROM THE INTERSECTION OF BELLAIRE BLVD.

ELEV. 71.07 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 23, 2024.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040560)PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND DATUM NAVD 1988, (GEOID '18) IS 0.35'.

NAVD 1988, 2001 ADJ. ELEVATION ELEVATION
= NAVD 1988, (GEOID '18) + 0.35 FT

NOTE:

ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83 (CORS96). ALL DISTANCES ARE IN SURFACE.

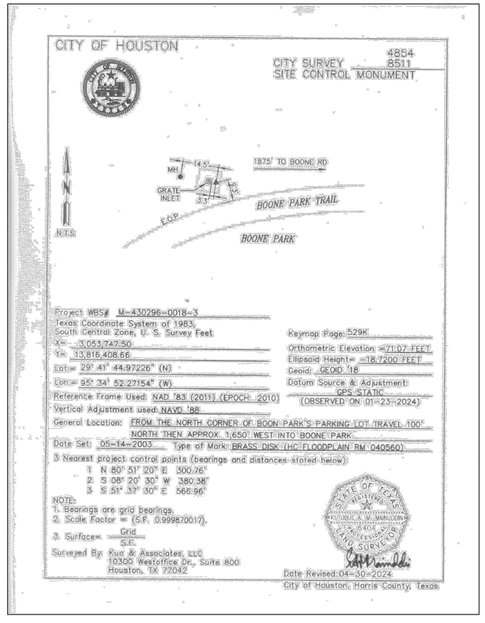
THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.99987017.

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

SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)

POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	DESCRIPTION
B-100	13,817,950.97	3,056,047.69	13,816,154.87	3,055,650.45	71.44'	SET 5/8" I.R. W/CAP
B-101	13,817,880.19	3,055,549.29	13,816,084.10	3,055,152.12	70.76'	SET 1/2" I.R. W/CAP
B-102	13,817,917.82	3,055,085.66	13,816,121.73	3,054,688.55	71.59'	SET MAG W/ SHINER
B-103	13,817,852.97	3,054,589.08	13,816,056.88	3,054,192.03	71.34'	SET 1/2" I.R. W/CAP
B-104	13,817,828.58	3,054,089.41	13,816,032.49	3,053,692.43	72.88'	SET MAG W/ SHINER
B-105	13,818,252.74	3,054,441.53	13,816,456.60	3,054,044.50	72.61'	SET 5/8" I.R. W/CAP
B-106	13,818,263.77	3,054,771.57	13,816,467.63	3,054,374.50	72.28'	SET 1/2" I.R. W/CAP
B-107	13,818,162.12	3,055,152.25	13,816,365.99	3,054,755.13	72.50'	SET MAG W/ SHINER
B-108	13,818,167.29	3,055,461.93	13,816,371.17	3,055,064.78	73.58'	SET "X" CUT ON CONC.
B-109	13,818,291.94	3,055,558.44	13,816,495.80	3,055,161.27	72.74'	SET 1/2" I.R. W/CAP
B-110	13,818,284.05	3,055,168.05	13,816,487.91	3,054,770.93	71.22'	SET 1/2" I.R. W/CAP
B-111	13,818,093.43	3,055,780.22	13,816,297.32	3,055,383.03	72.04'	SET "X" CUT ON CONC.
B-112	13,818,283.67	3,056,003.33	13,816,487.53	3,055,606.10	71.64'	SET 5/8" I.R. W/CAP



DEC
ENGINEERING EXCELLENCE
T.B.P.E.L.S. FIRM REGISTRATION #3992
3100 WEST ALABAMA, HOUSTON, TEXAS 77098 (713) 526-6570

KUO & associates, LLC.
Consulting Engineers & Surveyors
10300 Westoffice Dr., Suite 800, Houston, Texas 77042
Tel: 713-975-8788, Fax: 713-975-0930, www.kuoassociates.com
TBPELS Engineering Firm Reg. No. F-4578
TBPELS Surveying Firm Reg. No. 10075600

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 06/28/24 IT IS NOT TO BE USED FOR PERMIT, BIDDING OR CONSTRUCTION PURPOSES

SURVEYED BY: KUO & ASSOC.
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

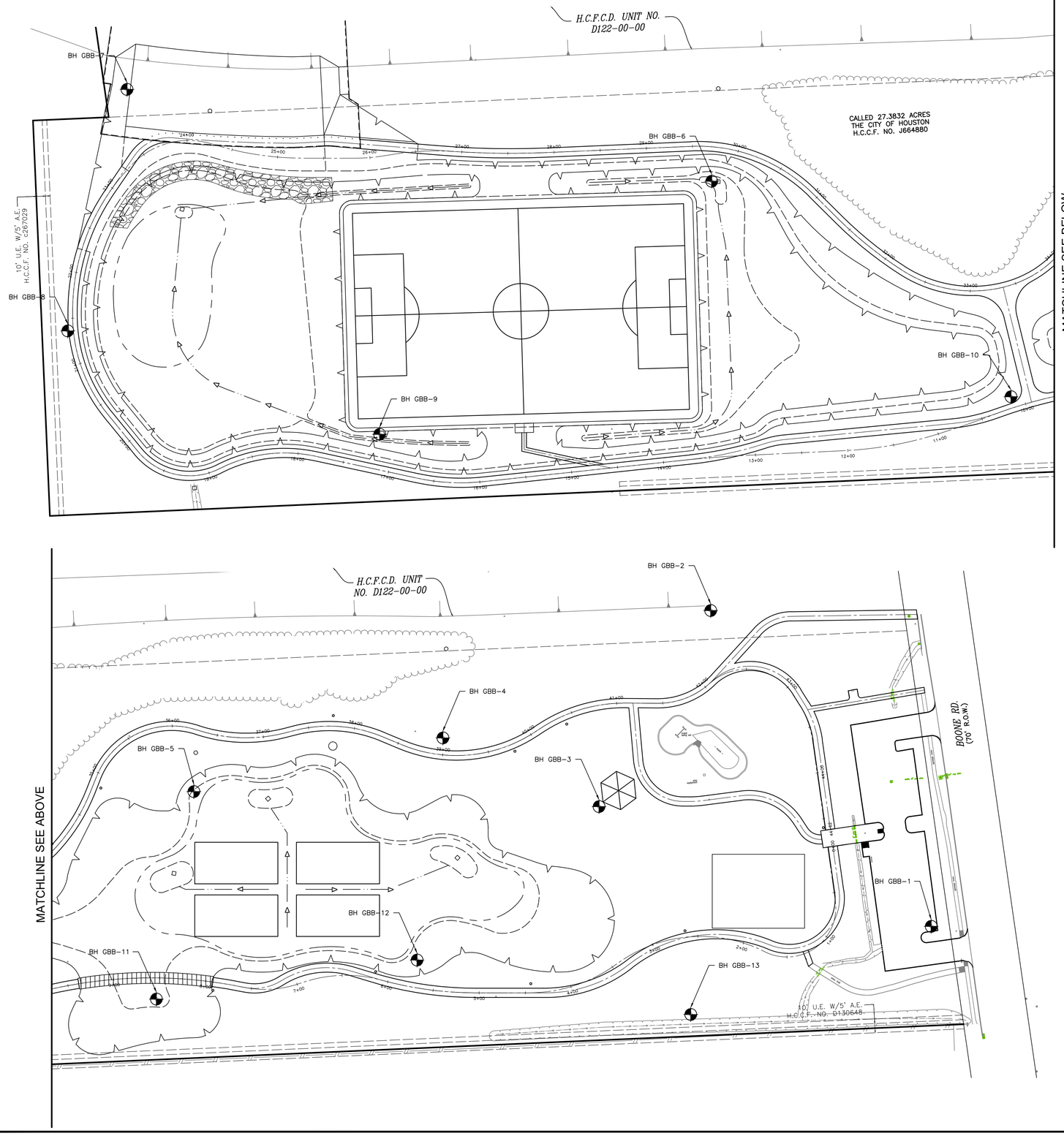
BOONE PARK & HACKBERRY PARK

BOONE PARK SURVEY CONTROL MAP (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
SHEET NO. 8 OF 73	

PLOT STYLE: Coh_ctb_230809.ctb PLOTTED: 6/28/2024 10:49 AM

FILE PATH: S:\Proj-2023\23107 (HACKBERRY AND BOONE PARKS)\Dwgs\SCM\Boone\SCM-23107-Boonepark.dwg



N

0 30 60 120

SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

BORE HOLE

GEOTECHNICAL INVESTIGATION

BOONE PARK DETENTION BASIN
WBS NO. M-430296-0018-3
REPORT NO. 1140285401
DATED: APRIL 19, 2024

FOR BORE HOLE NFORMATION
SEE SHEETS 10 AND 11

GANNETT FLEMING

T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE PARK BORING PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 9 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:50 AM

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LOG OF BORING NO. GBB-1

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816159.96, E 3055623.29
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 10.0 FT.
SURFACE ELEVATION : 72.37 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
72.4	0		6" Concrete								
71.9			Stiff to very stiff dark gray and brown FAT CLAY (CH) w/ferrous nodules and ferrous stains -w/silt pockets 0.5'-2'		89.7		37.3	87	33	54	
					88		32.9				
	5						33.1				
							35.5				
62.4	10						36.6				
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-2

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816501.91, E 3055384.53
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 10.0 FT.
SURFACE ELEVATION : 72.88 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
72.9	0		Firm to hard gray and brown FAT CLAY (CH) w/ferrous stains -w/ferrous nodules 2'-10'		85.7		30.2	81	31	50	
							33.8				
	5						28.3				
							28.1				
62.9	10						32.2				
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-3

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816289.65, E 3055263.66
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 20.0 FT.
SURFACE ELEVATION : 71.60 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
71.6	0		FILL: stiff to very stiff gray and brown fat clay w/grass roots				35.7				
69.6			Hard dark brown and gray FAT CLAY (CH) w/ferrous stains		94.6	98	26.0	78	30	48	3.0
	5						27.0				
							26.6				
	10		-w/calcareous and ferrous nodules 10'-20'				28.2				
					95.1	102	23.7	77	30	47	4.0
	15						24.6				
							24.8				
	20						25.9				
51.6							23.9				
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-4

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816363.94, E 3055094.64
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 20.0 FT.
SURFACE ELEVATION : 72.94 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
72.9	0		FILL: firm brown fat clay w/ferrous stains and sand				44.1				
70.9			Firm to very stiff brown and gray FAT CLAY (CH)		95.3	82	38.9	90	34	56	
	5						37.5				
							35.9				
	10						38.1				
			-w/calcareous and ferrous nodules and ferrous stains 12'-20'		97.8	99	25.7	70	28	42	
	15						32.9				
							31.4				
	20						33.0				
52.9							32.6				
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-5

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816305.89, E 3054825.01
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 10.0 FT.
SURFACE ELEVATION : 71.33 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
71.3	0		Stiff to hard brown FAT CLAY (CH) -w/grass roots and sand pockets 0'-2'				35.8				
					95.6	103	22.6	79	31	48	5.0
	5		-w/ferrous nodules and ferrous stains 6'-10'				26.2				
							30.0				
61.3	10						31.1				
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-6

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816325.21, E 3054300.29
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 10.0 FT.
SURFACE ELEVATION : 71.50 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
71.5	0		Stiff to very stiff brown FAT CLAY (CH) -w/grass roots 0'-2'				27.3				
					96.0	81	39.5	90	34	56	
	5		-w/ferrous nodules and ferrous stains 6'-10'				34.6				
							37.0				
61.5	10						37.8				
	15										
	20										
	25										
	30										
	35										

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-7

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
PROJECT NO. : 1140285401
LOCATION : N 13816424.61, E 3053667.16
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 20.0 FT.
SURFACE ELEVATION : 73.44 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
73.4	0		Stiff to hard brown and gray FAT CLAY (CH) w/ferrous stains		92.8		39.3	88	31	57	
							28.1				
	5		-w/calcareous and ferrous nodules 6'-20'		95.1	97	27.2	79	31	48	5.0
							32.8				
	10						31.5				
							33.4				
	15				96.6	91	32.2	81	31	50	
							33.3				
	20						32.0				
53.4							32.4				
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK BORING LOG (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 10 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:50 AM

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LOG OF BORING NO. GBB-8

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13816163.11, E 3053603.04
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 71.74 FT.

PROJECT NO. : 1140285401
COMPLETION DEPTH : 10.0 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
71.7	0			Firm to stiff brown FAT CLAY (CH) -w/grass roots 0'-2'		95.5		41.1	82	31	51
	5							44.9			
				-reddish brown w/ferrous stains 6'-10'				40.1			
								41.1			
61.7	10							40.3			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-9

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13816051.15, E 3053940.70
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 71.50 FT.

PROJECT NO. : 1140285401
COMPLETION DEPTH : 10.0 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
71.5	0			Firm to very stiff brown FAT CLAY (CH) w/ferrous stains -w/grass roots and gravel 0'-2' -w/ferrous nodules 4'-10'				46.3			
	5					95.3	83	36.4	84	32	52
								35.7			
								37.1			
61.5	10							37.0			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-10

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13816091.81, E 3054624.27
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 71.19 FT.

PROJECT NO. : 1140285401
COMPLETION DEPTH : 20.0 FT.
DATE : 02-12-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
71.2	0			Firm to very stiff brown FAT CLAY (CH) w/ferrous stains -w/grass roots 0'-2'				37.6			
	5					95.1	79	40.8	94	35	59
				-yellowish brown and gray w/calcareous and ferrous nodules 4'-20'				31.2			
								38.9			
	10							37.8			
						98.6	92	31.6	90	34	56
	15							34.3			
								33.7			
								33.0			
51.2	20							33.4			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-11

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13816081.15, E 3054784.38
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 71.43 FT.

PROJECT NO. : 1140285401
COMPLETION DEPTH : 20.0 FT.
DATE : 02-13-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
71.4	0			Stiff dark brown and gray FAT CLAY WITH SAND (CH) w/calcareous and ferrous nodules and ferrous stains -w/grass roots 0'-2'		79.5		27.6	83	32	51
	5							26.5			
				Stiff to very stiff gray and brown FAT CLAY (CH) w/calcareous and ferrous nodules and ferrous stains		94.6	86	38.0	89	33	56
	10							42.2			
								22.8			
								32.0			
51.4	20					95.8	91	32.3	89	33	56
	25							32.9			
								31.0			
	30							33.3			
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-12

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13816123.42, E 3055066.68
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 70.74 FT.

PROJECT NO. : 1140285401
COMPLETION DEPTH : 10.0 FT.
DATE : 02-13-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
70.7	0			Stiff to very stiff gray and brown FAT CLAY (CH) -w/grass roots 0'-2'				34.7			
								30.6			
	5			-w/calcareous and ferrous nodules and ferrous stains 4'-10'		94.9	84	38.8	79	31	48
								38.8			
60.7	10							35.0			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

LOG OF BORING NO. GBB-13

PROJECT : Boone Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13816064.46, E 3055363.00
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 70.10 FT.

PROJECT NO. : 1140285401
COMPLETION DEPTH : 20.0 FT.
DATE : 02-13-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
70.1	0			Stiff to hard dark gray and brown FAT CLAY (CH) w/ferrous nodules and ferrous stains -w/grass roots 0'-2' -reddish brown and gray w/calcareous nodules 4'-20'				31.0			
	5					94.7	89	31.1	87	33	54
								29.9			
								36.5			
	10							32.8			
						93.0	93	30.5	73	29	44
	15							27.4			
								27.6			
								27.5			
50.1	20							28.1			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK BORING LOG (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 11 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:50 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-EC-BOONE-PARK-BORING LOGS.dwg

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:51 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-SP-COGO-AND-PARK-GRADING.dwg

H.C.F.C.D. UNIT NO.
D122-00-00

EXISTING RIPARIAN ZONE TO REMAIN

CALLED 27.3832 ACRES
THE CITY OF HOUSTON
H.C.C.F. NO. J664880

10' U.E. W/5' A.E.
H.C.C.F. NO. D130648

MATCHLINE
SEE SHEET 13

N

0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- POINT COORDINATE NUMBER
- LX LINE NUMBER
- CX CURVE NUMBER

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

This document is released for interim review & not intended for construction, bidding or permit purposes by
AMY E. DZIUK
P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK COORDINATE GEOMETRY AND GRADING WEST POND

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 12 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:51 AM

MATCHLINE
SEE SHEET 12

H.C.F.C.D. UNIT NO.
D122-00-00

EXISTING RIPARIAN
ZONE TO REMAIN

CALLED 27.3832 ACRES
THE CITY OF HOUSTON
H.C.C.F. NO. J664880

EXISTING PLAYGROUND

EXISTING
PARKING LOT

BOONE RD.
(60' R.O.W.)

CENTERPOINT ENERGY
4" LP STL GAS MAIN

CENTERPOINT ENERGY
ELEC. UG ST LT CABLE

EXIST. 12" AC WATER

10' U.E. W/5' A.E.
H.C.C.F. NO. D130648

N

0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- POINT COORDINATE NUMBER
- LX LINE NUMBER
- CX CURVE NUMBER

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

This document is released for interim review & not intended for construction, bidding or permit purposes by AMY E. DZIUK P.E. #133701

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK COORDINATE GEOMETRY AND GRADING EAST POND

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 13 OF 144	

FILE PATH: C:\projectwise\dec\workdir\fdel.gamboa\d0203197\BP-SP-COGO-AND-PARK-GRADING.dwg

PROPOSED BASIN TOP OF BANK COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	71.00	13817930.54	3055015.49	TOB
2	71.00	13817891.88	3055000.31	TOB
3	71.00	13817875.90	3054959.60	TOB
4	71.00	13817858.05	3054776.51	TOB
5	71.00	13817855.45	3054765.73	TOB
6	71.00	13817849.99	3054756.08	TOB
7	0.00	13817846.11	3054749.94	TOB
8	71.00	13817843.41	3054743.19	TOB
9	71.00	13817837.81	3054722.37	TOB
10	71.00	13817829.90	3054678.38	TOB
11	71.00	13817805.34	3054448.67	TOB
12	71.00	13817804.77	3054409.08	TOB
13	71.00	13817808.97	3054380.33	TOB
14	71.00	13817832.82	3054269.76	TOB
15	71.00	13817836.07	3054223.06	TOB
16	71.00	13817824.65	3054173.79	TOB
17	71.00	13817816.67	3054156.28	TOB
18	71.00	13817812.15	3054125.48	TOB
19	71.00	13817831.65	3054086.04	TOB
20	71.00	13817876.42	3054049.35	TOB
21	71.00	13817972.52	3054014.72	TOB
22	71.00	13818044.16	3054024.11	TOB
23	71.72	13818049.77	3054010.77	TOB
24	72.74	13818172.16	3054036.71	TOB
25	73.20	13818226.10	3054048.15	TOB
26	73.20	13818215.12	3054294.85	TOB
27	73.20	13818202.47	3054314.84	TOB
28	72.50	13818161.56	3054379.48	TOB
29	71.00	13818144.05	3054378.03	TOB
30	71.00	13818144.78	3054402.44	TOB
31	71.00	13818143.28	3054432.83	TOB
32	71.00	13818142.16	3054476.51	TOB
33	71.00	13818143.46	3054529.92	TOB
34	71.00	13818150.58	3054695.38	TOB
35	71.00	13818138.65	3054741.47	TOB
36	71.00	13818111.40	3054772.86	TOB
37	71.00	13818073.61	3054804.27	TOB
38	71.00	13818040.76	3054843.71	TOB
39	71.00	13818008.63	3054895.56	TOB
40	71.00	13817987.76	3054942.63	TOB
41	71.00	13817976.47	3054982.25	TOB
42	71.00	13817963.42	3055004.07	TOB
43	71.00	13817944.23	3055013.11	TOB

PROPOSED BASIN TOE OF SLOPE COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
122	70.00	13817930.21	3055007.93	TOE
123	70.00	13817913.69	3055006.42	TOE
124	70.00	13817900.51	3054996.36	TOE
125	70.00	13817890.27	3054977.93	TOE
126	70.00	13817885.21	3054957.47	TOE
127	70.00	13817864.72	3054772.70	TOE
128	69.99	13817861.75	3054762.66	TOE
129	69.99	13817855.50	3054754.25	TOE
130	70.00	13817850.54	3054748.14	TOE
131	70.01	13817847.33	3054740.95	TOE
132	70.00	13817838.93	3054706.96	TOE
133	70.00	13817833.64	3054672.36	TOE
134	70.00	13817809.72	3054448.21	TOE
135	70.00	13817808.82	3054414.59	TOE
136	70.00	13817813.27	3054381.26	TOE
137	70.00	13817837.12	3054270.68	TOE
138	70.00	13817839.51	3054213.38	TOE
139	70.00	13817822.58	3054158.59	TOE
140	70.01	13817817.48	3054119.85	TOE
141	70.00	13817837.81	3054086.49	TOE
142	70.00	13817877.36	3054054.24	TOE
143	70.00	13817923.70	3054028.13	TOE
144	70.00	13817976.10	3054019.09	TOE
145	70.00	13818061.41	3054034.89	TOE
146	68.04	13818130.24	3054079.96	TOE
147	68.04	13818149.61	3054113.70	TOE
148	68.04	13818148.35	3054152.59	TOE
149	68.03	13818136.55	3054202.53	TOE
150	68.03	13818132.53	3054253.69	TOE
151	69.61	13818132.46	3054309.80	TOE
152	70.00	13818133.34	3054329.75	TOE
153	70.00	13818136.01	3054349.54	TOE
154	70.00	13818139.97	3054382.79	TOE
155	70.00	13818139.82	3054416.27	TOE
156	70.00	13818137.82	3054468.31	TOE
157	70.00	13818138.64	3054520.38	TOE
158	69.96	13818145.43	3054678.20	TOE
159	69.10	13818133.37	3054730.27	TOE
160	69.73	13818096.21	3054768.70	TOE
161	70.00	13818066.40	3054786.22	TOE
162	70.00	13818000.38	3054849.16	TOE
163	70.00	13817969.18	3054934.86	TOE
164	70.00	13817963.31	3054983.88	TOE
165	70.00	13817956.77	3054997.96	TOE
166	70.00	13817943.17	3055005.46	TOE

PROPOSED BASIN TOP OF DEEP POOL COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
236	68.00	13817925.98	3054999.62	DEPPOL
237	68.00	13817920.79	3054999.32	DEPPOL
238	68.00	13817912.44	3054995.84	DEPPOL
239	68.00	13817904.85	3054987.18	DEPPOL
240	68.01	13817897.54	3054972.21	DEPPOL
241	68.00	13817893.96	3054956.50	DEPPOL
242	68.00	13817873.46	3054771.72	DEPPOL
243	68.00	13817868.56	3054756.76	DEPPOL
244	68.00	13817862.12	3054748.41	DEPPOL
245	68.00	13817859.77	3054745.95	DEPPOL
246	68.00	13817856.97	3054741.57	DEPPOL
247	68.00	13817854.25	3054733.17	DEPPOL
248	68.00	13817850.15	3054717.21	DEPPOL
249	68.00	13817843.33	3054679.37	DEPPOL
250	68.00	13817831.97	3054573.77	DEPPOL
251	68.00	13817831.84	3054572.22	DEPPOL
252	68.00	13817831.83	3054569.13	DEPPOL
253	68.00	13817833.31	3054538.60	DEPPOL
254	68.00	13817836.73	3054531.55	DEPPOL
255	68.00	13817841.51	3054529.24	DEPPOL
256	68.00	13817846.09	3054529.00	DEPPOL
257	68.00	13817853.99	3054532.51	DEPPOL
258	68.00	13817856.37	3054538.70	DEPPOL
259	68.00	13817860.26	3054673.66	DEPPOL
260	68.00	13817865.95	3054684.52	DEPPOL
261	68.00	13817874.57	3054687.25	DEPPOL
262	68.00	13818097.37	3054680.82	DEPPOL
263	68.00	13818107.58	3054675.96	DEPPOL
264	68.00	13818110.96	3054666.52	DEPPOL
265	68.00	13818107.07	3054531.47	DEPPOL
266	68.00	13818110.58	3054523.57	DEPPOL
267	68.00	13818115.38	3054521.33	DEPPOL
268	68.00	13818120.01	3054521.10	DEPPOL
269	68.00	13818126.64	3054523.36	DEPPOL
270	68.00	13818130.29	3054530.65	DEPPOL
271	68.00	13818137.37	3054690.84	DEPPOL
335	68.00	13817853.39	3054435.38	DEPPOL
272	68.01	13818125.31	3054734.43	DEPPOL
336	68.00	13817839.36	3054454.06	DEPPOL
273	68.00	13818102.94	3054756.21	DEPPOL
337	68.00	13817820.71	3054440.01	DEPPOL
274	68.00	13818058.56	3054780.66	DEPPOL
338	68.00	13817818.25	3054421.02	DEPPOL
275	68.00	13817985.69	3054856.42	DEPPOL
339	68.00	13817818.74	3054401.88	DEPPOL
276	68.00	13817960.46	3054933.63	DEPPOL
340	68.00	13817820.09	3054392.46	DEPPOL
277	68.00	13817954.57	3054982.83	DEPPOL
341	68.00	13817821.87	3054383.12	DEPPOL
278	68.00	13817950.32	3054991.97	DEPPOL
342	68.00	13817845.72	3054272.54	DEPPOL
279	68.00	13817941.52	3054996.82	DEPPOL
343	68.00	13817848.24	3054212.25	DEPPOL
344	68.00	13817830.43	3054154.60	DEPPOL
345	68.00	13817826.09	3054121.67	DEPPOL
346	68.00	13817843.38	3054093.31	DEPPOL
347	68.00	13817882.92	3054061.06	DEPPOL
348	68.00	13817926.65	3054036.43	DEPPOL
349	68.00	13817976.10	3054027.89	DEPPOL
350	68.00	13818044.79	3054038.15	DEPPOL
351	68.00	13818102.50	3054067.92	DEPPOL
352	68.00	13818133.85	3054111.02	DEPPOL
353	68.00	13818134.15	3054164.31	DEPPOL
354	68.00	13818122.80	3054223.87	DEPPOL
355	68.00	13818120.64	3054284.47	DEPPOL
356	68.00	13818121.86	3054315.84	DEPPOL
357	68.00	13818127.82	3054384.16	DEPPOL
358	68.00	13818128.75	3054410.26	DEPPOL
359	68.00	13818128.58	3054436.38	DEPPOL
360	68.00	13818125.66	3054443.17	DEPPOL
361	68.00	13818118.87	3054446.10	DEPPOL
362	68.00	13818114.61	3054446.22	DEPPOL
363	68.00	13818107.46	3054443.50	DEPPOL
364	68.00	13818104.33	3054436.51	DEPPOL
365	68.00	13818100.61	3054307.81	DEPPOL
366	68.00	13818095.97	3054297.80	DEPPOL
367	68.00	13818086.22	3054294.21	DEPPOL
368	68.00	13817861.57	3054300.83	DEPPOL
369	68.00	13817854.38	3054304.39	DEPPOL
370	68.00	13817849.96	3054315.00	DEPPOL

PROPOSED BASIN TOP OF DEEP POOL COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
371	67.00	13817932.74	3054784.49	DEPPOL
372	67.00	13817924.66	3054772.49	DEPPOL
373	67.00	13817914.71	3054761.99	DEPPOL
374	67.00	13817870.47	3054722.51	DEPPOL
375	67.00	13817855.71	3054703.11	DEPPOL
376	67.00	13817849.27	3054679.59	DEPPOL
377	67.00	13817840.22	3054559.90	DEPPOL
378	67.00	13817846.20	3054559.45	DEPPOL
379	67.00	13817855.23	3054678.74	DEPPOL
380	67.00	13817861.78	3054692.09	DEPPOL
381	67.00	13817875.74	3054697.22	DEPPOL
382	67.00	13818101.60	3054690.71	DEPPOL
383	66.99	13818115.64	3054684.37	DEPPOL
384	67.00	13818121.01	3054669.95	DEPPOL
385	67.00	13818117.00	3054565.16	DEPPOL
386	67.00	13818122.99	3054564.93	DEPPOL
387	67.00	13818126.90	3054667.03	DEPPOL
388	66.99	13818127.64	3054673.27	DEPPOL
389	67.00	13818129.34	3054679.32	DEPPOL
390	67.00	13818124.41	3054716.32	DEPPOL
391	67.00	13818091.09	3054733.14	DEPPOL
392	67.00	13818050.29	3054732.42	DEPPOL
393	67.00	13817997.42	3054745.94	DEPPOL
394	67.00	13817958.88	3054784.58	DEPPOL
395	67.00	13817945.78	3054792.17	DEPPOL
396	67.00	13817839.13	3054433.75	DEPPOL
397	67.00	13817835.13	3054433.68	DEPPOL
398	67.00	13817835.73	3054401.41	DEPPOL
399	67.00	13817837.28	3054364.99	DEPPOL
400	67.00	13817840.22	3054328.66	DEPPOL
401	67.00	13817842.48	3054308.79	DEPPOL
402	67.01	13817843.15	3054305.02	DEPPOL
403	67.00	13817844.30	3054301.37	DEPPOL
404	67.00	13817861.90	3054255.52	DEPPOL
405	67.00	13817861.35	3054250.89	DEPPOL
406	67.00	13817856.25	3054240.97	DEPPOL
407	67.00	13817853.95	3054226.08	DEPPOL
408	67.00	13817851.33	3054203.27	DEPPOL
409	67.01	13817834.04	3054151.99	DEPPOL
410	67.00	13817829.46	3054129.80	DEPPOL
411	67.00	13817843.30	3054099.26	DEPPOL
412	67.00	13817890.85	3054060.47	DEPPOL
413	67.00	13817929.61	3054040.05	DEPPOL
414	67.00	13817976.10	3054032.29	DEPPOL
415	67.00	13818043.07	3054042.22	DEPPOL
416	67.00	13818099.89	3054071.47	DEPPOL
417	67.00	13818129.51	3054112.17	DEPPOL
418	67.00	13818128.99	3054161.75	DEPPOL
419	67.00	13818112.80	3054222.60	DEPPOL
420	67.00	13818111.62	3054243.72	DEPPOL
421	67.00	13818107.64	3054253.12	DEPPOL
422	67.00	13818106.75	3054256.54	DEPPOL
423	67.00	13818110.43	3054291.09	DEPPOL
424	67.00	13818118.34	3054434.34	DEPPOL
425	67.00	13818114.35	3054434.56	DEPPOL
426	67.00	13818106.44	3054291.41	DEPPOL
427	67.00	13818103.35	3054262.43	DEPPOL
428	67.00	13818098.28	3054257.96	DEPPOL
429	67.00	13818092.62	3054257.60	DEPPOL
430	67.00	13818089.48	3054256.49	DEPPOL
431	67.00	13818077.47	3054252.55	DEPPOL
432	67.00	13818063.71	3054251.93	DEPPOL
433	67.00	13817894.55	3054268.08	DEPPOL
434	67.00	13817880.76	3054265.68	DEPPOL
435	67.00	13817870.92	3054260.53	DEPPOL
436	67.00	13817863.38	3054262.83	DEPPOL
437	67.00	13817848.03	3054302.80	DEPPOL
438	67.00	13817847.04	3054305.97	DEPPOL
439	67.00	13817846.46	3054309.24	DEPPOL
440	67.00	13817844.19	3054329.09	DEPPOL
441	67.00	13817841.27	3054365.25	DEPPOL
442	67.00	13817839.73	3054401.49	DEPPOL
443	64.00	13817950.93	3054148.64	DEPPOL
444	64.00	13817933.50	3054136.69	DEPPOL
445	64.00	13817920.95	3054114.08	DEPPOL
446	64.00	13817922.98	3054086.59	DEPPOL
447	64.00	13817940.31	3054062.98	DEPPOL
448	64.00	13817959.62	3054053.85	DEPPOL
449	64.00	13817986.20	3054049.80	DEPPOL
450	64.00	13818022.31	3054051.25	DEPPOL

PROPOSED BASIN TOP OF DEEP POOL COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
451	64.01	13818061.58	3054065.23	DEPPOL
452	64.00	13818085.05	3054088.78	DEPPOL
453	64.00	13818095.50	3054116.79	DEPPOL
454	64.00	13818095.19	3054141.31	DEPPOL
455	64.00	13818088.97	3054160.54	DEPPOL
456	64.00	13818073.83	3054170.65	DEPPOL
457	64.00	13818060.95	3054168.32	DEPPOL
458	64.00	13818050.35	3054162.88	DEPPOL
459	64.00	13818043.46	3054159.94	DEPPOL
460	64.00	13818029.55	3054156.29	DEPPOL
461	64.00	13818015.39	3054155.93	DEPPOL
462	64.00	13818000.77	3054156.36	DEPPOL
463	64.00	13817975.13	3054154.23	DEPPOL

PROPOSED BASIN TOP OF SOCCER FIELD COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
728	69.00	13818086.33	3054298.21	SOCCER
729	69.00	13818092.96	3054300.48	SOCCER
730	69.00	13818096.62	3054307.92	SOCCER
731	69.00	13818106.96	3054666.54	SOCCER
732	69.00	13818104.10	3054673.84	SOCCER
733	69.00	13818097.25	3054676.83	SOCCER
734	69.00	13817874.46	3054683.25	SOCCER
735	69.00	13817867.83	3054680.99	SOCCER
736	69.00	13817864.20	3054674.04	SOCCER
737	69.00	13817853.92	3054314.92	SOCCER
738	69.00	13817857.43	3054307.02	SOCCER
739	69.00	13817863.63	3054304.64	SOCCER

LEGEND

TOB	TOP OF BANK
TOE	TOE OF SLOPE
DEPPOL	DEEP POOL
SOCCER	SOCCER FIELD

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE PARK COORDINATE GEOMETRY AND GRADING WEST POND TABLES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 14 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:51 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-SP-COGO-AND-PARK-GRADING.dwg

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:51 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-SP-COGO-AND-PARK-GRADING.dwg

PROPOSED BASIN TOP OF BANK COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
44	71.00	13817990.46	3055670.28	TOB
45	71.00	13817966.27	3055677.43	TOB
46	71.00	13817945.37	3055674.75	TOB
47	71.00	13817933.82	3055669.47	TOB
48	71.00	13817911.63	3055644.49	TOB
49	71.00	13817906.57	3055612.98	TOB
50	71.00	13817910.34	3055579.93	TOB
51	71.00	13817919.01	3055551.65	TOB
52	71.00	13817925.53	3055535.50	TOB
53	71.00	13817927.77	3055519.98	TOB
54	71.00	13817921.85	3055501.94	TOB
55	71.00	13817913.49	3055491.08	TOB
56	71.00	13817904.73	3055473.19	TOB
57	71.00	13817901.42	3055449.96	TOB
58	71.00	13817904.49	3055431.41	TOB
59	71.00	13817910.63	3055413.80	TOB
60	71.00	13817917.56	3055378.87	TOB
61	71.00	13817912.68	3055333.32	TOB
62	71.00	13817906.70	3055303.57	TOB
63	71.00	13817908.58	3055271.84	TOB
64	71.00	13817904.28	3055245.44	TOB
65	71.00	13817880.67	3055245.00	TOB
66	71.00	13817852.37	3055248.69	TOB
67	71.00	13817835.46	3055224.11	TOB
68	71.00	13817832.60	3055189.07	TOB
69	71.00	13817827.08	3055160.97	TOB
70	71.00	13817823.28	3055147.16	TOB
71	71.00	13817820.70	3055137.59	TOB
72	71.00	13817818.13	3055128.02	TOB
73	71.00	13817826.43	3055096.34	TOB
74	71.00	13817859.36	3055087.79	TOB
75	71.00	13817869.20	3055091.82	TOB
76	71.00	13817878.46	3055096.52	TOB
77	71.00	13817899.21	3055098.94	TOB
78	71.00	13817918.73	3055078.90	TOB
79	71.00	13817921.84	3055068.23	TOB
80	71.00	13817926.11	3055056.77	TOB
81	71.00	13817937.95	3055047.74	TOB
82	71.00	13817950.02	3055044.94	TOB
83	71.00	13817965.64	3055046.87	TOB
84	71.00	13817975.55	3055056.15	TOB
85	71.00	13817987.44	3055073.94	TOB
86	71.00	13818006.03	3055084.52	TOB
87	71.00	13818023.38	3055088.88	TOB
88	71.00	13818041.77	3055096.64	TOB
89	71.00	13818080.66	3055116.23	TOB
90	71.00	13818093.74	3055131.35	TOB
91	71.00	13818092.45	3055151.08	TOB
92	71.00	13818084.43	3055168.15	TOB
93	71.00	13818081.14	3055186.34	TOB
94	71.00	13818081.11	3055193.12	TOB
95	71.00	13818084.86	3055200.96	TOB
96	71.00	13818091.56	3055203.36	TOB
97	71.00	13818105.08	3055208.44	TOB
98	71.00	13818119.36	3055222.88	TOB
99	71.00	13818125.15	3055233.62	TOB
100	71.00	13818131.39	3055262.05	TOB
101	71.00	13818129.23	3055283.68	TOB
102	71.00	13818128.10	3055297.84	TOB
103	70.99	13818135.69	3055327.68	TOB
104	71.00	13818142.49	3055351.50	TOB
105	71.00	13818139.08	3055371.06	TOB
106	71.00	13818134.54	3055379.95	TOB
107	71.00	13818120.67	3055394.17	TOB
108	71.00	13818101.85	3055402.44	TOB
109	71.00	13818079.31	3055426.27	TOB
110	71.00	13818081.87	3055464.06	TOB
111	71.00	13818094.38	3055487.77	TOB
112	71.00	13818091.47	3055526.61	TOB
113	71.00	13818063.78	3055540.77	TOB
114	71.00	13818054.32	3055540.83	TOB
115	71.00	13818045.58	3055543.56	TOB
116	71.00	13818039.58	3055551.46	TOB
117	71.00	13818024.94	3055594.27	TOB
118	71.00	13818021.91	3055605.80	TOB
119	71.00	13818020.64	3055616.02	TOB
120	71.00	13818019.21	3055626.09	TOB
121	71.00	13818009.09	3055653.26	TOB

PROPOSED BASIN TOE OF SLOPE COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
167	68.00	13817987.49	3055596.05	TOE
168	68.00	13817970.99	3055592.12	TOE
169	68.00	13817955.10	3055578.42	TOE
170	68.00	13817951.73	3055572.21	TOE
171	68.00	13817948.69	3055560.25	TOE
172	68.00	13817948.89	3055551.42	TOE
173	68.00	13817952.30	3055541.55	TOE
174	68.00	13817957.95	3055524.97	TOE
175	68.00	13817961.67	3055507.85	TOE
176	68.00	13817957.40	3055479.70	TOE
177	68.00	13817935.24	3055460.13	TOE
178	68.00	13817918.79	3055446.38	TOE
179	68.00	13817918.42	3055427.92	TOE
180	68.00	13817929.79	3055373.97	TOE
181	68.00	13817923.28	3055326.86	TOE
182	68.00	13817918.43	3055293.94	TOE
183	68.00	13817927.02	3055253.44	TOE
184	68.00	13817933.98	3055233.60	TOE
185	68.00	13817929.56	3055211.59	TOE
186	68.00	13817924.27	3055204.10	TOE
187	68.00	13817905.53	3055191.95	TOE
188	68.00	13817887.86	3055192.65	TOE
189	68.00	13817883.34	3055194.48	TOE
190	68.00	13817871.36	3055192.86	TOE
191	68.00	13817868.65	3055182.25	TOE
192	68.00	13817868.66	3055171.94	TOE
193	68.00	13817867.38	3055161.66	TOE
194	68.00	13817868.89	3055147.45	TOE
195	68.00	13817873.58	3055143.81	TOE
196	68.00	13817900.44	3055132.47	TOE
197	68.00	13817916.84	3055121.26	TOE
198	68.00	13817928.61	3055101.66	TOE
199	68.00	13817937.61	3055072.38	TOE
200	68.00	13817940.62	3055064.74	TOE
201	68.00	13817944.08	3055062.92	TOE
202	68.00	13817953.50	3055060.86	TOE
203	68.00	13817958.02	3055061.30	TOE
204	68.00	13817962.17	3055065.95	TOE
205	68.00	13817967.76	3055084.34	TOE
206	68.00	13817978.20	3055105.28	TOE
207	68.00	13817993.00	3055121.78	TOE
208	68.00	13818016.21	3055141.68	TOE
209	68.00	13818027.29	3055156.37	TOE
210	68.00	13818031.23	3055172.74	TOE
211	68.00	13818049.55	3055206.78	TOE
212	68.00	13818084.02	3055217.49	TOE
213	68.00	13818093.24	3055216.90	TOE
214	68.00	13818100.17	3055218.79	TOE
215	68.00	13818106.14	3055224.99	TOE
216	68.00	13818118.18	3055251.17	TOE
217	68.00	13818117.34	3055282.09	TOE
218	68.00	13818116.58	3055304.92	TOE
219	68.00	13818125.16	3055333.45	TOE
220	68.01	13818125.51	3055371.69	TOE
221	68.01	13818121.52	3055377.40	TOE
222	68.00	13818102.93	3055389.02	TOE
223	68.00	13818083.96	3055391.33	TOE
224	68.00	13818070.15	3055396.97	TOE
225	68.00	13818057.86	3055409.69	TOE
226	68.00	13818052.60	3055421.67	TOE
227	68.00	13818048.58	3055448.83	TOE
228	68.00	13818051.37	3055467.40	TOE
229	68.00	13818055.65	3055499.38	TOE
230	68.00	13818044.36	3055525.87	TOE
231	67.99	13818032.25	3055539.95	TOE
232	67.99	13818029.22	3055545.06	TOE
233	68.00	13818028.22	3055547.57	TOE
234	68.00	13818019.60	3055573.21	TOE
235	68.00	13818006.96	3055590.80	TOE

PROPOSED BASIN TOP OF DEEP POOL COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
280	67.00	13817988.47	3055577.92	DEPPOL
281	67.00	13817972.38	3055562.72	DEPPOL
282	67.00	13817962.94	3055539.09	DEPPOL
283	67.00	13817962.27	3055528.43	DEPPOL
284	67.00	13817963.07	3055521.15	DEPPOL
285	67.00	13817965.21	3055511.33	DEPPOL
286	67.00	13817960.92	3055477.96	DEPPOL
287	67.00	13817938.61	3055457.03	DEPPOL
288	67.01	13817923.09	3055445.57	DEPPOL
289	67.00	13817921.68	3055429.17	DEPPOL
290	67.00	13817933.92	3055377.78	DEPPOL
291	67.00	13817927.59	3055327.28	DEPPOL
292	67.00	13817925.72	3055321.05	DEPPOL
293	67.00	13817922.38	3055292.92	DEPPOL
294	67.00	13817929.88	3055256.95	DEPPOL
295	67.00	13817937.51	3055241.66	DEPPOL
296	67.00	13817945.00	3055221.13	DEPPOL
297	67.00	13817947.37	3055204.90	DEPPOL
298	67.00	13817947.62	3055197.00	DEPPOL
299	67.00	13817953.69	3055178.12	DEPPOL
300	67.00	13817966.30	3055165.18	DEPPOL
301	67.00	13817983.21	3055158.84	DEPPOL
302	67.00	13818002.95	3055160.86	DEPPOL
303	67.00	13818018.31	3055170.68	DEPPOL
304	67.01	13818027.66	3055185.09	DEPPOL
305	67.00	13818032.63	3055197.66	DEPPOL
306	67.00	13818046.04	3055215.29	DEPPOL
307	67.00	13818062.19	3055223.77	DEPPOL
308	67.00	13818071.46	3055225.26	DEPPOL
309	67.00	13818082.89	3055227.68	DEPPOL
310	67.00	13818096.13	3055232.35	DEPPOL
311	67.00	13818111.49	3055247.50	DEPPOL
312	67.00	13818115.38	3055260.33	DEPPOL
313	67.00	13818115.44	3055267.06	DEPPOL
314	67.00	13818112.45	3055286.54	DEPPOL
315	67.00	13818112.50	3055306.73	DEPPOL
316	67.00	13818118.55	3055328.93	DEPPOL
317	67.00	13818124.02	3055339.41	DEPPOL
318	67.00	13818126.61	3055356.13	DEPPOL
319	67.01	13818122.01	3055370.07	DEPPOL
320	67.01	13818118.12	3055375.35	DEPPOL
321	67.00	13818106.17	3055383.86	DEPPOL
322	67.00	13818096.66	3055386.33	DEPPOL
323	67.00	13818084.86	3055386.87	DEPPOL
324	67.00	13818069.42	3055392.45	DEPPOL
325	67.00	13818054.32	3055408.13	DEPPOL
326	67.00	13818048.94	3055420.57	DEPPOL
327	67.00	13818044.50	3055447.73	DEPPOL
328	67.00	13818047.66	3055468.80	DEPPOL
329	67.00	13818051.55	3055499.09	DEPPOL
330	67.00	13818040.13	3055524.74	DEPPOL
331	67.00	13818032.73	3055532.83	DEPPOL
332	67.00	13818023.72	3055546.79	DEPPOL
333	67.00	13818018.78	3055560.16	DEPPOL
334	67.01	13818009.70	3055575.80	DEPPOL

CONCRETE TRAIL ALIGNMENT CURVE TABLE

CURVE #	START	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA ANGLE
C1	N:13818157.63 E:3055897.66	100.00	41.94'	N20° 05' 08"W	41.64'	Δ=24° 01' 53"
C2	N:13818209.78 E:3055875.17	60.00	106.77'	N83° 04' 47"W	93.23'	Δ=101° 57' 26"
C3	N:13818221.02 E:3055782.62	83.05	64.35'	S68° 08' 47"W	62.75'	Δ=44° 23' 43"
C4	N:13818197.87 E:3055689.48	165.00	98.11'	S73° 19' 20"W	96.67'	Δ=34° 04' 03"
C5	N:13818167.13 E:3055592.39	155.00	152.12'	S84° 24' 12"W	146.08'	Δ=56° 13' 46"
C6	N:13818161.52 E:3055426.16	150.00	96.36'	N85° 53' 06"W	94.71'	Δ=36° 48' 21"
C7	N:13818165.51 E:3055320.67	170.00	96.31'	N88° 03' 37"W	95.03'	Δ=32° 27' 33"
C8	N:13818168.73 E:3055225.69	88.00	133.02'	S64° 52' 16"W	120.71'	Δ=86° 36' 22"
C9	N:13818101.88 E:3055110.24	198.00	69.70'	S31° 39' 28"W	69.34'	Δ=20° 10' 07"
C10	N:13818042.86 E:3055073.85	118.00	65.36'	S57° 36' 25"W	64.53'	Δ=31° 44' 10"
C11	N:13818008.29 E:3055019.36	140.00	120.03'	N81° 58' 10"W	116.39'	Δ=49° 07' 19"
C12	N:13818024.54 E:3054904.12	415.00	88.75'	N51° 17' 10"W	88.58'	Δ=12° 15' 11"
C13	N:13818108.38 E:3054806.41	175.00	144.48'	N68° 48' 43"W	140.41'	Δ=47° 18' 10"
C14	N:13818152.43 E:3054519.78	945.00	117.18'	N88° 54' 41"W	117.10'	Δ=7° 06' 16"
C15	N:13818164.05 E:3054287.06	70.00	9.24'	N89° 08' 24"W	9.23'	Δ=7° 33' 41"
C16	N:13818162.50 E:3054244.81	1506.90	131.64'	N87° 25' 25"W	131.60'	Δ=5° 00' 19"
C17	N:13818168.41 E:3054113.34	45.00	47.66'	S64° 44' 19"W	45.46'	Δ=60° 40' 51"
C18	N:13818109.47 E:3054045.15	228.00	136.88'	S17° 11' 59"W	134.83'	Δ=34° 23' 48"
C19	N:13817976.10 E:3054005.28	170.00	116.32'	S19° 35' 48"E	114.06'	Δ=39° 12' 09"
C20	N:13817829.09 E:3054075.80	72.00	98.52'	S78° 04' 19"E	91.02'	Δ=78° 24' 11"
C21	N:13817810.28 E:3054164.85	155.00	105.83'	N82° 36' 43"E	103.79'	Δ=39° 07' 16"
C22	N:13817799.78 E:3054378.36	225.00	71.71'	S86° 57' 40"E	71.41'	Δ=18° 15' 43"
C23	N:13817819.92 E:3054673.82	400.00	82.81'	N77° 58' 37"E	82.66'	Δ=11° 51' 41"
C24	N:13817837.13 E:3054754.67	100.00	21.82'	N78° 17' 48"E	21.77'	Δ=12° 30' 03"
C25	N:13817858.82 E:3054956.85	200.00	15.42'	N82° 20' 20"E	15.41'	Δ=4° 24' 58"
C26	N:13817860.87 E:3054972.12	200.00	35.91'	N74° 59' 12"E	35.86'	Δ=10° 17' 18"
C27	N:13817870.16 E:3055006.76	492.00	273.12'	N85° 44' 45"E	269.63'	Δ=31° 48' 23"
C28	N:13817889.99 E:3055276.45	55.00	41.75'	N80° 05' 42"E	40.75'	Δ=43° 29' 22"
C29	N:13817897.00 E:3055316.59	93.41	80.30'	N82° 28' 20"E	77.85'	Δ=49° 15' 20"
C30	N:13817897.87 E:3055425.15	385.00	103.42'	S82° 18' 19"E	103.11'	Δ=15° 23' 29"
C31	N:13817884.06 E:3055604.05	144.99	96.30'	N70° 58' 29"E	94.54'	Δ=38° 03' 14"
C32	N:13817914.88 E:3055693.42	153.00	160.94'	N82° 05' 05"E	153.62'	Δ=60° 16' 15"
C33	N:13817936.03 E:3055845.58	55.00	115.46'	N52° 04' 16"E	95.40'	Δ=120° 16' 55"
C34	N:13818135.93 E:3055703.29	49.01	72.58'	S47° 34' 09"E	66.13'	Δ=84° 51' 42"
C35	N:13818091.31 E:3055759.81	103.01	13.28'	N86° 18' 28"E	13.27'	Δ=7° 23' 04"
C36	N:13818097.63 E:3055815.21	63.01	70.34'	S65° 24' 08"E	66.75'	Δ=63° 57' 53"
C37	N:13818059.68 E:3055882.61	21.00	22.81'	S64° 32' 22"E	21.71'	Δ=62° 14' 21"
C38	N:13818275.49 E:3055832.55	50.01	40.77'	N65° 44' 26"E	39.65'	Δ=46° 43' 01"
C39	N:13817920.61 E:3055882.34	64.80	93.96'	S64° 40' 27"E	85.94'	Δ=83° 04' 32"
C40	N:13817889.42 E:3055979.25	259.27	80.14'	N81° 53' 24"E	79.82'	Δ=17° 42' 33"

CONCRETE TRAIL ALIGNMENT LINE TABLE

LINE #	START	DIRECTION	LENGTH
L1	N:13818061.07 E:3055911.35	N8° 04' 10.99"W	97.52
L2	N:13818196.73 E:3055883.36	N32° 06' 04.38"W	15.41
L3	N:13818197.66 E:3055724.38	N89° 38' 38.15"W	34.90
L4	N:13818170.13 E:3055596.88	S56° 17' 18.52"W	5.41
L5	N:13818152.88 E:3055447.00	N67° 28' 55.34"W	22.56
L6	N:13818168.32 E:3055331.69	S75° 42' 43.97"W	11.38
L7	N:13818117.47 E:3055116.41	S21° 34' 29.70"W	16.77
L8	N:13818079.95 E:3054835.00	N45° 09' 37.98"W	40.33
L9	N:13818159.13 E:3054675.49	S87° 32' 12.21"W	155.85
L10	N:13818154.66 E:3054402.70	N85° 21' 33.31"W	116.03
L11	N:13818164.18 E:3054277.82	S87° 04' 45.59"W	33.06
L12	N:13818149.01 E:3054072.23	S34° 23' 52.91"W	47.92
L13	N:13817868.64 E:3054043.54	S39° 11' 53.21"E	51.04
L14	N:13817823.63 E:3054267.77	S77° 49' 48.80"E	113.13
L15	N:13817795.99 E:3054449.67	N83° 54' 28.22"E	225.43
L16	N:13817841.55 E:3054775.99	N84° 32' 49.33"E	181.68
L17	N:13817890.16 E:3055275.65	S78° 09' 31.28"E	0.82
L18	N:13817907.20 E:3055393.77	S73° 21' 51.23"E	30.03
L19	N:13817884.06 E:3055527.34	N90° 00' 00.00"E	76.72
L20	N:13817994.67 E:3055920.83	N8° 04' 10.99"W	48.51
L21	N:13818197.82 E:3055697.72	S5° 08' 18.36"E	62.14
L22	N:13818091.31 E:3055752.10	S90° 00' 00.00"E	7.71
L23	N:13818092.17 E:3055773.05	N82° 36' 55.60"E	42.52
L24	N:13818069.85 E:3055875.90	S33° 25' 11.61"E	12.18
L25	N:13818190.80 E:3055886.80	N80° 28' 30.19"E	128.23
L26	N:13818291.78 E:3055868.70	N89° 05' 56.19"E	137.04
L27	N:13818221.02 E:3055782.62	N42° 30' 23.73"E	73.89
L28	N:13817883.85 E:3055960.02	N73° 50' 33.69"E	20.02
L29	N:13818006.56 E:3055013.00	S13° 49' 39.61"E	128.20

LEGEND

TOB	TOP OF BANK
TOE	TOE OF SLOPE
DEPPOL	DEEP POOL

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK COORDINATE GEOMETRY AND GRADING EAST POND TABLES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 15 OF 144	

N

0 30 60 120

SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- RFB — REINFORCED FILTER FABRIC
- SC — STABILIZED CONSTRUCTION ACCESS
- IPB — INLET PROTECTION BARRIER
- FD-TYPE — FILTER DAM
- CW — CONCRETE WASHDOWN
- POND HYDROMULCH SEEDING (.XXX AC)
- SOD SODDING (XXX SQ. FT.)
- WATERS OF THE U.S.

STORM WATER POLLUTION PREVENTION DETAILS
(SEE SHEET 133)

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK STORM WATER POLLUTION PREVENTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 16 OF 144	

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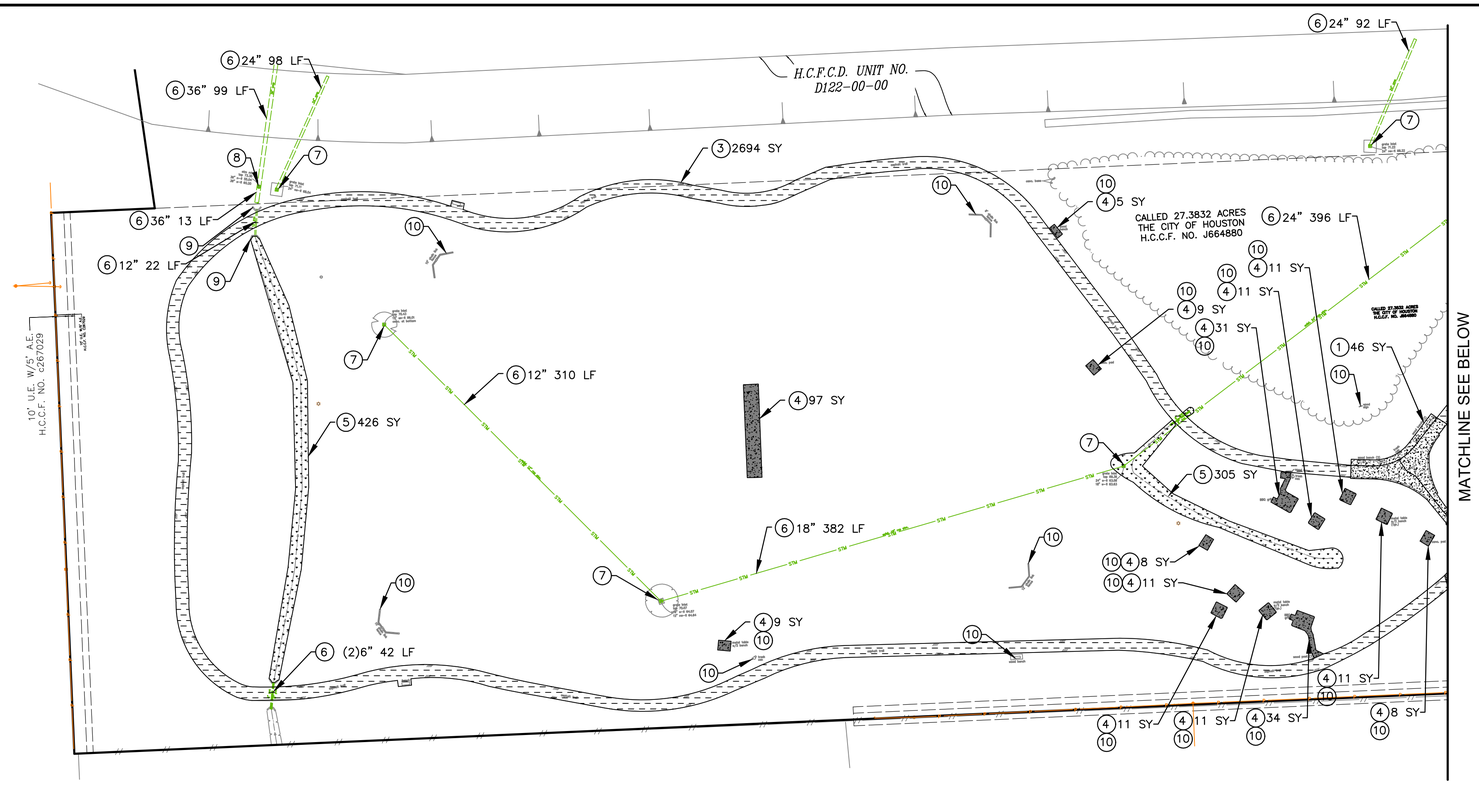

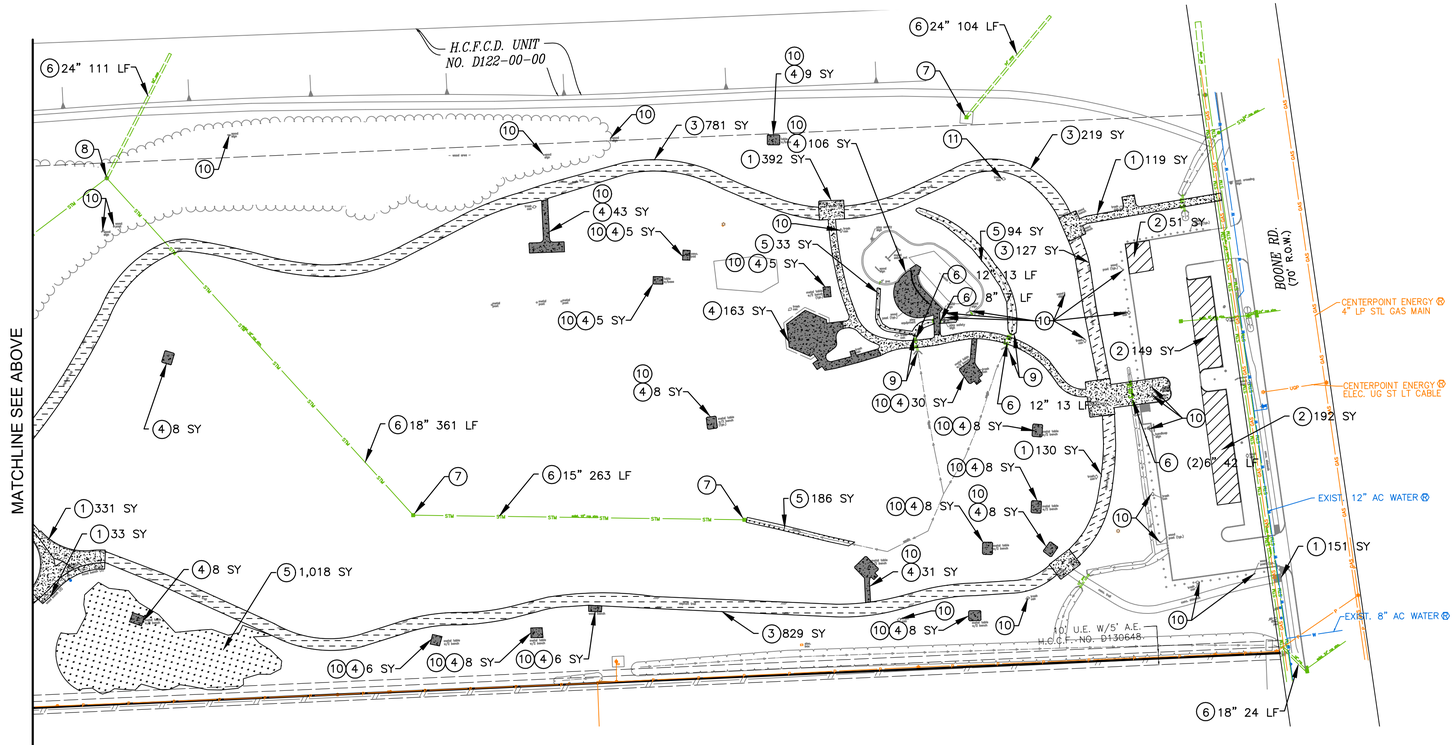

N

0 30 60 120
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND:

1. CONC SIDEWALK
2. CONC DRIVEWAY
3. ASPHALT PAVEMENT
4. CONC (MISC.)
5. CHANNEL SLOPE
6. STORM SEWER PIPE
7. STORM INLET
8. STORM MANHOLE
9. CONC HEADWALL
10. PARK APPURTENANCES (SEE NOTE)

SEE SHEET 42 – 44 FOR TREE REMOVAL

THE REMOVAL OF PARK APPURTENANCES TO BE COORDINATED WITH AND STORED BY THE CITY OF HOUSTON PARKS DEPARTMENT. ALL OTHER ITEMS TO BE DEMOLISHED AND REMOVED.

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.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE PARK DEMOLITION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 17 OF 144	

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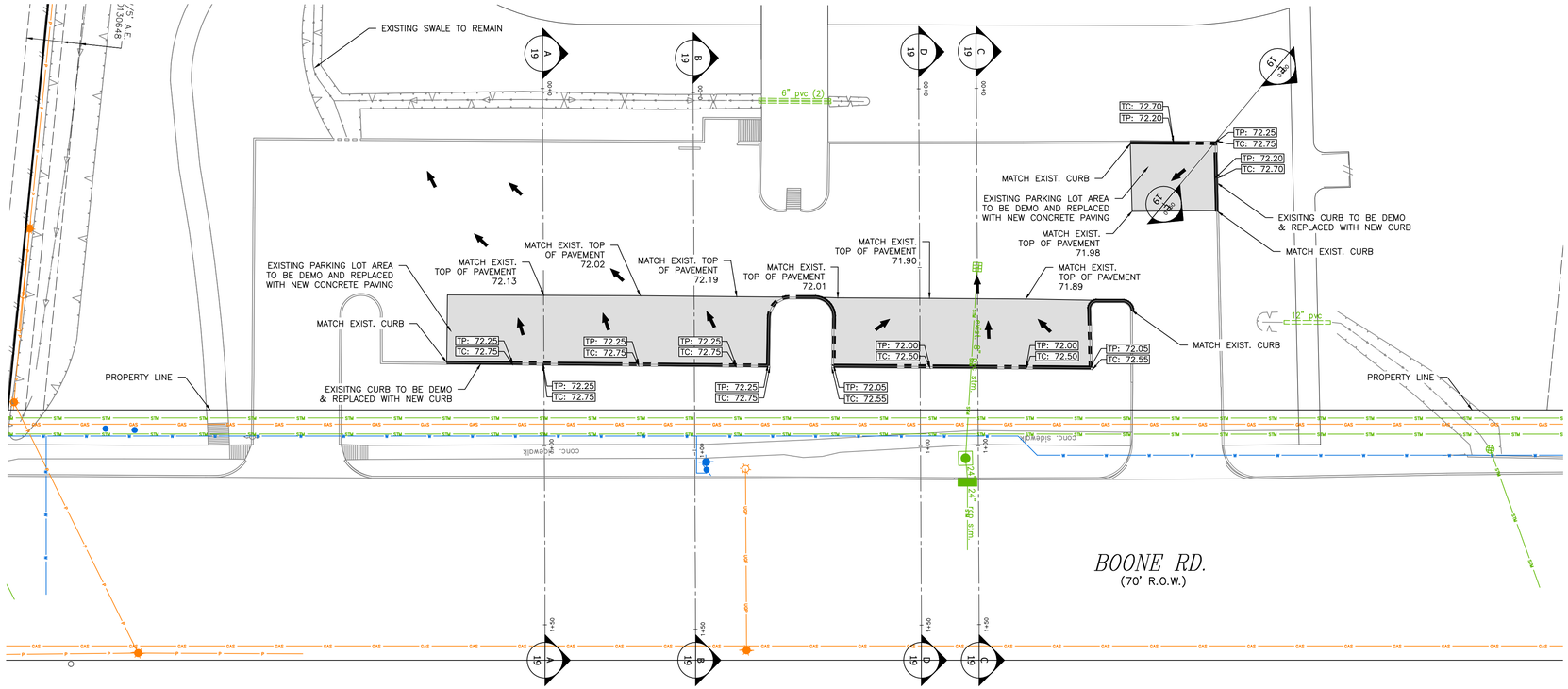


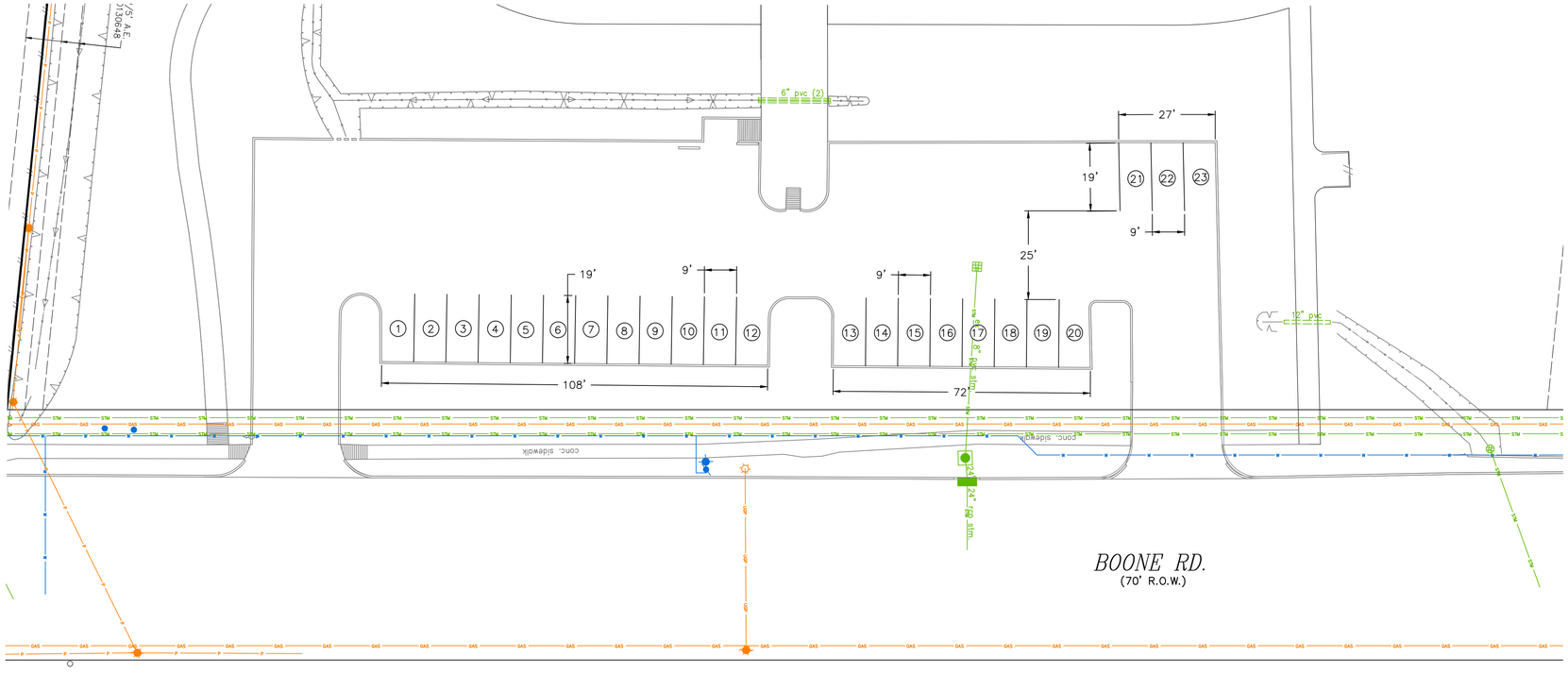
NOTE:

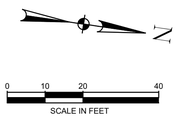
1. CONTRACTOR TO MATCH EXISTING ELEVATIONS AND GRADE PARKING LOT TO DRAIN.

LEGEND:

- PARKING LOT 8" CONCRETE = 400 SY PAVEMENT REPLACEMENT
- PARKING LOT CURB REPLACEMENT = 290 LF
- TP: XX.XX — PROP. TOP OF PAVEMENT
- TC: XX.XX — PROP. TOP OF CURB
- FLOW

NO.	DATE	REVISION	APP.





TOTAL NUMBER OF PARKING SPACES TO BE RESTRIPED = 23

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE PARK PARKING LOT IMPROVEMENTS (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 18 OF 144	

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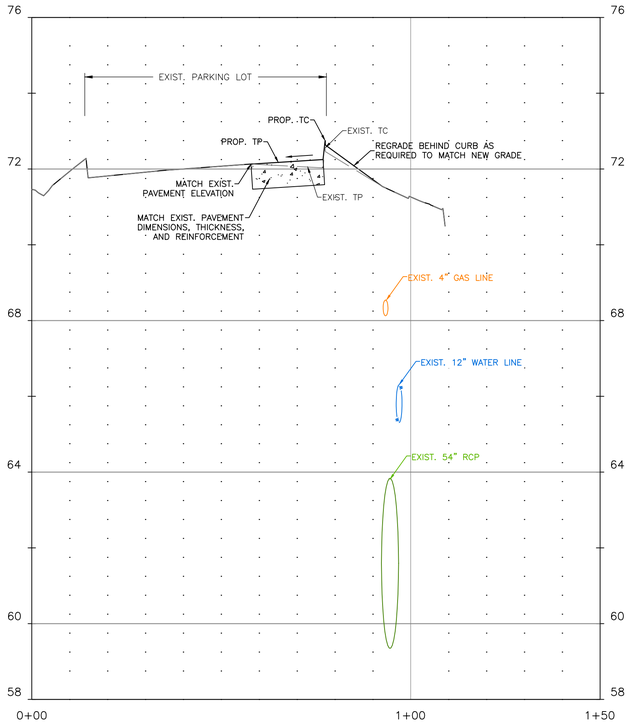
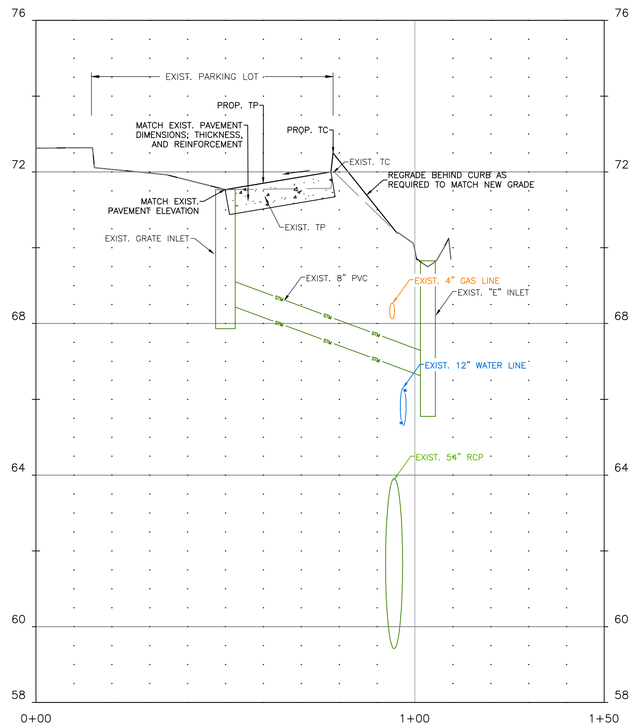
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-SP-BOONE-PARK-PARKING-LOT-IMPROVEMENTS.dwg

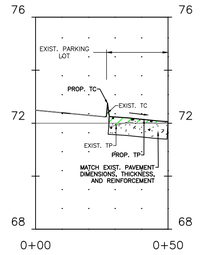
BOONE PARKING LOT SECTION A-A PROFILE



BOONE PARKING LOT SECTION C-C PROFILE



BOONE PARKING LOT SECTION E-E PROFILE



HORIZONTAL SCALE

0 10 20 40

SCALE IN FEET

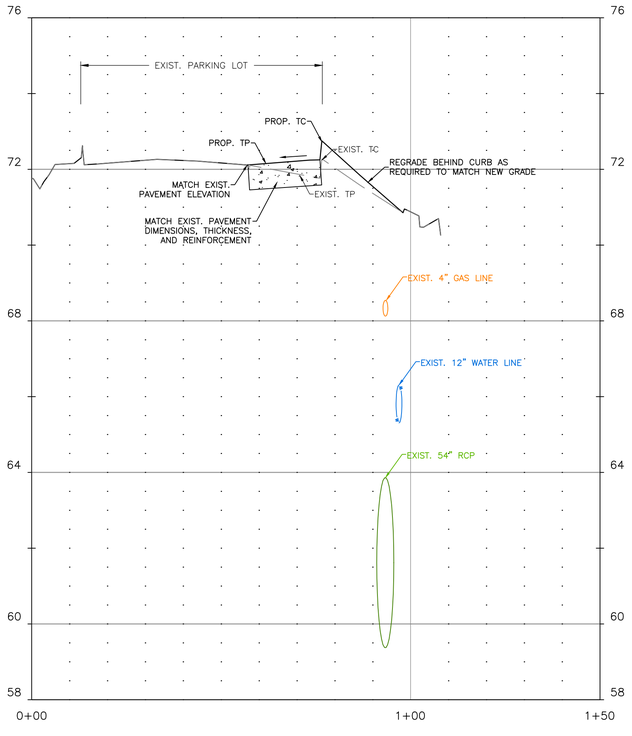
VERTICAL SCALE

0 1 2 4

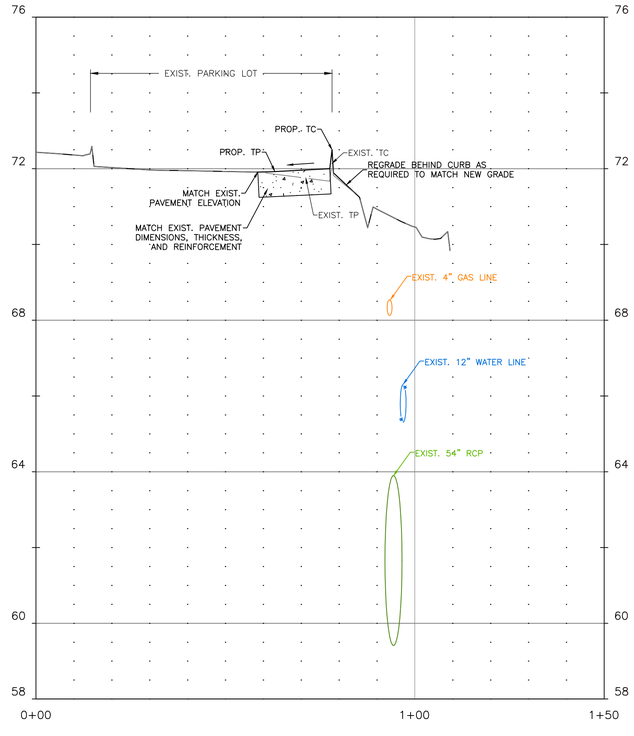
SCALE IN FEET

NO.	DATE	REVISION	APP.

BOONE PARKING LOT SECTION B-B PROFILE



BOONE PARKING LOT SECTION D-D PROFILE



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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE PARK PARKING LOT IMPROVEMENTS (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 19 OF 144	

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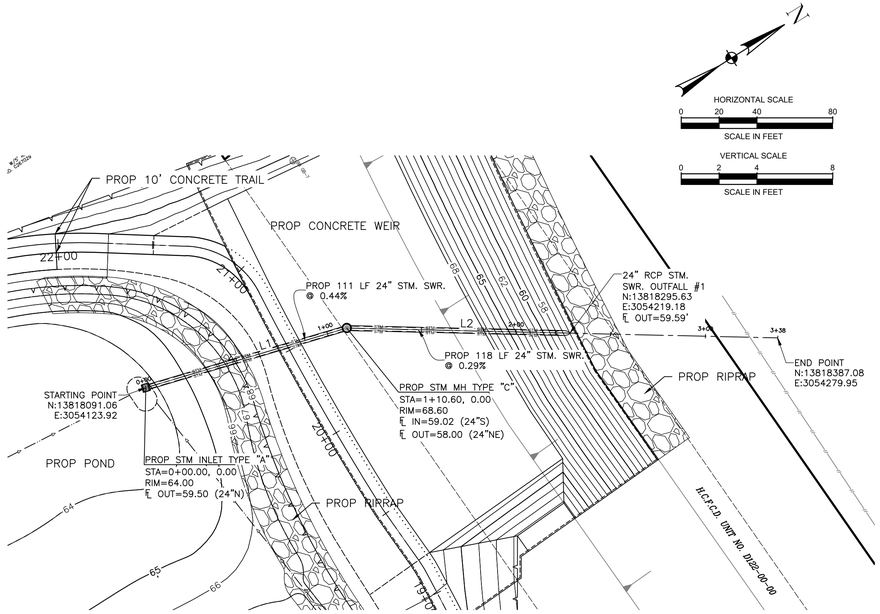
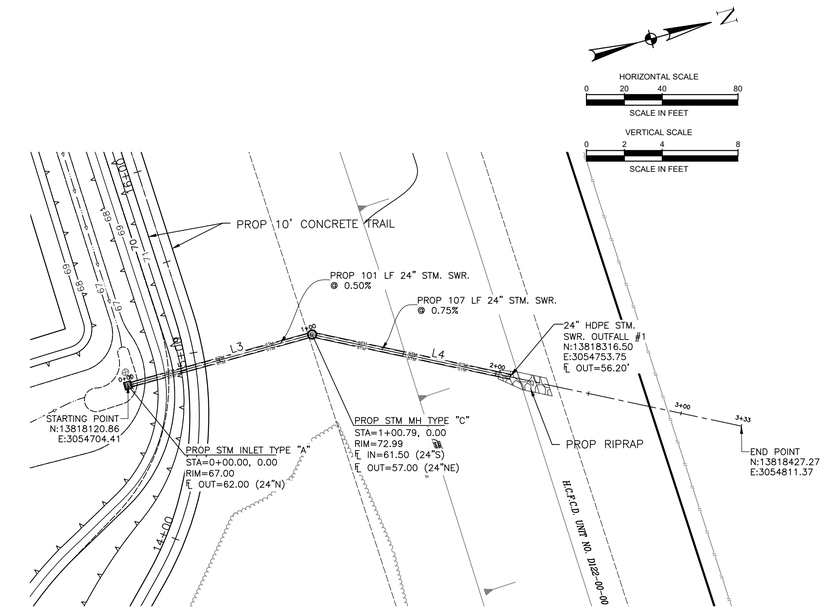
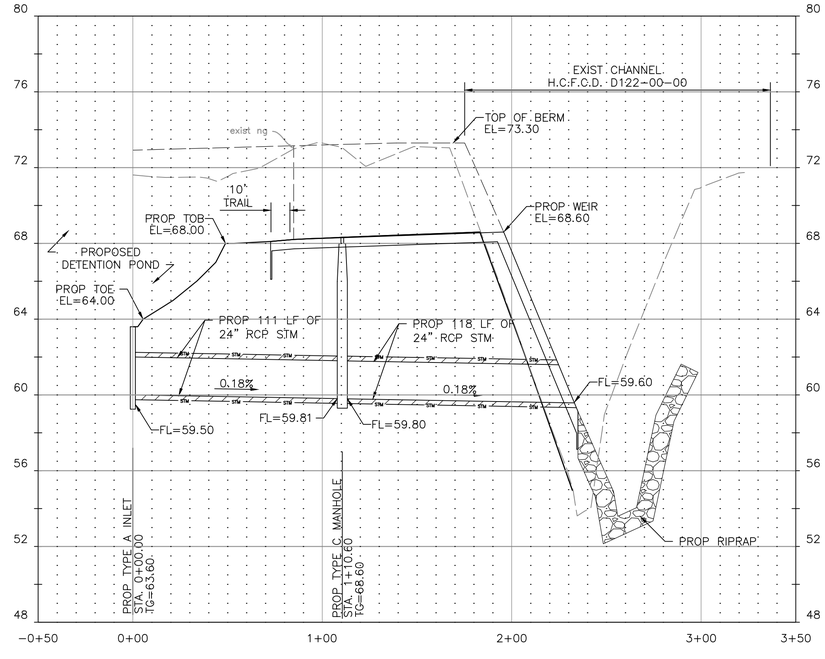


ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	110.60	N15° 45' 43.34"E
L2	227.62	N33° 36' 24.45"E

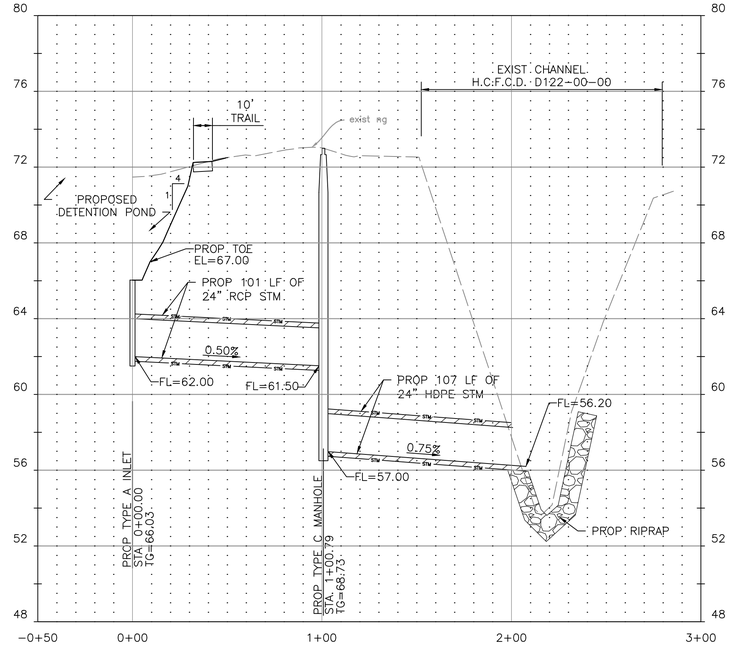


ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L3	100.79	N0° 00' 00.00"E
L4	231.77	N27° 29' 04.37"E

BOONE PARK STM LINE A PROFILE



BOONE PARK STM LINE B PROFILE



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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)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #18800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE OUTFALLS (SHEET 1 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 20 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:51 AM

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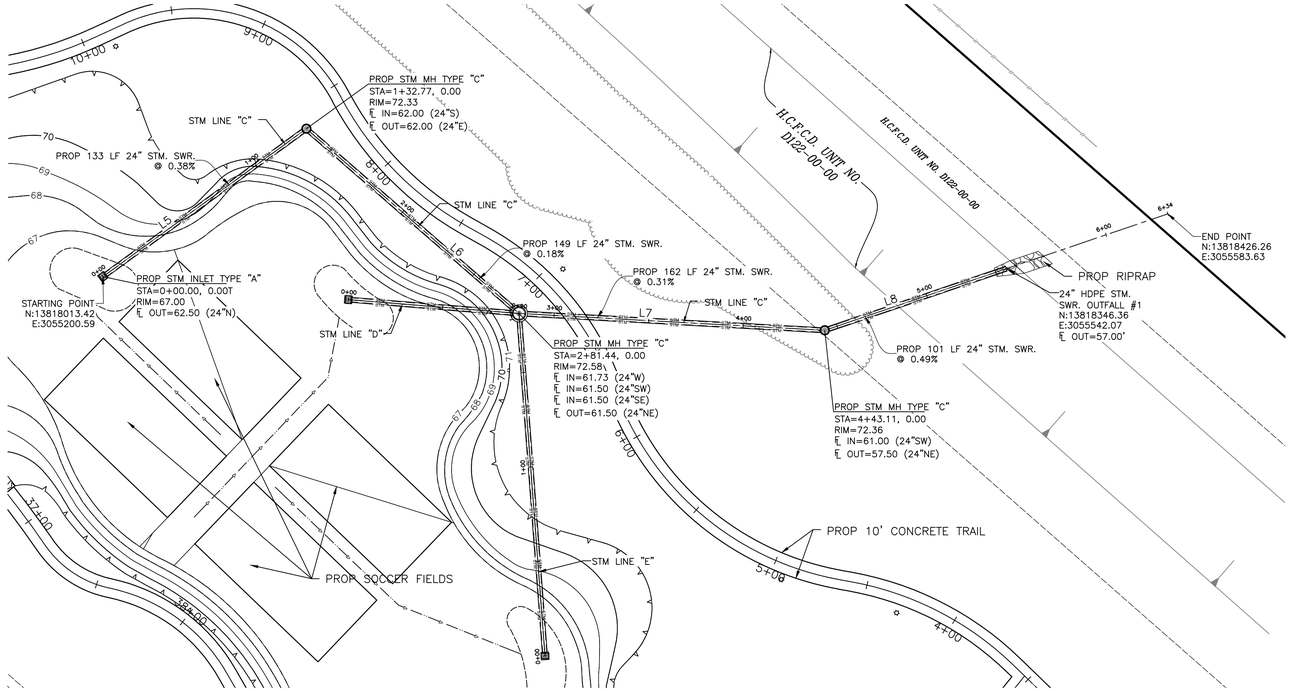
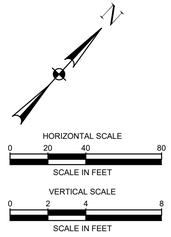
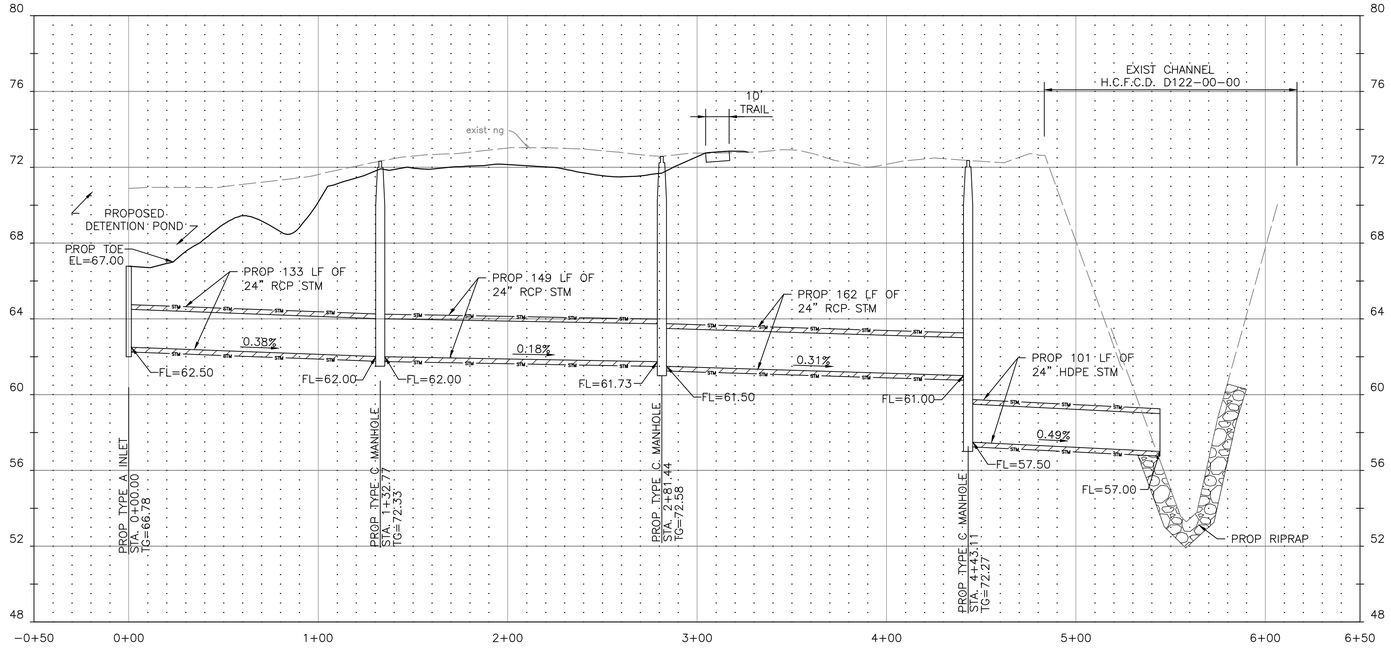




ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L5	132.77	N10° 12' 28.34"E
L6	148.67	N87° 12' 50.82"E
L7	161.67	N49° 23' 22.74"E
L8	191.29	N27° 29' 04.37"E

BOONE PARK STM LINE C PROFILE



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Signature valid for one year.

NO.	DATE	REVISION	APP.

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3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE OUTFALLS (SHEET 2 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 21 OF 144	

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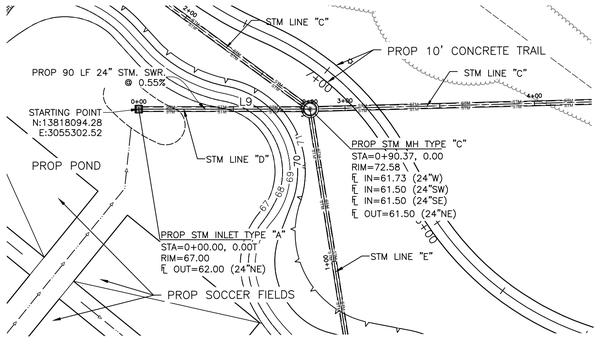
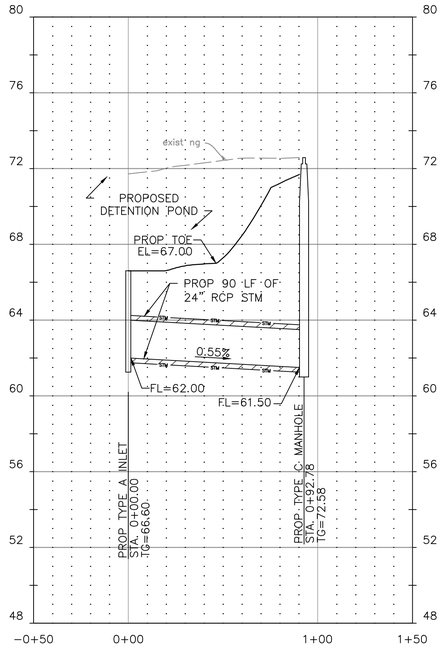
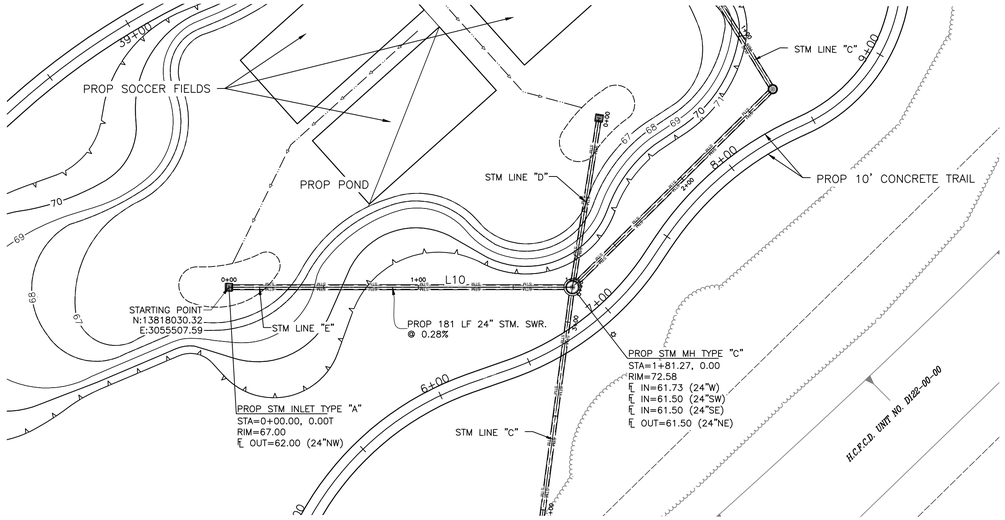
ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L9	90.37	N50° 51' 52.72"E



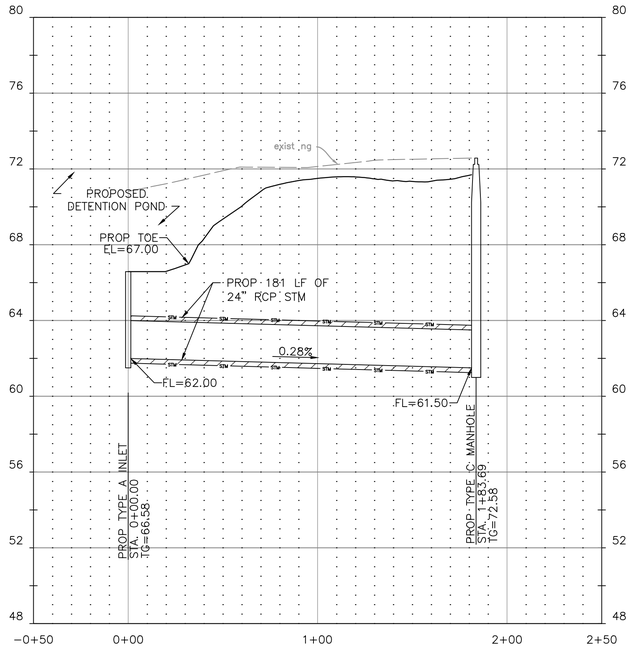
BOONE PARK STM LINE D PROFILE



ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L10	181.27	N48° 07' 25.93"W



BOONE PARK STM LINE E PROFILE



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET
VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

NOTICE:

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #18800
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FB NO. P-6328

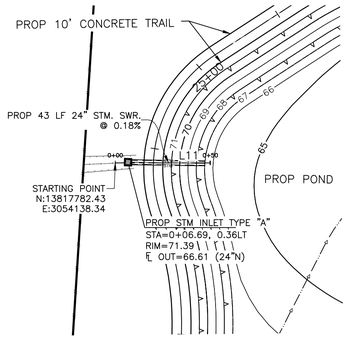
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE OUTFALLS (SHEET 3 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 22 OF 144	



ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L11	50.18	N6° 06' 31.23"W

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

BOONE PARK STM LINE G PROFILE

NO.	DATE	REVISION	APP.

NOTICE:
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Date

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

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Date

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

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Date

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Signature valid for one year.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE OUTFALLS (SHEET 4 OF 4)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 23 OF 144	

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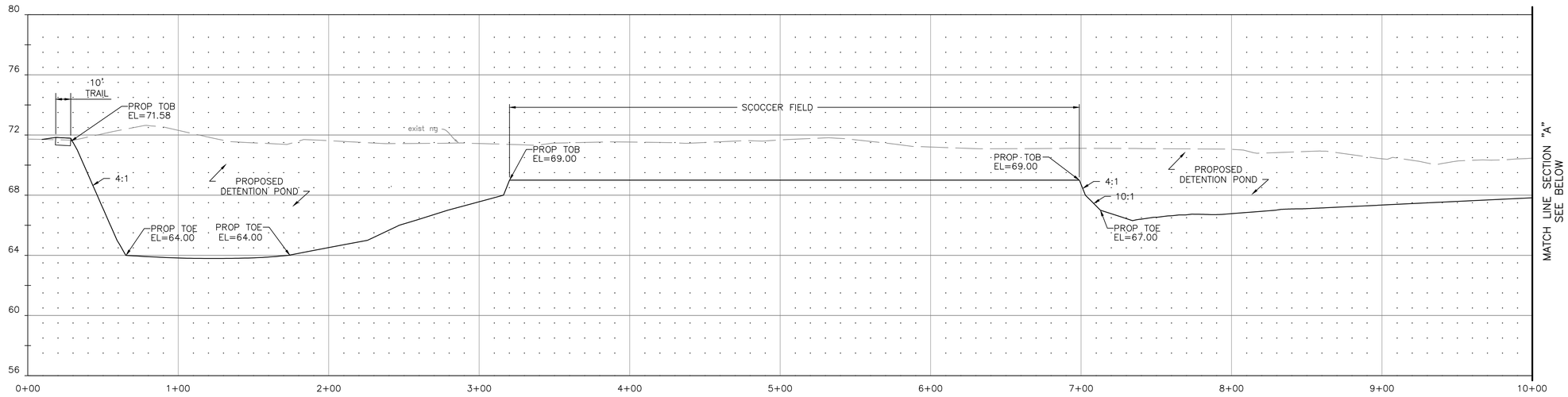
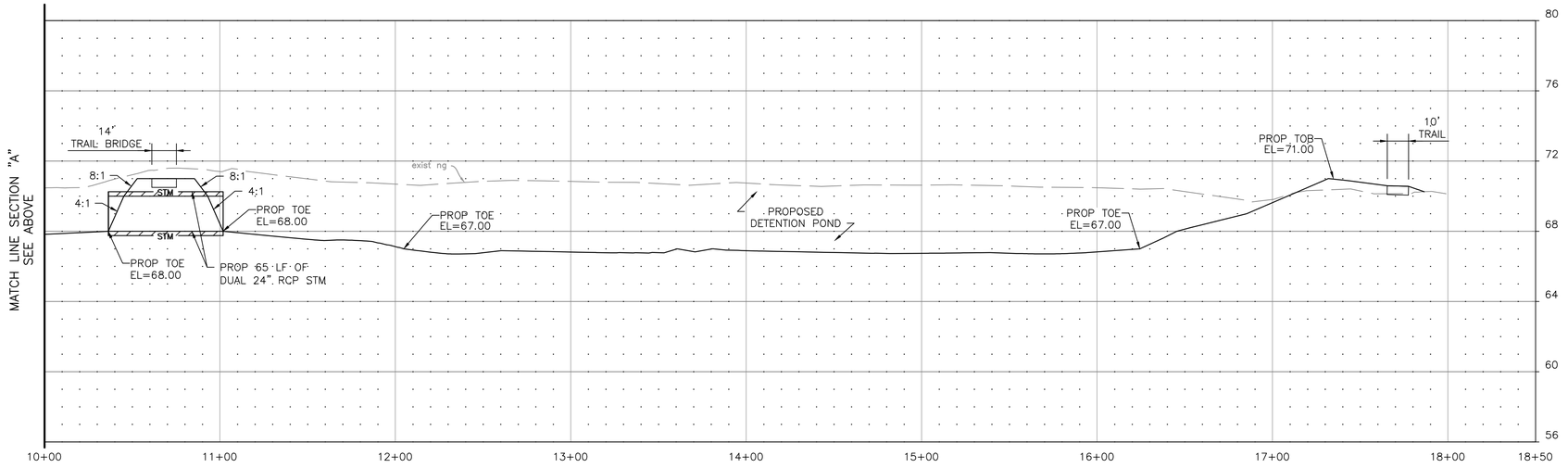
BOONE PARK SECTION A (1)



BOONE PARK SECTION A (2)



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE POND SECTIONS (SHEET 1 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 24 OF 144	

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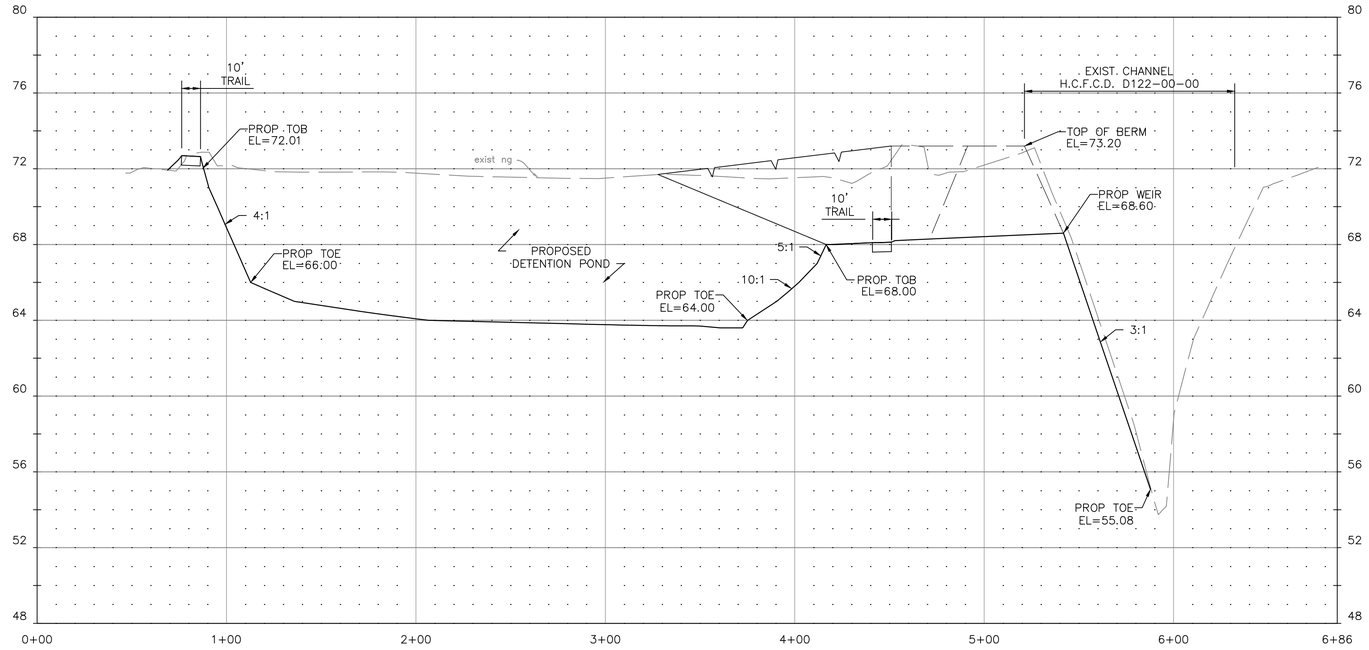
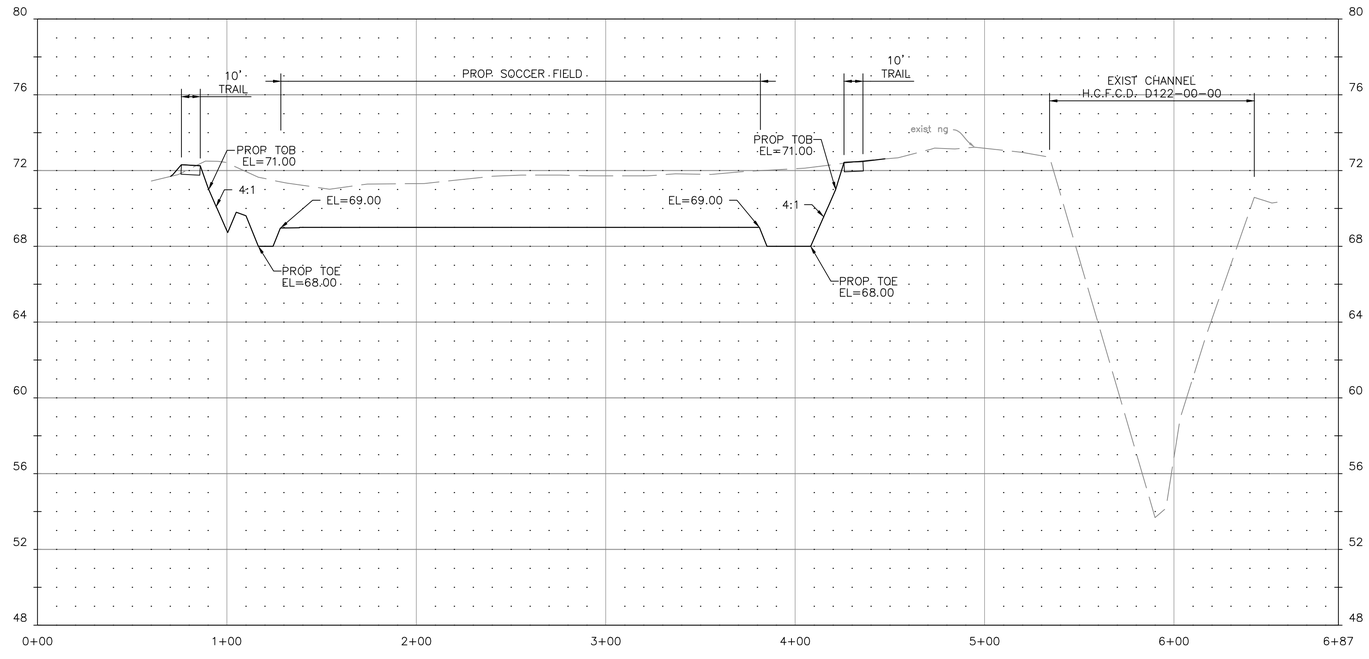
BOONE PARK SECTION B



BOONE PARK SECTION C



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE POND SECTIONS (SHEET 2 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 25 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:52 AM

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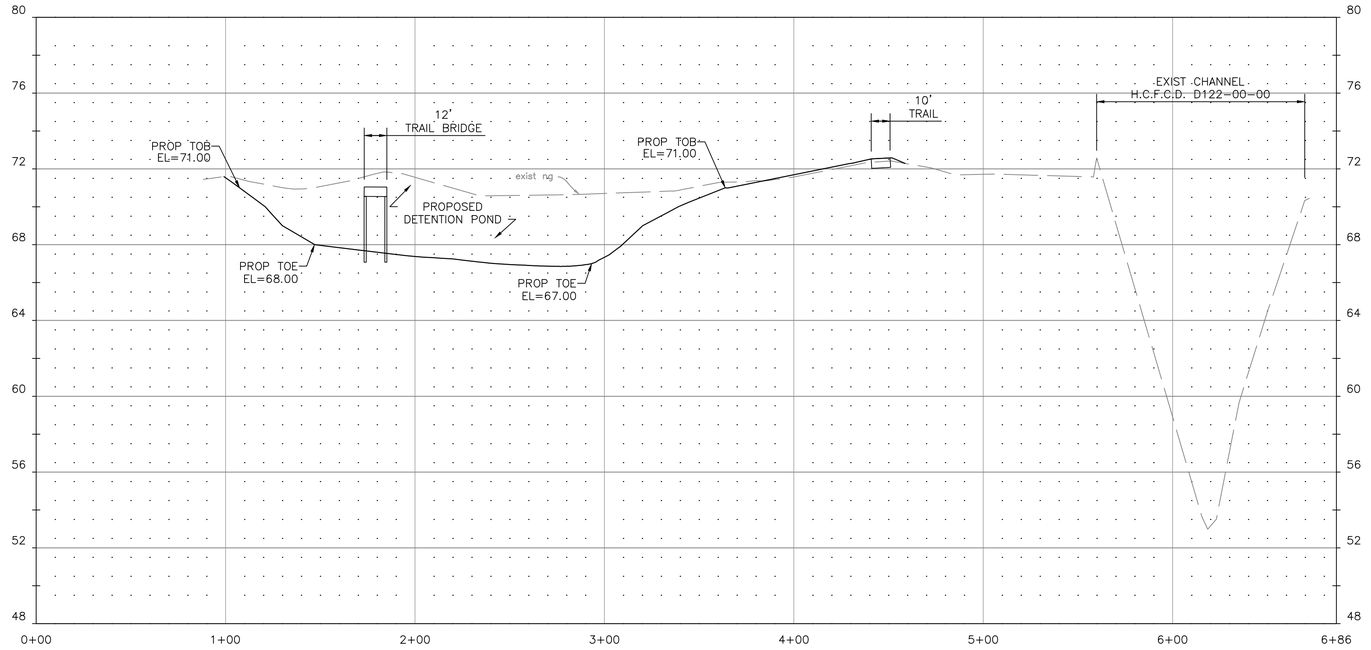
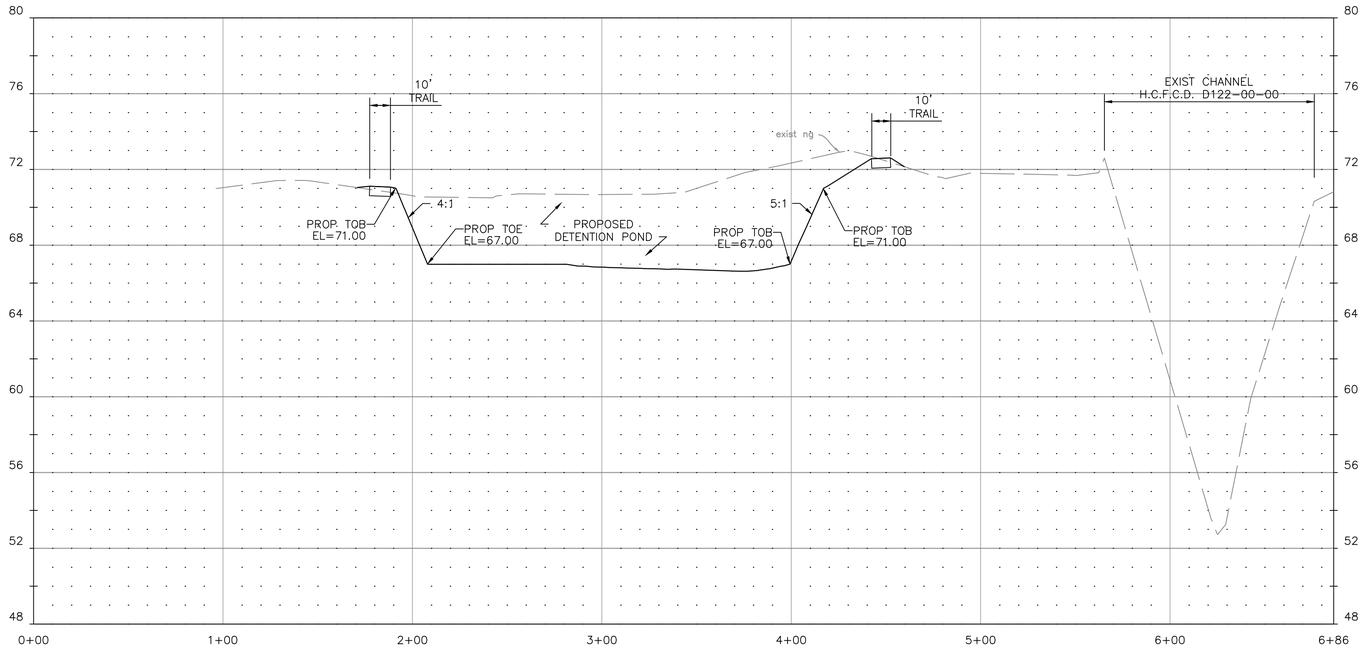
BOONE PARK SECTION D



BOONE PARK SECTION E



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE POND SECTIONS (SHEET 3 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 26 OF 144	

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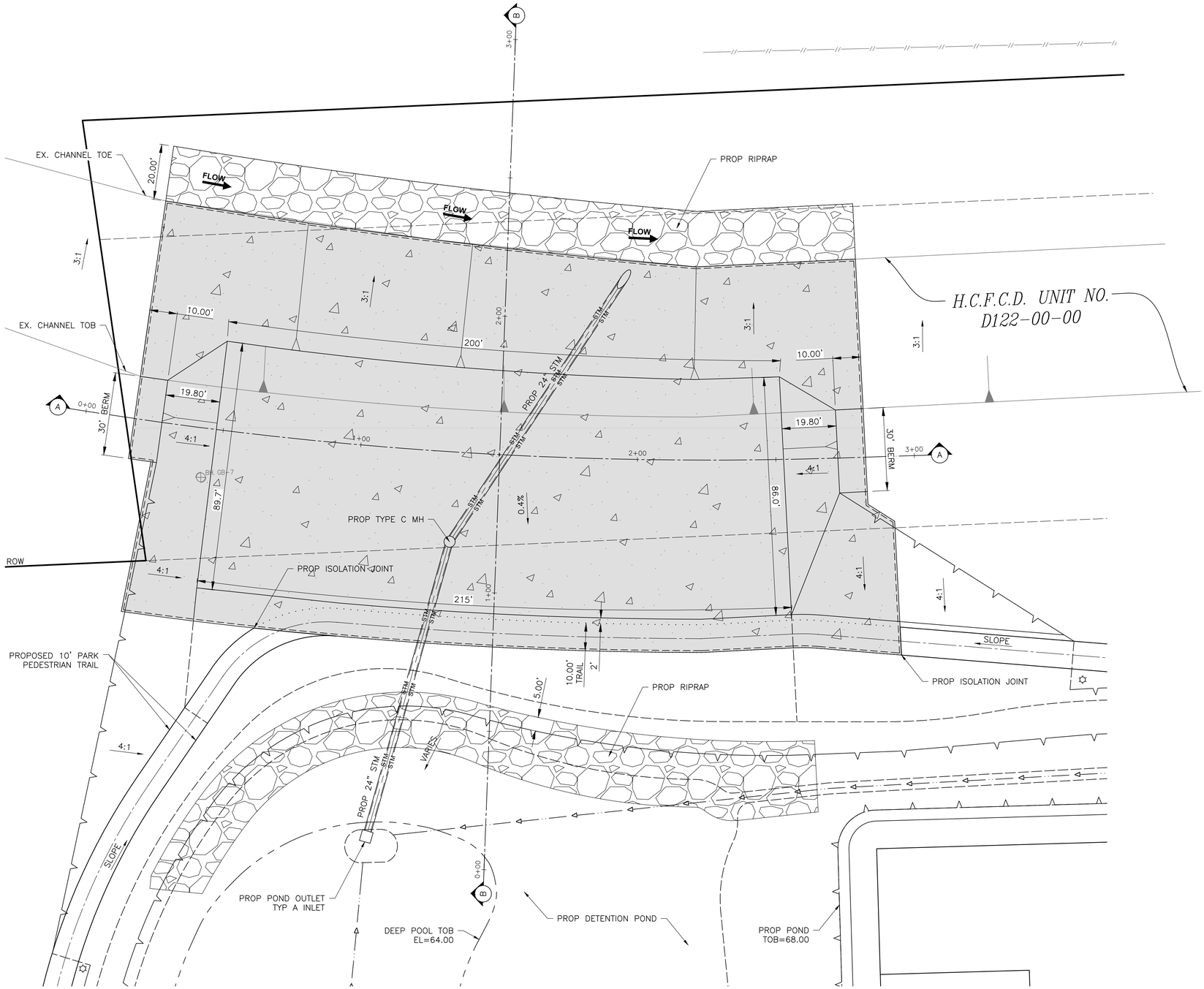
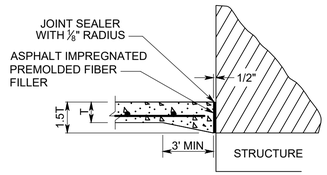


PLAN
SCALE: 1"=20'

N

0 10 20 40
SCALE IN FEET

NO.	DATE	REVISION	APP.



TYPICAL ISOLATION JOINT 2
N.T.S.

LEGEND

PROPOSED CONCRETE

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3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE WEIR – PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 27 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:52 AM

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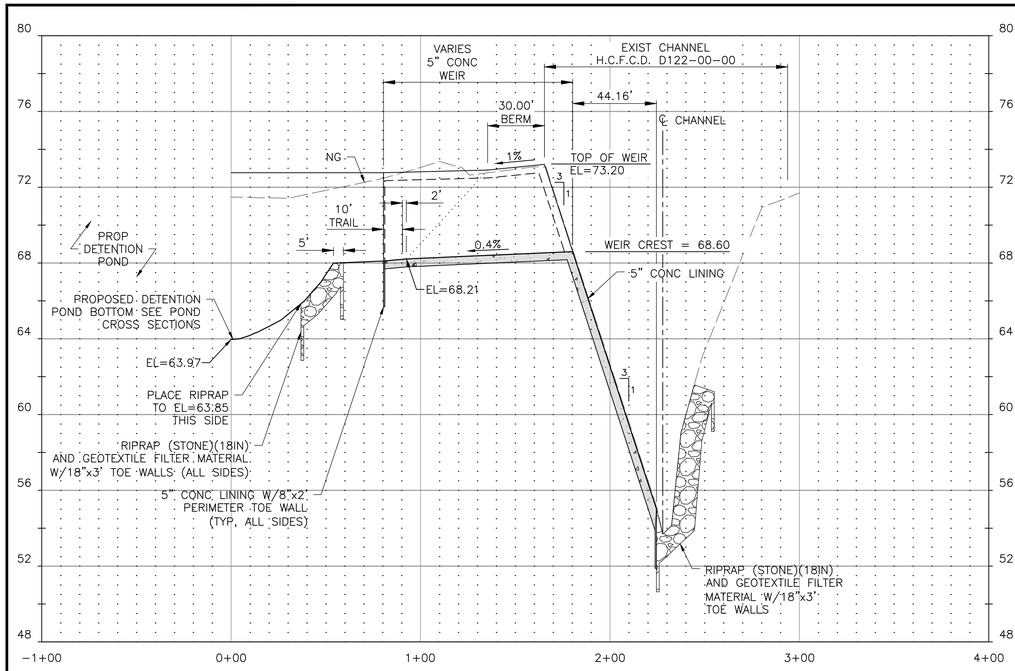
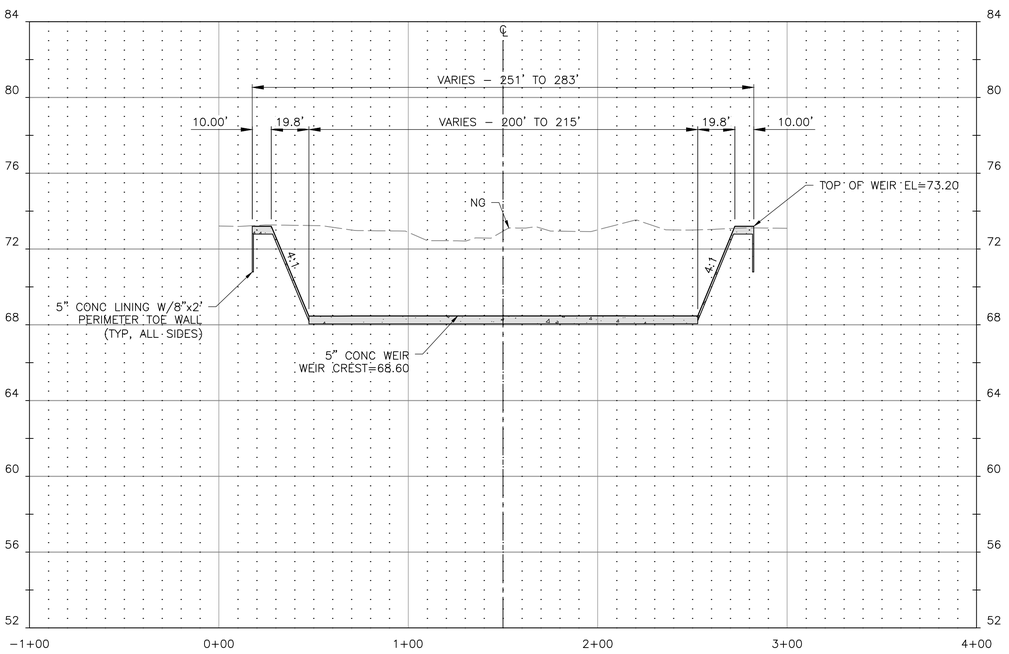


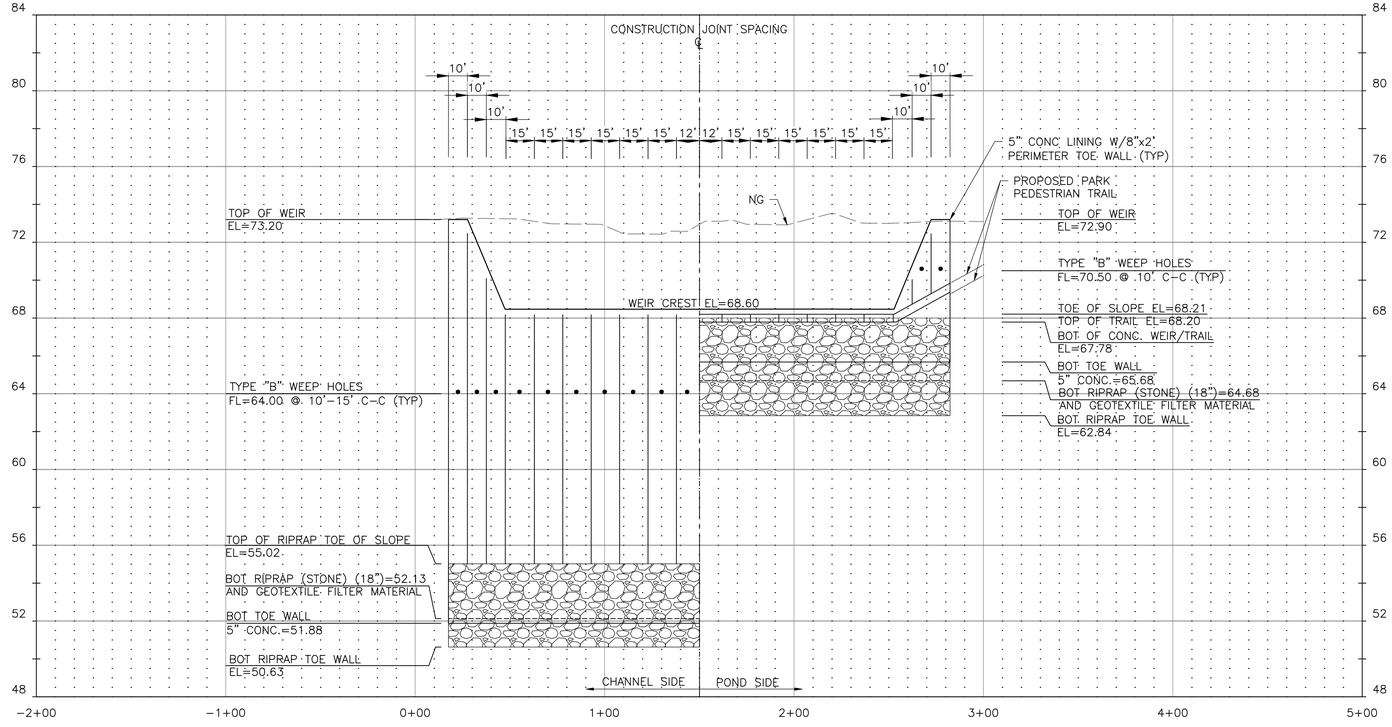
BP WEIR SECTION B–B

SCALE: HORIZ. 1"=40', VERT. 1"=4'



BP WEIR SECTION A–A

SCALE: HORIZ. 1"=40', VERT. 1"=4'



ELEVATION

SCALE: HORIZ. 1"=40', VERT. 1"=4'

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 1 2 4
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

PROPOSED CONCRETE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE WEIR – SEC A–B

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 28 OF 144	

PLOT STYLE: Coh_ctb_230809 – MOD.ctb|PLOTTED: 7/23/2025 9:52 AM

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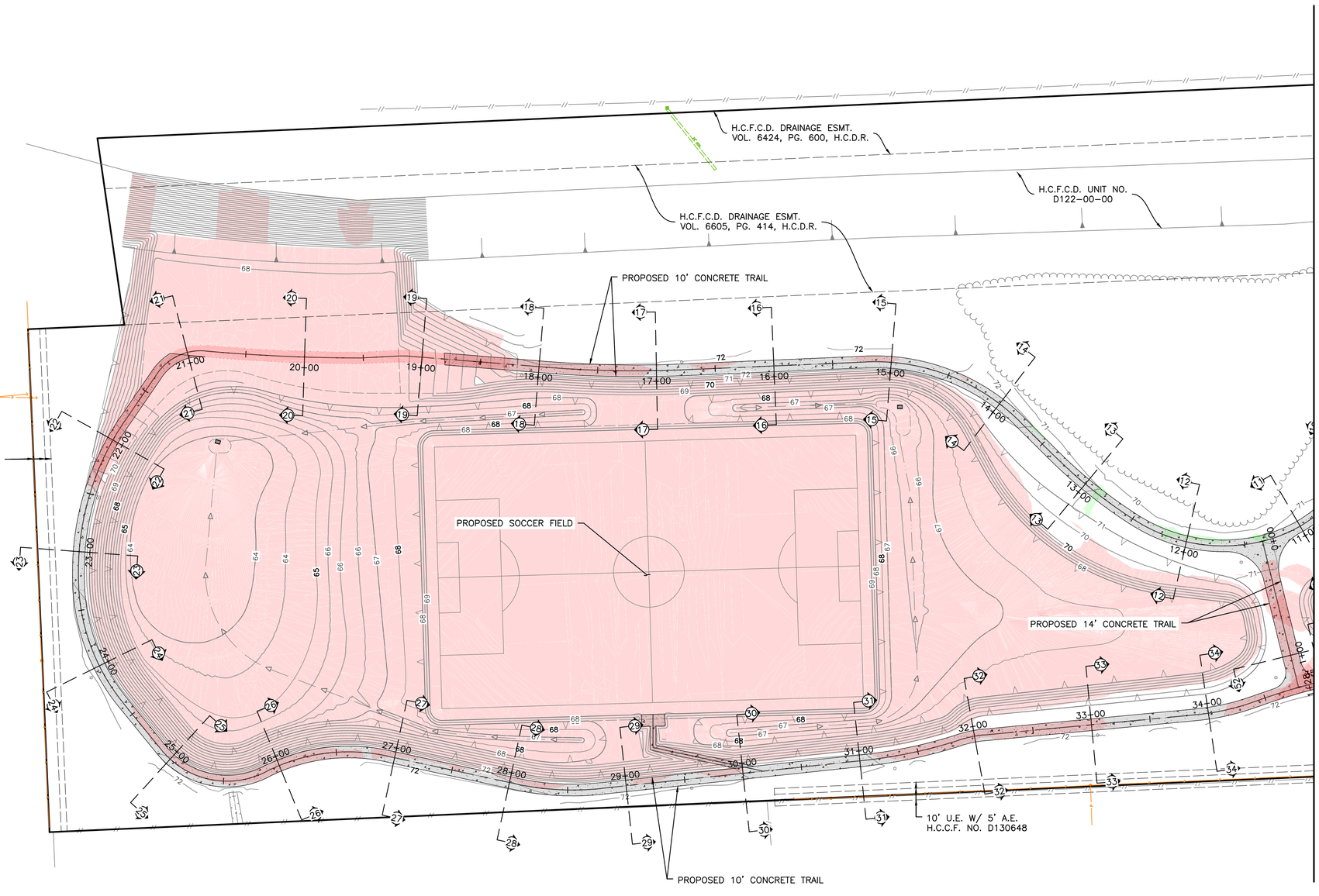

N

0 25 50 100
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- PROPOSED CONCRETE TRAIL
- PROPOSED FILL – .5' OR MORE
- PROPOSED CUT – .5' OR MORE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 29 OF 144	

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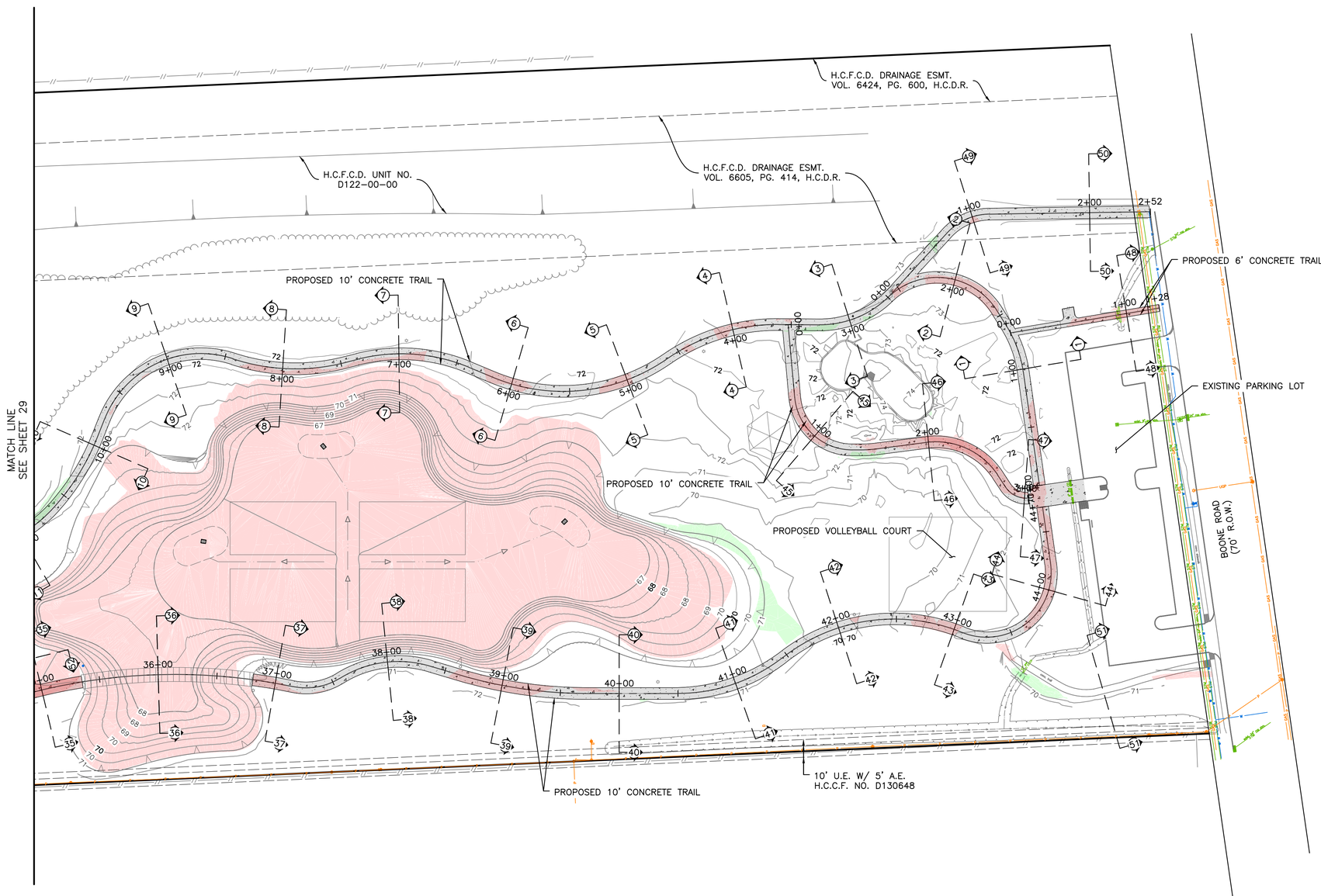

N

0 25 50 100
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- PROPOSED CONCRETE TRAIL
- PROPOSED FILL – .5' OR MORE
- PROPOSED CUT – .5' OR MORE

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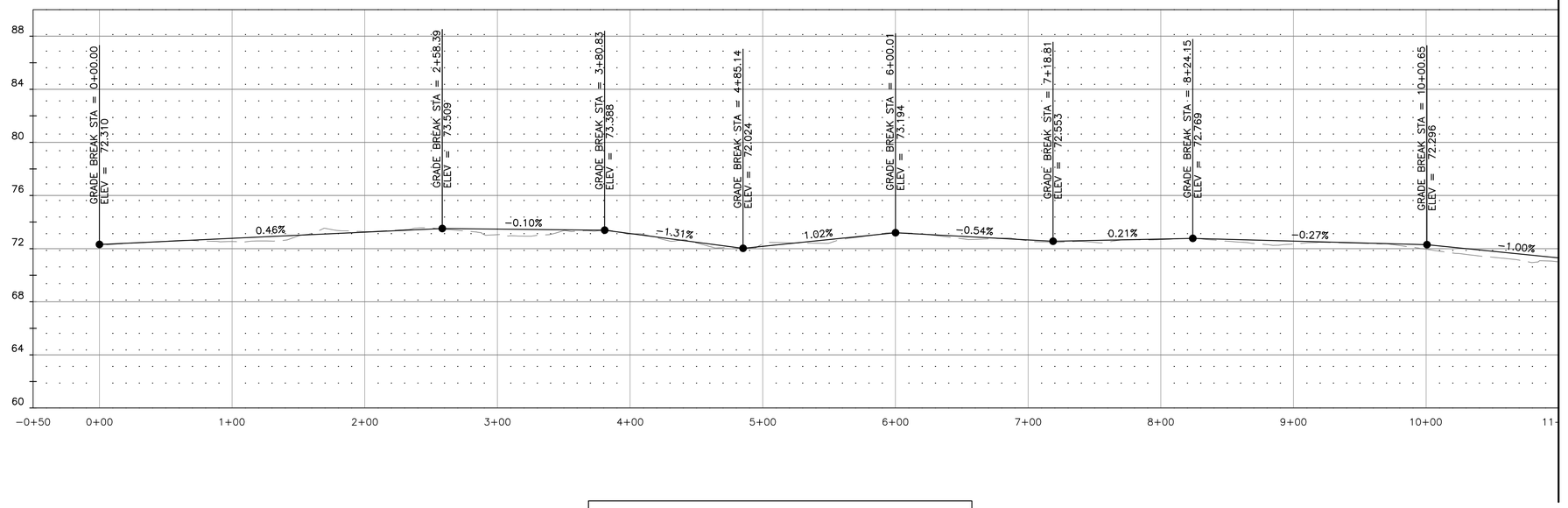
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

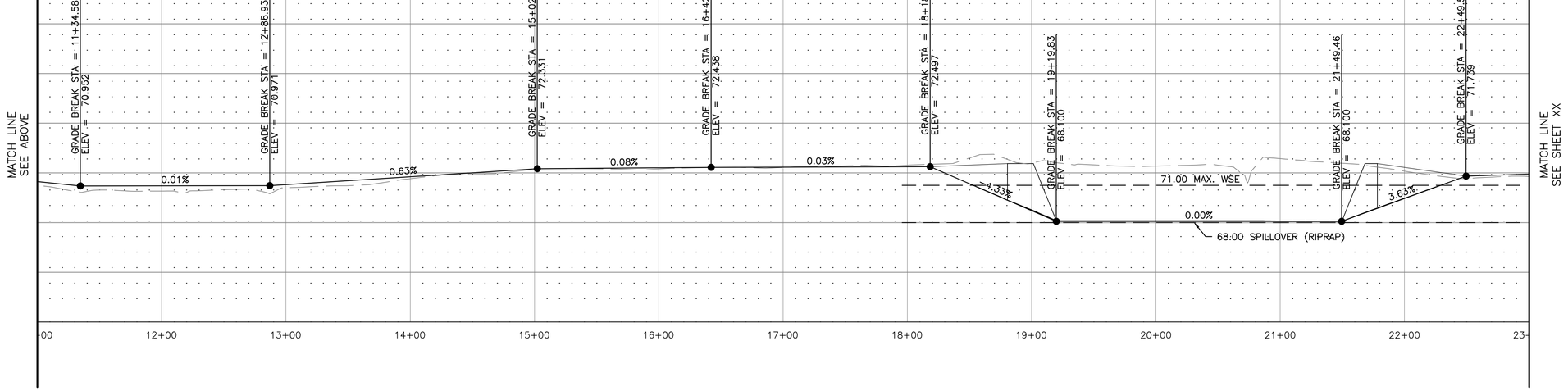
BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 30 OF 144	

PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CL
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50', VERT: 1"=5'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 31 OF 144	

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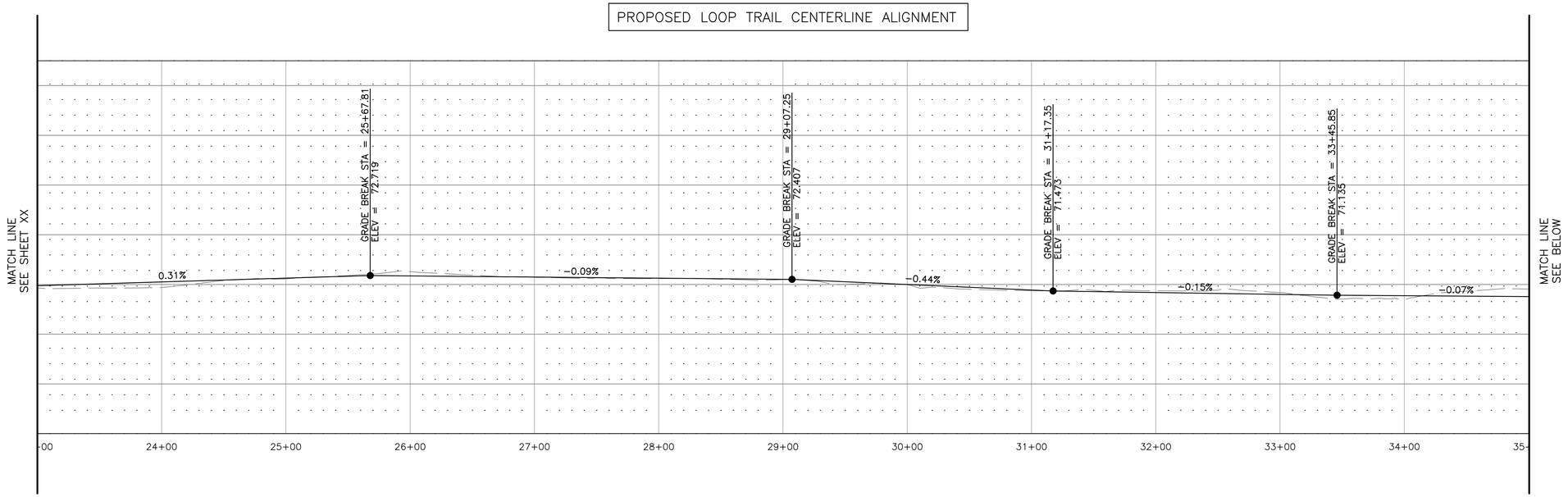
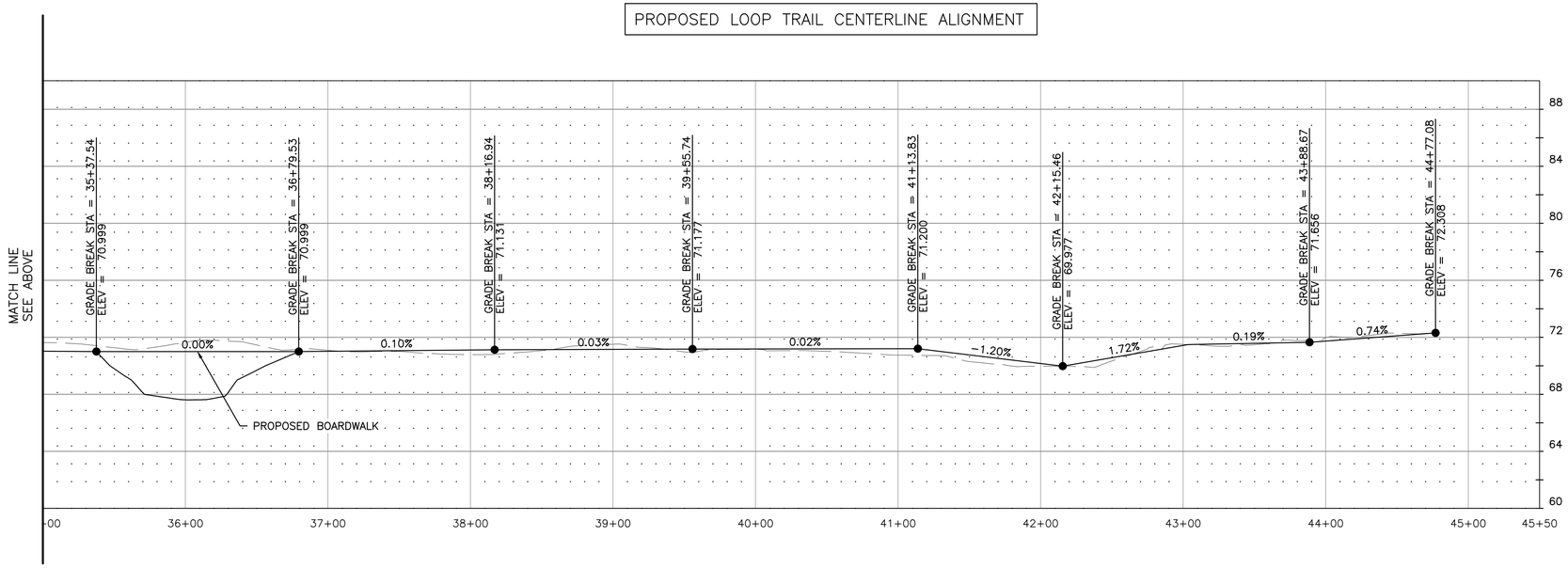
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-SP-BOONE-PARK-CONCRETE-TRAIL.dwg

NO.	DATE	REVISION	APP.

PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CL (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50', VERT: 1"=5'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 32 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:52 AM

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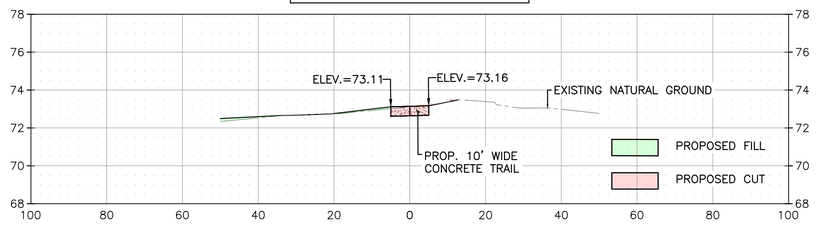
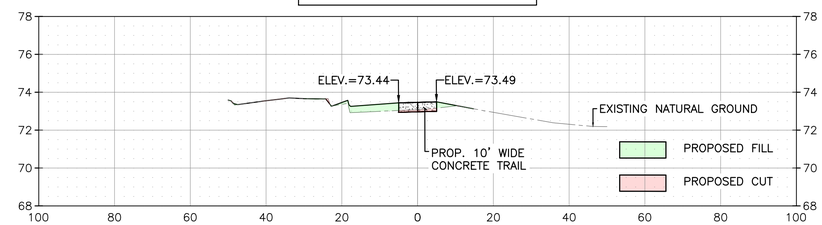
NO.	DATE	REVISION	APP.

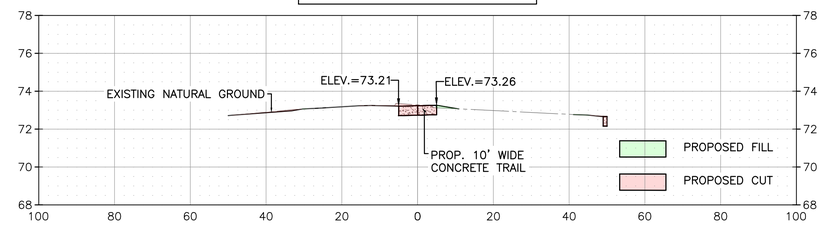
BOONE LOOP TRAIL CROSS SECTION 4
STATION 4+00



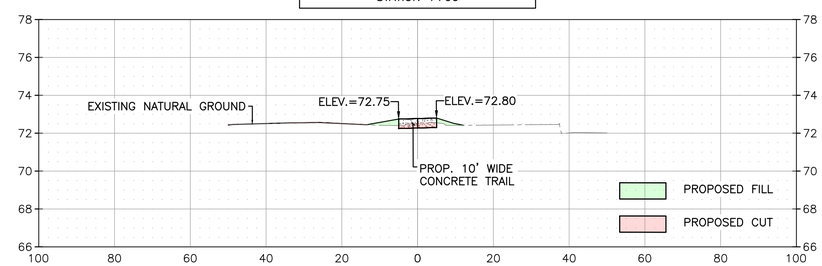
BOONE LOOP TRAIL CROSS SECTION 3
STATION 3+00



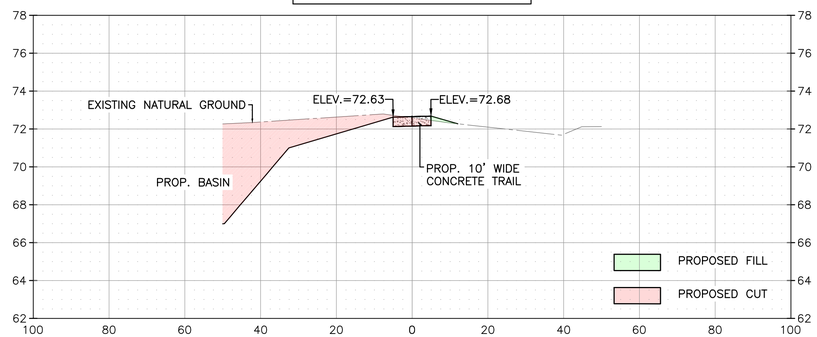
BOONE LOOP TRAIL CROSS SECTION 2
STATION 2+00



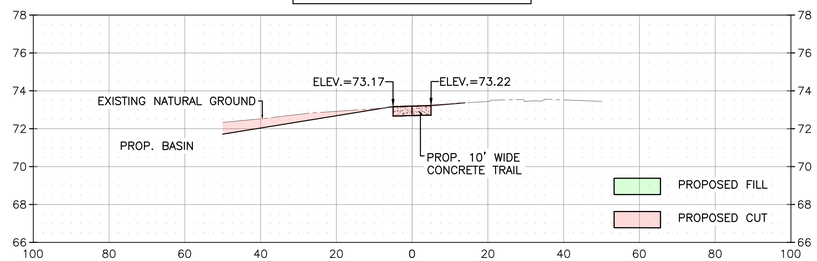
BOONE LOOP TRAIL CROSS SECTION 1
STATION 1+00



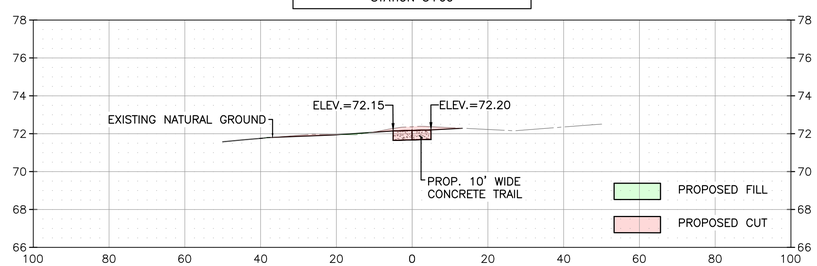
BOONE LOOP TRAIL CROSS SECTION 7
STATION 7+00



BOONE LOOP TRAIL CROSS SECTION 6
STATION 6+00



BOONE LOOP TRAIL CROSS SECTION 5
STATION 5+00



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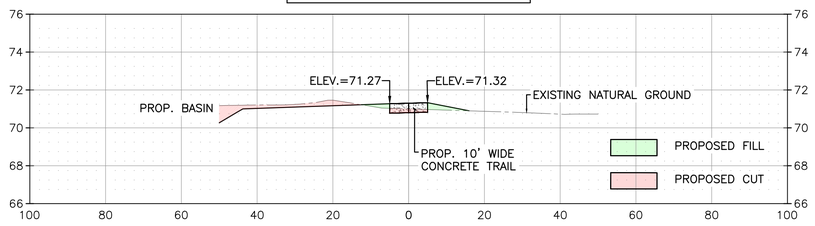
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

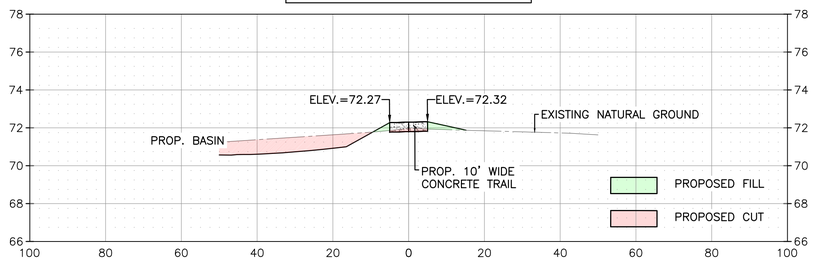
BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 1 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 33 OF 144	

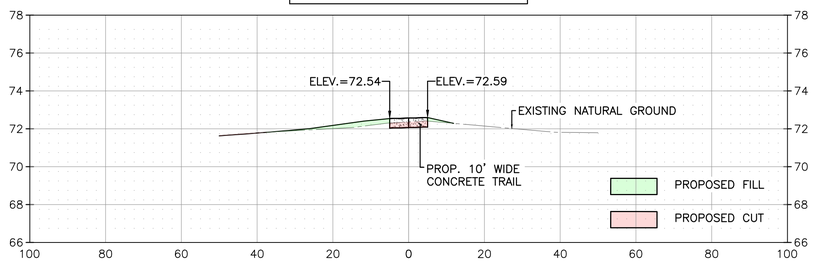
BOONE LOOP TRAIL CROSS SECTION 11
STATION 11+00



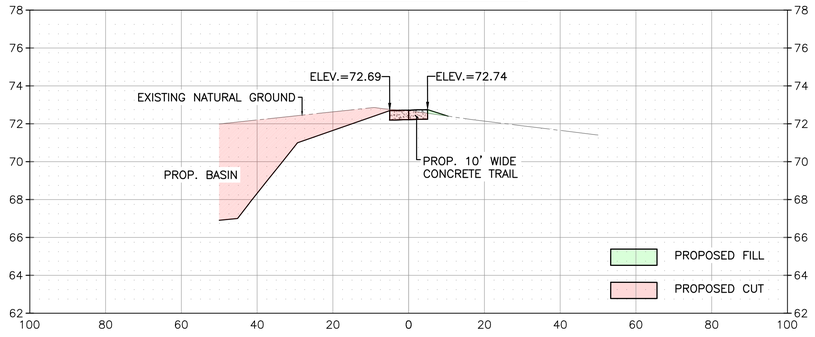
BOONE LOOP TRAIL CROSS SECTION 10
STATION 10+00



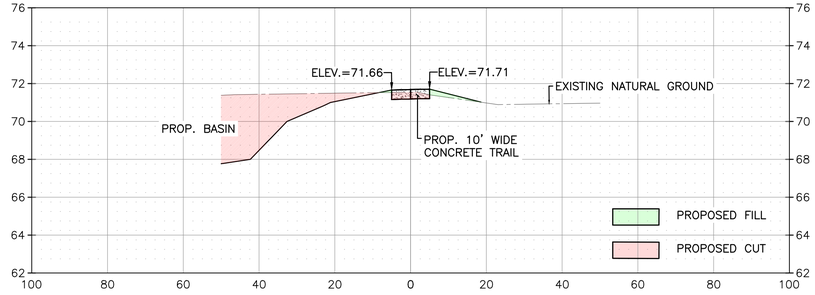
BOONE LOOP TRAIL CROSS SECTION 9
STATION 9+00



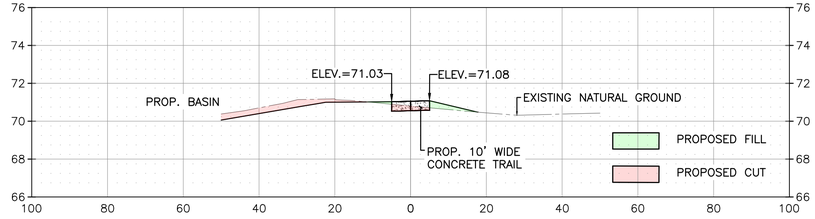
BOONE LOOP TRAIL CROSS SECTION 8
STATION 8+00



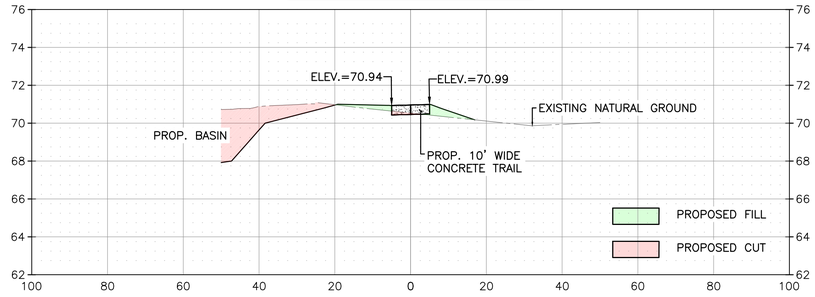
BOONE LOOP TRAIL CROSS SECTION 14
STATION 14+00



BOONE LOOP TRAIL CROSS SECTION 13
STATION 13+00



BOONE LOOP TRAIL CROSS SECTION 12
STATION 12+00



NO.	DATE	REVISION	APP.

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FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\BP-SP-BOONE-PARK-CONCRETE-TRAIL.dwg

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 2 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 34 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:52 AM

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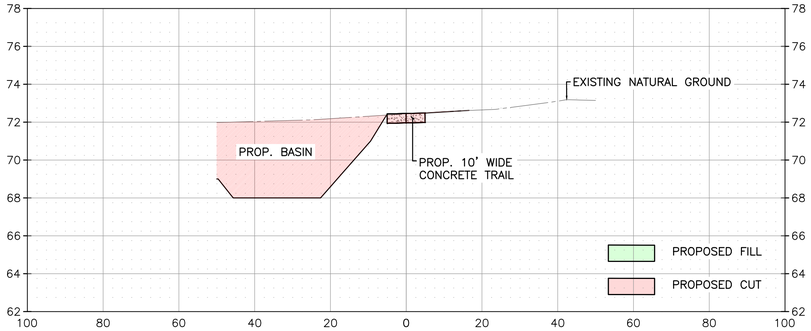
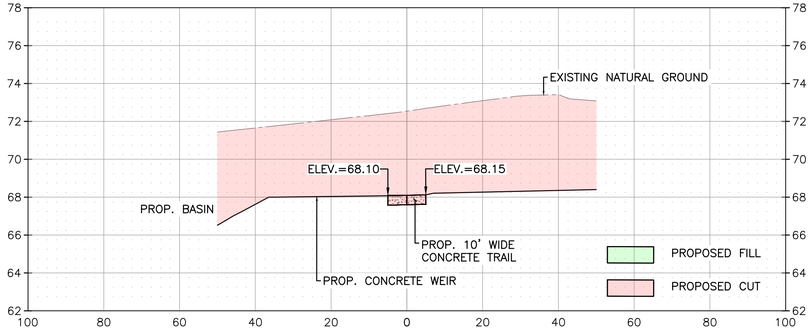
NO.	DATE	REVISION	APP.

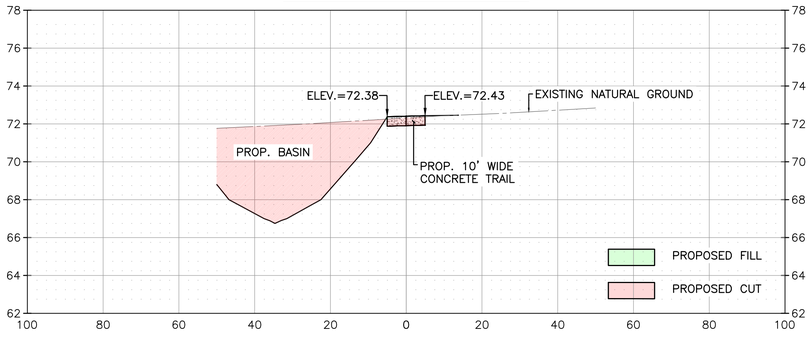
BOONE LOOP TRAIL CROSS SECTION 17
STATION 17+00



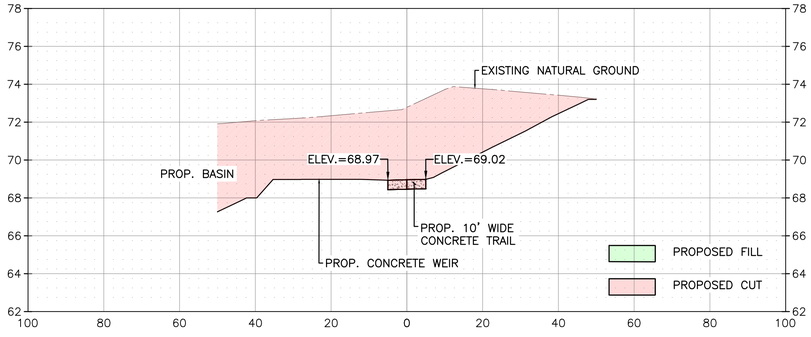
BOONE LOOP TRAIL CROSS SECTION 20
STATION 20+00



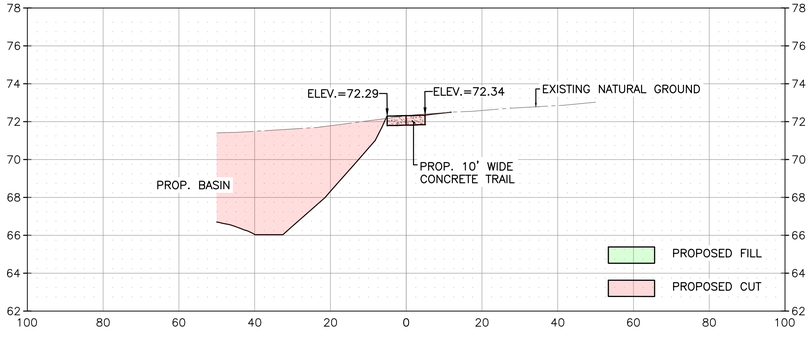
BOONE LOOP TRAIL CROSS SECTION 16
STATION 16+00



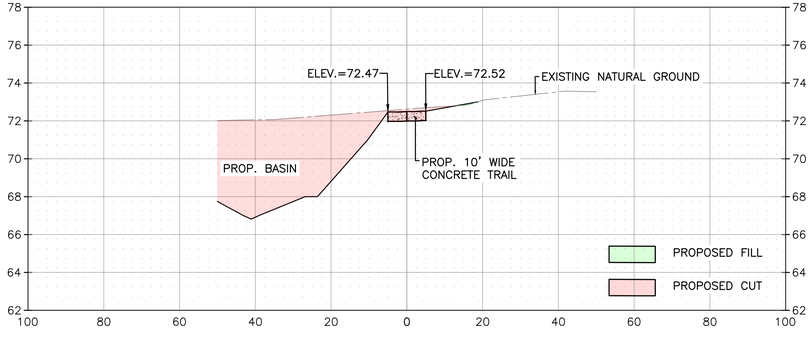
BOONE LOOP TRAIL CROSS SECTION 19
STATION 19+00



BOONE LOOP TRAIL CROSS SECTION 15
STATION 15+00



BOONE LOOP TRAIL CROSS SECTION 18
STATION 18+00



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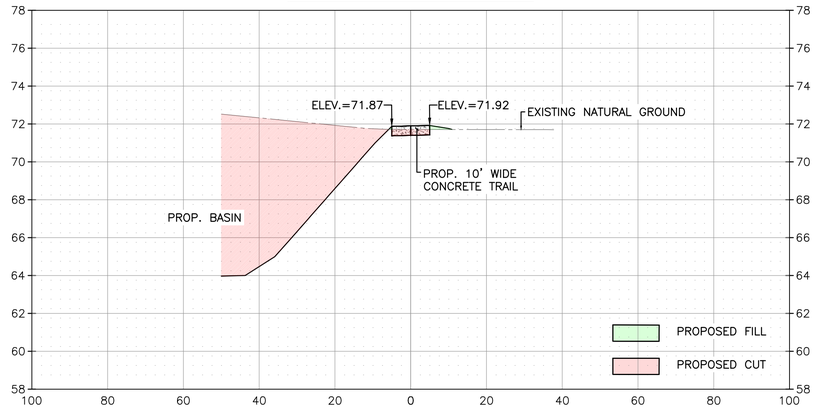
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

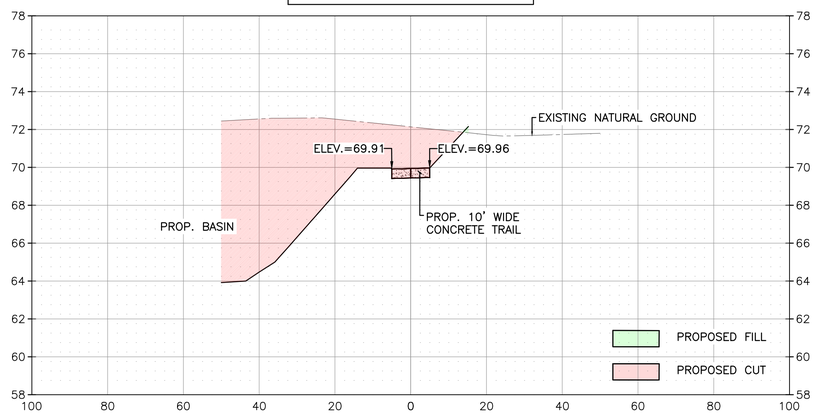
BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 3 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 35 OF 144	

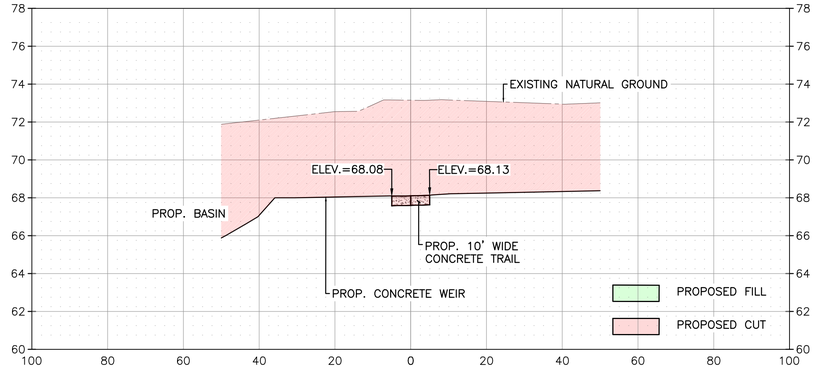
BOONE LOOP TRAIL CROSS SECTION 23
STATION 23+00



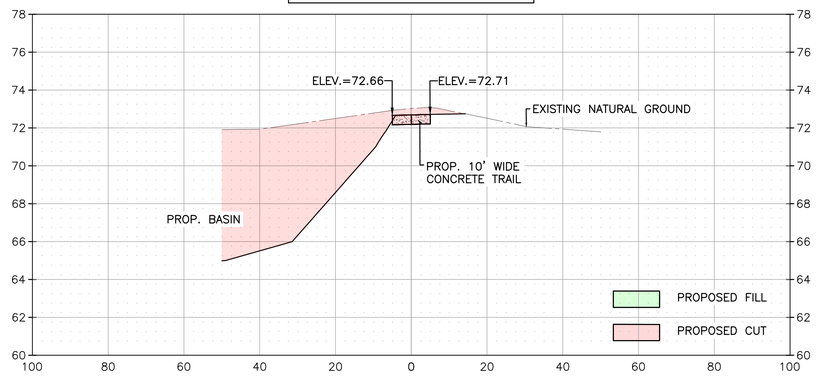
BOONE LOOP TRAIL CROSS SECTION 22
STATION 22+00



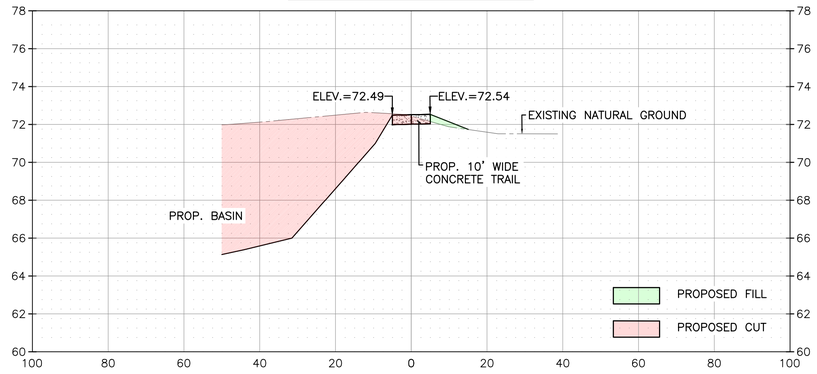
BOONE LOOP TRAIL CROSS SECTION 21
STATION 21+00



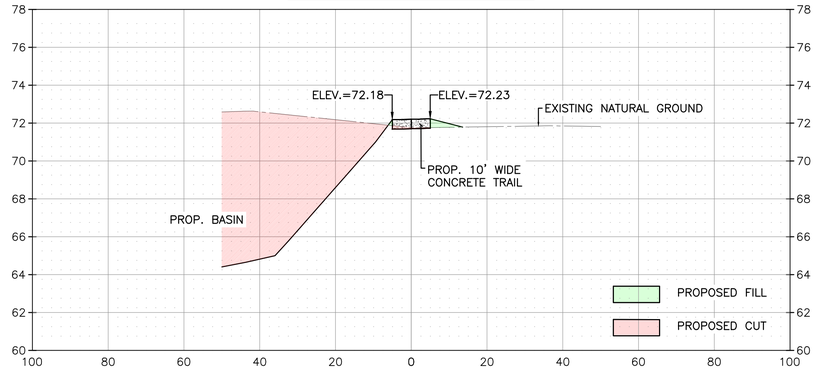
BOONE LOOP TRAIL CROSS SECTION 26
STATION 26+00



BOONE LOOP TRAIL CROSS SECTION 25
STATION 25+00



BOONE LOOP TRAIL CROSS SECTION 24
STATION 24+00



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 4 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 36 OF 144	

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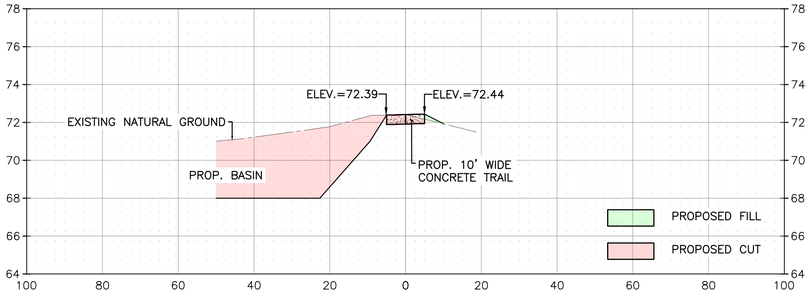
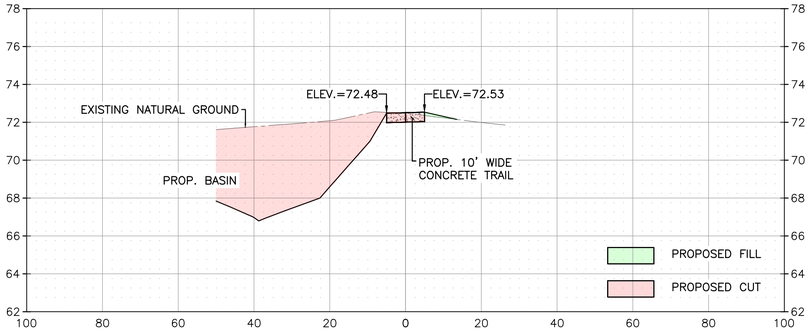
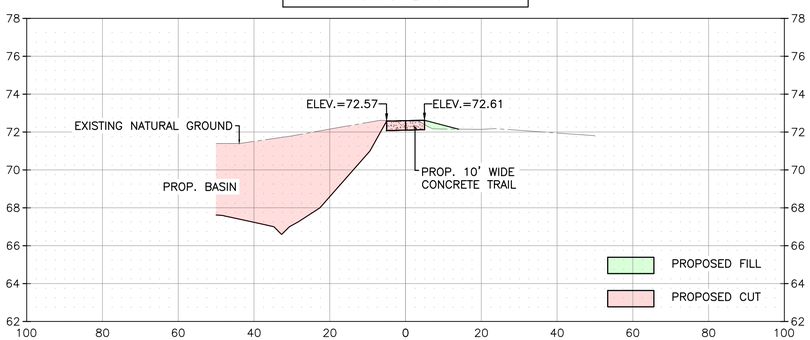
BOONE LOOP TRAIL CROSS SECTION 29
STATION 29+00



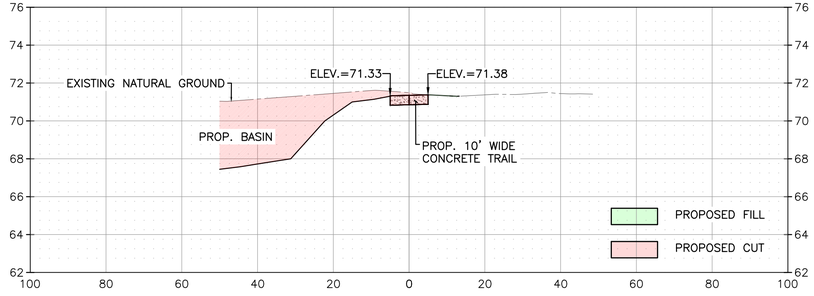
BOONE LOOP TRAIL CROSS SECTION 28
STATION 28+00



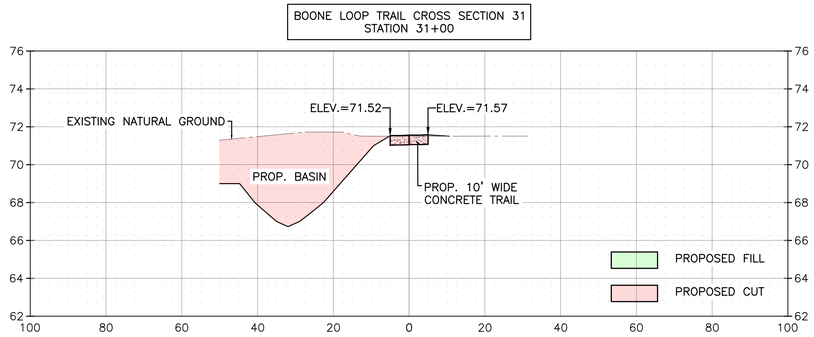
BOONE LOOP TRAIL CROSS SECTION 27
STATION 27+00



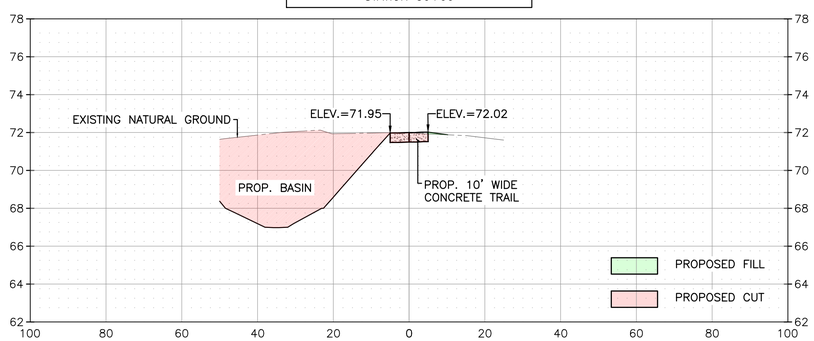
BOONE LOOP TRAIL CROSS SECTION 32
STATION 32+00



BOONE LOOP TRAIL CROSS SECTION 31
STATION 31+00



BOONE LOOP TRAIL CROSS SECTION 30
STATION 30+00



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 5 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 37 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:52 AM

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PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:52 AM

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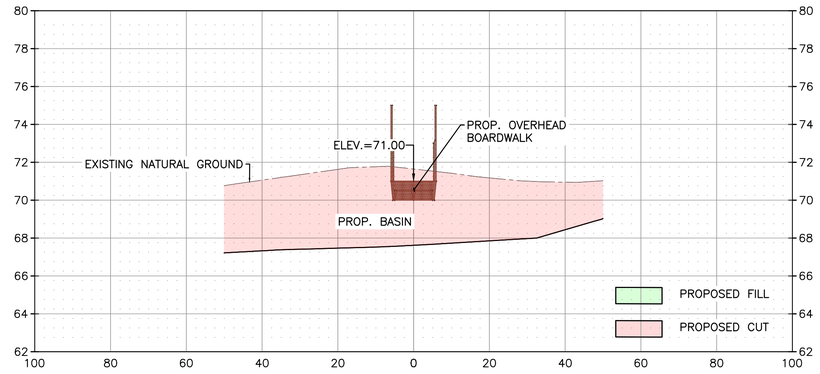
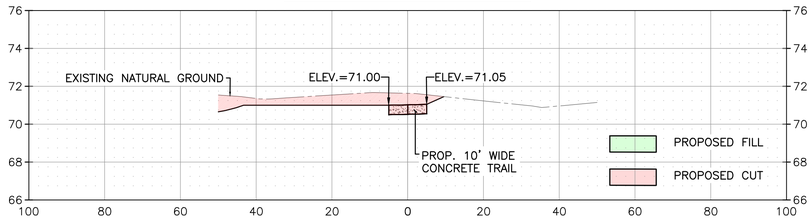
NO.	DATE	REVISION	APP.

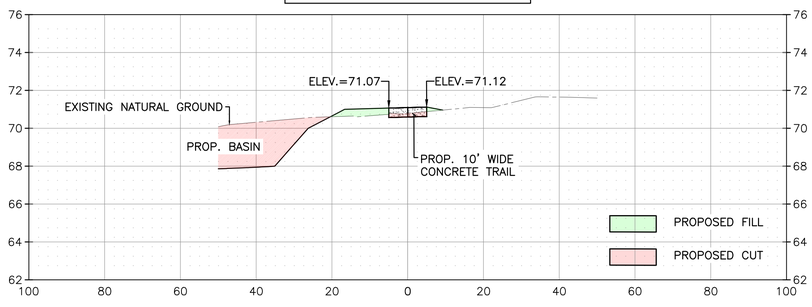
BOONE LOOP TRAIL BRIDGE CROSS SECTION 36
STATION 36+00



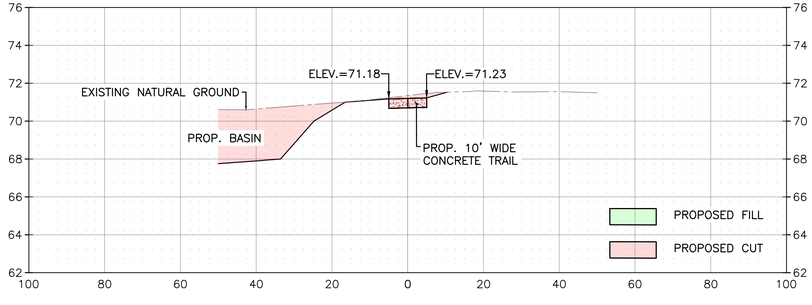
BOONE LOOP TRAIL CROSS SECTION 35
STATION 35+00



BOONE LOOP TRAIL CROSS SECTION 34
STATION 34+00

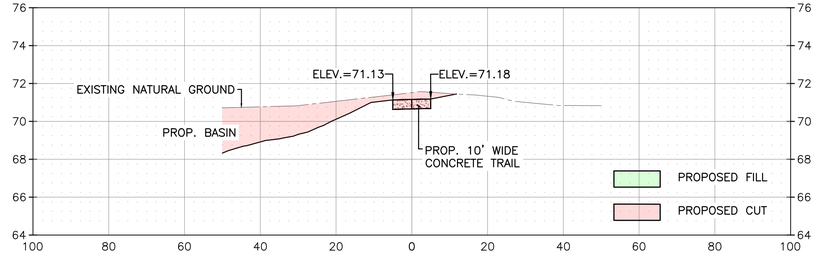


BOONE LOOP TRAIL CROSS SECTION 33
STATION 33+00

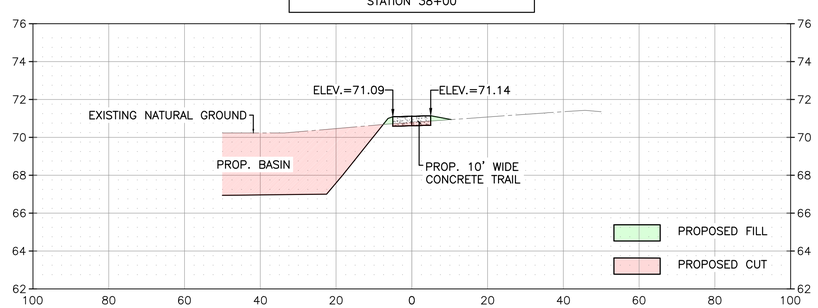


BOONE LOOP TRAIL CROSS SECTION 40
STATION 40+00

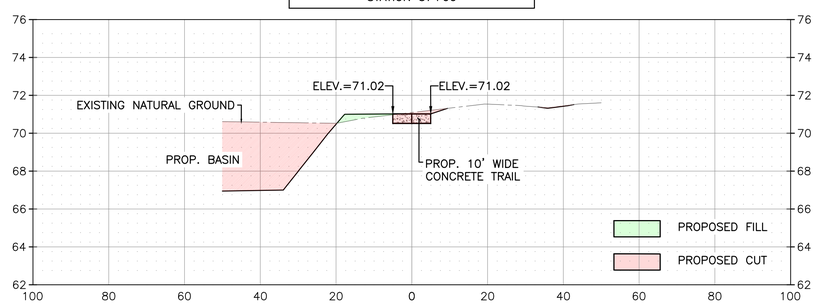
BOONE LOOP TRAIL CROSS SECTION 39
STATION 39+00



BOONE LOOP TRAIL CROSS SECTION 38
STATION 38+00



BOONE LOOP TRAIL CROSS SECTION 37
STATION 37+00



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 6 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 38 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:52 AM

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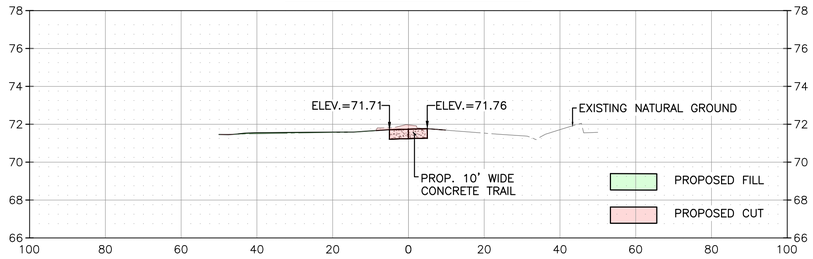
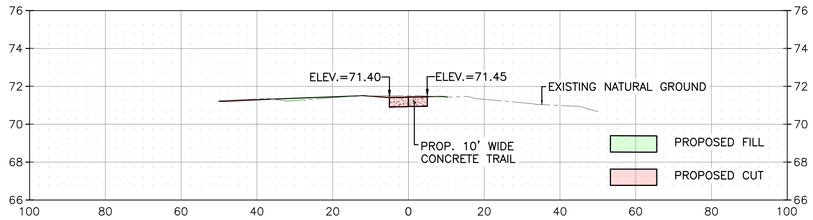
NO.	DATE	REVISION	APP.

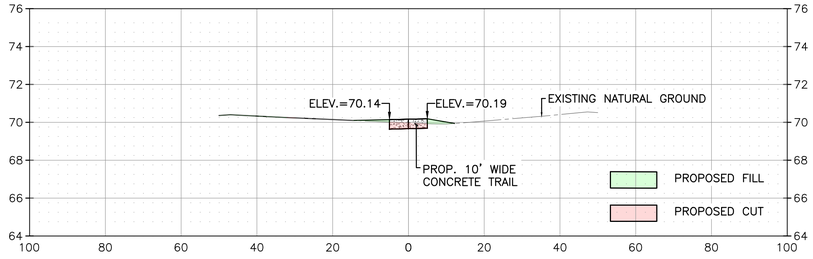
BOONE LOOP TRAIL CROSS SECTION 44
STATION 44+00



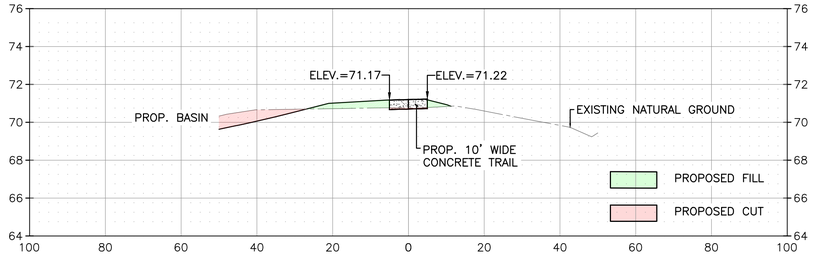
BOONE LOOP TRAIL CROSS SECTION 43
STATION 43+00



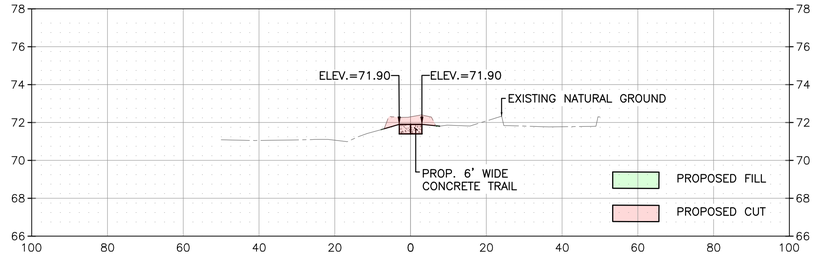
BOONE LOOP TRAIL CROSS SECTION 42
STATION 42+00



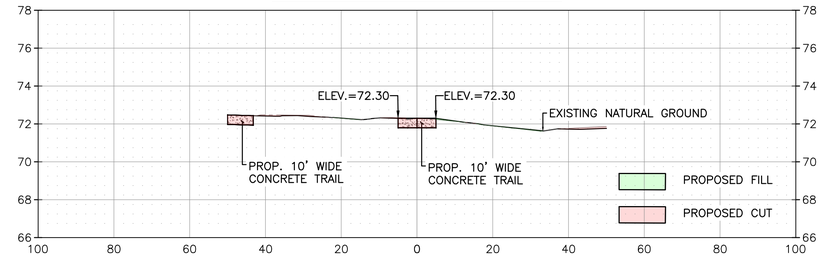
BOONE LOOP TRAIL CROSS SECTION 41
STATION 41+00



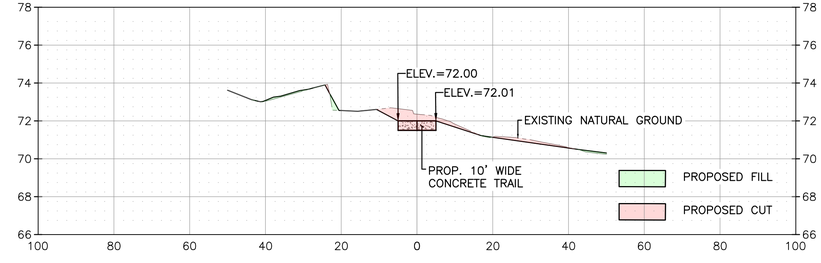
BOONE PARKING LOT TRAIL CROSS SECTION 48
STATION 1+00



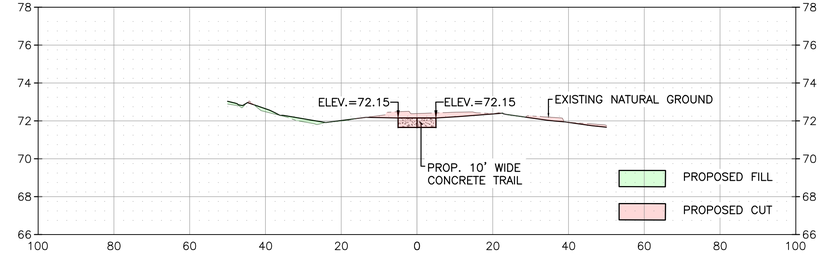
BOONE PLAYGROUND TRAIL CROSS SECTION 47
STATION 3+00



BOONE PLAYGROUND TRAIL CROSS SECTION 46
STATION 2+00



BOONE PLAYGROUND TRAIL CROSS SECTION 45
STATION 1+00



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 7 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 39 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:52 AM

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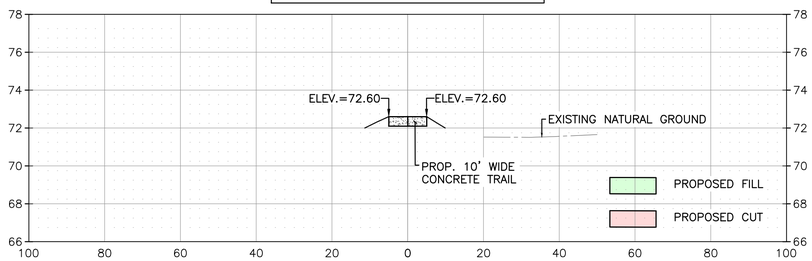
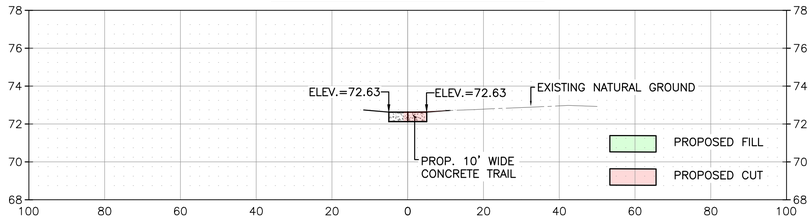
NO.	DATE	REVISION	APP.

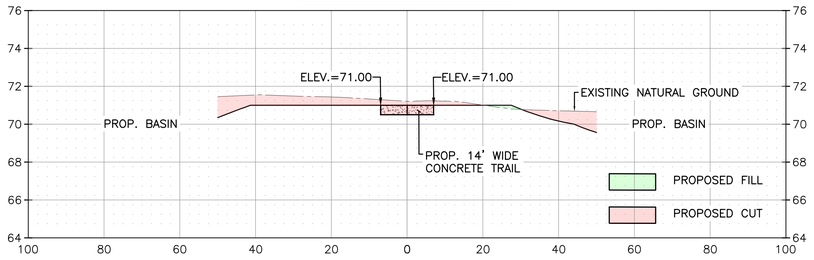
BOONE ENTRANCE TRAIL CROSS SECTION 50
STATION 2+00



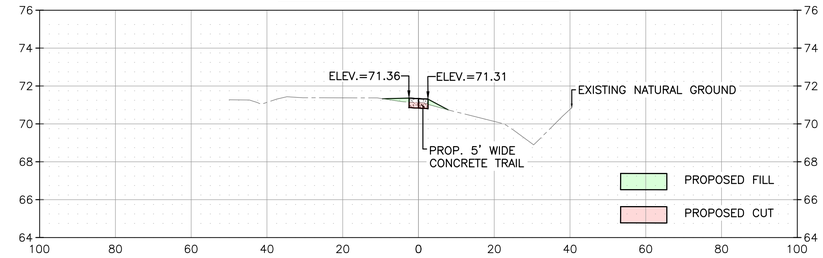
BOONE ENTRANCE TRAIL CROSS SECTION 49
STATION 1+00



BOONE BRIDGE CROSS SECTION 52
STATION 1+00



BOONE VOLLEYBALL TRAIL CROSS SECTION 51
STATION 1+00



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BOONE PARK & HACKBERRY PARK
BOONE CONCRETE TRAIL CROSS SECTIONS
(SHEET 8 OF 8)

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DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
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SHEET NO. 40 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:54 AM
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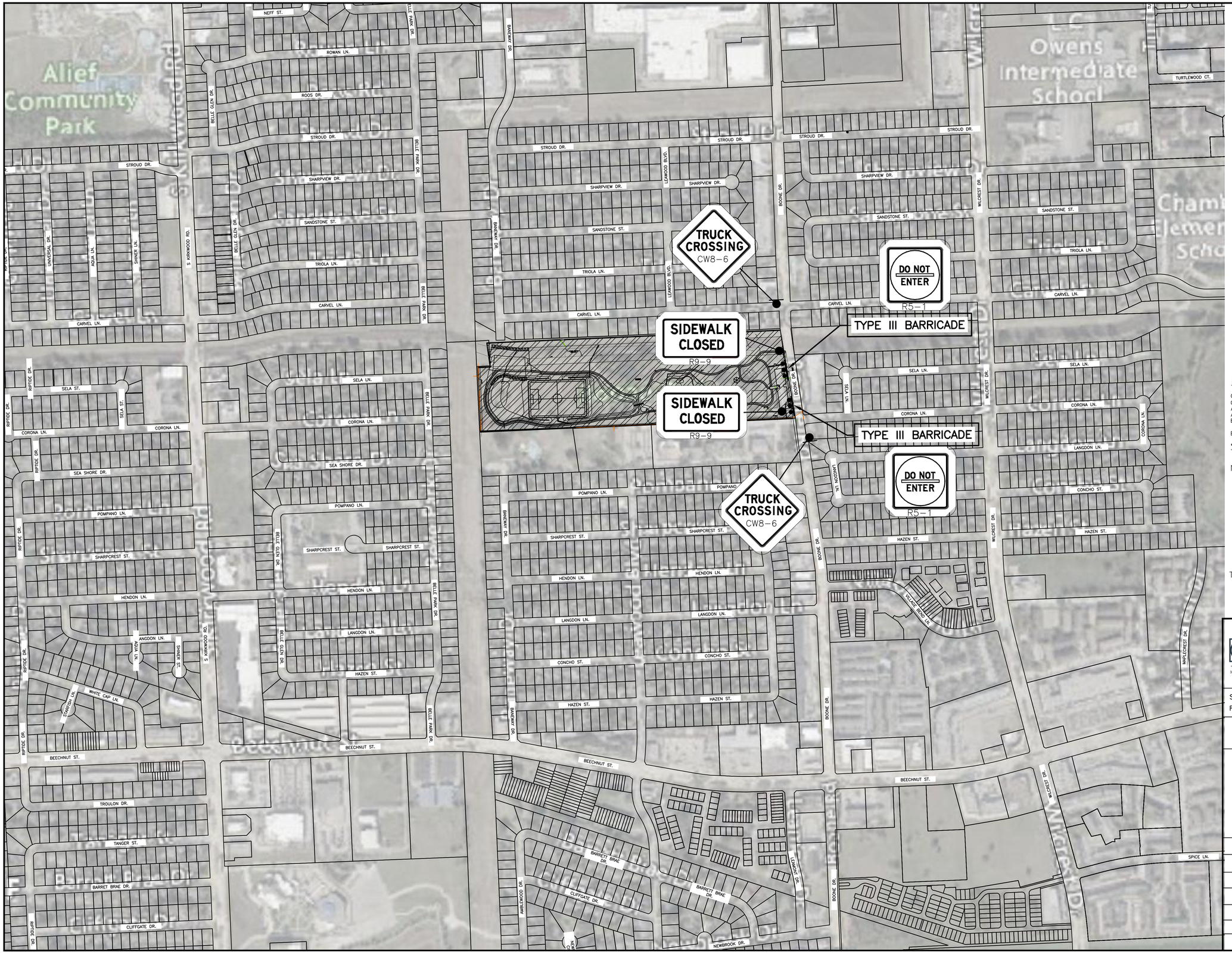

N

LEGEND

TRAFFIC SIGN

PROJECT AREA

NO.	DATE	REVISION	APP.

BENCHMARK:

CITY OF HOUSTON MONUMENT 4854-8511 (ALSO HCFCD REFERENCE MARK 040560), A BRASS DISC IN CONCRETE, LOCATED ON CONCRETE APRON OF A GRATE INLET ABOUT 220 FT SOUTH OF BANEWAY DR DEAD END APPROXIMATELY 0.5 MILE SOUTH FROM THE INTERSECTION OF BELLAIRE BLVD.

ELEV.71.07 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 23, 2024.

NOTES:

1) CONTRACTOR SHALL FINISH PHASE 1 PRIOR TO PROCEEDING TO PHASE 2 AND/OR PHASE 2A WITH FULL RESTORATION OF PHASE 1 STORM DRAINAGE IMPROVEMENTS AND PAVEMENT CONDITIONS.
2) CONTRACTOR SHALL FINISH PHASE 2 PRIOR TO COMMENCING ANY WORK ON PHASE 2A.
3) CONTRACTOR TO PERFORM IMPROVEMENTS ON PHASE 2A (XXXXXXXXXXXXXXXX) AND COMPLETE WORK BEFORE MOBILIZING TO OTHER AREAS OF THE PROJECT.
4) APPROVAL COPIES OF "TCP" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
5) SEE TEXAS DEPARTMENT OF TRANSPORTATION BC(1-12) FOR MORE INFORMATION.

TRAFFIC CONTROL NOTES:

1) CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VII OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DURING CONSTRUCTION.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

BOONE PARK TRAFFIC CONTROL PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 300'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 41 OF 144	

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.

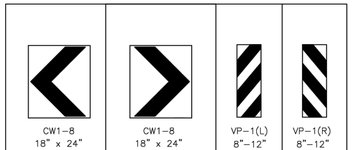
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

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

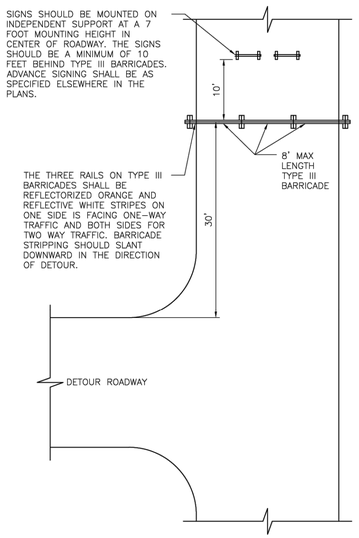
POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'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

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kauwar 9EF880C8419F478...	DocuSigned by: LAMNG NGUYEN 95A35EFDA758403D...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock 4B5C91BE7D5A4A8...	
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

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE

NOT TO SCALE

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BOONE PARK & HACKBERRY PARK

BOONE PARK TRAFFIC CONTROL DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 42 OF 144	

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TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NO.	DATE	REVISION	APP.
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LEGEND

- # — Protected Tree with critical root zone area (Refer to Tree Treatment Schedule)
- # — Removal Tree
- RP — ROOT PRUNING
- Tree Protection Fencing

NOTICE:

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK

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TP 1.01 – TREE PROTECTION AND MITIGATION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
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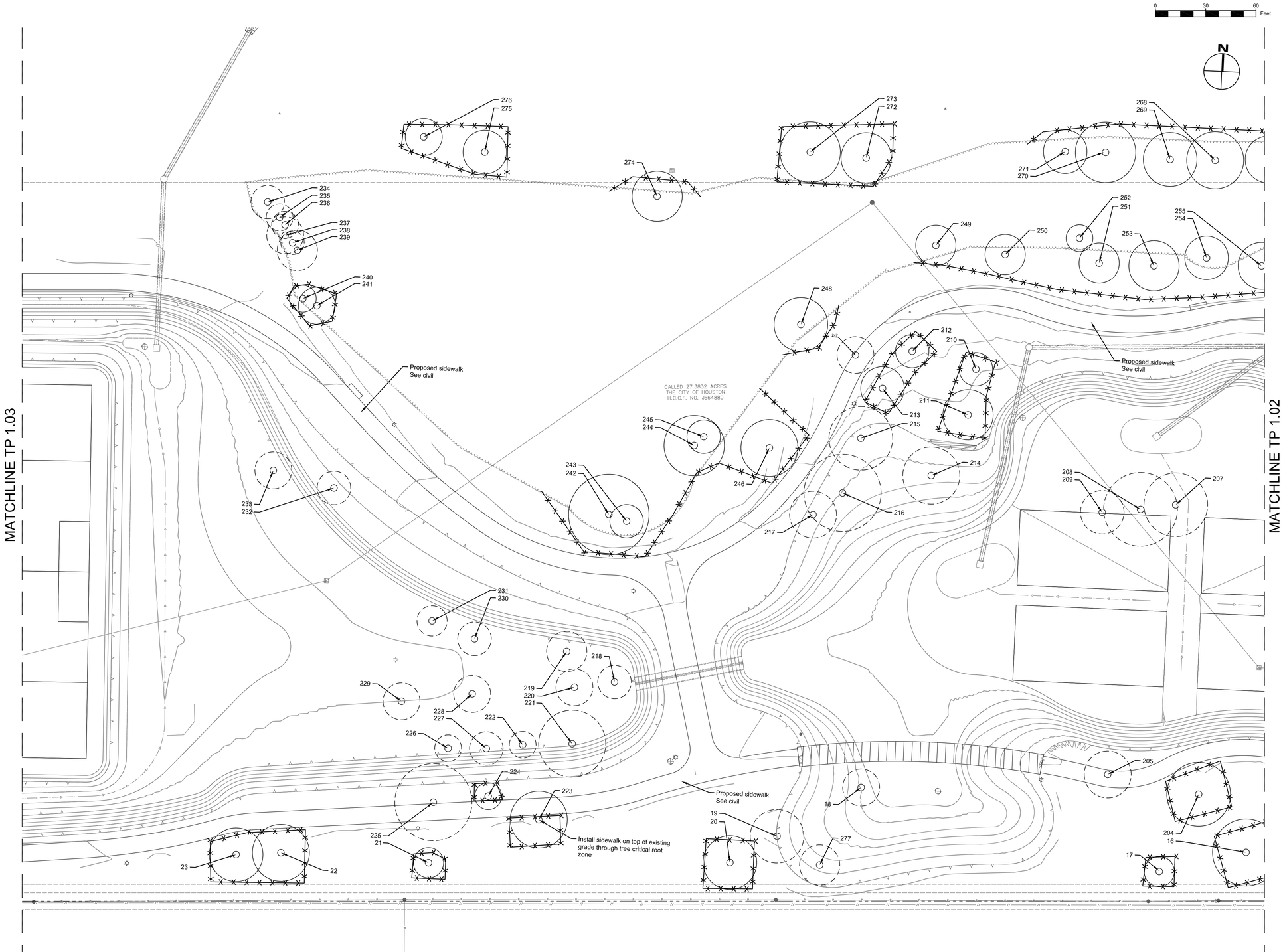
SHEET NO. 1 OF 42	



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CITY OF HOUSTON

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BOONE PARK

60% CONSTRUCTION DOCUMENTS

TP 1.02 – TREE PROTECTION AND MITIGATION PLAN

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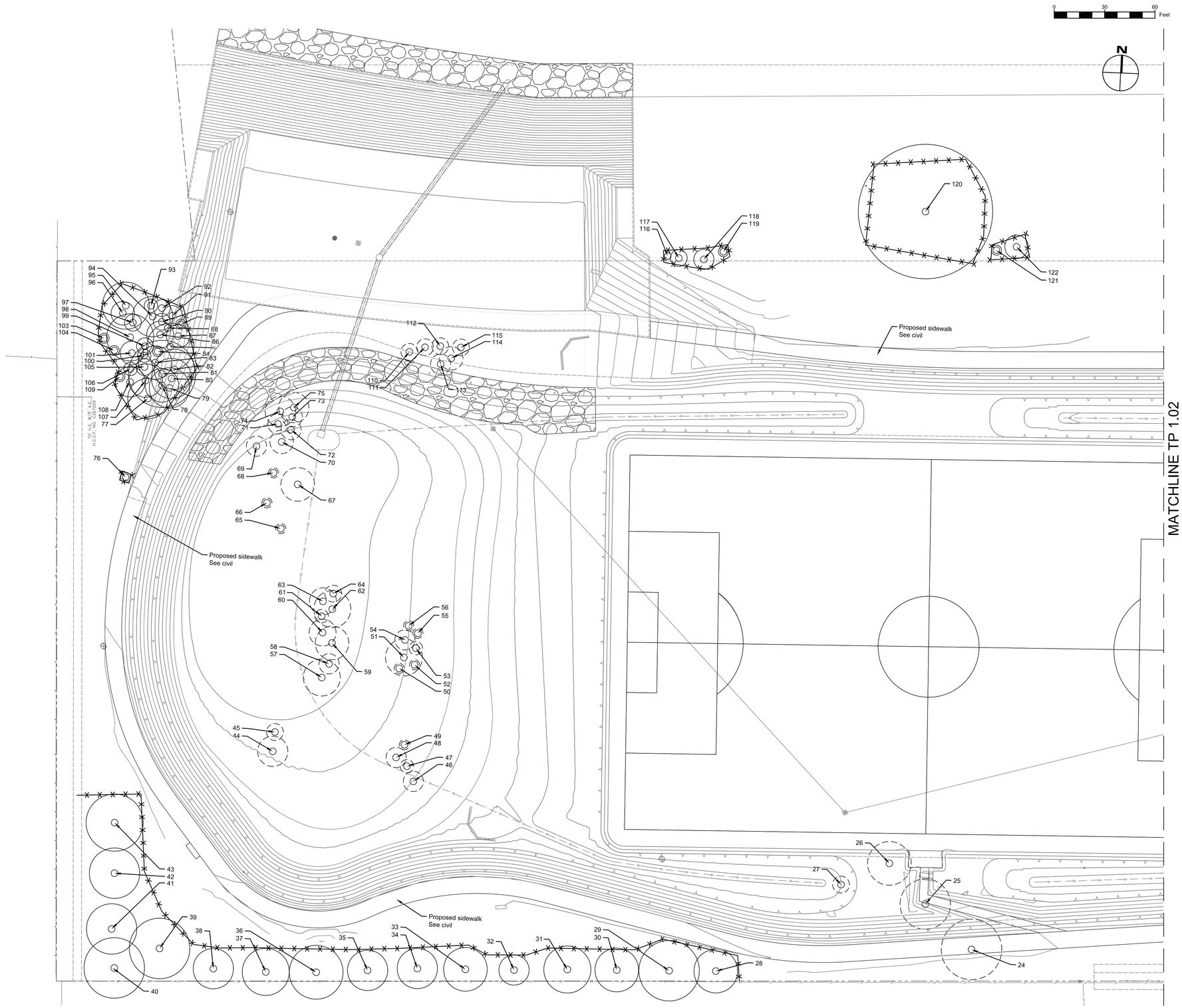
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 2 OF 42	



NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

NOTICE:
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VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

TP 1.03 – TREE PROTECTION AND MITIGATION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 3 OF 42	

TREE TREATMENT SCHEDULE

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
1	CREPEMYRTLE	10	GOOD	PRESERVE	D		
2	BUR OAK	9	GOOD	PRESERVE	D		
3	LACEBARK ELM	12	GOOD	PRESERVE	D		
4	LACEBARK ELM	17	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
5	BUR OAK	17	GOOD	PRESERVE	D		
6	LACEBARK ELM	12	GOOD	PRESERVE	D		
7	LIVE OAK	19	GOOD	PRESERVE	D		
8	BALDCYPRESS	12	GOOD	PRESERVE	D		
9	LIVE OAK	13	GOOD	PRESERVE	D		
10	LIVE OAK	20	GOOD	PRESERVE	D		
11	LIVE OAK	18	GOOD	PRESERVE	D		
12	LACEBARK ELM	7	POOR	REMOVE	A	NONE	RUNK SPLIT, REMOVE DUE TO POOR CONDITIC
13	LIVE OAK	16	GOOD	PRESERVE	D		
14	ARIZONA ASH	26	POOR	PRESERVE	D		MOST BRANCHES BROKEN
15	LIVE OAK	15	GOOD	PRESERVE	D		
16	LIVE OAK	20	GOOD	PRESERVE	D		
17	PECAN	9	GOOD	PRESERVE	D		
18	LIVE OAK	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
19	BALDCYPRESS	16	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
20	BALDCYPRESS	16	GOOD	PRESERVE	D		
21	LIVE OAK	9	GOOD	PRESERVE	D		
22	LIVE OAK	17	GOOD	PRESERVE	D		
23	LIVE OAK	16	GOOD	PRESERVE	D		
24	BUR OAK	18	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
25	BUR OAK	15	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
26	BUR OAK	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
27	BUR OAK	5	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
28	BUR OAK	13	GOOD	PRESERVE	D		
29	LACEBARK ELM	18	GOOD	PRESERVE	D		
30	LACEBARK ELM	13	GOOD	PRESERVE	D		
31	CEDAR ELM	14	GOOD	PRESERVE	D		
32	LACEBARK ELM	9	FAIR	PRESERVE	D		
33	LACEBARK ELM	13	GOOD	PRESERVE	D		
34	LACEBARK ELM	12	GOOD	PRESERVE	D		
35	CEDAR ELM	12	GOOD	PRESERVE	D		
36	CEDAR ELM	16	GOOD	PRESERVE	D		
37	LACEBARK ELM	14	GOOD	PRESERVE	D		
38	CEDAR ELM	12	GOOD	PRESERVE	D		
39	BALDCYPRESS	18	GOOD	PRESERVE	D		
40	BALDCYPRESS	18	GOOD	PRESERVE	D		
41	BALDCYPRESS	15	GOOD	PRESERVE	D		
42	BALDCYPRESS	15	GOOD	PRESERVE	D		
43	BALDCYPRESS	17	GOOD	PRESERVE	D		
44	LOBLOLLY PINE	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
45	BUR OAK	5	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
46	BUR OAK	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
47	RED OAK	4	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
48	SHUMARD OAK	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
49	SHUMARD OAK	3	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
50	BUR OAK	3	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
51	LOBLOLLY PINE	11	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
52	BUR OAK	3	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
53	BUR OAK	4	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
54	CEDAR ELM	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
55	SHUMARD OAK	3	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
56	SHUMARD OAK	3	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
57	CEDAR ELM	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
58	BUR OAK	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
59	LOBLOLLY PINE	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
60	LOBLOLLY PINE	8	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
61	BUR OAK	4	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
62	LOBLOLLY PINE	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
63	LOBLOLLY PINE	8	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
64	RED OAK	5	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
65	SHUMARD OAK	3	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
66	SHUMARD OAK	3	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
67	SHUMARD OAK	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
68	SHUMARD OAK	3	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
69	BALDCYPRESS	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
70	BUR OAK	7	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
71	LOBLOLLY PINE	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
72	LOBLOLLY PINE	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
73	LOBLOLLY PINE	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
74	LOBLOLLY PINE	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
75	CEDAR ELM	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
76	BALDCYPRESS	3	GOOD	PRESERVE	D		
77	CREPEMYRTLE	12	GOOD	PRESERVE	D		
78	CREPEMYRTLE	10	GOOD	PRESERVE	D		
79	CREPEMYRTLE	12	GOOD	PRESERVE	D		
80	CREPEMYRTLE	12	GOOD	PRESERVE	D		
81	CHINABERRY	20	FAIR	PRESERVE	D		MULTISTEMMED
82	CREPEMYRTLE	12	GOOD	PRESERVE	D		
83	CEDAR ELM	10	GOOD	PRESERVE	D		
84	CEDAR ELM	3	FAIR	PRESERVE	D		
85	CREPEMYRTLE	14	GOOD	PRESERVE	D		
86	CREPEMYRTLE	8	FAIR	PRESERVE	D		
87	CEDAR ELM	7	GOOD	PRESERVE	D		
88	BALDCYPRESS	2	POOR	PRESERVE	D		TOP MISSING
89	BALDCYPRESS	3	GOOD	PRESERVE	D		
90	CEDAR ELM	5	GOOD	PRESERVE	D		

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
91	CEDAR ELM	6	GOOD	PRESERVE	D		
92	CEDAR ELM	5	GOOD	PRESERVE	D		
93	RED OAK	4	FAIR	PRESERVE	D		
94	CREPEMYRTLE	12	GOOD	PRESERVE	D		
95	CREPEMYRTLE	14	GOOD	PRESERVE	D		
96	CEDAR ELM	7	GOOD	PRESERVE	D		
97	CEDAR ELM	5	GOOD	PRESERVE	D		
98	UNKNOWN	14	POOR	PRESERVE	D		FIRE DAMAGE AT BASE
99	BUR OAK	5	GOOD	PRESERVE	D		
100	Elm, Winged	4	GOOD	PRESERVE	D		
101	Shumard Oak	7	GOOD	PRESERVE	D		
102	BALDCYPRESS	3	FAIR	PRESERVE	D		
103	BALDCYPRESS	3	GOOD	PRESERVE	D		
104	BALDCYPRESS	3	GOOD	PRESERVE	D		
105	BALDCYPRESS	5	GOOD	PRESERVE	D		
106	BALDCYPRESS	4	GOOD	PRESERVE	D		
107	CREPEMYRTLE	10	GOOD	PRESERVE	D		
108	CEDAR ELM	9	FAIR	PRESERVE	D		
109	Shumard oak	3	GOOD	PRESERVE	D		
110	SWAMP CHESTNUT OAK	5	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
111	SWAMP CHESTNUT OAK	5	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
112	SWAMP CHESTNUT OAK	5	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
113	Shumard Oak	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
114	BUR OAK	7	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
115	RED OAK	5	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
116	BALDCYPRESS	2	GOOD	PRESERVE	D		
117	Shumard Oak	5	GOOD	PRESERVE	D		
118	OAK	6	GOOD	PRESERVE	D		
119	BALDCYPRESS	3	GOOD	PRESERVE	D		
120	BLACK WILLOW	40	FAIR	PRESERVE	D		HOLLOW BASE GOOD VIGOR
121	OAK	3	GOOD	PRESERVE	D		
122	OAK	7	GOOD	PRESERVE	D		
123	BUR OAK	6	GOOD	PRESERVE	D		
124	CREPEMYRTLE	7	GOOD	PRESERVE	D		
125	CEDAR ELM	7	GOOD	PRESERVE	D		
126	LACEBARK ELM	15	GOOD	PRESERVE	D		
127	CEDAR ELM	8	GOOD	PRESERVE	D		
128	CREPEMYRTLE	9	DEAD	PRESERVE	D		
129	CEDAR ELM	11	GOOD	PRESERVE	D		
130	CREPEMYRTLE	8	GOOD	PRESERVE	D		
131	CREPEMYRTLE	9	GOOD	PRESERVE	D		
132	CREPEMYRTLE	14	GOOD	PRESERVE	D		
133	CREPEMYRTLE	14	GOOD	PRESERVE	D		
134	CREPEMYRTLE	12	GOOD	PRESERVE	D		
135	LIVE OAK	14	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
136	CREPEMYRTLE	14	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
137	CREPEMYRTLE	15	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
138	CREPEMYRTLE	14	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
139	LIVE OAK	14	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
140	LIVE OAK	14	GOOD	PRESERVE	DI		ZERO CURB CUT DURING PAVEMENT REPLACEMENT
141	YAUPON	6	GOOD	PRESERVE	D		
142	YAUPON	5	GOOD	PRESERVE	D		
143	YAUPON	5	GOOD	PRESERVE	D		
144	CREPEMYRTLE	9	GOOD	PRESERVE	D		
145	CREPEMYRTLE	11	GOOD	PRESERVE	D		
146	CREPEMYRTLE	12	GOOD	PRESERVE	D		
147	CREPEMYRTLE	12	GOOD	PRESERVE	D		
148	CREPEMYRTLE	17	GOOD	PRESERVE	D		
149	CREPEMYRTLE	8	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
150	CREPEMYRTLE	7	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
151	CREPEMYRTLE	7	GOOD	PRESERVE	D		
152	LIVE OAK	19	GOOD	PRESERVE	D		
153	BUR OAK	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
154	BUR OAK	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
155	BUR OAK	15	GOOD	PRESERVE	D		
156	BALDCYPRESS	10	GOOD	PRESERVE	D		
157	BALDCYPRESS	11	GOOD	PRESERVE	D		
158	BALDCYPRESS	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
159	LIVE OAK	16	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
160	LIVE OAK	22	GOOD	PRESERVE	D		
161	CEDAR ELM	15	GOOD	PRESERVE	D		
162	CEDAR ELM	13	GOOD	PRESERVE	D		
163	ARIZONA ASH	29	GOOD	PRESERVE	D		
164	LIVE OAK	17	GOOD	PRESERVE	D		
165	BUR OAK	14	GOOD	PRESERVE	DG		ROOT PRUNE AT NEW SIDEWALK EDGE
166	BUR OAK	12	GOOD	PRESERVE	DG		ROOT PRUNE AT NEW SIDEWALK EDGE
167	BUR OAK	12	GOOD	PRESERVE	DG		ROOT PRUNE AT NEW SIDEWALK EDGE
168	BUR OAK	10	GOOD	PRESERVE	D		
169	BUR OAK	9	GOOD	PRESERVE	D		
170	BUR OAK	7	GOOD	PRESERVE	D		
171	WHITE OAK	18	GOOD	PRESERVE	D		
172	CREPEMYRTLE	12	GOOD	PRESERVE	D		
173	WHITE OAK	17	GOOD	PRESERVE	D		
174	CEDAR ELM	12	GOOD	PRESERVE	D		
175	CREPEMYRTLE	16	GOOD	PRESERVE	D		
176	LIVE OAK	15	GOOD	PRESERVE	D		
177	LIVE OAK	22	GOOD	PRESERVE	D		
178	WHITE OAK	17	GOOD	PRESERVE	D		
179	WHITE OAK	18	GOOD	PRESERVE	D		
180	LACEBARK ELM	13	FAIR	PRESERVE	D		LARGE BRANCH WOUNDS HEALING

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

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VERIFICATION OF PRIVATE UTILITY LINES

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SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

TP 1.04 – TREE TREATMENT SCHEDULE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 4 OF 42	

TREE TREATMENT SCHEDULE

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
181	BALDCYPRESS	7	GOOD	PRESERVE	D		
182	BALDCYPRESS	9	GOOD	PRESERVE	D		
183	BALDCYPRESS	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
184	BALDCYPRESS	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
185	BALDCYPRESS	8	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
186	BALDCYPRESS	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
187	LIVE OAK	10	FAIR	PRESERVE	D		LOTS OF EPICORMIC SPROUTS
188	LIVE OAK	15	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
189	LIVE OAK	16	GOOD	PRESERVE	D		
190	LIVE OAK	20	GOOD	PRESERVE	D		LARGE EXPOSED ROOTS
191	WHITE OAK	13	GOOD	PRESERVE	D		
192	LIVE OAK	23	GOOD	PRESERVE	D		
193	BALDCYPRESS	11	GOOD	PRESERVE	D		
194	LAUREL OAK	16	GOOD	PRESERVE	D		
195	LIVE OAK	25	GOOD	PRESERVE	D		
195B	LAUREL OAK	15	GOOD	PRESERVE	D		
196	BALDCYPRESS	8	GOOD	PRESERVE	D		
197	BALDCYPRESS	11	GOOD	PRESERVE	D		
198	BALDCYPRESS	11	GOOD	PRESERVE	D		
199	BALDCYPRESS	16	GOOD	PRESERVE	D		
200	LIVE OAK	20	GOOD	PRESERVE	D		
201	CREPEMYRTLE	10	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
202	LIVE OAK	17	GOOD	PRESERVE	D		
203	PECAN	10	GOOD	PRESERVE	D		
204	BALDCYPRESS	19	GOOD	PRESERVE	D		
205	LIVE OAK	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
206	AMERICAN SYCAMORE	10	POOR	REMOVE	A	NONE	HALF OF TRUNK MISSING, REMOVE DUE TO POOR CONDITION
207	ARIZONA ASH	19	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
208	ARIZONA ASH	22	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
209	ARIZONA ASH	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
210	BUR OAK	10	GOOD	PRESERVE	D		
211	BUR OAK	15	GOOD	PRESERVE	D		
212	BUR OAK	10	GOOD	PRESERVE	D		
213	BUR OAK	13	GOOD	PRESERVE	D		
214	ARIZONA ASH	17	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
215	ARIZONA ASH	19	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
216	ARIZONA ASH	23	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
217	ARIZONA ASH	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
218	BUR OAK	10	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
219	BALDCYPRESS	12	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
220	LOBLOLLY PINE	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
221	LIVE OAK	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
222	BUR OAK	8	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
223	LIVE OAK	17	GOOD	PRESERVE	D		INSTALL SIDEWALK ON TOP OF EXISTING GRADE THROUGH TREE CRITICAL ROOT ZONE
224	BUR OAK	8	FAIR	PRESERVE	D		LEANING HEAVILY
225	LIVE OAK	23	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
226	BUR OAK	8	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
227	LOBLOLLY PINE	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
228	LOBLOLLY PINE	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
229	SWEETGUM	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
230	LOBLOLLY PINE	10	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
231	SWEETGUM	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
232	CEDAR ELM	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
233	PECAN	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
234	LACEBARK ELM	10	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
235	LOBLOLLY PINE	8	DEAD	REMOVE	A	NONE	DEAD,HAZARD REMOVE
236	LOBLOLLY PINE	8	DEAD	REMOVE	A	NONE	DEAD,HAZARD REMOVE
237	LOBLOLLY PINE	11	DEAD	REMOVE	A	NONE	DEAD,HAZARD REMOVE
238	LOBLOLLY PINE	7	DEAD	REMOVE	A	NONE	DEAD,HAZARD REMOVE
239	LOBLOLLY PINE	12	DEAD	REMOVE	A	NONE	DEAD,HAZARD REMOVE
240	LACEBARK ELM	8	GOOD	PRESERVE	D		
241	LACEBARK ELM	11	GOOD	PRESERVE	D		
242	CHINESE TALLOW	24	FAIR	PRESERVE	D		5 STEMS, ALONG EDGE OF FOREST
243	LACEBARK ELM	10	GOOD	PRESERVE	D		
244	LIVE OAK	18	GOOD	PRESERVE	D		
245	LACEBARK ELM	10	GOOD	PRESERVE	D		
246	SUGARBERRY	17	GOOD	PRESERVE	D		
247	BUR OAK	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
248	LACEBARK ELM	16	GOOD	PRESERVE	D		MULTISTEMMED
249	CEDAR ELM	12	GOOD	PRESERVE	D		
250	LACEBARK ELM	12	FAIR	PRESERVE	D		SHORT, SHRUB FORM
251	CEDAR ELM	12	GOOD	PRESERVE	D		
252	LACEBARK ELM	8	GOOD	PRESERVE	D		
253	BUR OAK	15	GOOD	PRESERVE	D		
254	LACEBARK ELM	13	GOOD	PRESERVE	D		
255	LIVE OAK	14	GOOD	PRESERVE	D		
256	SUGARBERRY	14	GOOD	PRESERVE	D		
257	SUGARBERRY	10	GOOD	PRESERVE	D		
258	WATER OAK	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
259	LIVE OAK	21	GOOD	PRESERVE	D		
260	LIVE OAK	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
261	BALDCYPRESS	7	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
262	SUGARBERRY	7	GOOD	PRESERVE	D		
263	CHINESE TALLOW	17	GOOD	PRESERVE	D		3 STEMS
264	Shumard Oak	8	GOOD	PRESERVE	D		
265	CHINESE TALLOW	26	GOOD	PRESERVE	D		6 STEM CLUSTER
266	LIVE OAK	14	GOOD	PRESERVE	D		
267	LIVE OAK	15	GOOD	PRESERVE	D		
268	LIVE OAK	17	GOOD	PRESERVE	D		
269	LIVE OAK	16	GOOD	PRESERVE	D		
270	LIVE OAK	18	GOOD	PRESERVE	D		
271	LIVE OAK	13	GOOD	PRESERVE	D		
272	LIVE OAK	15	GOOD	PRESERVE	D		
273	LIVE OAK	18	GOOD	PRESERVE	D		
274	LACEBARK ELM	15	FAIR	PRESERVE	D		2 STEMS
275	BALDCYPRESS	13	GOOD	PRESERVE	D		
276	BALDCYPRESS	11	POOR	PRESERVE	D		POOR FORM, NO TOP
277	BALDCYPRESS	12	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION

TREE TREATMENT SUMMARY			
STATUS/TREATMENT		**Total Trees**	**Total Inches**
REMOVE FOR CONSTRUCTION		80	776
REMOVE DUE TO POOR/DEAD CONDITION		11	90
TOTAL REMOVALS		**91**	**866**
MITIGATION REQUIRED			763
FENCING	9,230	LINEAR FEET	
ROOT PRUNING	83	LINEAR FEET	
REPLACEMENT PLANTING (No. of Trees)		194	4" CALIPER

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

NOTICE:
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VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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Signature valid for one year.

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TP 1.05 – TREE TREATMENT SCHEDULE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 5 OF 42	

TREE TREATMENT SPECIFICATIONS AND DETAILS

TREE PRESERVATION AND TREATMENT SPECIFICATIONS

These Specifications are supplemental to the City of Houston Standard Specifications, Section 01562–Tree and Plant Protection.

PART 1 – GENERAL

1.1 SUMMARY

A. Work includes:

1. Removal operation.
2. Maintenance pruning.
3. Fertilization treatment.
4. Tree protection fencing installation.
5. Mulching operation.
6. Root pruning operation.
7. Root pruning/chemical barrier operation.
8. Utility boring operation.
9. Zero curb cut operation.
10. Transplant operation.
11. Replacement planting.
12. Repair/replacement operation.
13. Sidewalk installation.

B. All Contractors shall meet with the Urban Forester or Owner's Representative to review the Tree Preservation Plan for the site before startup of site work.

C. No site construction shall begin in any areas where tree preservation and treatment measures have not been implemented and approved.

D. Tree preservation and treatment measures shall be reviewed and approved by the Urban Forester or Owner's Representative prior to and immediately following installation.

E. Contractor shall be responsible for compliance to and maintenance of the Tree Preservation Plan.

F. The areas protected by the tree protection fencing are the tree preservation areas. No access to these areas shall be permitted during the construction period without first consulting with the Urban Forester or Owner's Representative.

G. Any roots of preservation trees exposed by construction activity shall be covered with a layer of light topsoil or 10 mil. polyethylene sheeting to prevent desiccation and loss of exposed roots.

H. Any work, excavation, or grading required by construction within the tree preservation areas shall be limited to 2" cut or fill with no roots over 1/2" being cut. This work shall be by hand or with approved equipment and root protection.

I. Trees damaged or lost due to Contractor's negligence during the construction period shall be appraised by the Urban Forester or Owner's Representative and the Owner compensated.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Fertilizer – "XL Injecto Feed" (32–7–7), a product of Dogget Corporation, Lebanon, NJ, (800) 448–1862.

B. Mycorrhizal Fungi – MycorTree Ecto–Injectable, a product of Plant Health Care, Inc., (800) 421–9051.

C. Tree Protection Fencing:

1. 4' tall plastic, 1" mesh fence.
2. Iron T–bar posts, 6' tall.
3. Wire, 16 gauge ties.

D. Polyethylene Sheeting: minimum 10 mil. thickness, clear.

E. Mulch: First run mulch or site generated mulch.

F. Products of the same type from other sources shall not be excluded, provided they have like physical and functional characteristics and are approved by the Urban Forester or Owner's Representative.

G. Every effort shall be made to utilize chemicals of an organic or biogradable nature in order to offer the least impact to the environment.

PART 3 – IMPLEMENTATION

3.1 TREATMENTS

A. Removal Operation: (Treatment A).

1. Trees designated to be removed by hand on the Tree Preservation Plan shall be painted with an "X" by the Urban Forester or Owner's Representative.
2. Designated removal trees shall be replaced on an inch for inch basis for the total diameter inches removed.
3. Plant replacement trees as near as possible to their original location (See planting procedure).
4. All tree removals shall be done by a certified Arborist by hand work.
5. All wood and debris from tree removal shall be removed from the site immediately.
6. All stumps shall be ground down to 12" below grade.
7. Any damage to preservation trees occurring during the removal operation shall be repaired.

B. Maintenance Pruning: (Treatment B).

1. Trees to be pruned are designated on the Tree Treatment Schedule and will be identified by the Urban Forester or Owner's Representative.
2. All maintenance pruning work shall be done by a certified Arborist.
3. A Tree Treatment Schedule listing the preservation trees and treatments will be provided.
4. Pruning shall consist of the following method:
   (a) Pruning as defined by the American National Standard for Tree Care Operations – Tree Shrub and Other Woody Plant Maintenance Standards. This would include:
      (1) Crown raising or clearance pruning shall consist of the removal of the lower branches of a tree to provide clearance for streets and sidewalks while maintaining a balanced form.
   (b) All pruning cuts on Oak trees shall be covered with a thin coat of water based black paint approved by Urban Forester or Owner's Representative if pruning is to occur in April, May, or June.
   (c) All wood and debris from pruning operations shall be removed from the site.

C. Fertilization Treatment – (Treatment C).

1. Preservation trees shall be treated as designated on the Tree Treatment Schedule.
2. Injection of the fertilizer into the root zone of a tree shall consist of the following methods:
   (a) Mix in a tank with agitation capability:
      (1) Fertilizer – 9 pounds by weight per 100 gallons water.
      (2) Mycorrhizal Fungi – 1 lb. per 100 gallons water.
   (b) Inject the Mixture on a 2.5 ft. square grid at 1/2 gallon of mix per hole or 8 gallons per 100 square feet.
   (c) Injection pressure shall be 100–150 PSI as soil conditions warrant.
   (d) Depth of injection shall be 6 – 12 inches.
   (e) Inject the root zone areas, where possible, in the available canopy areas plus 10 feet beyond dripline, but not in root loss zone.
3. Contractor is responsible for mixing, applying and disposal of all chemicals in accordance with strict adherence to manufacturer's directions and/or State and Federal Regulations.

D. Tree Protection Fencing Installation (Treatment D – refer to Tree Preservation Details).

1. Tree protection fencing is designated in the Tree Preservation Plan.
2. Fencing as follows:
   (a) Fabric, 4' tall plastic fence.
   (b) Iron T–bar posts, 6' tall, placed 8' – 0" on center, 24" into the ground.
   (c) Fence is to be attached to posts with wire ties placed every 24" on center.
   (d) Fence is to be placed a minimum of 1 foot from all root prune lines.
3. No access to fenced areas shall be permitted without prior approval of the Urban Forester or Owner's Representative.
4. Contractor shall provide for maintenance and repair of fencing during site work

E. Mulching Operations (Treatment E).

1. A 4" layer of mulch shall be placed in the canopy area of trees where exposed soil or roots are present.
2. Approved access through the canopy areas foar construction equipment or vehicles shall be covered with 6" of mulch covered by 3/4" plywood.

F. Root Pruning Operation (Treatment F – refer to Tree Preservation Details).

1. Trenching areas are designated in the Tree Preservation Plan and exact locations will be marked in the field by the Urban Forester or Owner's Representative.
2. All encroachments located in the canopy of trees shall have the tree side of the excavation root pruned before excavation.
3. Trenching shall be backfilled and compacted immediately after trenching.
4. Trenching shall be backfilled and compacted immediately after trenching.
5. All excavated material shall be placed outside the canopy of the tree or on plywood cover under the canopy of the tree to protect the root zone area.
6. Topsoil should be kept aside so as not to mix with sub grade material and placed back in the pit on the top of the backfill.

G. Root Pruning/Chemical Barrier Installation (Treatment G–refer to Tree Treatment Details).

1. Root Pruning Chemical barrier shall be installed where root pruning is scheduled to be done at the back of curb line for the new curb line.
2. All specifications for root pruning trenching shall apply to this installation with the following additional requirements:
   (a) 10 mil Polyethylene sheeting shall be placed in the trench to the bottom of the trench.
   (b) Anchor sheeting at the top of the trench in order to backfill the trench.
   (c) Cover the top of the sheeting so that no sheeting is exposed.

H. Utility Boring (Treatment H.).

1. All utilities will be bored through the Critical Root Zone (CRZ) of all protected trees.
2. Bore pits will be outside the CRZ of each protected tree.
3. Bore layout must be approved in the field by the Urban Forester or Owner's Representative.
4. Any necessary excavations within the CRZ of protected trees will require the approval of the Urban Forester or Owner's Representative.

I. Zero Curb Cut Operation (Treatment I–refer to Tree Treatment Details).

1. Removal of the old curb located within the canopy area of preservation trees will be done in the following manner:
   (a) Dig our the existing street in front of curb to the bottom of existing curb.
   (b) Remove existing curb by pulling it into the street excavation without digging or clawing behind the curb.
   (c) Cover the exposed soil and roots immediately with 10 mil clear plastic to prevent desiccation of roots.
   (d) Anchor the plastic cover with wooden stakes driven into the soil (avoiding tree roots) behind the old curb edge.
   (e) Plastic shall be removed at the same time as backfill is being placed so that the roots are not exposed to air.
   (f) New curb installation shall be formed and poured without disturance or damage to the exposed roots located at the edge of the oldremoved curb.
   (g) Where necessary, backfill between the old and new curb area shall consist of:
      (1) Backfill void up to within 6" of the top of the curb with a material acceptable to engineering standards. This material shall be clean and free of rocks, debris, or chemical residues that pose a threat to the root environment.
      (2) The remaining 6" of fill behind the curb shall be of the specified topsoil mix.
   (h) Back fill behind the old curb area (Tree Preservation Area) shall consist of the specified topsoil mix. This mix shall be applied in depths of no greater than 3" to the critical root zones of the protected trees by hand.

J. Transplant Operation (Treatment J refer to Tree Treatment Details).

1. Trees designated for transplanting are designated in the Tree Treatment Schedule.
2. Transplants are to be relocated to a location determined by the Urban Forester or Owner's Representative.
3. Contractor shall be responsible for proper relocation, planting, and maintenance of the transplanted trees for one (1) year.

K. Replacement Planting (Refer to Tree Treatment Details).

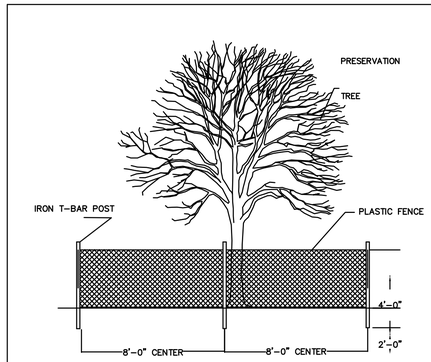
1. Replacement tree planting locations shall be indicated by the owner's representative.
2. Contractor is responsible for verifying locations of underground utilities prior to construction.
3. Trees shall be planted at least five (5') feet from any utility line, curb or sidewalk and outside all utility easements.
4. All plant material shall be maintained in a healthy growing condition, and must be replaced with plant material of similar variety and size if damaged, destroyed, diseased, or removed.
5. Measurement: Dimensions of trees and shrubs shall conform to the American Standard for Nursery Stock, latest edition (ANSI Z–60).
6. All trees shall be staked and secured according to accepted industry practice and details.
7. Each newly planted tree and shrub shall be pruned in accordance with the American Association of Nurserymen Standards or as directed by owner's representative to preserve the natural character of the plant. All dead wood, sucker, and broken or badly bruised branches shall be removed.
8. Guarantee: All plant material shall be guaranteed by the contractor for one full year from the date of installation. The owner shall be responsible for maintenance unless otherwise agreed with contractor. It shall be the contractor's responsibility to monitor the project during the guarantee period and inform the owner if problems develop with the plant material. A plant shall be considered dead if 25% or more of the crown, or main leader has died.

L. Repair/Replacement Operations

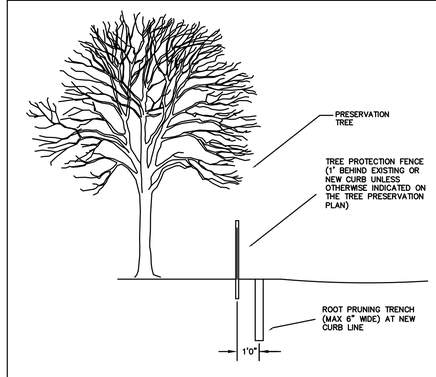
1. If any damage to preservation trees should occur beyond what is expected during the construction period, the Urban Forester or Owner's Representative shall appraise the damage and order the repair by the contractor or responsible party.
2. Trees other than those designated for removal that are destroyed or irreparably damaged as a result of construction operations, shall be removed and replaced with the same size species and variety up to and including 8 inches in diameter. Trees larger than 8 inches in diameter shall be replaced with an 8–inch diameter tree of the same species and variety and total contract amount will be reduced as determined by a qualified appraiser using the Guide for Plant Appraisal published by the International Society of Arboriculture (9th Edition 2000).
3. Owner shall be compensated for all costs involved in mitigation of damages and the appraisal thereof by the Urban Forester or Owner's Representative.

M. Sidewalk Installation (Treatment M)

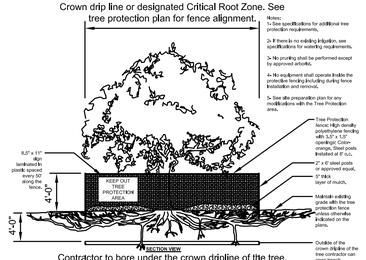
1. Route new sidewalks as far away from tree trunks as possible.
2. New sidewalks to be installed in the Critical Root Zone of protected trees shall be installed without excavating into grade and destroying vital roots.
3. Where possible, install new sidewalks in the footprint of the old sidewalks without disturbing underlying roots or existing grade.
4. Demolition of old sidewalks shall be done without disturbing underlying roots or existing grade.
5. All roots exposed from either demolition of an existing sidewalk or removal of vegetation cover shall be covered with 10 millimeter plastic sheeting or 2 inches of sand to prevent desiccation of roots.
6. No stabilized sand shall be used for sidewalks or in the Critical Root Zonees of protected trees. Substitute geo–textile fabric for stabilized base.
7. Positive drainage must be maintained or provided in the Critical Root Zone where new sidewalks are to be installed.



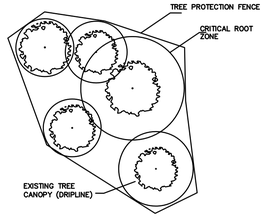
D/1 FRONT VIEW – TREE PROTECTION FENCING DETAIL
NOT TO SCALE



F SIDEVIEW – ROOT PRUNING DETAIL
NOT TO SCALE



H TREE PROTECTION – BORING UNDER CRITICAL ROOT ZONE
NOT TO SCALE



D/2 PLAN VIEW – TREE PROTECTION FENCING GROUPING OF TREES
NOT TO SCALE

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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)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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TP 1.06 – TREE TREATMENT SPECIFICATIONS AND DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–420HUD–013A–3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 6 OF 42	

L1.01 - DETAIL CALLOUT PLAN

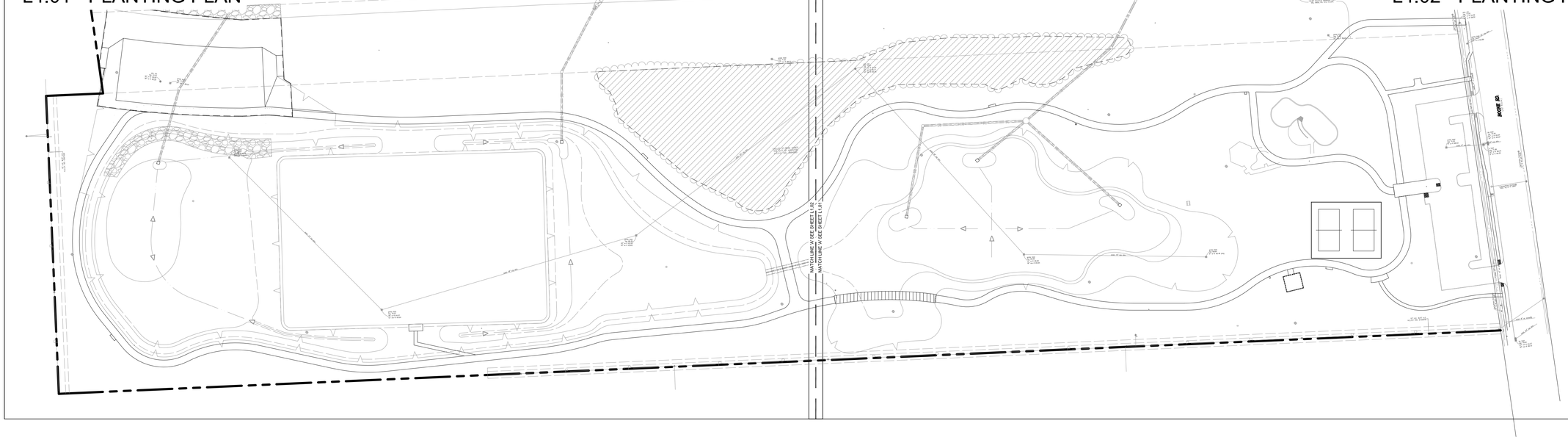
L3.01 - IRRIGATION PLAN

L4.01 - PLANTING PLAN

L1.02 - DETAIL CALLOUT PLAN

L3.02 - IRRIGATION PLAN

L4.02 - PLANTING PLAN



0 40' 80' 160'

Scale: 1" = 80'

N

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L0.00 – Orienation Plan

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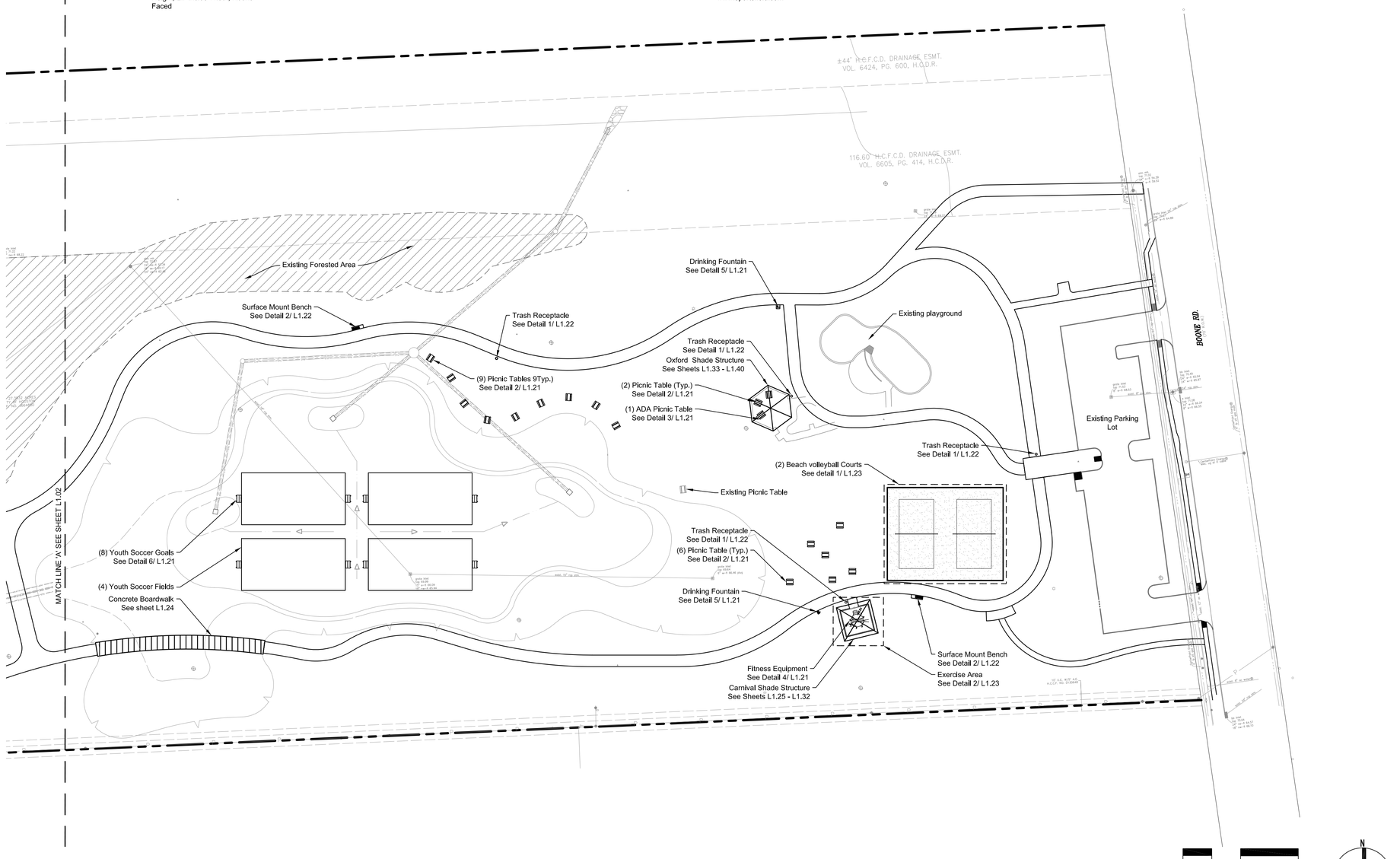
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 7 OF 42	

FURNISHINGS

SYMBOL	DESCRIPTION	QTY	DETAIL	MANUFACTURER	MODEL	FINISH/COLOR	CONTACT	REMARKS
	6' Pilot RockSingle Pedestal Contour Bench	6	2/L1.22	Pilot Rock	OWRB	Black posts, heart redwood	BJ`s Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Lumber timbers, emdedded post.
	Typical H-Frame & Barrel Trash Receptacle	5	1/L1.22					
	6' MyTCoat Rectangular Portable Table	17	2/L1.21	MyTCoat	TRT06-B-01-000	Brown webcoat, black frame	BJ`s Parks & Recreatioal Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
	8' MyTCoat Rectangluar Portable Table - Accessible (1-End)	1	3/L1.21	MyTCoat	TRT08-B-01-000	Brown webcoat, black frame	BJ`s Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
	Elkay Outdoor Bi-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated	3	5/L1.21	Elkay	LK4420DB	Evergreen	Miller Mays & Associates www.millermays.com (E) joseph@millermays.com (T) 713.690.7411	Surface mount
	Youth, 4'x6' Soccer Goal, Round Faced	12	6/L1.21	Sportsfield Specialties	SG46	White Powder Coat	Sportsfield Specialties www.sportsfield.com	Do not install nets, give nets to owner.
	Regulation Soccer Goal, 8' Inside Height, 24' Inside Width, Round Faced	2	7/L1.21	Sportsfield Specialties	SG824R	White Powder Coat	Sportsfield Specialties www.sportsfield.com	Do not install nets, give nets to owner.



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L1.01 – Detail Callout Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
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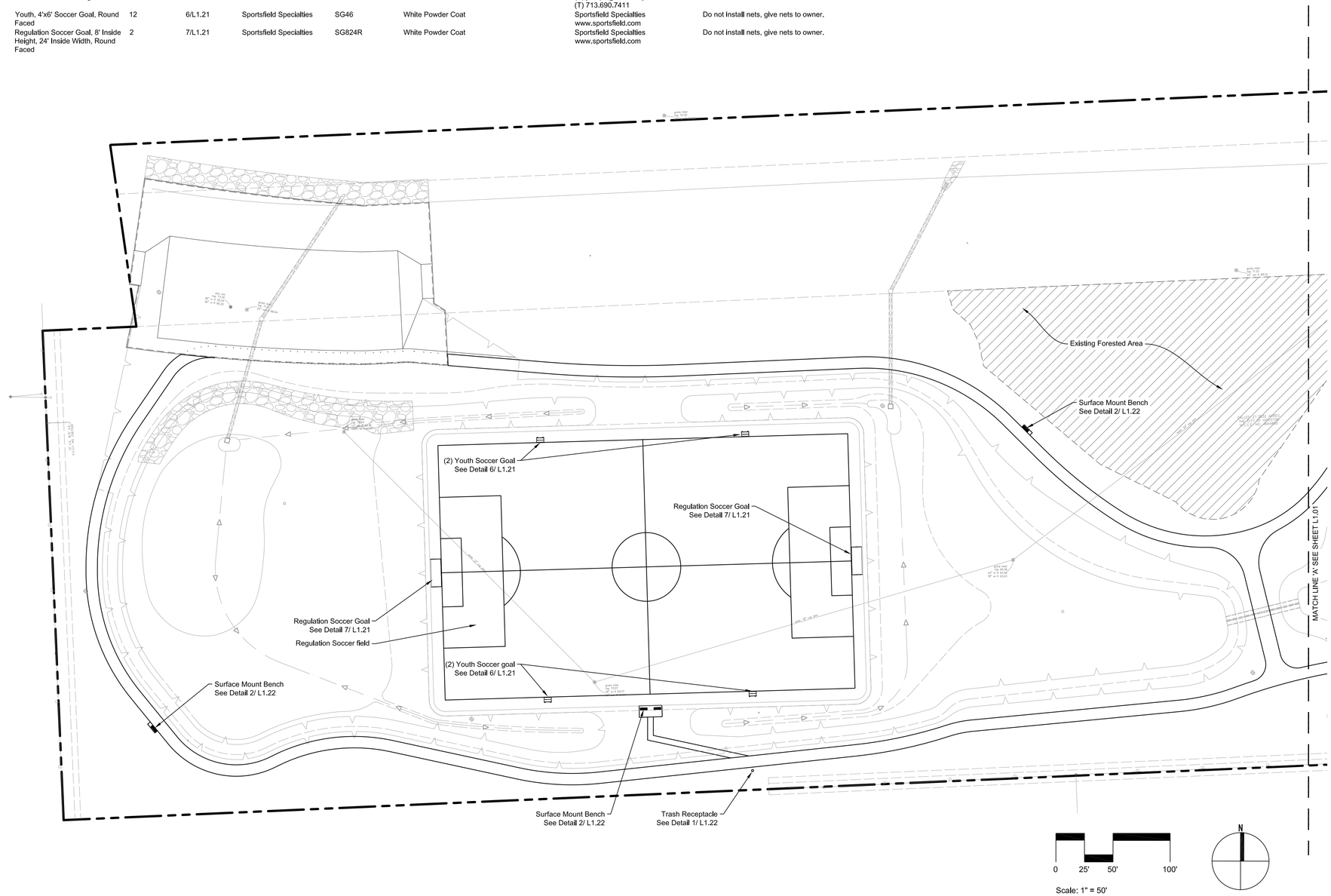
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 8 OF 42	

FURNISHINGS

SYMBOL	DESCRIPTION	QTY	DETAIL	MANUFACTURER	MODEL	FINISH/COLOR	CONTACT	REMARKS
▬	6' Pilot RockSingle Pedestal Contour Bench	6	2/L1.22	Pilot Rock	OWRB	Black posts, heart redwood	BJ`s Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Lumber timbers, emdedded post.
⚬	Typical H-Frame & Barrel Trash Receptacle	5	1/L1.22					
▭	6' MyTCoat Rectangular Portable Table	17	2/L1.21	MyTCoat	TRT06-B-01-000	Brown webcoat, black frame	BJ`s Parks & Recreatioal Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
▭	8' MyTCoat Rectangluar Portable Table - Accessible (1-End)	1	3/L1.21	MyTCoat	TRT08-B-01-000	Brown webcoat, black frame	BJ`s Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
⚬	Elkay Outdoor Bi-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated	3	5/L1.21	Elkay	LK4420DB	Evergreen	Miller Mays & Associates www.millermays.com (E) joseph@millermays.com (T) 713.690.7411	Surface mount
▭	Youth, 4'x6' Soccer Goal, Round Faced	12	6/L1.21	Sportsfield Specialties	SG46	White Powder Coat	Sportsfield Specialties www.sportsfield.com	Do not install nets, give nets to owner.
▭	Regulation Soccer Goal, 8' Inside Height, 24' Inside Width, Round Faced	2	7/L1.21	Sportsfield Specialties	SG824R	White Powder Coat	Sportsfield Specialties www.sportsfield.com	Do not install nets, give nets to owner.



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L1.02 – Detail Callout Plan

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SHEET NO. 9 OF 42	

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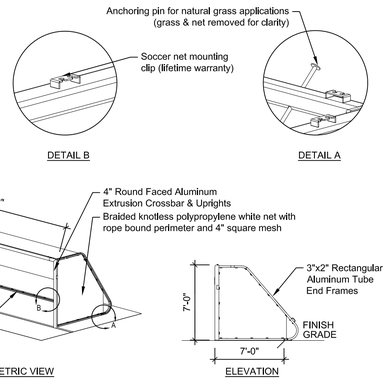
PHONE: (607) 746-8911
FAX: (607) 746-8911
www.sportsfield.com

☐ SELECT DESIRED MODEL:
☑ SG824R
☐ SG721R (SHOWN)
☐ SG618R

NOTES:

a. SG824R - Regulation, 8' inside height, 24' inside width round faced, white powder coat finish
b. No wheel kits
c. Do not install nets to soccer goal, give nets to owner.

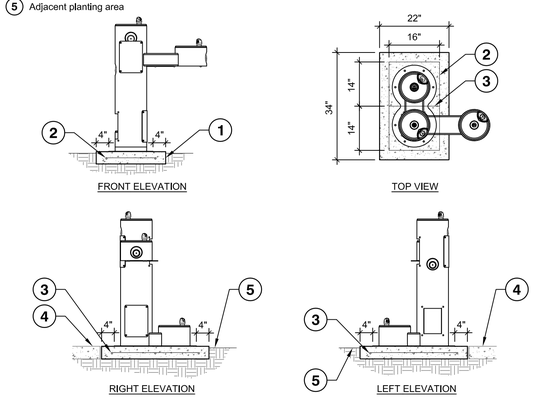


7 REGULATION SOCCER GOAL (SG824R)

3/8" = 1'-0" MU-1537-HARD-22

Detail Callout Legend:

1. 4" Thick concrete slab
2. #3 rebar 16" O.C.
3. #3 rebar 14" O.C.
4. Concrete sidewalk, ref. civil
5. Adjacent planting area

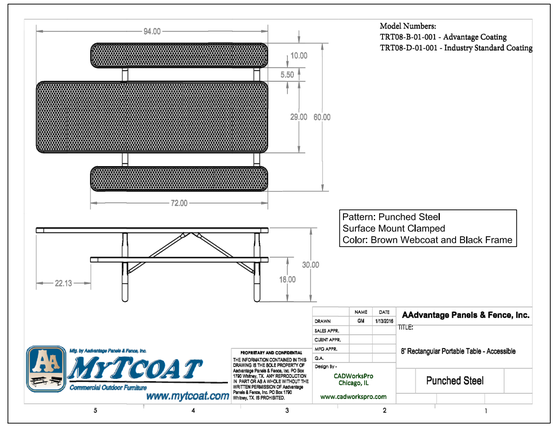


NOTES:

a. Elkay outdoor bi-level pedestal fountain with pet station, non-filtered non-refrigerated
b. Finish: evergreen.
c. Install per manufacturer's specifications.
d. See civil for fountain water connection and drainage.

5 ELKAY OUTDOOR DRINKING FOUNTAIN (#LK4420DB)

Not to Scale



3 8' PICNIC TABLE BY MYTCOAT (MODEL# TRT08-B-01-000)

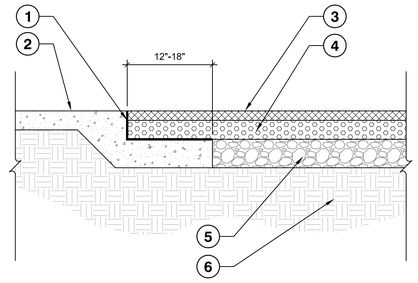
Not to Scale

Detail Callout Legend:

1. Primer
2. Concrete curb or concrete stop
3. Flexiturf, 1/2" minimum thickness
4. Flexiturf base layer (thickness varies)
5. Type II stone, 4" minimum thickness compacted to 95%
6. Compacted subgrade

NOTES:

a. Installation to be completed in accordance with manufacturer's specifications.
b. All dimensions are considered true and reflect manufacturer's specifications.



1 POUR-IN-PLACE RUBBER SURFACE

3/4" = 1'-0"

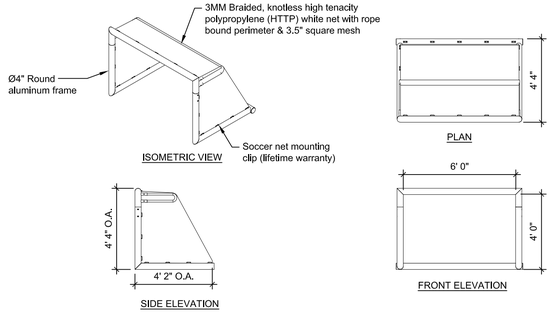
SPORTSFIELD SPECIALTIES

SPORTSFIELD SPECIALTIES INC
41155 STATE HIGHWAY 10
DELHI, NY 13753
TOLL FREE: 1-888-9753343
PHONE: (607) 746-8911
FAX: (607) 746-8911
www.sportsfield.com

SPECIFICATIONS:
Construction: high strength, tig welded aluminum construction
Finish: white super durable powder coated finish
- Integrated aluminum net clips guaranteed for life of the goal
- Includes white 3mm braided, knotless soccer net

NOTES:

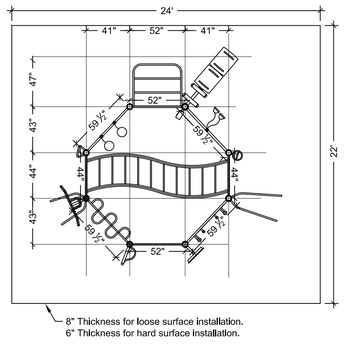
a. SG46 - Youth 4'x6' round faced, white powder coat finish
b. No wheel kits
c. Do not install nets to soccer goal, give nets to owner.



6 YOUTH SOCCER GOAL (SG721R))

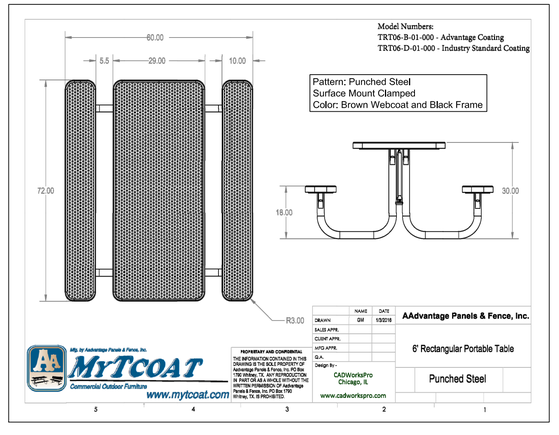
Not to Scale MU-1537-HARD-23

Greenfields Outdoor Fitness
Promoting Wellness & Fighting Obesity One Community at a Time.™



4 FUNCTIONAL FITNESS RIG (MODEL SHP515)

Not to Scale



2 6' PICNIC TABLE BY MYTCOAT (MODEL# TRT06-B-01-000)

Not to Scale

BURDITT
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310 Longmire, Conroe, TX 77304
P: (936) 756-3041 | F: (936) 539-3240
www.burditt.com

SURVEYED BY: KUO
FB NO. 00000

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

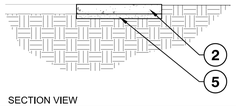
L1.21 – Furniture Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 10 OF 42	

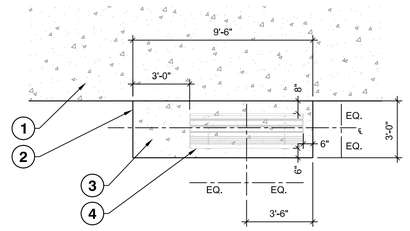
NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

Detail Callout Legend:

1. Concrete sidewalk, see civil
2. 4" Thick concrete
3. ADA Access
4. 6' Bench by Pillot Rock, see detail 3/L1.22
5. 2" Sand bed

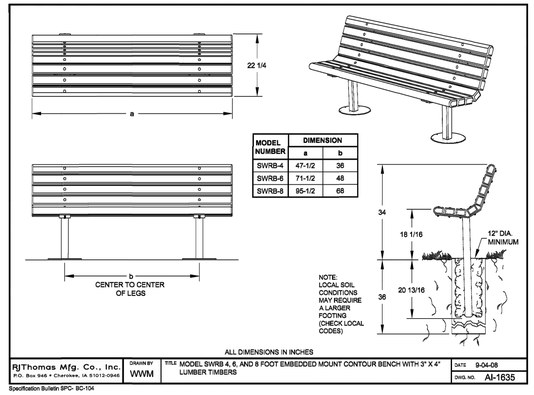


SECTION VIEW
3/8" = 1'-0"



4 BENCH WITH ADA SPACE - PLAN

1/4" = 1'-0"



Specification Bulletin SPC- BC-104

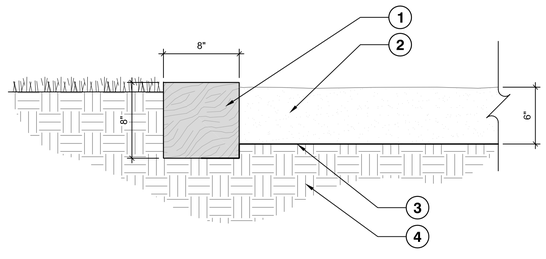
2 6' BENCH BY PILOT ROCK (MODEL# OWRB/G-6CO34)

Not to Scale

MU-1537-HARD-24

Detail Callout Legend:

1. 8"x8" Wood beam edge
2. 6" Sand depth
3. Marifi 160N geotextile fabric
4. Subgrade

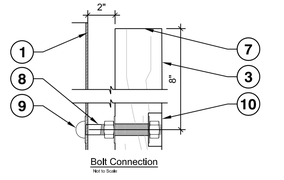


3 SAND VOLLEYBALL COURT EDGE

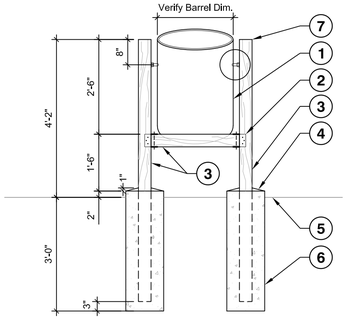
1 1/2" = 1'-0"

Detail Callout Legend:

1. Trash receptacle, drill (4) 1" diameter holes at 2" minimum apart at bottom for drain
2. Simpson BC4 post/ cap connector (galvanized)
3. 4x4 treated pine
4. Slope concrete
5. Finished grade
6. 12" dia. concrete footing
7. Slope top 1/2"
8. 3/4" diameter PVC sleeve
9. 3/4"x6" galvanized carriage bolt, with nuts & washers countersunk
10. Countersink bolt, 1/4"



Bolt Connection
Not to Scale



1 TRASH RECEPTACLE

1/2" = 1'-0"

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310 Longmire, Conroe, TX 77304
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BOONE PARK

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L1.22 – Furniture Details

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CUONG NGUYEN	
SHEET NO. 11 OF 42	

NO.	DATE	REVISION	APP.
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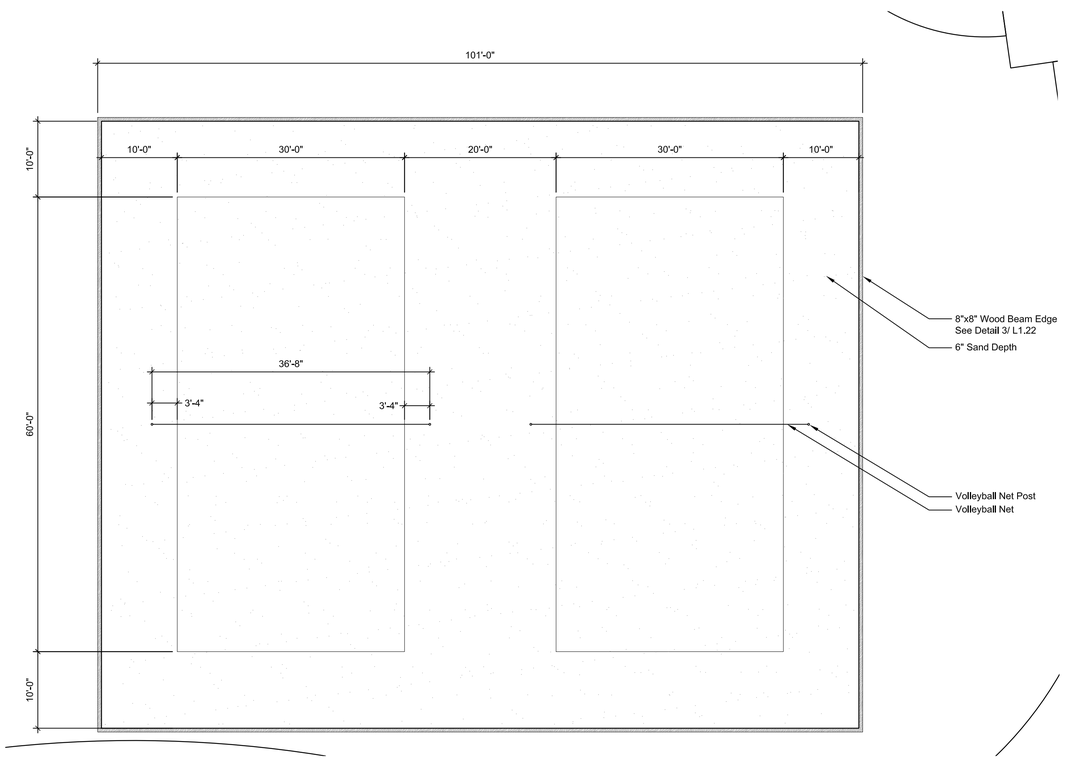
2 FITNESS AREA - LAYOUT PLAN

1" = 10'



1 SAND VOLLEYBALL COURT LAYOUT

1" = 10'

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L1.23 – Amenity Layout Plans

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M-420HUD-013A-3	
DRAWING SCALE	
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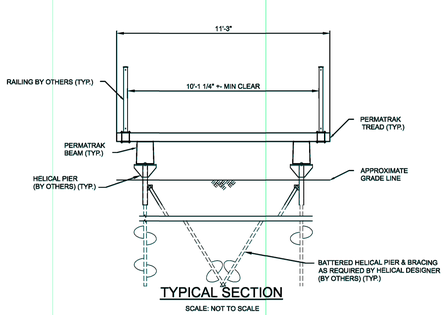
CUONG NGUYEN	
SHEET NO. 12 OF 42	

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

BOARDWALK PLAN

SCALE: NOT TO SCALE

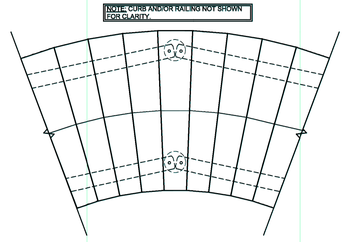
NOTE:
1. BOARDWALK PLAN VIEW DOES NOT SHOW CURVED ALIGNMENT. FOR CURVED ALIGNMENT DETAIL SEE TYPICAL SKEW DETAIL.
2. PLAN VIEW IS SHOWN FOR PRELIMINARY DISCUSSION PURPOSES NUMBER OF PRECAST COMPONENTS AND NUMBER OF PIERS SHOWN IN PLAN VIEW ARE PRELIMINARY AND SUBJECT TO CHANGE DUE TO SITE CONDITIONS, FIELD CONFLICTS AND/OR CURVED ALIGNMENT.



TYPICAL SECTION

SCALE: NOT TO SCALE

NOTE: CURB AND/OR RAILING NOT SHOWN FOR CLARITY.



TYPICAL SKEW DETAIL

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NO.	DATE	DESCRIPTION	BY:
6			
5			
4			
3			
2			
1			

PREPARED FOR:

Burditt Land | Place

PRELIMINARY
NOT FOR CONSTRUCTION

PermaTrak® The Concrete Boardwalk Company

www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO

PERMATRAK NORTH AMERICA
8050 CORPORATE CENTER DRIVE
SUITE 100-J
CHARLOTTE, NC 28226
TBPE FIRM NO. 18057

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

PROJECT TITLE:

Boone Park BW

Houston, TX

JOB NUMBER:	2025-2668
DATE:	4/2/2025
DESIGNED BY:	
DRAWN BY:	JTD
CHECKED BY:	
SHEET NO.	PT01

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310 Longmire, Conroe, TX 77304
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LANDSCAPE ARCHITECT No. 2887, ON 7/10/25
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BOONE PARK

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L1.24 – PermaTrak Boardwalk

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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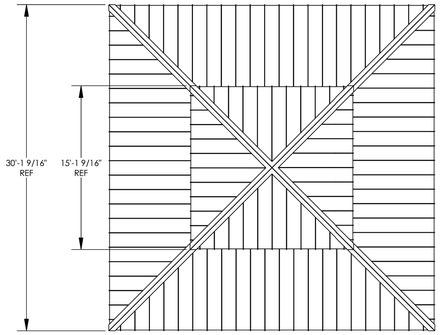
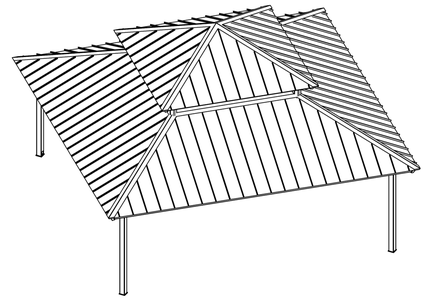
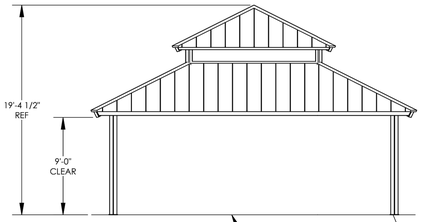
SHEET NO. 13 OF 42	





NOTES:
Rood type: standing seem roof
Roof color: galvalume
Frame color: barkwood



STATE OF TEXAS
JULIE MARIE CHRISTMAN
137104
LICENSED PROFESSIONAL ENGINEER
Julie Christman
2025.05.19
15:13:15-04'00'

IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO BUILDING COMPONENTS DETAILED WITHIN THESE DRAWINGS AND SUPPLIED BY PORTER CORP AS WELL AS THE FOUNDATION DESIGN, IF APPLICABLE.

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MAIN: (616) 842-5500
FIELD SUPPORT: (616) 888-3504
by PORTER CORP

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ARCHITECTURAL ELEVATIONS
CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD FILE/DIR: P21838
DRAWN BY: Christopher Odell
REV LEVEL: A
PRINT DATE: 5/19/2025
SCALE: 1:84
SHEET: 1

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

poligon
A Division of PORTERCORP 4240 N. 136th AVE HOLLAND, MI 49424 (616) 888-3500

PROJECT NAME: BOONE PARK

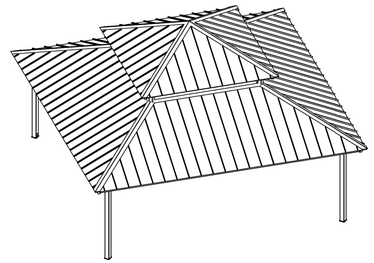
PROJECT LOCATION: HOUSTON, TX

BUILDING TYPE: CAR 30

ROOF TYPE: STANDING SEAM (22 GA)

BUILDING NUMBER: P21838

ORDER NUMBER: 82832



DRAWING LIST:

SHEET NUMBER	DRAWING DESCRIPTION
CS	COVER SHEET
1	ARCHITECTURAL ELEVATIONS
2-2.1	ANCHOR AND FOOTING LAYOUT / DETAILS
3-3.1	STRUCTURAL FRAMING PLAN
4-4.2	FRAME CONNECTION DETAILS
5	ELECTRICAL VIEWS N/A
6-6.1	ROOF LAYOUT
7-7.3	ROOF CONNECTION DETAILS

MANUFACTURER NOTES:

MATERIALS:

DESCRIPTION	ASTM DESIGNATION
TUBE STEEL	A500 (GRADE C)
SCHEDULE PIPE	A53 (GRADE B)
RMT PIPE	A519
LIGHT GAGE COLD FORMED	A1003 (GRADE 50)
STRUCTURAL STEEL PLATE	A36
ROOF PANELS (STEEL)	A653
ANCHOR BOLTS	SEE SHEET 2.1

GENERAL NOTES:

1. PORTER CORP IS RESPONSIBLE ONLY FOR THE STRUCTURAL DESIGN OF THE STEEL STRUCTURE (AND FOUNDATION DESIGN IF APPLICABLE) IT SELLS TO THE BUILDER. PORTER CORP OR THEIR ENGINEER IS NOT THE DESIGN PROFESSIONAL OR ENGINEER OF RECORD FOR THE CONSTRUCTION PROJECT. PORTER CORP IS NOT RESPONSIBLE FOR THE DESIGN OF ANY COMPONENTS OR MATERIALS NOT SOLD BY IT OR THEIR INTERFACE AND CONNECTION WITH THE STEEL STRUCTURE.
2. UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.,) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.
3. THE ENGINEERING SEAL FOR THE STRUCTURE DETAILED IN THESE DRAWINGS IS ONLY VALID IF PORTER CORP DESIGNS AND FABRICATES THE STEEL COMPONENTS. FABRICATING THE STEEL COMPONENTS ELSEWHERE VOIDS THE ENGINEERING PROVIDED BY PORTER CORP.
4. UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20' SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE (SEE SNOW DESIGN DATA). IF THAT SEPARATION DOES NOT EXIST AND THE GROUND SNOW LOAD (PG) IS GREATER THAN 0 PSF, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.
5. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL REFERENCED IN THE GOVERNING BUILDING CODE.
6. ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS AND CONFORMS TO AWS D1.1 OR D1.3 AS REQUIRED.
7. PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING BILL OF MATERIALS AND FINAL INSTALLATION INSTRUCTIONS INCLUDED WITH THE STRUCTURE FOR POSSIBLE SUBSTITUTIONS AND IMPROVEMENTS.
8. FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.
9. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BRACING, SHORING, LAYDOWN AND PROTECTION OF CONSTRUCTION MATERIALS, ETC. TEMPORARY SHORING AND BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT ELECTRIC WIRING, IF REQUIRED, BE RUN THROUGH THE STRUCTURAL MEMBERS BEFORE THE BUILDING IS ERECTED.
11. MAKING HOLES, CUTS OR MODIFICATIONS TO THE STRUCTURAL STEEL MEMBERS IS NOT PERMITTED IN THE FIELD WITHOUT SPECIFIC APPROVAL OF POLIGON.

CERTIFICATES:
MIAMI-DADE COUNTY CERTIFICATE OF COMPETENCY NO. 24-0903.04
PCI (POWDER COATING INSTITUTE) 4000 CERTIFIED

FABRICATOR APPROVALS:
CITY OF PHOENIX, AZ APPROVED FABRICATOR #CQB-2010
CITY OF LOS ANGELES, CA APPROVED FABRICATOR #FB01596
CITY OF RIVERSIDE, CA APPROVED FABRICATOR #SF_000042
CITY OF HOUSTON, TX APPROVED FABRICATOR #470
CLARK COUNTY, NV APPROVED FABRICATOR #264
STATE OF UTAH APPROVED FABRICATOR 02008-14
AISC APPROVED FABRICATOR C-00024530
AWS CERTIFIED WELDING FABRICATOR #240707F

AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISC
FOUNDED 1921

DESIGN CRITERIA:

GENERAL:
2021 INTERNATIONAL BUILDING CODE
RISK CATEGORY: II

DEAD LOAD:
ROOF DEAD LOAD: 2 PSF
FRAME DEAD LOAD: SELF WEIGHT

LIVE LOAD:
ROOF LIVE LOAD: 20 PSF

SNOW DESIGN DATA:
GROUND SNOW LOAD (Pg): 0 PSF
FLAT ROOF SNOW LOAD (Pf): 0 PSF
SNOW EXPOSURE FACTOR (Ce): 1.0
SNOW LOAD IMPORTANCE FACTOR (Is): 1.0
THERMAL FACTOR (Ct): 1.2
ROOF SLOPE FACTOR (Cs): 1.0
DRIFT SURCHARGE LOAD (Pd): 0 PSF
WIDTH OF SNOW DRIFT (w): 0 FT
MINIMUM HORIZONTAL SEPARATION DISTANCE (s): 20 FT

WIND DESIGN DATA:
BASIC WIND SPEED (V): 135 MPH
ALLOWABLE STRESS DESIGN WIND SPEED (Vasd): 105 MPH
GUST EFFECT FACTOR (G): 0.85
INTERNAL PRESSURE COEFFICIENT (GCpi): 0
WIND EXPOSURE: C

SEISMIC DESIGN DATA:
STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
SEISMIC IMPORTANCE FACTOR (Ie): 1.0
SEISMIC DESIGN CATEGORY: B
SEISMIC SITE CLASS: D DEFAULT
SHORT SPECTRAL RESPONSE (Ss): 0.32
1-SEC SPECTRAL RESPONSE (S1): 0.08
DESIGN SHORT SPECTRAL RESPONSE (SDS): 0.33
DESIGN 1-SEC SPECTRAL RESPONSE (SD1): 0.13
SEISMIC RESPONSE COEFFICIENT (Cs): 0.11
RESPONSE MODIFICATION COEFFICIENT (R): 3.00
EQUIVALENT LATERAL FORCE PROCEDURE
SEE CALCULATIONS FOR ADDITIONAL DATA

ADDITIONAL CRITERIA:
NONE

STATE OF TEXAS
JULIE MARIE CHRISTMAN
137104
LICENSED PROFESSIONAL ENGINEER
Julie Christman
2025.05.19
15:13:13-04'00'

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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: COVER SHEET
CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD FILE/DIR: P21838
DRAWN BY: Christopher Odell
REV LEVEL: A
PRINT DATE: 5/19/2025
SCALE: 1:96
SHEET: CS

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LANDSCAPE ARCHITECT No. 2987, ON 7/10/25
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BOONE PARK
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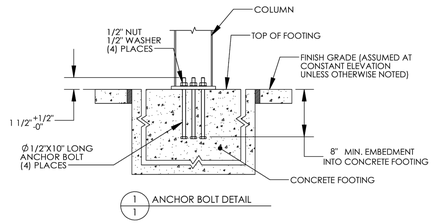
L1.25 – Carnival Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 14 OF 42	

ANCHOR BOLT NOTES - INTERNAL (ANCHOR BOLTS LOCATED WITHIN COLUMN):

1. ANCHOR BOLTS SHALL BE ASTM A307 (GRADE A) MATERIAL UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS SHALL BE EITHER "HEADED" OR "THREADED WITH NUT" AS DEFINED IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
3. HOOKED ANCHOR BOLTS ARE NOT ACCEPTABLE.
4. ACCURATE ANCHOR BOLT PLACEMENT IS CRITICAL. TO ENSURE THE ANCHOR BOLT LAYOUT MEETS THE DIMENSIONS REQUIRED ON THE DRAWINGS, SURVEY (OR MEASURE) THE LOCATION OF ALL ANCHOR BOLTS PRIOR TO POURING THE FOOTINGS. AN ADDITIONAL SURVEY (OR MEASUREMENT) SHOULD BE MADE AFTER THE FOOTINGS ARE POURED TO CONFIRM THE ANCHOR BOLTS DID NOT SHIFT DURING THE CONCRETE POUR.
5. THE MANUFACTURER STRONGLY RECOMMENDS USING ANCHOR BOLT TEMPLATES BECAUSE THEY SIGNIFICANTLY IMPROVE THE ACCURACY OF ANCHOR BOLT PLACEMENT. AN ANCHOR BOLT TEMPLATE IS PROVIDED WITH ANY ANCHOR BOLT KIT PURCHASED.
6. IF OUTSIDE CONSULTING ENGINEERS ARE DESIGNING THE FOUNDATIONS FOR THIS STRUCTURE, THEY MUST REFER TO THE MANUFACTURER'S CALCULATIONS FOR MINIMUM CONCRETE PROPERTIES (COMPRESSIVE STRENGTH, EDGE DISTANCE, ETC.) REQUIRED FOR THE ANCHOR BOLT DESIGN.
7. ELECTRICAL ACCESS HOLE IS ALWAYS LOCATED IN THE COLUMN BASE PLATE AS SHOWN. BE SURE TO KEEP THE ANCHOR BOLT TEMPLATE PROPERLY ORIENTED WHEN ELECTRICAL ACCESS TO THE COLUMN IS REQUIRED. TEMPLATE MUST BE REMOVED BEFORE INSTALLING COLUMNS.
8. THE CALCULATIONS FOR THIS STRUCTURE ASSUME A PINNED COLUMN BASE.
9. THE FOLLOWING ADHESIVE ANCHORS MAY BE SUBSTITUTED FOR THE CAST-IN-PLACE ANCHOR BOLTS:
   -HILTI HIT-HY 200 (A OR R) V3 ADHESIVE WITH Ø 1/2" HAS-E ROD WITH 6" EFFECTIVE EMBEDMENT.
   CONTRACTOR SHALL FOLLOW ALL INSTALLATION SPECIFICATIONS AND REQUIREMENTS OF ANCHOR MANUFACTURER.

FOUNDATION DESIGN NOT BY POLIGON



1/1 ANCHOR BOLT DETAIL

STATE OF TEXAS
JULIE MARIE CHRISTMAN
137104
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Julie Christman
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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ANCHOR AND FOOTING DETAILS
CREATION DATE: 11/16/2016 | DRAWN BY: DONOVAN Odell | REV LEVEL: A | PRINT DATE: 5/19/2025 | SCALE: 1:12
ORDER NO: 82832 | CAD MODEL: P21838
SHEET 2.1

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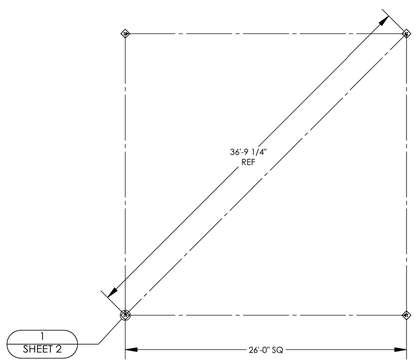
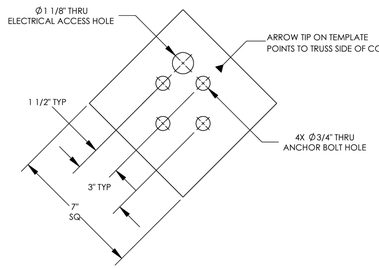
ANCHOR AND FOOTING LAYOUT NOTES:

1. ANCHORS MUST BE CENTERED IN FOOTINGS
2. FOOTINGS MUST BE TURNED TO ALIGN WITH COLUMN AND TRUSS CENTERLINE.





1/2 ANCHOR BOLT PATTERN
BASE PLATE THICKNESS: 1/2"

STATE OF TEXAS
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Julie Christman
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PROJECT LOCATION: HOUSTON, TX
DRAWING: ANCHOR AND FOOTING LAYOUT
CREATION DATE: 11/16/2016 | DRAWN BY: DONOVAN Odell | REV LEVEL: A | PRINT DATE: 5/19/2025 | SCALE: 1:84
ORDER NO: 82832 | CAD MODEL: P21838
SHEET 2

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BOONE PARK

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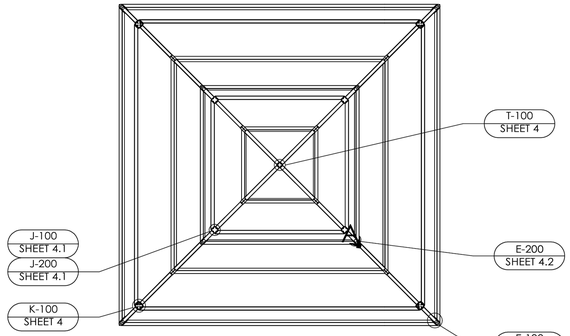
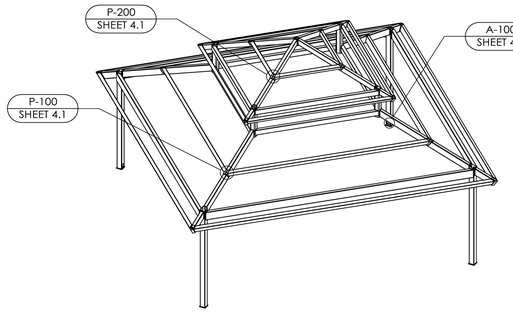
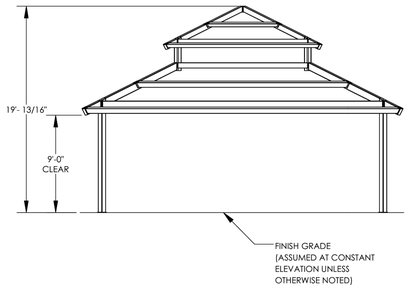
L1.26 – Carnival Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 15 OF 42	







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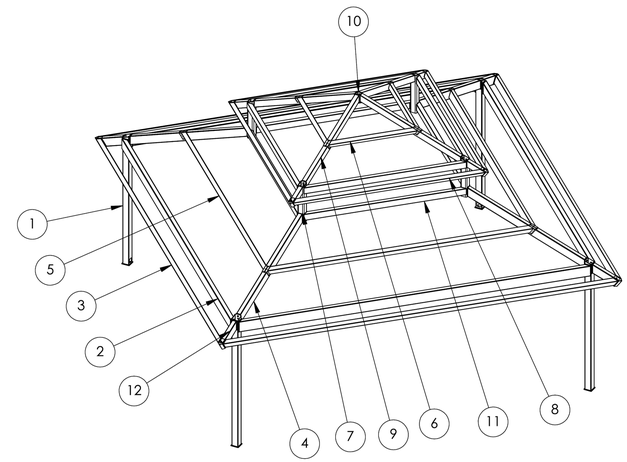
PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: STRUCTURAL FRAMING PLAN
CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD FILE/DIR: P21838
DRAWN BY: CUONG Nguyen
REV LEVEL: A
SCALE: 1:84
PRINT DATE: 5/19/2025

SHEET
3.1



ITEM	QTY.	PART NO.	DESCRIPTION	MATERIAL SIZE	WEIGHT
12	4	-	LO TRUSS TAIL ASM	HSS8"X4"X3/16"	41.09
11	8	-	CLERESTORY MEMBER ASM	HSS6"X4"X1/8"	100.78
10	1	-	C-TUBE ASM	HSS5"X5"X1/2"	15.00
9	4	-	UP TRUSS ASM	HSS6"X4"X1/8"	74.15
8	4	-	UP EAVE BEAM ASM	HSS4"X4"X1/8"	92.30
7	4	-	J-COL ASM	HSS6"X6"X1/2"	116.36
6	4	-	UP PURLIN ASM	HSS4"X4"X1/8"	42.63
5	4	-	LO PURLIN ASM	HSS6"X4"X1/8"	159.11
4	4	-	LO TRUSS ASM	HSS8"X4"X3/16"	151.95
3	4	-	LO EAVE BEAM ASM	HSS6"X4"X1/8"	238.31
2	4	-	TENSION MEMBER ASM	HSS10"X4"X3/16"	451.94
1	4	-	COLUMN ASM	HSS6"X6"X3/16"	187.71

Julie Christman
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PROJECT LOCATION: HOUSTON, TX
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CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD FILE/DIR: P21838
DRAWN BY: CUONG Nguyen
REV LEVEL: A
SCALE: 1:64
PRINT DATE: 5/19/2025

SHEET
3

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L1.27 – Carnival Poligon Shade Structure

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SHEET NO. 16 OF 42	

NO.	DATE	REVISION	APP.
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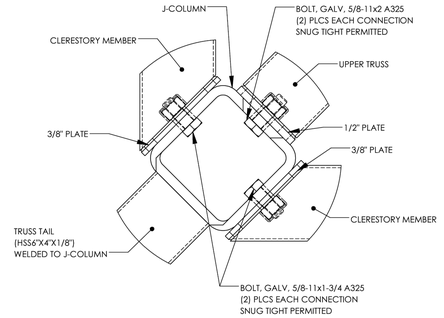
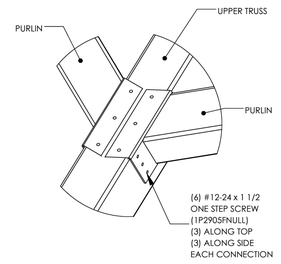
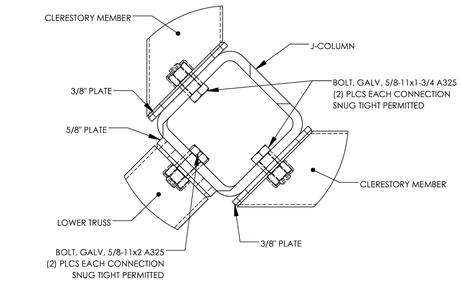


UPPER J-COLUMN CONNECTION | J-200

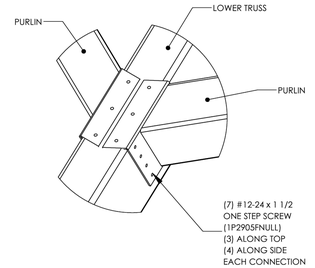


PURLIN CONNECTION | P-200

NOTE:
COVER PLATE
ATTACHED WITH POP RIVETS
(1P2903) (1) PER CLEAT
AT BOTTOM OF CONNECTION

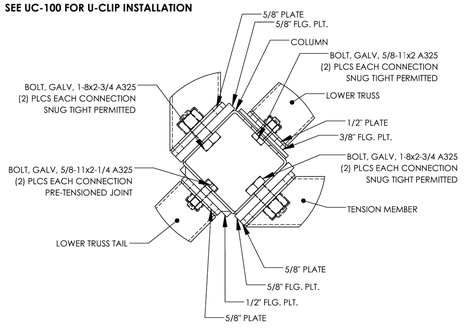


LOWER J-COLUMN CONNECTION | J-100



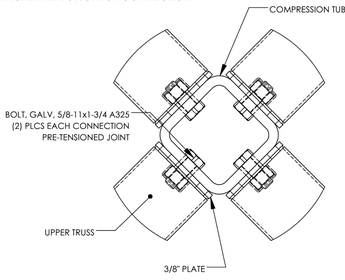
PURLIN CONNECTION | P-100

NOTE:
SEE UC-100 FOR U-CLIP INSTALLATION



COLUMN CONNECTIONS | K-100

NOTE:
COVER PLATE (XXXXX)
W/ FASTENER (XXXXX)
ATTACHED AT BOTTOM OF CONNECTION



COMPRESSION MEMBER CONNECTION | T-100

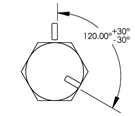
CONNECTION NOTES:

1. HIGH STRENGTH BOLTS SHALL BE ASTM F3125 (A325, TYPE 1) MATERIAL.
2. HIGH STRENGTH NUTS SHALL BE ASTM A563 (GRADE DH) MATERIAL.
3. HIGH STRENGTH WASHERS SHALL CONFORM TO ASTM F436.
4. UNLESS A SNUG-TIGHT JOINT IS PERMITTED IN THE CONNECTION DETAIL, ALL BOLTS ARE TO BE INSTALLED BY ONE OF THE FOLLOWING PRETENSIONING METHODS AS SPECIFIED IN THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", SECTION 8:
   A. TURN-OF-NUT PRETENSIONING
5. THE SNUG-TIGHT CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
6. ANCHOR BOLTS NEED NOT BE TIGHTENED PAST SNUG-TIGHT.
7. WHEN INSTALLING BOLTS REFER TO SECTIONS 8.1 AND 8.2 OF THE "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" FOR GUIDANCE.
8. LOCAL JURISDICTIONS MAY REQUIRE AN INSPECTOR TO BE PRESENT TO WITNESS HARDWARE INSTALLATION AND INDEPENDENT TESTING. INSPECTION REQUIREMENTS SHOULD BE VERIFIED BY INSTALLER PRIOR TO STEEL ERECTION.
9. ERECTION OF THE FRAMING MEMBERS WILL REQUIRE THE MAIN COLUMNS TO BE PLUMB SQUARE AND TIGHTENED TO THE TRUSSES AND/OR TENSION MEMBERS BEFORE INSTALLING THE PURLINS. PURLINS, IF REQUIRED, MUST BE AS SHOWN IN FRAMING PLAN.
10. TEMPORARY SHORING OR BRACING SHALL BE USED TO COMPACT THE JOINTS UNTIL THE CONNECTED PLIES ARE IN FIRM CONTACT PRIOR TO PRETENSIONING.
11. PRIOR TO THE ERECTION OF SHELTER COMPONENTS, IT IS RECOMMENDED TO CHASE AND TAP STRUCTURAL HARDWARE.
12. ALL BOLTS MUST BE LUBRICATED WITH WAX TO ASSIST IN PROPER TIGHTENING. TO LUBRICATE A BOLT IN THE FIELD, APPLY THE WAX STICK DOWN THE LENGTH OF THE BOLT'S THREADS.
13. TO PREVENT RUST STAINING OF FINISH, ALL METAL SHAVINGS MUST BE REMOVED AFTER INSTALLATION. ENSURE NO SHAVING ARE TRAPPED BETWEEN MATING SURFACES.
14. TOUCH-UP PAINT MUST BE APPLIED TO ALL EXPOSED FASTENERS. PERIODIC TOUCH-UP AT THESE CONNECTIONS IS REQUIRED.
15. ENSURE FRAME MEMBERS WITH DRAIN HOLES NEAR THE ENDS OF TUBES ARE INSTALLED FACING UP UNLESS SPECIFIED IN THE FRAME CONNECTION DETAILS.

TURN-OF-NUT PRETENSIONING METHOD:
THESE STEPS ILLUSTRATE THE REQUIREMENTS OUTLINED IN THE AISC SPECIFICATION. THE ROTATION INDICATED IS ACCURATE FOR MOST BOLT DIAMETERS AND LENGTHS BUT IT IS THE RESPONSIBILITY OF THE INSTALLER TO MEET AISC REQUIREMENTS.

STEP ONE:
AFTER SNUG TIGHT,
MATCH MARK PLATE

STEP TWO:
THEN TURN BOLT/NUT PAST
SNUG TIGHT 1/3 TURN



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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: FRAME CONNECTION DETAILS
CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD MODEL: P21838
DRAWN BY: CUONG NGUYEN
REV LEVEL: A
PRINT DATE: 5/19/2025
SCALE: 1:4
SHEET: 4.1

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DRAWING SCALE	
AS NOTED	
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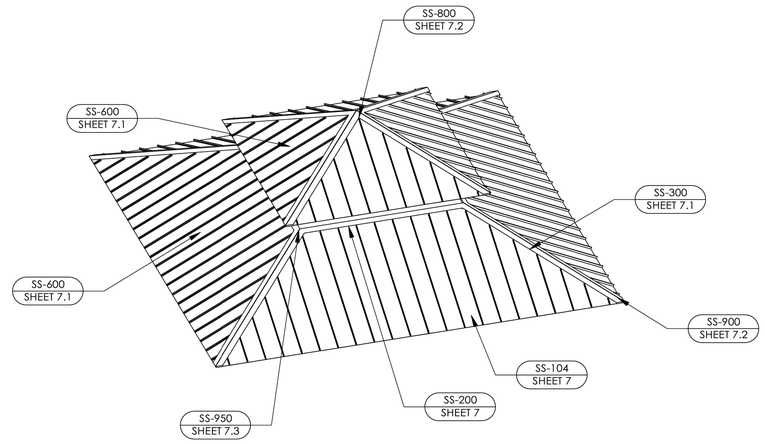
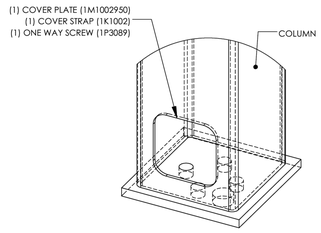
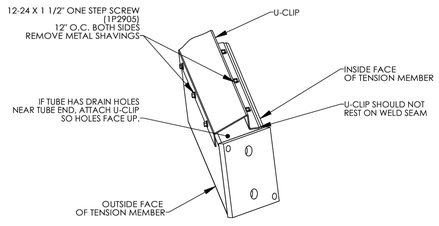
SHEET NO. 17 OF 42	



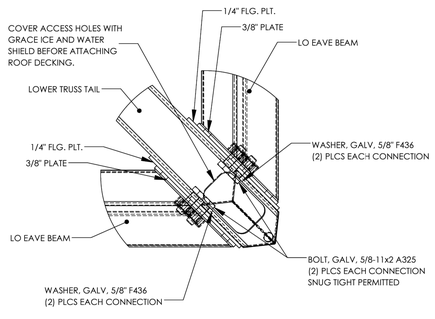


ANCHOR ACCESS COVER PLATE | A-100

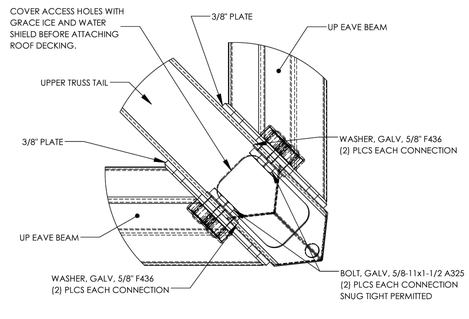
NOTE:
U-CLIP MUST BE ATTACHED TO TENSION MEMBER AS SHOWN PRIOR TO BUILDING ASSEMBLY.



U-CLIP CONNECTION | UC-100



EAVE BEAM CONNECTION | E-100



EAVE BEAM CONNECTION | E-200

STATE OF TEXAS
JULIE MARIE CHRISTMAN
137104
LICENSED
PROFESSIONAL ENGINEER

Julie Christman
2025.05.19
15:13:28-04'00'

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by PORTER CORP

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF OVERVIEW

CREATION DATE: 11/16/2016
ORDER NO: 82832
CAD FILE(S): P21838

DRAWN BY: CHRISTOPHER Spell
REV LEVEL: A

PRINT DATE: 5/19/2025
SCALE: 1:64

SHEET
6

NO.	DATE	REVISION	APP.
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FIELD SUPPORT: (615) 838-3504
by PORTER CORP

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: FRAME CONNECTION DETAILS

CREATION DATE: 11/16/2016
ORDER NO: 82832
CAD FILE(S): P21838

DRAWN BY: CHRISTOPHER Spell
REV LEVEL: A

PRINT DATE: 5/19/2025
SCALE: 1:4

SHEET
4.2

STATE OF TEXAS
JULIE MARIE CHRISTMAN
137104
LICENSED
PROFESSIONAL ENGINEER

Julie Christman
2025.05.19
15:13:27-04'00'

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LANDSCAPE ARCHITECT No. 2987, ON 7/10/25
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CITY OF HOUSTON
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BOONE PARK
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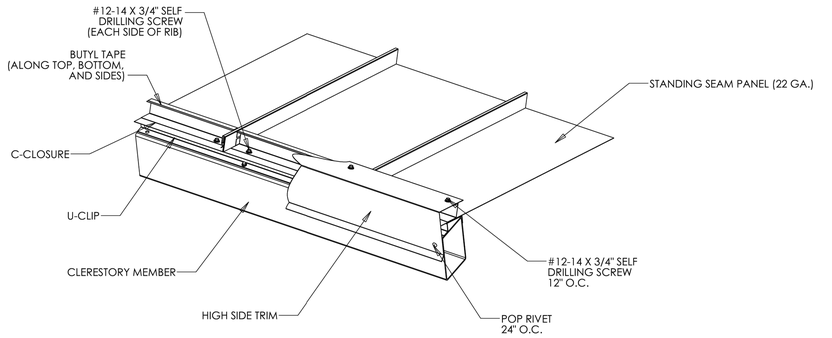
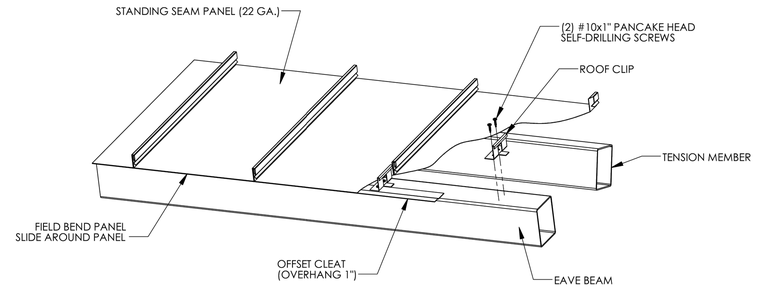
L1.29 – Carnival Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 18 OF 42	



2023A — HIGH SIDE DETAIL (VIEWING FROM ABOVE) — SS-200



2022B — EAVE DETAIL — SS-104

PART DESCRIPTIONS:

Julie Christman 2025.05.19 15:13:32-04'00'

STATE OF TEXAS — JULIE MARIE CHRISTMAN — 137104 — LICENSED PROFESSIONAL ENGINEER

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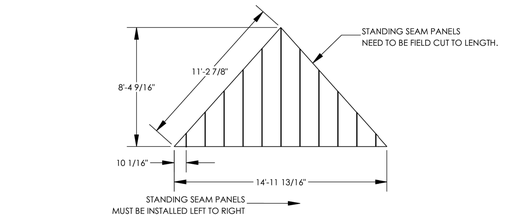
PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS
CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD FILENO.: P21838
DRAWN BY: DAVID Cabell
REV LEVEL: A
PRINT DATE: 5/19/2025
SCALE: NTS

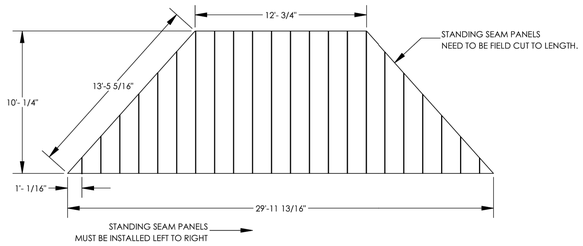
SHEET 7

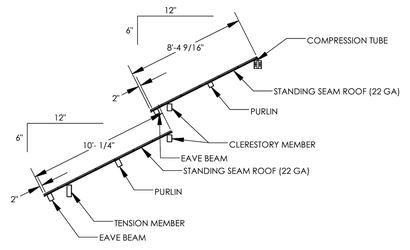
NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

STANDING SEAM INSTALLATION NOTES:

1. THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE SYSTEMS. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES. BUILDING REQUIREMENTS, DESIGNS OR CODES. THE DETAILS MAY REQUIRE CHANGES OR REVISIONS DUE TO FIELD CONDITIONS.
2. IT SHALL BE THE RESPONSIBILITY OF THE ERECTOR TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.
3. THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE HIMSELF/HERSELF WITH ALL ERECTION INSTRUCTIONS BEFORE STARTING WORK.
4. THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.
5. FLASHING AND TRIM SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ANY EXPOSED FASTENERS EQUALLY SPACED FOR THE BEST APPEARANCE.
6. SEALANT SHALL BE FIELD APPLIED ON DRY, CLEAN SURFACES. SOME FIELD CUTTING AND FITTING OF PANELS AND FLASHING IS TO BE EXPECTED BY THE ERECTOR AND MINOR FIELD CORRECTIONS ARE A PART OF NORMAL ERECTION WORK.
7. WORKMANSHIP SHALL BE OF THE BEST INDUSTRY STANDARDS AND INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN.
8. METAL SHAVINGS FROM DRILLING OR INSTALLATION OF ROOF FASTENERS MUST BE CAREFULLY REMOVED FROM THE ROOF BY BRUSHING OR SWEEPING AT THE END OF EACH DAY DURING INSTALLATION. SHAVINGS LEFT ON THE ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH.







Julie Christman 2025.05.19 15:13:30-04'00'

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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF LAYOUT
CREATION DATE: 11/16/2016
ORDER NO.: 82832
CAD FILENO.: P21838
DRAWN BY: DAVID Cabell
REV LEVEL: A
PRINT DATE: 5/19/2025
SCALE: 1:64

SHEET 6.1

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L1.30 – Carnival Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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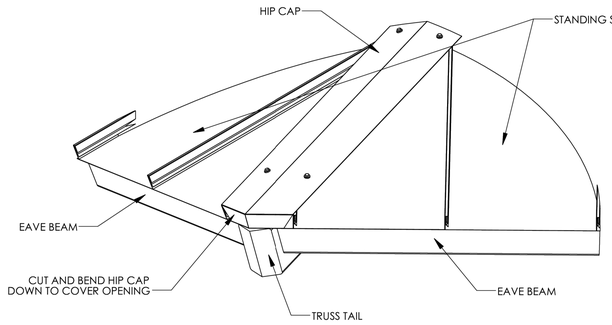
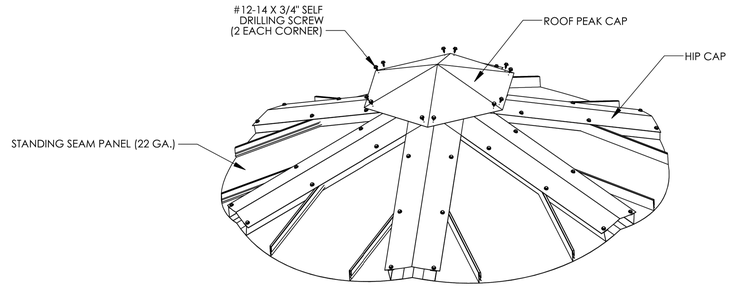
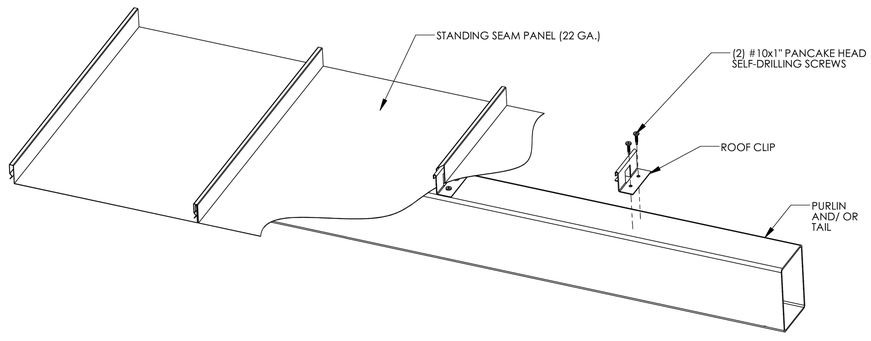
SHEET NO. 19 OF 42	



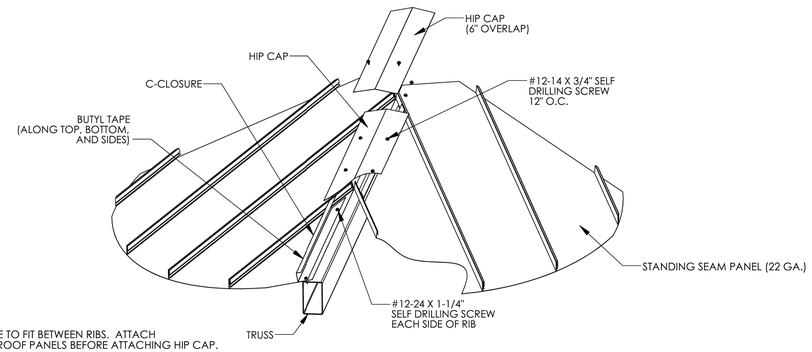
2022A | CORNER DETAIL | SS-900



2022A | ROOF PEAK DETAIL | SS-800



2022B | PURLIN DETAIL | SS-600



NOTE:
TRIM C-CLOSURE TO FIT BETWEEN RIBS. ATTACH
C-CLOSURE TO ROOF PANELS BEFORE ATTACHING HIP CAP.

2023A | TRUSS DETAIL | SS-300

STATE OF TEXAS
JULIE MARIE CHRISTMAN
137104
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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS

CREATION DATE: 11/16/2016
ORDER NO: 82832
CAD FILE/DIR: _P21838

DRAWN BY: CUONG NGUYEN
REVIEWED: A

PRINT DATE: 5/19/2025
SCALE: NTS

SHEET
7.2

NO.	DATE	REVISION	APP.
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L1.31 – Carnival Poligon Shade Structure

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SHEET NO. 20 OF 42	

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PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS

CREATION DATE: 11/16/2016
ORDER NO: 82832
CAD FILE/DIR: _P21838

DRAWN BY: CUONG NGUYEN
REVIEWED: A

PRINT DATE: 5/19/2025
SCALE: NTS

SHEET
7.1

NO.	DATE	REVISION	APP.
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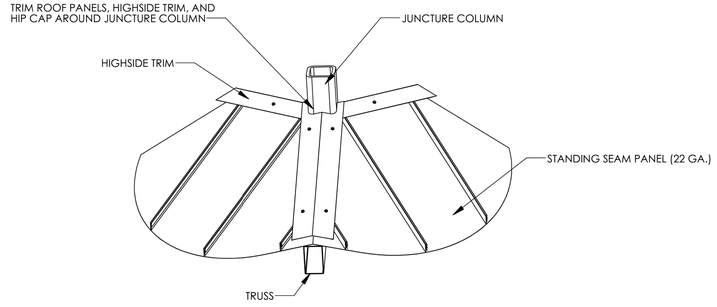
-STANDING SEAM PANELS COME PRE-NOTCHED FROM THE FACTORY
-PANELS MUST BE INSTALLED FROM LEFT TO RIGHT (FEMALE LEG ON LEFT, MALE LEG ON THE RIGHT
-HEM TOOL NOT PROVIDED AS PART OF THE ROOF KIT

2022A | HEM DETAIL | SS HEM



2022A | JUNCTURE COLUMN DETAIL | SS-950

STATE OF TEXAS
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PRINT DATE: 5/19/2025
DRAWN BY: CHRIS CAMPBELL
REVIEWED: A
SCALE: NTS
CREATION DATE: 11/16/2016
ORDER NO: 82832
CAD FILE(S): _P21838

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS
SHEET: 7.3

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L1.32 – Carnival Poligon Shade Structure

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SHEET NO. 21 OF 42	

NO.	DATE	REVISION	APP.
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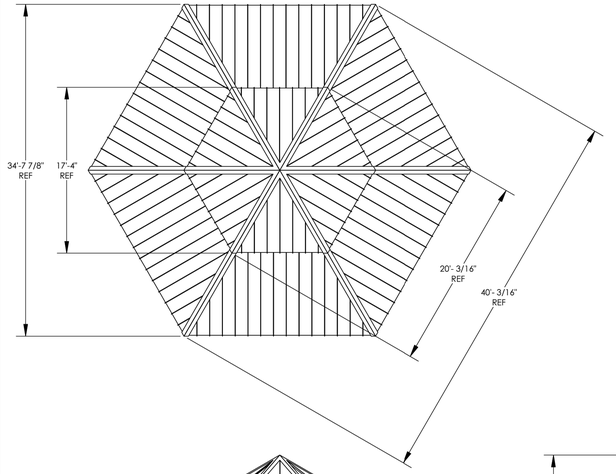
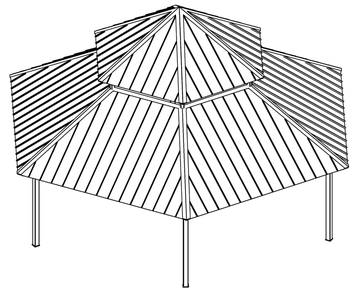
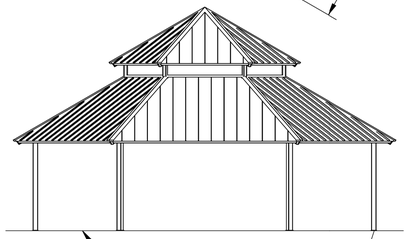
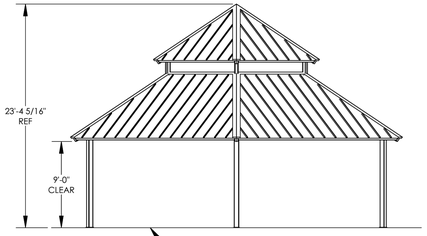




NOTES:
Rood type: standing seem roof
Roof color: galvalume
Frame color: barkwood





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A Division of PORTERCORP 4240 N. 136th AVE HOLLAND, MI 49424 (616) 888-3500

PROJECT NAME: BOONE PARK

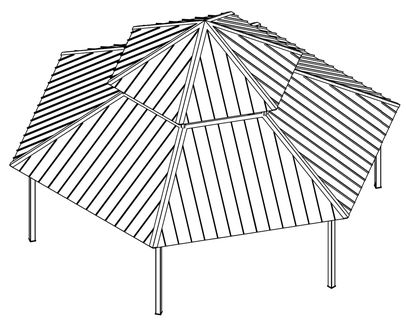
PROJECT LOCATION: HOUSTON, TX

BUILDING TYPE: GX02 40

ROOF TYPE: STANDING SEAM (22 GA)

BUILDING NUMBER: P21842

ORDER NUMBER: 82839



DRAWING LIST:

SHEET NUMBER	DRAWING DESCRIPTION
CS	COVER SHEET
1	ARCHITECTURAL ELEVATIONS
2-2.1	ANCHOR AND FOOTING LAYOUT / DETAILS
3-3.1	STRUCTURAL FRAMING PLAN
4-4.2	FRAME CONNECTION DETAILS
5	ELECTRICAL VIEWS-N/A
6-6.1	ROOF LAYOUT
7-7.3	ROOF CONNECTION DETAILS

MANUFACTURER NOTES:

MATERIALS:

DESCRIPTION	ASTM DESIGNATION
TUBE STEEL	A500 (GRADE C)
SCHEDULE PIPE	A53 (GRADE B)
RMT PIPE	A519
LIGHT GAGE COLD FORMED STRUCTURAL STEEL PLATE	A1003 (GRADE 50) A36
ROOF PANELS (STEEL)	A653
ANCHOR BOLTS	SEE SHEET 2.1

GENERAL NOTES:

1. PORTER CORP IS RESPONSIBLE ONLY FOR THE STRUCTURAL DESIGN OF THE STEEL STRUCTURE (AND FOUNDATION DESIGN IF APPLICABLE) IT SELLS TO THE BUILDER. PORTER CORP OR THEIR ENGINEER IS NOT THE DESIGN PROFESSIONAL OR ENGINEER OF RECORD FOR THE CONSTRUCTION PROJECT. PORTER CORP IS NOT RESPONSIBLE FOR THE DESIGN OF ANY COMPONENTS OR MATERIALS NOT SOLD BY IT OR THEIR INTERFACE AND CONNECTION WITH THE STEEL STRUCTURE.
2. UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.
3. THE ENGINEERING SEAL FOR THE STRUCTURE DETAILED IN THESE DRAWINGS IS ONLY VALID IF PORTER CORP DESIGNS AND FABRICATES THE STEEL COMPONENTS. FABRICATING THE STEEL COMPONENTS ELSEWHERE VOIDS THE ENGINEERING PROVIDED BY PORTER CORP.
4. UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20' SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE (SEE SNOW DESIGN DATA). IF THAT SEPARATION DOES NOT EXIST AND THE GROUND SNOW LOAD (PG) IS GREATER THAN 0 PSF, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.
5. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION MANUAL REFERENCED IN THE GOVERNING BUILDING CODE.
6. ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS AND CONFORMS TO AWS D1.1 OR D1.3 AS REQUIRED.
7. PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING BILL OF MATERIALS AND FINAL INSTALLATION INSTRUCTIONS INCLUDED WITH THE STRUCTURE FOR POSSIBLE SUBSTITUTIONS AND IMPROVEMENTS.
8. FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.
9. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BRACING, SHORING, LAYDOWN AND PROTECTION OF CONSTRUCTION MATERIALS, ETC. TEMPORARY SHORING AND BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT ELECTRIC WIRING, IF REQUIRED, BE RUN THROUGH THE STRUCTURAL MEMBERS BEFORE THE BUILDING IS ERECTED.
11. MAKING HOLES, CUTS OR MODIFICATIONS TO THE STRUCTURAL STEEL MEMBERS IS NOT PERMITTED IN THE FIELD WITHOUT SPECIFIC APPROVAL OF POLIGON.

CERTIFICATES:
MIAMI-DADE COUNTY CERTIFICATE OF COMPETENCY NO. 24-0903.04
PCI (POWDER COATING INSTITUTE) 4000 CERTIFIED

FABRICATOR APPROVALS:
CITY OF PHOENIX, AZ APPROVED FABRICATOR #C08-2010
CITY OF LOS ANGELES, CA APPROVED FABRICATOR #FB01596
CITY OF RIVERSIDE, CA APPROVED FABRICATOR #SF_000042
CITY OF HOUSTON, TX APPROVED FABRICATOR #470
CLARK COUNTY, NV APPROVED FABRICATOR #264
STATE OF UTAH APPROVED FABRICATOR 02008-14
AISC APPROVED FABRICATOR C-00024530
AWS CERTIFIED WELDING FABRICATOR #240707F

DESIGN CRITERIA:

GENERAL:
2021 INTERNATIONAL BUILDING CODE
RISK CATEGORY: II

DEAD LOAD:
ROOF DEAD LOAD: 2 PSF
FRAME DEAD LOAD: SELF WEIGHT

LIVE LOAD:
ROOF LIVE LOAD: 20 PSF

SNOW DESIGN DATA:
GROUND SNOW LOAD (Pg): 0 PSF
FLAT ROOF SNOW LOAD (Pf): 0 PSF
SNOW EXPOSURE FACTOR (Ce): 1.0
SNOW LOAD IMPORTANCE FACTOR (Is): 1.0
THERMAL FACTOR (Ct): 1.2
ROOF SLOPE FACTOR (Cs): 1.0
DRIFT SURCHARGE LOAD (Pd): 0 PSF
WIDTH OF SNOW DRIFT (w): 0 FT
MINIMUM HORIZONTAL SEPARATION DISTANCE (s): 20 FT

WIND DESIGN DATA:
BASIC WIND SPEED (V): 135 MPH
ALLOWABLE STRESS DESIGN WIND SPEED (Vasd): 105 MPH
GUST EFFECT FACTOR (G): 0.85
INTERNAL PRESSURE COEFFICIENT (GCpi): 0
WIND EXPOSURE: C

SEISMIC DESIGN DATA:
STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
SEISMIC IMPORTANCE FACTOR (Ie): 1.0
SEISMIC DESIGN CATEGORY: B
SEISMIC SITE CLASS: D DEFAULT
SHORT SPECTRAL RESPONSE (Ss): 0.32
1-SEC SPECTRAL RESPONSE (S1): 0.08
DESIGN SHORT SPECTRAL RESPONSE (SDS): 0.33
DESIGN 1-SEC SPECTRAL RESPONSE (SD1): 0.13
SEISMIC RESPONSE COEFFICIENT (Cs): 0.11
RESPONSE MODIFICATION COEFFICIENT (R): 3.00
EQUIVALENT LATERAL FORCE PROCEDURE
SEE CALCULATIONS FOR ADDITIONAL DATA

ADDITIONAL CRITERIA:
NONE

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Date: 2025.05.23 12:55:21-04'00'

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PRINT DATE: 5/21/2025 | SCALE: 1:95
DRAWN BY: Patrick Darragh | REVLEVEL: A
CREATION DATE: 11/16/2016 | ORDER NO: 82839 | CAD MODEL: P21842

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ARCHITECTURAL ELEVATIONS
SHEET: 1

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LANDSCAPE ARCHITECT No. 2987, ON 7/10/25
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CITY OF HOUSTON
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BOONE PARK
60% CONSTRUCTION DOCUMENTS

L1.33 – Oxford Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 22 OF 42	

poligon® WWW.POLIGON.COM MAIN: (616) 888-3500 FIELD SUPPORT: (616) 888-3504 by PORTER CORP
PRINT DATE: 5/21/2025 | SCALE: 1:90
DRAWN BY: Patrick Darragh | REVLEVEL: A
CREATION DATE: 11/16/2016 | ORDER NO: 82839 | CAD MODEL: P21842
PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: COVER SHEET
SHEET: CS

NO.	DATE		APP.
1	07/14/25	60% CD Set	

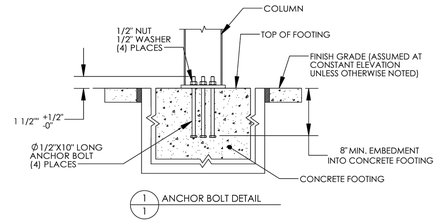
FOUNDATION DESIGN NOT BY POLIGON

ANCHOR BOLT NOTES - INTERNAL (ANCHOR BOLTS LOCATED WITHIN COLUMN):

1. ANCHOR BOLTS SHALL BE ASTM A307 (GRADE A) MATERIAL UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS SHALL BE EITHER "HEADED" OR "THREADED WITH NUT" AS DEFINED IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
3. HOOKED ANCHOR BOLTS ARE NOT ACCEPTABLE.
4. ACCURATE ANCHOR BOLT PLACEMENT IS CRITICAL. TO ENSURE THE ANCHOR BOLT LAYOUT MEETS THE DIMENSIONS REQUIRED ON THE DRAWINGS, SURVEY (OR MEASURE) THE LOCATION OF ALL ANCHOR BOLTS PRIOR TO POURING THE FOOTINGS. AN ADDITIONAL SURVEY (OR MEASUREMENT) SHOULD BE MADE AFTER THE FOOTINGS ARE POURED TO CONFIRM THE ANCHOR BOLTS DID NOT SHIFT DURING THE CONCRETE POUR.
5. THE MANUFACTURER STRONGLY RECOMMENDS USING ANCHOR BOLT TEMPLATES BECAUSE THEY SIGNIFICANTLY IMPROVE THE ACCURACY OF ANCHOR BOLT PLACEMENT. AN ANCHOR BOLT TEMPLATE IS PROVIDED WITH ANY ANCHOR BOLT KIT PURCHASED.
6. IF OUTSIDE CONSULTING ENGINEERS ARE DESIGNING THE FOUNDATIONS FOR THIS STRUCTURE, THEY MUST REFER TO THE MANUFACTURER'S CALCULATIONS FOR MINIMUM CONCRETE PROPERTIES (COMPRESSIVE STRENGTH, EDGE DISTANCE, ETC.) REQUIRED FOR THE ANCHOR BOLT DESIGN.
7. ELECTRICAL ACCESS HOLE IS ALWAYS LOCATED IN THE COLUMN BASE PLATE AS SHOWN. BE SURE TO KEEP THE ANCHOR BOLT TEMPLATE PROPERLY ORIENTED WHEN ELECTRICAL ACCESS TO THE COLUMN IS REQUIRED. TEMPLATE MUST BE REMOVED BEFORE INSTALLING COLUMNS.
8. THE CALCULATIONS FOR THIS STRUCTURE ASSUME A PINNED COLUMN BASE.
9. THE FOLLOWING ADHESIVE ANCHORS MAY BE SUBSTITUTED FOR THE CAST-IN-PLACE ANCHOR BOLTS:
   -HILTI HIT-HY 200 (A OR R) V3 ADHESIVE WITH Ø 1/2" HAS-E ROD WITH 6" EFFECTIVE EMBEDMENT.
   CONTRACTOR SHALL FOLLOW ALL INSTALLATION SPECIFICATIONS AND REQUIREMENTS OF ANCHOR MANUFACTURER.

CONCRETE NOTES:

1. MINIMUM CONCRETE COMPRESSIVE STRENTGH AT 28 DAYS: 4500 PSI.



1/1 ANCHOR BOLT DETAIL

STATE OF TEXAS — CHRISTOPHER M EVANS — 108007 — LICENSED — PROFESSIONAL ENGINEER

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Date: 2025.05.23 12:56:25-04'00'

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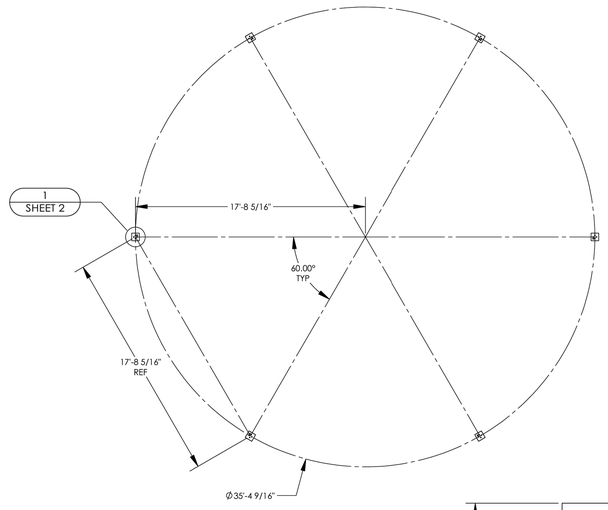
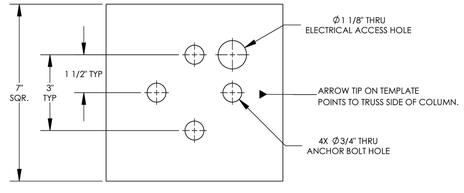
PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ANCHOR AND FOOTING DETAILS
PRINT DATE: 5/21/2025
SCALE: 1:12
DRAWN BY: DYDO/DOah
REVIEW: A
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD NODE: P21842
SHEET 2.1

ANCHOR AND FOOTING LAYOUT NOTES:

1. ANCHORS MUST BE CENTERED IN FOOTINGS
2. FOOTINGS MUST BE TURNED TO ALIGN WITH COLUMN AND TRUSS CENTERLINE.





1/2 ANCHOR BOLT PATTERN
BASE PLATE THICKNESS: 1/2"

STATE OF TEXAS — CHRISTOPHER M EVANS — 108007 — LICENSED — PROFESSIONAL ENGINEER

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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ANCHOR AND FOOTING LAYOUT
PRINT DATE: 5/21/2025
SCALE: 1:70
DRAWN BY: DYDO/DOah
REVIEW: A
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD NODE: P21842
SHEET 2

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BOONE PARK

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L1.34 – Oxford Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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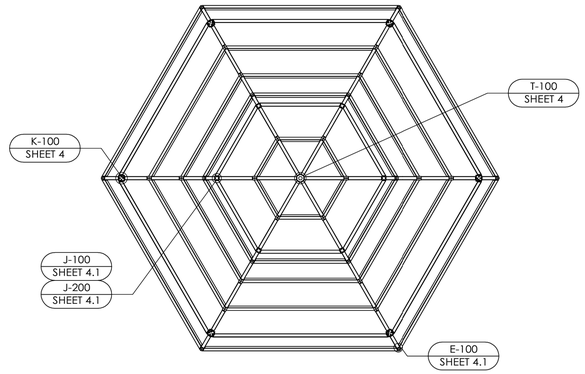
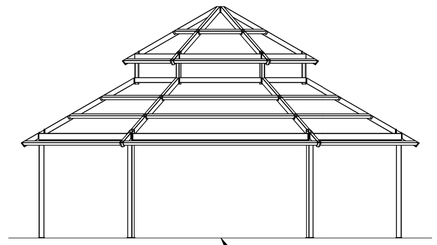
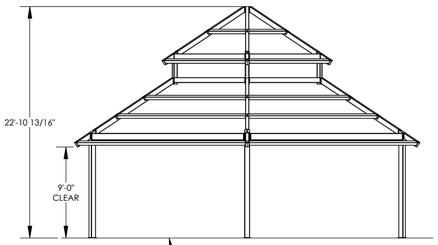
SHEET NO. 23 OF 42	







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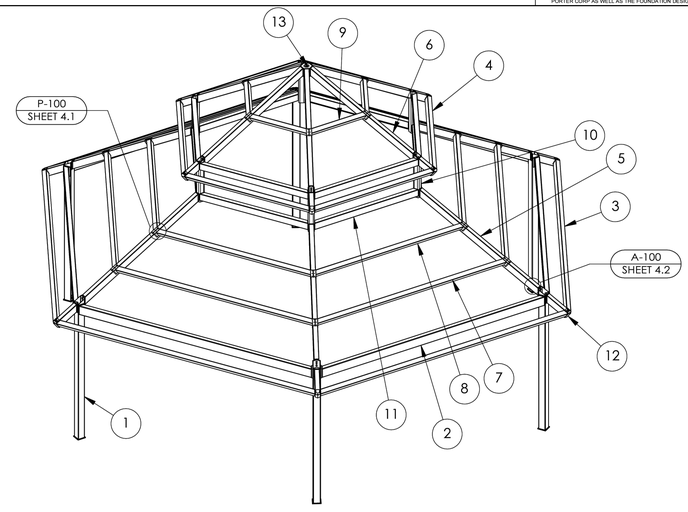
SCALE: 1:90
DRAWN BY: DYDO/DSorah
REV LEVEL: A
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD NUMBER: P21842

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: STRUCTURAL FRAMING PLAN

SHEET
3.1

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	



ITEM	QTY.	PART NO.	DESCRIPTION	MATERIAL SIZE	WEIGHT
13	1	-	HEX C-RING ASM	3/8" PLATE	30.03
12	6	-	LO TRUSS TAIL ASM	HSS6"X4"X1/8"	18.65
11	12	-	CLERESTORY MEMBER 1 ASM	HSS6"X4"X1/8"	69.08
10	6	-	J-COL ASM	HSS5"X5"X1/2"	98.78
9	6	-	UP PURLIN 1 ASM	HSS4"X4"X1/8"	28.72
8	6	-	LO PURLIN 2 ASM	HSS4"X4"X1/8"	75.20
7	6	-	LO PURLIN 1 ASM	HSS4"X4"X1/8"	95.64
6	6	-	UP TRUSS 1 ASM	HSS6"X4"X1/8"	77.62
5	6	-	LO TRUSS 1 ASM	HSS6"X4"X1/8"	92.15
4	6	-	EAVE BEAM 2 ASM	HSS4"X4"X1/8"	61.46
3	6	-	EAVE BEAM 1 ASM	HSS4"X4"X1/8"	125.61
2	6	-	TENSION MEMBER 1 ASM	HSS8"X4"X3/16"	261.33
1	6	-	COLUMN 1 ASM	HSS6"X6"X3/16"	186.56

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REV LEVEL: A
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD NUMBER: P21842

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: STRUCTURAL FRAMING PLAN

SHEET
3

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L1.35 – Oxford Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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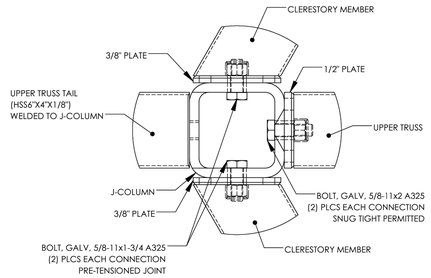
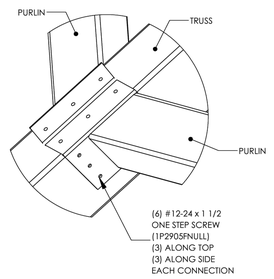
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 24 OF 42	

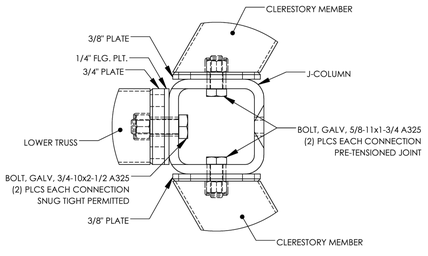


UPPER J-COLUMN CONNECTION	J-200

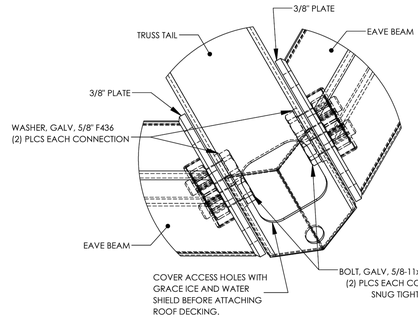


PURLIN CONNECTION	P-100

NOTE:
COVER PLATE
ATTACHED WITH POP RIVETS
(1P2903) (1) PER CLEAT
AT BOTTOM OF CONNECTION

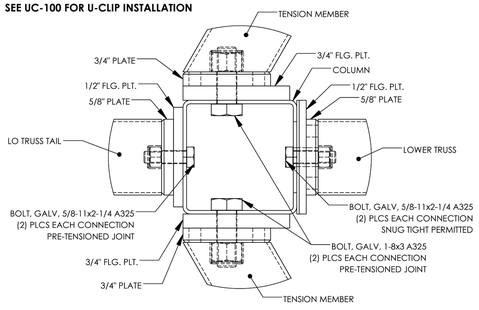


LOWER J-COLUMN CONNECTION	J-100

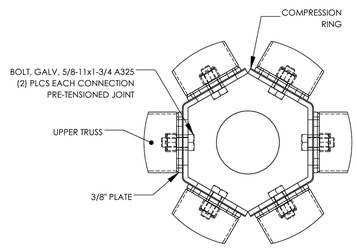


EAVE BEAM CONNECTION	E-100

NOTE:
SEE UC-100 FOR U-CLIP INSTALLATION



COLUMN CONNECTIONS	K-100



COMPRESSION MEMBER CONNECTION	T-100

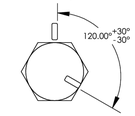
CONNECTION NOTES:

1. HIGH STRENGTH BOLTS SHALL BE ASTM F3125 (A325, TYPE 1) MATERIAL.
2. HIGH STRENGTH NUTS SHALL BE ASTM A563 (GRADE DH) MATERIAL.
3. HIGH STRENGTH WASHERS SHALL CONFORM TO ASTM F436.
4. UNLESS A SNUG-TIGHT JOINT IS PERMITTED IN THE CONNECTION DETAIL, ALL BOLTS ARE TO BE INSTALLED BY ONE OF THE FOLLOWING PRETENSIONING METHODS AS SPECIFIED IN THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", SECTION 8:
   A. TURN-OF-NUT PRETENSIONING
5. THE SNUG-TIGHT CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
6. ANCHOR BOLTS NEED NOT BE TIGHTENED PAST SNUG-TIGHT.
7. WHEN INSTALLING BOLTS REFER TO SECTIONS 8.1 AND 8.2 OF THE "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" FOR GUIDANCE.
8. LOCAL JURISDICTIONS MAY REQUIRE AN INSPECTOR TO BE PRESENT TO WITNESS HARDWARE INSTALLATION AND INDEPENDENT TESTING. INSPECTION REQUIREMENTS SHOULD BE VERIFIED BY INSTALLER PRIOR TO STEEL ERECTION.
9. ERECTION OF THE FRAMING MEMBERS WILL REQUIRE THE MAIN COLUMNS TO BE PLUMB SQUARE AND TIGHTENED TO THE TRUSSES AND/OR TENSION MEMBERS BEFORE INSTALLING THE PURLINS. PURLINS, IF REQUIRED, MUST BE AS SHOWN IN FRAMING PLAN.
10. TEMPORARY SHORING OR BRACING SHALL BE USED TO COMPACT THE JOINTS UNTIL THE CONNECTED PLIES ARE IN FIRM CONTACT PRIOR TO PRETENSIONING.
11. PRIOR TO THE ERECTION OF SHELTER COMPONENTS, IT IS RECOMMENDED TO CHASE AND TAP STRUCTURAL HARDWARE.
12. ALL BOLTS MUST BE LUBRICATED WITH WAX TO ASSIST IN PROPER TIGHTENING. TO LUBRICATE A BOLT IN THE FIELD, APPLY THE WAX STICK DOWN THE LENGTH OF THE BOLT'S THREADS.
13. TO PREVENT RUST STAINING OF FINISH, ALL METAL SHAVINGS MUST BE REMOVED AFTER INSTALLATION. ENSURE NO SHAVING ARE TRAPPED BETWEEN MATING SURFACES.
14. TOUCH-UP PAINT MUST BE APPLIED TO ALL EXPOSED FASTENERS. PERIODIC TOUCH-UP AT THESE CONNECTIONS IS REQUIRED.
15. ENSURE FRAME MEMBERS WITH DRAIN HOLES NEAR THE ENDS OF TUBES ARE INSTALLED FACING UP UNLESS SPECIFIED IN THE FRAME CONNECTION DETAILS.

TURN-OF-NUT PRETENSIONING METHOD:
THESE STEPS ILLUSTRATE THE REQUIREMENTS OUTLINED IN THE AISC SPECIFICATION. THE ROTATION INDICATED IS ACCURATE FOR MOST BOLT DIAMETERS AND LENGTHS BUT IT IS THE RESPONSIBILITY OF THE INSTALLER TO MEET AISC REQUIREMENTS.

STEP ONE:
AFTER SNUG TIGHT,
MATCH MARK PLATE

STEP TWO:
THEN TURN BOLT/NUT PAST
SNUG TIGHT 1/3 TURN



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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: FRAME CONNECTION DETAILS
CREATION DATE: 11/16/2016
ORDER NO.: 82839
CAD MODEL: P21842
DRAWN BY: DVD/CDorah
REVIEWED: A
PRINT DATE: 5/21/2025
SCALE: 1:4
SHEET: 4.1

NO.	DATE	REVISION	APP.
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
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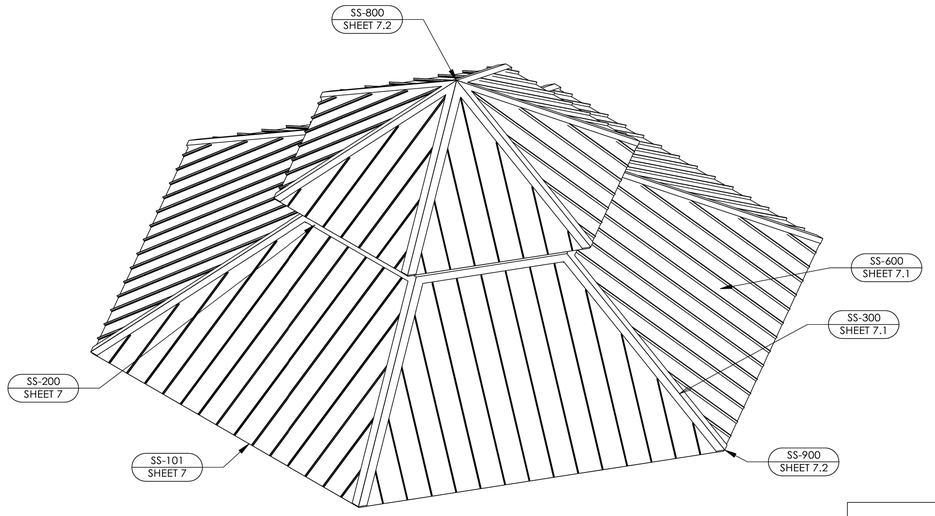

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Date: 2025.05.23 12:55:45-04'00'

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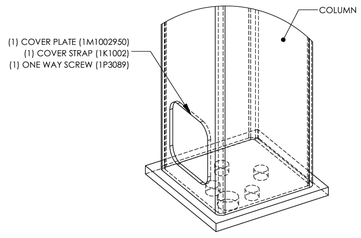
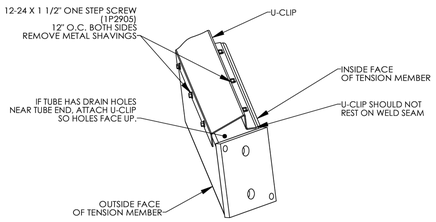


ANCHOR ACCESS COVER PLATE | A-100

NOTE:
U-CLIP MUST BE ATTACHED TO TENSION MEMBER AS SHOWN PRIOR TO BUILDING ASSEMBLY.



U-CLIP CONNECTION | UC-100

Digitally signed by Christopher Evans
Date: 2025.05.23 12:55:42-04'00'

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by PORTER CORP

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF OVERVIEW
CREATION DATE: 11/16/2016
ORDER NO.: 82839
CAD FOLDER: P21842
DRAWN BY: DYDOCOach
REV LEVEL: A
PRINT DATE: 5/21/2025
SCALE: 1:48
SHEET 6

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MAIN #: (615) 255-5000
FIELD SUPPORT: (615) 838-3804
by PORTER CORP

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: FRAME CONNECTION DETAILS
CREATION DATE: 11/16/2016
ORDER NO.: 82839
CAD FOLDER: P21842
DRAWN BY: DYDOCOach
REV LEVEL: A
PRINT DATE: 5/21/2025
SCALE: 1:4
SHEET 4.2

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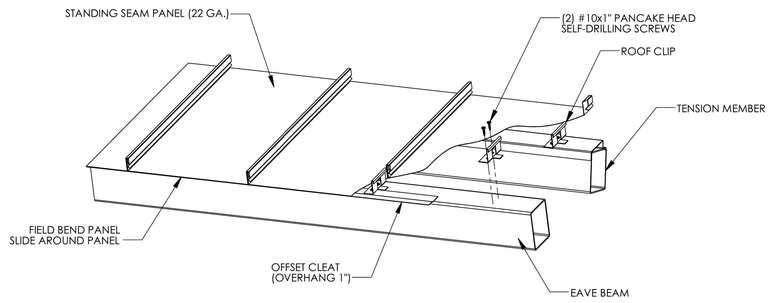
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

L1.37 – Oxford Poligon Shade Structure

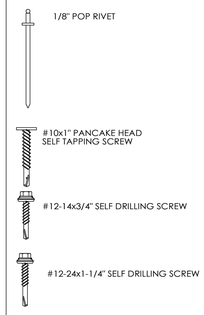
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 26 OF 42	

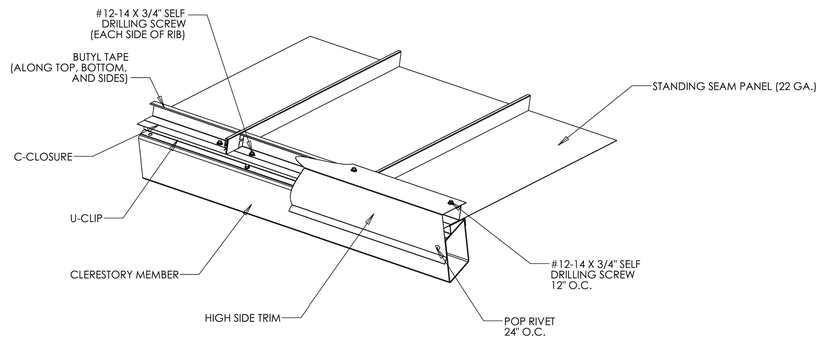
NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	



2022B | EAVE DETAIL | SS-101

PART DESCRIPTIONS:

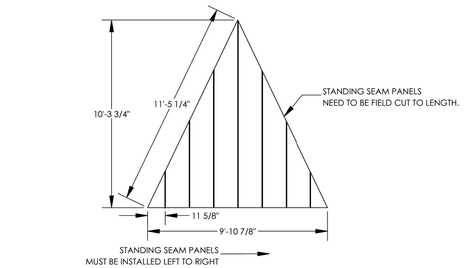


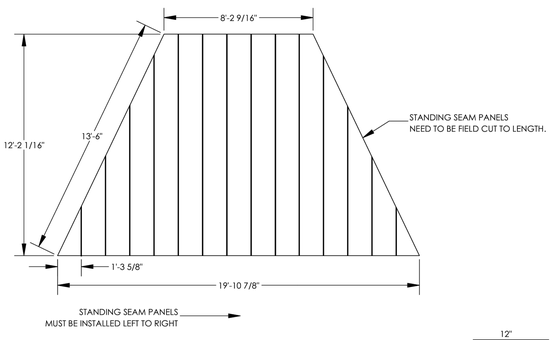


2023A | HIGH SIDE DETAIL (VIEWING FROM ABOVE) | SS-200

Digitally signed by Christopher Evans
Date: 2025.05.23 12:55:51-04'00'

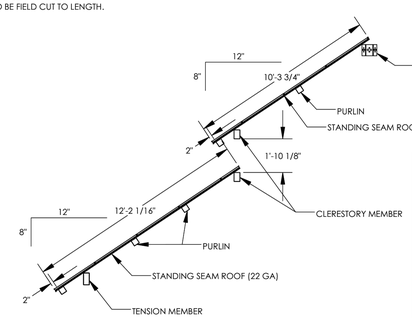
IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO BUILDING COMPONENTS DETAILED WITHIN THESE DRAWINGS AND SUPPLIED BY PORTER CORP AS WELL AS THE FOUNDATION DESIGN, IF APPLICABLE.





STANDING SEAM INSTALLATION NOTES:

1. THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE SYSTEMS. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGNS OR CODES. THE DETAILS MAY REQUIRE CHANGES OR REVISIONS DUE TO FIELD CONDITIONS.
2. IT SHALL BE THE RESPONSIBILITY OF THE ERECTOR TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.
3. THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE HIMSELF/HERSELF WITH ALL ERECTION INSTRUCTIONS BEFORE STARTING WORK.
4. THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.
5. FLASHING AND TRIM SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ANY EXPOSED FASTENERS EQUALLY SPACED FOR THE BEST APPEARANCE.
6. SEALANT SHALL BE FIELD APPLIED ON DRY, CLEAN SURFACES. SOME FIELD CUTTING AND FITTING OF PANELS AND FLASHING IS TO BE EXPECTED BY THE ERECTOR AND MINOR FIELD CORRECTIONS ARE A PART OF NORMAL ERECTION WORK.
7. WORKMANSHIP SHALL BE OF THE BEST INDUSTRY STANDARDS AND INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN.
8. METAL SHAVINGS FROM DRILLING OR INSTALLATION OF ROOF FASTENERS MUST BE CAREFULLY REMOVED FROM THE ROOF BY BRUSHING OR SWEEPING AT THE END OF EACH DAY DURING INSTALLATION. SHAVINGS LEFT ON THE ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH.



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PRINT DATE: 5/21/2025 | SCALE: NTS
DRAWN BY: PORTER/Zobrah | REV LEVEL: A
CREATION DATE: 11/16/2016 | ORDER NO: 82839 | CAD NUMBER: P21842

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS

SHEET 7

poligon® WWW.POLIGON.COM MAIN: (816) 888-3504 FIELD SUPPORT: (816) 888-3504 by PORTER CORP

PRINT DATE: 5/21/2025 | SCALE: 1:50
DRAWN BY: PORTER/Zobrah | REV LEVEL: A
CREATION DATE: 11/16/2016 | ORDER NO: 82839 | CAD NUMBER: P21842

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF LAYOUT

SHEET 6.1

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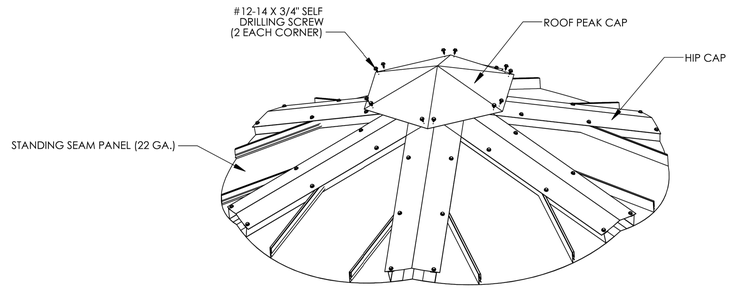
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

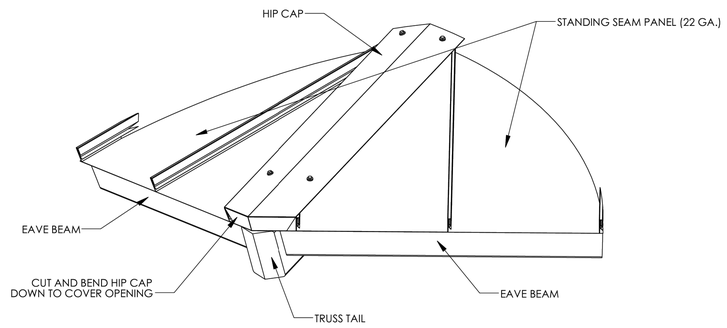
L1.38 – Oxford Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 27 OF 42	

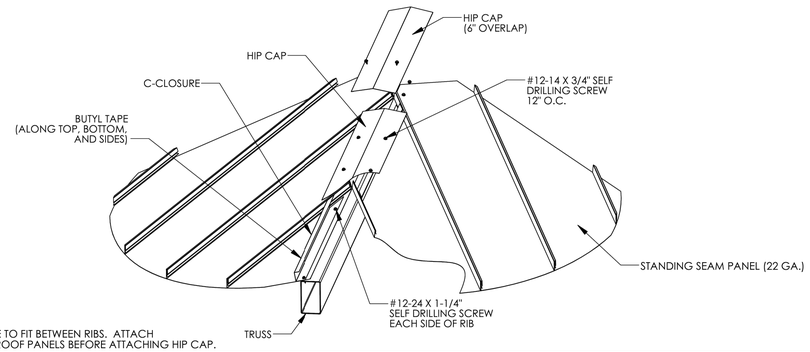
NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	



2022A | ROOF PEAK DETAIL | SS-800

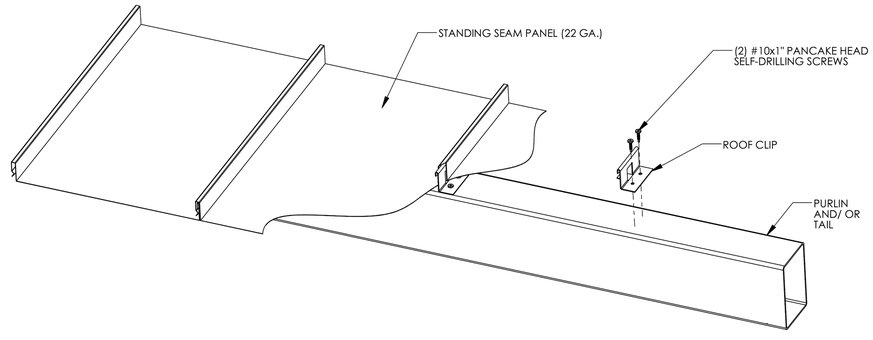


2022A | CORNER DETAIL | SS-900



NOTE:
TRIM C-CLOSURE TO FIT BETWEEN RIBS. ATTACH C-CLOSURE TO ROOF PANELS BEFORE ATTACHING HIP CAP.

2023A | TRUSS DETAIL | SS-300



2022B | PURLIN DETAIL | SS-600

STATE OF TEXAS — CHRISTOPHER M EVANS — 108007 — LICENSED — PROFESSIONAL ENGINEER

Digitally signed by Christopher Evans
Date: 2025.05.23 12:55:57-04'00'

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STATE OF TEXAS — CHRISTOPHER M EVANS — 108007 — LICENSED — PROFESSIONAL ENGINEER

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NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD FILE/DIR: P21842
DRAWN BY: DVD/TJD/DSD/JH
REVIEWER: A
PRINT DATE: 5/21/2025
SCALE: NTS
SHEET 7.2

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PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD FILE/DIR: P21842
DRAWN BY: DVD/TJD/DSD/JH
REVIEWER: A
PRINT DATE: 5/21/2025
SCALE: NTS
SHEET 7.1

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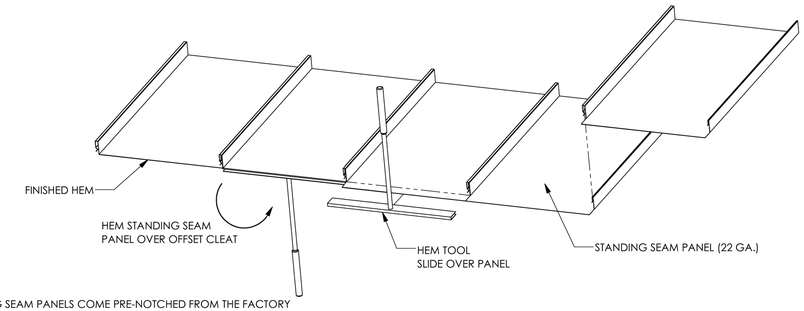
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

L1.39 – Oxford Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 28 OF 42	

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	



-STANDING SEAM PANELS COME PRE-NOTCHED FROM THE FACTORY
-PANELS MUST BE INSTALLED FROM LEFT TO RIGHT (FEMALE LEG ON LEFT, MALE LEG ON THE RIGHT
-HEM TOOL NOT PROVIDED AS PART OF THE ROOF KIT

2022A	HEM DETAIL	SS HEM

Digitally signed by Christopher Evans
Date: 2025.05.23 12:56:00-04'00'

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by PORTER CORP MAIL: 800.284.3908
FIELD SUPPORT: (614) 888-3554

PRINT DATE: 5/21/2025
DRAWN BY: Patrick Dolph
SCALE: NTS
REVIEW: A
CREATION DATE: 11/16/2016
ORDER NO: 82839
CAD FILE/DGN: P21842
PROJECT: BOONE PARK
PROJECT LOCATION: HOUSTON, TX
DRAWING: ROOF CONNECTION DETAILS
SHEET
7.3

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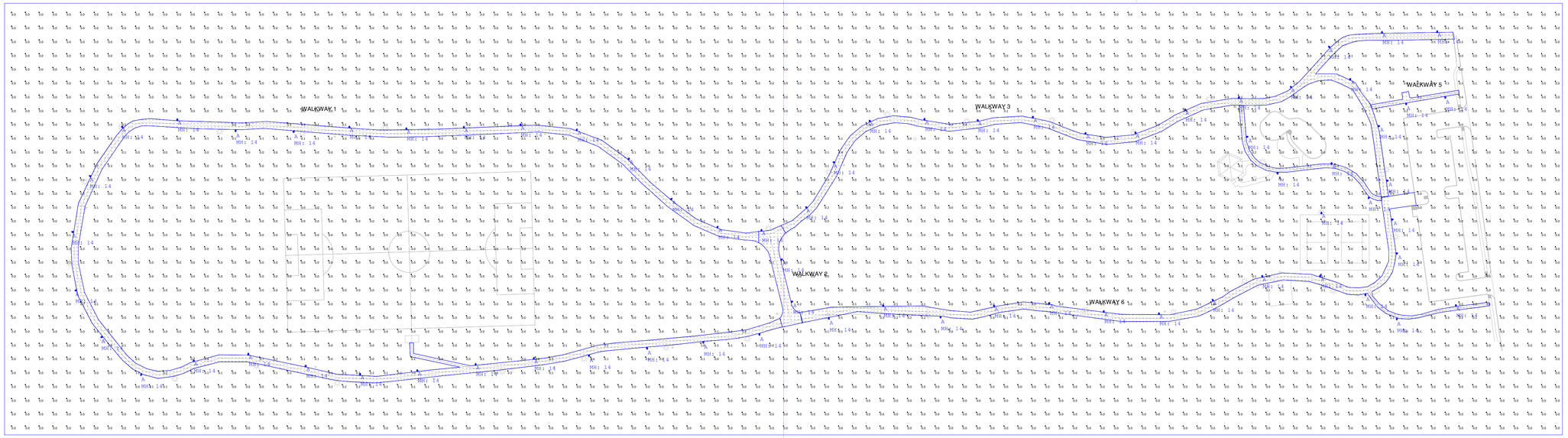
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

L1.40 – Oxford Poligon Shade Structure

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 29 OF 42	



Plan View
Scale: 1 inch= 84 Ft.

LIGHTING PARAMETERS:

Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	[MANUFAC]	Description	Arr. Watts	Arr. Lum. Lumens	Mounting Height
	70	A	Single	0.900	First Light Technologies	IPL-PTM-XX-T2-NW-XX-XX	0	1155	14

Calculation Summary

Label	Units	Avg	Max	Min	Avg/Min	Max/Min	CV	UG	PtSpcLr	PtSpcTb	Grid Z
ENTIRE AREA	Fc	0.02	1.6	0.0	N.A.	N.A.	N.A.	N.A.	20	20	0
WALKWAY 1	Fc	0.59	1.91	0.15	3.93	12.73	N.A.	N.A.	5	5	0.01
WALKWAY 2	Fc	0.60	1.82	0.15	4.00	12.13	N.A.	N.A.	5	5	0.01
WALKWAY 3	Fc	0.63	1.88	0.15	4.20	12.53	N.A.	N.A.	5	5	0.01
WALKWAY 4	Fc	0.77	1.89	0.16	4.81	11.81	N.A.	N.A.	5	5	0.01
WALKWAY 5	Fc	0.77	1.79	0.16	4.81	11.19	N.A.	N.A.	5	5	0.01
WALKWAY 6	Fc	0.64	1.95	0.15	4.27	13.00	N.A.	N.A.	5	5	0.01

NO.	DATE	REVISON	APP.
1	07/14/25	60% CD Set	

LIGHTING
ASSOCIATES, INC.
John Stringfellow / jstringfellow@laihouston.com

NOTICE:

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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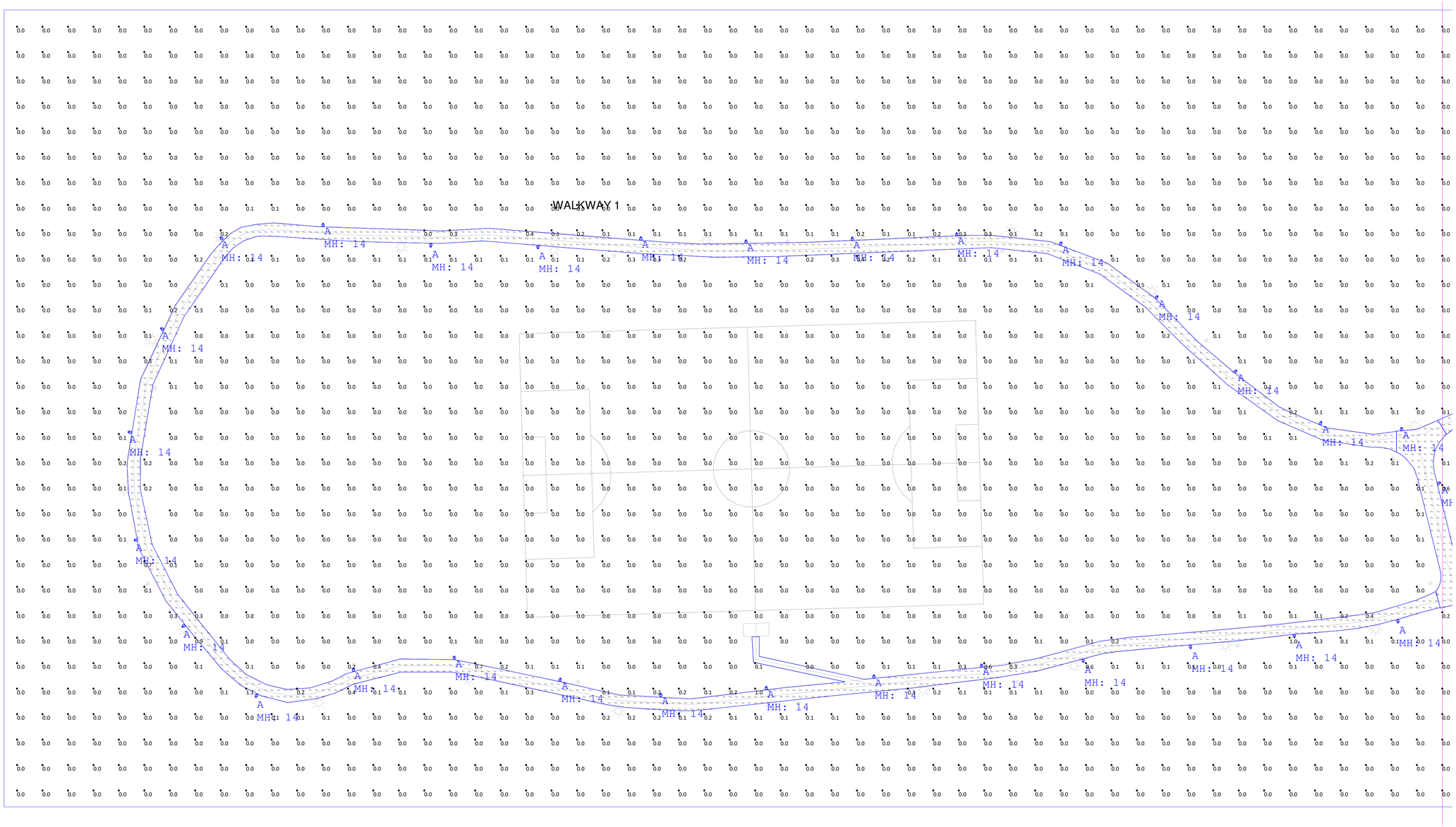
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK
60% CONSTRUCTION DOCUMENTS

L2.00 - Overall Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 30 OF 42	



Scale: 1 inch= 42 Ft.

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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

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Date

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Date

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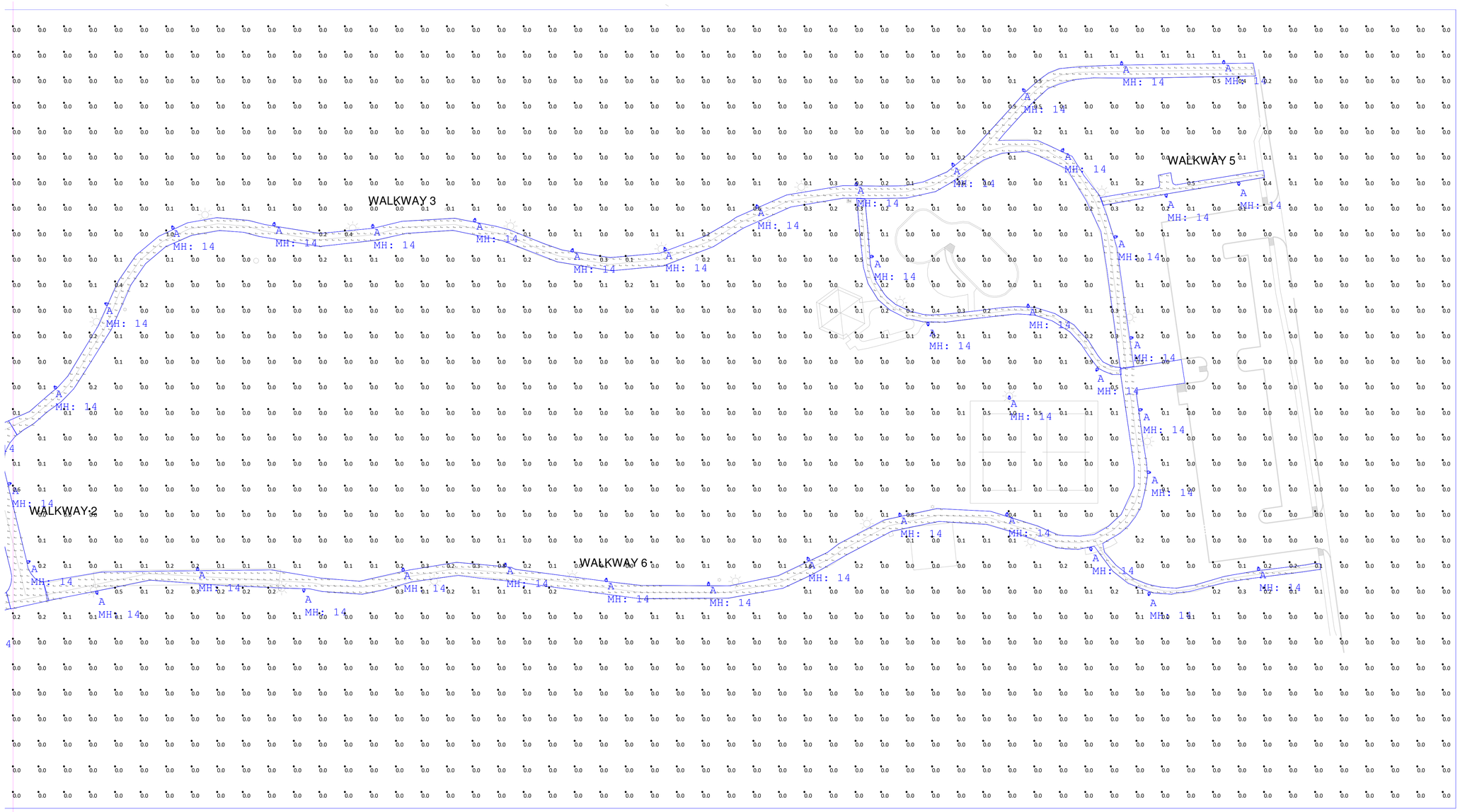
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

L2.01 - Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 31 OF 42	



Scale: 1 inch= 42 Ft.

NO.	DATE	REVISON	APP.
1	07/14/25	60% CD Set	

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Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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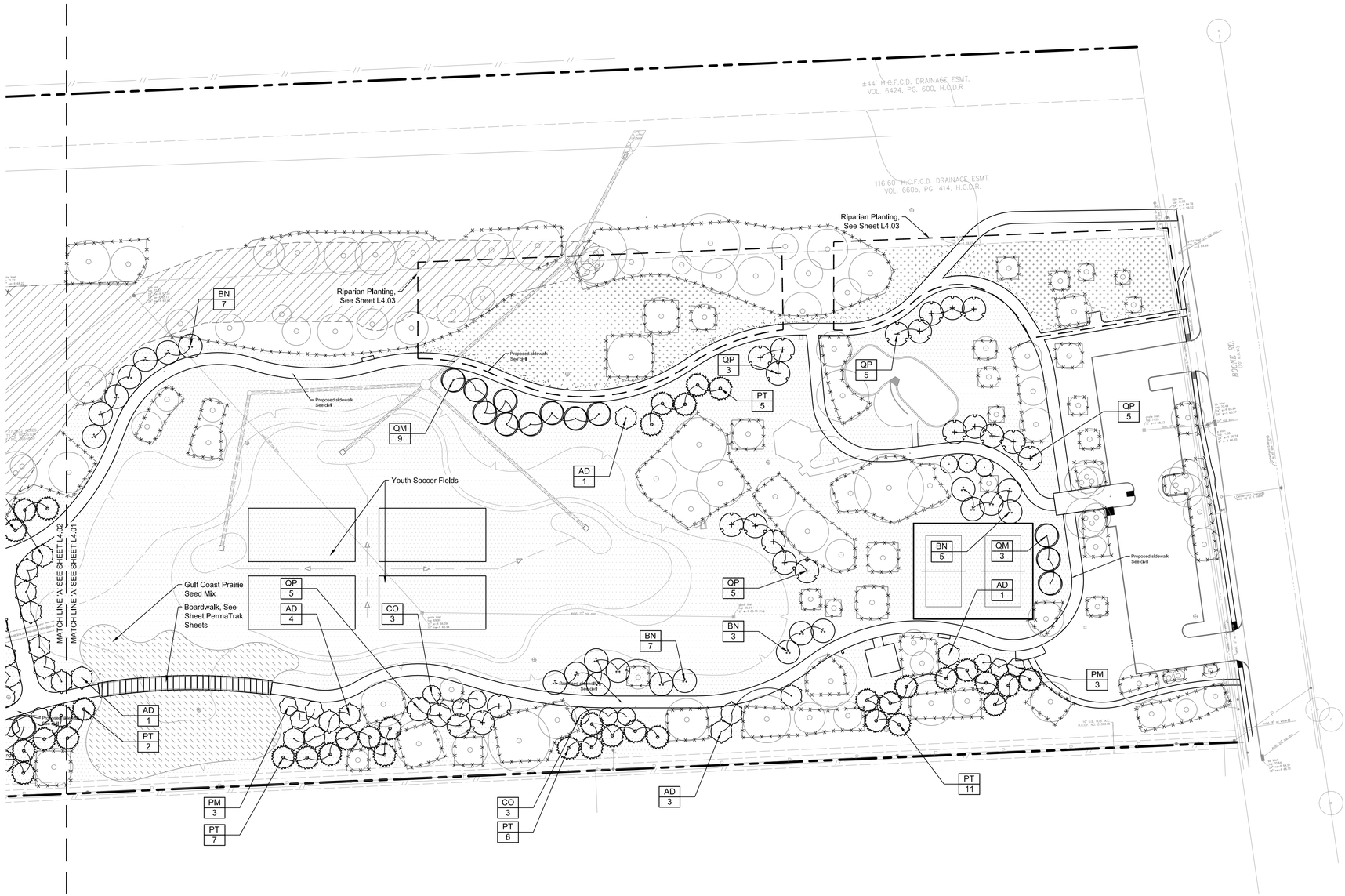
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

L2.02 - Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 32 OF 42	



0 25' 50' 100'

Scale: 1" = 50'

N

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME
TREES			
	QM	24	Burr Oak Quercus macrocarpa
	AD	26	Drummond Red Maple Acer rubrum drummondii
	PT	63	Loblolly Pine Pinus taeda
	PM	19	Mexican Plum Prunus mexicana
	CO	16	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'
	BN	22	River Birch Betula nigra
	QP	28	Willow Oak Quercus phellos

SYMBOL	CODE	COMMON / BOTANICAL NAME
SEED MIX		
	GC	Gulf Coast Prairie Seed Mix
	RR	Riparian Seed Mix
SOD/HYDROSEED		
	CD	Bermuda Grass (5' Strip of sod as shown) Cynodon dactylon
	CD2	Bermuda Grass (Hydroseed) Cynodon dactylon

LEGEND

Existing Tree

Tree Protection Fence

NOTES

1. Hydroseed all disturbed areas (limits of disturbed area.)
2. A strip of Bermuda sod must be placed against all concrete sidewalks.

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

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CITY OF HOUSTON

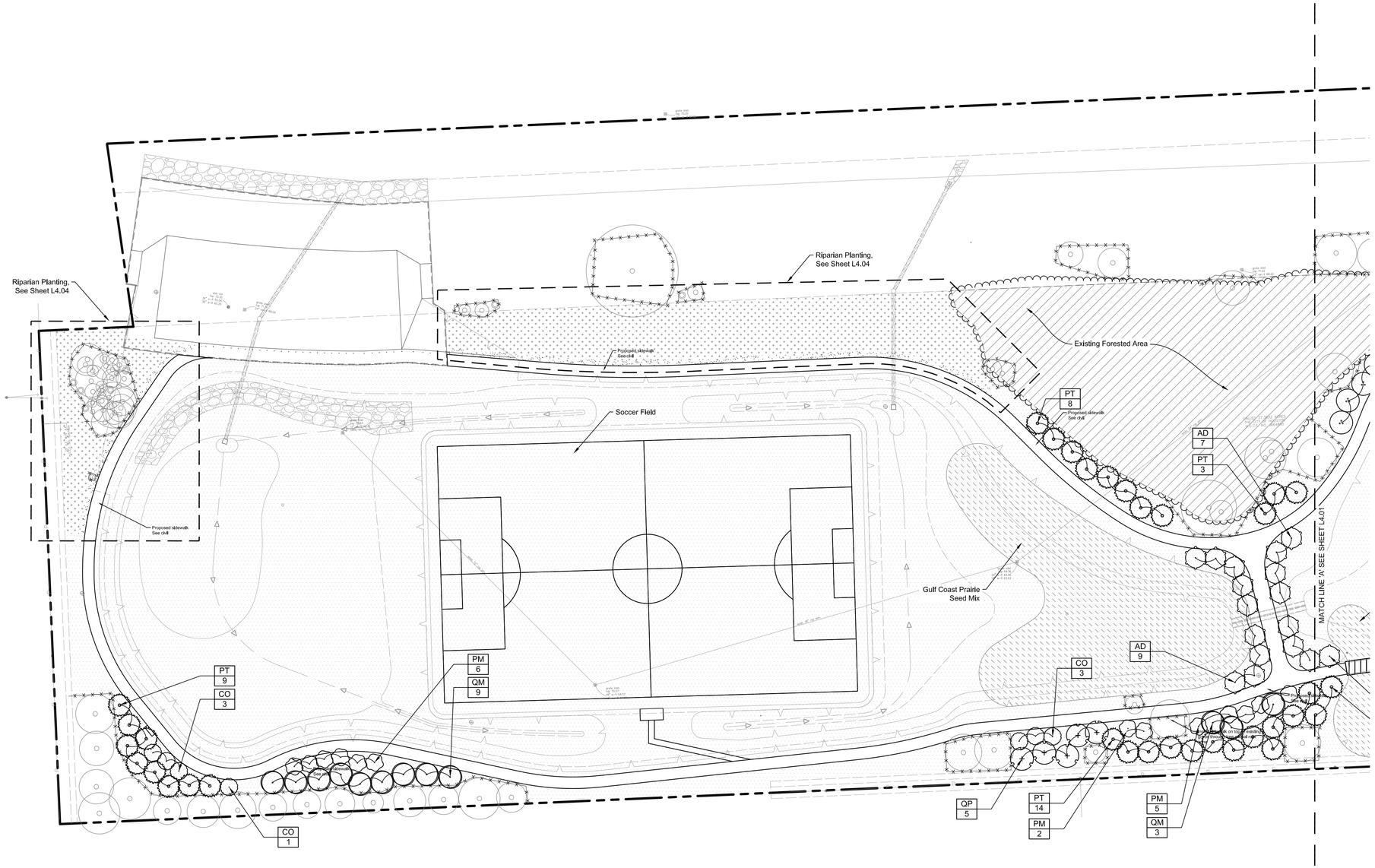
HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

L4.01 – Planting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 38 OF 42	



PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME
TREES			
	QM	24	Burr Oak Quercus macrocarpa
	AD	26	Drummond Red Maple Acer rubrum drummondii
	PT	63	Loblolly Pine Pinus taeda
	PM	19	Mexican Plum Prunus mexicana
	CO	16	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'
	BN	22	River Birch Betula nigra
	QP	28	Willow Oak Quercus phellos

SYMBOL	CODE	COMMON / BOTANICAL NAME
SEED MIX		
	GC	Gulf Coast Prairie Seed Mix
	RR	Riparian Seed Mix
SOD/HYDROSEED		
	CD	Bermuda Grass (5' Strip of sod as shown) Cynodon dactylon
	CD2	Bermuda Grass (Hydroseed) Cynodon dactylon

LEGEND

Existing Tree

Tree Protection Fence

NOTES

1. Hydroseed all disturbed areas (limits of disturbed area.)
2. A strip of Bermuda sod must be placed against all concrete sidewalks.

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

L4.02 – Planting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 39 OF 42	

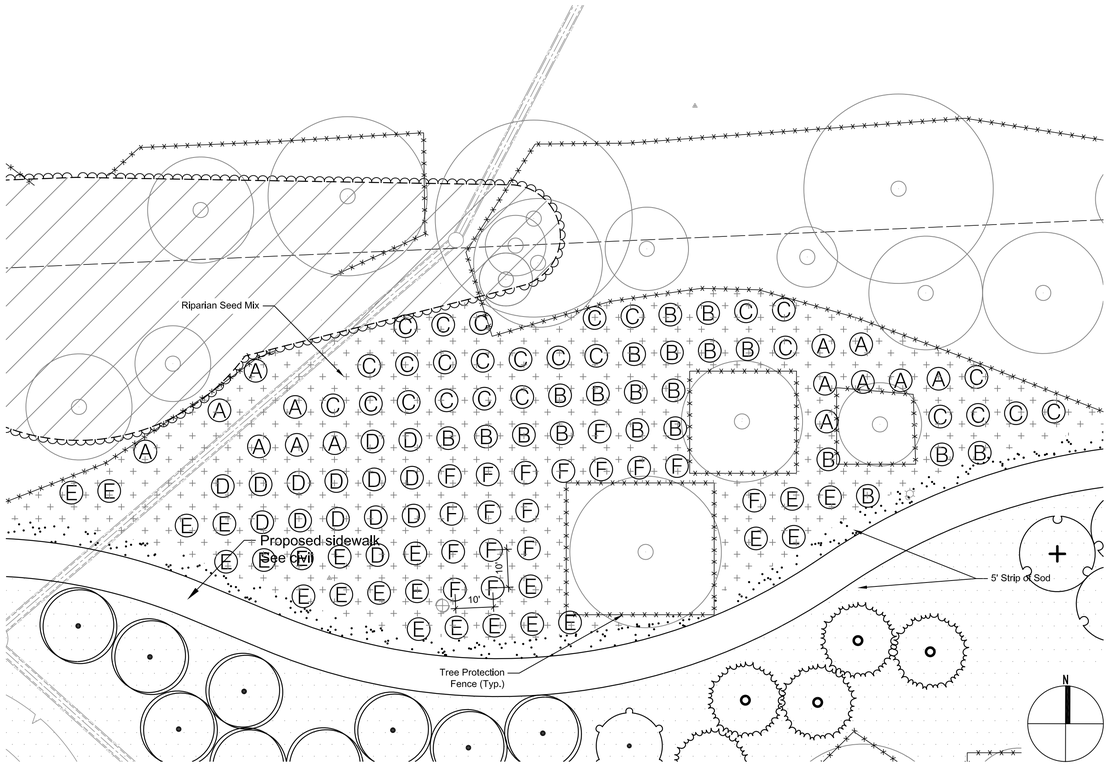
PLANT SCHEDULE

SYMBOL	COMMON / BOTANICAL NAME	REMARKS
NATURAL AREA		
(D)	Drummond Red Maple Acer rubrum drummondii	Fully rooted.
(E)	Loblolly Pine Pinus taeda	Fully rooted.
(B)	River Birch Betula nigra	Fully rooted.
(F)	Roughleaf Dogwood Cornus drummondii	Fully rooted.
(C)	Water Oak Quercus nigra	Fully rooted.
(A)	Willow Oak Quercus phellos	Fully rooted.
SEED MIX		
	Gulf Coast Prairie Seed Mix	Native American Seed Company. Reference landscape specifications.
	Riparian Seed Mix	Native American Seed Company. Reference landscape specifications.

LEGEND

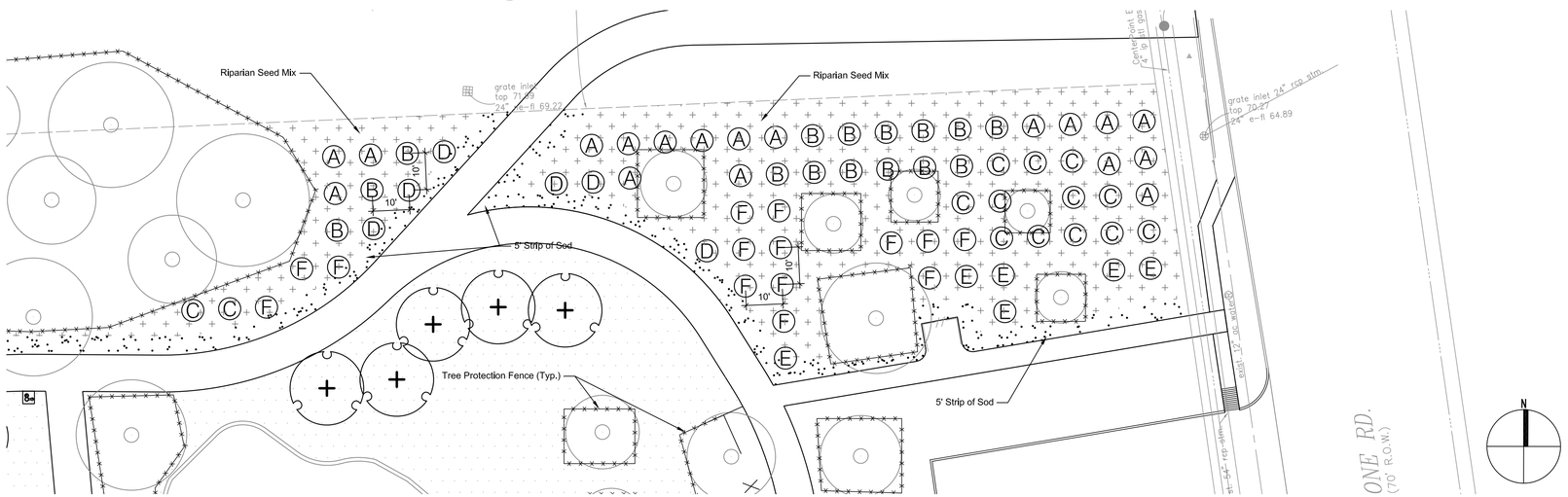
Existing Tree

Tree Protection Fence



2 RIPARIAN PLANTING - ZONE 3

1" = 20'



1 RIPARIAN PLANTING - ZONE 4

1" = 20'

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

BURDITT
LAND | PLACE STUDIO
310 Longmire, Conroe, TX 77304
P: (936) 756-3041 | F: (936) 539-3240
www.burditt.com

SURVEYED BY: KUO
FB NO. 00000

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CITY OF HOUSTON

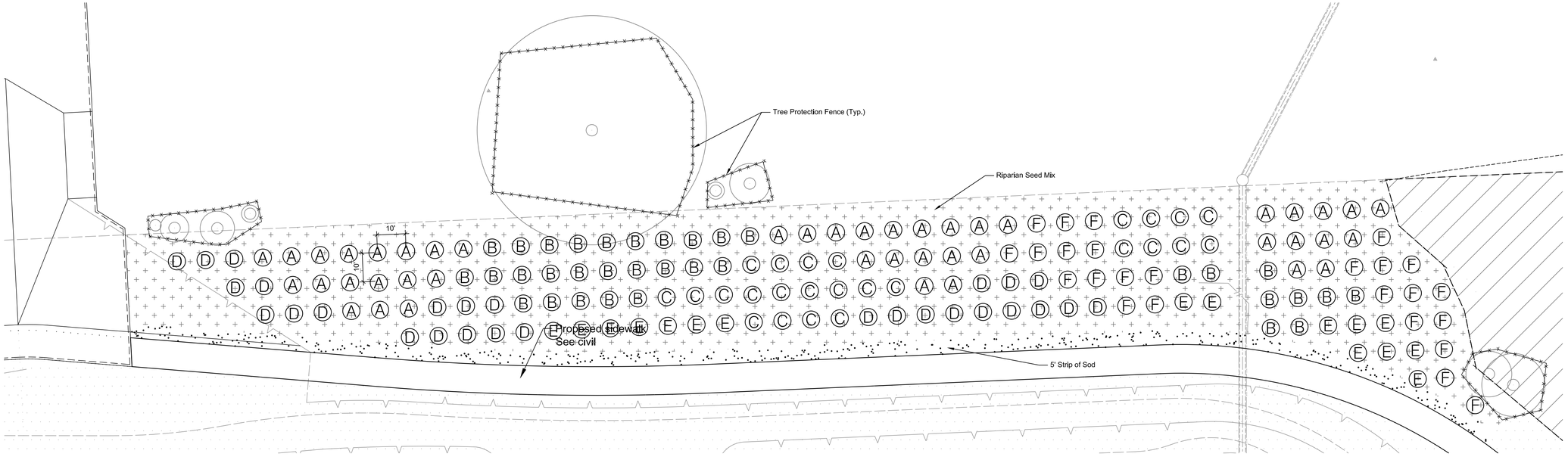
HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

L4.03 – Riparian Planting

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 40 OF 42	



2 RIPARIAN PLANTING - ZONE 2

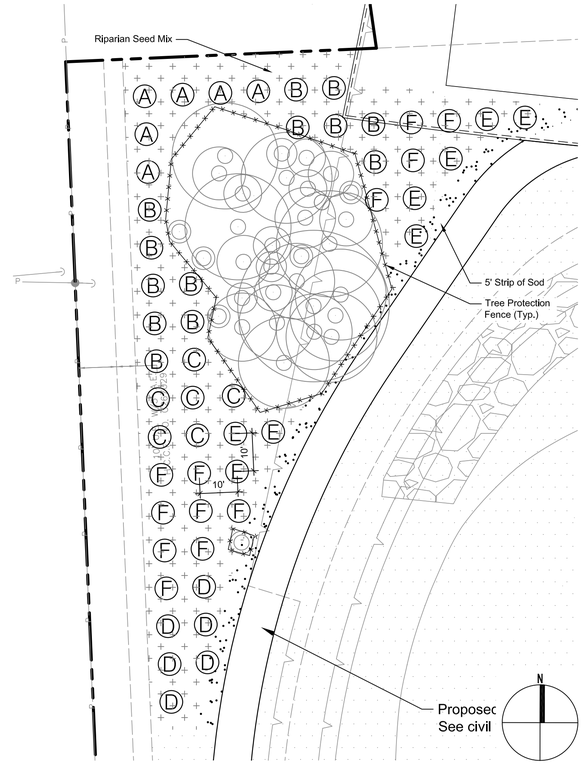
1" = 20'

PLANT SCHEDULE

SYMBOL	COMMON / BOTANICAL NAME	REMARKS
NATURAL AREA		
(D)	Drummond Red Maple Acer rubrum drummondii	Fully rooted.
(B)	Loblolly Pine Pinus taeda	Fully rooted.
(A)	River Birch Betula nigra	Fully rooted.
(C)	Roughleaf Dogwood Cornus drummondii	Fully rooted.
(F)	Water Oak Quercus nigra	Fully rooted.
(E)	Willow Oak Quercus phellos	Fully rooted.
SEED MIX		
	Gulf Coast Prairie Seed Mix	Native American Seed Company. Reference landscape specifications.
	Riparian Seed Mix	Native American Seed Company. Reference landscape specifications.

LEGEND

	Existing Tree
X X X X	**Tree Protection Fence**



1 RIPARIAN PLANTING - ZONE 1

1" = 20'

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

BURDITT
LAND | PLACE STUDIO
310 Longmire, Conroe, TX 77304
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www.burditt.com

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK

60% CONSTRUCTION DOCUMENTS

L4.04 – Riparian Planting

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 41 OF 42	

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT.	CAL.	HEIGHT	SPREAD	REMARKS
TREES								
	QM	24	Burr Oak Quercus macrocarpa	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk, Disease free and in vigorous condition. Tree Stake Solutions.
	AD	26	Drummond Red Maple Acer rubrum drummondii	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk, Disease free and in vigorous condition. Tree Stake Solutions.
	PT	63	Loblolly Pine Pinus taeda	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk, Disease free and in vigorous condition. Tree Stake Solutions.
	PM	19	Mexican Plum Prunus mexicana	45 Gal.	3" Min.	8' - 10' Min.	4' - 5' Min.	Single trunk, Disease free and in vigorous condition. Tree Stake Solutions.
	CO	16	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'	45 Gal.	3" Min.	8' - 10' Min.	4' - 5' Min.	Single trunk, Disease free and in vigorous condition. Tree Stake Solutions.
	BN	22	River Birch Betula nigra	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Multi- trunk, Disease free and in vigorous condition. Tree Stake Solutions.
	QP	28	Willow Oak Quercus phellos	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk, Disease free and in vigorous condition. Tree Stake Solutions.
NATURAL AREA								
(F)	F	80	Drummond Red Maple Acer rubrum drummondii	1 Gal.		12" - 36"		Fully rooted.
(C)	C	77	Loblolly Pine Pinus taeda	1 Gal.		12" - 36"		Fully rooted.
(RB)	D	61	River Birch Betula nigra	1 Gal.		12" - 36"		Fully rooted.
(DE)	E	60	Roughleaf Dogwood Cornus drummondii	1 Gal.		12" - 36"		Fully rooted.
(A)	A	88	Water Oak Quercus nigra	1 Gal.		12" - 36"		Fully rooted.
(B)	B	95	Willow Oak Quercus phellos	1 Gal.		12" - 36"		Fully rooted.

SYMBOL	CODE	COMMON / BOTANICAL NAME	SIZE	HEIGHT	SPREAD	REMARKS
SEED MIX						
	GC	Gulf Coast Prairie Seed Mix	---			Native American Seed Company. Reference landscape specifications.
	RR	Riparian Seed Mix	---			Native American Seed Company. Reference landscape specifications.
SOD/HYDROSEED						
	CD	Bermuda Grass (5' Strip of sod as shown) Cynodon dactylon	---			A strip of sod must be placed against all concrete sidewalks.
	CD2	Bermuda Grass (Hydroseed) Cynodon dactylon	---			Reference landscape specifications.

2 LANDSCAPE GENERAL NOTES

N.T.S.

LANDSCAPE NOTES:

Notify Landscape Architect or designated representative of any layout discrepancies or any condition which may prohibit the installation as shown.

Verify and locate all utilities and site lighting conduits before landscape construction begins. Protection of all utilities is the responsibility of the Contractor.

All landscape planting areas: To obtain final grade, excavation may be necessary to accept the required depth of topsoil/compost mix with surface dressing or mulch. All beds shall be crowned to anticipate settlement and ensure drainage without disrupting surrounding planned drainage paths. Any areas disturbed for any reason prior to final acceptance of the project shall be corrected by the Contractor at no additional expense to the Owner.

All newly planted landscaped areas will be irrigated with an underground automatic system.

Quantities shown on these plans are for reference only. Plant spacing is as indicated in the Plant Material List unless otherwise noted. The Contractor has full responsibility to provide coverage in all planting areas as specified.

All trees, shrubs, and groundcovers shall be installed per planting details.

Trees shall be planted at least five feet (5') from any utility line or sidewalk, and to the outside of utility easements with a clear ten feet (10') around fire hydrants. Shrubs, regardless of type, shall not be planted within thirty inches (30") of bed perimeters.

PLANTING NOTES:

EROSION CONTROL:
Throughout the project and the maintenance period for turfgrass, it is the Contractor's responsibility to maintain the topsoil in place at specified grades. Topsoil and turfgrass losses due to erosion will be replaced by the Contractor until ESTABLISHMENT and ACCEPTANCE is achieved.

SOIL PREPARATION:
All slopes and areas disturbed by construction, except those occupied by buildings, structures, or paving shall be graded smooth and four (4") inches of topsoil applied. If adequate topsoil is not available onsite, the Contractor shall provide topsoil as approved by the Owner. The area shall be dressed to typical sections and plowed to a depth of five (5") inches. Soil shall be further prepared by the removal of debris, weeds and stones larger than 3/4 inch in diameter. After tillage and cleaning, all areas to receive turf shall be leveled, fine graded, and drug with a weighted spike harrow or float drag.

GRASS SOD:
Turfgrass sod shall be as per landscape plan. Sod shall consist of stolons, leaf blades, rhizomes and roots with a healthy, virile system of dense, thickly matted roots throughout the soil of the sod for a thickness not less than three-quarters (3/4") inch. Sod shall be alive, healthy, vigorous, free of insects, disease, stones, and undesirable foreign materials and grasses. The grass shall have been mowed prior to sod cutting so that the height of grass shall not exceed two (2") inches. Sod shall have been produced on growing beds of clay-loam topsoil. Sod shall not be harvested or planted when its moisture condition is so excessively wet or dry that its survival will be affected. All sod is to be harvested, delivered, and planted within a thirty-six (36) hour period of time. Sod shall be protected from exposure to wind, sun, and freezing. Should installation occur between November and March, sod shall include an over-seed of Annual Rye for a grown-in appearance.

IRRIGATION:
In the absence of an irrigation system or areas beyond the coverage limits of a permanent irrigation system, Contractor shall water sod temporarily to develop adequate growth and establishment before regular maintenance begins. Turf shall be watered until firmly established.

Water shall be furnished by the Contractor with means and methods available to achieve acceptable turf. The water source shall be clean and free of industrial wastes or other substances harmful to the growth of the turf.

MAINTENANCE REQUIREMENTS:
Vegetation should be inspected regularly to ensure that plant material is established properly and remains healthy. Mowing, trimming and supervision of water applications shall be the responsibility of the Contractor until the Owner or Owner's Representative accepts and assumes regular maintenance.

TOP SOIL NOTES:

Topsoil salvaged from the site may be used provided it meets the below specifications as described.

Topsoil shall be a cleaned sandy loam. Topsoil shall not be a mixture of contrasting textured soils and shall contain no roots, gravel, rocks, and undesirable objects.

The subsoil shall be tilled to a minimum depth of 6 inches before placement of topsoil.

Maintain erosion and sediment control practices during topsoiling and after until establishment of grass.

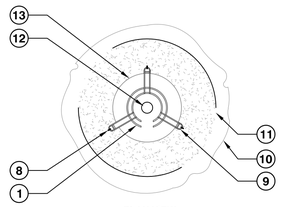
Topsoil shall be uniformly distributed and lightly compacted to a minimum thickness of 4 inches.

Any irregularities in the surface shall be corrected in order to prevent the formation of depressions.

Topsoil shall not be placed while topsoil is in a frozen or muddy condition and while subsoil is excessively wet.

Detail Callout Legend:

1. Tree stake solutions root anchor
2. 3" Mulch saucer
3. Place top of root ball min. 1" - max 2" above existing grade
4. Container width dia. plus 24"
5. Backfill with 50% soil mix/ 50% native soil
6. Undisturbed soil
7. Break through and remove any existing "hardpan" as needed to provide positive percolation and drainage
8. "S" Hook
9. "U" Bracket
10. Tree Canopy
11. Limit of hole (container plus 24")
12. Tree Trunk
13. Limit of root ball

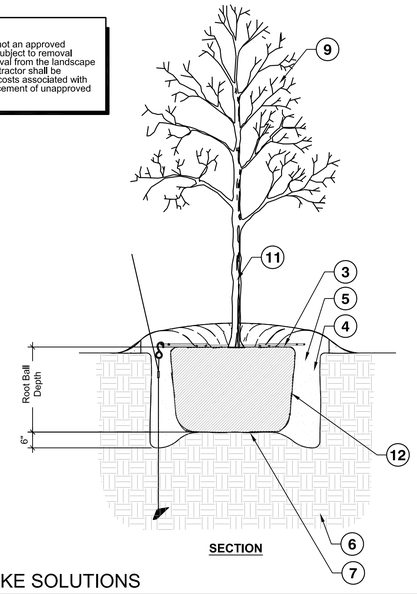


PLAN VIEW

ROOT ANCHOR ITEM#	ROOT BALL & CONTAINER SIZE	QUANTITY & ANCHOR SIZE
15-BG	10 / 15 Gallon or 17" root ball	3 - V68 Anchors
30-BG	20 / 39 Gallon or 22" root ball	3 - V68 Anchors
45/65-BG	45 / 65 Gallon or 27-30" root ball	3 - V68 Anchors

TREE STAKE SOLUTIONS, LLC.
9973 FM 521 Road
Rosharon, Texas 77583
www.treestakesolutions.com

NOTE:
1) Steel T-Posts are not an approved alternate and are subject to removal without prior approval from the landscape architect. The contractor shall be responsible for all costs associated with removal and replacement of unapproved materials.



SECTION

1 TREE STAKE SOLUTIONS

Not to Scale

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK

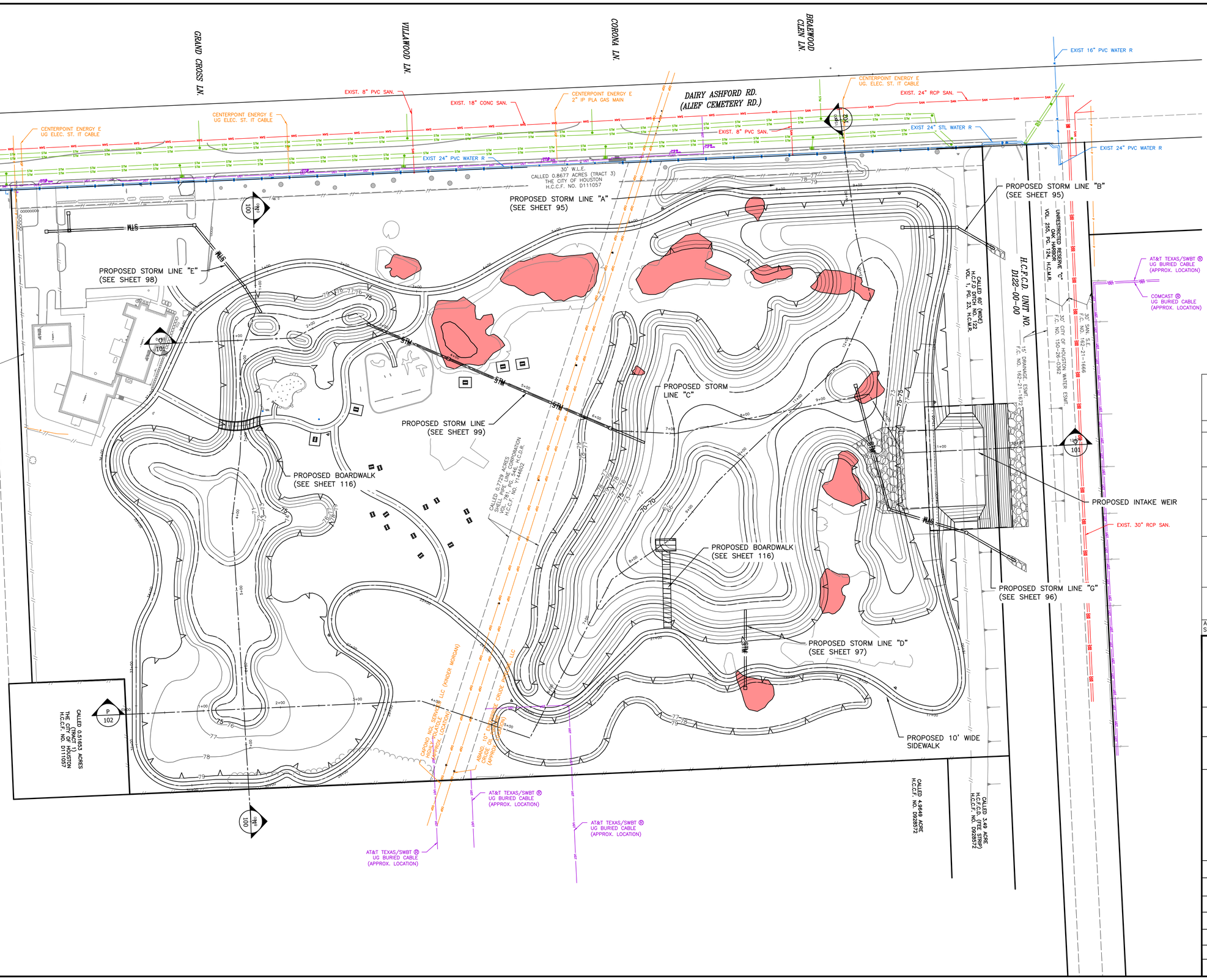
60% CONSTRUCTION DOCUMENTS

L4.21 – Planting Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 42 OF 42	

MU-1537-LAND-06

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:54 AM



0 30 60 120
SCALE IN FEET

ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY BEFORE COMMENCEMENT OF WORK

PARK DETENTION INFORMATION:
PARK AREA: 22.41 AC
DETENTION PROVIDED: 36.08 AC-FT
FIRM INFO: MAP 48201C0830L
EFFECTIVE DATE: 6/18/2007

REFERENCE DRAWINGS:
1. SEE SHEET 93 FOR DEMOLITION.
2. SEE SHEETS 95 – 98 FOR STORM OUTFALL PROFILES.
3. SEE SHEETS 100 – 102 FOR POND SECTIONS.
4. SEE SHEET 103 FOR WEIR INTAKE STRUCTURE & INTAKE WEIR STRUCTURAL LAYOUT.

LEGEND
WETLANDS

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.

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK PROJECT LAYOUT

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 80 OF 144	

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HACKBERRY-PARK-PROJECT-LAYOUT-ALT-3.dwg

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FILE PATH: C:\projectwise\dec\workdir\fdel.gamboa\d0203197\HBP-PL-WETLANDS-DEPTHS.dwg

0.06 ACRES
DEEP POOL

PROPOSED
RIPRAP

PROPOSED
PEDESTRIAN
TRAIL

OUTLET CONTROL STRUCTURE
THROAT EL=71.00

0.47 ACRES
DEEP POOL

TOB
ELEV=79.00

PERMANAENT
WSE=71.00

0.59 ACRES
WETLANDS

0.55 ACRES
SHALLOW WATER

50' WIDE
CALLED 10.7727 ACRES
(TRACT 3)
THE CITY OF HOUSTON
H.C.C.F. NO. D71107

CALLED 0.7729 ACRES
SHELL PIPE LINE CORPORATION
VOL. 781, PG. 546, H.C.D.R.
H.C.C.F. NO. Y144602

Buried 16" Enterprise Crude Pipeline LLC
(across, locations)

8" Colonial NGL Services LLC (Under Kinder Morgan)
(across, locations)

CenterPoint Energy
(across, locations)

N

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- NORTH WETLAND
- DEEP POOL
- SHALLOW WATER
- +1.22 DEPTH OF PERMANENT WATER ELEVATION

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK WETLAND DEPTHS NORTH POND

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 81 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:54 AM
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N

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	APP.

LOT 129
DAIRY SUBDIVISION
VOL. 1, PG. 23, H.C.M.R.

CALLED 22.41 ACRES
CITY OF HOUSTON
H.C.C.F. NO. 20070487814

Enbridge NGT Enterprise Crude Pipeline LLC
(Under Magellan)
(approx. location)

Magellan NGL Services LLC
Magellan NGL Pipeline
(approx. location)

AT&T TEXAS/SWBT
(approx. location)

AT&T TEXAS/SWBT
(approx. location)

0.01 ACRES
DEEP POOL

0.01 ACRES
DEEP POOL

0.02 ACRES
DEEP POOL

0.23 ACRES
DEEP POOL

0.59 ACRES
WETLANDS

TOB
ELEV=79.00

PERMANENT
WSE = 74.00

LEGEND

DEEP POOL

SHALLOW WATER

x-1.22 DEPTH OF PERMANENT WATER ELEVATION

CALLED 0.51653 ACRES
(TRACT 1)
THE CITY OF HOUSTON

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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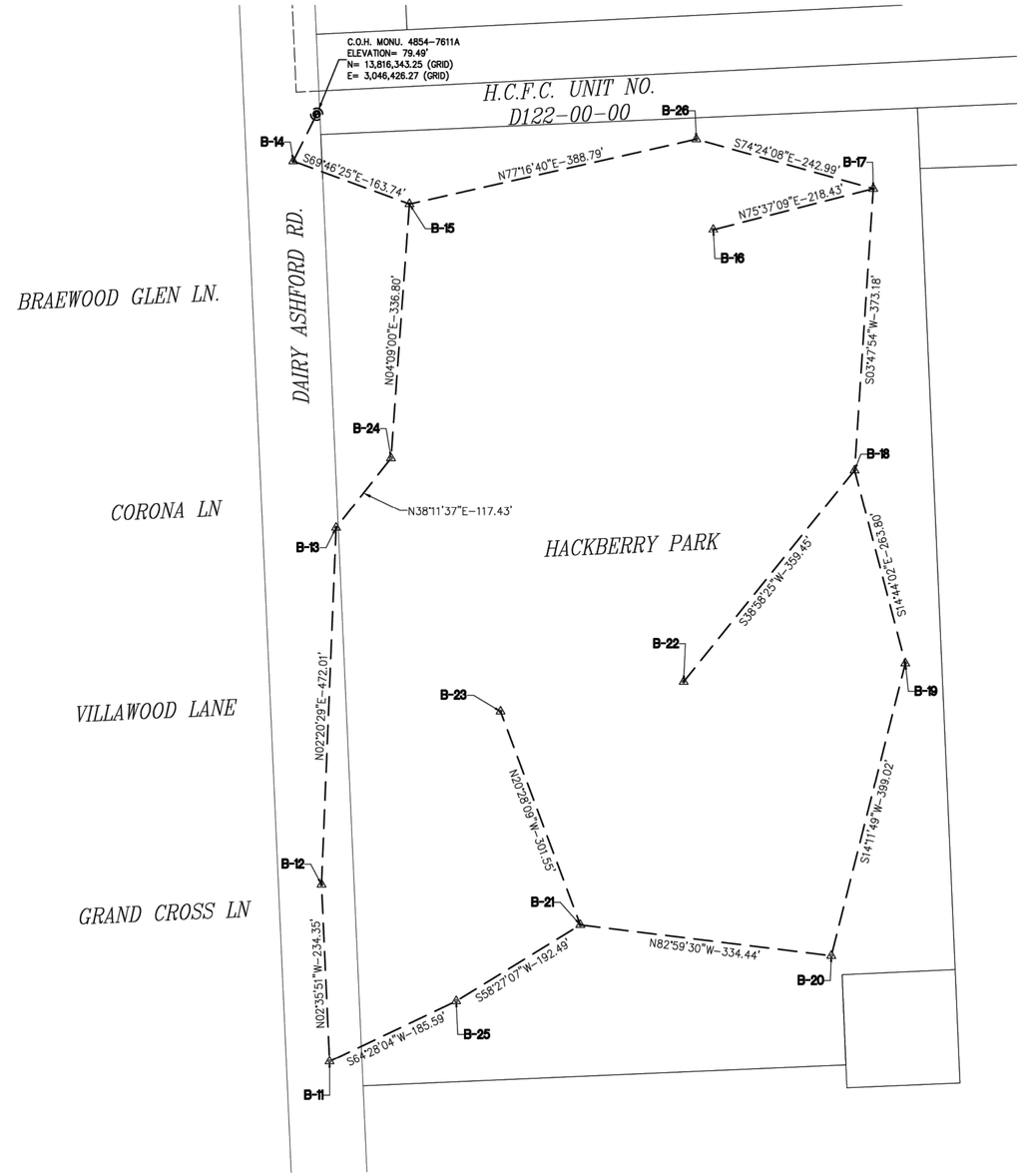
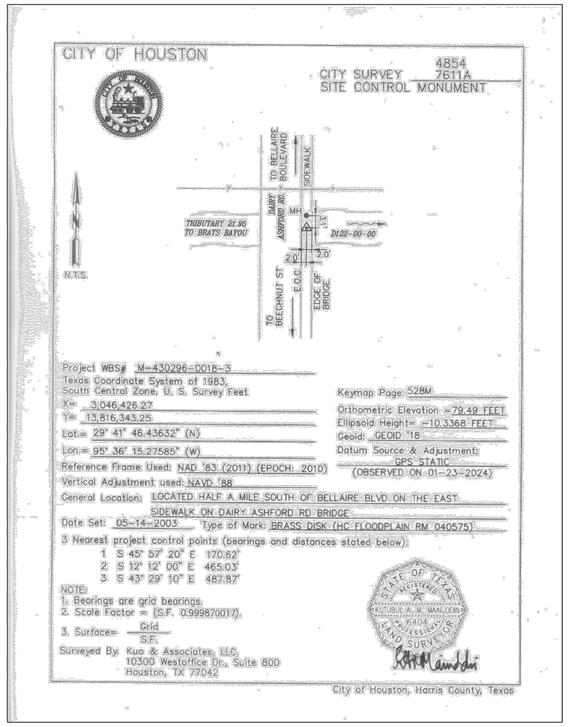
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK WETLAND DEPTHS SOUTH POND

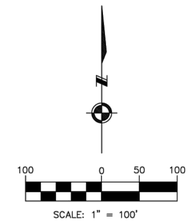
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 82 OF 144	





SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)						
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	DESCRIPTION
B-11	13,816,886.85	3,046,839.29	13,815,090.89	3,046,443.25	79.86'	SET 5/8" I.R. W/CAP
B-12	13,817,120.96	3,046,828.67	13,815,324.97	3,046,432.63	79.38'	SET 1/2" I.R. W/CAP
B-13	13,817,592.57	3,046,847.95	13,815,796.52	3,046,451.91	78.89'	FND. "X" CUT ON CONC.
B-14	13,818,077.39	3,046,791.30	13,816,281.27	3,046,395.27	79.37'	SET 5/8" I.R. W/CAP
B-15	13,818,020.78	3,046,944.93	13,816,224.67	3,046,548.88	83.58'	SET 5/8" I.R. W/CAP
B-16	13,817,986.82	3,047,346.64	13,816,190.71	3,046,950.53	81.15'	SET 1/2" I.R. W/CAP
B-17	13,818,041.07	3,047,558.22	13,816,244.96	3,047,162.09	83.08'	SET 1/2" I.R. W/CAP
B-18	13,817,668.71	3,047,533.50	13,815,872.65	3,047,137.38	84.02'	SET 5/8" I.R. W/CAP
B-19	13,817,413.58	3,047,600.60	13,815,617.55	3,047,204.46	81.08'	SET 1/2" I.R. W/CAP
B-20	13,817,026.75	3,047,502.73	13,815,230.77	3,047,106.61	81.41'	SET 5/8" I.R. W/CAP
B-21	13,817,067.55	3,047,170.80	13,815,271.57	3,046,774.72	79.14'	SET 1/2" I.R. W/CAP
B-22	13,817,389.25	3,047,307.42	13,815,593.23	3,046,911.32	80.47'	SET 1/2" I.R. W/CAP
B-23	13,817,350.06	3,047,065.34	13,815,554.04	3,046,669.28	79.25'	SET "X" CUT ON CONC.
B-24	13,817,684.87	3,046,920.56	13,815,888.80	3,046,524.51	81.57'	SET "X" CUT ON CONC.
B-25	13,816,966.84	3,047,006.76	13,815,170.87	3,046,610.70	80.44'	SET "X" CUT ON CONC.
B-26	13,818,106.40	3,047,324.18	13,816,310.28	3,046,928.08	80.91'	SET 1/2" I.R. W/CAP

NO.	DATE	REVISION	APP.



BENCHMARK:

CITY OF HOUSTON MONUMENT 4854-7611A (ALSO HCFCD REFERENCE MARK 040575), A BRASS DISC IN CONCRETE, LOCATED ON EAST SIDEWALK ON DAIRY ASHFORD RD BRIDGE APPROXIMATELY 0.5 MILE SOUTH FROM THE INTERSECTION OF BELLAIRE BLVD.

ELEV. 79.49 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 23, 2024.

VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 040575)PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND DATUM NAVD 1988, (GEOID '18) IS 0.66'.

NAVD 1988, 2001 ADJ. ELEVATION ELEVATION = NAVD 1988, (GEOID '18) + 0.66 FT

NOTE:

ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83 (CORS96). 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 0.999870017.

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

DEC ENGINEERING EXCELLENCE
T.B.P.E.L.S. FIRM REGISTRATION #392
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

KUO & associates, LLC.
Consulting Engineers & Surveyors
10300 Westoffice Dr., Suite 800, Houston, Texas 77042
Tel: 713-975-8788, Fax: 713-975-9920, www.kuoassociates.com
TBPELS Engineering Firm Reg. No. F-4578
TBPELS Surveying Firm Reg. No. 10075600

SURVEYED BY: KUO & ASSOC.
FB NO. P-6328

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 06/28/24 IT IS NOT TO BE USED FOR PERMIT, BIDDING OR CONSTRUCTION PURPOSES

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK
SURVEY CONTROL MAP
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
SHEET NO. 83 OF 144	

PLOT STYLE: Coh_ctb_230809.ctb PLOTTED: 6/28/2024 10:53 AM

FILE PATH: S:\Proj-2023\23107 (HACKBERRY AND BOONE PARKS)\Dwgs\SCM\Hackberry\SCM-23107-Hackberry.dwg

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:54 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-EC-HACKBERRY-PARK-BORING LOGS.dwg

GRAND CROSS LN.
VILLAWOOD LN.
CORONA LN.
BRAEWOOD GLEN LN.
DAIRY ASHFORD RD. (ALIEF CEMETERY RD.)

CENTERPOINT ENERGY E UG ELEC. ST. IT CABLE
CENTERPOINT ENERGY E 2" IP PLA GAS MAIN
CENTERPOINT ENERGY E 4" IP JT PLA GAS MAIN
EXIST 24" PVC WATER R
EXIST 24" STL WATER R

30' W.L.E.
CALLED 0.8677 ACRES (TRACT 3)
THE CITY OF HOUSTON
H.C.C.F. NO. D111057

30' U.E. & ACCESS ESMT.
CALLED 0.447 ACRES (TRACT 2)
THE CITY OF HOUSTON
H.C.C.F. NO. D111057

CALLED 0.6953 ACRES (TRACT 1)
THE CITY OF HOUSTON
H.C.C.F. NO. D111057

CALLED 0.2729 ACRES
SHELL PIPELINE CORPORATION
VOL. 61, PG. 1, H.C.M.R.
H.C.C.F. NO. Y144624

H.C.F.C.D. UNIT NO. D122-00-00

UNRESTRICTED RESERVE "C"
OAK HARBOR
VOL. 255, PG. 124, H.C.M.R.

CALLED 80' (WIDE)
H.C.F.C.D. DITCH NO. 122
VOL. 1, PG. 23, H.C.M.R.

15' DRAINAGE ESMT.
F.C. NO. 162-21-1672

30' CITY OF HOUSTON WATER ESMT.
F.C. NO. 150-26-0362

30' D.E. & S.S.E.
F.C. NO. 162-21-1666

AT&T TEXAS/SWBT ⓣ
UG BURIED CABLE
(APPROX. LOCATION)

COMCAST ⓒ
UG BURIED CABLE
(APPROX. LOCATION)

CABINO NGL SERVICES LLC (KINDER MORGAN)
HIGHLY VOLATILE
(APPROX. LOCATION)

ABAND 10" ENTERPRISE CRUDE PIPELINE LLC
CRUDE OIL
(APPROX. LOCATION)

CALLED 4.9649 ACRE
H.C.C.F. NO. D928572

CALLED 3.49 ACRE
H.C.C.F. NO. D928572

BH GB-1
BH GB-2
BH GB-3
BH GB-4
BH GB-5
BH GB-6
BH GB-7
BH GB-8
BH GB-9
BH GB-10
BH GB-11
BH GB-12
BH GB-13
BH GB-14
BH GB-16
BH GB-17
BH GBB-7

0+00
5+00
10+00
15+00
20+00
25+00
30+00
35+00

N
0 30 60 120
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

BORE HOLE

GEOTECHNICAL INVESTIGATION

HACKBERRY PARK DETENTION BASIN
WBS NO. X-XXXXXX-XXXX-X
REPORT NO. XXXXXXXXXX
DATED: APRIL 19, 2024

FOR BORE HOLE NFORMATION
SEE SHEETS 10 AND 11

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK BORING PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 84 OF 144	

LOG OF BORING NO. GBH-1

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815249.15, E 3046514.25
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 79.20 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 10.0 FT.
DATE : 02-06-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
79.2	0			6" Concrete							
78.7				Stiff to very stiff brown and gray FAT CLAY WITH SAND (CH)		84.1		22.8	53	22	31
				-w/calcareous nodules 4'-10'			107	20.4			
	5			-brown and gray w/ferrous stains 6'-10'				20.9			
								17.8			
69.2	10							21.2			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-1

LOG OF BORING NO. GBH-2

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815130.66, E 3046613.15
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 80.47 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 10.0 FT.
DATE : 02-06-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
80.5	0			5" Concrete							
80.1				Stiff to very stiff brown and gray FAT CLAY WITH SAND (CH)		83.4		26.6	56	23	33
								22.9			
	5			-w/sand seams 6'-8'				21.2			
				-brown and gray w/ferrous nodules and ferrous stains 6'-10'				15.8			
70.5	10							19.9			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-2

LOG OF BORING NO. GBH-3

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815301.71, E 3046722.24
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 79.59 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 30.0 FT.
DATE : 02-02-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 30.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
79.6	0			Stiff to hard dark gray FAT CLAY (CH) -w/grass roots and sand 0'-2' -w/ferrous nodules and ferrous stains 2'-10' -w/calcareous and nodules 4'-10'		86.5	101	26.7	69	28	41
								25.8			
	5							24.3			
								21.4			
69.6	10							19.9			
				Stiff to very stiff reddish brown and gray SANDY FAT CLAY (CH) w/calcareous and ferrous nodules and ferrous stains		65.0	113	16.4	62	25	37
65.6	15							22.5			
				Stiff to hard brown and gray FAT CLAY WITH SAND (CH) w/calcareous and ferrous nodules and ferrous stains				21.4			
	20					81.6	109	20.4	62	25	37
								20.2			
	25							21.5			
								15.5			
49.6	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 30.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-3

LOG OF BORING NO. GBH-4

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815170.18, E 3046921.45
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 79.50 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 10.0 FT.
DATE : 02-02-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
79.5	0			Stiff to hard brown and gray FAT CLAY WITH SAND (CH) w/ ferrous stains -w/grass roots and sand seams 0'-2' -w/calcareous nodules 2'-10'				29.0			
						83.6	108	19.9	52	22	30
	5							17.1			
								15.7			
69.5	10							15.8			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-4

LOG OF BORING NO. GBH-5

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815513.49, E 3047118.67
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 81.37 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 30.0 FT.
DATE : 02-02-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 30.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
81.4	0			Firm to hard brown and gray FAT CLAY (CH) -w/grass roots 0'-2'				25.3			
						88.4	92	29.0	64	25	39
	5							29.4			
								26.2			
	10			-brown and gray w/calcareous and ferrous nodules and ferrous stains 8'-18'				20.2			
								20.5			
	15					93.9	105	24.5	66	26	40
								21.0			
63.4	20			Very stiff to hard brown and gray FAT CLAY WITH SAND (CH) w/calcareous and ferrous nodules and ferrous stains				21.1			
						84.6	110	20.0	57	24	33
	25							19.9			
				-w/sand seams 28'-30'							
51.4	30							16.8			
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 30.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-5

LOG OF BORING NO. GBH-6

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815790.83, E 3046916.39
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 79.09 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 15.0 FT.
DATE : 02-02-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 15.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
79.1	0			Stiff to hard dark gray FAT CLAY (CH) w/calcareous nodules -w/grass roots 0'-2'				25.5			
						86.3	107	20.9	66	27	39
	5							19.6			
73.1				Stiff to hard reddish brown and gray FAT CLAY WITH SAND (CH) w/calcareous and ferrous nodules and ferrous stains				23.6			
	10							23.0			
						75.9	112	19.5	53	23	30
64.1	15							24.4			
								23.7			
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 15.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-6

LOG OF BORING NO. GBH-7

PROJECT : Hackberry Park Detention Basin
WBS No. M-430296-0018-3
Houston, Texas
LOCATION : N 13815897.44, E 3046963.88
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 81.71 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 25.0 FT.
DATE : 02-05-24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 25.0 FT.
WET ROTARY : -- TO -- FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
81.7	0			Brown POORLY GRADED SAND (SP) w/gravel		2.4		0.2			
79.7				Firm to hard gray and brown FAT CLAY (CH) w/calcareous nodules -w/sand seams 2'-10'				17.0			
	5					87.7	108	18.5	60	24	36
				-w/ferrous stains 8'-25'				19.6			
	10							18.9			
								20.9			
	15					88.9	111	18.2	58	23	35
								17.4			
	20							19.4			
								18.1			
56.7	25							18.7			
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 25.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-7

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK BORING LOG (SHEET 1 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 85 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:54 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-EC-HACKBERRY-PARK-BORING LOGS.dwg

LOG OF BORING NO. GBH–8

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13815930.81, E 3047097.89
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 80.40 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 25.0 FT.
DATE : 02–05–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 25.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
80.4	0			Stiff to very stiff gray and brown FAT CLAY (CH) w/calcareous and ferrous nodules				21.2			
								22.0			
	5					88.3	103	22.8	52	22	30
								20.4			
70.4	10			Stiff to very stiff reddish brown and gray LEAN CLAY (CL) w/calcareous and ferrous nodules and silt seams				17.6			
								20.0			
	15					93.6	105	22.3	39	19	20
								20.5			
	20							21.0			
55.4	25							21.8			
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 25.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–9

LOG OF BORING NO. GBH–9

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13816060.92, E 3047010.45
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 80.10 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 15.0 FT.
DATE : 02–05–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 15.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
80.1	0			Stiff to hard dark gray and brown FAT CLAY WITH SAND (CH) w/calcareous nodules				20.6			
	5					84.5	114	16.4	62	25	37
								16.3			
72.1	10			Very stiff to hard brown and gray LEAN CLAY WITH SAND (CL) w/calcareous nodules		70.5		16.1			
								13.9	40	19	21
	15							23.3			
65.1								14.2			
	20							30.0			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 15.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–9

LOG OF BORING NO. GBH–10

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13816261.71, E 3047182.04
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 82.95 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 10.0 FT.
DATE : 02–05–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
82.9	0			Stiff to hard gray and brown FAT CLAY (CH) w/ferrous stains –w/grass roots 0'–2' –w/calcareous nodules 2'–10'		86.4		28.3	62	25	37
	5							27.6			
								21.2			
72.9	10							15.1			
								16.0			
	15										
	20										
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–10

LOG OF BORING NO. GBH–11

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13816302.70, E 3046898.80
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 81.05 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 20.0 FT.
DATE : 02–06–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
81.1	0			Stiff to hard brown and gray FAT CLAY (CH) w/calcareous nodules –w/grass roots 0'–2'				5.3			
	5					89.6	100	25.2	62	25	37
								23.2			
	10			–reddish brown and gray w/ferrous nodules and ferrous stains 10'–20'				16.7			
								14.5			
	15					94.7	110	19.4	57	24	33
								27.6			
				–w/gravel 16'–20'				16.5			
61.1	20							16.5			
								15.8			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–11

LOG OF BORING NO. GBH–12

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13816287.83, E 3046500.05
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 80.85 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 20.0 FT.
DATE : 02–06–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 20.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
80.8	0			Very stiff to hard brown and dark gray FAT CLAY (CH) w/calcareous nodules –w/grass roots 0'–2'				20.0			
	5			–w/ferrous nodules and ferrous stains 4'–20'		87.3	106	22.3	58	24	34
								20.1			
	10							18.0			
								17.3			
	15			–reddish brown and gray 10'–20'				19.2			
						95.6	111	19.1	62	25	37
								18.8			
60.8	20							17.9			
								18.1			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–12

LOG OF BORING NO. GBH–13

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13816110.68, E 3046723.38
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 80.79 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 15.0 FT.
DATE : 02–05–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 15.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
80.8	0			Stiff to hard gray and brown FAT CLAY (CH) w/calcareous nodules and ferrous stains –gray 2'–8'				22.0			
	5					86.9		14.1	58	24	34
								13.9	62	25	37
	10			–gray and reddish brown 8'–15'				14.9			
						86.0		11.3	54	23	31
	15						108	20.4			
65.8								11.8			
	20							18.3			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 15.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–13

LOG OF BORING NO. GBH–14

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
LOCATION : N 13816065.72, E 3046639.09
See Plan of Borings (Figure 2)
SURFACE ELEVATION : 80.94 FT.

PROJECT NO. : 1140285402
COMPLETION DEPTH : 15.0 FT.
DATE : 02–05–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 15.0 FT.
WET ROTARY : –– TO –– FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
80.9	0			Stiff to hard gray and brown FAT CLAY (CH) w/calcareous nodules and ferrous stains				23.1			
	5			–w/ferrous nodules 4'–10'		88.3	111	11.2	54	23	31
								23.2			
	10							18.2			
								16.3			
	15			–reddish brown and gray 12'–15'		86.4	108	23.2	55	23	32
65.9								14.5			
	20							17.5			
	25										
	30										
	35										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED–UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 15.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–14

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

SURVEYED BY: KUO
FB NO. P–6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK BORING PLAN (SHEET 2 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 86 OF 144	

PLOT STYLE: Coh_ctb_230809 – MOD.ctb|LOTTED: 7/23/2025 9:54 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP–EC–HACKBERRY–PARK–BORING LOGS.dwg

LOG OF BORING NO. GBH–15

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
PROJECT NO. : 1140285402

LOCATION : N 13815857.67, E 3046715.92
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : 79.12 FT.
DATE : 02–06–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 15.0 FT.
WET ROTARY : –– TO –– 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, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
79.1	0			Stiff to hard brown FAT CLAY (CH) w/calcareous nodules and ferrous stains –w/grass roots 0'–2'				23.5			
						87.3	100	24.3	62	25	37
	5							27.6			
								21.4			
				–dark gray and reddish brown w/ferrous nodules 8'–15'							
	10					91.5	118	17.1	58	24	34
								26.8			
								25.7			
64.1	15							24.3			
	20										
	25										
	30										
	35										

3.8

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 15.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–15

LOG OF BORING NO. GBH–16

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
PROJECT NO. : 1140285402

LOCATION : N 13816080.95, E 3046495.88
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : 82.14 FT.
DATE : 02–06–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 15.0 FT.
WET ROTARY : –– TO –– 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, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
82.1	0			Firm to hard gray FAT CLAY (CH) –w/sand seams and grass roots 0'–2'				18.6			
						86.2	108	18.4	52	22	30
	5							16.7			
								19.0			
				–brown and gray w/calcareous and ferrous nodules and ferrous stains 4'–15'							
	10					94.1	107	20.3	57	24	33
								19.0			
				–w/sand seams 12'–14'				22.5			
67.1	15							21.2			
	20										
	25										
	30										
	35										

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 15.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–16

LOG OF BORING NO. GBH–17

PROJECT : Hackberry Park Detention Basin
WBS No. M–430296–0018–3
Houston, Texas
PROJECT NO. : 1140285402

LOCATION : N 13815665.34, E 3046567.24
See Plan of Borings (Figure 2)
COMPLETION DEPTH : 10.0 FT.

SURFACE ELEVATION : 81.39 FT.
DATE : 02–06–24

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 10.0 FT.
WET ROTARY : –– TO –– 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, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
81.4	0			Brown POORLY GRADED SAND (SP)		2.6		4.4			
79.4				Stiff to very stiff gray and brown FAT CLAY (CH)		85.3		22.2	52	21	31
	5							20.9			
				–w/calcareous nodules 8'–10'				23.3			
71.4	10							22.7			
	15										
	20										
	25										
	30										
	35										

DEPTH TO WATER IN BORING :
NO GROUNDWATER ENCOUNTERED DURING DRILLING.
HOLE OPEN TO 10.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A–17

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK BORING PLAN (SHEET 3 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 87 OF 144	

PLOT STYLE: Coh_ctb_230809 – MOD.ctb|PLOTTED: 7/23/2025 9:54 AM

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PLOT STYLE: Coh_ctb_230809 – MOD.ctb PLOTTED: 7/23/2025 9:55 AM
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-COGO-AND-PARK-GRADING.dwg

NO.	DATE	REVISION	APP.

N

0 15 30 60
SCALE IN FEET

MATCH LINE
SEE SHEET 89

LEGEND

- POINT COORDINATE NUMBER
- LX LINE NUMBER
- CX CURVE NUMBER

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9070

SURVEYED BY: KUO
FB NO. P-6328

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AMY E. DZIUK
P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK COORDINATE GEOMETRY AND GRADING NORTH PONDS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 88 OF 144	

MATCH LINE
SEE SHEET 88

LOT 129
DAIRY SUBDIVISION
VOL. 1, PG. 23, H.C.M.R.

CALLED 22.41 ACRES
CITY OF HOUSTON
H.C.C.F. NO. 20070487814

Shell 12" Enterprise Crude Pipeline LLC
Crude Oil & Petroleum
Damage Hazardous

Kinder Morgan Texas Pipeline LLC (Under Morgan)
Gasoline, Natural Gasoline, Petroleum
Damage Hazardous

CALLED 0.51653 ACRES
(TRACT 1)
THE CITY OF HOUSTON
H.C.C.F. NO. D111057

N

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- POINT COORDINATE NUMBER
- LX LINE NUMBER
- CX CURVE NUMBER

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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FB NO. P-6328

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK COORDINATE GEOMETRY AND GRADING SOUTH POND

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 30'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 89 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:55 AM

FILE PATH: C:\projectwise\dec\workdir\fdelgamboa\d0203197\HBP-SP-COGO-AND-PARK-GRADING.dwg

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:55 AM

FILE PATH: C:\projectwise\dec\workdir\{de|.gamboa\d0203197\HBP-SP-COGO-AND-PARK-GRADING.dwg

PROPOSED BASIN TOP OF BANK COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	79.00	13817121.95	3047065.19	TOB
2	79.00	13817124.29	3047051.81	TOB
3	79.00	13817129.18	3047041.01	TOB
4	79.00	13817133.48	3047036.77	TOB
5	79.00	13817145.98	3047025.25	TOB
6	79.00	13817166.22	3047016.45	TOB
7	79.00	13817187.10	3047015.71	TOB
8	79.00	13817200.32	3047017.18	TOB
9	79.00	13817218.32	3047019.16	TOB
10	79.00	13817235.51	3047023.40	TOB
11	79.00	13817246.52	3047023.79	TOB
12	79.00	13817267.07	3047016.60	TOB
13	79.00	13817282.87	3047008.49	TOB
14	79.00	13817295.95	3047006.02	TOB
15	79.00	13817305.10	3047003.98	TOB
16	79.00	13817319.61	3047006.45	TOB
17	79.00	13817339.91	3047014.04	TOB
18	79.00	13817351.58	3047027.70	TOB
19	79.00	13817352.40	3047050.78	TOB
20	79.00	13817345.00	3047062.83	TOB
21	79.00	13817327.28	3047073.50	TOB
22	79.00	13817309.83	3047078.83	TOB
23	79.00	13817292.01	3047081.35	TOB
24	79.00	13817286.86	3047081.83	TOB
25	79.00	13817276.11	3047087.64	TOB
26	79.00	13817271.50	3047101.33	TOB
27	79.00	13817272.64	3047129.34	TOB
28	79.00	13817260.31	3047141.77	TOB
29	79.00	13817249.38	3047133.72	TOB
30	79.00	13817248.94	3047125.40	TOB
31	79.00	13817245.69	3047115.31	TOB
32	79.00	13817238.49	3047112.23	TOB
33	79.00	13817233.89	3047112.32	TOB
34	79.00	13817221.43	3047111.10	TOB
35	79.00	13817208.24	3047108.86	TOB
36	79.00	13817199.36	3047106.95	TOB
37	79.00	13817192.16	3047108.44	TOB
38	79.00	13817182.27	3047112.86	TOB
39	79.00	13817178.83	3047114.93	TOB
40	79.00	13817172.75	3047120.44	TOB
41	79.00	13817172.53	3047124.46	TOB
42	79.00	13817174.93	3047135.35	TOB
43	79.00	13817179.08	3047154.37	TOB
44	79.00	13817177.04	3047177.20	TOB
45	79.00	13817177.26	3047189.00	TOB
46	79.00	13817180.08	3047195.18	TOB
47	79.00	13817185.51	3047201.11	TOB
48	79.00	13817202.37	3047221.90	TOB
49	79.00	13817203.76	3047256.18	TOB
50	79.00	13817202.73	3047276.11	TOB
51	79.00	13817218.22	3047282.76	TOB
52	79.00	13817230.88	3047280.75	TOB
53	79.00	13817246.52	3047277.57	TOB
54	79.00	13817274.05	3047291.62	TOB
55	79.00	13817269.89	3047320.75	TOB
56	79.00	13817249.99	3047331.89	TOB
57	79.00	13817234.85	3047332.18	TOB
58	79.00	13817214.43	3047335.16	TOB
59	79.00	13817196.88	3047350.19	TOB
60	79.00	13817190.88	3047371.59	TOB
61	79.00	13817192.01	3047383.90	TOB
62	79.00	13817192.06	3047394.63	TOB
63	79.00	13817200.42	3047415.22	TOB
64	79.00	13817219.38	3047416.54	TOB
65	79.00	13817230.75	3047409.39	TOB
66	79.00	13817256.94	3047411.42	TOB
67	79.00	13817263.45	3047434.41	TOB
68	79.00	13817266.59	3047470.67	TOB
69	79.00	13817285.81	3047484.63	TOB
70	79.00	13817329.84	3047518.58	TOB
71	79.00	13817334.24	3047527.49	TOB
72	79.00	13817334.40	3047537.44	TOB
73	79.00	13817319.77	3047577.14	TOB
74	79.00	13817294.47	3047612.13	TOB
75	79.00	13817279.71	3047624.97	TOB
76	79.00	13817258.47	3047636.50	TOB
77	79.00	13817240.46	3047639.58	TOB
78	79.00	13817227.28	3047635.27	TOB
79	79.00	13817210.89	3047629.11	TOB
80	79.00	13817198.59	3047633.95	TOB

PROPOSED BASIN TOP OF BANK COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
81	79.00	13817185.85	3047639.40	TOB
82	79.00	13817165.84	3047641.87	TOB
83	79.00	13817138.70	3047641.87	TOB
84	79.00	13817104.39	3047643.26	TOB
85	79.00	13817079.31	3047645.55	TOB
86	79.00	13817042.65	3047635.15	TOB
87	79.00	13817027.52	3047604.60	TOB
88	79.00	13817024.88	3047571.49	TOB
89	79.00	13817024.34	3047532.78	TOB
90	79.00	13817024.78	3047501.78	TOB
91	79.00	13817031.73	3047490.07	TOB
92	79.00	13817043.26	3047490.34	TOB
93	79.00	13817070.22	3047480.63	TOB
94	79.00	13817071.98	3047450.73	TOB
95	79.00	13817066.41	3047414.16	TOB
96	79.00	13817068.31	3047369.92	TOB
97	79.00	13817068.67	3047334.12	TOB
98	79.00	13817052.08	3047310.57	TOB
99	79.00	13817035.65	3047302.03	TOB
100	79.00	13817011.13	3047286.10	TOB
101	79.00	13816993.95	3047269.27	TOB
102	79.00	13816986.34	3047255.36	TOB
103	79.00	13816982.90	3047231.90	TOB
104	79.00	13816989.73	3047210.66	TOB
105	79.00	13817024.02	3047189.21	TOB
106	79.00	13817052.86	3047191.00	TOB
107	79.00	13817072.69	3047197.72	TOB
108	79.00	13817098.79	3047206.85	TOB
109	79.00	13817108.31	3047207.71	TOB
110	79.00	13817116.76	3047202.78	TOB
111	79.00	13817122.71	3047196.60	TOB
112	79.00	13817125.01	3047177.04	TOB
113	79.00	13817126.09	3047157.58	TOB
114	79.00	13817126.00	3047119.46	TOB
115	79.00	13817123.89	3047089.05	TOB
116	79.00	13817701.88	3046968.96	TOB
117	79.00	13817683.28	3046957.80	TOB
118	79.00	13817691.97	3046938.45	TOB
119	79.00	13817775.70	3046912.17	TOB
120	79.00	13817858.29	3046901.13	TOB
121	79.00	13818003.14	3046893.79	TOB
122	79.00	13818039.82	3046907.61	TOB
123	79.00	13818049.24	3046930.54	TOB
124	79.00	13818051.02	3046954.30	TOB
125	79.00	13818050.95	3046967.01	TOB
126	79.00	13818050.24	3046975.16	TOB
127	79.00	13818044.35	3047011.32	TOB
128	79.00	13818039.88	3047030.91	TOB
129	79.00	13818036.58	3047052.38	TOB
130	79.00	13818035.09	3047066.16	TOB
131	79.00	13818033.28	3047082.81	TOB
132	79.00	13818006.17	3047194.68	TOB
133	79.00	13818004.57	3047196.60	TOB
134	79.00	13818009.15	3047296.49	TOB
135	79.00	13818010.90	3047298.11	TOB
136	79.00	13818034.98	3047364.85	TOB
137	79.00	13818049.81	3047397.98	TOB
138	79.00	13818051.62	3047403.36	TOB
139	79.00	13818052.43	3047421.36	TOB
140	79.00	13818040.37	3047433.89	TOB
141	79.00	13818013.47	3047442.10	TOB
142	79.00	13818007.23	3047443.66	TOB
143	79.00	13817983.60	3047446.84	TOB
144	79.00	13817954.89	3047434.13	TOB
145	79.00	13817957.00	3047410.81	TOB
146	79.00	13817966.96	3047386.51	TOB
147	79.00	13817959.23	3047363.45	TOB
148	79.00	13817948.19	3047344.38	TOB
149	79.00	13817950.19	3047323.03	TOB
150	79.00	13817955.49	3047293.29	TOB
151	79.00	13817956.07	3047275.31	TOB
152	79.00	13817947.98	3047259.33	TOB
153	79.00	13817944.23	3047251.14	TOB
154	79.00	13817943.69	3047244.12	TOB
155	79.00	13817929.03	3047231.35	TOB
156	79.00	13817908.91	3047244.65	TOB
157	79.00	13817903.07	3047263.86	TOB
158	79.00	13817898.63	3047295.79	TOB
159	79.00	13817898.02	3047320.41	TOB
160	79.00	13817904.26	3047358.50	TOB

PROPOSED BASIN TOP OF BANK COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
161	79.00	13817910.99	3047384.31	TOB
162	79.00	13817912.02	3047413.84	TOB
163	79.00	13817894.67	3047446.32	TOB
164	79.00	13817861.44	3047464.12	TOB
165	79.00	13817815.81	3047467.24	TOB
166	79.00	13817788.64	3047470.61	TOB
167	79.00	13817760.89	3047470.37	TOB
168	79.00	13817733.80	3047462.28	TOB
169	79.00	13817713.08	3047449.48	TOB
170	79.00	13817680.09	3047439.79	TOB
171	79.00	13817657.17	3047451.72	TOB
172	79.00	13817647.42	3047465.16	TOB
173	79.00	13817605.78	3047521.35	TOB
174	79.00	13817591.44	3047535.87	TOB
175	79.00	13817563.75	3047542.55	TOB
176	79.00	13817541.64	3047525.26	TOB
177	79.00	13817540.58	3047490.43	TOB
178	79.00	13817548.72	3047473.34	TOB
179	79.00	13817556.54	3047453.01	TOB
180	79.00	13817562.96	3047422.95	TOB
181	79.00	13817563.85	3047402.36	TOB
182	79.00	13817564.59	3047386.46	TOB
183	79.00	13817574.67	3047357.00	TOB
184	79.00	13817588.32	3047336.53	TOB
185	79.00	13817601.69	3047315.69	TOB
186	79.00	13817617.21	3047288.95	TOB
187	79.00	13817628.74	3047267.14	TOB
188	79.00	13817637.58	3047247.13	TOB
189	79.00	13817643.98	3047222.64	TOB
190	79.00	13817646.07	3047191.25	TOB
191	79.00	13817645.38	3047176.95	TOB
192	79.00	13817646.22	3047157.66	TOB
193	79.00	13817653.84	3047127.51	TOB
194	79.00	13817663.48	3047104.42	TOB
195	79.00	13817668.88	3047073.81	TOB
196	79.00	13817669.13	3047064.17	TOB
197	79.00	13817679.90	3047043.69	TOB
198	79.00	13817699.99	3047039.02	TOB
199	79.00	13817717.52	3047041.75	TOB
200	79.00	13817725.29	3047041.89	TOB
201	79.00	13817743.72	3047046.23	TOB
202	79.00	13817751.00	3047053.42	TOB
203	79.00	13817759.89	3047064.91	TOB
204	79.00	13817766.93	3047075.29	TOB
205	79.00	13817776.11	3047091.13	TOB
206	79.00	13817795.08	3047098.18	TOB
207	79.00	13817812.26	3047090.65	TOB
208	79.00	13817830.97	3047064.96	TOB
209	79.00	13817834.45	3047043.42	TOB
210	79.00	13817834.61	3047036.77	TOB
211	79.00	13817840.87	3047022.59	TOB
212	79.00	13817851.87	3047021.72	TOB
213	79.00	13817865.08	3047027.51	TOB
214	79.00	13817880.92	3047024.87	TOB
215	79.00	13817896.24	3047012.87	TOB
216	79.00	13817895.45	3046990.31	TOB
217	79.00	13817873.93	3046984.43	TOB
218	79.00	13817854.09	3046987.29	TOB
219	79.00	13817841.57	3046990.94	TOB
220	79.00	13817823.23	3046992.69	TOB
221	79.00	13817812.91	3046984.35	TOB
222	79.00	13817794.60	3046971.15	TOB
223	79.00	13817771.05	3046961.86	TOB
224	79.00	13817734.22	3046959.71	TOB
225	79.00	13817723.28	3046961.52	TOB
226	79.00	13817711.93	3046965.10	TOB
263	79.00	13817632.94	3047054.82	TOB
264	79.00	13817644.50	3047041.29	TOB
265	79.00	13817659.00	3047047.98	TOB
266	79.00	13817665.01	3047068.12	TOB
267	79.00	13817660.28	3047100.03	TOB
268	79.00	13817652.32	3047121.07	TOB
269	79.00	13817643.16	3047151.65	TOB
270	79.00	13817641.79	3047181.90	TOB
271	79.00	13817641.88	3047206.61	TOB
272	79.00	13817634.40	3047243.73	TOB
273	79.00	13817622.94	3047268.80	TOB
274	79.00	13817579.82	3047341.44	TOB
275	79.00	13817565.91	3047365.76	TOB
276	79.00	13817559.52	3047397.39	TOB

PROPOSED BASIN TOP OF BANK COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
277	79.00	13817557.68	3047430.60	TOB
278	79.00	13817549.90	3047460.05	TOB
279	79.00	13817537.49	3047487.77	TOB
280	79.00	13817533.39	3047503.53	TOB
281	79.00	13817536.53	3047524.14	TOB
282	79.00	13817530.10	3047538.17	TOB
283	79.00	13817514.20	3047533.48	TOB
284	79.00	13817507.43	3047519.30	TOB
285	79.00	13817506.21	3047503.44	TOB
286	79.00	13817515.07	3047480.68	TOB
287	79.00	13817526.30	3047456.01	TOB
288	79.00	13817528.51	3047435.22	TOB
289	79.00	13817533.35	3047377.14	TOB
290	79.00	13817546.68	3047339.80	TOB
291	79.00	13817567.01	3047306.56	TOB
292	79.00	13817585.32	3047269.88	TOB
293	79.00	13817590.95	3047233.13	TOB
294	79.00	13817590.20	3047212.54	TOB
295	79.00	13817590.07	3047194.00	TOB
296	79.00	13817595.40	3047168.83	TOB
297	79.00	13817603.96	3047150.72	TOB
298	79.00	13817612.60	3047133.36	TOB
299	79.00	13817624.05	3047104.68	TOB
300	79.00	13817486.44	3047554.29	TOB
301	79.00	13817500.68	3047548.29	TOB
302	79.00	13817511.00	3047551.77	TOB
303	79.00	13817520.90	3047559.08	TOB
304	79.00	13817548.98	3047566.93	TOB
305	79.00	13817586.77	3047556.41	TOB
306	79.00	13817607.00	3047541.00	TOB
307	79.00	13817618.79	3047527.06	TOB
308	79.00	13817632.88	3047515.12	TOB
309	79.00	13817645.84	3047509.10	TOB
310	79.00	13817651.03	3047507.68	TOB
311	79.00	13817657.35	3047508.86	TOB
312	79.00	13817666.73	3047511.93	TOB
313	79.00	13817686.12	3047514.94	TOB
314	79.00	13817720.46	3047512.42	TOB
315	79.00	13817743.01	3047511.95	TOB
316	79.00	13817761.16	3047518.27	TOB
317	79.00	13817778.75	3047525.90	TOB
318	79.00	13817798.73	3047519.51	TOB
319	79.00	13817817.29	3047513.18	TOB
320	79.00	13817834.69	3047515.31	TOB
321	79.00	13817855.38	3047515.90	TOB
322	79.00	13817878.91	3047511.87	TOB
323	79.00	13817906.99	3047509.62	TOB
324	79.00	13817926.05	3047511.34	TOB
325	79.00	13817947.33	3047519.16	TOB
326	79.00	13817960.29	3047530.05	TOB
327	79.00	13817968.31	3047542.62	TOB
328	79.00	13817968.26	3047550.74	TOB
329	79.00	13817960.03	3047555.12	TOB
330	79.00	13817951.15	3047554.94	TOB
331	79.00	13817936.14	3047556.84	TOB
332	79.00	13817920.05	3047560.92	TOB
333	79.00	13817899.53	3047568.27	TOB
334	79.00	13817880.67	3047576.34	TOB
335	79.00	13817856.76	3047583.97	TOB
336	79.00	13817825.60	3047588.89	TOB
337	79.00	13817794.38	3047589.31	TOB
338	79.00	13817754.33	3047583.26	TOB
339	79.00	13817725.11	3047575.80	TOB
340	79.00	13817713.53	3047574.38	TOB
341	79.00	13817700.75	3047570.35	TOB
342	79.00	13817688.38	3047561.47	TOB
343	79.00	13817681.55	3047553.46	TOB
344	79.00	13817664.33	3047547.84	TOB
345	79.00	13817646.13	3047558.14	TOB
346	79.00	13817633.85	3047581.32	TOB
347	79.00	13817626.80	3047602.99	TOB
348	79.00	13817620.89	3047611.51	TOB
349	79.00	13817599.49	3047624.43	TOB
350	79.00	13817572.88	3047629.23	TOB
351	79.00	13817533.25	3047628.18	TOB
352	79.00	13817503.57	3047620.30	TOB
353	79.00	13817487.44	3047608.23	TOB
354	79.00	13817478.41	3047590.77	TOB
355	79.00	13817477.11	3047574.98	TOB

CONCRETE TRAIL ALIGNMENT CURVE TABLE

CURVE #	START	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA ANGLE
C1	N:13817100.55 E:3047037.96	288.00	118.70'	N27° 43' 34"W	117.87'	Δ=23° 36' 56"
C2	N:13817204.88 E:3046983.12	130.00	82.87'	N2° 20' 26"E	81.48'	Δ=36° 31' 34"
C3	N:13817339.38 E:3047006.40	140.00	125.57'	N5° 05' 28"W	121.41'	Δ=51° 23' 29"
C4	N:13817469.92 E:3046989.90	1015.00	92.52'	N28° 10' 19"W	92.49'	Δ=5° 13' 22"
C5	N:13817551.46 E:3046946.23	132.00	59.36'	N12° 40' 44"W	58.86'	Δ=25° 46' 02"
C6	N:13817630.91 E:3046933.39	136.00	75.07'	N15° 36' 31"W	74.12'	Δ=31° 37' 39"
C7	N:13817702.30 E:3046913.44	310.00	40.95'	N27° 38' 10"W	40.92'	Δ=7° 34' 08"
C8	N:13817747.41 E:3046890.54	70.00	45.75'	N5° 07' 45"W	44.94'	Δ=37° 26' 46"
C9	N:13817792.17 E:3046886.52	120.00	34.55'	N5° 20' 46"E	34.43'	Δ=16° 29' 45"
C10	N:13818014.86 E:3046880.18	50.00	79.11'	N42° 25' 28"E	71.11'	Δ=90° 39' 10"
C11	N:13818067.42 E:3046929.72	255.00	77.04'	S83° 35' 37"E	76.75'	Δ=17° 18' 39"
C12	N:13818058.85 E:3047005.99	495.00	152.12'	S83° 44' 33"E	151.53'	Δ=17° 36' 30"
C13	N:13818050.07 E:3047330.47	395.00	120.23'	N78° 44' 01"E	119.76'	Δ=17° 26' 22"
C14	N:13818073.47 E:3047447.92	205.00	65.28'	N79° 08' 11"E	65.00'	Δ=18° 14' 40"
C15	N:13818085.87 E:3047516.72	39.00	27.74'	S71° 21' 56"E	27.16'	Δ=40° 45' 07"
C16	N:13818074.72 E:3047545.51	33.00	32.95'	S22° 23' 13"E	31.60'	Δ=57° 12' 46"
C17	N:13818045.50 E:3047557.55	97.00	55.64'	S22° 39' 05"W	54.88'	Δ=32° 51' 51"
C18	N:13817988.58 E:3047531.32	130.00	123.49'	S11° 52' 03"W	118.90'	Δ=54° 25' 42"
C19	N:13817872.22 E:3047506.86	50.00	30.95'	S2° 23' 00"W	30.45'	Δ=35° 27' 38"
C20	N:13817841.79 E:3047505.60	50.00	49.47'	S8° 13' 50"E	47.48'	Δ=56° 41' 18"
C21	N:13817794.81 E:3047512.39	20.00	29.02'	S4° 59' 21"W	26.54'	Δ=83° 07' 40"
C22	N:13817727.32 E:3047466.75	33.00	31.56'	S19° 09' 28"W	30.37'	Δ=54° 47' 26"
C23	N:13817683.02 E:3047459.05	25.00	16.16'	S26° 45' 04"E	15.88'	Δ=37° 01' 39"
C24	N:13817602.96 E:3047532.69	110.00	35.91'	S35° 54' 43"E	35.75'	Δ=18° 42' 23"
C25	N:13817574.00 E:3047553.66	51.00	89.21'	S23° 32' 34"W	78.26'	Δ=100° 13' 27"
C26	N:13817502.25 E:3047522.40	118.00	67.41'	S57° 16' 59"W	66.49'	Δ=32° 43' 48"
C27	N:13817429.71 E:3047434.73	160.00	128.38'	S17° 56' 02"W	124.96'	Δ=45° 58' 21"
C28	N:13817310.82 E:3047396.25	45.00	114.35'	S77° 50' 51"E	85.97'	Δ=145° 35' 27"
C29	N:13817292.72 E:3047480.30	188.41	54.57'	N37° 39' 13"E	54.38'	Δ=16° 35' 36"
C30	N:13817335.78 E:3047513.52	30.00	28.01'	N72° 41' 51"E	27.00'	Δ=53° 29' 38"
C31	N:13817343.81 E:3047539.30	141.26	141.96'	S51° 45' 53"E	136.06'	Δ=57° 34' 54"
C32	N:13817259.60 E:3047646.17	42.00	43.32'	S6° 34' 32"W	41.43'	Δ=59° 05' 57"
C33	N:13817218.44 E:3047641.43	11.00	13.06'	S2° 06' 47"W	12.31'	Δ=68° 01' 28"
C34	N:13817206.15 E:3047640.98	72.00	39.56'	S16° 09' 27"E	39.07'	Δ=31° 29' 01"
C35	N:13817081.56 E:3047655.30	60.00	99.03'	S42° 43' 04"W	88.16'	Δ=94° 33' 52"
C36	N:13817016.79 E:3047479.86	100.00	52.81'	N74° 52' 17"W	52.20'	Δ=30° 15' 27"
C37	N:13817030.41 E:3047429.47	108.00	148.75'	S80° 48' 05"W	137.26'	Δ=78° 54' 43"
C38	N:13816999.29 E:3047285.89	65.00	112.59'	N89° 01' 40"W	99.03'	Δ=99° 14' 30"
C39	N:13817022.91 E:3047168.86	98.00	44.38'	N52° 22' 47"W	44.00'	Δ=25° 56' 45"
C40	N:13817084.95 E:3047057.31	50.00	14.22'	N57° 12' 26"W	14.17'	Δ=16° 17' 28"
C41	N:13817062.50 E:3047006.86	74.31	49.38'	N45° 46' 16"E	48.47'	Δ=38° 04' 23"
C42	N:13817389.56 E:3047029.78	43.00	57.73'	S51° 46' 53"E	53.49'	Δ=76° 55' 37"
C43	N:13817339.99 E:3047075.70	98.00	39.02'	S24° 43' 23"E	38.76'	Δ=22° 48' 37"
C44	N:13817299.15 E:3047096.03	30.00	30.79'	S65° 31' 39"E	29.45'	Δ=58° 47' 56"
C45	N:13817289.70 E:3047154.77	36.00	74.79'	S35° 24' 26"E	62.05'	Δ=119° 02' 21"
C46	N:13817232.44 E:3047187.73	85.00	65.32'	S2° 05' 57"W	63.73'	Δ=44° 01' 56"
C47	N:13817168.75 E:3047185.39	70.00	59.44'	S4° 24' 31"W	57.67'	Δ=48° 39' 05"
C48	N:13817403.27 E:3047338.57	76.00	83.09'	N86° 56' 01"E	79.01'	Δ=62° 38' 14"
C49	N:13817342.29 E:3047285.57	160.00	81.68'	N40° 59' 48"E	80.80'	Δ=29° 14' 59"
C50	N:13817273.51 E:3047198.55	85.00	94.57'	N58° 14' 53"E	89.77'	Δ=63° 44' 55"
C51	N:13817334.36 E:3047077.21	64.00	40.34'	N63° 54' 11"E	39.68'	Δ=36° 06' 53"
C52	N:13817195.43 E:3047170.02	17.00	9.74'	N73° 35' 15"W	9.61'	Δ=32° 49' 31"

CONCRETE TRAIL ALIGNMENT LINE TABLE

LINE #	START	DIRECTION	LENGTH
L1	N:13817286.29 E:3046986.45	N20° 36' 03.80"E	56.71
L2	N:13817460.30 E:3046995.63	N30° 46' 59.37"W	11.20
L3	N:13817608.89 E:3046933.31	N0° 12' 10.64"E	22.02
L4	N:13817738.55 E:3046894.46	N23° 51' 07.88"W	9.69
L5	N:13817826.45 E:3046889.73	N2° 54' 06.93"W	188.65
L6	N:13818067.36 E:3046928.15	N87° 45' 03.14"E	1.57
L7	N:13818042.34 E:3047156.62	N87° 27' 12.27"E	174.02
L8	N:13818085.72 E:3047511.76	N88° 15' 30.71"E	4.97
L9	N:13818077.19 E:3047542.46	S50° 59' 36.02"E	3.93
L10	N:13817994.86 E:3047536.41	S39° 04' 53.71"W	8.08
L11	N:13817768.37 E:3047510.09	S46° 33' 11.08"W	59.69
L12	N:13817698.64 E:3047456.79	S8° 14' 14.65"E	15.77
L13	N:13817668.85 E:3047466.19	S45° 15' 54.13"E	93.61
L14	N:13817466.31 E:3047466.46	S40° 55' 12.92"W	48.43
L15	N:13817168.62 E:3047651.85	S0° 24' 56.01"E	48.26
L16	N:13817120.36 E:3047652.20	S4° 33' 51.82"E	38.92
L17	N:13817016.79 E:3047595.49	N90° 00' 00.00"W	115.63
L18	N:13817008.47 E:3047293.97	S41° 21' 05.29"W	12.22
L19	N:13817000.97 E:3047186.88	N39° 24' 24.63"W	28.39
L20	N:13817049.76 E:3047134.01	N65° 21' 09.41"W	84.38
L21	N:13817389.49 E:3047015.35	N89° 45' 19.15"E	14.42
L22	N:13817356.46 E:3047071.80	S13° 19' 04.30"E	16.92
L23	N:13817304.79 E:3047091.91	S36° 07' 40.89"E	6.99
L24	N:13817286.94 E:3047122.84	N85° 04' 23.11"E	32.05
L25	N:13817239.12 E:3047190.72	S24° 06' 44.54"W	7.33
L26	N:13817111.25 E:3047180.96	S28° 43' 51.56"W	76.35
L27	N:13817407.50 E:3047417.47	S61° 32' 05.97"E	0.97
L28	N:13817320.75 E:3047274.88	N26° 22' 25.21"E	24.05
L29	N:13817273.53 E:3047187.99	S89° 52' 39.63"E	10.56
L30	N:13817195.43 E:3047180.34	N90° 00' 00.00"W	10.32

LEGEND

TOB TOP OF BANK

NO.	DATE	REVISION	APP.

GANNETT FLEMING

T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK COORDINATE GEOMETRY AND GRADING TABLES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 90 OF 144	

PROPOSED BASIN WATER SURFACE ELEVATIONS
COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
356	74.00	13817142.42	3047071.50	WSE
357	74.00	13817142.58	3047068.00	WSE
358	74.00	13817144.26	3047061.75	WSE
359	74.00	13817145.99	3047059.22	WSE
360	74.00	13817157.95	3047048.21	WSE
361	74.00	13817167.88	3047044.02	WSE
362	74.00	13817177.95	3047043.20	WSE
363	74.00	13817199.01	3047044.17	WSE
364	74.00	13817207.22	3047045.08	WSE
365	74.00	13817218.17	3047047.89	WSE
366	74.00	13817220.86	3047048.70	WSE
367	74.00	13817240.70	3047051.09	WSE
368	74.00	13817269.47	3047043.41	WSE
369	74.00	13817273.85	3047040.85	WSE
370	74.00	13817281.17	3047038.03	WSE
371	74.00	13817284.92	3047037.44	WSE
372	74.00	13817298.19	3047032.43	WSE
373	74.00	13817306.68	3047031.27	WSE
374	74.00	13817311.77	3047031.96	WSE
375	74.00	13817318.45	3047033.94	WSE
376	74.00	13817322.83	3047036.29	WSE
377	74.00	13817326.05	3047039.97	WSE
378	74.00	13817328.00	3047047.89	WSE
379	74.00	13817324.98	3047052.59	WSE
380	74.00	13817321.13	3047054.46	WSE
381	74.00	13817310.63	3047057.87	WSE
382	74.00	13817289.83	3047061.47	WSE
383	74.00	13817286.60	3047061.77	WSE
384	74.00	13817277.51	3047061.11	WSE
385	74.00	13817272.25	3047061.91	WSE
386	74.00	13817259.57	3047067.77	WSE
387	74.00	13817249.94	3047078.28	WSE
388	74.00	13817247.03	3047085.24	WSE
389	74.00	13817241.83	3047090.93	WSE
390	74.00	13817234.92	3047092.30	WSE
391	74.00	13817223.21	3047091.17	WSE
392	74.00	13817206.37	3047088.11	WSE
393	74.00	13817198.58	3047086.78	WSE
394	74.00	13817190.03	3047088.06	WSE
395	74.00	13817173.51	3047094.88	WSE
396	74.00	13817163.38	3047100.93	WSE
397	74.00	13817155.09	3047110.25	WSE
398	74.00	13817152.54	3047130.45	WSE
399	74.00	13817157.11	3047150.79	WSE
400	74.00	13817158.30	3047155.17	WSE
401	74.00	13817158.68	3047159.20	WSE
402	74.00	13817158.79	3047166.15	WSE
403	74.00	13817157.44	3047173.17	WSE
404	74.00	13817156.37	3047180.19	WSE
405	74.00	13817155.93	3047190.83	WSE
406	74.00	13817158.38	3047199.20	WSE
407	74.00	13817162.95	3047208.65	WSE
408	74.00	13817168.21	3047215.21	WSE
409	74.00	13817175.22	3047221.29	WSE
410	74.00	13817180.42	3047226.81	WSE
411	74.00	13817183.67	3047234.10	WSE
412	74.00	13817185.31	3047240.22	WSE
413	74.00	13817185.45	3047244.20	WSE
414	74.00	13817182.98	3047252.30	WSE
415	74.00	13817179.85	3047261.88	WSE
416	74.00	13817179.22	3047265.87	WSE
417	74.00	13817180.93	3047278.16	WSE
418	74.00	13817184.20	3047286.14	WSE
419	74.00	13817192.78	3047295.06	WSE
420	74.00	13817199.84	3047299.20	WSE
421	74.00	13817209.57	3047303.46	WSE
422	74.00	13817212.58	3047309.09	WSE
423	74.00	13817208.51	3047314.13	WSE
424	74.00	13817201.67	3047317.05	WSE
425	74.00	13817190.21	3047324.55	WSE
426	74.00	13817179.42	3047339.53	WSE
427	74.00	13817173.61	3047352.56	WSE
428	74.00	13817170.83	3047372.39	WSE
429	74.00	13817172.02	3047384.63	WSE
430	74.00	13817172.06	3047393.55	WSE
431	74.00	13817171.20	3047401.13	WSE
432	74.00	13817174.29	3047418.45	WSE
433	74.00	13817177.96	3047426.23	WSE
434	74.00	13817187.81	3047440.56	WSE
435	74.00	13817190.56	3047448.73	WSE

PROPOSED BASIN WATER SURFACE ELEVATIONS
COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
436	74.00	13817188.12	3047463.49	WSE
437	74.00	13817184.17	3047466.42	WSE
438	74.00	13817182.28	3047467.13	WSE
439	74.00	13817177.38	3047467.66	WSE
440	74.00	13817166.80	3047472.46	WSE
441	74.00	13817160.22	3047482.86	WSE
442	74.00	13817157.86	3047495.04	WSE
443	74.00	13817158.63	3047507.81	WSE
444	74.00	13817159.81	3047522.10	WSE
445	74.00	13817162.78	3047531.99	WSE
446	74.00	13817168.10	3047536.12	WSE
447	74.00	13817174.51	3047540.90	WSE
448	74.00	13817179.26	3047550.30	WSE
449	74.00	13817176.95	3047561.58	WSE
450	74.00	13817168.12	3047569.88	WSE
451	74.00	13817156.63	3047571.35	WSE
452	74.00	13817147.97	3047568.49	WSE
453	74.00	13817137.22	3047566.05	WSE
454	74.00	13817128.62	3047566.14	WSE
455	74.00	13817124.84	3047564.83	WSE
456	74.00	13817121.18	3047561.40	WSE
457	74.00	13817119.97	3047557.96	WSE
458	74.00	13817120.43	3047554.66	WSE
459	74.00	13817124.73	3047551.14	WSE
460	74.00	13817131.86	3047549.34	WSE
461	74.00	13817140.46	3047545.44	WSE
462	74.00	13817145.04	3047540.36	WSE
463	74.00	13817146.87	3047535.92	WSE
464	74.00	13817147.06	3047529.22	WSE
465	74.00	13817145.18	3047499.39	WSE
466	74.00	13817144.46	3047492.49	WSE
467	74.00	13817139.45	3047479.37	WSE
468	74.00	13817125.61	3047465.34	WSE
469	74.00	13817115.24	3047461.27	WSE
470	74.00	13817106.49	3047458.54	WSE
471	74.00	13817103.53	3047455.63	WSE
472	74.00	13817098.18	3047446.06	WSE
473	74.00	13817092.77	3047431.88	WSE
474	74.00	13817089.42	3047414.34	WSE
475	74.00	13817088.75	3047405.41	WSE
476	74.00	13817090.21	3047390.16	WSE
477	74.00	13817091.80	3047382.93	WSE
478	74.00	13817095.38	3047368.49	WSE
479	74.00	13817097.40	3047350.97	WSE
480	74.00	13817096.87	3047338.26	WSE
481	74.00	13817094.79	3047324.77	WSE
482	74.00	13817090.96	3047310.04	WSE
483	74.00	13817085.27	3047299.52	WSE
484	74.00	13817077.30	3047291.22	WSE
485	74.00	13817066.86	3047285.34	WSE
486	74.00	13817059.08	3047283.34	WSE
487	74.00	13817046.29	3047278.64	WSE
488	74.00	13817032.48	3047271.76	WSE
489	74.00	13817022.77	3047265.73	WSE
490	74.00	13817015.80	3047258.29	WSE
491	74.00	13817012.18	3047252.85	WSE
492	74.00	13817008.76	3047244.15	WSE
493	74.00	13817007.59	3047231.57	WSE
494	74.00	13817010.50	3047223.65	WSE
495	74.00	13817020.41	3047215.27	WSE
496	74.00	13817028.85	3047213.09	WSE
497	74.00	13817044.20	3047211.76	WSE
498	74.00	13817049.64	3047212.27	WSE
499	74.00	13817058.42	3047214.24	WSE
500	74.00	13817072.67	3047220.15	WSE
501	74.00	13817091.69	3047226.32	WSE
502	74.00	13817102.09	3047228.43	WSE
503	74.00	13817118.50	3047226.26	WSE
504	74.00	13817132.65	3047215.92	WSE
505	74.00	13817135.44	3047212.13	WSE
506	74.00	13817139.10	3047208.40	WSE
507	74.00	13817143.10	3047196.64	WSE
508	74.00	13817145.01	3047181.08	WSE
509	74.00	13817146.18	3047151.76	WSE
510	74.00	13817146.17	3047125.08	WSE
511	74.00	13817145.46	3047106.13	WSE
512	71.00	13817714.86	3047096.58	WSE
513	71.00	13817716.66	3047091.57	WSE
514	71.00	13817720.31	3047090.78	WSE
515	71.00	13817725.60	3047095.90	WSE

PROPOSED BASIN WATER SURFACE ELEVATIONS
COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
516	71.00	13817730.44	3047104.57	WSE
517	71.00	13817748.79	3047129.44	WSE
518	71.00	13817771.18	3047142.10	WSE
519	71.00	13817793.18	3047146.05	WSE
520	71.00	13817814.99	3047142.44	WSE
521	71.00	13817825.94	3047137.75	WSE
522	71.00	13817836.98	3047131.58	WSE
523	71.00	13817850.85	3047119.84	WSE
524	71.00	13817863.04	3047104.21	WSE
525	71.00	13817868.39	3047095.38	WSE
526	71.00	13817878.37	3047082.85	WSE
527	71.00	13817896.82	3047069.07	WSE
528	71.00	13817916.44	3047057.20	WSE
529	71.00	13817925.69	3047050.32	WSE
530	71.00	13817934.77	3047042.02	WSE
531	71.00	13817942.87	3047029.81	WSE
532	71.00	13817946.31	3047020.78	WSE
533	71.00	13817948.24	3046997.59	WSE
534	71.00	13817949.82	3046989.35	WSE
535	71.00	13817954.89	3046980.04	WSE
536	71.00	13817965.36	3046972.69	WSE
537	71.00	13817977.78	3046971.90	WSE
538	71.00	13817984.72	3046977.20	WSE
539	71.00	13817991.40	3046984.21	WSE
540	71.00	13817997.61	3046994.09	WSE
541	71.00	13818001.39	3047002.78	WSE
542	71.00	13818002.91	3047011.93	WSE
543	71.00	13818001.82	3047022.22	WSE
544	71.00	13817995.19	3047073.98	WSE
545	71.00	13817993.56	3047089.89	WSE
546	71.00	13817991.94	3047116.85	WSE
547	71.00	13817990.17	3047129.55	WSE
548	71.00	13817989.77	3047138.20	WSE
549	71.00	13817987.42	3047157.55	WSE
550	71.00	13817984.46	3047177.20	WSE
551	71.00	13817981.90	3047199.08	WSE
552	71.00	13817982.65	3047215.46	WSE
553	71.00	13817980.67	3047224.12	WSE
554	71.00	13817973.27	3047221.99	WSE
555	71.00	13817967.90	3047214.07	WSE
556	71.00	13817958.50	3047204.55	WSE
557	71.00	13817941.81	3047194.83	WSE
558	71.00	13817928.60	3047191.65	WSE
559	71.00	13817912.93	3047191.20	WSE
560	71.00	13817890.28	3047198.36	WSE
561	71.00	13817872.43	3047214.50	WSE
562	71.00	13817866.30	3047224.77	WSE
563	71.00	13817859.05	3047246.16	WSE
564	71.00	13817853.34	3047276.99	WSE
565	71.00	13817851.35	3047295.12	WSE
566	71.00	13817851.61	3047326.82	WSE
567	71.00	13817853.60	3047345.04	WSE
568	71.00	13817857.13	3047362.89	WSE
569	71.00	13817864.81	3047391.69	WSE
570	71.00	13817862.69	3047408.90	WSE
571	71.00	13817850.80	3047415.27	WSE
572	71.00	13817825.02	3047416.57	WSE
573	71.00	13817793.15	3047419.87	WSE
574	71.00	13817782.15	3047421.16	WSE
575	71.00	13817766.69	3047421.04	WSE
576	71.00	13817753.40	3047416.02	WSE
577	71.00	13817748.38	3047413.45	WSE
578	71.00	13817740.00	3047407.08	WSE
579	71.00	13817716.63	3047394.94	WSE
580	71.00	13817686.05	3047390.08	WSE
581	71.00	13817653.69	3047397.74	WSE
582	71.00	13817637.76	3047407.64	WSE
583	71.00	13817625.18	3047419.16	WSE
584	71.00	13817620.99	3047424.70	WSE
585	71.00	13817615.30	3047426.63	WSE
586	71.00	13817612.82	3047423.06	WSE
587	71.00	13817613.77	3047409.70	WSE
588	71.00	13817613.82	3047398.76	WSE
589	71.00	13817615.11	3047384.62	WSE
590	71.00	13817619.60	3047375.14	WSE
591	71.00	13817629.60	3047360.43	WSE
592	71.00	13817639.73	3047345.17	WSE
593	71.00	13817649.51	3047328.57	WSE
594	71.00	13817663.23	3047304.47	WSE
595	71.00	13817668.90	3047295.50	WSE

PROPOSED BASIN WATER SURFACE ELEVATIONS
COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
596	71.00	13817677.69	3047286.63	WSE
597	71.00	13817692.48	3047273.22	WSE
598	71.00	13817703.71	3047256.84	WSE
599	71.00	13817710.67	3047235.24	WSE
600	71.00	13817713.46	3047215.63	WSE
601	71.00	13817713.63	3047196.20	WSE
602	71.00	13817710.58	3047176.52	WSE
603	71.00	13817708.09	3047167.11	WSE
604	71.00	13817704.43	3047155.48	WSE
605	71.00	13817703.30	3047146.30	WSE
606	71.00	13817706.07	3047129.81	WSE
607	71.00	13817709.48	3047120.37	WSE
608	71.00	13817712.21	3047110.53	WSE

PROPOSED BASIN TOP OF DEEP POOL
COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
673	73.00	13817113.55	3047358.11	DEPPOL
609	73.00	13817163.63	3047063.69	DEPPOL
610	73.00	13817162.55	3047054.52	DEPPOL
611	73.00	13817169.11	3047048.02	DEPPOL
612	73.00	13817174.07	3047047.00	DEPPOL
613	73.00	13817188.42	3047047.18	DEPPOL
614	73.00	13817194.63	3047048.68	DEPPOL
615	73.00	13817198.18	3047052.08	DEPPOL
616	73.00	13817200.90	3047056.32	DEPPOL
617	73.00	13817201.08	3047067.40	DEPPOL
618	73.00	13817190.10	3047072.43	DEPPOL
619	73.00	13817188.69	3047072.34	DEPPOL
620	73.00	13817182.63	3047072.10	DEPPOL
621	73.00	13817174.89	3047072.10	DEPPOL
622	73.00	13817169.78	3047070.84	DEPPOL
623	73.00	13817216.85	3047082.28	DEPPOL
624	73.00	13817214.94	3047080.38	DEPPOL
625	73.00	13817211.95	3047075.69	DEPPOL
626	73.00	13817212.40	3047070.98	DEPPOL
627	73.00	13817215.88	3047067.10	DEPPOL
628	73.00	13817221.71	3047066.57	DEPPOL
629	73.00	13817234.04	3047069.58	DEPPOL
630	73.00	13817240.71	3047072.47	DEPPOL
631	73.00	13817243.81	3047076.83	DEPPOL
632	73.00	13817244.15	3047080.84	DEPPOL
633	73.00	13817240.77	3047086.58	DEPPOL
634	73.00	13817234.75	3047088.38	DEPPOL
635	73.00	13817223.34	3047086.14	DEPPOL
637	73.00	13817291.60	3047038.91	DEPPOL
638	73.00	13817300.98	3047035.71	DEPPOL
639	73.00	13817305.61	3047035.19	DEPPOL
640	73.00	13817309.37	3047035.70	DEPPOL
641	73.00	13817314.29	3047037.16	DEPPOL
642	73.00	13817319.11	3047040.89	DEPPOL
643	73.00	13817319.97	3047047.81	DEPPOL
644	73.00	13817317.43	3047051.40	DEPPOL
645	73.00	13817313.68	3047053.45	DEPPOL
646	73.00	13817300.21	3047057.60	DEPPOL
647	73.00	13817292.20	3047058.66	DEPPOL
648	73.00	13817283.41	3047048.97	DEPPOL
649	73.00	13817035.23	3047249.54	DEPPOL
650	73.00	13817032.90	3047242.83	DEPPOL
651	73.00	13817037.84	3047237.46	DEPPOL
652	73.00	13817045.54	3047236.84	DEPPOL
653	73.00	13817056.12	3047239.29	DEPPOL
654	73.00	13817072.64	3047245.82	DEPPOL
655	73.00	13817101.79	3047254.27	DEPPOL
656	73.00	13817110.35	3047254.55	DEPPOL
657	73.00	13817120.52	3047253.12	DEPPOL
658	73.00	13817130.80	3047246.23	DEPPOL
659	73.00	13817139.71	3047243.71	DEPPOL
660	73.00	13817155.03	3047250.99	DEPPOL
661	73.00	13817170.35	3047270.37	DEPPOL
662	73.00	13817173.24	3047275.51	DEPPOL
663	73.00	13817175.83	3047282.82	DEPPOL
664	73.00	13817180.64	3047295.50	DEPPOL
665	73.00	13817182.10	3047303.97	DEPPOL
666	73.00	13817180.37	3047323.15	DEPPOL
667	73.00	13817174.63	3047336.54	DEPPOL
668	73.00	13817166.04	3047352.30	DEPPOL

PROPOSED BASIN TOP OF DEEP POOL
COORDINATES AND ELEVATIONS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
669	73.00	13817159.73	3047360.82	DEPPOL
670	73.00	13817146.13	3047369.10	DEPPOL
671	73.00	13817135.14	3047370.81	DEPPOL
672	73.00	13817124.73	3047366.47	DEPPOL
674	73.00	13817103.46	3047345.88	DEPPOL
675	73.00	13817099.96	3047332.52	DEPPOL
676	73.00	13817097.81	3047292.98	DEPPOL
677	73.00	13817094.80	3047282.72	DEPPOL
678	73.00	13817084.38	3047273.08	DEPPOL
679	73.00	13817076.66	3047268.83	DEPPOL
680	73.00	13817066.94	3047266.24	DEPPOL
681	73.00	13817053.27	3047261.12	DEPPOL
682	73.00	13817044.63	3047256.49	DEPPOL
683	67.00	13817696.46	3047306.78	DEPPOL
684	67.00	13817704.35	3047290.95	DEPPOL
685	67.00	13817715.08	3047276.68	DEPPOL
686	67.00	13817724.21	3047260.41	DEPPOL
687	66.98	13817729.98	3047242.91	DEPPOL
688	67.00	13817731.50	3047232.32	DEPPOL
689	67.00	13817740.09	3047220.33	DEPPOL
690	67.00	13817759.54	3047215.56	DEPPOL
691	67.00	13817782.86	3047222.71	DEPPOL
692	67.00	13817799.82	3047232.66	DEPPOL
693	67.00	13817805.61	3047240.45	DEPPOL
694	67.00	13817809.77	3047247.24	DEPPOL
695	67.00	13817812.54	3047253.57	DEPPOL
696	67.00	13817815.40	3047266.68	DEPPOL
697	67.00	13817815.89	3047272.82	DEPPOL
698	67.00	13817815.65	3047283.01	DEPPOL
699	67.00	13817815.89	3047303.22	DEPPOL
700	67.00	13817818.28	3047328.06	DEPPOL
701	67.00	13817820.28	3047340.64	DEPPOL
702	67.00	13817823.18	3047355.00	DEPPOL
703	67.00	13817823.27	3047365.18	DEPPOL
704	67.00	13817817.49	3047379.68	DEPPOL
705	67.00	13817814.05	3047384.60	DEPPOL
706	67.00	13817806.29	3047391.03	DEPPOL
707	67.00	13817800.46	3047394.28	DEPPOL
708	67.01	13817785.08	3047397.43	DEPPOL
709	67.01	13817773.88	3047395.06	DEPPOL
710	67.00	13817764.38	3047388.83	DEPPOL
711	67.00	13817750.79	3047379.96	DEPPOL
712	67.00	13817738.84	3047373.86	DEPPOL
713	67.00	13817724.34	3047368.69	DEPPOL
714	67.00	13817703.02	3047365.29	DEPPOL
715	67.01	13817686.45	3047351.56	DEPPOL
716	67.00	13817688.44	3047319.59	DEPPOL
717	69.00	13817921.52	3047113.87	DEPPOL
718	69.00	13817933.84	3047107.05	DEPPOL
719	69.00	13817946.52	3047104.17	DEPPOL
720	69.00	13817958.77	3047108.53	DEPPOL
721	69.00	13817962.08	3047110.92	DEPPOL
722	69.00	13817971.79	3047130.58	DEPPOL
723	69.00	13817955.42	3047154.16	DEPPOL
724	69.00	13817942.46	3047158.21	DEPPOL
725	0.00	13817932.63	3047159.08	DEPPOL
726	0.00	13817920.62	3047154.17	DEPPOL
727	69.00	13817909.50	3047133.76	DEPPOL

LEGEND

WSE WATER SURFACE ELEVATION
DEPPOL DEEP POOL

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK COORDINATE GEOMETRY AND GRADING TABLES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
N.A.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 91 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:55 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-COGO-AND-PARK-GRADING.dwg

GRAND CROSS LN.

WILLAMOOD LN.

CORONA LN.

BRAEWOOD GLEN LN.

DAIRY ASHFORD RD.
(ALIEF CEMETERY RD.)

WATERS OF THE U.S. (CONTRACTOR TO NOT DISTURB THIS AREA UNLESS DENOTED ON THESE PLANS. (TOTAL DISTURBED AREA IS .101 AC.) ORANGE CONSTRUCTION FENCING TO BE PLACED AROUND AREA TO REMAIN UNDISTURBED. ALSO PLACE DOUBLE ROW OF REINFORCED FILTER FENCE AROUND WETLANDS AT 3 TO 5 FOOT SPACING, AREA NOT TO BE DISTURBED.

EXIST 16" PVC WATER R

EXIST 24" STL WATER R

EXIST 24" PVC WATER R

EXIST 24" PVC WATER R

H.C.F.C.D. UNIT NO. D122-00-00

UNRESTRICTED RESERVE "C" OAK HARBOR VOL. 255, PG. 124, H.C.M.R.

CALLED 60' WIDE H.C.D.R.O.W. VOL. 1, PG. 23, H.C.M.R.

AT&T TEXAS/SWBT Ⓣ UG BURIED CABLE (APPROX. LOCATION)

COMCAST Ⓒ UG BURIED CABLE (APPROX. LOCATION)

LOT 129
DAIRY SUBDIVISION
VOL. 1, PG. 23, H.C.M.R.

CALLED 22.41 ACRES
CITY OF HOUSTON
H.C.C.F. NO. 20070487814

CALLED 0.51653 ACRES
(TRACT 1)
THE CITY OF HOUSTON
H.C.C.F. NO. D115057

CALLED 4.9849 ACRE
H.C.C.F. NO. D928572

CALLED 3.49 ACRE
(TRACT 2)
H.C.C.F. NO. D928572

AT&T TEXAS/SWBT Ⓣ UG BURIED CABLE (APPROX. LOCATION)

AT&T TEXAS/SWBT Ⓣ UG BURIED CABLE (APPROX. LOCATION)

AT&T TEXAS/SWBT Ⓣ UG BURIED CABLE (APPROX. LOCATION)

N

0 30 60 120
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- RFB — REINFORCED FILTER FABRIC
- SC — STABILIZED CONSTRUCTION ACCESS
- IPB — INLET PROTECTION BARRIER
- FD-TYPE — FILTER DAM
- CW — CONCRETE WASHDOWN
- POND HYDROMULCH SEEDING (.XXX AC)
- SOD SODDING (XXX SQ. FT.)
- WATERS OF THE U.S.

STORM WATER POLLUTION PREVENTION DETAILS
(SEE SHEET 133)

GANNETT FLEMING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK STORM WATER POLLUTION PREVENTION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 92 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:55 AM

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FILE PATH: C:\projectwise\dec\workdir\tidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-DEMO.dwg

GRAND CROSS LN.

VILLAWOOD LN.

CORONA LN.

BRAEWOOD GLEN LN.

DAIRY ASHFORD RD. (ALIEF CEMETERY RD.)

EXIST. 8" PVC SAN.

EXIST. 18" CONC SAN.

EXIST. 24" PVC WATER R

EXIST. 16" PVC WATER R

EXIST. 24" STL WATER R

EXIST. 24" RCP SAN.

EXIST. 30" RCP SAN.

CENTERPOINT ENERGY (E) UG ELEC. ST. IT CABLE

CENTERPOINT ENERGY (E) 2" IP PLA GAS MAIN

CENTERPOINT ENERGY (E) 4" IP JT PLA GAS MAIN

30' W.L.E. CALLED 0.8677 ACRES (TRACT 3) THE CITY OF HOUSTON H.C.C.F. NO. D111057

30' U.E. & ACCESS ESMT. CALLED 0.4472 ACRES THE CITY OF HOUSTON (TRACT 2) H.C.C.F. NO. D111057

CALLED 60' (WIDE) H.C.D.R. VOL. 1, PG. 23, H.C.M.R.

H.C.F.C.D. UNIT NO. D122-00-00

UNRESTRICTED RESERVE "C" OAK HARBOR VOL. 255, PG. 124, H.C.M.R.

15' DRAINAGE ESMT. F.C. NO. 162-21-1672

30' CITY OF HOUSTON WATER ESMT. F.C. NO. 150-26-0362

30' SAN. S.E. F.C. NO. 162-21-1666

AT&T TEXAS/SWBT (R) UG BURIED CABLE (APPROX. LOCATION)

COMCAST (R) UG BURIED CABLE (APPROX. LOCATION)

CALLED 0.7729 ACRES SHELL PIPE LINE CORPORATION VOL. 78140, PG. 546, H.C.D.R. H.C.C.F. NO. TH-14802

CALLED 0.1653 ACRES (TRACT 1) THE CITY OF HOUSTON H.C.C.F. NO. D111057

CALLED 4.9649 ACRE H.C.C.F. NO. D928572

CALLED 3.49 ACRE H.C.C.F. NO. D928572

CUONG NGUYEN SERVICES LLC (KINDER MORGAN) (APPROX. LOCATION)

ASHAD 10" ENTERPRISE CRUDE OIL PIPELINE (APPROX. LOCATION)

GRADUS ATX LLC

2 524 SY
6 12" 207 LF
2 2953 SY
6 12" 103 LF
1 2960 SY
6 12" 52 LF
4 5 SY
1 490 SY
4 6 SY (EA)
4 23 SY
4 24 SY
5 286 SY
5 1668 SY
6 12" 78 LF
5 25 SY
5 5528 SY
6 12" 18 LF
5 1401 SY
6 5" 26 LF
5 351 SY
5 23 SY
5 290 SY
5 20 SY
5 42 SY
6 12" 59 LF
5 4383 SY
6 15" 197 LF
5 283 SY
5 116 SY
5 82 SY
5 35 SY
5 25 SY
6 15" 172 LF
5 24 SY
5 127 SY
5 64 SY
6 24" 171 LF
6 8" 53 LF
5 22 SY
6 15" 163 LF
5 13 SY
5 327 SY
6 42" 108 LF
6 42" 85 LF

SCALE IN FEET: 0 30 60 120

LEGEND:

1. CONC SIDEWALK
2. CONC DRIVEWAY
3. ASPHALT PAVEMENT
4. CONC (MISC.)
5. EXISTING PONDS
6. STORM SEWER PIPE
7. STORM INLET
8. STORM MANHOLE
9. CONC HEADWALL
10. PARK APPURTENANCES (SEE NOTE)
11. TEMPORARY CONSTRUCTION FENCE

PARK APPURTENANCES TO BE COORDINATED WITH AND STORED BY THE CITY OF HOUSTON PARKS DEPARTMENT. ALL OTHER ITEMS TO BE DEMOLISHED AND REMOVED.

NO.	DATE	REVISION	APP.

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

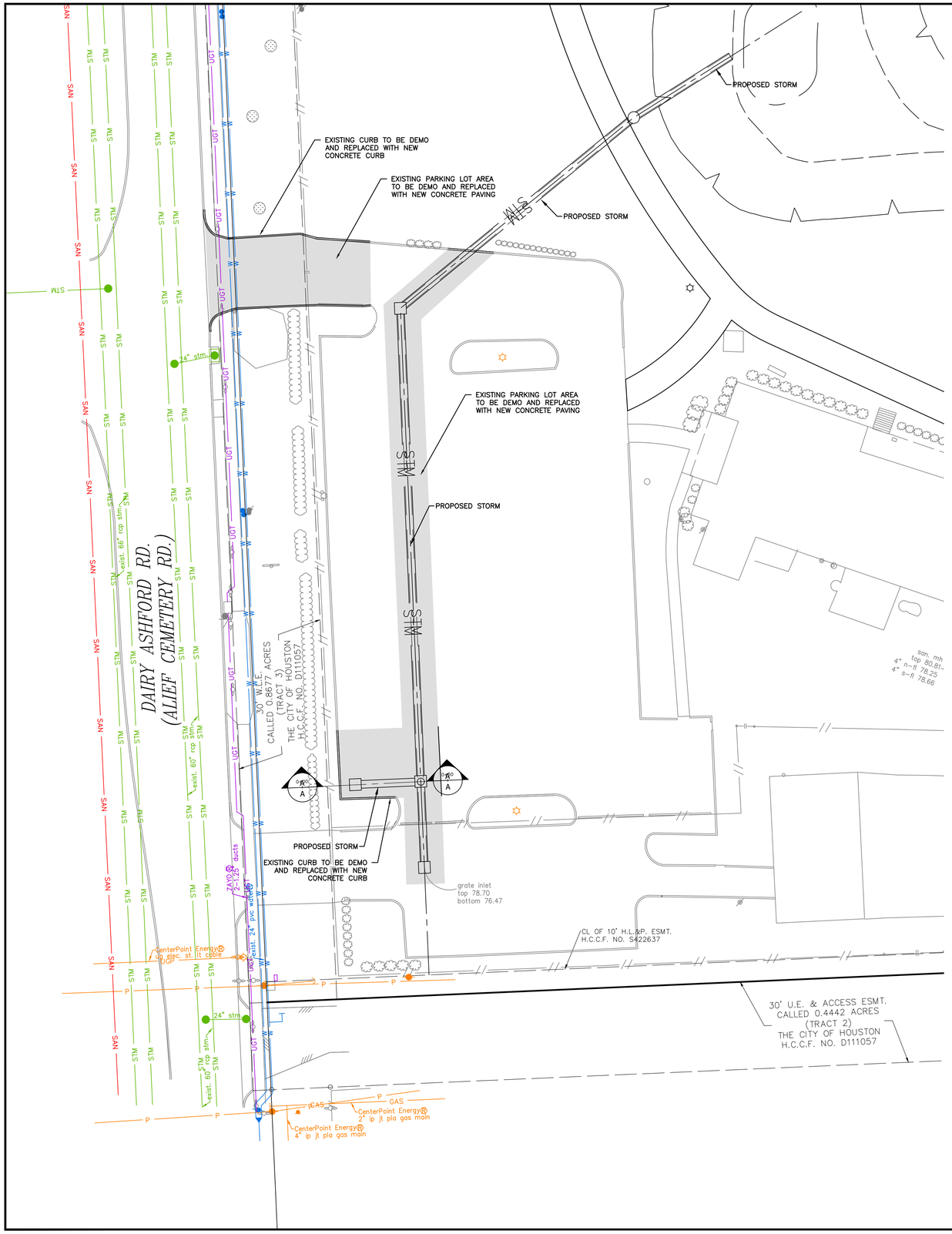
BOONE PARK & HACKBERRY PARK

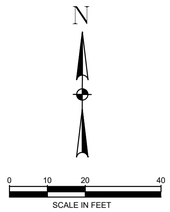
HACKBERRY PARK DEMOLITION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 60'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 93 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:55 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-PARKING-LOT-IMPROVEMENTS.dwg





NOTE:

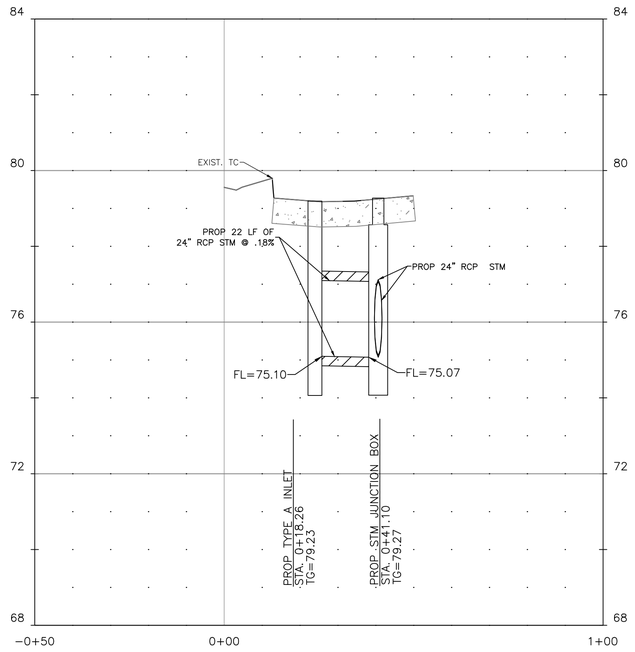
1. CONTRACTOR TO MATCH EXISTING ELEVATIONS AND GRADE PARKING LOT TO DRAIN.

LEGEND:

PARKING LOT 8" CONCRETE PAVEMENT = 524 SY

PARKING LOT CURB = 183 LF

HACKBERRY PARKING LOT SECTION A-A PROFILE



NO.	DATE	REVISION	APP.

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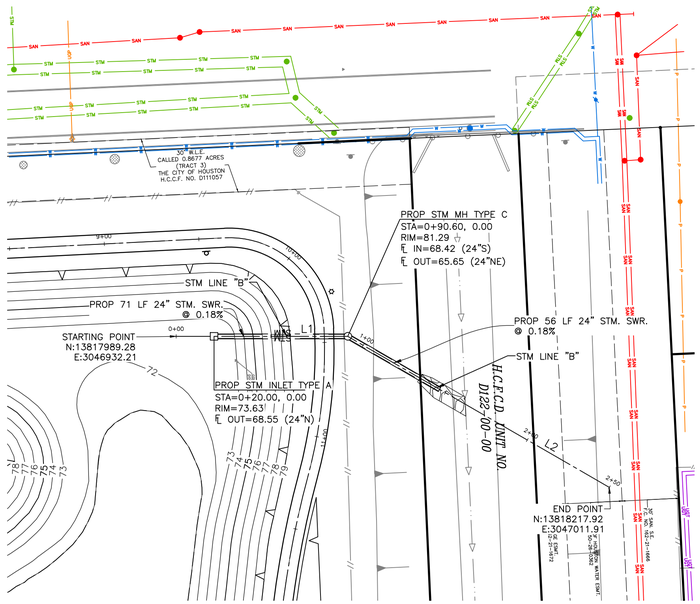
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK PARKING LOT IMPROVEMENTS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
H: 1"=20', V: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 94 OF 144	



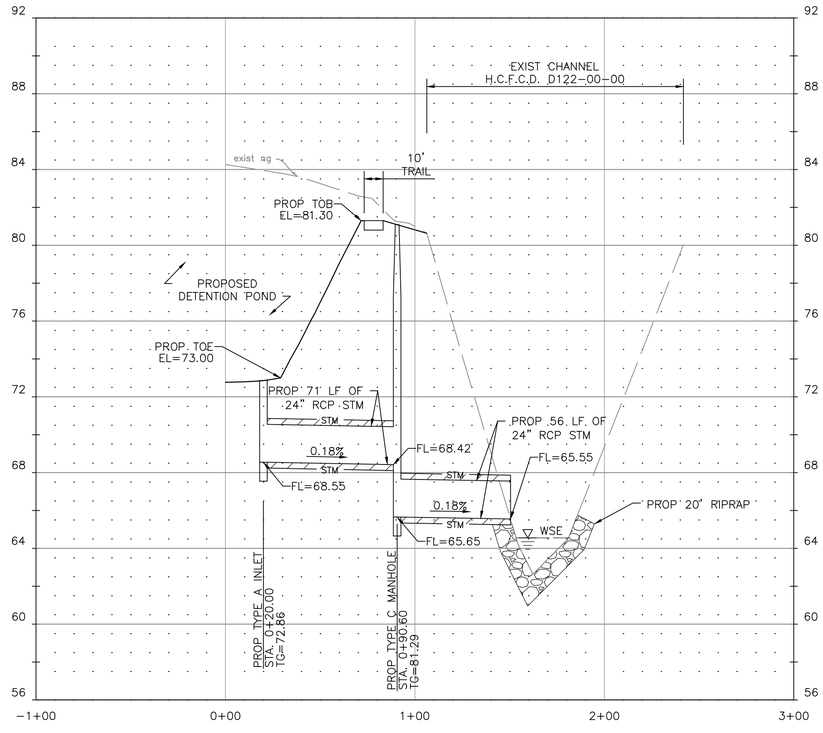
ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	90.60	N0° 00' 00.00"E
L2	159.40	N30° 00' 00.00"E

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

LINE B: HACKBERRY PARK (N) INLET & HCFCD OUTFALL



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY OUTFALLS (SHEET 1 OF 5)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 95 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:55 AM
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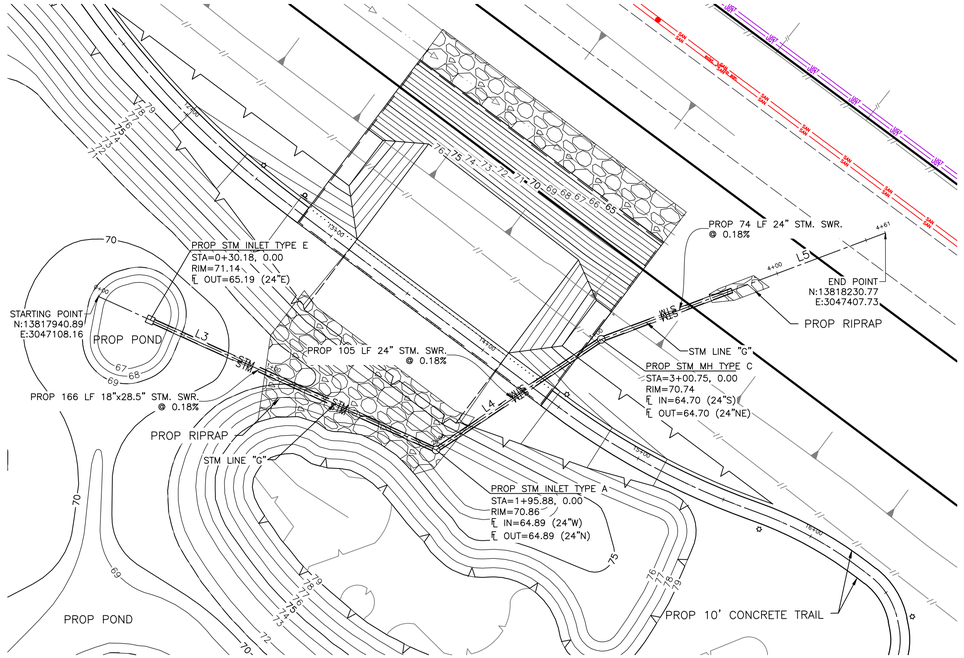


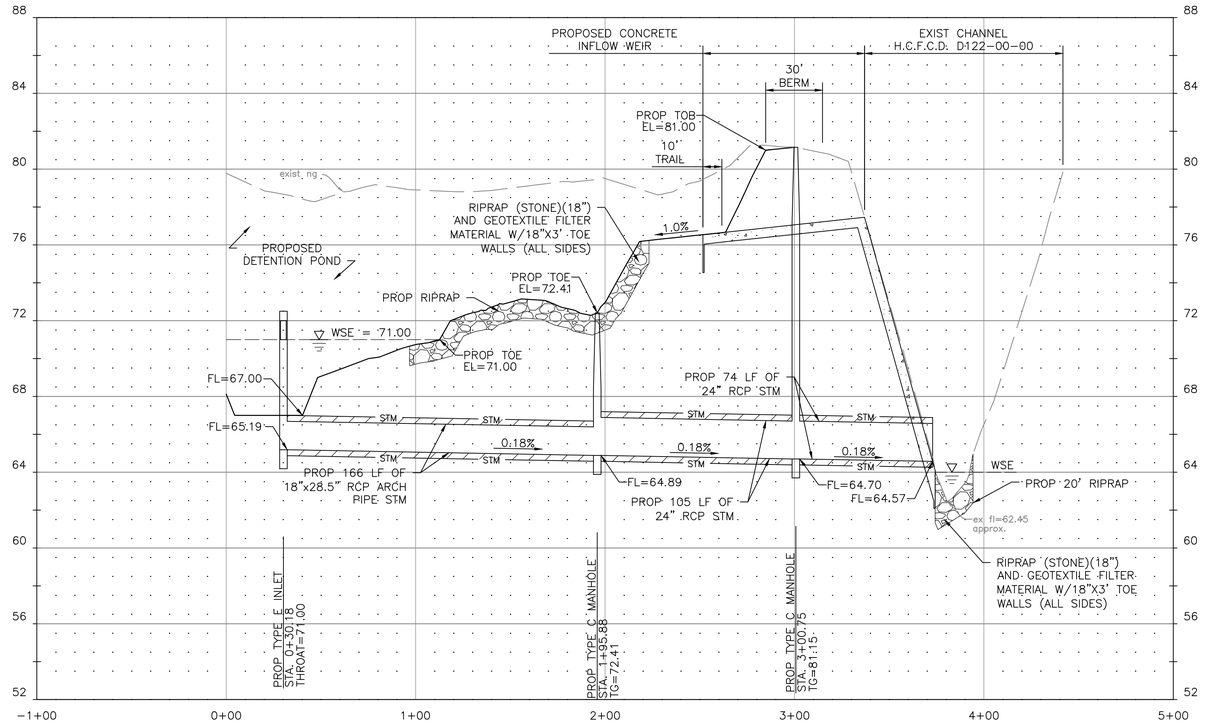
ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L3	195.88	N74° 59' 14.72"E
L4	104.87	N16° 46' 37.38"E
L5	160.21	N30° 00' 00.00"E

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

LINE G: HACKBERRY PARK (N) INLET & HCFCD OUTFALL



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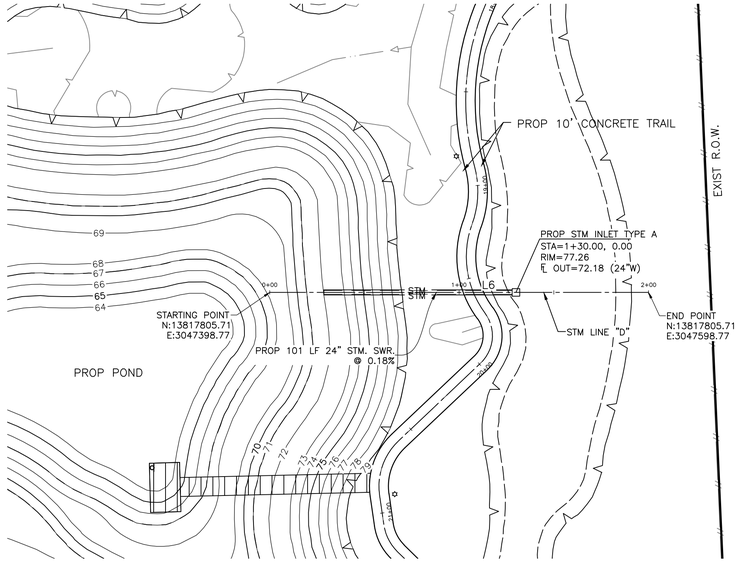
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY OUTFALLS (SHEET 2 OF 5)

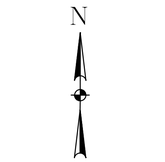
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 96 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:55 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-D-PP-HACKBERRY PLAN-PROFILE.dwg

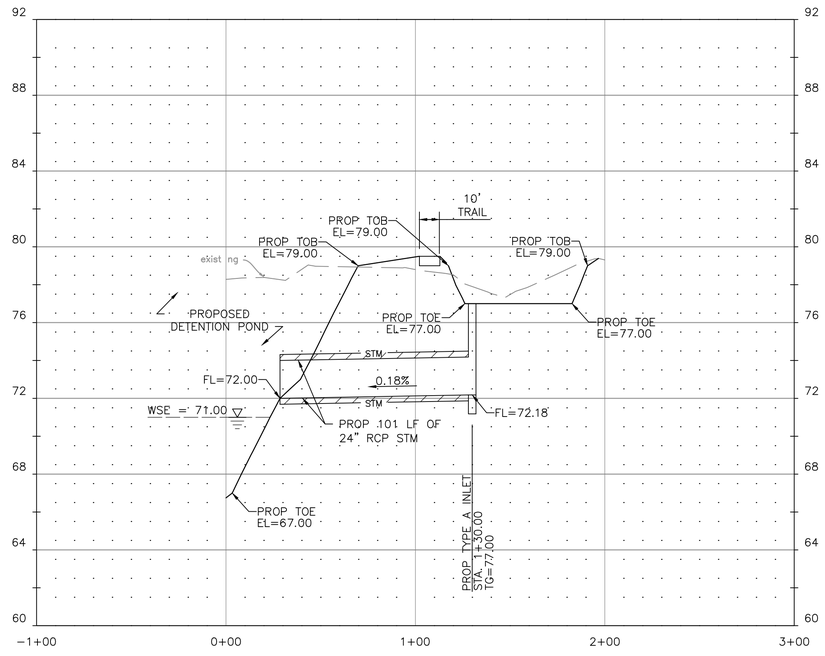


ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L6	200.00	N90° 00' 00.00"E



NO.	DATE	REVISION	APP.

LINE D: HACKBERRY PARK (NE) INLET



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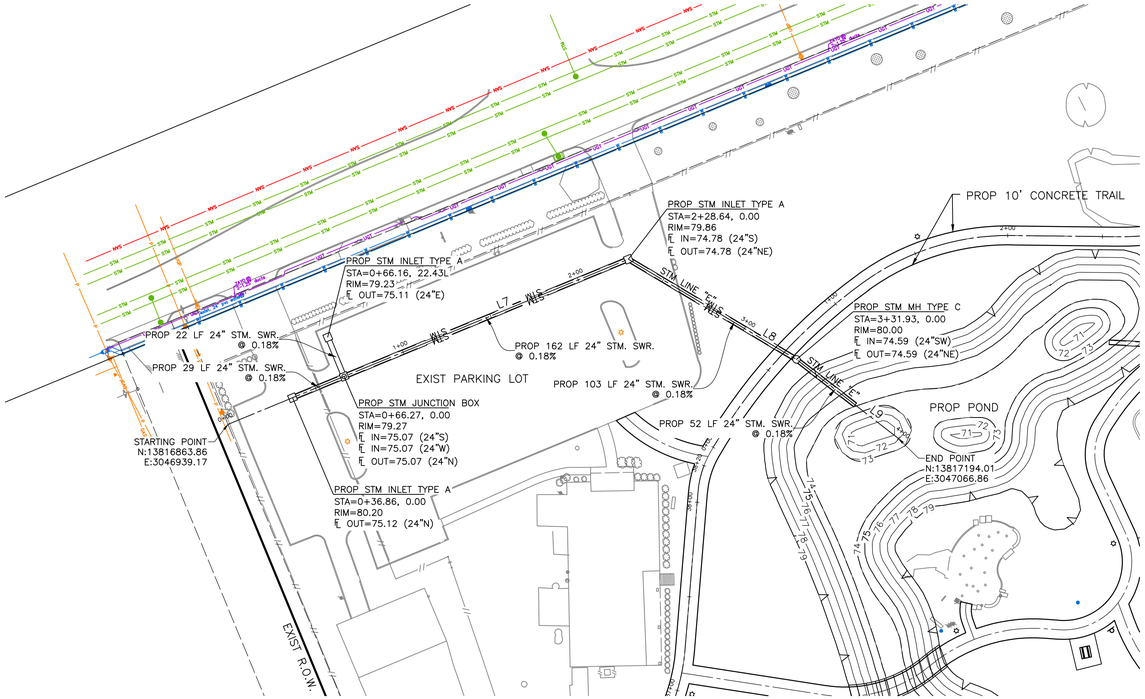
P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY OUTFALLS (SHEET 3 OF 5)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 97 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:55 AM
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-D-PP-HACKBERRY PLAN-PROFILE.dwg



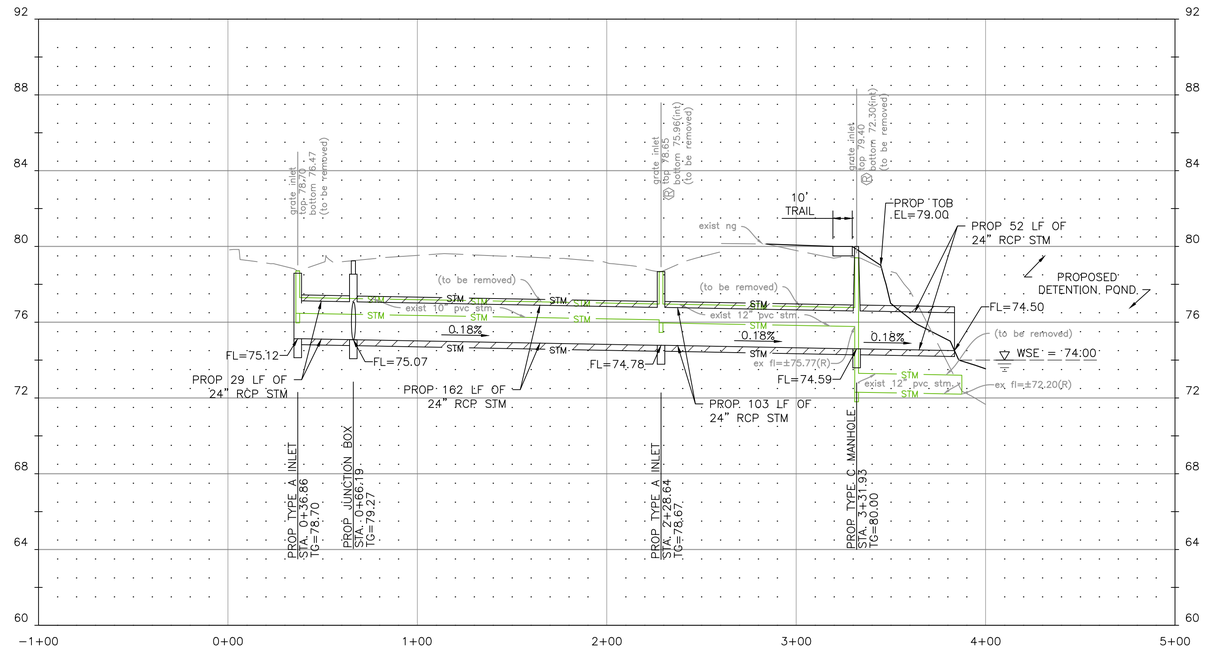
ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L7	228.64	N2° 27' 42.53"W
L8	103.30	N50° 44' 48.19"E
L9	68.07	N57° 42' 42.54"E

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

LINE E: HACKBERRY PARK - PARKING LOT



GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

SURVEYED BY: KUO
FB NO. P-6328

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P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY OUTFALLS (SHEET 4 OF 5)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 98 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:55 AM
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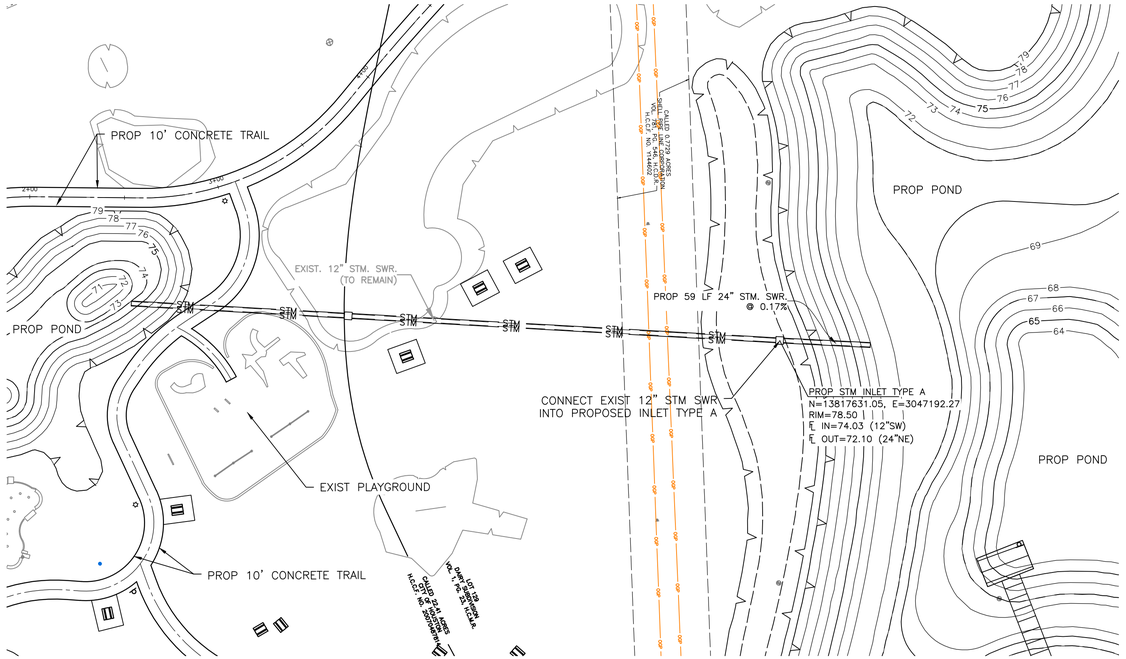

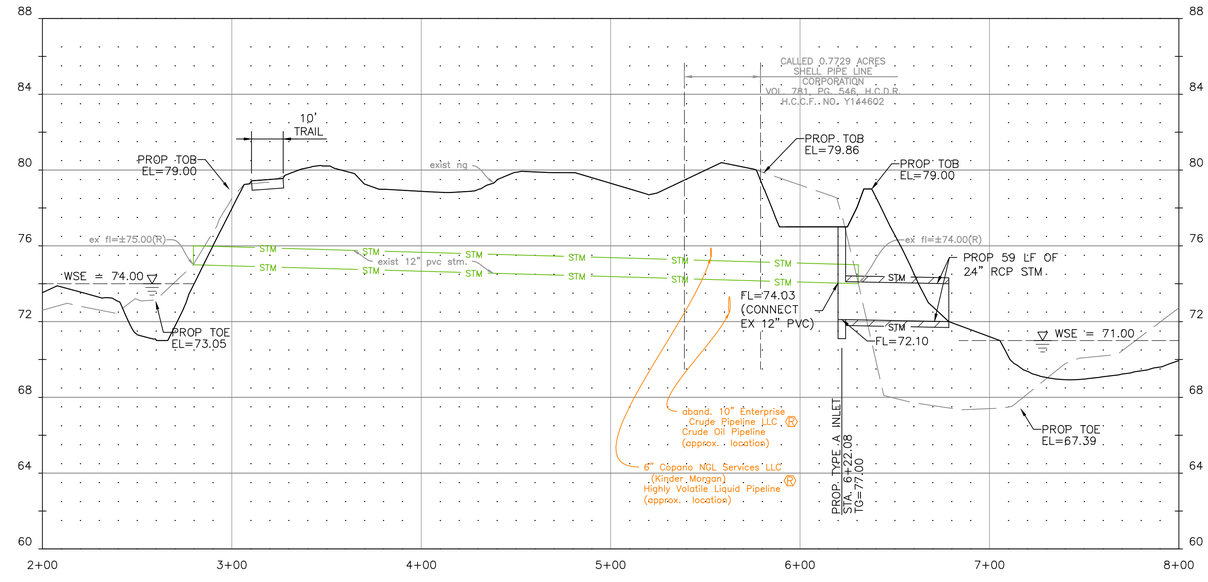

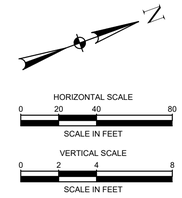

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY OUTFALLS (SHEET 5 OF 5)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 99 OF 144	

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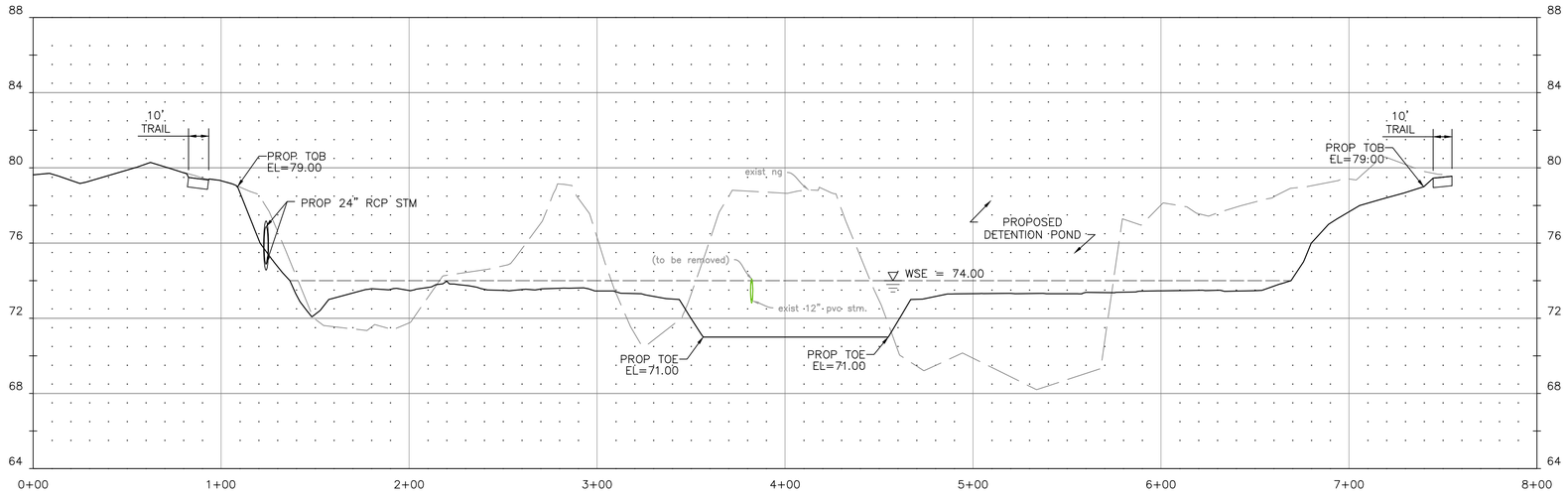
HACKBERRY PARK SECTION N-N



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY POND SECTIONS (SHEET 1 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 100 OF 144	

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HORIZONTAL SCALE
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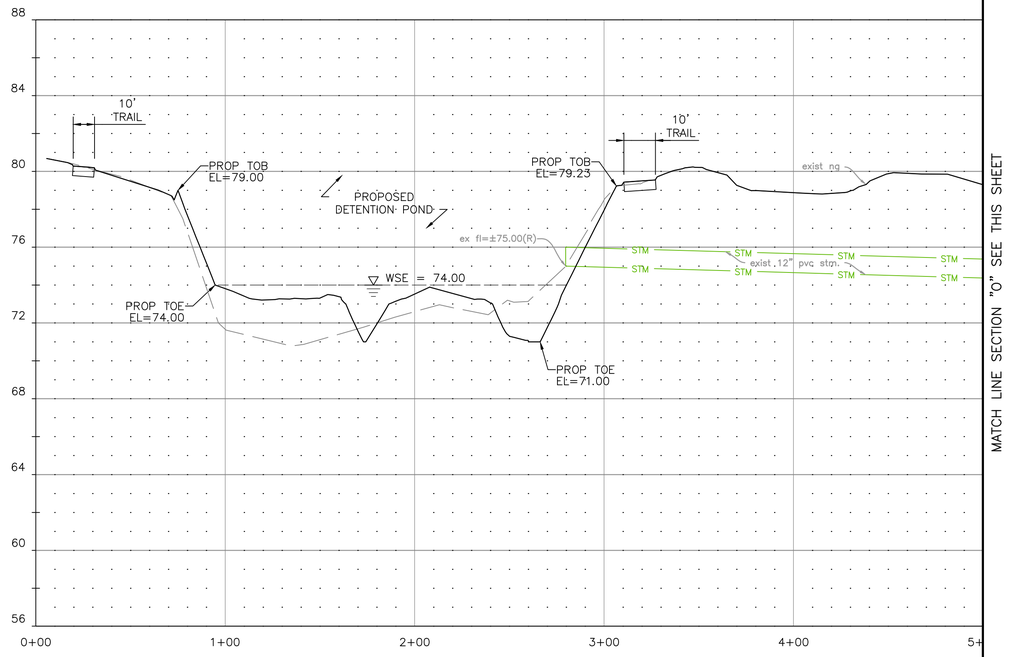
SCALE IN FEET

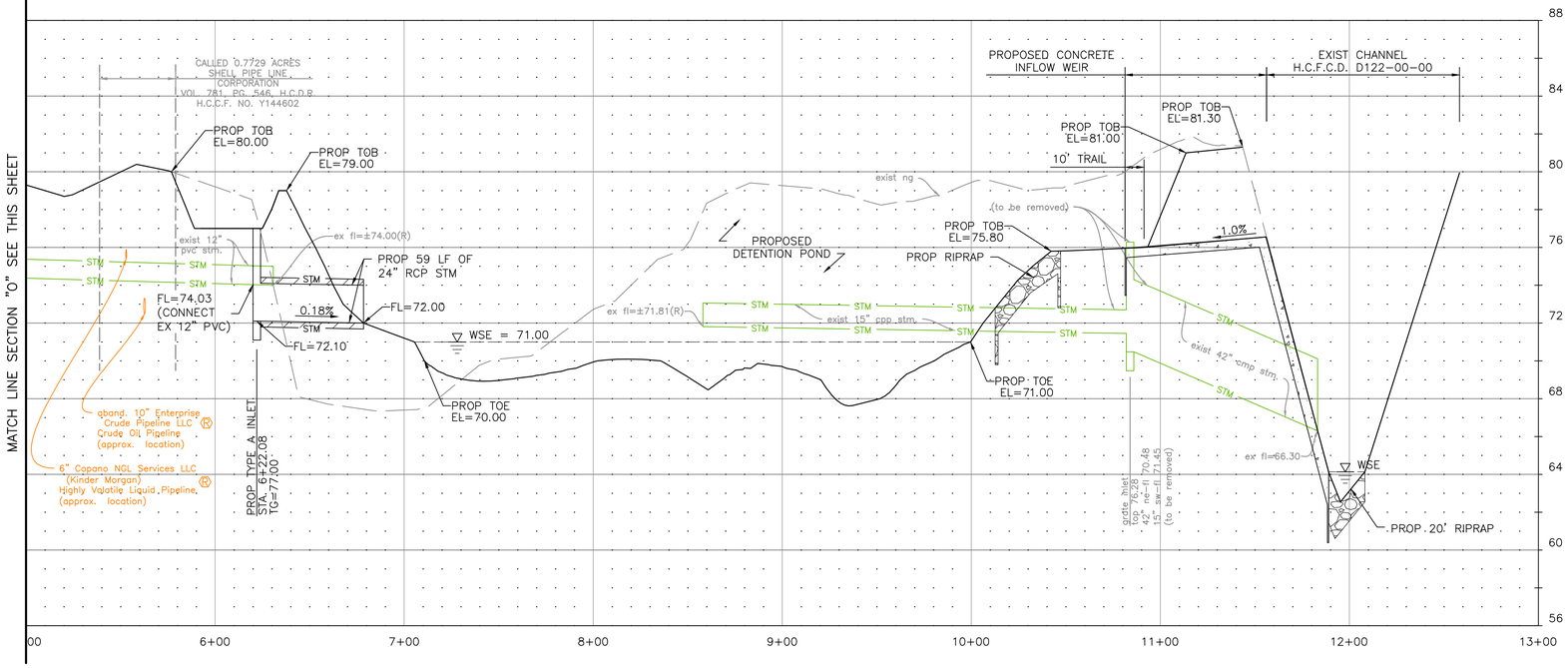
VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

HACKBERRY PARK SECTION O-O



HACKBERRY PARK SECTION O-O



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T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9070

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY POND SECTIONS (SHEET 2 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 101 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:55 AM

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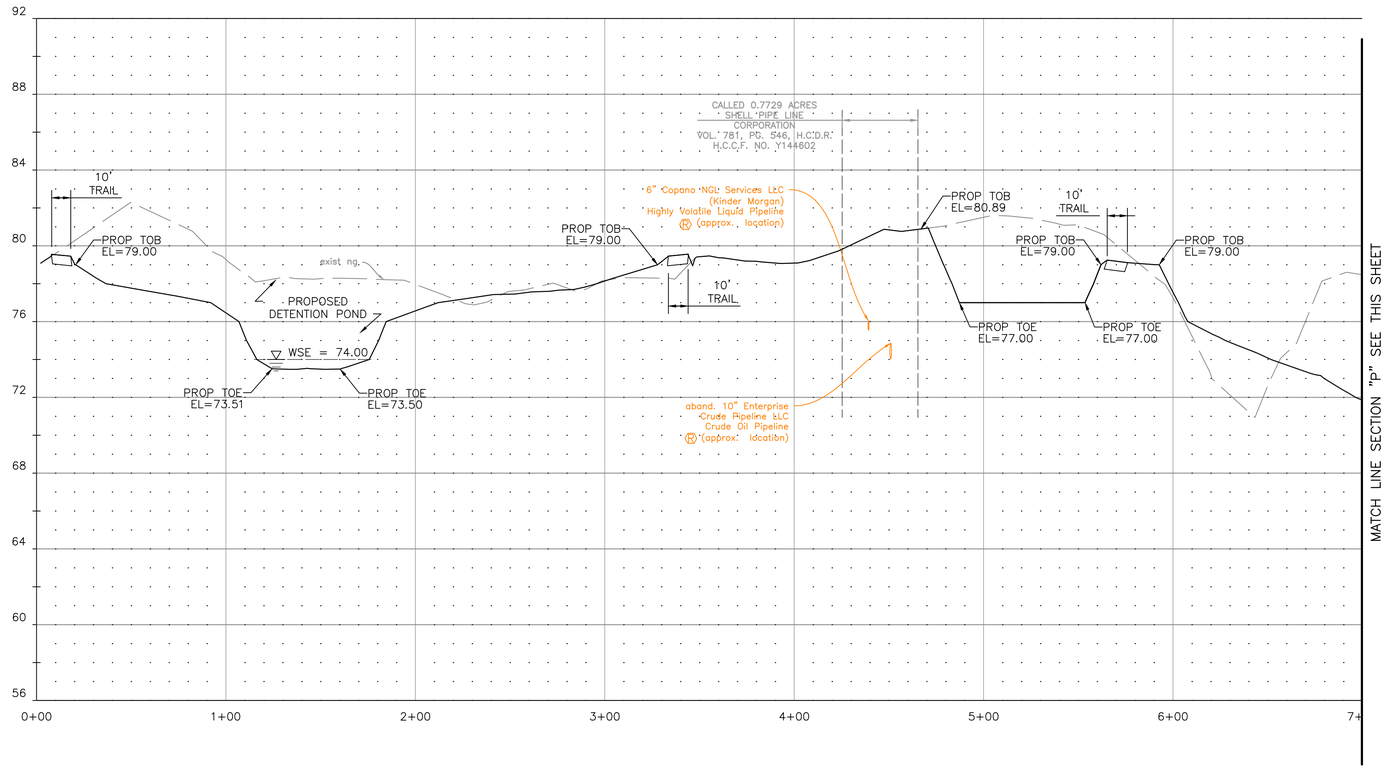
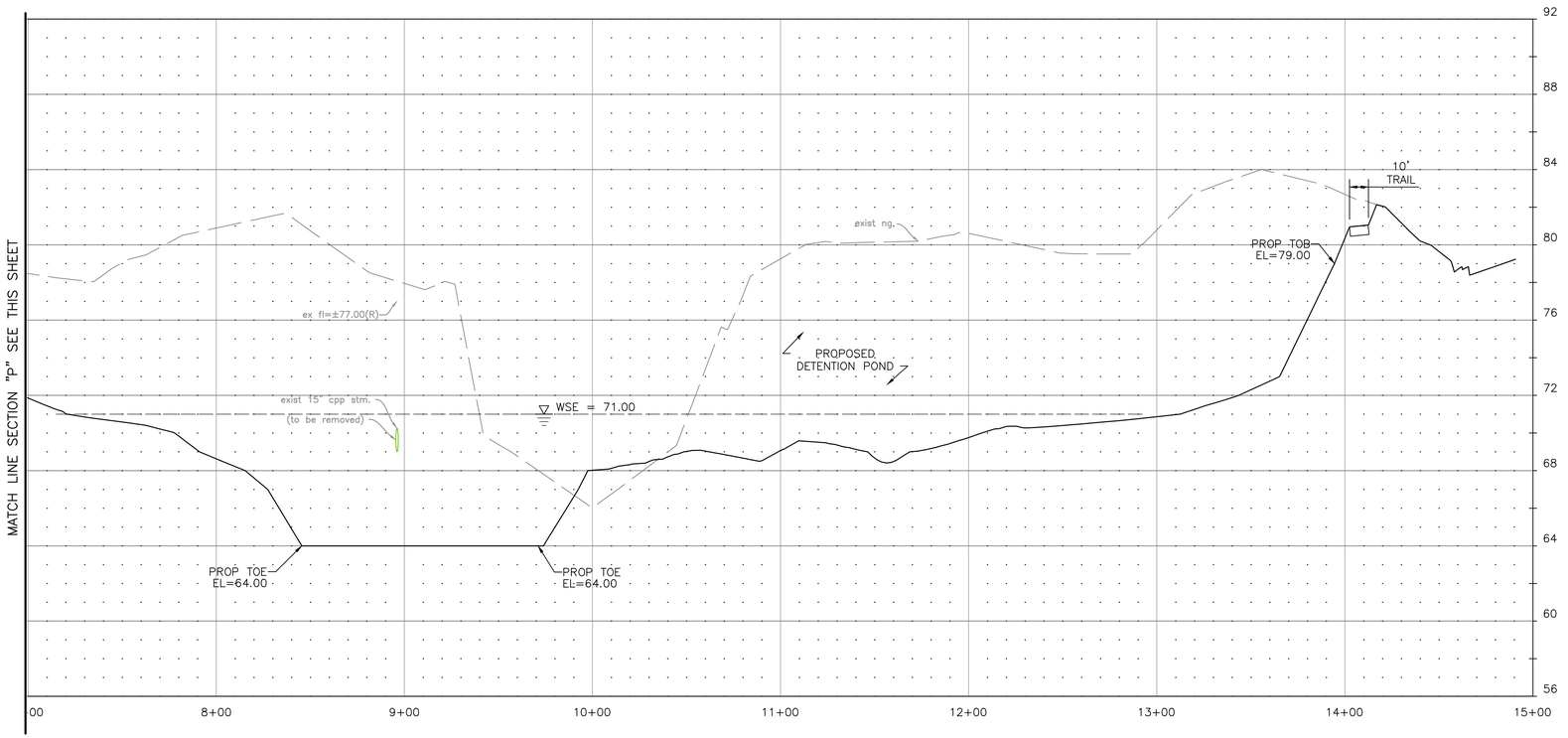
HACKBERRY PARK SECTION P-P





HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY POND SECTIONS (SHEET 3 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 102 OF 144	

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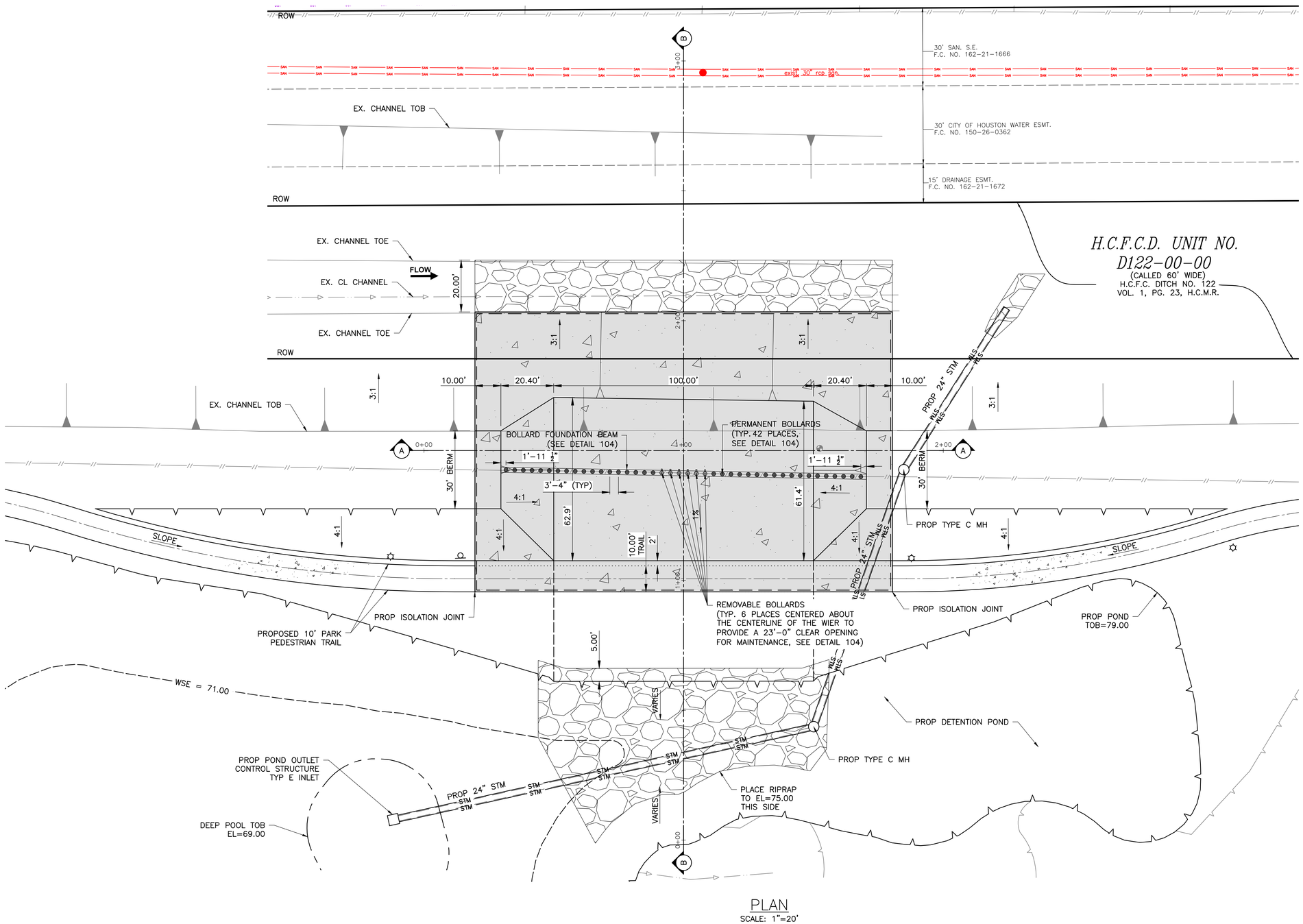
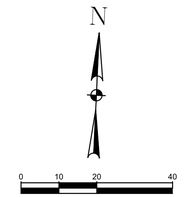
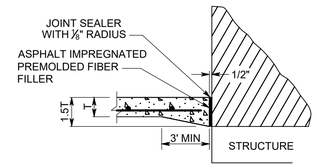


PLAN
SCALE: 1"=20'



NO.	DATE	REVISION	APP.



TYPICAL ISOLATION JOINT (1/—)
N.T.S.

LEGEND

PROPOSED CONCRETE

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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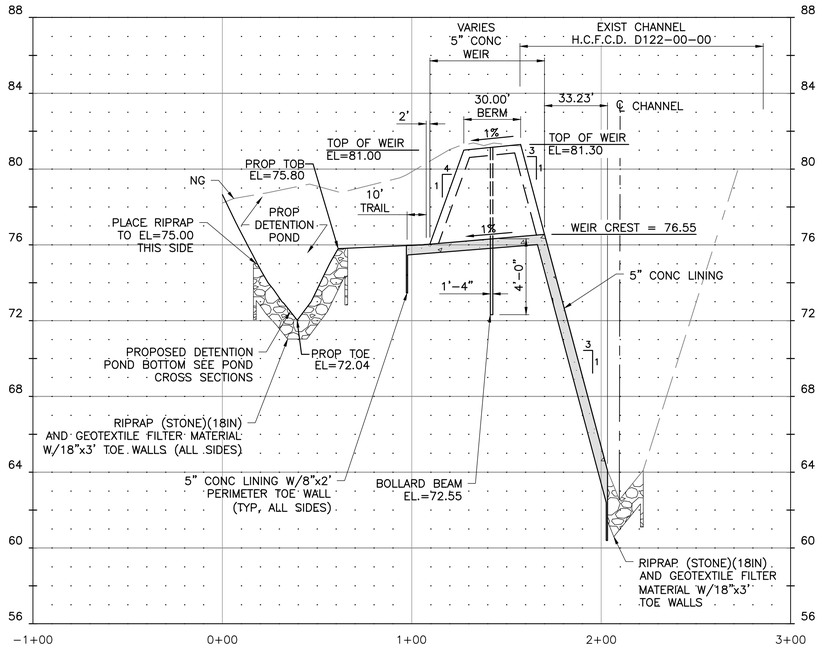
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

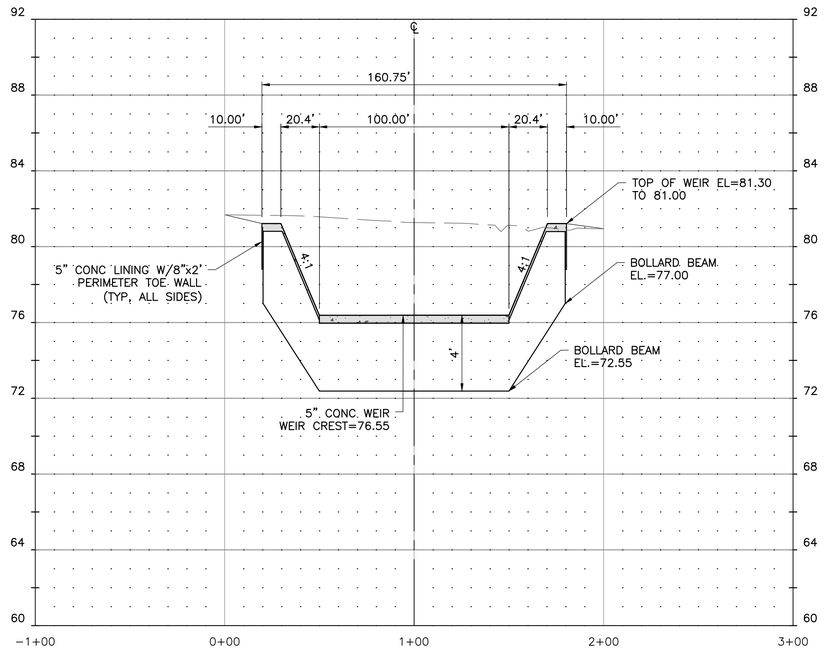
BOONE PARK & HACKBERRY PARK
HACKBERRY WEIR (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 20'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 103 OF 144	



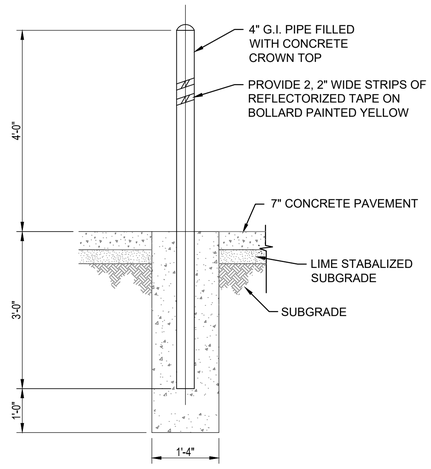
HBP WEIR SECTION B−B

SCALE: HORIZ. 1"=40', VERT. 1"=4'



HBP WEIR SECTION A−A

SCALE: HORIZ. 1"=40', VERT. 1"=4'



BOLLARD

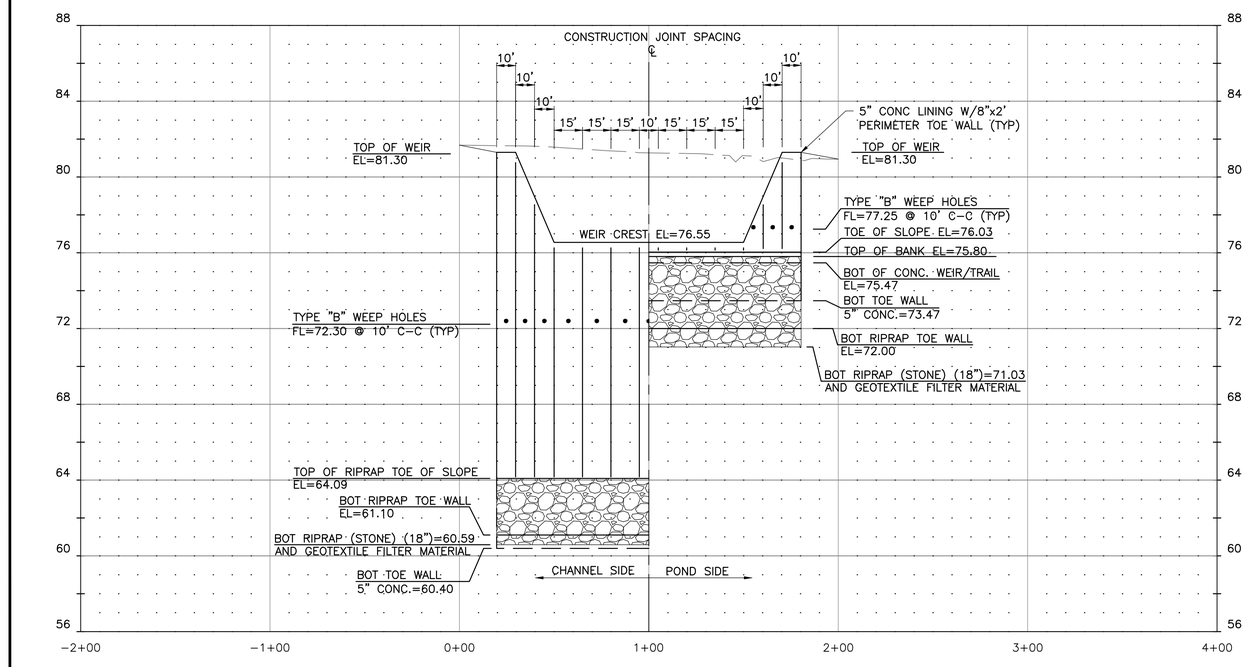
3 PERMANENT BOLLARD DETAIL

N.T.S.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

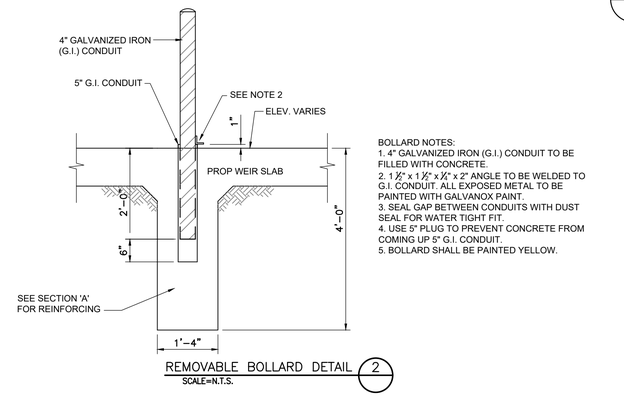
VERTICAL SCALE
0 1 2 4
SCALE IN FEET

NO.	DATE	REVISION	APP.



ELEVATION

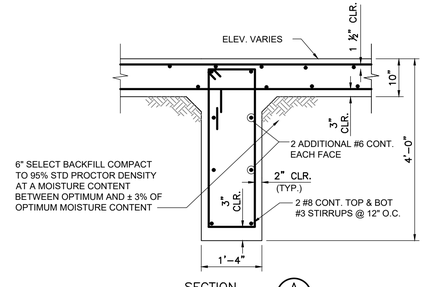
SCALE: HORIZ. 1"=40', VERT. 1"=4'



BOLLARD NOTES:
1. 4" GALVANIZED IRON (G.I.) CONDUIT TO BE FILLED WITH CONCRETE.
2. 1 ½" x 1 ½" x ¼" x 2" ANGLE TO BE WELDED TO G.I. CONDUIT. ALL EXPOSED METAL TO BE PAINTED WITH GALVANOX PAINT.
3. SEAL GAP BETWEEN CONDUITS WITH DUST SEAL FOR WATER TIGHT FIT.
4. USE 5" PLUG TO PREVENT CONCRETE FROM COMING UP 5" G.I. CONDUIT.
5. BOLLARD SHALL BE PAINTED YELLOW.

REMOVABLE BOLLARD DETAIL 2

SCALE=N.T.S.



SECTION A

SCALE=N.T.S.

LEGEND

PROPOSED CONCRETE

GANNETT FLEMING

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3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY WEIR (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M−430296−0018−3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 104 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:56 AM

FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-D-HACKBERRY WEIR.dwg

30' SAN. S.E.
F.C. NO. 162-21-1666

30' CITY OF HOUSTON WATER ESMT.
F.C. NO. 150-26-0362

UNRESTRICTED RESERVE 'C'
OAK HARBOR
VOL. 255, PG. 124, H.C.M.R.

15' DRAINAGE ESMT.
F.C. NO. 162-21-1672

CALLED 60' WIDE
H.C.F.C.D. DITCH NO. 122
VOL. 1, PG. 23, H.C.M.R.

H.C.F.C.D. UNIT NO.
D122-00-00

CALLED 3.49 ACRE
H.C.F.C.D. (FEE STRIP)
H.C.C.F. NO. D928572

CALLED 4.9649 ACRE
H.C.C.F. NO. D928572

30' W.L.E.
CALLED 0.8677 ACRES
(TRACT 3)
THE CITY OF HOUSTON
H.C.C.F. NO. D111057

PROPOSED POND

PROPOSED 10' CONCRETE TRAIL

LOT 129
DAIRY SUBDIVISION
VOL. 1, PG. 23, H.C.M.R.
CALLED 22.41 ACRES
CITY OF HOUSTON
H.C.C.F. NO. 20070487814

PROPOSED 10' CONCRETE TRAIL

PROPOSED POND

DAIRY ASHFORD RD.
(ALIEF CEMETERY RD.)

CALLED 0.7729 ACRES
SHELL PIPE LINE CORPORATION
VOL. 781C PG. 546 H.C.D.R.
H.C.C.F. NO. Y144602

MATCH LINE
SEE SHEET 106

N

0 0.5 1 2
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- PROPOSED CONCRETE TRAIL
- PROPOSED FILL – .5' OR MORE
- PROPOSED CUT – .5' OR MORE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 105 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM

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N

0 0.5 1 2
SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

- PROPOSED CONCRETE TRAIL
- PROPOSED FILL – .5' OR MORE
- PROPOSED CUT – .5' OR MORE

GANNETT FLEMING
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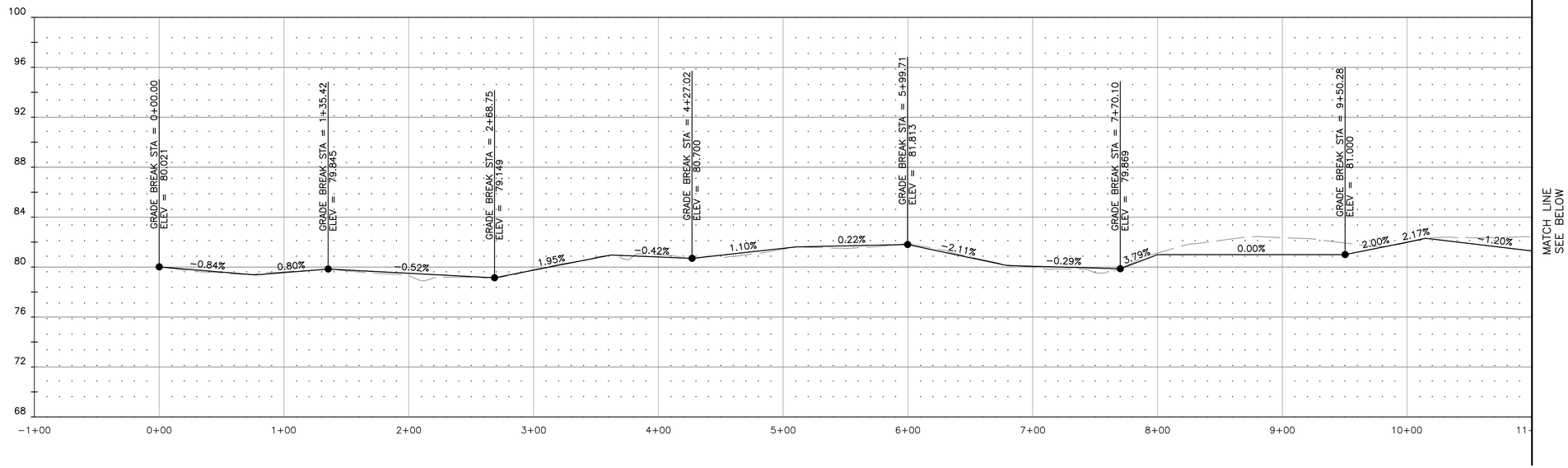
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

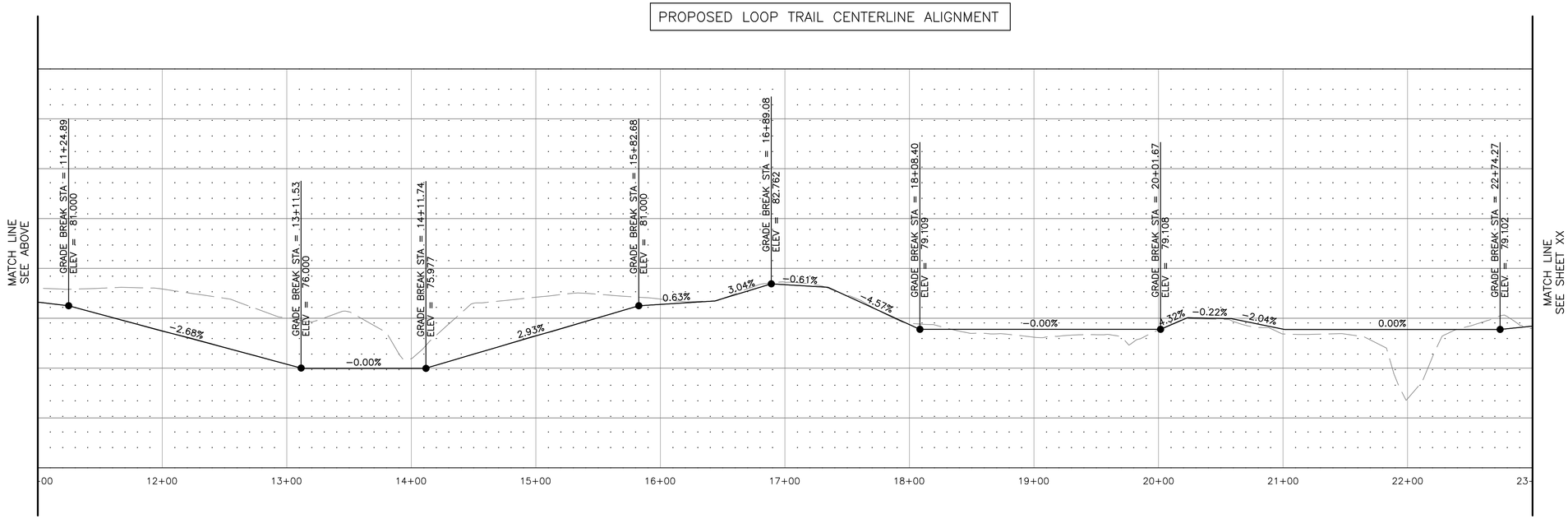
BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 106 OF 144	

PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CL
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50', VERT: 1"=5'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 107 OF 144	

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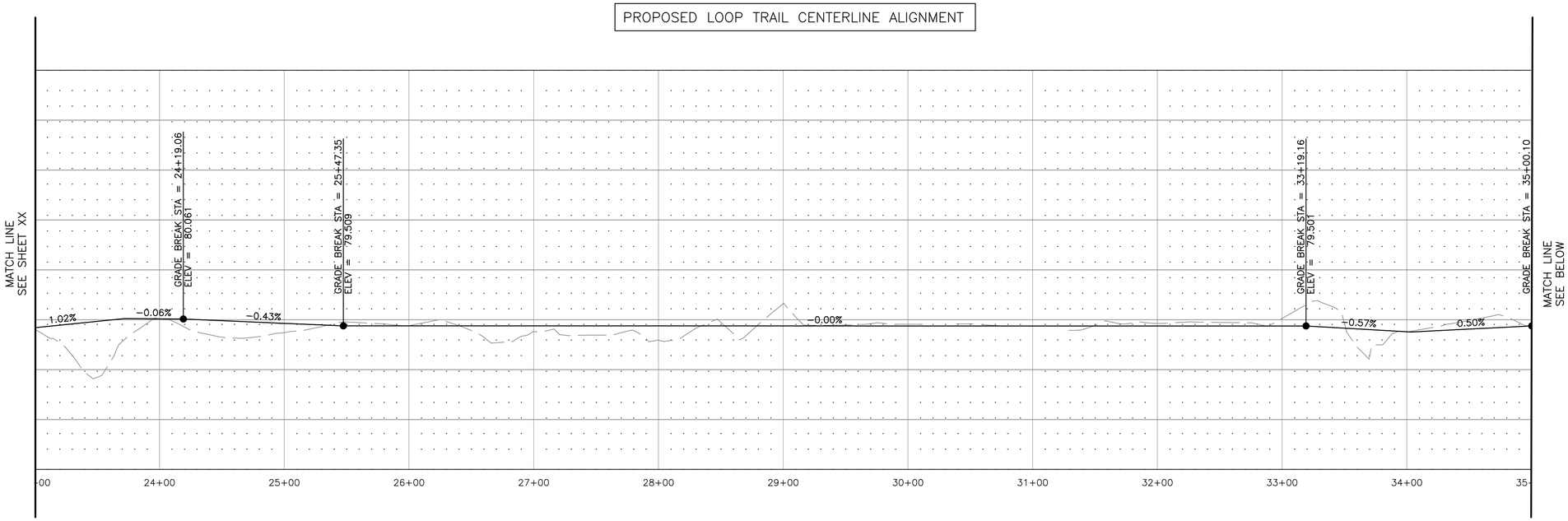
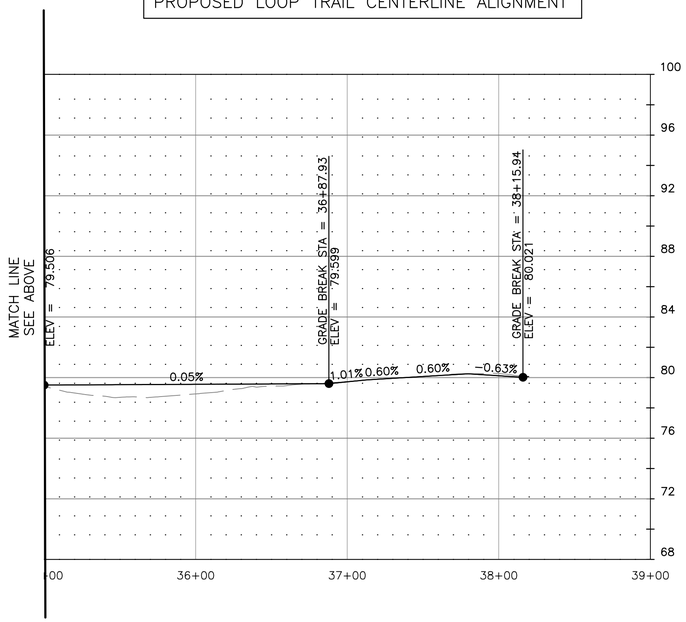
PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



PROPOSED LOOP TRAIL CENTERLINE ALIGNMENT



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CL
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=50', VERT: 1"=5'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 108 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:56 AM
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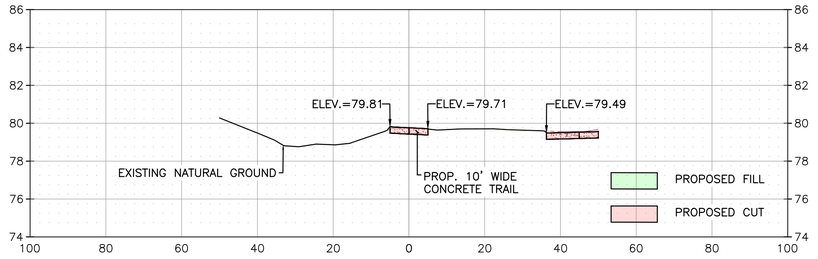
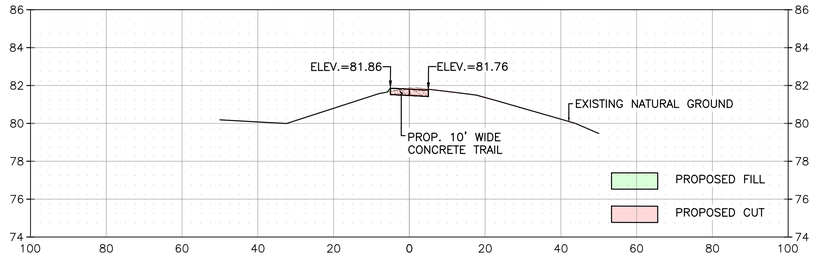
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-CONCRETE-TRAIL.dwg

NO.	DATE	REVISION	APP.

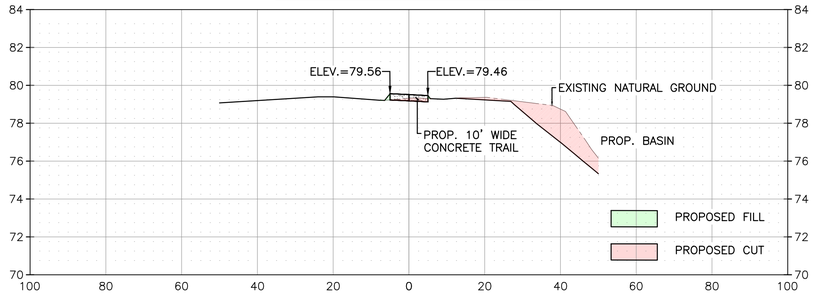
HACKBERRY LOOP TRAIL CROSS SECTION 3
STATION 3+00



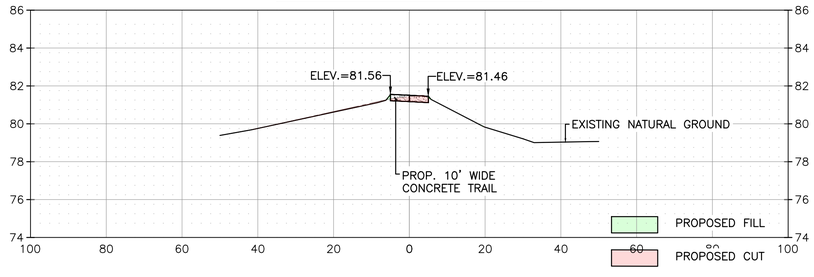
HACKBERRY LOOP TRAIL CROSS SECTION 6
STATION 6+00



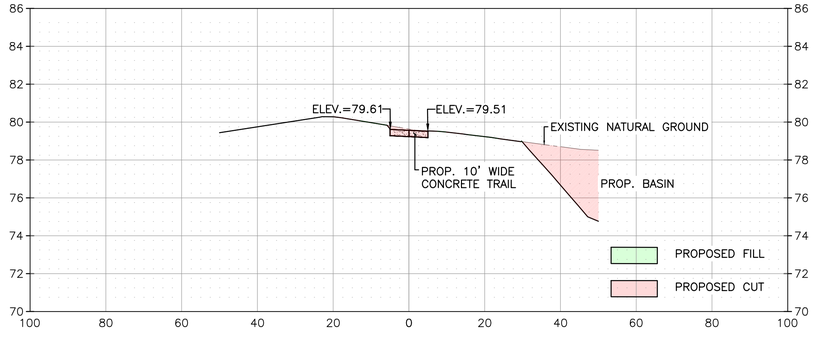
HACKBERRY LOOP TRAIL CROSS SECTION 2
STATION 2+00



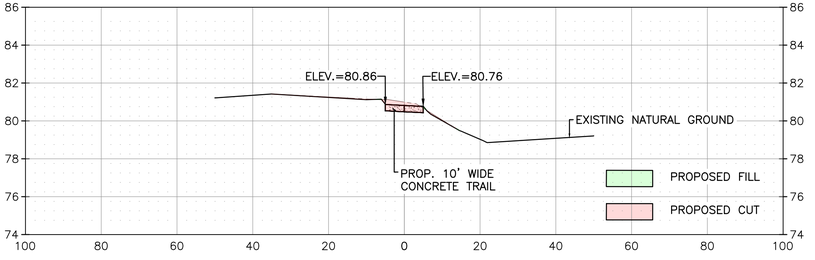
HACKBERRY LOOP TRAIL CROSS SECTION 5
STATION 5+00



HACKBERRY LOOP TRAIL CROSS SECTION 1
STATION 1+00



HACKBERRY LOOP TRAIL CROSS SECTION 4
STATION 4+00



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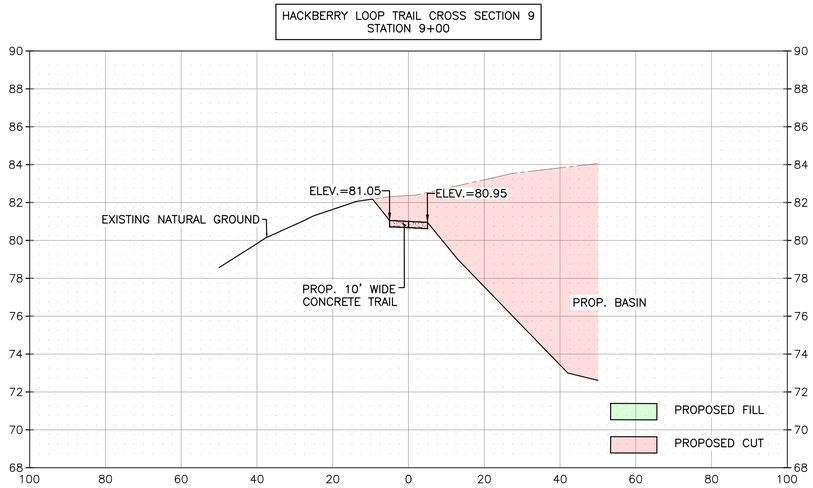
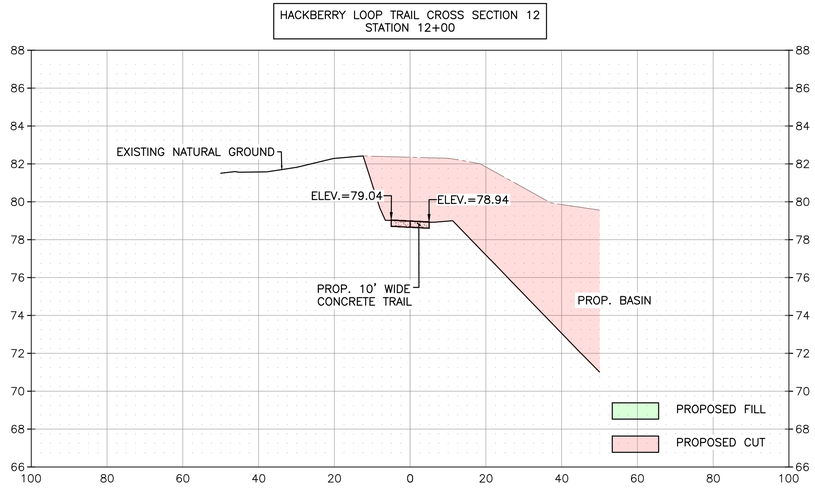
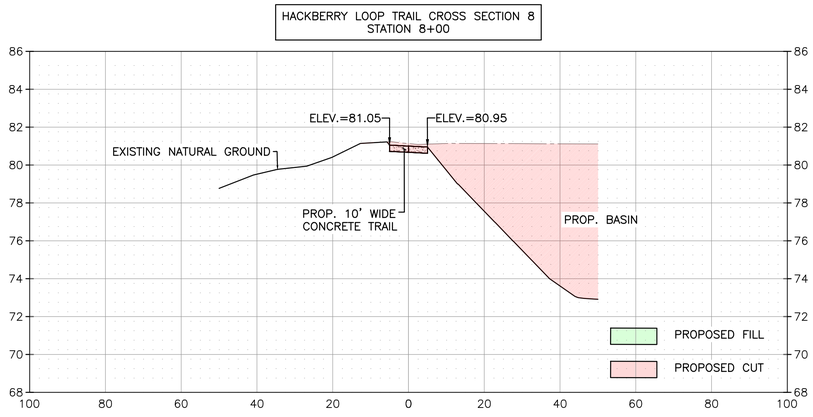
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

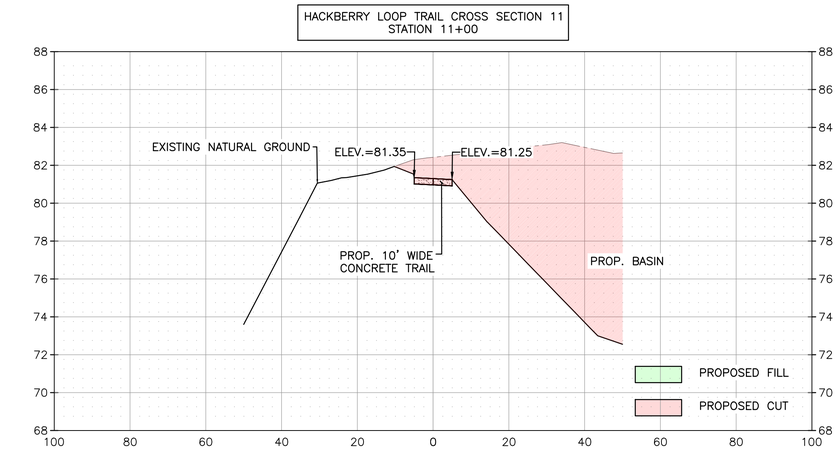
BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 1 OF 8)

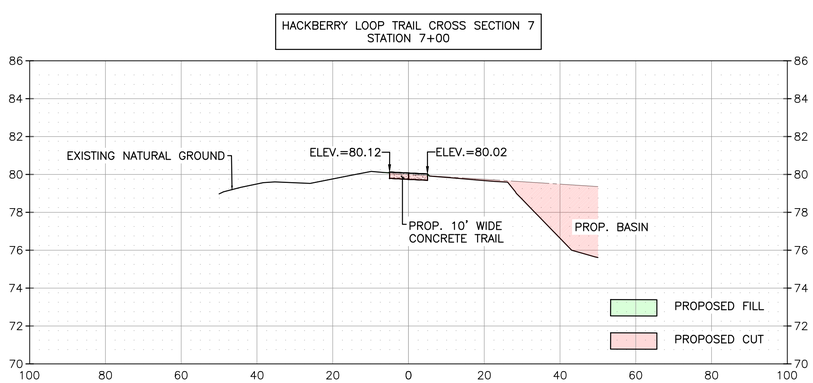
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 109 OF 144	

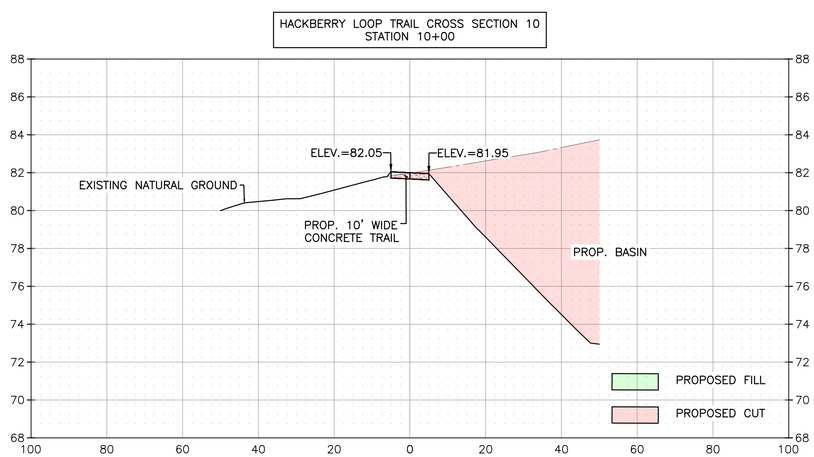












NO.	DATE	REVISION	APP.

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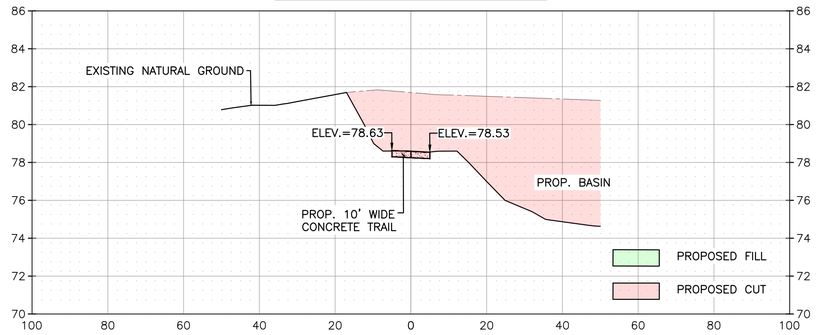
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 2 OF 8)

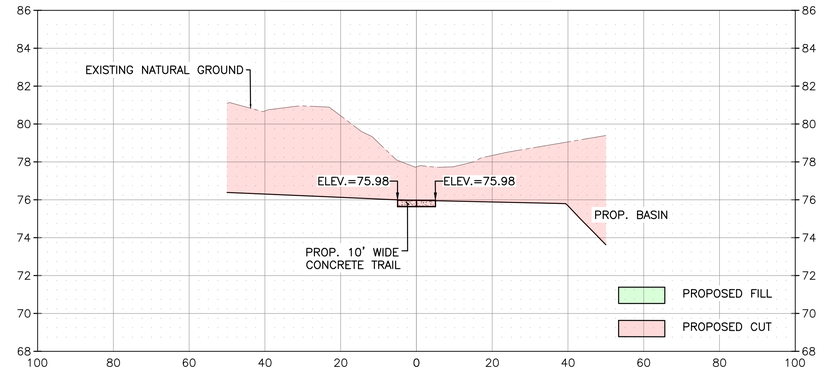
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 110 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-CONCRETE-TRAIL.dwg

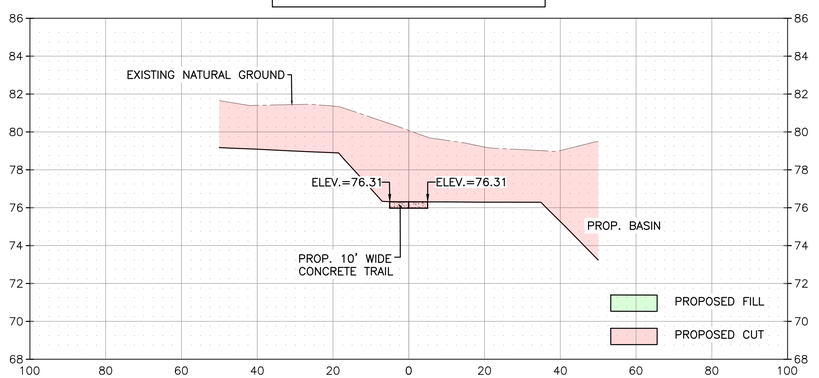
HACKBERRY LOOP TRAIL CROSS SECTION 15
STATION 15+00



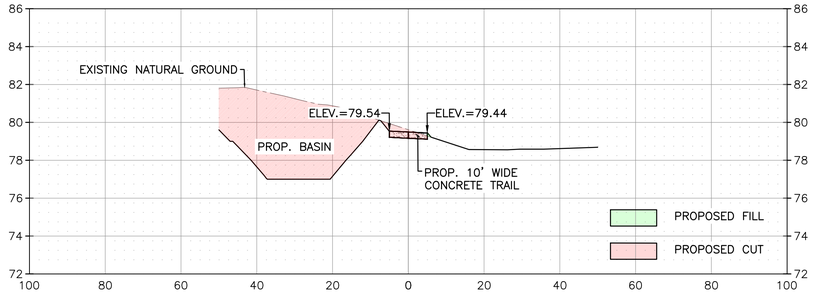
HACKBERRY LOOP TRAIL CROSS SECTION 14
STATION 14+11



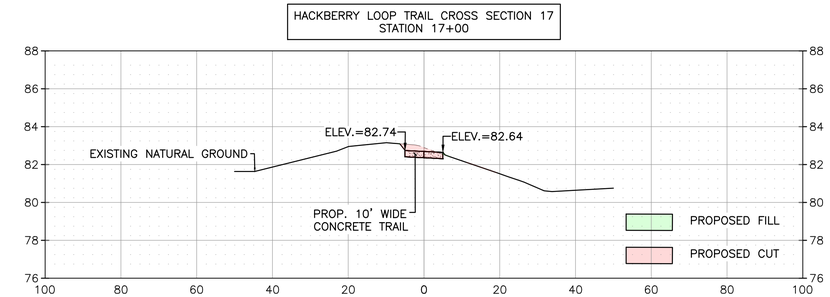
HACKBERRY LOOP TRAIL CROSS SECTION 13
STATION 13+00



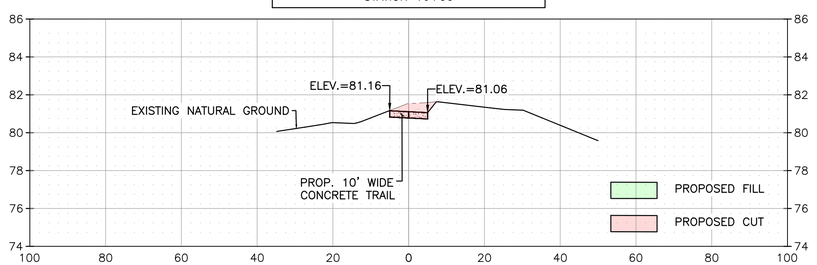
HACKBERRY LOOP TRAIL CROSS SECTION 18
STATION 18+00



HACKBERRY LOOP TRAIL CROSS SECTION 17
STATION 17+00



HACKBERRY LOOP TRAIL CROSS SECTION 16
STATION 16+00



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS (SHEET 3 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 111 OF 144	

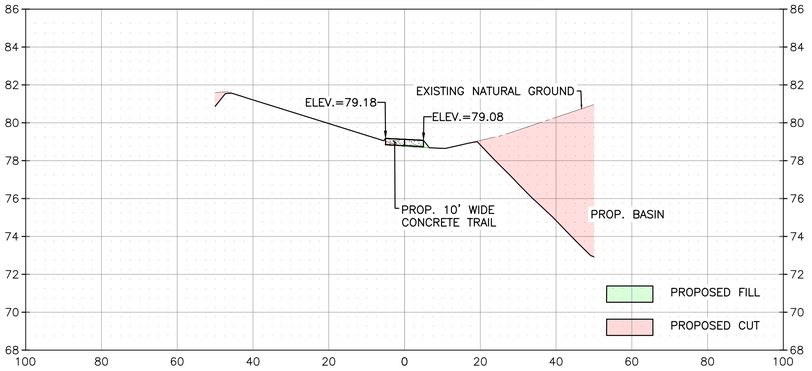
PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-CONCRETE-TRAIL.dwg

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM

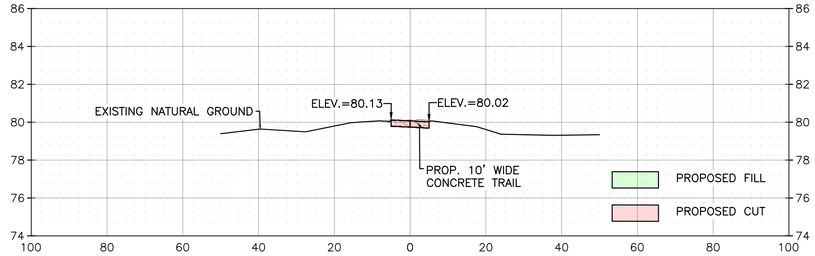
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-CONCRETE-TRAIL.dwg

NO.	DATE	REVISION	APP.

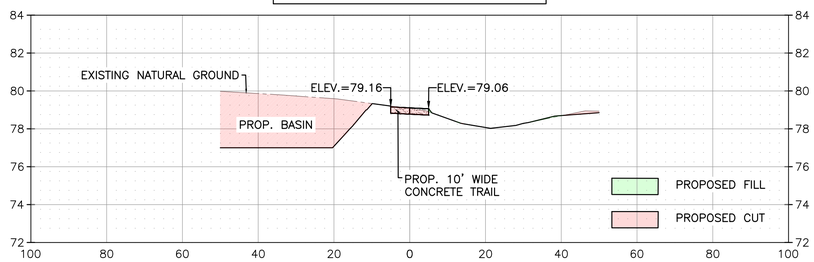
HACKBERRY LOOP TRAIL CROSS SECTION 21
STATION 21+00



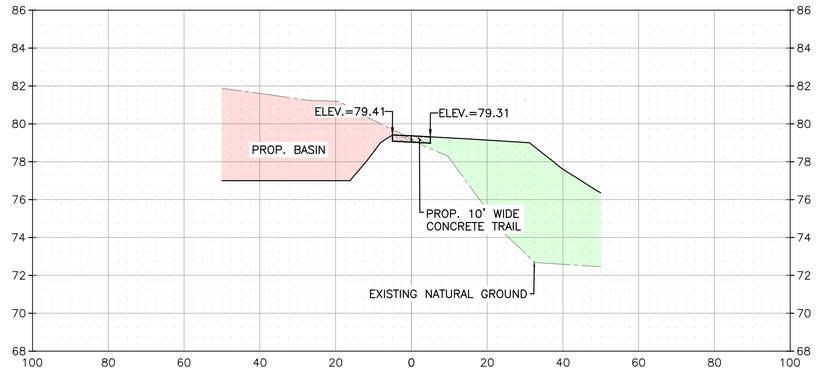
HACKBERRY LOOP TRAIL CROSS SECTION 24
STATION 24+00



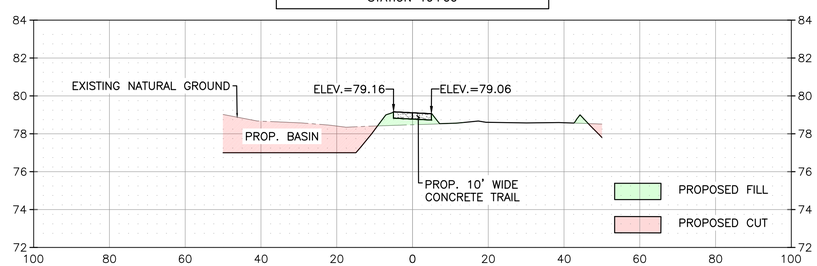
HACKBERRY LOOP TRAIL CROSS SECTION 20
STATION 20+00



HACKBERRY LOOP TRAIL CROSS SECTION 23
STATION 23+00



HACKBERRY LOOP TRAIL CROSS SECTION 19
STATION 19+00



HACKBERRY LOOP TRAIL CROSS SECTION 22
STATION 22+00

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 4 OF 8)

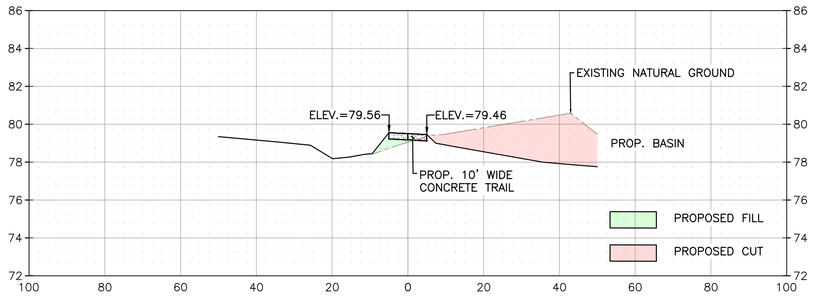
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 112 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM

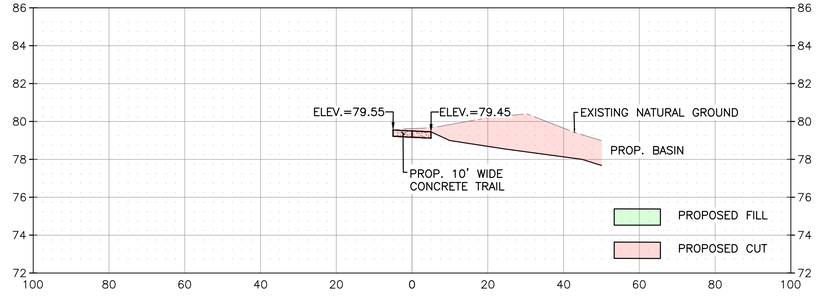
FILE PATH: C:\projectwise\dec\workdir\fidel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-CONCRETE-TRAIL.dwg

NO.	DATE	REVISION	APP.

HACKBERRY LOOP TRAIL CROSS SECTION 27
STATION 27+00



HACKBERRY LOOP TRAIL CROSS SECTION 30
STATION 30+00



HACKBERRY LOOP TRAIL CROSS SECTION 26
STATION 26+00

HACKBERRY LOOP TRAIL CROSS SECTION 29
STATION 29+00

HACKBERRY LOOP TRAIL CROSS SECTION 25
STATION 25+00

HACKBERRY LOOP TRAIL CROSS SECTION 28
STATION 28+00

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 5 OF 8)

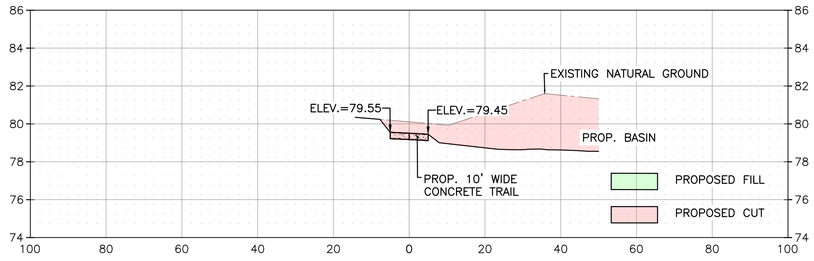
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 113 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM

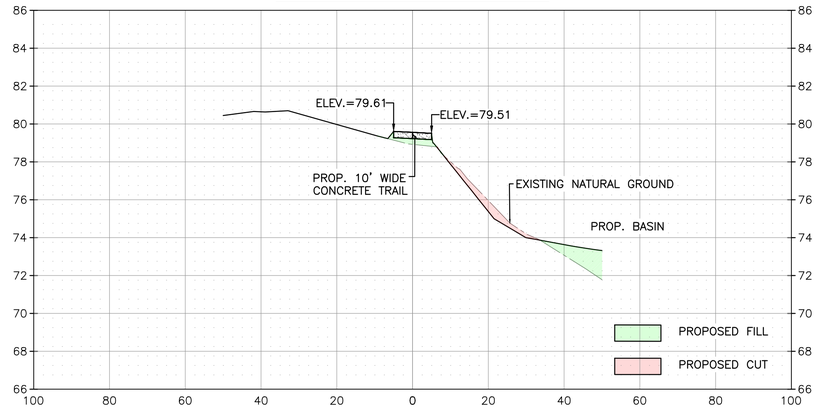
FILE PATH: C:\projectwise\dec\workdir\fdel.gamboa\d0203197\HBP-SP-HACKBERRY-PARK-CONCRETE-TRAIL.dwg

NO.	DATE	REVISION	APP.

HACKBERRY LOOP TRAIL CROSS SECTION 33
STATION 33+00



HACKBERRY LOOP TRAIL CROSS SECTION 36
STATION 36+00



HACKBERRY LOOP TRAIL CROSS SECTION 32
STATION 32+00

HACKBERRY LOOP TRAIL CROSS SECTION 35
STATION 35+00

HACKBERRY LOOP TRAIL CROSS SECTION 31
STATION 31+00

HACKBERRY LOOP TRAIL CROSS SECTION 34
STATION 34+00

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 6 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 114 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM

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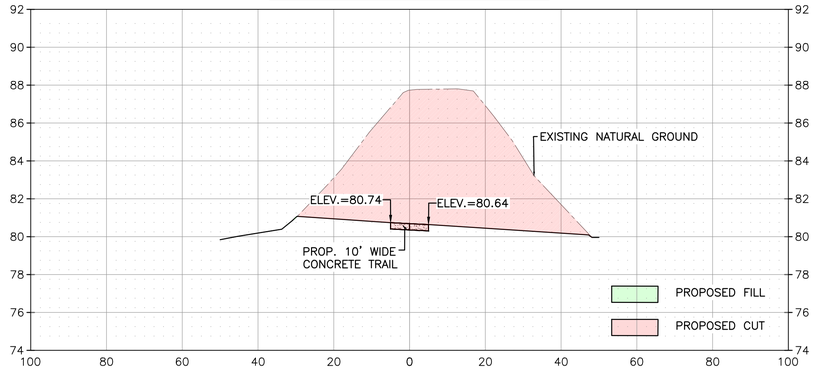
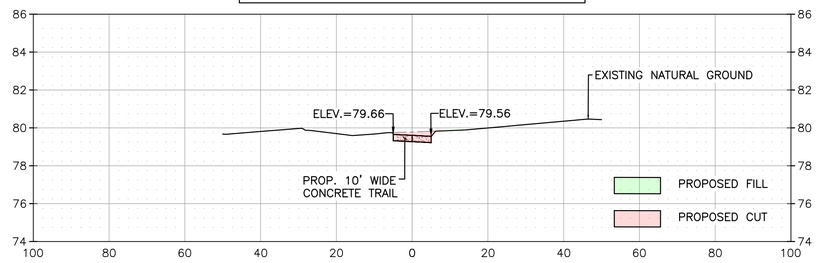
NO.	DATE	REVISION	APP.

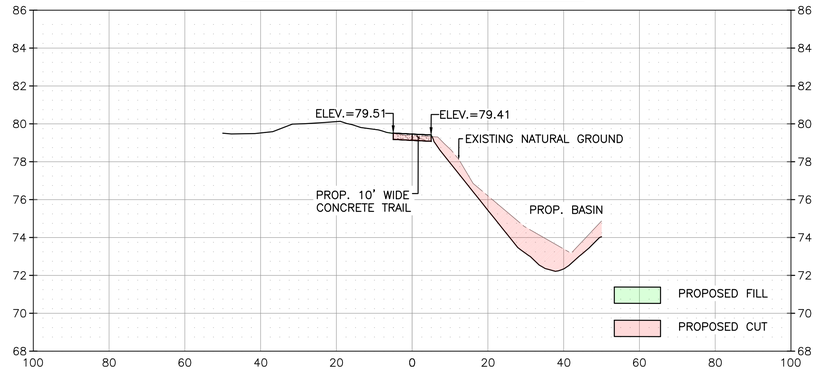
HACKBERRY PICNIC TRAIL CROSS SECTION 39
STATION 1+00



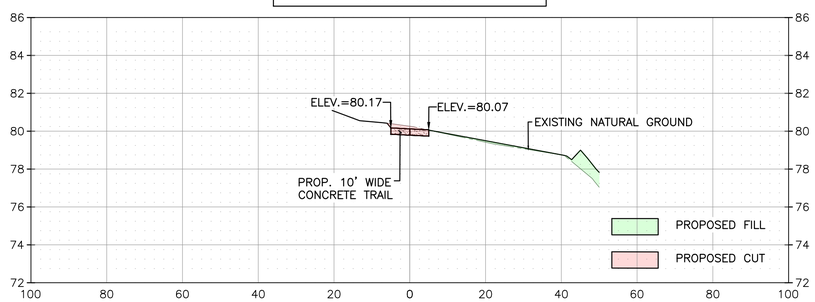
HACKBERRY RECREATION AREA TRAIL CROSS SECTION 42
STATION 2+00



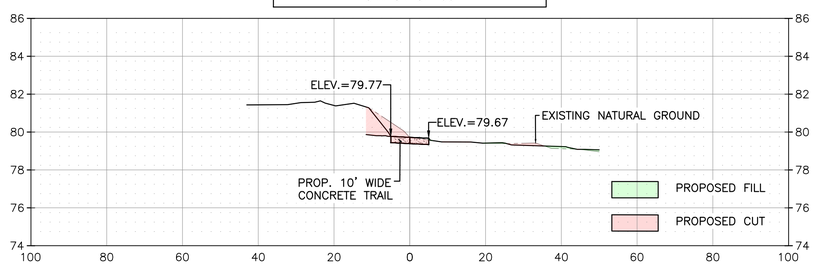
HACKBERRY RECREATION AREA TRAIL CROSS SECTION 41
STATION 1+00



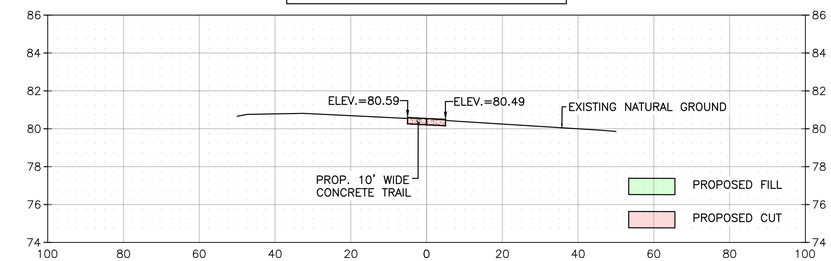
HACKBERRY LOOP TRAIL CROSS SECTION 38
STATION 38+00



HACKBERRY LOOP TRAIL CROSS SECTION 37
STATION 37+00



HACKBERRY PICNIC TRAIL CROSS SECTION 40
STATION 2+00



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 7 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 115 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb PLOTTED: 7/23/2025 9:56 AM

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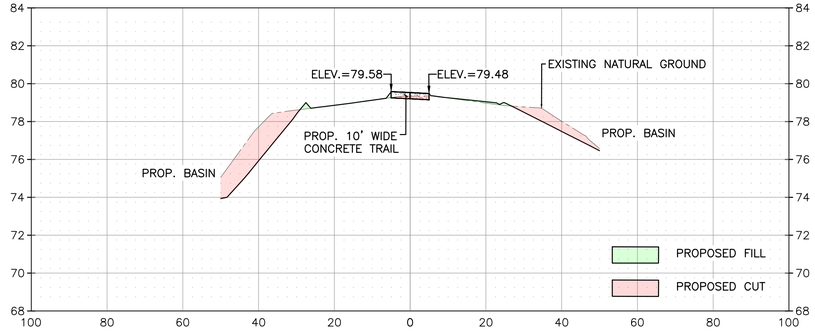
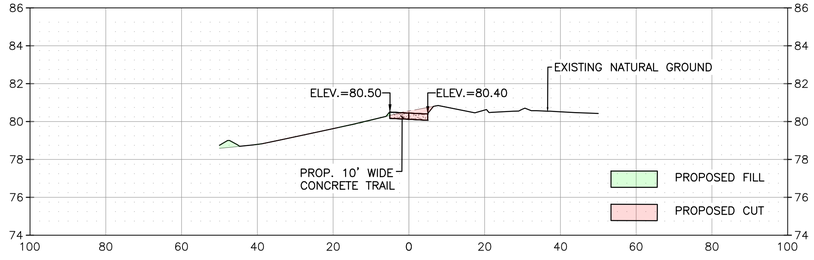
NO.	DATE	REVISION	APP.

HACKBERRY RECREATION AREA TRAIL CROSS SECTION 44
STATION 4+00



HACKBERRY RECREATION AREA TRAIL CROSS SECTION 43
STATION 3+00



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FB NO. P-6328

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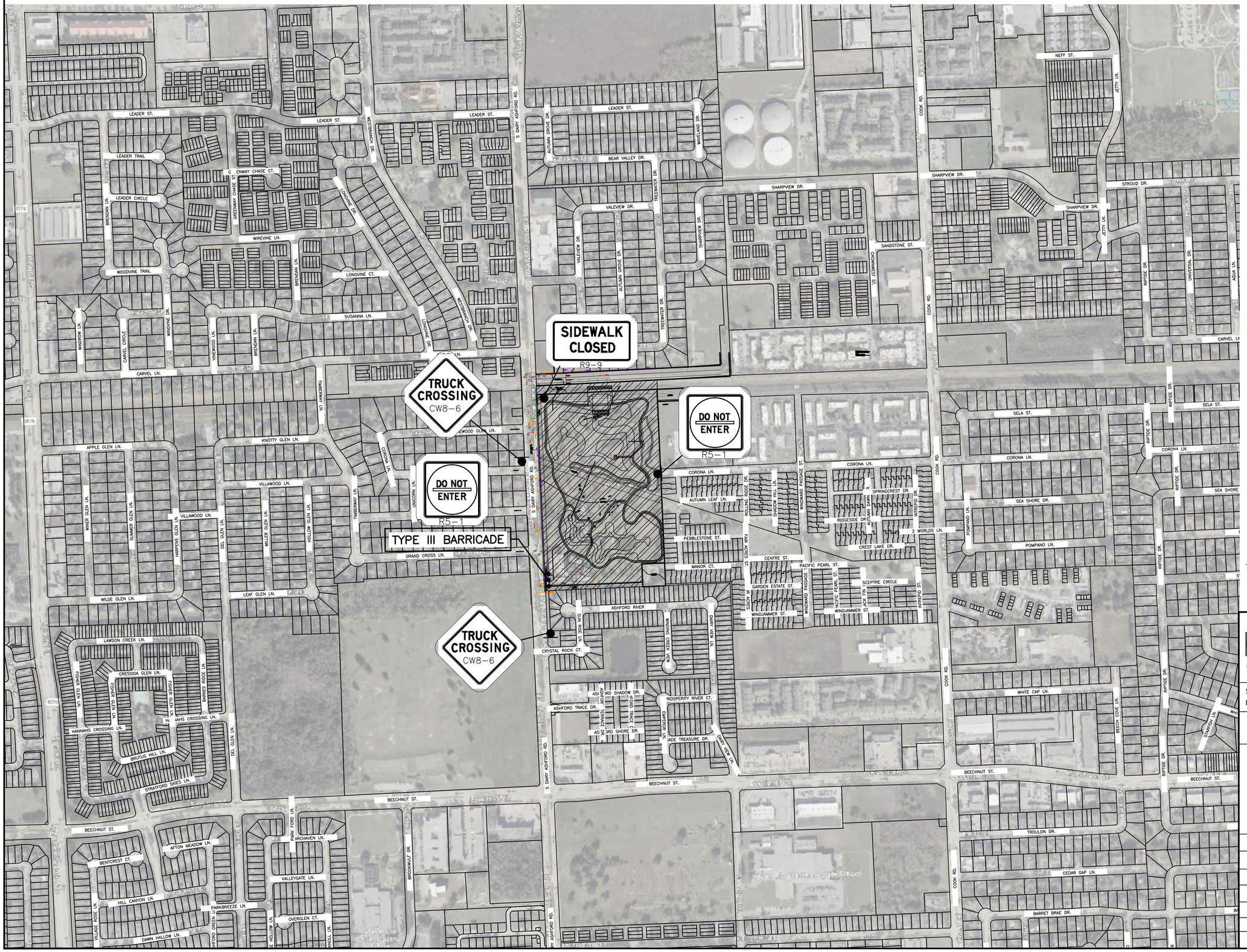
AMY E. DZIUK
P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY CONCRETE TRAIL CROSS SECTIONS
(SHEET 8 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 116 OF 144	



N

0 150 300 600

SCALE IN FEET

NO.	DATE	REVISION	APP.

LEGEND

TRAFFIC SIGN

PROJECT AREA

BENCHMARK:

CITY OF HOUSTON MONUMENT 4854-7611A (ALSO HCFCD REFERENCE MARK 040575), A BRASS DISC IN CONCRETE, LOCATED ON EAST SIDEWALK ON DAIRY ASHFORD RD BRIDGE APPROXIMATELY 0.5 MILE SOUTH FROM THE INTERSECTION OF BELLAIRE BLVD.

ELEV.79.49 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED JANUARY 23, 2024.

NOTES:

1) CONTRACTOR SHALL FINISH PHASE 1 PRIOR TO PROCEEDING TO PHASE 2 AND/OR PHASE 2A WITH FULL RESTORATION OF PHASE 1 STORM DRAINAGE IMPROVEMENTS AND PAVEMENT CONDITIONS.
2) CONTRACTOR SHALL FINISH PHASE 2 PRIOR TO COMMENCING ANY WORK ON PHASE 2A.
3) CONTRACTOR TO PERFORM IMPROVEMENTS ON PHASE 2A (XXXXXXXXXXXXXXXX) AND COMPLETE WORK BEFORE MOBILIZING TO OTHER AREAS OF THE PROJECT.
4) APPROVAL COPIES OF "TCP" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
5) SEE TEXAS DEPARTMENT OF TRANSPORTATION BC(1-12) FOR MORE INFORMATION.

TRAFFIC CONTROL NOTES:

1) CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VII OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DURING CONSTRUCTION.

GANNETT FLEMING

T.B.P.E.L.S. FIRM REGISTRATION #1800

3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK

HACKBERRY PARK TRAFFIC CONTROL PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
1" = 300'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 117 OF 144	

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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 WITH 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.

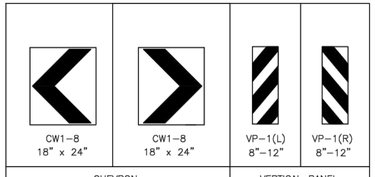
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

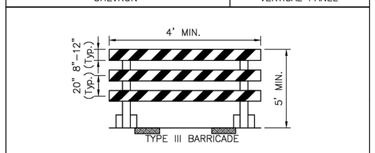
TABLE C3 – TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES

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'

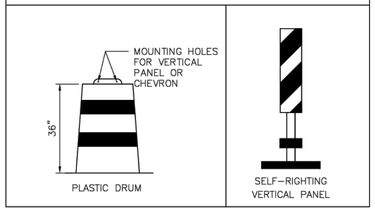
TABLE C4 – STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

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



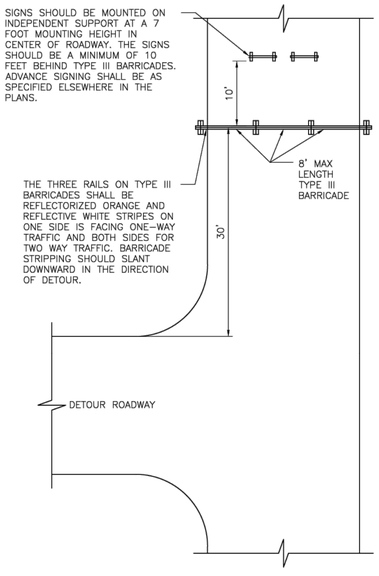


NOTE: STRIPES SHOULD SLOPE DOWNWARDS IN THE DIRECTION TOWARDS WHICH TRAFFIC IS DIRECTED.



CHANNELIZATION AND BARRICADES

SIGNS SHOULD BE MOUNTED ON INDEPENDENT SUPPORT AT A 7 FOOT MOUNTING HEIGHT IN CENTER OF ROADWAY. THE SIGNS SHOULD BE A MINIMUM OF 10 FEET BEHIND TYPE III BARRICADES. ADVANCE SIGNING SHALL BE AS SPECIFIED ELSEWHERE IN THE PLANS.



THE THREE RAILS ON TYPE III BARRICADES SHALL BE REFLECTORIZED ORANGE AND REFLECTIVE WHITE STRIPES ON ONE SIDE IS FACING ONE-WAY TRAFFIC AND BOTH SIDES FOR TWO WAY TRAFFIC. BARRICADE STRIPPING SHOULD SLANT DOWNWARD IN THE DIRECTION OF DETOUR.

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

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukat Kunwar –8EF6B9DC64 1F3478...	DocuSigned by: LONG NGUYEN –55A28EFDA7284CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carl Stahlbush –A8D0E1557280454...
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

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
HACKBERRY PARK TRAFFIC CONTROL DETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 118 OF 144	

NO.	DATE	REVISION	APP.

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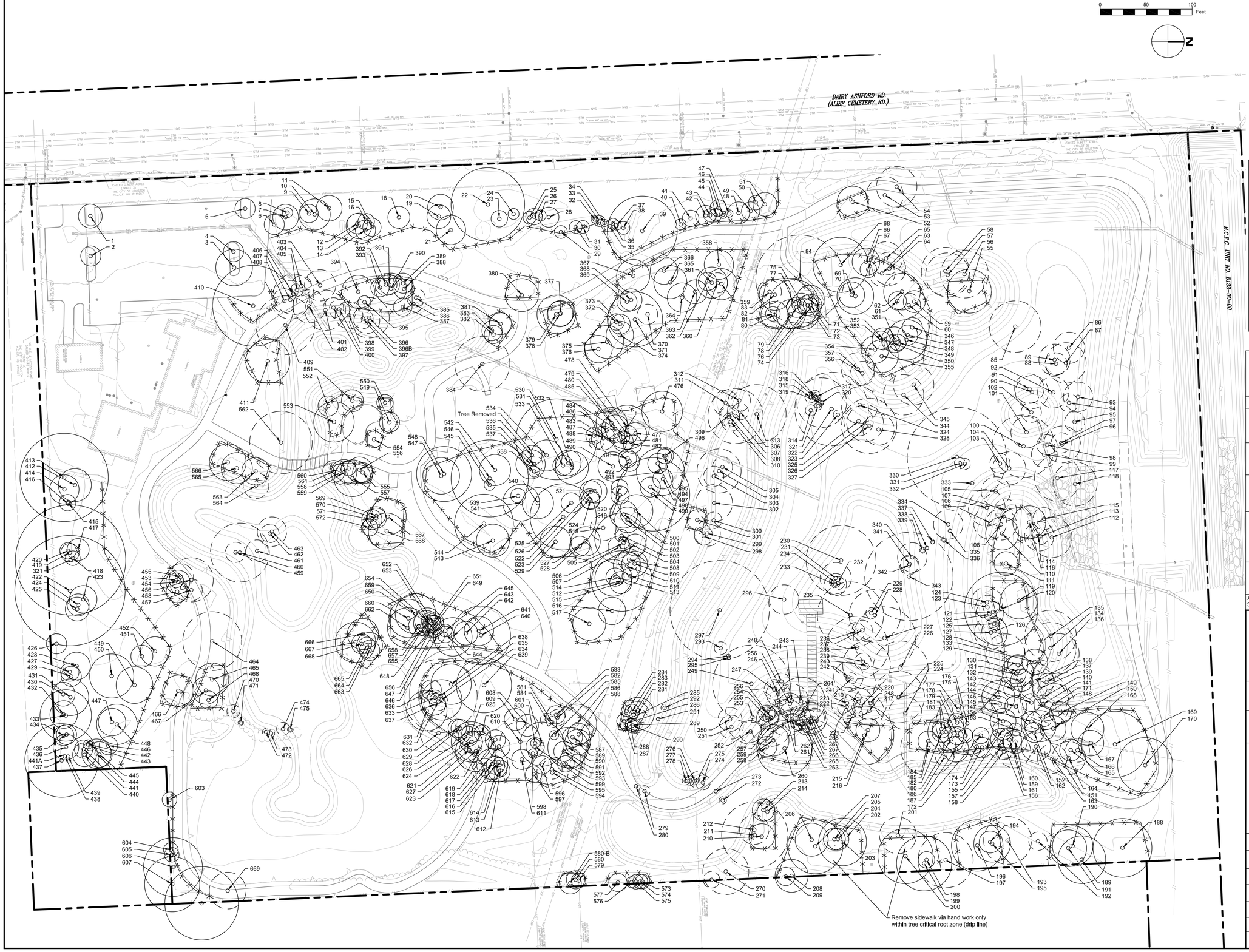

TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

LEGEND

- # — Protected Tree with critical root zone area (Refer to Tree Treatment Schedule)
- # — Removal Tree
- RP — ROOT PRUNING
- Tree Protection Fencing

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.

BURDITT
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

HACKBERRY PARK

60% CONSTRUCTION DOCUMENTS

TP 1.01 – Tree Protection and Mitigation Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 1 OF 17	

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
001	UNKNOWN	13	GOOD	PRESERVE	NONE		
002	LIVE OAK	11	GOOD	PRESERVE	NONE		
003	LIVE OAK	20	GOOD	PRESERVE	NONE		
004	LIVE OAK	11	GOOD	PRESERVE	NONE		
005	UNKNOWN	11	FAIR	PRESERVE	NONE		
006	TALLOW	11	FAIR	PRESERVE	D		
007	TALLOW	14	FAIR	PRESERVE	D		
008	HACKBERRY	11	GOOD	PRESERVE	D		
009	TALLOW	10	GOOD	PRESERVE	D		
010	TALLOW	17	GOOD	PRESERVE	D		
011	HACKBERRY	14	GOOD	PRESERVE	D		
012	TALLOW	11	FAIR	PRESERVE	D		
013	TALLOW	14	POOR	PRESERVE	D		
014	TALLOW	11	GOOD	PRESERVE	D		
015	TALLOW	10	GOOD	PRESERVE	D		
016	TALLOW	9	GOOD	PRESERVE	D		
017	TALLOW	10	FAIR	PRESERVE	D		
018	YAUPON	12	GOOD	PRESERVE	D		
019	LIVE OAK	13	GOOD	PRESERVE	D		
020	LIVE OAK	14	GOOD	PRESERVE	D		
021	LIVE OAK	16	GOOD	PRESERVE	D		
022	LIVE OAK	40	GOOD	PRESERVE	D		
023	LIVE OAK	9	GOOD	PRESERVE	D		
024	WATER OAK	6	GOOD	PRESERVE	D		
025	LIVE OAK	7	GOOD	PRESERVE	D		
026	LIVE OAK	9	GOOD	PRESERVE	D		
027	LIVE OAK	6	GOOD	PRESERVE	D		
028	LIVE OAK	11	GOOD	PRESERVE	D		
029	LOBLOLLY PINE	7	GOOD	PRESERVE	D		
030	WATER OAK	7	GOOD	PRESERVE	D		
031	WATER OAK	7	GOOD	PRESERVE	D		
032	SHUMARD OAK	4	GOOD	PRESERVE	D		
033	LOBLOLLY PINE	6	GOOD	PRESERVE	D		
034	LOBLOLLY PINE	4	GOOD	PRESERVE	D		
035	LOBLOLLY PINE	6	GOOD	PRESERVE	D		
036	LOBLOLLY PINE	6	GOOD	PRESERVE	D		
037	LOBLOLLY PINE	5	GOOD	PRESERVE	D		
038	SHUMARD OAK	7	GOOD	PRESERVE	D		
039	AMERICAN ELM	38	GOOD	PRESERVE	D		
040	WATER OAK	6	GOOD	PRESERVE	D		
041	WATER OAK	9	GOOD	PRESERVE	D		
042	LIVE OAK	11	GOOD	PRESERVE	D		
043	LIVE OAK	7	GOOD	PRESERVE	D		
044	WATER OAK	7	GOOD	PRESERVE	D		
045	LIVE OAK	9	GOOD	PRESERVE	D		
046	WATER OAK	4	FAIR	PRESERVE	D		
047	WATER OAK	4	GOOD	PRESERVE	D		
048	LIVE OAK	12	GOOD	PRESERVE	D		
049	WATER OAK	10	GOOD	PRESERVE	D		
050	LIVE OAK	8	GOOD	PRESERVE	D		
051	WATER OAK	13	GOOD	PRESERVE	D		
052	HACKBERRY	17	FAIR	PRESERVE	D		
053	HACKBERRY	20	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
054	LIGUSTRUM	22	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
055	ASH	24	GOOD	PRESERVE	D		
056	LIGUSTRUM	26	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
057	LIGUSTRUM	24	POOR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
058	HACKBERRY	26	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
059	TALLOW	12	GOOD	PRESERVE	D		
060	TALLOW	13	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
061	TALLOW	10	GOOD	PRESERVE	D		
062	LIVE OAK	20	GOOD	PRESERVE	D		
063	TALLOW	14	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
064	TALLOW	18	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
065	TALLOW	18	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
066	TALLOW	15	GOOD	PRESERVE	D		
067	TALLOW	9	GOOD	PRESERVE	D		
068	TALLOW	30	FAIR	PRESERVE	D		
069	TALLOW	20	GOOD	PRESERVE	D		
070	TALLOW	14	GOOD	PRESERVE	D		
071	TALLOW	15	GOOD	PRESERVE	D		
072	TALLOW	12	FAIR	PRESERVE	D		
073	TALLOW	11	GOOD	PRESERVE	D		
074	TALLOW	8	GOOD	PRESERVE	D		
075	TALLOW	11	GOOD	PRESERVE	D		
076	TALLOW	17	GOOD	PRESERVE	D		
077	TALLOW	27	GOOD	PRESERVE	D		
078	TALLOW	11	GOOD	PRESERVE	D		
079	TALLOW	16	GOOD	PRESERVE	D		
080	TALLOW	15	GOOD	PRESERVE	D		
081	TALLOW	8	FAIR	PRESERVE	D		
082	TALLOW	17	FAIR	PRESERVE	D		
083	HACKBERRY	13	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
084	TALLOW	48	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
085	TALLOW	28	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
086	HACKBERRY	17	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
087	TALLOW	22	POOR-DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
088	HACKBERRY	12	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
089	LIVE OAK	17	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
090	HACKBERRY	16	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
091	HACKBERRY	18	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
092	HACKBERRY	17	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
093	TALLOW	16	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
094	LACEBARK ELM	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
095	TALLOW	11	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
096	HACKBERRY	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
097	TALLOW	11	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
098	TALLOW	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
099	HACKBERRY	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
100	HACKBERRY	34	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
101	TALLOW	17	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
102	HACKBERRY	11	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
103	TALLOW	13	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
104	TALLOW	18	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
105	TALLOW	16	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
106	HACKBERRY	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
107	TALLOW	12	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
108	TALLOW	17	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
109	HACKBERRY	18	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
110	TALLOW	18	GOOD	PRESERVE	D		
111	HACKBERRY	13	GOOD	PRESERVE	D		
112	TALLOW	22	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
113	HACKBERRY	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
114	HACKBERRY	16	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
115	TALLOW	12	FAIR	REMOVE	A	NONE	
116	HACKBERRY	18	GOOD	PRESERVE	D		
117	HACKBERRY	25	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
118	TALLOW	24	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
119	ASH	20	GOOD	PRESERVE	D		
120	TALLOW	40	GOOD	PRESERVE	D		
121	TALLOW	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
122	TALLOW	15	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
123	TALLOW	13	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
124	TALLOW	17	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
125	ELM	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
126	TALLOW	14	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
127	HACKBERRY	18	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
128	HACKBERRY	21	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
129	CEDAR ELM	11	GOOD	PRESERVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
130	HACKBERRY	17	GOOD	PRESERVE	D		
131	TALLOW	11	GOOD	PRESERVE	D		
132	TALLOW	12	GOOD	PRESERVE	D		
133	CEDAR ELM	14	GOOD	PRESERVE	D		
134	TALLOW	28	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
135	HACKBERRY	28	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
136	TALLOW	22	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
137	TALLOW	9	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
138	TALLOW	20	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
139	TALLOW	8	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
140	TALLOW	26	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
141	TALLOW	28	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
142	TALLOW	10	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
143	HACKBERRY	10	FAIR	PRESERVE	D		
144	HACKBERRY	18	GOOD	PRESERVE	D		
145	HACKBERRY	9	GOOD	PRESERVE	D		
146	HACKBERRY	12	GOOD	PRESERVE	D		
147	CEDAR ELM	11	GOOD	PRESERVE	D		
148	TALLOW	11	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
149	TALLOW	12	GOOD	PRESERVE	D		
150	ASH	14	GOOD	PRESERVE	D		
151	HACKBERRY	17	GOOD	PRESERVE	D		
152	TALLOW	11	GOOD	PRESERVE	D		
153	HACKBERRY	7	GOOD	PRESERVE	D		
154	TALLOW	14	GOOD	PRESERVE	D		
155	TALLOW	11	FAIR	PRESERVE	D		
156	TALLOW	12	GOOD	PRESERVE	D		
157	HACKBERRY	15	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
158	HACKBERRY	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
159	TALLOW	18	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
160	TALLOW	13	GOOD	PRESERVE	D		
161	TALLOW	13	GOOD	PRESERVE	D		
162	TALLOW	16	GOOD	PRESERVE	D		
163	HACKBERRY	16	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
164	TALLOW	18	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
165	HACKBERRY	12	FAIR	PRESERVE	D		
166	HACKBERRY	13	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
167	HACKBERRY	14	GOOD	PRESERVE	D		
168	HACKBERRY	18	GOOD	PRESERVE	D		
169	HACKBERRY	36	GOOD	PRESERVE	D		
170	TALLOW	30	FAIR	PRESERVE	D		
171	TALLOW	22	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
172	TALLOW	9	GOOD	PRESERVE	D		
173	TALLOW	11	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
174	TALLOW	12	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
175	TALLOW	8	FAIR	PRESERVE	D		
176	TALLOW	34	GOOD	PRESERVE	D		
177	HACKBERRY	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
178	TALLOW	10	FAIR	PRESERVE	D		
179	YAUPON	10	GOOD	PRESERVE	D		
180	HACKBERRY	14	GOOD	PRESERVE	D		

TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

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.

BURDITT
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THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, AGENCY APPROVAL, AND COMMENT UNDER THE AUTHORITY OF CLAUDIA T. WALKER, RLA
LANDSCAPE ARCHITECT No. 2287, ON 7/10/25
THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES

SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK

60% CONSTRUCTION DOCUMENTS

TP 1.02 – Tree Treatment Schedule

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 2 OF 17	

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
181	TALLOW	20	GOOD	PRESERVE	D		
182	EASTERN REDCEDAR	11	GOOD	PRESERVE	D		
183	TALLOW	10	GOOD	PRESERVE	D		
184	HACKBERRY	11	GOOD	PRESERVE	D		
185	ELM	30	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
186	TALLOW	10	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
187	TALLOW	14	FAIR	PRESERVE	D		
188	HACKBERRY	32	GOOD	PRESERVE	D		
189	HACKBERRY	26	GOOD	PRESERVE	D		
190	ASH	22	GOOD	PRESERVE	D		
191	HACKBERRY	20	GOOD	PRESERVE	D		
192	HACKBERRY	10	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
193	HACKBERRY	26	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
194	HACKBERRY	12	GOOD	PRESERVE	D		
195	HACKBERRY	20	GOOD	PRESERVE	D		
196	HACKBERRY	28	GOOD	PRESERVE	D		
197	ELM	30	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
198	INDIAN HAWTHORNE	9	FAIR	PRESERVE	D		
199	AMERICAN ELM	30	GOOD	PRESERVE	D		
200	HACKBERRY	30	FAIR	PRESERVE	D		
201	TALLOW	20	GOOD	PRESERVE	D		
202	TALLOW	32	GOOD	PRESERVE	D		
203	TALLOW	26	FAIR	PRESERVE	D		
204	HACKBERRY	12	GOOD	PRESERVE	D		
205	ASH	12	FAIR	PRESERVE	D		
206	ASH	18	GOOD	PRESERVE	D		
207	AMERICAN ELM	30	GOOD	PRESERVE	D		
208	HACKBERRY	18	POOR	PRESERVE	D		
209	HACKBERRY	10	FAIR	PRESERVE	D		
210	TALLOW	14	FAIR	PRESERVE	D		
211	TALLOW	36	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
212	TALLOW	16	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
213	HACKBERRY	12	GOOD	PRESERVE	D		
214	TALLOW	11	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
215	HACKBERRY	32	FAIR	PRESERVE	D		
216	HACKBERRY	13	FAIR	PRESERVE	D		
217	TALLOW	16	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
218	TALLOW	18	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
219	HACKBERRY	15	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
220	TALLOW	10	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
221	TALLOW	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
222	TALLOW	10	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
223	TALLOW	17	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
224	TALLOW	18	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
225	HACKBERRY	28	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
226	HACKBERRY	30	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
227	AMERICAN ELM	34	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
228	TALLOW	28	POOR	REMOVE	A	NONE	REMOVE, DEAD TREE
229	HACKBERRY	6	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
230	TALLOW	38	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
231	ELM	17	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
232	TALLOW	7	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
233	TALLOW	12	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
234	TALLOW	6	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
235	AMERICAN ELM	36	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
236	HACKBERRY	10	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
237	HACKBERRY	11	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
238	TALLOW	34	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
239	TALLOW	9	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
240	TALLOW	26	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
241	TALLOW	6	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
242	HACKBERRY	16	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
243	TALLOW	26	GOOD	PRESERVE	D		
244	HACKBERRY	18	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
245	AMERICAN ELM	12	GOOD	PRESERVE	D		
246	HACKBERRY	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
247	TALLOW	11	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
248	ELM	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
249	ELM	42	DEAD	REMOVE	A	NONE	REMOVE, DEAD TREE
250	HACKBERRY	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
251	HACKBERRY	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
252	TALLOW	12	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
253	TALLOW	30	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
254	ELM	9	FAIR	PRESERVE	D		
255	TALLOW	12	FAIR	PRESERVE	D		
256	ELM	8	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
257	HACKBERRY	22	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
258	TALLOW	11	GOOD	PRESERVE	D		
259	TALLOW	17	GOOD	PRESERVE	D		
260	HACKBERRY	30	FAIR	PRESERVE	D		
261	TALLOW	20	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
262	TALLOW	10	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
263	TALLOW	9	FAIR	PRESERVE	D		
264	TALLOW	11	GOOD	PRESERVE	D		
265	TALLOW	9	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
266	TALLOW	11	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
267	TALLOW	18	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
268	TALLOW	11	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
269	TALLOW	17	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
270	WILLOW	50	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
271	HACKBERRY	9	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
272	ELM	4	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
273	ASH	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
274	TALLOW	8	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
275	TALLOW	9	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
276	TALLOW	4	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
277	TALLOW	5	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
278	TALLOW	4	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
279	TALLOW	6	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
280	ASH	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
281	TALLOW	18	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
282	TALLOW	5	FAIR	PRESERVE	D		
283	TALLOW	8	FAIR	PRESERVE	D		
284	TALLOW	6	FAIR	PRESERVE	D		
285	TALLOW	8	FAIR	PRESERVE	D		
286	TALLOW	6	FAIR	PRESERVE	D		
287	TALLOW	8	FAIR	PRESERVE	D		
288	TALLOW	5	FAIR	PRESERVE	D		
289	TALLOW	8	FAIR	PRESERVE	D		
290	TALLOW	6	FAIR	PRESERVE	D		
291	TALLOW	2	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
292	TALLOW	4	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
293	WILLOW	7	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
294	ASH	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
295	ASH	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
296	TALLOW	16	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
297	TALLOW	54	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
298	LIVE OAK	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
299	AMERICAN ELM	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
300	HACKBERRY	9	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
301	TALLOW	11	GOOD	PRESERVE	D		
302	AMERICAN ELM	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
303	TALLOW	11	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
304	TALLOW	24	POOR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
305	TALLOW	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
306	TALLOW	9	GOOD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
307	ASH	30	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
308	TALLOW	11	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
309	TALLOW	11	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
310	TALLOW	10	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
311	TALLOW	14	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
312	TALLOW	12	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
313	TALLOW	32	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
314	WILLOW	6	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
315	TALLOW	6	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
316	TALLOW	6	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
317	TALLOW	5	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
318	TALLOW	3	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
319	TALLOW	4	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
320	TALLOW	27	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
321	TALLOW	4	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
322	WILLOW	40	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
323	TALLOW	5	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
324	TALLOW	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
325	TALLOW	16	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
326	TALLOW	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
327	TALLOW	30	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
328	TALLOW	17	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
329	TALLOW	5	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
330	WILLOW	54	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
331	WILLOW	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
332	WILLOW	6	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
333	ASH	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
334	WILLOW	16	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
335	WILLOW	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
336	TALLOW	3	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
337	TALLOW	2	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
338	HACKBERRY	2	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
339	TALLOW	3	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
340	TALLOW	16	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
341	HACKBERRY	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
342	HACKBERRY	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
343	WILLOW	48	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
344	TALLOW	22	DEAD	REMOVE	A	NONE	REMOVE DEAD TREE
345	TALLOW	22	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
346	TALLOW	11	GOOD	PRESERVE	D		
347	TALLOW	12	GOOD	PRESERVE	D		
348	AMERICAN ELM	22	GOOD	PRESERVE	D		
349	TALLOW	9	GOOD	PRESERVE	D		
350	TALLOW	9	GOOD	PRESERVE	D		
351	TALLOW	14	GOOD	PRESERVE	D		
352	HACKBERRY	12	FAIR	PRESERVE	D		
353	TALLOW	10	FAIR	PRESERVE	D		
354	TALLOW	15	GOOD	PRESERVE	D		
355	HACKBERRY	18	GOOD	PRESERVE	D		
356	TALLOW	13	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
357	TALLOW	18	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
358	TALLOW	16	FAIR	PRESERVE	D		
359	CEDAR ELM	17	GOOD	PRESERVE	D		
360	ELM	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION

TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

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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)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES

SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK

60% CONSTRUCTION DOCUMENTS

TP 1.03 – Tree Treatment Schedule

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 3 OF 17	

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
361	HACKBERRY	17	FAIR	PRESERVE	D		
362	HACKBERRY	10	FAIR	PRESERVE	D		
363	HACKBERRY	13	FAIR	PRESERVE	D		
364	HACKBERRY	16	FAIR	PRESERVE	D		
365	HACKBERRY	18	FAIR	PRESERVE	D		
366	TALLOW	15	GOOD	PRESERVE	D		
367	TALLOW	18	GOOD	PRESERVE	D		
368	TALLOW	12	GOOD	PRESERVE	D		
369	TALLOW	11	FAIR	PRESERVE	D		
370	HACKBERRY	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
371	AMERICAN ELM	30	GOOD	PRESERVE	D		
372	HACKBERRY	9	POOR	PRESERVE	D		
373	HACKBERRY	11	POOR	PRESERVE	D		
374	AMERICAN ELM	15	GOOD	PRESERVE	D		
375	TALLOW	18	GOOD	PRESERVE	D		
376	HACKBERRY	15	FAIR	PRESERVE	D		
377	TALLOW	14	GOOD	PRESERVE	D		
378	TALLOW	14	FAIR	PRESERVE	D		
379	TALLOW	21	GOOD	PRESERVE	D		
380	TALLOW	18	GOOD	PRESERVE	D		
381	LIVE OAK	12	GOOD	PRESERVE	D		
382	AMERICAN ELM	10	GOOD	PRESERVE	D		
383	AMERICAN ELM	11	GOOD	PRESERVE	D		
384	AMERICAN ELM	30	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
385	TALLOW	10	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
386	TALLOW	10	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
387	TALLOW	10	FAIR	PRESERVE	D		
388	HACKBERRY	11	GOOD	PRESERVE	D		
389	EASTERN REDCEDAR	11	GOOD	PRESERVE	D		
390	HACKBERRY	17	GOOD	PRESERVE	D		
391	TALLOW	11	GOOD	PRESERVE	D		
392	TALLOW	12	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
393	TALLOW	10	GOOD	PRESERVE	D		
394	ASH	18	GOOD	PRESERVE	D		
395	TALLOW	7	GOOD	PRESERVE	D		
396	AMERICAN ELM	22	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
397	TALLOW	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
398	HACKBERRY	15	FAIR	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
399	HACKBERRY	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
400	HACKBERRY	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
401	TALLOW	22	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
402	HACKBERRY	18	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
403	TALLOW	17	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
404	TALLOW	11	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
405	TALLOW	7	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
406	TALLOW	22	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
407	AMERICAN ELM	21	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
408	TALLOW	13	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
409	AMERICAN ELM	32	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
410	ASH	44	FAIR	PRESERVE	D		
411	TALLOW	24	GOOD	PRESERVE	D		
412	TALLOW	18	FAIR	PRESERVE	D		
413	AMERICAN ELM	48	FAIR	PRESERVE	D		
414	TALLOW	16	FAIR	PRESERVE	D		
415	ASH	3	GOOD	PRESERVE	D		
416	HACKBERRY	9	GOOD	PRESERVE	D		
417	HACKBERRY	12	POOR	PRESERVE	D		
418	HACKBERRY	8	GOOD	PRESERVE	D		
419	TALLOW	10	GOOD	PRESERVE	D		
420	TALLOW	9	FAIR	PRESERVE	D		
421	TALLOW	60	GOOD	PRESERVE	D		
422	TALLOW	60	POOR	PRESERVE	BD		REMOVE DEAD STEM
423	HACKBERRY	15	GOOD	PRESERVE	D		
424	HACKBERRY	12	GOOD	PRESERVE	D		
425	HACKBERRY	13	GOOD	PRESERVE	D		
426	HACKBERRY	11	GOOD	PRESERVE	D		
427	MEXICAN PLUM	10	POOR	PRESERVE	D		
428	HACKBERRY	15	GOOD	PRESERVE	D		
429	HACKBERRY	11	FAIR	PRESERVE	D		
430	HACKBERRY	13	GOOD	PRESERVE	D		
431	AMERICAN ELM	20	GOOD	PRESERVE	D		
432	HACKBERRY	15	GOOD	PRESERVE	D		
433	AMERICAN ELM	28	GOOD	PRESERVE	D		
434	TALLOW	11	FAIR	PRESERVE	D		
435	TALLOW	11	GOOD	PRESERVE	D		
436	TALLOW	14	FAIR	PRESERVE	D		
437	TALLOW	40	FAIR	PRESERVE	BD		REMOVE FALLEN STEM
438	TALLOW	13	FAIR	PRESERVE	D		
439	LACEBARK ELM	9	GOOD	PRESERVE	D		
440	TALLOW	13	GOOD	PRESERVE	D		
441	TALLOW	10	GOOD	PRESERVE	D		
441A	TALLOW	13	GOOD	PRESERVE	D		
442	TALLOW	5	POOR	PRESERVE	D		
443	TALLOW	5	POOR	PRESERVE	D		
444	TALLOW	16	GOOD	PRESERVE	D		
445	TALLOW	14	GOOD	PRESERVE	D		
446	TALLOW	10	GOOD	PRESERVE	D		
447	TALLOW	15	GOOD	PRESERVE	D		
448	TALLOW	22	GOOD	PRESERVE	D		
449	TALLOW	20	FAIR	PRESERVE	D		
450	TALLOW	24	GOOD	PRESERVE	D		

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
451	HACKBERRY	12	GOOD	PRESERVE	D		
452	HACKBERRY	16	GOOD	PRESERVE	D		
453	HACKBERRY	8	GOOD	PRESERVE	D		
454	HACKBERRY	13	GOOD	PRESERVE	D		
455	AMERICAN ELM	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
456	AMERICAN ELM	24	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
457	AMERICAN ELM	12	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
458	HACKBERRY	12	FAIR	PRESERVE	D		
459	TALLOW	11	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
460	TALLOW	32	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
461	TALLOW	12	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
462	AMERICAN ELM	10	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
463	TALLOW	16	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
464	AMERICAN ELM	32	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
465	ASH	18	GOOD	PRESERVE	D		
466	HACKBERRY	17	GOOD	PRESERVE	D		
467	ASH	15	GOOD	PRESERVE	D		
468	CHINABERRY	10	GOOD	PRESERVE	D		
469	UNKNOWN	48	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
470	ASH	7	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
471	UNKNOWN	3	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
472	HACKBERRY	4	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
473	HACKBERRY	4	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
474	TALLOW	7	GOOD	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
475	ASH	3	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
476	TALLOW	22	GOOD	PRESERVE	D		
477	TALLOW	12	GOOD	PRESERVE	D		
478	TALLOW	24	FAIR	PRESERVE	D		
479	TALLOW	10	GOOD	PRESERVE	D		
480	TALLOW	7	POOR	PRESERVE	D		
481	TALLOW	11	FAIR	PRESERVE	D		
482	HACKBERRY	11	FAIR	PRESERVE	D		
483	TALLOW	14	GOOD	PRESERVE	D		
484	HACKBERRY	15	FAIR	PRESERVE	D		
485	TALLOW	17	GOOD	PRESERVE	D		
486	TALLOW	9	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
487	TALLOW	13	GOOD	PRESERVE	D		
488	TALLOW	9	FAIR	PRESERVE	D		
489	TALLOW	8	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
490	TALLOW	16	FAIR	PRESERVE	D		
491	TALLOW	10	GOOD	PRESERVE	D		
492	TALLOW	11	GOOD	PRESERVE	D		
493	TALLOW	26	FAIR	PRESERVE	D		
494	HACKBERRY	11	FAIR	PRESERVE	D		
495	TALLOW	8	GOOD	PRESERVE	D		
496	TALLOW	9	GOOD	PRESERVE	D		
497	TALLOW	11	GOOD	PRESERVE	D		
498	TALLOW	11	FAIR	PRESERVE	D		
499	AMERICAN ELM	40	GOOD	PRESERVE	D		
500	AMERICAN ELM	18	GOOD	PRESERVE	D		
501	TALLOW	15	GOOD	PRESERVE	D		
502	HACKBERRY	14	FAIR	PRESERVE	D		
503	TALLOW	7	FAIR	PRESERVE	D		
504	TALLOW	28	GOOD	PRESERVE	D		
505	TALLOW	6	FAIR	PRESERVE	D		
506	TALLOW	12	FAIR	PRESERVE	D		
507	TALLOW	12	GOOD	PRESERVE	D		
508	TALLOW	12	POOR	PRESERVE	D		
509	TALLOW	14	POOR	PRESERVE	D		
510	TALLOW	15	GOOD	PRESERVE	D		
511	TALLOW	9	FAIR	PRESERVE	D		
512	TALLOW	33	FAIR	PRESERVE	D		
513	TALLOW	10	FAIR	PRESERVE	D		
514	TALLOW	20	FAIR	PRESERVE	D		
515	TALLOW	12	GOOD	PRESERVE	D		
516	HACKBERRY	15	GOOD	PRESERVE	D		
517	ASH	18	GOOD	PRESERVE	D		
518	TALLOW	14	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
519	TALLOW	10	POOR	PRESERVE	D		
520	TALLOW	9	FAIR	PRESERVE	D		
521	TALLOW	13	GOOD	PRESERVE	D		
522	TALLOW	12	GOOD	PRESERVE	D		
523	TALLOW	11	GOOD	PRESERVE	D		
524	TALLOW	10	GOOD	PRESERVE	D		
525	HACKBERRY	11	GOOD	PRESERVE	D		
526	AMERICAN ELM	36	GOOD	PRESERVE	D		
527	TALLOW	16	GOOD	PRESERVE	D		
528	TALLOW	11	FAIR	PRESERVE	D		
529	TALLOW	17	GOOD	PRESERVE	D		
530	TALLOW	44	FAIR	PRESERVE	D		
531	HACKBERRY	14	GOOD	PRESERVE	D		
532	AMERICAN ELM	18	GOOD	PRESERVE	D		
533	TALLOW	11	FAIR	PRESERVE	D		
534	TALLOW	17	FAIR	PRESERVE	D		
535	TALLOW	9	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
536	TALLOW	11	GOOD	PRESERVE	D		
537	HACKBERRY	16	GOOD	PRESERVE	D		
538	HACKBERRY	6	GOOD	PRESERVE	D		
539	HACKBERRY	8	GOOD	PRESERVE	D		
540	HACKBERRY	17	GOOD	PRESERVE	D		

TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

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SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK
60% CONSTRUCTION DOCUMENTS

TP 1.04 – Tree Treatment Schedule

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M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 4 OF 17	

TREE #	SPECIES	DIAMETER	CONDITION	STATUS	TREATMENT	MITIGATION	COMMENTS
541	TALLOW	20	POOR	PRESERVE	D		
542	AMERICAN ELM	17	GOOD	PRESERVE	D		
543	UNKNOWN	18	GOOD	PRESERVE	D		
544	TALLOW	32	GOOD	PRESERVE	D		
545	EASTERN REDCEDAR	6	GOOD	PRESERVE	D		
546	AMERICAN ELM	42	GOOD	PRESERVE	D		
547	AMERICAN ELM	20	GOOD	PRESERVE	D		
548	TALLOW	30	GOOD	PRESERVE	D		
549	SWAMP CHESTNUT OAK	11	GOOD	PRESERVE	D		
550	SWAMP CHESTNUT OAK	9	GOOD	PRESERVE	D		
551	LIVE OAK	12	GOOD	PRESERVE	D		
552	CEDAR ELM	11	GOOD	PRESERVE	D		
553	AMERICAN ELM	22	GOOD	PRESERVE	D		
554	SWAMP CHESTNUT OAK	9	GOOD	PRESERVE	D		
555	TALLOW	11	GOOD	PRESERVE	D		
556	TALLOW	14	GOOD	PRESERVE	D		
557	HACKBERRY	20	GOOD	PRESERVE	D		
558	HACKBERRY	8	GOOD	PRESERVE	D		
559	TALLOW	14	GOOD	PRESERVE	D		
560	TALLOW	6	FAIR	PRESERVE	D		
561	TALLOW	12	GOOD	PRESERVE	D		
562	TALLOW	34	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
563	AMERICAN ELM	15	GOOD	PRESERVE	D		
564	HACKBERRY	14	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
565	ASH	17	GOOD	PRESERVE	D		
566	PECAN	20	GOOD	PRESERVE	D		
567	TALLOW	20	GOOD	PRESERVE	D		
568	HACKBERRY	20	GOOD	PRESERVE	D		
569	TALLOW	10	GOOD	PRESERVE	D		
570	TALLOW	11	GOOD	PRESERVE	D		
571	TALLOW	11	GOOD	PRESERVE	D		
572	TALLOW	9	GOOD	PRESERVE	D		
573	HACKBERRY	8	GOOD	PRESERVE	D		
574	TALLOW	8	GOOD	PRESERVE	D		
575	HACKBERRY	8	GOOD	PRESERVE	D		
576	HACKBERRY	8	GOOD	PRESERVE	D		
577	TALLOW	6	GOOD	PRESERVE	D		
578	TALLOW	10	GOOD	PRESERVE	D		
579	TALLOW	8	GOOD	PRESERVE	D		
580	TALLOW	10	GOOD	PRESERVE	D		
581	TALLOW	6	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
582	TALLOW	10	GOOD	PRESERVE	D		
583	TALLOW	9	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
584	TALLOW	7	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
585	TALLOW	5	FAIR	PRESERVE	D		
586	HACKBERRY	22	FAIR	PRESERVE	D		
587	HACKBERRY	11	GOOD	PRESERVE	D		
588	TALLOW	11	GOOD	PRESERVE	D		
589	HACKBERRY	14	GOOD	PRESERVE	D		
590	HACKBERRY	22	GOOD	PRESERVE	D		
591	HACKBERRY	11	GOOD	PRESERVE	D		
592	TALLOW	11	GOOD	PRESERVE	D		
593	TALLOW	9	GOOD	PRESERVE	D		
594	HACKBERRY	17	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
595	HACKBERRY	11	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
596	TALLOW	10	GOOD	PRESERVE	D		
597	HACKBERRY	9	GOOD	PRESERVE	D		
598	HACKBERRY	5	FAIR	PRESERVE	D		
599	HACKBERRY	10	GOOD	PRESERVE	D		
600	HACKBERRY	5	GOOD	PRESERVE	D		
601	AMERICAN ELM	24	GOOD	PRESERVE	D		
602	HACKBERRY	7	FAIR	PRESERVE	D		
603	MULLBERRY	8	GOOD	PRESERVE	D		
604	MULLBERRY	9	GOOD	PRESERVE	D		
605	MULLBERRY	10	GOOD	PRESERVE	D		
606	ASH	32	GOOD	PRESERVE	D		
607	ASH	30	GOOD	PRESERVE	D		
608	TALLOW	13	GOOD	PRESERVE	D		
609	HACKBERRY	12	GOOD	PRESERVE	D		
610	HACKBERRY	22	DEAD	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
611	HACKBERRY	11	FAIR	PRESERVE	D		
612	TALLOW	7	GOOD	PRESERVE	D		
613	AMERICAN ELM	12	GOOD	PRESERVE	D		
614	ELM	5	FAIR	PRESERVE	D		
615	TALLOW	10	POOR	PRESERVE	D		
616	ASH	17	GOOD	PRESERVE	D		
617	ELM	13	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
618	HACKBERRY	12	GOOD	PRESERVE	D		
619	HACKBERRY	11	FAIR	PRESERVE	D		
620	HACKBERRY	9	GOOD	PRESERVE	D		
621	ASH	12	FAIR	PRESERVE	D		
622	TALLOW	16	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
623	ASH	22	FAIR	PRESERVE	D		
624	HACKBERRY	22	FAIR	PRESERVE	D		
625	TALLOW	10	DEAD	PRESERVE	D		
626	TALLOW	11	FAIR	PRESERVE	D		
627	HACKBERRY	11	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
628	TALLOW	10	GOOD	PRESERVE	D		
629	TALLOW	10	GOOD	PRESERVE	D		
630	TALLOW	20	GOOD	REMOVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION
631	HACKBERRY	22	GOOD	PRESERVE	D		
632	TALLOW	10	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
633	TALLOW	8	POOR	PRESERVE	D		
634	TALLOW	22	FAIR	PRESERVE	D		
635	TALLOW	40	POOR	REMOVE	A	NONE	REMOVE DUE TO POOR CONDITION
636	TALLOW	11	FAIR	PRESERVE	D		
637	YAUPON	12	GOOD	PRESERVE	D		
638	ASH	22	GOOD	PRESERVE	D		
639	TALLOW	30	GOOD	PRESERVE	D		
640	TALLOW	32	GOOD	PRESERVE	D		
641	HACKBERRY	16	POOR	PRESERVE	D		
642	TALLOW	13	POOR	PRESERVE	D		
643	TALLOW	21	GOOD	PRESERVE	D		
644	HACKBERRY	9	GOOD	PRESERVE	D		
645	TALLOW	7	FAIR	PRESERVE	D		
646	TALLOW	8	POOR	PRESERVE	D		
647	TALLOW	6	POOR	PRESERVE	D		
648	TALLOW	11	FAIR	PRESERVE	D		
649	HACKBERRY	11	GOOD	PRESERVE	D		
650	HACKBERRY	12	GOOD	PRESERVE	D		
651	TALLOW	10	GOOD	PRESERVE	D		
652	TALLOW	8	FAIR	PRESERVE	D		
653	TALLOW	9	GOOD	PRESERVE	D		
654	TALLOW	14	GOOD	PRESERVE	D		
655	TALLOW	14	GOOD	PRESERVE	D		
656	TALLOW	6	FAIR	PRESERVE	D		
657	TALLOW	6	FAIR	PRESERVE	D		
658	TALLOW	11	GOOD	PRESERVE	D		
659	TALLOW	22	GOOD	PRESERVE	D		
660	HACKBERRY	21	GOOD	PRESERVE	D		
661	HACKBERRY	22	GOOD	PRESERVE	D		
662	TALLOW	11	GOOD	PRESERVE	D		
663	TALLOW	14	GOOD	PRESERVE	D		
664	TALLOW	11	GOOD	PRESERVE	D		
665	TALLOW	9	GOOD	PRESERVE	D		
666	TALLOW	17	GOOD	PRESERVE	D		
667	TALLOW	22	GOOD	PRESERVE	D		
668	TALLOW	11	GOOD	PRESERVE	D		
396-B	TALLOW	14	FAIR	REMOVE	A	NONE	REMOVE FOR CONSTRUCTION
580-B	TALLOW	12	GOOD	PRESERVE	D		
669	HACKBERRY	20	FAIR	PRESERVE	A	REPLACE INCH FOR INCH	REMOVE FOR CONSTRUCTION

TREE TREATMENT SUMMARY			
STATUS/TREATMENT		**Total Trees**	**Total Inches**
REMOVE FOR CONSTRUCTION		783	2,827
REMOVE DUE TO POOR/DEAD CONDITION		64	1,085
TOTAL REMOVALS		**847**	**3,912**
REMOVALS - MITIGATION REQUIRED		104	1,892
FENCING	9,082	LINEAR FEET	
REPLACEMENT PLANTING (No. of Trees)		473	4" CALIPER

TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

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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HACKBERRY PARK
60% CONSTRUCTION DOCUMENTS

TP 1.05 – Tree Treatment Schedule

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 5 OF 17	

TREE TREATMENT SPECIFICATIONS AND DETAILS

TREE PRESERVATION AND TREATMENT SPECIFICATIONS

These Specifications are supplemental to the City of Houston Standard Specifications, Section 01562–Tree and Plant Protection.

PART 1 – GENERAL

1.1 SUMMARY

A. Work includes:

1. Removal operation.
2. Maintenance pruning.
3. Fertilization treatment.
4. Tree protection fencing installation.
5. Mulching operation.
6. Root pruning operation.
7. Root pruning/chemical barrier operation.
8. Utility boring operation.
9. Zero curb cut operation.
10. Transplant operation.
11. Replacement planting.
12. Repair/replacement operation.
13. Sidewalk installation.

B. All Contractors shall meet with the Urban Forester or Owner's Representative to review the Tree Preservation Plan for the site before startup of site work.

C. No site construction shall begin in any areas where tree preservation and treatment measures have not been implemented and approved.

D. Tree preservation and treatment measures shall be reviewed and approved by the Urban Forester or Owner's Representative prior to and immediately following installation.

E. Contractor shall be responsible for compliance to and maintenance of the Tree Preservation Plan.

F. The areas protected by the tree protection fencing are the tree preservation areas. No access to these areas shall be permitted during the construction period without first consulting with the Urban Forester or Owner's Representative.

G. Any roots of preservation trees exposed by construction activity shall be covered with a layer of light topsoil or 10 mil. polyethylene sheeting to prevent desiccation and loss of exposed roots.

H. Any work, excavation, or grading required by construction within the tree preservation areas shall be limited to 2" cut or fill with no roots over 1/2" being cut. This work shall be by hand or with approved equipment and root protection.

I. Trees damaged or lost due to Contractor's negligence during the construction period shall be appraised by the Urban Forester or Owner's Representative and the Owner compensated.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Fertilizer – "XL Injecto Feed" (32–7–7), a product of Dogget Corporation, Lebanon, NJ, (800) 448–1862.

B. Mycorrhizal Fungi – MycorTree Ecto–Injectable, a product of Plant Health Care, Inc., (800) 421–9051.

C. Tree Protection Fencing:

1. 4' tall plastic, 1" mesh fence.
2. Iron T–bar posts, 6' tall.
3. Wire, 16 gauge ties.

D. Polyethylene Sheeting: minimum 10 mil. thickness, clear.

E. Mulch: First run mulch or site generated mulch.

F. Products of the same type from other sources shall not be excluded, provided they have like physical and functional characteristics and are approved by the Urban Forester or Owner's Representative.

G. Every effort shall be made to utilize chemicals of an organic or biogradable nature in order to offer the least impact to the environment.

PART 3 – IMPLEMENTATION

3.1 TREATMENTS

A. Removal Operation: (Treatment A).

1. Trees designated to be removed by hand on the Tree Preservation Plan shall be painted with an "X" by the Urban Forester or Owner's Representative.
2. Designated removal trees shall be replaced on an inch for inch basis for the total diameter inches removed.
3. Plant replacement trees as near as possible to their original location (See planting procedure).
4. All tree removals shall be done by a certified Arborist by hand work.
5. All wood and debris from tree removal shall be removed from the site immediately.
6. All stumps shall be ground down to 12" below grade.
7. Any damage to preservation trees occurring during the removal operation shall be repaired.

B. Maintenance Pruning: (Treatment B).

1. Trees to be pruned are designated on the Tree Treatment Schedule and will be identified by the Urban Forester or Owner's Representative.
2. All maintenance pruning work shall be done by a certified Arborist.
3. A Tree Treatment Schedule listing the preservation trees and treatments will be provided.
4. Pruning shall consist of the following method:

(a) Pruning as defined by the American National Standard for Tree Care Operations – Tree Shrub and Other Woody Plant Maintenance Standards. This would include:

(1) Crown raising or clearance pruning shall consist of the removal of the lower branches of a tree to provide clearance for streets and sidewalks while maintaining a balanced form.

(b) All pruning cuts on Oak trees shall be covered with a thin coat of water based black paint approved by Urban Forester or Owner's Representative if pruning is to occur in April, May, or June.

(c) All wood and debris from pruning operations shall be removed from the site.

C. Fertilization Treatment – (Treatment C).

1. Preservation trees shall be treated as designated on the Tree Treatment Schedule.
2. Injection of the fertilizer into the root zone of a tree shall consist of the following methods:

(a) Mix in a tank with agitation capability:

(1) Fertilizer – 9 pounds by weight per 100 gallons water.
(2) Mycorrhizal Fungi – 1 lb. per 100 gallons water.

(b) Inject the Mixture on a 2.5 ft. square grid at 1/2 gallon of mix per hole or 8 gallons per 100 square feet.
(c) Injection pressure shall be 100–150 PSI as soil conditions warrant.
(d) Depth of injection shall be 6 – 12 inches.
(e) Inject the root zone areas, where possible, in the available canopy areas plus 10 feet beyond dripline, but not in root loss zone.

3. Contractor is responsible for mixing, applying and disposal of all chemicals in accordance with strict adherence to manufacturer's directions and/or State and Federal Regulations.

D. Tree Protection Fencing Installation (Treatment D – refer to Tree Preservation Details).

1. Tree protection fencing is designated in the Tree Preservation Plan.
2. Fencing as follows:

(a) Fabric, 4' tall plastic fence.
(b) Iron T–bar posts, 6' tall, placed 8' – 0" on center, 24" into the ground.
(c) Fence is to be attached to posts with wire ties placed every 24" on center.
(d) Fence is to be placed a minimum of 1 foot from all root prune lines.

3. No access to fenced areas shall be permitted without prior approval of the Urban Forester or Owner's Representative.
4. Contractor shall provide for maintenance and repair of fencing during site work

E. Mulching Operations (Treatment E).

1. A 4" layer of mulch shall be placed in the canopy area of trees where exposed soil or roots are present.
2. Approved access through the canopy areas foar construction equipment or vehicles shall be covered with 6" of mulch covered by 3/4" plywood.

F. Root Pruning Operation (Treatment F – refer to Tree Preservation Details).

1. Trenching areas are designated in the Tree Preservation Plan and exact locations will be marked in the field by the Urban Forester or Owner's Representative.
2. All encroachments located in the canopy of trees shall have the tree side of the excavation root pruned before excavation.
3. Trenching shall be backfilled and compacted immediately after trenching.
4. Trenching shall be backfilled and compacted immediately after trenching.
5. All excavated material shall be placed outside the canopy of the tree or on plywood cover under the canopy of the tree to protect the root zone area.
6. Topsoil should be kept aside so as not to mix with sub grade material and placed back in the pit on the top of the backfill.

G. Root Pruning/Chemical Barrier Installation (Treatment G–refer to Tree Treatment Details).

1. Root Pruning Chemical barrier shall be installed where root pruning is scheduled to be done at the back of curb line for the new curb line.
2. All specifications for root pruning trenching shall apply to this installation with the following additional requirements:
(a) 10 mil Polyethylene sheeting shall be placed in the trench to the bottom of the trench.
(b) Anchor sheeting at the top of the trench in order to backfill the trench.
(c) Cover the top of the sheeting so that no sheeting is exposed.

H. Utility Boring (Treatment H.).

1. All utilities will be bored through the Critical Root Zone (CRZ) of all protected trees.
2. Bore pits will be outside the CRZ of each protected tree.
3. Bore layout must be approved in the field by the Urban Forester or Owner's Representative.
4. Any necessary excavations within the CRZ of protected trees will require the approval of the Urban Forester or Owner's Representative.

I. Zero Curb Cut Operation (Treatment I–refer to Tree Treatment Details).

1. Removal of the old curb located within the canopy area of preservation trees will be done in the following manner:
(a) Dig our the existing street in front of curb to the bottom of existing curb.
(b) Remove existing curb by pulling it into the street excavation without digging or clawing behind the curb.
(c) Cover the exposed soil and roots immediately with 10 mil clear plastic to prevent desiccation of roots.
(d) Anchor the plastic cover with wooden stakes driven into the soil (avoiding tree roots) behind the old curb edge.
(e) Plastic shall be removed at the same time as backfill is being placed so that the roots are not exposed to air.
(f) New curb installation shall be formed and poured without disturance or damage to the exposed roots located at the edge of the oldremoved curb.
(g) Where necessary, backfill between the old and new curb area shall consist of:
(1) Backfill void up to within 6" of the top of the curb with a material acceptable to engineering standards. This material shall be clean and free of rocks, debris, or chemical residues that pose a threat to the root environment.
(2) The remaining 6" of fill behind the curb shall be of the specified topsoil mix.
(h) Back fill behind the old curb area (Tree Preservation Area) shall consist of the specified topsoil mix. This mix shall be applied in depths of no greater than 3" to the critical root zones of the protected trees by hand.

J. Transplant Operation (Treatment J refer to Tree Treatment Details).

1. Trees designated for transplanting are designated in the Tree Treatment Schedule.
2. Transplants are to be relocated to a location determined by the Urban Forester or Owner's Representative.
3. Contractor shall be responsible for proper relocation, planting, and maintenance of the transplanted trees for one (1) year.

K. Replacement Planting (Refer to Tree Treatment Details).

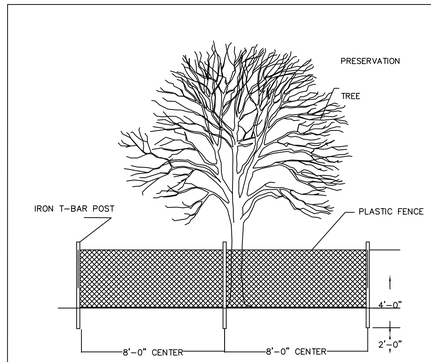
1. Replacement tree planting locations shall be indicated by the owner's representative.
2. Contractor is responsible for verifying locations of underground utilities prior to construction.
3. Trees shall be planted at least five (5') feet from any utility line, curb or sidewalk and outside all utility easements.
4. All plant material shall be maintained in a healthy growing condition, and must be replaced with plant material of similar variety and size if damaged, destroyed, diseased, or removed.
5. Measurement: Dimensions of trees and shrubs shall conform to the American Standard for Nursery Stock, latest edition (ANSI Z–60).
6. All trees shall be staked and secured according to accepted industry practice and details.
7. Each newly planted tree and shrub shall be pruned in accordance with the American Association of Nurserymen Standards or as directed by owner's representative to preserve the natural character of the plant. All dead wood, sucker, and broken or badly bruised branches shall be removed.
8. Guarantee: All plant material shall be guaranteed by the contractor for one full year from the date of installation. The owner shall be responsible for maintenance unless otherwise agreed with contractor. It shall be the contractor's responsibility to monitor the project during the guarantee period and inform the owner if problems develop with the plant material. A plant shall be considered dead if 25% or more of the crown, or main leader has died.

L. Repair/Replacement Operations

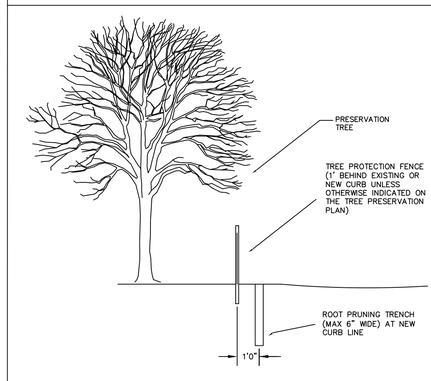
1. If any damage to preservation trees should occur beyond what is expected during the construction period, the Urban Forester or Owner's Representative shall appraise the damage and order the repair by the contractor or responsible party.
2. Trees other than those designated for removal that are destroyed or irreparably damaged as a result of construction operations, shall be removed and replaced with the same size species and variety up to and including 8 inches in diameter. Trees larger than 8 inches in diameter shall be replaced with an 8–inch diameter tree of the same species and variety and total contract amount will be reduced as determined by a qualified appraiser using the Guide for Plant Appraisal published by the International Society of Arboriculture (9th Edition 2000).
Owner shall be compensated for all costs involved in mitigation of damages and the appraisal thereof by the Urban Forester or Owner's Representative.

M. Sidewalk Installation (Treatment M)

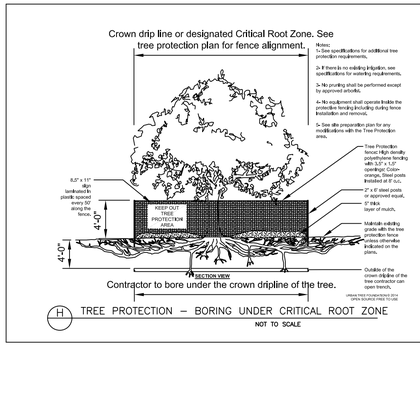
1. Route new sidewalks as far away from tree trunks as possible.
2. New sidewalks to be installed in the Critical Root Zone of protected trees shall be installed without excavating into grade and destroying vital roots.
3. Where possible, install new sidewalks in the footprint of the old sidewalks without disturbing underlying roots or existing grade.
4. Demolition of old sidewalks shall be done without disturbing underlying roots or existing grade.
5. All roots exposed from either demolition of an existing sidewalk or removal of vegetation cover shall be covered with 10 millimeter plastic sheeting or 2 inches of sand to prevent desiccation of roots.
6. No stabilized sand shall be used for sidewalks or in the Critical Root Zonees of protected trees. Substitute geo–textile fabric for stabilized base.
7. Positive drainage must be maintained or provided in the Critical Root Zone where new sidewalks are to be installed.



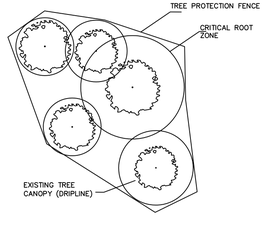
D/1 FRONT VIEW – TREE PROTECTION FENCING DETAIL
NOT TO SCALE



F SIDEVIEW – ROOT PRUNING DETAIL
NOT TO SCALE



H TREE PROTECTION – BORING UNDER CRITICAL ROOT ZONE
NOT TO SCALE



D/2 PLAN VIEW – TREE PROTECTION FENCING GROUPING OF TREES
NOT TO SCALE

TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

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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)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
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TP 1.06 – Tree Treatment Specifications and Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–420HUD–013A–3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 6 OF 17	

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

DAIRY ASHFORD RD.
(ALIEF CEMETERY RD.)

H.C.F.C. UNIT NO. D122-00-00

6' Bench
Ref. Detail 3/ L1.21

Trash Receptacle
Ref. Detail 1/ L1.21

Existing Splash Pad.
AqualSeal Water Flecks Resurfacing
See Detail 7/ L1.21

Water Fountain
Ref. Detail 6/ L1.21

Existing
Playground

(3) 6' Picnic Table
Ref. Detail 4/ L1.21

(2) 8' ADA Picnic Table
Ref. Detail 5/ L1.21

(2) 6' Picnic Table
Ref. Detail 4/ L1.21

Bridge
See Sheet L1.22

Trash Receptacle
Ref. Detail 1/ L1.21

6' Bench
Ref. Detail 3/ L1.21

(5) 6' Picnic Table
Ref. Detail 4/ L1.21

(5) 6' Picnic Table
Ref. Detail 4/ L1.21

Trash Receptacle
Ref. Detail 1/ L1.21

Boardwalk and Pier
See Sheet L1.22

Trash Receptacle
Ref. Detail 1/ L1.21

6' Bench
Ref. Detail 3/ L1.21

6' Bench
Ref. Detail 3/ L1.21

0 25' 50' 100'

Scale: 1" = 50'

N

FURNISHINGS

SYMBOL	DESCRIPTION	QTY
▬	6' Pilot Rock Single Pedestal Contour Bench	5
○	Typlcal H-Frame & Barrel Trash Receptacle	5
▭	6' MyTCoat Rectangular Portable Table	15
▭	8' MyTCoat Rectangluar Portable Table - Accessible (1-End)	4
▪	Elkay Outdoor Bi-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated	1

Notes: See sheet L1.21 for full furniture schedule.

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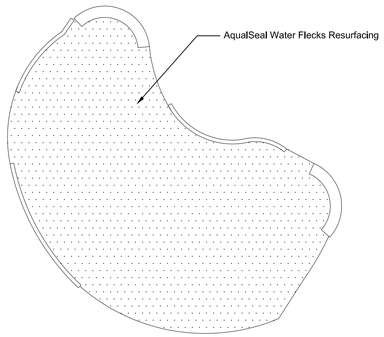
L1.01 – Detail Callout Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 7 OF 17	

FURNISHINGS

SYMBOL	DESCRIPTION	QTY	DETAIL	MANUFACTURER	MODEL	FINISH/COLOR	CONTACT	REMARKS
FURNISHINGS								
▬	6' Pilot Rock Single Pedestal Contour Bench	5	3/L1.21	Pilot Rock	OWRB	Black posts, heart redwood	BJ`s Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Lumber timbers, emdedded post.
○	Typical H-Frame & Barrel Trash Receptacle	5	1/L1.21					
▭	6' MyTCoat Rectangular Portable Table	30	4/L1.21	MyTCoat	TRT06-B-01-000	Brown webcoat, black frame	BJ`s Parks & Recreatioal Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
▭	8' MyTCoat Rectangluar Portable Table - Accessible (1-End)	4	5/L1.21	MyTCoat	TRT08-B-01-000	Brown webcoat, black frame	BJ`s Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
▪	Elkay Outdoor Bi-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated	1	6/L1.21	Elkay	LK4420DB	Evergreen	Miller Mays & Associates www.millermays.com (E) joseph@millermays.com (T) 713.690.7411	Surface mount
SURFACES								
▨	Aquaflex Water Flecks Resurfacing	1,112 sf	7/L1.21	Aquaflex		Aqua	Surface America surfaceamerica.com (T) 800-999-0555	Final color to be approved by owner

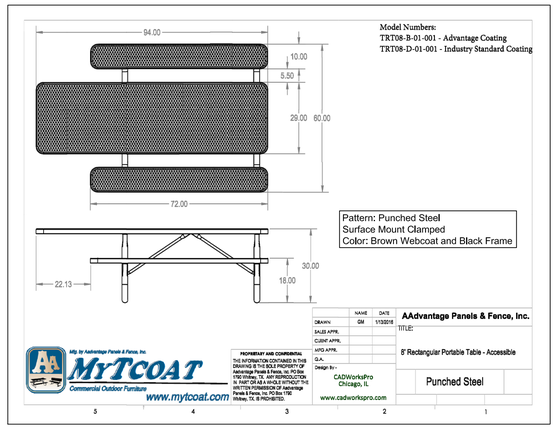
NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	



7 SPLASH PAD RESURFACE

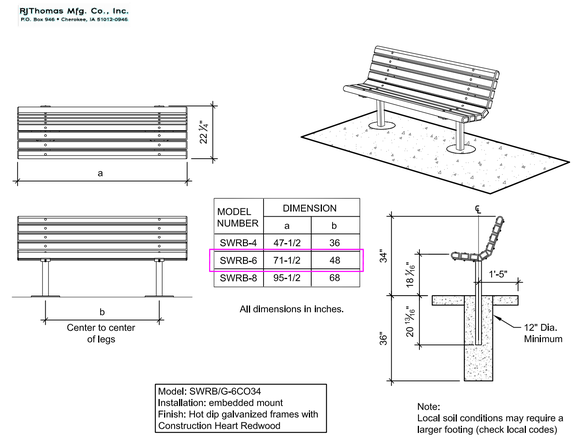
1" = 10'

MU-1537.002-HARD-08



5 8' PICNIC TABLE BY MYTCOAT (MODEL# TRT08-B-01-000)

Not to Scale



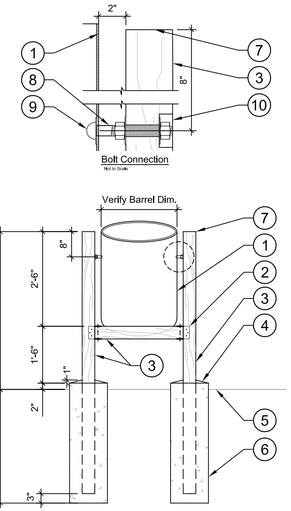
3 6' BENCH BY PILOT ROCK (MODEL# OWRB/G-6CO34)

Not to Scale

MU-1537.002-HARD-09

Detail Callout Legend:

1. Trash receptacle, drill (4) 1" diameter holes at 2" minimum apart at bottom for drain
2. Simpson BC4 post/ cap connector (galvanized)
3. 4x4 treated pine
4. Slope concrete
5. Finished grade
6. 12" dia. concrete footing
7. Slope top 1/2"
8. 3/4" diameter PVC sleeve
9. 3/4"x6" galvanized carriage bolt, with nuts & washers countersunk
10. Countersink bolt, 1/4"



1 TRASH RECEPTACLE

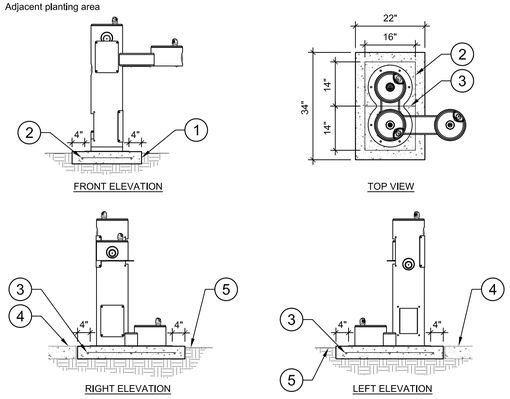
1/2" = 1'-0"

Detail Callout Legend:

1. 4" Thick concrete slab
2. #3 rebar 16" O.C.
3. #3 rebar 14" O.C.
4. Concrete sidewalk, ref. civil
5. Adjacent planting area

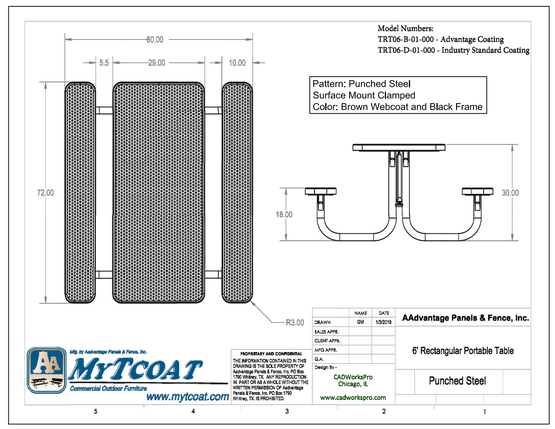
NOTES:

a. Elkay outdoor bi-level pedestal fountain with pet station, non-filtered non-refrigerated
b. Finish: evergreen,
c. Install per manufacturer's specifications.
d. See civil for fountain water connection and drainage.



6 ELKAY OUTDOOR DRINKING FOUNTAIN (#LK4420DB)

Not to Scale

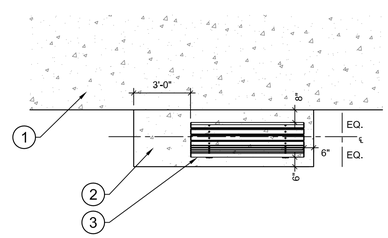


4 6' PICNIC TABLE BY MYTCOAT (MODEL# TRT06-B-01-000)

Not to Scale

Detail Callout Legend:

1. Concrete sidewalk, see civil
2. ADA Access
3. 6' Bench by Pilot Rock, see detail 3/L1.22



2 BENCH WITH ADA SPACE - PLAN

1/4" = 1'-0"

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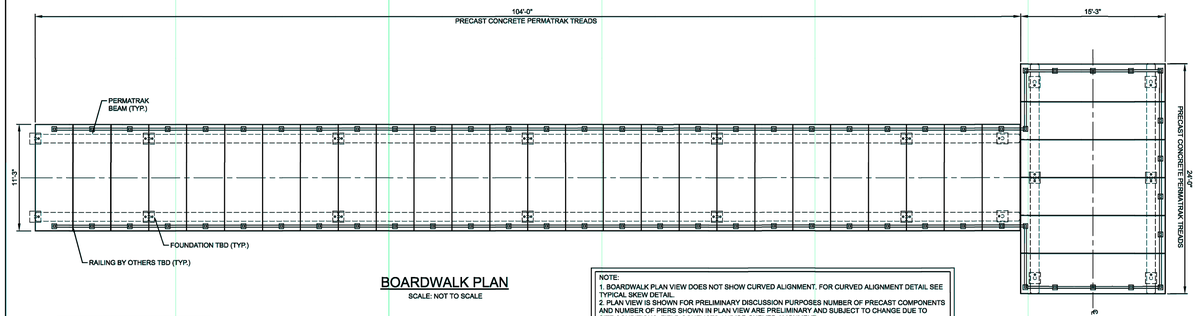
HACKBERRY PARK

60% CONSTRUCTION DOCUMENTS

L1.21 – Furniture Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 8 OF 17	

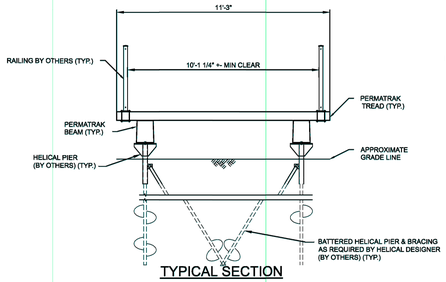


BOARDWALK PLAN

SCALE: NOT TO SCALE

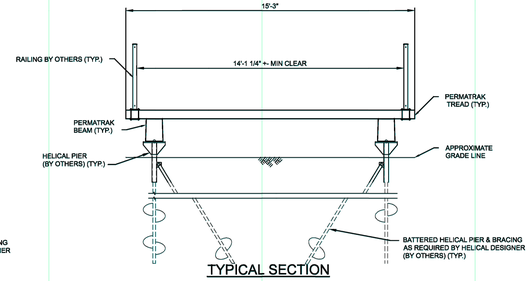
NOTE:
1. BOARDWALK PLAN VIEW DOES NOT SHOW CURVED ALIGNMENT. FOR CURVED ALIGNMENT DETAIL SEE TYPICAL SKEW DETAIL.
2. PLAN VIEW IS SHOWN FOR PRELIMINARY DISCUSSION PURPOSES NUMBER OF PRECAST COMPONENTS AND NUMBER OF PIERS SHOWN IN PLAN VIEW ARE PRELIMINARY AND SUBJECT TO CHANGE DUE TO SITE CONDITIONS, FIELD CONFLICTS AND/OR CURVED ALIGNMENT.

NOTES:
Boardwalk color: natural concrete
Boardwalk texture: Beachwood*



TYPICAL SECTION

SCALE: NOT TO SCALE



TYPICAL SECTION

SCALE: NOT TO SCALE

PERMATRAK NORTH AMERICA
8060 CORPORATE CENTER DRIVE
SUITE 100-J
CHARLOTTE, NC 28226
TBPE FIRM NO. 18057

Patented Product: U.S. Patent #5,906,084 #8,302,362 #9,522,505 #8,839,588 #9,096,975

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NO.	DATE	DESCRIPTION	BY:
6			
5			
4			
3			
2			
1			

PREPARED FOR: Burditt Land | Place

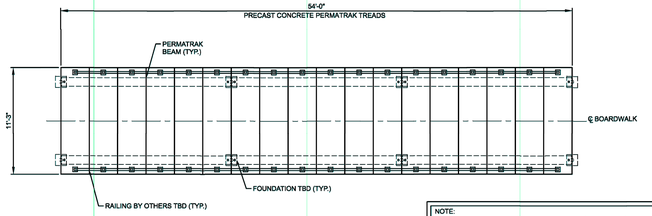
PRELIMINARY
NOT FOR CONSTRUCTION

PermaTrak® The Concrete Boardwalk Company
www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO

PROJECT TITLE: Hackberry Park BW
Houston, TX

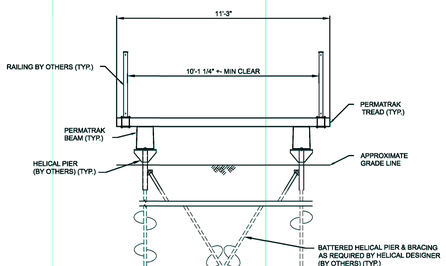
JOB NUMBER: 2025-2669
DATE: 4/2/2025
DESIGNED BY:
DRAWN BY: JTD
CHECKED BY:
SHEET NO. PT02



BOARDWALK PLAN

SCALE: NOT TO SCALE

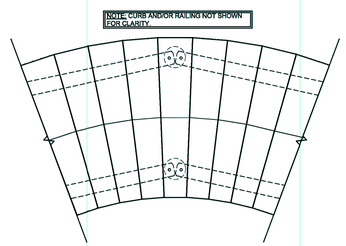
NOTE:
1. BOARDWALK PLAN VIEW DOES NOT SHOW CURVED ALIGNMENT. FOR CURVED ALIGNMENT DETAIL SEE TYPICAL SKEW DETAIL.
2. PLAN VIEW IS SHOWN FOR PRELIMINARY DISCUSSION PURPOSES NUMBER OF PRECAST COMPONENTS AND NUMBER OF PIERS SHOWN IN PLAN VIEW ARE PRELIMINARY AND SUBJECT TO CHANGE DUE TO SITE CONDITIONS, FIELD CONFLICTS AND/OR CURVED ALIGNMENT.



TYPICAL SECTION

SCALE: NOT TO SCALE

NOTE: CURB AND/OR RAILING NOT SHOWN FOR CLARITY.



TYPICAL SKEW DETAIL

PERMATRAK NORTH AMERICA
8060 CORPORATE CENTER DRIVE
SUITE 100-J
CHARLOTTE, NC 28226
TBPE FIRM NO. 18057

Patented Product: U.S. Patent #5,906,084 #8,302,362 #9,522,505 #8,839,588 #9,096,975

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NO.	DATE	DESCRIPTION	BY:
6			
5			
4			
3			
2			
1			

PREPARED FOR: Burditt Land | Place

PRELIMINARY
NOT FOR CONSTRUCTION

PermaTrak® The Concrete Boardwalk Company
www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO

PROJECT TITLE: Hackberry Park BW
Houston, TX

JOB NUMBER: 2025-2669
DATE: 4/2/2025
DESIGNED BY:
DRAWN BY: JTD
CHECKED BY:
SHEET NO. PT01

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

BURDITT
LAND | PLACE STUDIO
310 Longmire, Conroe, TX 77304
P: (936) 756-3041 | F: (936) 539-3240
www.burditt.com

SURVEYED BY: KUO
FB NO. 00000

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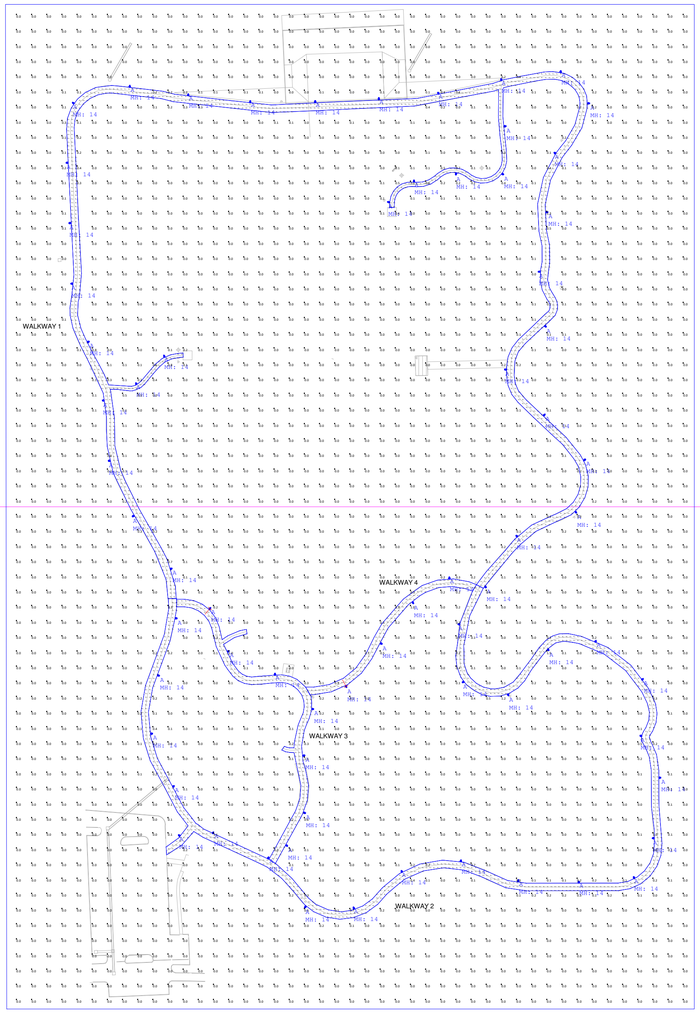
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK
60% CONSTRUCTION DOCUMENTS

L1.22 – PermaTrak Boardwalk

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 9 OF 17	



Plan View
Scale: 1 inch= 100 Ft.

LIGHTING PARAMETERS:

Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	[MANUFAC]	Description	Arr. Watts	Arr. Lum. Lumens	Mounting Height
	69	A	Single	0.900	First Light Technologies	IPL-PTM-XX-T2-NW-XX-XX	0	1155	14

Calculation Summary

Label	Units	Avg	Max	Min	Avg/Min	Max/Min	CV	UG	PtSpcLr	PtSpcTb	Grid Z
ENTIRE AREA	Fc	0.03	1.5	0.0	N.A.	N.A.	N.A.	N.A.	20	20	0
WALKWAY 1	Fc	0.66	1.94	0.15	4.40	12.93	N.A.	N.A.	5	5	0.01
WALKWAY 2	Fc	0.65	2.05	0.15	4.33	13.67	N.A.	N.A.	5	5	0.01
WALKWAY 3	Fc	0.71	1.88	0.15	4.73	12.53	N.A.	N.A.	5	5	0.01
WALKWAY 4	Fc	0.71	1.82	0.19	3.74	9.58	N.A.	N.A.	5	5	0.01

NO.	DATE	REVISON	APP.
1	07/14/25	60% CD Set	

LIGHTING
ASSOCIATES, INC.
John Stringfellow / jstringfellow@laihouston.com

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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310 Longmire, Conroe, TX 77304
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www.burditt.com

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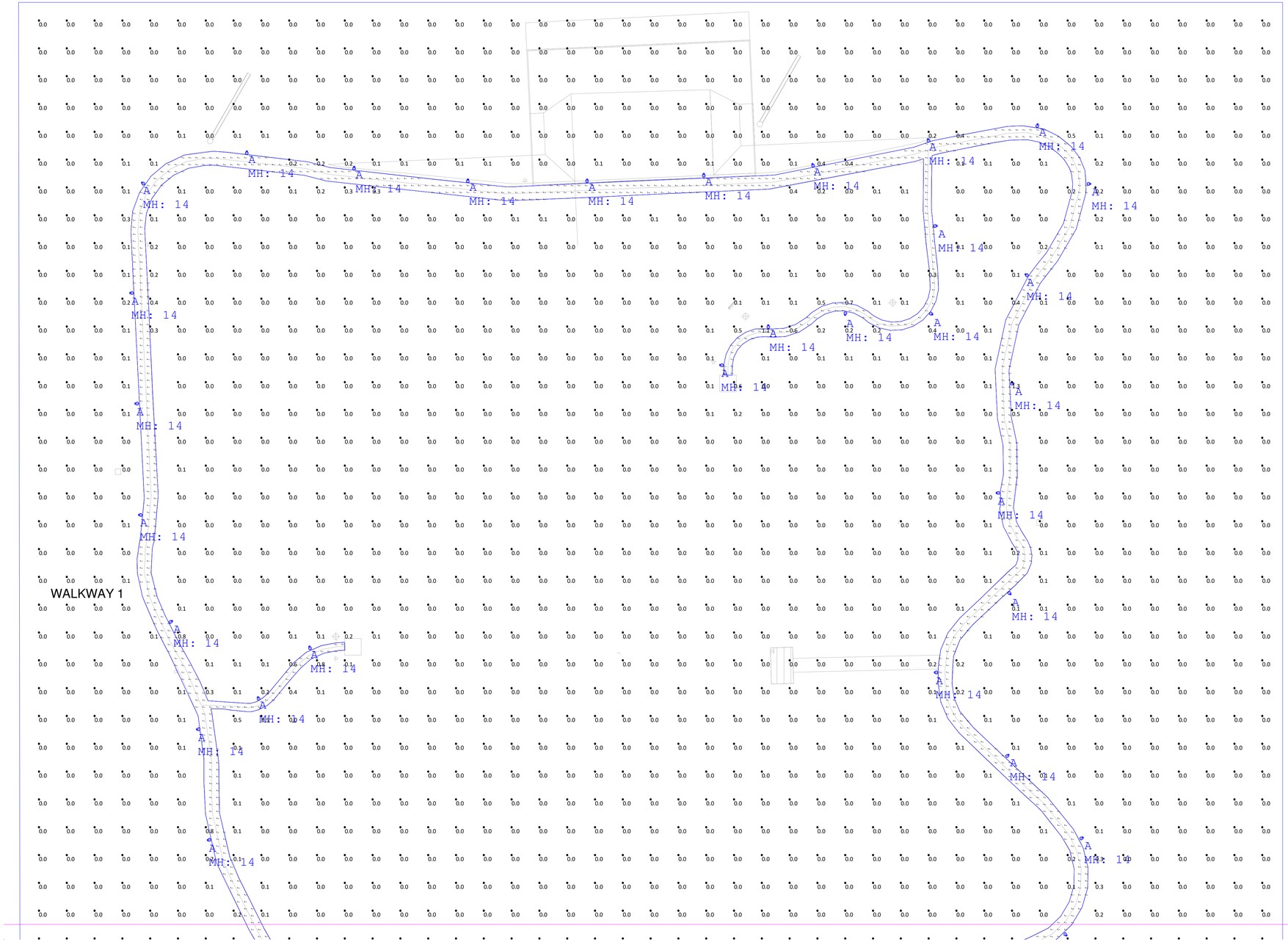
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK
60% CONSTRUCTION DOCUMENTS

L2.00 - Overall Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 10 OF 17	



Scale: 1 inch= 40 Ft.

NO.	DATE	REVISON	APP.
1	07/14/25	60% CD Set	

LIGHTING ASSOCIATES, INC.
John Stringfellow / jstringfellow@laihouston.com

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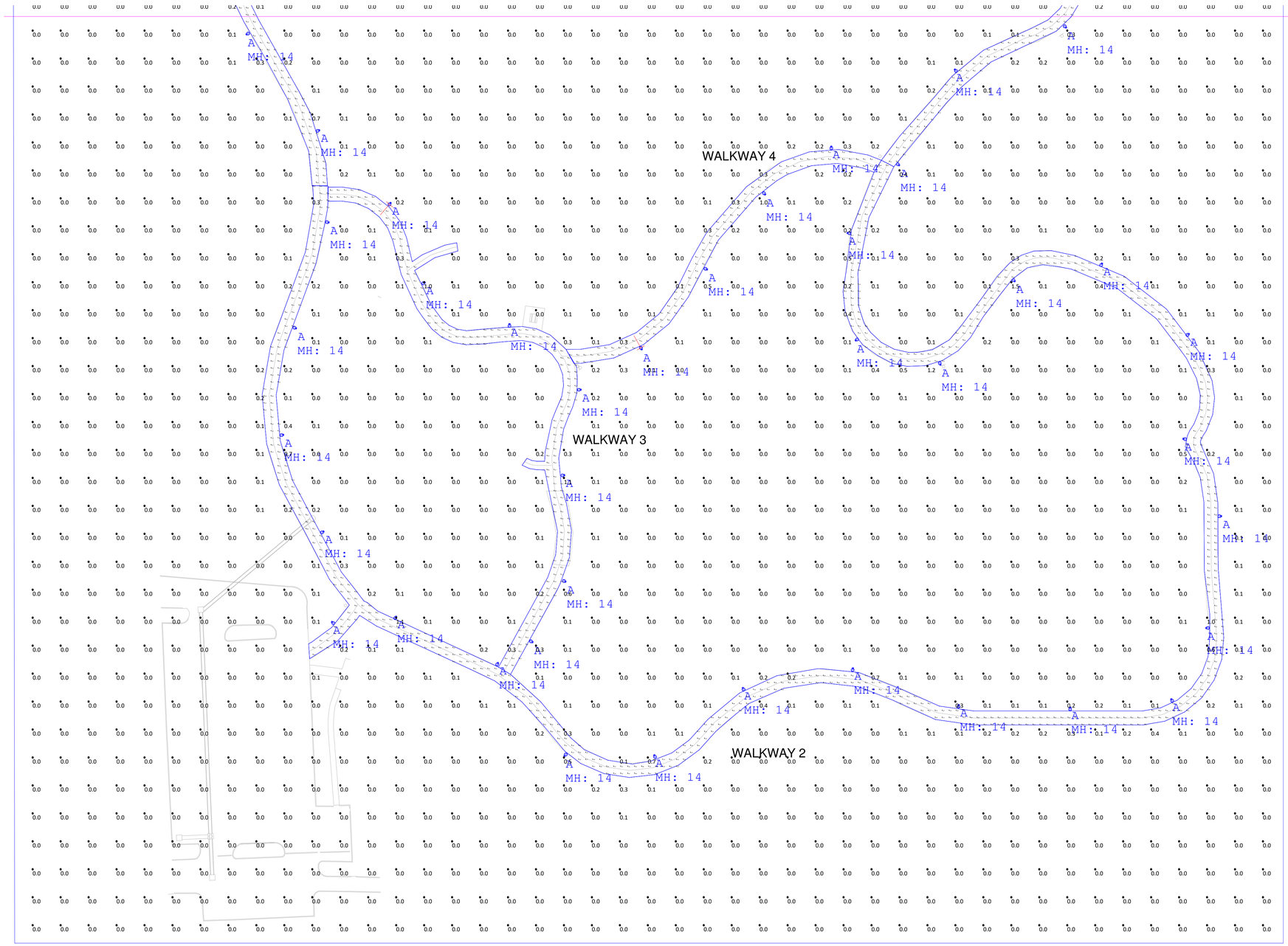
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK

60% CONSTRUCTION DOCUMENTS

L2.01- Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 11 OF 17	



Scale: 1 inch= 40 Ft.

NO.	DATE	REVISION	APP.
1	07/14/25	60% CD Set	

LIGHTING ASSOCIATES, INC.
John Stringfellow / jstringfellow@laihouston.com

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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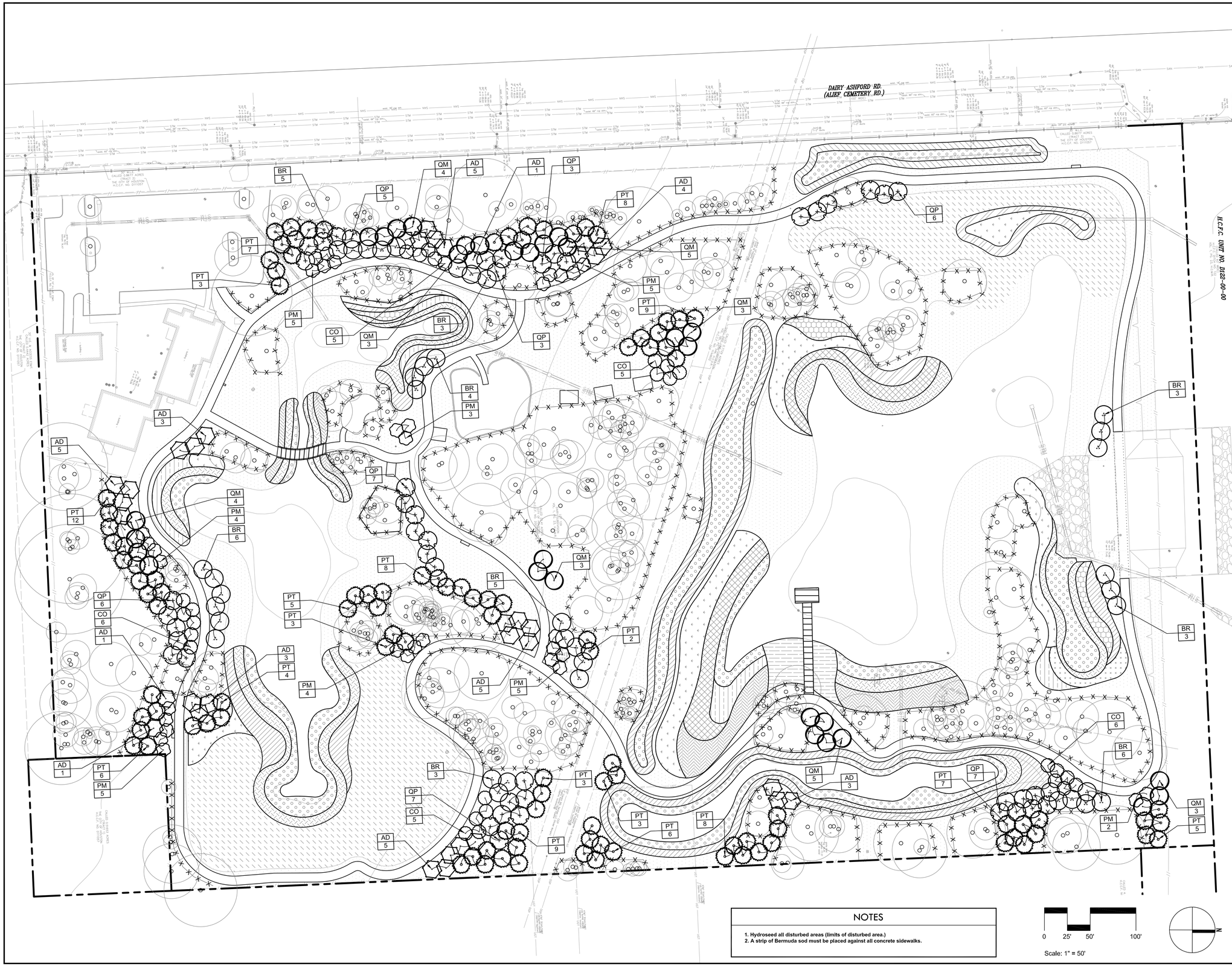
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK

60% CONSTRUCTION DOCUMENTS

L2.02 - Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 12 OF 17	



LEGEND

- Existing Tree
- Tree Protection Fence

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

PLANT SCHEDULE

SYMBOL	CODE	COMMON / BOTANICAL NAME
TREES		
	QM	Burr Oak Quercus macrocarpa
	AD	Drummond Red Maple Acer rubrum drummondii
	PT	Loblolly Pine Pinus taeda
	PM	Mexican Plum Prunus mexicana
	CO	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'
	BR	River Birch Betula nigra
	QP	Willow Oak Quercus phellos
SHRUB AREAS		
	AP	Aquatic Milkweed Asclepias perennis
	SL	Broadleaf Arrowhead Sagittaria latifolia
	AG	Bushy Bluestem Andropogon glomeratus
	CC	Cherokee Sedge Carex cherokeensis
	LP	Downy Lobelia Lobelia puberula
	TD	Eastern Gamagrass Tripsacum dactyloides
	HL	Halberdleaf Rosemallow Hibiscus laevis
	SC	Lizard's Tail Saururus cernuus
	PC	Pickerel Weed Pontederia cordata
	IV	Southern Blue Flag Iris Iris virginica
	CA	Swamp Lily Crinum americanum
SEED MIX		
	GC	Gulf Coast Prairie Seed Mix
SOD/HYDROSEED		
	CD	Bermuda Grass (Hydroseed) Cynodon dactylon

NOTES

1. Hydroseed all disturbed areas (limits of disturbed area.)
2. A strip of Bermuda sod must be placed against all concrete sidewalks.

0 25' 50' 100'

Scale: 1" = 50'

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK
60% CONSTRUCTION DOCUMENTS

L4.01 – Planting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 16 OF 17	

PLANT SCHEDULE

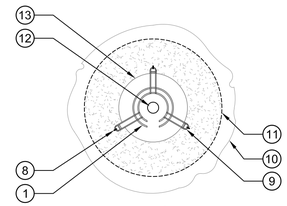
SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT.	CAL.	HEIGHT	SPREAD	REMARKS
TREES								
	QM	30	Burr Oak Quercus macrocarpa	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	AD	36	Drummond Red Maple Acer rubrum drummondii	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	PT	108	Loblolly Pine Pinus taeda	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	PM	33	Mexican Plum Prunus mexicana	45 Gal.	3" Min.	8' - 10' Min.	4' - 5' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	CO	27	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'	45 Gal.	3" Min.	8' - 10' Min.	4' - 5' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	BR	38	River Birch Betula nigra	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Multi- trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	QP	44	Willow Oak Quercus phellos	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	SIngle trunk. Disease free and in vigorous condition. Tree Stake Solutions.

SYMBOL	CODE	COMMON / BOTANICAL NAME	CONT.	HEIGHT	SPREAD	SPACING	REMARKS
SHRUB AREAS							
	AP	Aquatic Milkweed Asclepias perennis	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	SL	Broadleaf Arrowhead Sagittaria latifolia	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	AG	Bushy Bluestem Andropogon glomeratus	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	CC	Cherokee Sedge Carex cherokeensis	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	LP	Downy Lobelia Lobelia puberula	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	TD	Eastern Gamagrass Tripsacum dactyloides	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	HL	Halberdleaf Rosemallow Hibiscus laevis	3 gal.	24" Min.	24" Min.	30" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	SC	Lizard's Tail Saururus cernuus	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	PC	Pickerel Weed Pontederia cordata	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	IV	Southern Blue Flag Iris Iris virginica	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.
	CA	Swamp Lily Crinum americanum	1 gal.	12" Min.	12" Min.	12" o.c.	Full, symmetrical foliage. Disease free and in vigorous condition.

SYMBOL	CODE	COMMON / BOTANICAL NAME	SIZE	HEIGHT	SPREAD	SPACING	REMARKS
SEED MIX							
	GC	Gulf Coast Prairie Seed Mix	Seed				Native American Seed Company. Reference landscape specifications.
SOD/HYDROSEED							
	CD	Bermuda Grass (Hydroseed) Cynodon dactylon	---				Reference landscape specifications.

Detail Callout Legend:

1. Tree stake solutions root anchor
2. 3" Mulch saucer
3. Place top of root ball min. 1" - max 2" above existing grade
4. Container width dia. plus 24"
5. Backfill with 50% soil mix/ 50% native soil
6. Undisturbed soil
7. Break through and remove any existing "hardpan" as needed to provide positive percolation and drainage
8. "S" Hook
9. "U" Bracket
10. Tree Canopy
11. Limit of hole (container plus 24")
12. Tree Trunk
13. Limit of root ball

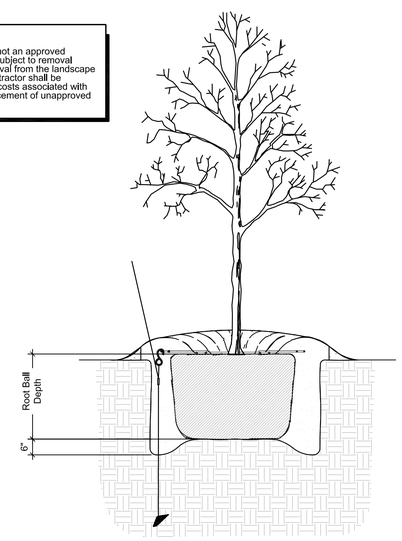


PLAN VIEW

ROOT ANCHOR ITEM#	ROOT BALL & CONTAINER SIZE	QUANTITY & ANCHOR SIZE
15-BG	10 / 15 Gallon or 17" root ball	3 - V68 Anchors
30-BG	20 / 39 Gallon or 22" root ball	3 - V68 Anchors
45/65-BG	45 / 65 Gallon or 27-30" root ball	3 - V68 Anchors

TREE STAKE SOLUTIONS, LLC.
9973 FM 521 Road
Rosharon, Texas 77583
www.treestakesolutions.com

NOTE:
1) Steel T-Posts are not an approved alternate and are subject to removal without prior approval from the landscape architect. The contractor shall be responsible for all costs associated with removal and replacement of unapproved materials.



SECTION

1 TREE STAKE SOLUTIONS
Not to Scale

NO.	DATE	REVISION	APP.
1	07/21/25	60% CD Set	

BURDITT
LAND | PLACE STUDIO
310 Longmire, Conroe, TX 77304
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SURVEYED BY: KUO
FB NO. 00000

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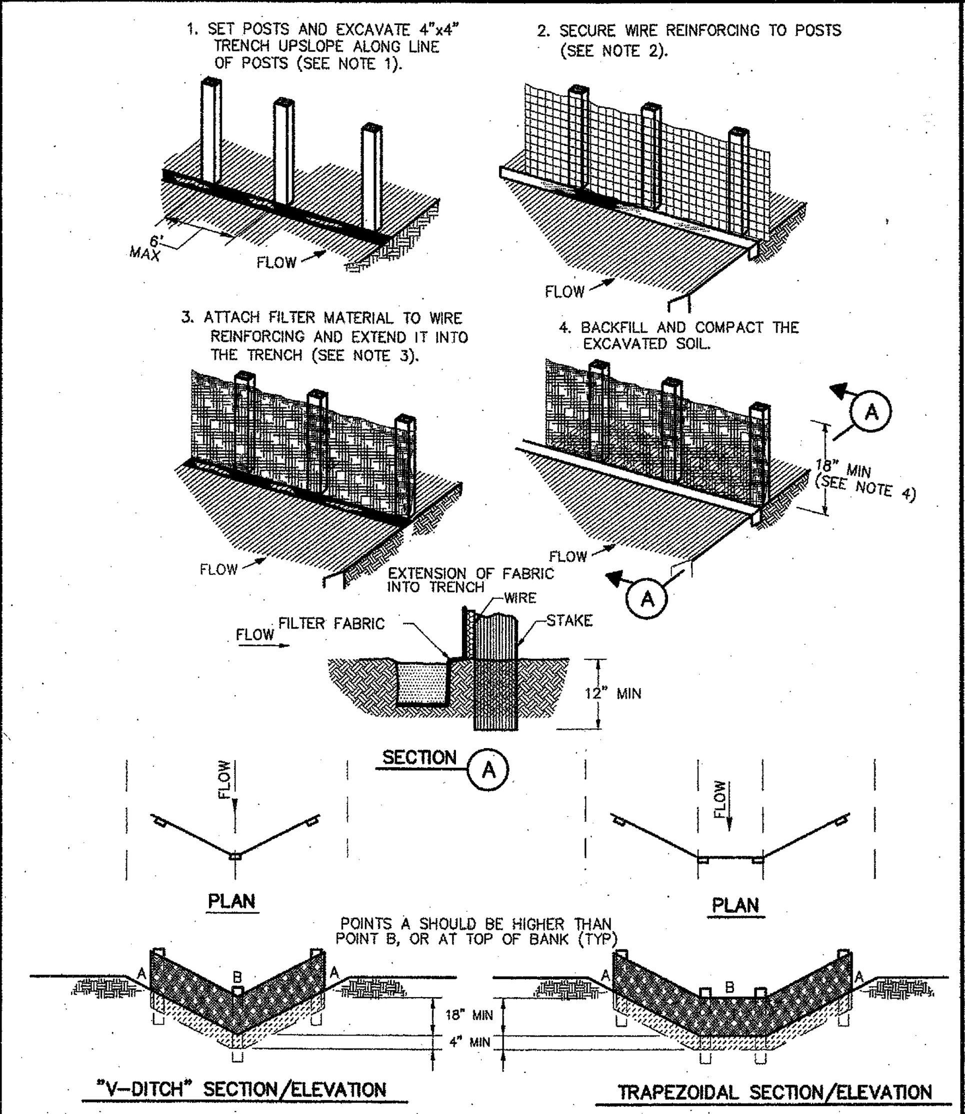
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

HACKBERRY PARK
60% CONSTRUCTION DOCUMENTS

L4.21 – Planting Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 17 OF 17	

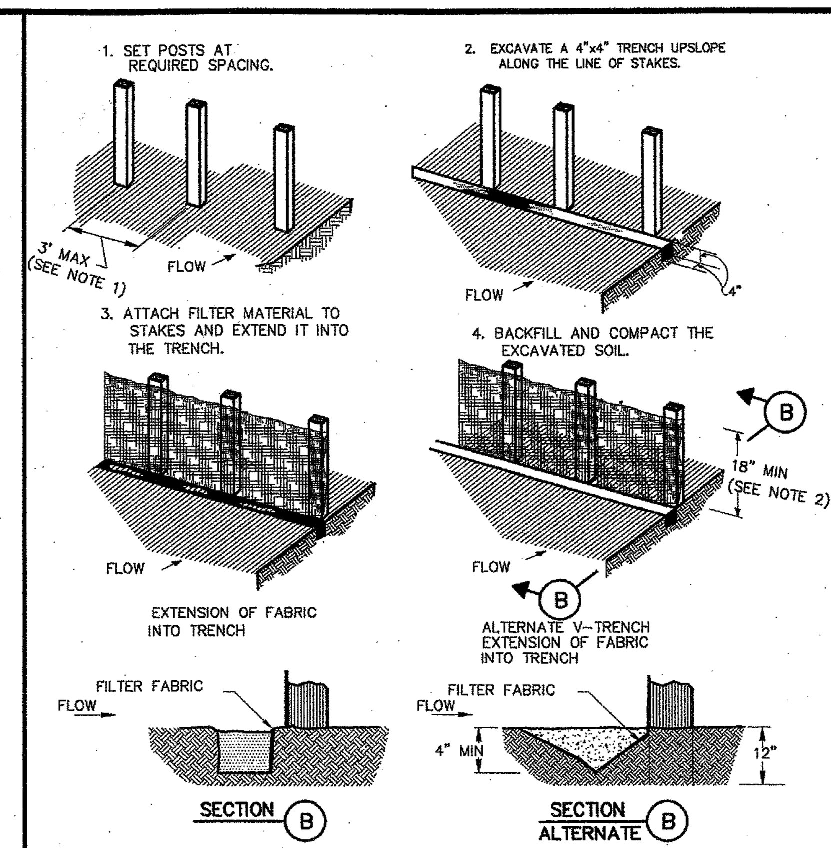


CONSTRUCTION NOTES:

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.

×—(RFB)—×
SYMBOL

REINFORCED FILTER FABRIC BARRIER

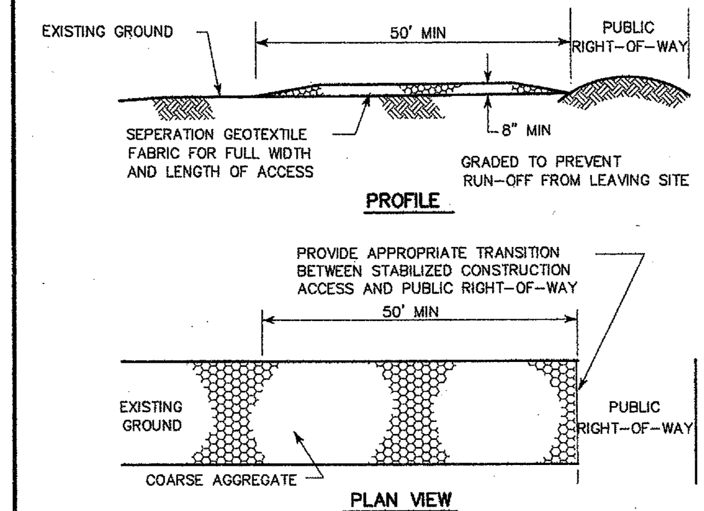


CONSTRUCTION NOTES:

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.

×—(FF)—×
SYMBOL

FILTER FABRIC BARRIER

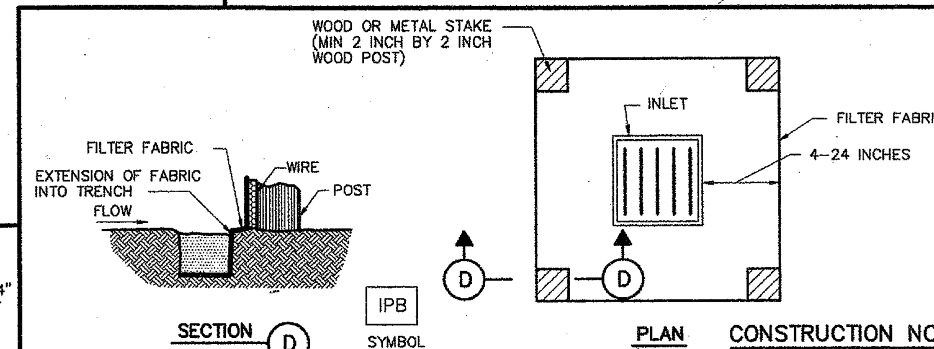


CONSTRUCTION NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

(SC)
SYMBOL

STABILIZED CONSTRUCTION ACCESS



SECTION D

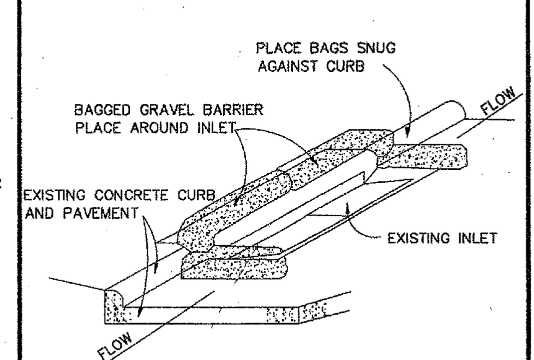
IPB
SYMBOL

PLAN

CONSTRUCTION NOTE:

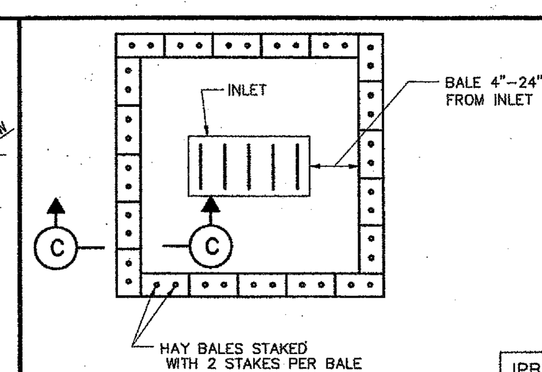
1. SEE CONSTRUCTION NOTES FOR RFB.

SILT FENCE INLET PROTECTION BARRIER



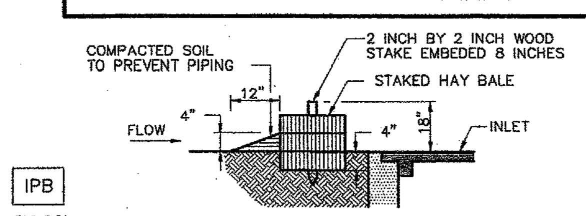
INLET PROTECTION BARRIER

(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



PLAN

IPB
SYMBOL



SECTION C

HAY BALE INLET PROTECTION BARRIER

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 01571-01

NO.	DATE	REVISION	APP.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

This document is released for interim review & not intended for construction, bidding or permit purposes by AMY E. DZIUK P.E. #133701

SURVEYED BY: KUO
FB NO. P-6328

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
STORM WATER POLLUTION PREVENTION PLAN SDETAILS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
(SCALE: NOT TO SCALE)	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 133 OF 144	

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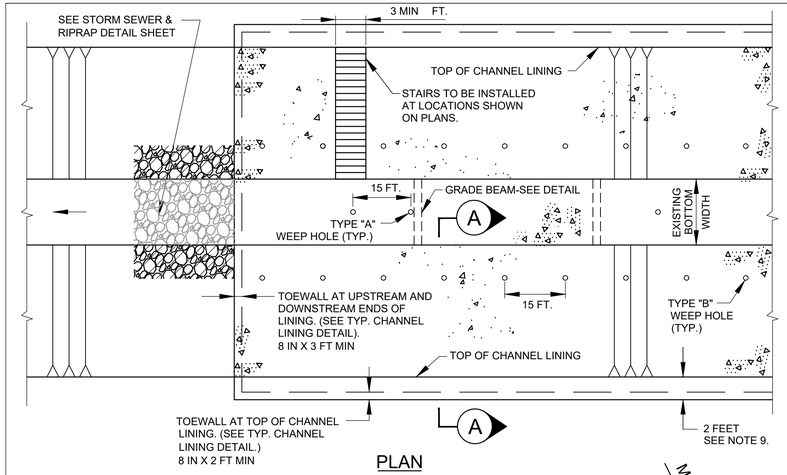
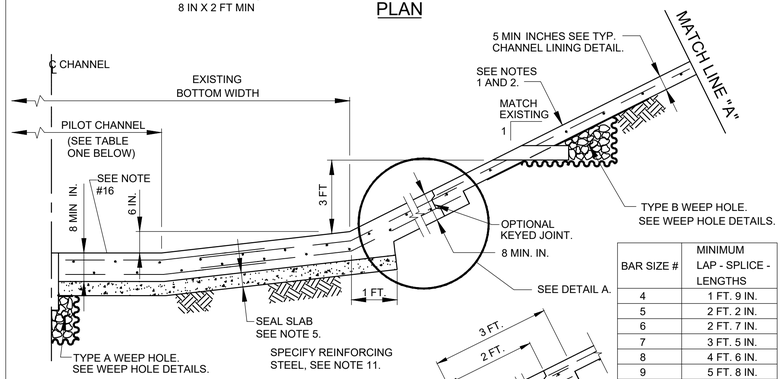
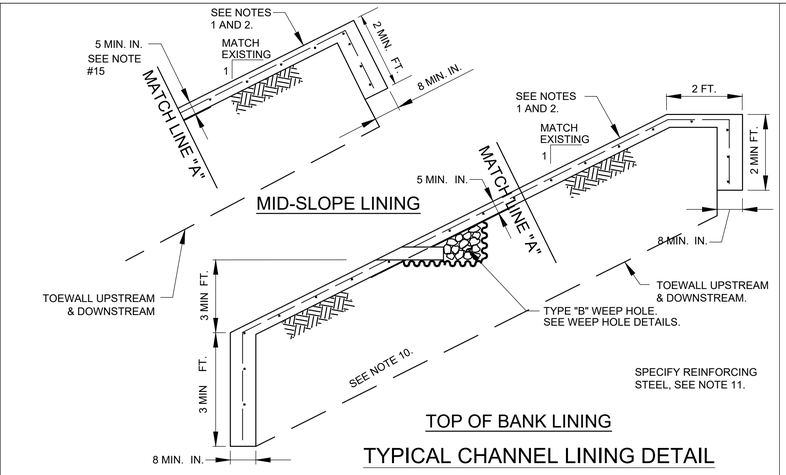


PLAN

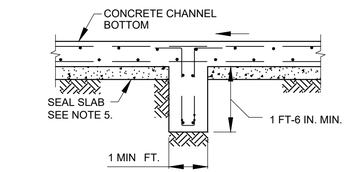


A HALF SECTION

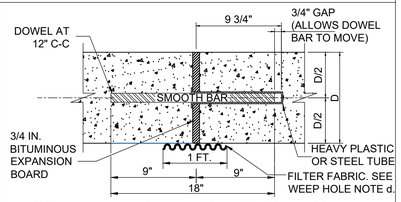
TYPICAL TRAPEZOIDAL CHANNEL LINING



TYPICAL CHANNEL LINING DETAIL



GRADE BEAM DETAIL
(SEE NOTE 6)

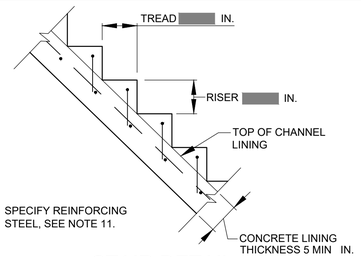


DOWEL TYPE EXPANSION JOINT

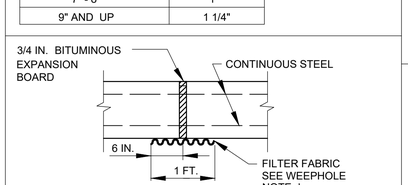
1. CENTER DOWEL HORIZONTALLY ON JOINT.
2. EXPANSION JOINT BARS SHALL BE HELD PARALLEL TO THE FINISHED CONCRETE SURFACE.

SMOOTH EXPANSION JOINT DOWELS

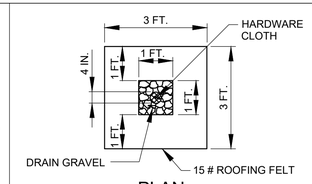
CONCRETE THICKNESS (D)	DOWEL DIA.
5" - 6"	3/4"
7" - 8"	1"
9" AND UP	1 1/4"



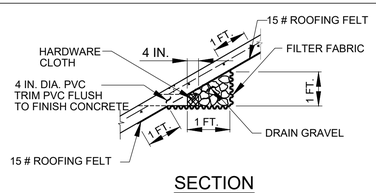
STAIR DETAIL



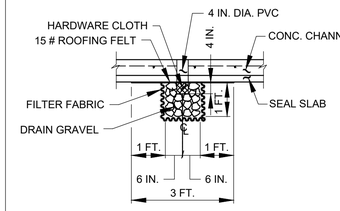
CONSTRUCTION JOINT



PLAN

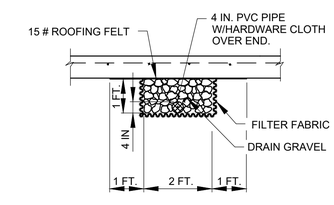


SECTION



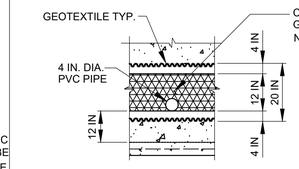
SECTION

TYPE "A" WEEP HOLE

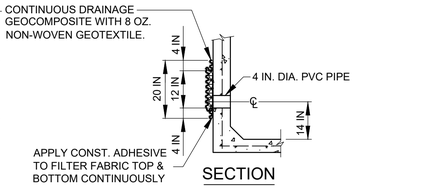


SECTION

TYPE "B" WEEP HOLE



ELEVATION



SECTION

TYPE "C" WEEP HOLE

WEEP HOLE NOTES:

1. MATERIALS:
   a. PIPE: 4 INCH DIA. SCH. 40 PVC
   b. DRAIN GRAVEL: SEE NOTE 14

SIEVE SIZE	% FINER
1 IN	100
3/4 IN	70 - 100
3/8 IN	20 - 90
NO. 4	0 - 60
NO. 8	0

   c. HARDWARE CLOTH: MIN. OPEN 1/8 IN, MAX. OPEN 1/4 IN
   d. FILTER FABRIC: NON-WOVEN GEOTEXTILE

MIN. AOS	SIEVE NO.	100 MIN
MAX. AOS	SIEVE NO.	70 MAX
WEIGHT	OZ/SY	6 OZ. MIN

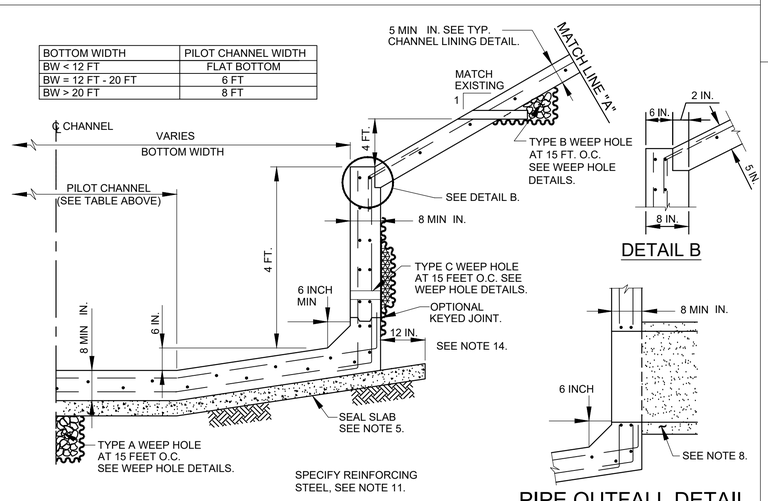
2. CUT WEEP HOLE PIPE FLUSH WITH CONCRETE SURFACE.
3. TYPE "A" AND "C" WEEP HOLES FOR TYPICAL RECTANGULAR CONCRETE CHANNEL LINING. TO BE STAGGERED.

WEEP HOLE DETAILS

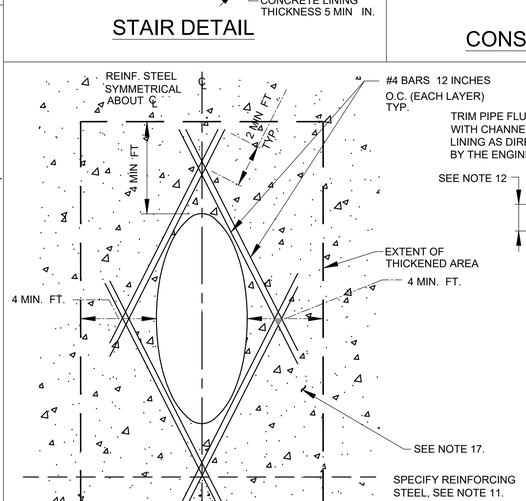
NOTES:

1. STRUCTURAL CONCRETE FOR CONCRETE CHANNEL LINING AND NONSTRUCTURAL CONCRETE FOR SEAL SLAB SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 03310-CONCRETE.
2. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 03310-CONCRETE.
3. EXCAVATION AND BACKFILL FOR CONCRETE CHANNEL LINING SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02316-STRUCTURAL EXCAVATING AND BACKFILLING.
4. RIPRAP SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02378-RIPRAP AND GRANULAR FILL.
5. A NON-REINFORCED 4 INCH MINIMUM NONSTRUCTURAL CONCRETE SEAL SLAB IS REQUIRED BENEATH THE BOTTOM OF CONCRETE CHANNELS.
6. STRUCTURAL CONCRETE GRADE BEAMS SHALL BE INSTALLED TRANSVERSELY AT 20 FOOT MAX. CENTERS ON CONCRETE LINED CHANNELS WITH BOTTOM WIDTHS EQUAL TO OR GREATER THAN 20 FEET.
7. JOINTS:
   A. PLACE CONSTRUCTION JOINT IN CONCRETE LOW-FLOW, TRAPEZOIDAL BOTTOM SECTIONS AND SLOPES AT 20 FOOT MIN., SPACING CONTINUOUSLY THROUGH CHANNEL LINING.
   B. PLACE EXPANSION JOINT IN CONCRETE LOW-FLOW, TRAPEZOIDAL BOTTOM SECTIONS, AND SLOPES AT 60 FOOT MAX. SPACING CONTINUOUSLY THROUGH CHANNEL LINING.
8. CEMENT STABILIZED SAND SHALL BE PROVIDED AND PLACED IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02321 -CEMENT STABILIZED SAND.
9. DELETE 2 FT FLAT EDGE WHEN LINING IS BELOW TOP OF BANK. SEE MID-SLOPE LINING DETAIL.
10. UPSTREAM AND DOWNSTREAM TOE WALL 3 FOOT MIN. DEPTH AT BOTTOM OF SLOPE AND 8 INCHES THICK.
11. MINIMUM #4 BARS (GRADE 60) AT 12 INCHES ON CENTER EACH WAY.
12. VARIES BASED ON SIDE SLOPE. MINIMUM 1 FOOT VERTICAL AT TOE OF SLOPE.
13. FOR RCP OUTFALLS 48 INCHES DIA. AND LARGER, USE HEADWALL/WINGWALL DETAIL AS CALLED FOR ON PLANS.
14. FOR STRUCTURAL BACKFILL MATERIAL PER SPECIFICATION SECTION 2316, USE CONCRETE COARSE AGGREGATE ASTM C33 SIZE NO. 467. LIMESTONE AND RECYCLED CONCRETE NOT ALLOWED.
15. CONCRETE CHANNEL LINING PLACED ON CHANNEL OR BASIN SIDE SLOPES MAY BE 5 INCHES OR 6 INCHES IN THICKNESS. THE IFC PLAN SETS FOR EACH SPECIFIC PROJECT SITE WILL CALL OUT THE THICKNESS FOR THAT SPECIFIC PROJECT SITE.
16. CONCRETE CHANNEL LINING PLACED IN CHANNEL OR BASIN BOTTOMS MAY BE 8 INCHES, 10 INCHES OR 12 INCHES IN THICKNESS. THE IFC PLAN SETS FOR EACH SPECIFIC PROJECT SITE WILL CALL OUT THE THICKNESS FOR THAT SPECIFIC PROJECT SITE.
17. THE EXTENT OF THICKENED AREA AROUND PIPE OUTFALLS WILL BE PAID AS THE SPECIFIED CHANNEL LINING THICKNESS FOR THE ADJACENT CHANNEL LINING.

BOTTOM WIDTH	PILOT CHANNEL WIDTH
BW < 12 FT	FLAT BOTTOM
BW = 12 FT - 20 FT	6 FT
BW > 20 FT	8 FT

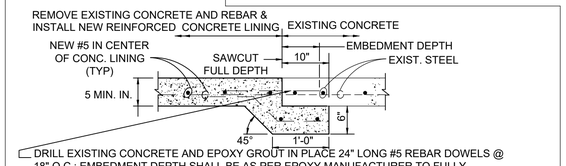


TYPICAL RECTANGULAR CONCRETE CHANNEL LINING HALF SECTION



WHEN PLACING THROUGH EXISTING CHANNEL LINING, SAW-CUT FULL DEPTH AND REMOVE 4 FEET ALL AROUND.

PIPE OUTFALL DETAILS
(FOR RCP OUTFALLS 42 INCH DIA. AND LESS)



CONNECTION TO EXISTING CONCRETE

REV	DESCRIPTION	DATE	APPR

HCFCD PROJECT ID# D122-00-00

CONCRETE CHANNEL LINING REPAIRS-NORTH

CONCRETE CHANNEL LINING DETAILS

PREPARED: KN | CHECKED: JCS | APPROVED: HS

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9571

HARRIS COUNTY FLOOD CONTROL DISTRICT
9900 Northwest Freeway
Houston, Texas 77092

DATE: SEPTEMBER 2024
SCALE: NTS

This document is released for interim review & not intended for construction, bidding or permit purposes by DAVID RANKIN P.E. #98312

SHEET NUMBER
134 OF 144

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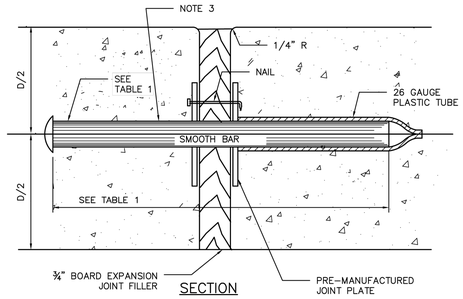
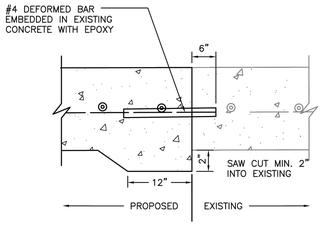


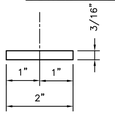
SECTION

DOWEL TYPE EXPANSION JOINT



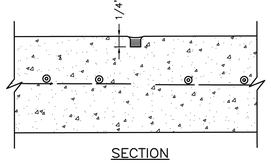
SECTION

SIDEWALK TO EXISTING SIDEWALK



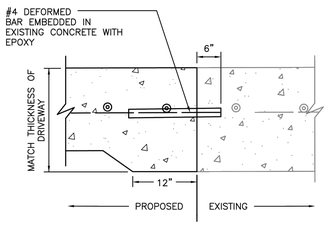
PLAN VIEW

JOINT PLATE



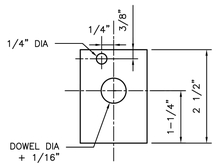
SECTION

CONTROL JOINT



SECTION

SIDEWALK TO EXISTING DRIVEWAY



ELEVATION VIEW

JOINT PLATE

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 3 FEET MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN A 2 INCH MINIMUM COVER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

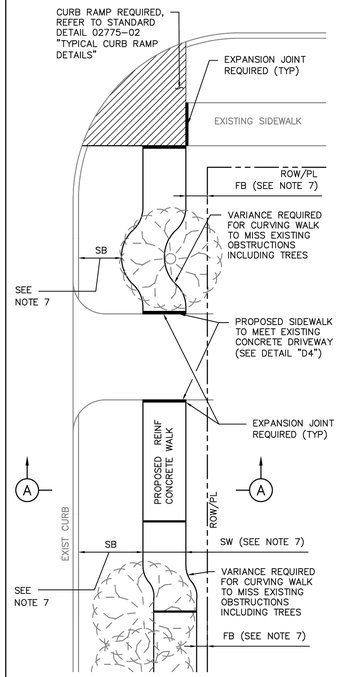
APPROVED BY:

DocuSigned by: Sukul Tanwar — CITY ENGINEER

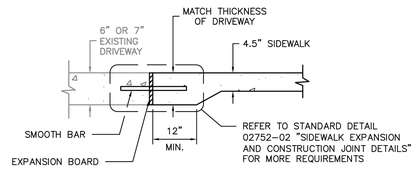
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02752-02



PLAN VIEW



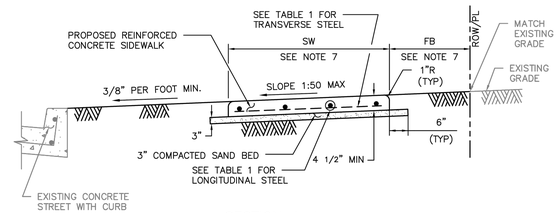
DETAIL D4

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: Sukul Tanwar — CITY ENGINEER

DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02775-01

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
PAVING DETAILS
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
(SCALE: NOT TO SCALE)	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 135 OF 144	

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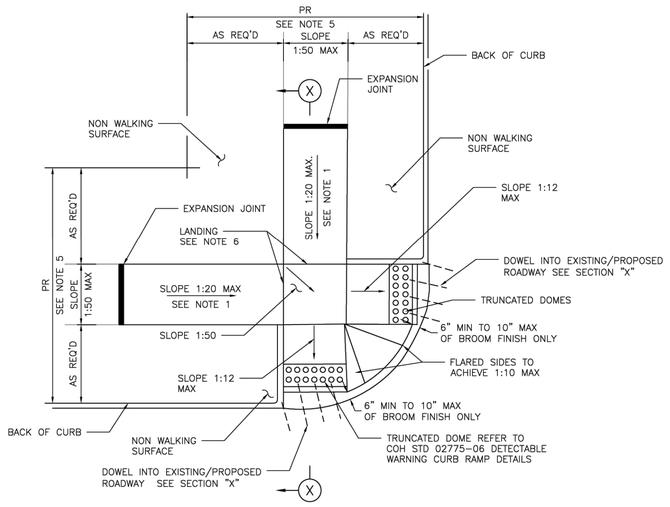
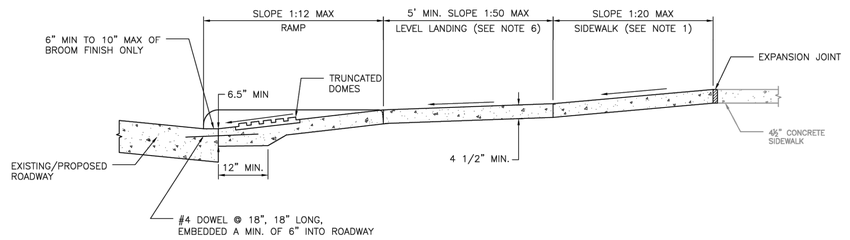


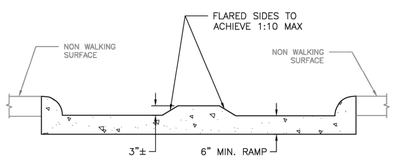
STREETS WITH NON- WALKING SURFACE BEHIND CURB
SEE NOTE-7



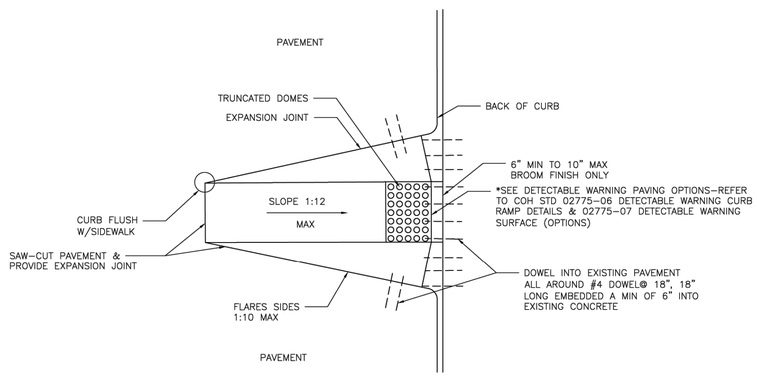
SECTION X-X

NOTES:

1. REPLACE EXISTING SIDEWALK FROM LEVEL LANDING AS NECESSARY TO ACHIEVE 1:20 SLOPE
2. BROOM FINISH IS MEASURED FROM FACE OF CURB.
3. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
4. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
5. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR) WIDTH.
6. MINIMUM 5'x5' LANDING PAD ACCORDING TO ADA REQUIREMENTS. WHEN THE APPROACHING SIDEWALK IS WIDER THAN 5', THE LANDING PAD AND RAMP WIDTH MUST MATCH THE SIDEWALK WIDTH.
7. FOR STREETS WITH WALKABLE SURFACES IMMEDIATELY BEHIND THE CURB A FLARE IS REQUIRED ON BOTH SIDES OF THE RAMP.



ELEVATION
LOOKING UP RAMP



CURB RAMP CONSTRUCTION FOR EXISTING PAVEMENT

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar 8EFB80C841F5478...	DocuSigned by: KHANG NGUYEN 85A39EFDA25B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock 4B0D41BB7B5A4EA...	
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

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

SURVEYED BY: KUO
FB NO. P-6328

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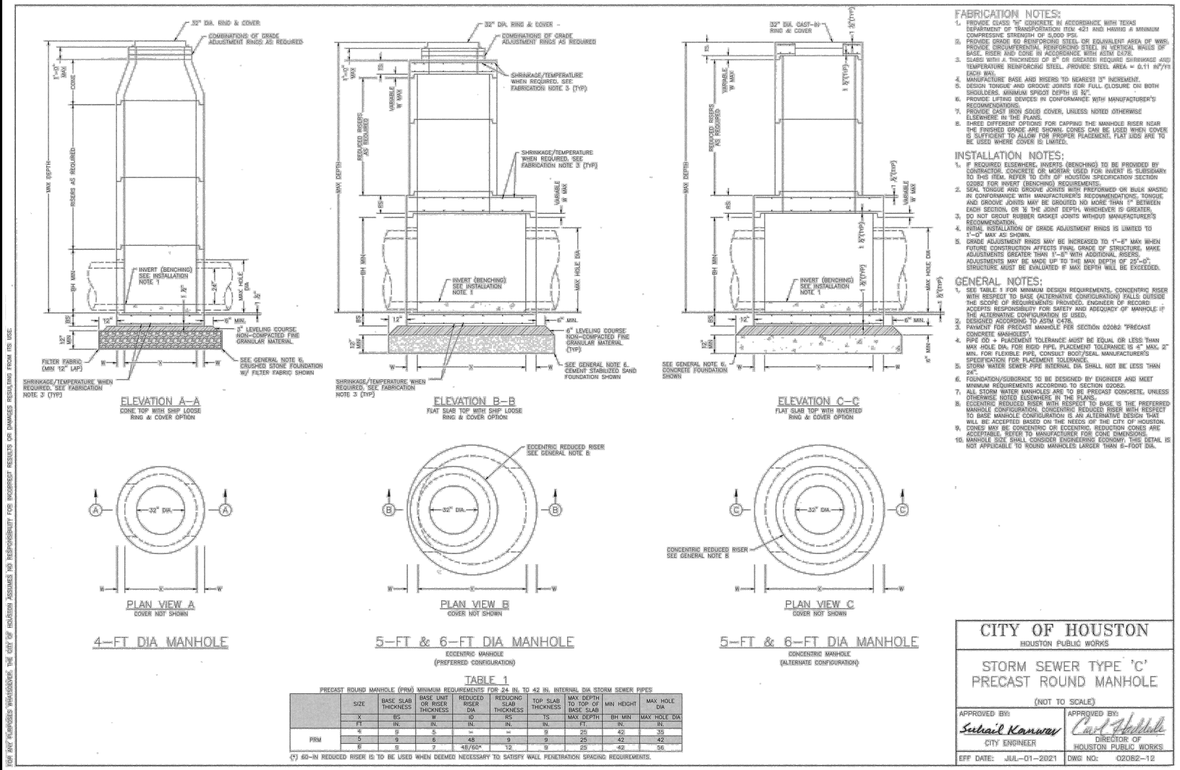
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
PAVING DETAILS
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 136 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|PLOTTED: 7/23/2025 9:57 AM

FILE PATH: C:\projectwise\dec\workdir\{del.gamboa\d0203197\DET-TYPICAL CURB RAMP DETAILS.dwg



FABRICATION NOTES:

1. PROVIDE CLASS "B" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF RISERS WITH AND CONE IN ACCORDANCE WITH ASTM C478.
3. SHALL WITH A THICKNESS EQUAL TO OR GREATER THAN REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN²/FT EACH WAY.
4. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS 3/4".
6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER FOR CAPPING THE MANHOLE WHEN RISER HEIGHT EXCEEDS GRADE AND SHOWS CONES MAY BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT SLABS ARE TO BE USED WHERE COVER IS LIMITED.

INSTALLATION NOTES:

1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO THIS ITEM. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02060 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR TO THE JOINT DEPTH, WHICHEVER IS GREATER. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATIONS.
3. MAXIMUM NUMBER OF GRADE ADJUSTMENT RINGS IS LIMITED TO FIVE (5), AS SHOWN.
4. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'–0" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'–0" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 2'5"–0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:

1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
2. DESIGNED ACCORDING TO ASTM C478.
3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02060 "PRECAST CONCRETE MANHOLES".
4. PIPE HOLE PLACEMENT TOLERANCE MUST BE EQUAL OR LESS THAN 2" FOR RIGID PIPE. PLACEMENT TOLERANCE IS 4" MAX. 2" MIN. FOR FLEXIBLE PIPE, CONSULT MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE.
5. STORM WATER SEWER PIPE INTERNAL DIA. SHALL NOT BE LESS THAN 24".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02060.
7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC CONE FOR 5'–0" DIA. MANHOLE BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON. CONES MAY BE CONCENTRIC OR ECCENTRIC. REDUCTION CONES ARE ACCEPTABLE. REFER TO MANUFACTURER FOR CONE DIMENSIONS.
9. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO ROUND MANHOLES LARGER THAN 6'–0"OUT DIA.

TABLE 1

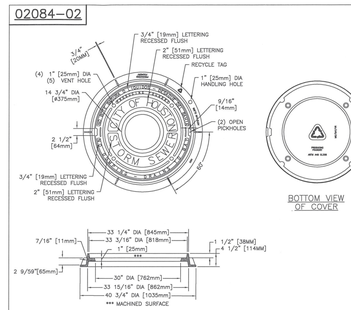
PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES

	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX. DEPTH TO TOP OF BASE SLAB MAX. DEPTH	MIN HEIGHT	MAX. HOLE DIA
	FT	IN.	IN.	IN.	IN.	IN.	FT	IN.	IN.
	4	9	8	∞	∞	9	25	42	39
PRM	5	9	8	48	9	9	25	42	42
	6	9	8	48/66*	12	9	25	42	56

(*) 66–IN REDUCED RISER IS TO BE USED WHEN DEEMED NECESSARY TO SATISFY WALL PENETRATION SPACING REQUIREMENTS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL–01–2021	DWG NO: 02082–12

02084–02

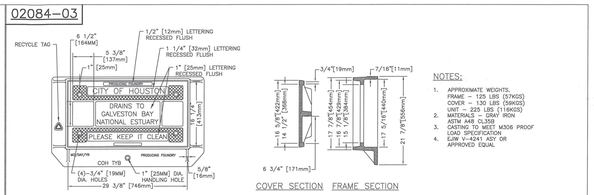


NOTES:

1. APPROXIMATE WEIGHTS:
   FRAME – 170 LBS (77KGS)
   COVER – 270 LBS (123KGS)
   UNIT – 440 LBS (200KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–1420 ADT OR APPROVED EQUAL

STORM SEWER MANHOLE FRAME AND COVER
NTS

02084–03

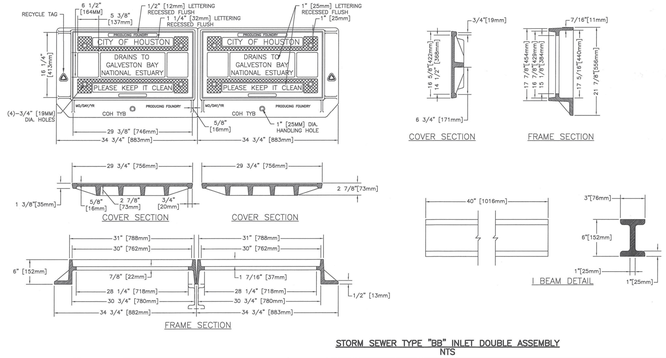


NOTES:

1. APPROXIMATE WEIGHTS:
   FRAME – 125 LBS (57KGS)
   COVER – 130 LBS (59KGS)
   UNIT – 255 LBS (116KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–4241 ADT OR APPROVED EQUAL

STORM SEWER TYPE "B" INLET ASSEMBLY
NTS

02084–04



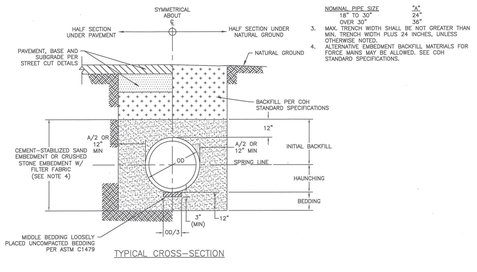
NOTES:

1. APPROXIMATE WEIGHTS:
   FRAME – 125 LBS (57KGS)
   COVER – 120 LBS (55KGS)
   I BEAM – 107 LBS (49KGS)
   UNIT – 597 LBS (271KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–4243 ADT OR APPROVED EQUAL

STORM SEWER TYPE "BB" INLET DOUBLE ASSEMBLY
NTS

FIRM INFORMATION	ENGINEER'S SEAL
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STORM SEWER 02084–02 THROUGH 04	
APPROVED BY: CITY ENGINEER	APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR	
EFFECTIVE DATE: JUL–01–2019 FOR CITY OF HOUSTON USE ONLY	
SHEET NO.	

02317–03



NOTES:

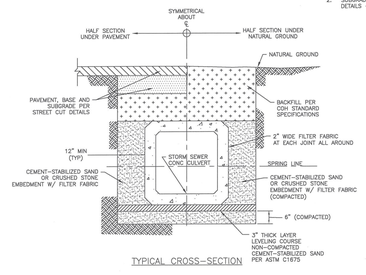
1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN. TRENCH* WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

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.

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–05

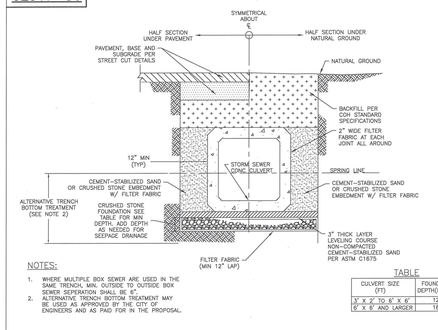


NOTES:

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.

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–06



NOTES:

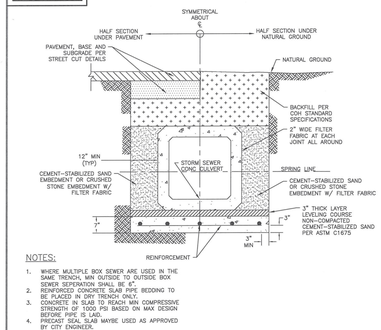
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. REINFORCED CONCRETE SLAB PIPE BEDDING TO BE PLACED IN DRY TRENCH ONLY.
3. CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
4. PRECAST SEAL SLAB MAYBE USED AS APPROVED BY CITY ENGINEER.

TABLE

CULVERT SIZE (FT)	FOUNDATION DEPTH(INCHES)
3' X 2' TO 6' X 6'	12
8' 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: DIRECTOR	
EFFECTIVE DATE: JUL–01–2019 FOR CITY OF HOUSTON USE ONLY	
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GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9970

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
STORM SEWER DETAILS (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M–430296–0018–3	
DRAWING SCALE	
(SCALE: NOT TO SCALE)	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 137 OF 144	

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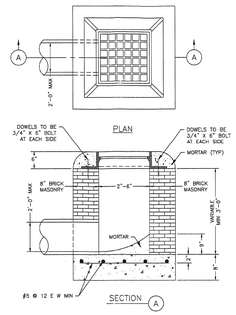
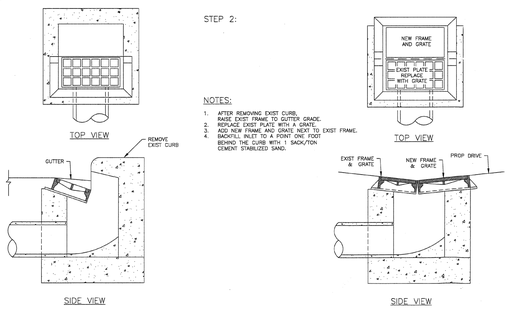
02632-01



COH IS PHASING OUT BRICK, NEW DETAILS TO BE POSTED END OF 2019

STORM SEWER TYPE "A" GRATE INLET
NTS

02632-03



STORM SEWER TYPE "B" INLET RELOCATION
NTS

FIRM INFORMATION | ENGINEER'S SEAL

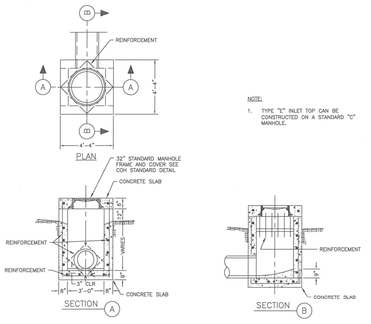
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-01 AND 03

APPROVED BY: CITY ENGINEER
APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO. XX OF XX

02632-09



STORM SEWER TYPE "E" INLET
NTS

02632-10

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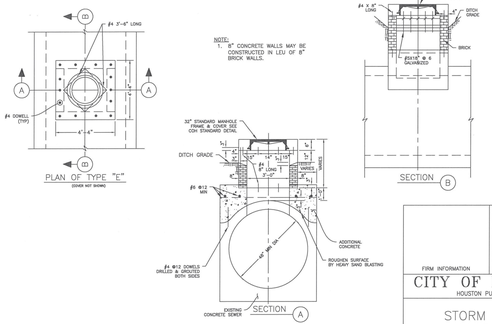

STORM SEWER TYPE "E" INLET ON EXIST MONOLITHIC CONC SEWERS OF 48" DIA & GREATER
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-09
AND 02632-10

APPROVED BY: CITY ENGINEER
APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
EFFECTIVE DATE: JUL-01-2019
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GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
STORM SEWER DETAILS (SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
(SCALE: NOT TO SCALE)	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 138 OF 144	

PLOT STYLE: Coh_ctb_230809 - MOD.ctb|LOTTED: 7/23/2025 9:57 AM
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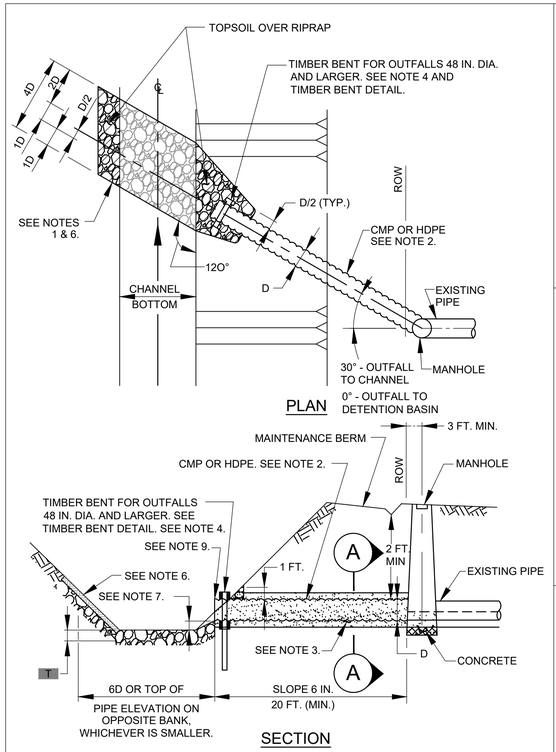
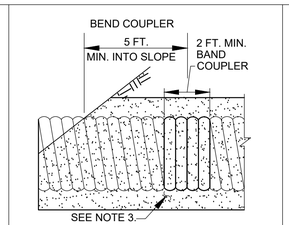
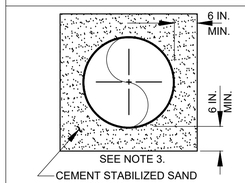


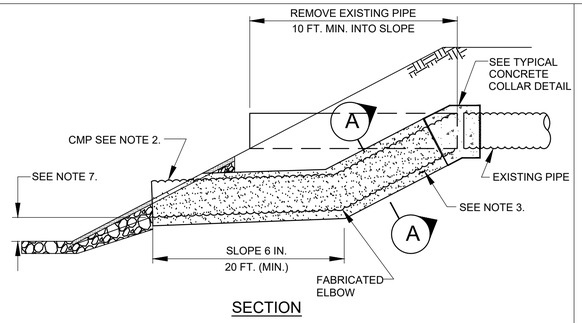
TYPICAL STORM SEWER OUTFALL STRUCTURE LAYOUT



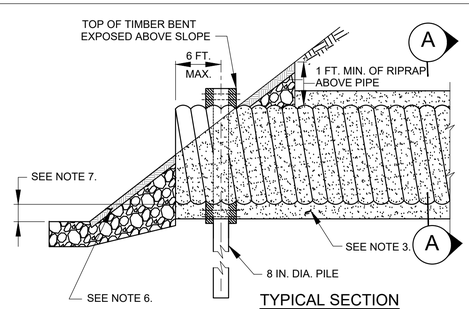
CMP BAND COUPLER DETAIL



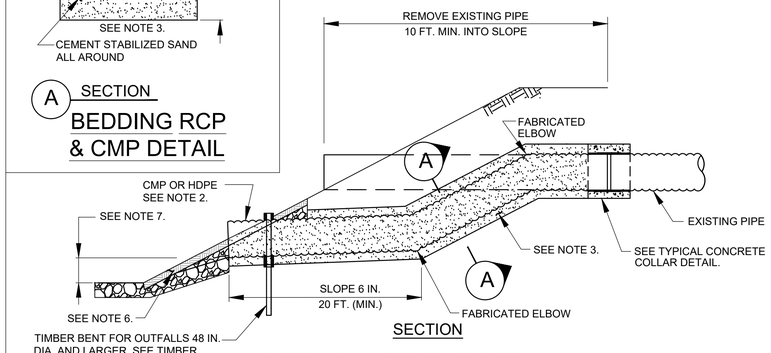
BEDDING RCP & CMP DETAIL



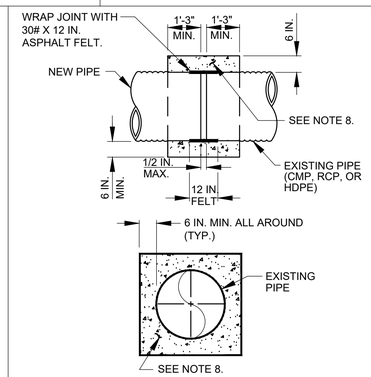
PIPE ADJUSTMENT DETAIL 24-INCH TO 42-INCH DIAMETER



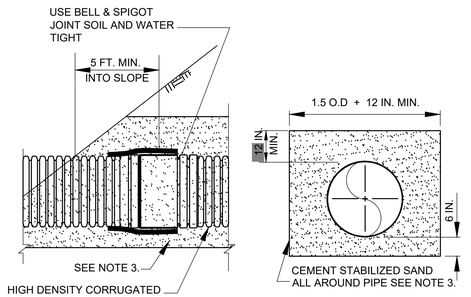
TIMBER BENT DETAIL FOR 48-INCH CMP; 36-INCH HDPE AND LARGER OUTFALLS

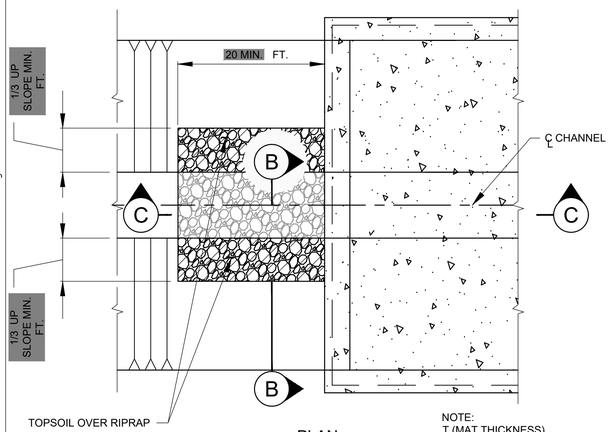


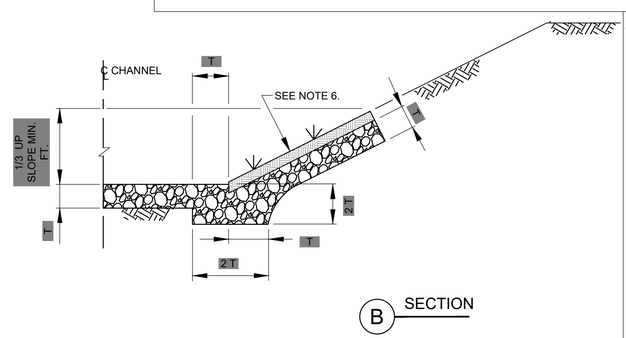
PIPE ADJUSTMENT DETAIL 48-INCH AND LARGER DIAMETER



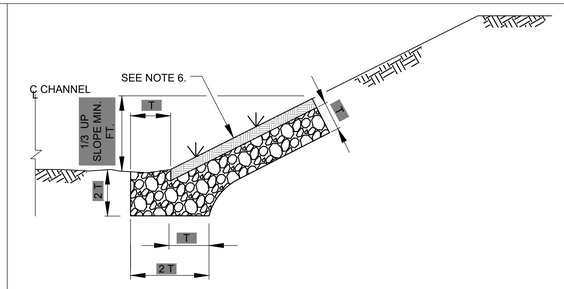
CONCRETE COLLAR DETAIL







TYPICAL RIPRAP AT CONCRETE CHANNEL LINING



TYPICAL RIPRAP LINING DETAIL-SIDE SLOPE ONLY

PIPE OUTFALL IN CHANNELS

BOTTOM WIDTH	PIPE OUTLET INVERT
6 FEET ≤ BW ≤ 20 FT	1 FOOT ABOVE FLOWLINE *
20 FEET < BW ≤ 60 FT	AT TOE OF SLOPE *
BW > 60 FT	AT TOE OF SLOPE *

* OR 1 FOOT ABOVE NORMAL WATER LEVEL, WHICHEVER IS HIGHER

CORRUGATED GALVANIZED STEEL PIPE (TYPE I)

2-2/3" X 1/2" CORRUGATION					3" X 1" & 5" X 1" CORRUGATION			
PIPE DIA. (in.)	MIN. FILL* (in.)	SHEET THICKNESS gage	(in.)	(mm)	MIN. FILL* (in.)	SHEET THICKNESS gage	(in.)	(mm)
24	12	16	.064	1.63	-	-	-	-
30	12	16	.064	1.63	-	-	-	-
36	12	16	.064	1.63	-	-	-	-
42	12	16	.064	1.63	12	16	.064	1.63
48	12	16	.064	1.63	12	16	.064	1.63
54	12	14	.079	2.01	12	16	.064	1.63
60	15	12	.109	2.77	12	16	.064	1.63
66	15	12	.109	2.77	15	16	.064	1.63
72	18	10	.138	3.51	15	16	.064	1.63
78	18	8	.168	4.27	18	16	.064	1.63
84	18	8	.168	4.27	18	14	.079	2.01
90	-	-	-	-	18	14	.079	2.01
96	-	-	-	-	18	14	.079	2.01

* MINIMUM DEPTH OF COVER ABOVE TOP OF PIPE, MAXIMUM DEPTH OF COVER ABOVE TOP OF PIPE IS 20 FEET.

NOTES:

1. INSTALL RIPRAP EROSION PROTECTION IN GRASS LINED CHANNELS AND DETENTION BASINS FOR ANY SIZE STORM SEWER PIPE AND TREATMENT PLANT OUTFALL, DIMENSIONED AS SHOWN IN "TYPICAL STORM SEWER OUTFALL STRUCTURE LAYOUT."
2. STORM SEWER OUTFALL PIPES WITHIN THE HCFCD RIGHT-OF-WAY SHALL BE CMP OR HDPE IN ACCORDANCE WITH SPECIFICATION SECTION 02642-CORRUGATED METAL PIPE, HIGH DENSITY POLYETHYLENE PIPE (HDPE) IN ACCORDANCE WITH SPECIFICATION SECTION 02505-HIGH DENSITY POLYETHYLENE PIPE, OR APPROVED EQUAL. USE TABLE BELOW FOR CORRUGATED GALVANIZED STEEL PIPE.
3. PROVIDE AND PLACE CEMENT STABILIZED SAND IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02321-CEMENT STABILIZED SAND.
4. TIMBER BENTS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02464-TIMBER BENTS.
5. EXCAVATION, FILL, AND BACKFILL FOR STORM SEWER OUTFALLS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02316- STRUCTURAL EXCAVATING AND BACKFILLING.
6. RIPRAP SHALL BE PLACED IN ACCORDANCE WITH SPECIFICATION SECTION 02378-RIPRAP AND GRANULAR FILL. FILL RIPRAP VOIDS AND BURY RIPRAP A MINIMUM OF 6 INCHES WITH TOPSOIL ON SIDE SLOPE AS DIRECTED BY THE ENGINEER.
7. IN DETENTION BASINS, SET FLOWLINE OF OUTFALL AT TOE OF THE SLOPE OR FLOWLINE OF PILOT CHANNEL. IN CHANNEL, USE ELEVATION INDICATED IN THE PIPE OUTFALL IN CHANNELS TABLE.
8. STRUCTURAL CONCRETE #4 BARS (GRADE 40) 12 INCH O.C. EACH WAY - FOR COLLARS ONLY. WAIT A MINIMUM OF 24 HOURS AFTER PLACING CONCRETE TO BACKFILL.
9. FOR RCP OUTFALL IN GRASS LINED CHANNELS AND DETENTION BASINS, USE HEADWALL/ WINGWALL/APRON DETAIL ON SHEET [redacted]. FOR RCP OUTFALL IN CONCRETE LINED CHANNEL AND DETENTION BASINS , SEE HCFCD CONCRETE CHANNEL LINING DETAILS.

THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON HCFCD PROJECTS OR PROJECTS TO BE MAINTAINED BY THE HCFCD WHEN COMPLETED BY OTHERS. AN ENGINEER WHO INCORPORATES THE DETAILS ON THIS SHEET BECOMES RESPONSIBLE FOR ITS USE IN THE END PRODUCT IN ACCORDANCE WITH RULE 137.33 (b) AND (c) OF THE TEXAS BOARD OF PROFESSIONAL ENGINEERS.

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P.E. SEAL AND SIGNATURE

ENGINEER - CONFIRM, CHANGE, OR FILL IN.

REV	DESCRIPTION	DATE	APPR

PROJECT ID#

BOONE PARK & HACKBERRY PARK DETENTION BASINS

STORM SEWER AND RIPRAP DETAILS

PREPARED: | CHECKED: | APPROVED:

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA, HOUSTON, TEXAS 77098 (713) 520-9070

HARRIS COUNTY FLOOD CONTROL DISTRICT
9900 Northwest Freeway
Houston, Texas 77092

DATE: 10-23-2018
SCALE: NTS

SHEET NUMBER
139 OF 144

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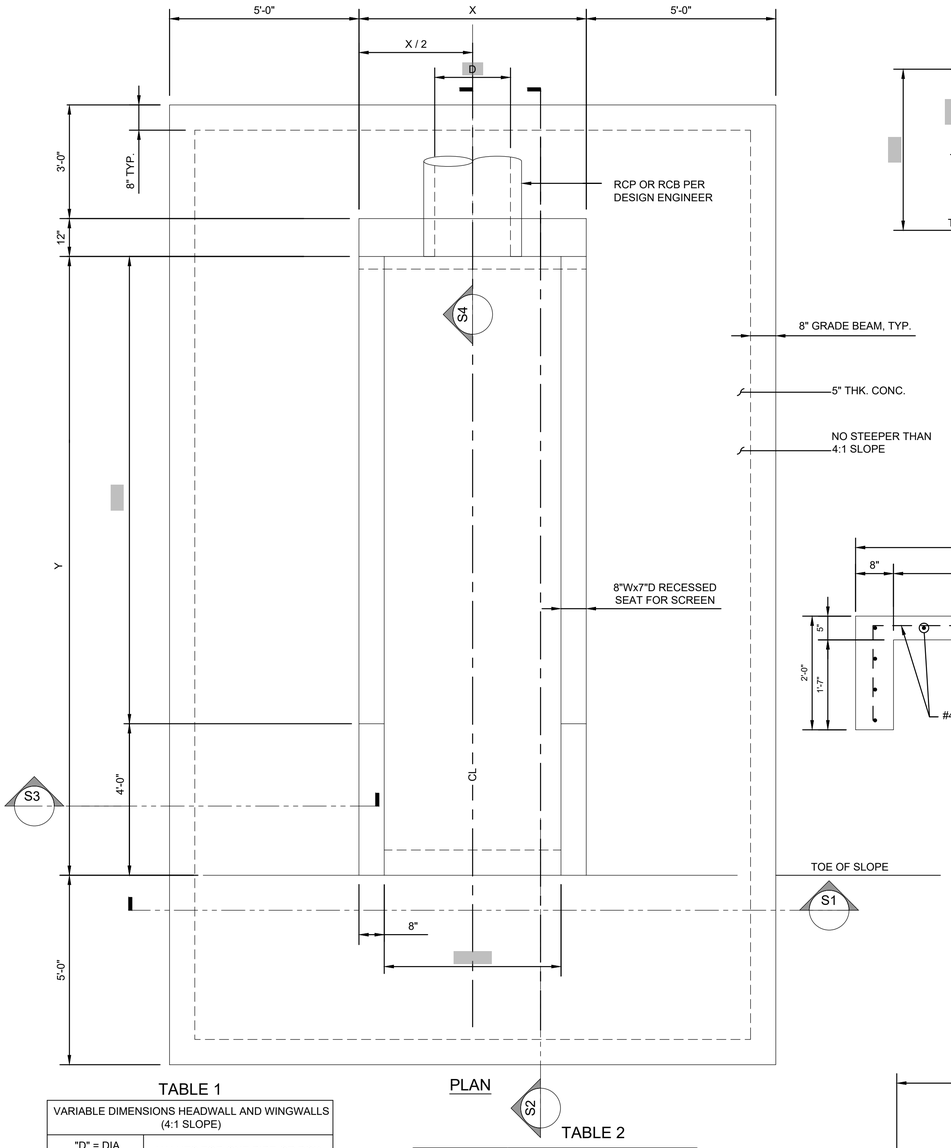
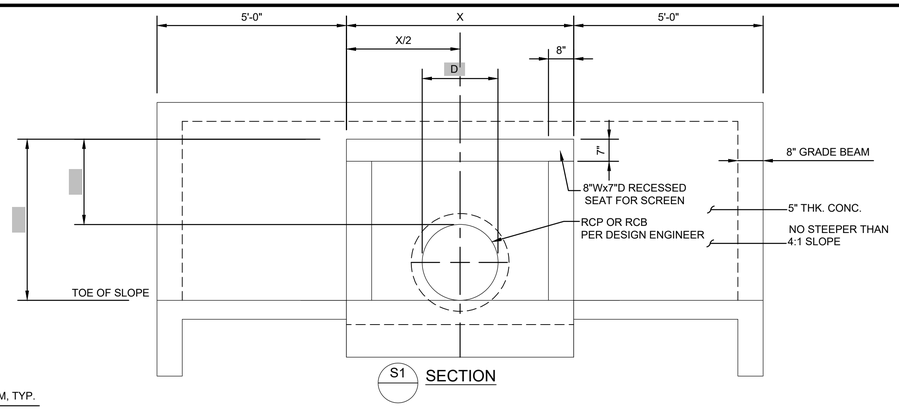
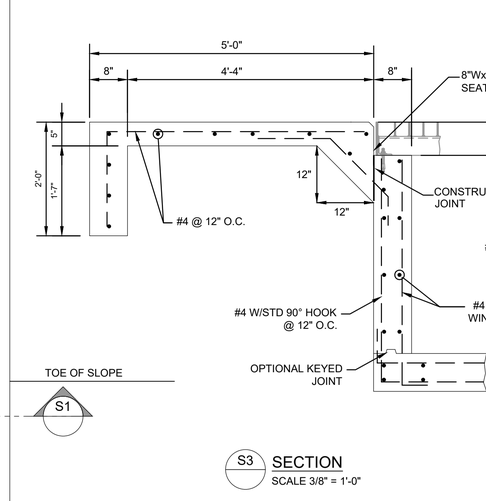


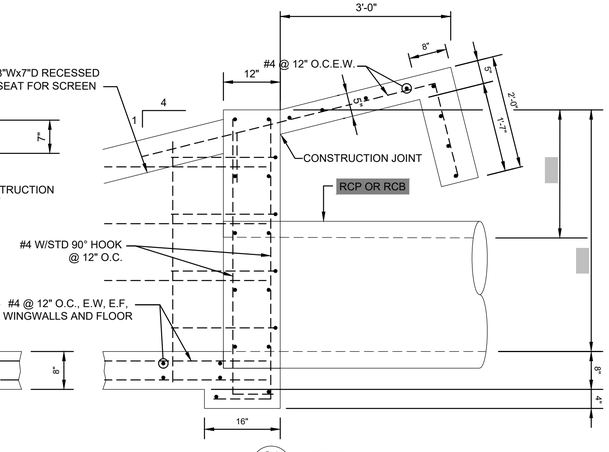
PLAN

S2





S3 SECTION
SCALE 3/8" = 1'-0"



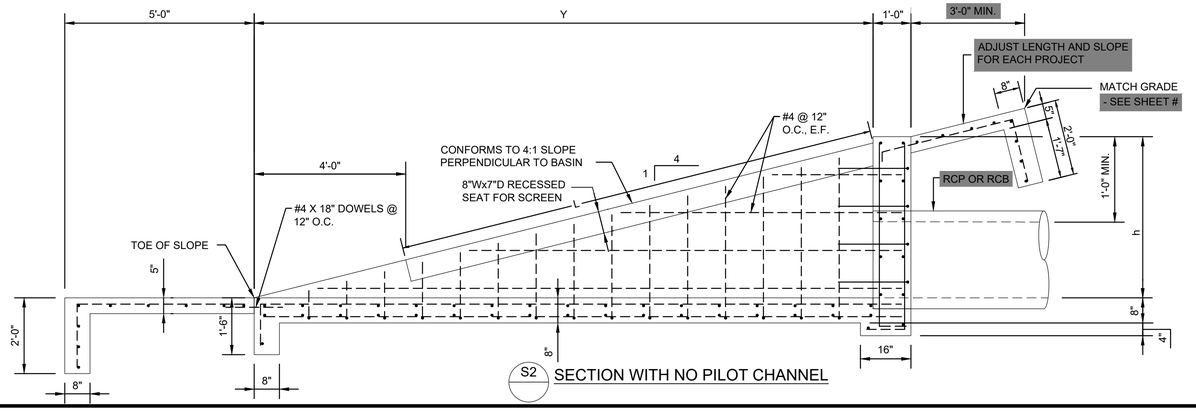
S4 SECTION
SCALE 3/8" = 1'-0"

TABLE 1

VARIABLE DIMENSIONS HEADWALL AND WINGWALLS (4:1 SLOPE)			
"D" = DIA OF PIPE OR BOX SPAN (IN.)	VALUES FOR ONE PIPE OR BOX		
	"X"	"Y"	"h"
24	6'-0"	12'-0"	3'-0"
30	6'-6"	14'-0"	3'-6"
36	7'-0"	16'-0"	4'-0"
42	7'-6"	18'-0"	4'-6"
48	8'-0"	21'-0"	5'-3"
54	8'-6"	23'-0"	5'-9"
36x18	7'-0"	12'-0"	3'-0"
36x24	7'-0"	12'-0"	3'-0"
36x36	7'-0"	16'-0"	4'-0"
48x24	8'-0"	12'-0"	3'-0"
48x36	8'-0"	16'-0"	4'-0"
48x48	8'-0"	21'-0"	5'-3"

TABLE 2

RCP OR RCB (IN.)	SCREEN SIZE	
	W = WIDTH	L = LENGTH
24	5'-11"	8'-2"
30	6'-5"	10'-2 1/2"
36	6'-11"	12'-3"
42	7'-5"	14'-4"
48	7'-11"	17'-5"
54	8'-5"	19'-6"
36x18	6'-11"	8'-2"
36x24	6'-11"	8'-2"
36x36	6'-11"	12'-3"
48x24	7'-11"	8'-2"
48x36	7'-11"	12'-3"
48x48	7'-11"	17'-5"



S2 SECTION WITH NO PILOT CHANNEL

BAR SIZE #	MINIMUM LAP - SPLICE & DEVELOPMENT LENGTHS
4	1'-9"
5	2'-2"
6	2'-7"
7	3'-5"
8	4'-6"

0 2 4
SCALE: 1/2" = 1'-0" (22"x34")
1/4" = 1'-0" (11"x17")

NOTES:

1. FOLLOW REQUIREMENTS OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS BOOK OF THE HARRIS COUNTY FLOOD CONTROL DISTRICT (HCFCD), AS DISCUSSED BELOW.
2. STRUCTURAL EXCAVATION AND BACKFILL SHALL CONFORM TO REQUIREMENTS OF HCFCD SPECIFICATION SECTION 02316. SUBGRADE PREPARATION AND SOIL STABILIZATION SHALL FOLLOW REQUIREMENTS OF APPLICABLE SPECIFICATIONS REFERENCED IN SECTION 02316.
3. CONSTRUCTION OF THE CONCRETE HEADWALL AND WINGWALLS SHALL CONFORM TO REQUIREMENTS OF HCFCD SPECIFICATION SECTION 03310 (CAST-IN-PLACE CONCRETE, CLASSIFICATION: STRUCTURAL). THE REINFORCING STEEL SHALL CONFORM TO REQUIREMENTS OF ASTM A 615 OR ASTM A 775, GRADE 60. SUBMIT SHOP DRAWINGS OF PROPOSED REINFORCING STEEL, IF DIFFERENT FROM THAT SHOWN ON THE AGENCY STANDARD DRAWINGS.
4. CONSTRUCTION OF ACCESS CONCRETE PAVEMENT AROUND CULVERT CHANNEL SHALL ALSO CONFORM TO REQUIREMENTS OF HCFCD SPECIFICATION SECTION 03310 (CAST-IN-PLACE CONCRETE, CLASSIFICATION: STRUCTURAL). THE REINFORCING STEEL SHALL CONFORM TO REQUIREMENTS OF ASTM A 615, GRADE 60.
5. PROVIDE REINFORCED CONCRETE PAVED SURFACE ON ALL SIDES OF CULVERT CHANNEL FOR USE BY MAINTENANCE PERSONNEL.
6. UTILIZE STRUCTURAL DETAILS SHOWN ON SHEET 2 FOR SCREEN HEADWALL AND WINGWALLS OF THE CULVERT CHANNEL.
7. FOR MULTIPLE SCREENS SIDE-BY-SIDE ALONG THE LENGTH OF THE SCREEN, SUBMIT SIGNED AND SEALED DESIGN DRAWINGS TO HCFCD FOR APPROVAL PRIOR TO CONSTRUCTION.
8. SCREEN IS DESIGNED FOR A MAXIMUM TRACTOR WHEEL LOAD OF 3,000 LB. THEREFORE, THE DIMENSIONS SHOWN IN THE ABOVE TABLES SHALL NOT BE EXCEEDED WITHOUT REDESIGN OF THE SCREEN.
9. ALL STRUCTURAL STEEL OF THE SCREEN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AISC "STEEL CONSTRUCTION MANUAL", LATEST EDITION.
10. ALL STRUCTURAL STEEL PLATES AND ANGLES USED IN THE SCREEN SHALL CONFORM TO ASTM A36 (MIN. YIELD STRENGTH = 36 KSI).
11. UNLESS NOTED OTHERWISE, ALL BOLTS SHALL CONFORM TO ASTM A325. ALL ANCHOR BOLTS SHALL BE A307 HEX HEAD BOLTS WITH FLAT WASHERS. ALL BOLTS AND WASHERS SHALL BE HOT-DIP GALVANIZED.
12. ALL WELDED STEEL CONNECTIONS SHALL CONFORM TO AWS "STRUCTURAL WELDING CODE-STEEL," D1.1, LATEST EDITION. WELDING ELECTRODE TO BE E70-XX, LOW HYDROGEN. UNLESS NOTES OTHERWISE, USE 3/16" CONTINUOUS FILLET WELD.
13. ALL SCREEN MEMBERS AND SUPPORT STEEL ELEMENTS SHALL BE HOT-DIP GALVANIZED.
14. MAXIMUM SCREEN WIDTH FOR THIS DETAIL IS 8'-5".

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P.E. SEAL AND SIGNATURE

ENGINEER - CONFIRM, CHANGE, OR FILL IN.

REV#	DESCRIPTION	DATE	APPR

PROJECT ID#

BOONE PARK & HACKBERRY PARK DETENTION BASINS

FLOATABLES COLLECTION STRUCTURE DETAIL SHEET 1 OF 3

PREPARED:

CHECKED:

APPROVED:

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA, HOUSTON, TEXAS 77098 (713) 530-8670

HARRIS COUNTY FLOOD CONTROL DISTRICT
9900 Northwest Freeway
Houston, Texas 77092

DATE:
10-23-2018

SHEET NUMBER
140 OF 144

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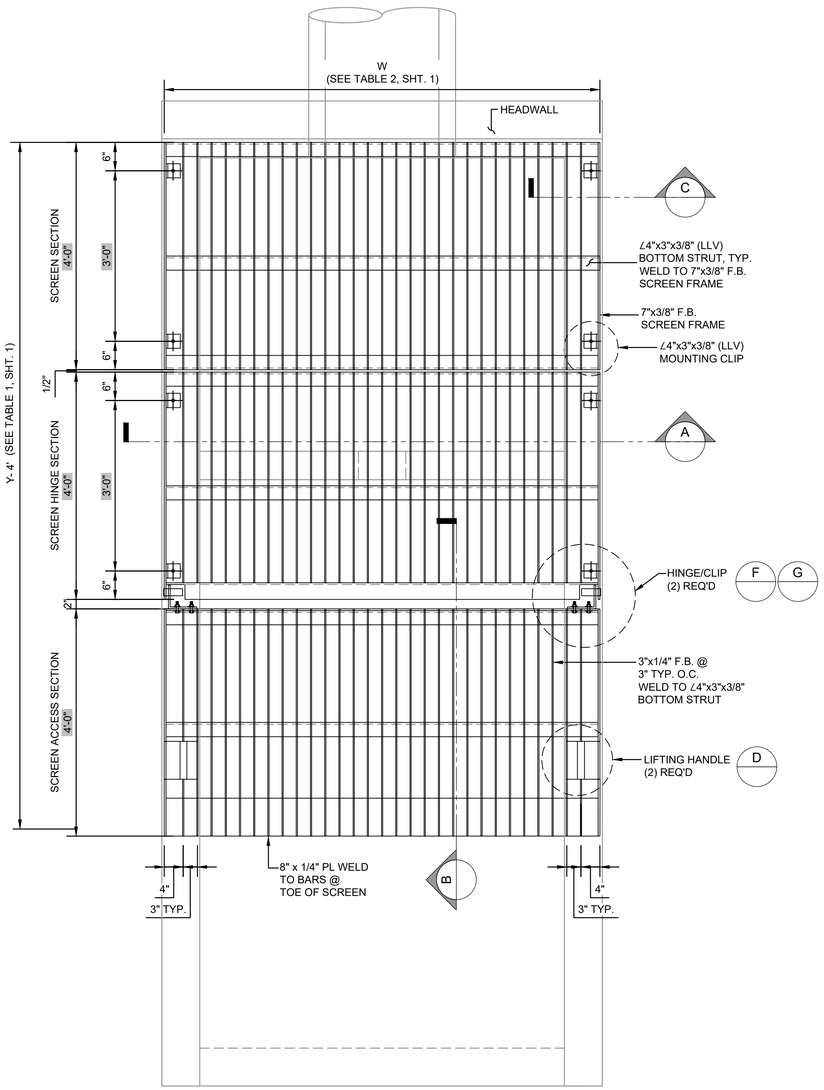
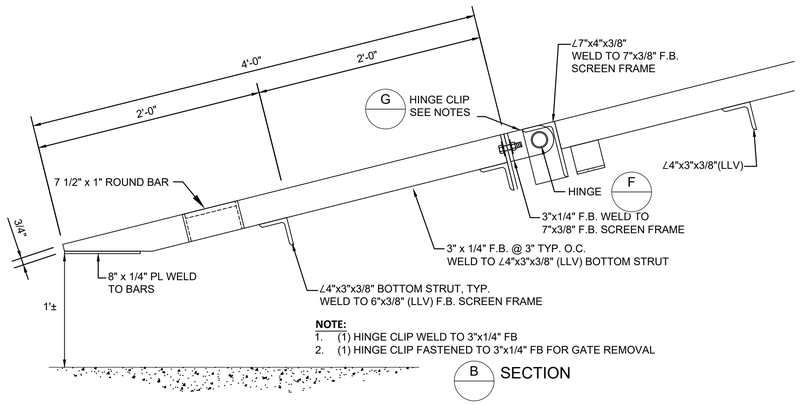
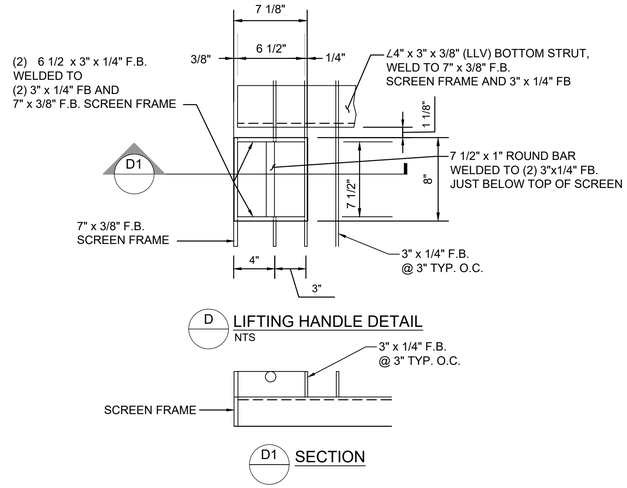
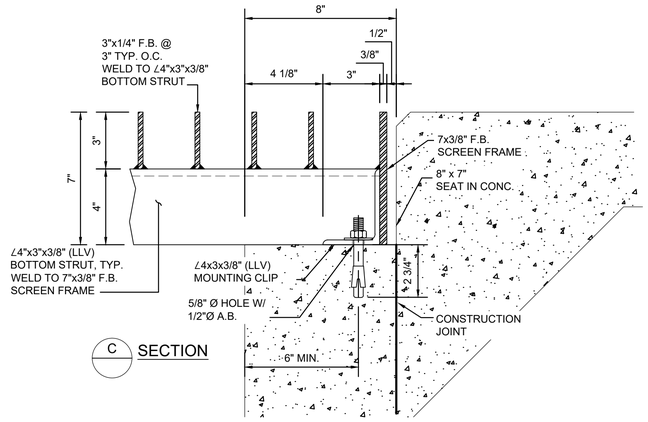
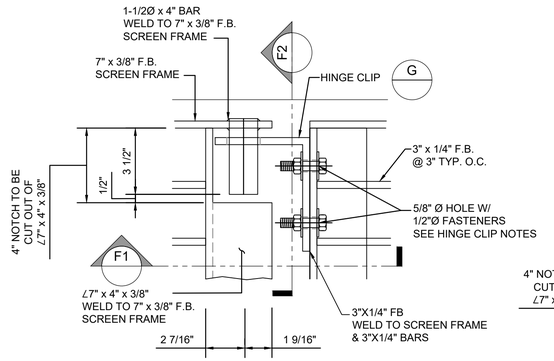


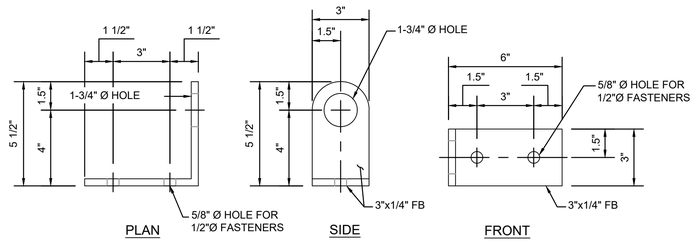
FLOATABLES SCREEN PLAN





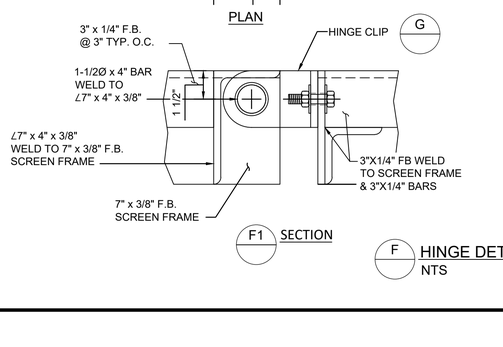


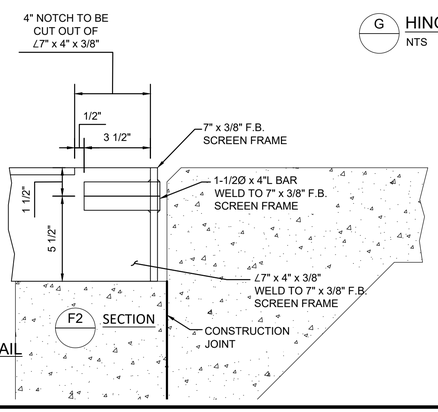




NOTE:
1. HINGE CLIPS TO BE FASTENED TO 6"x3/8" F.B. SCREEN FRAME FOR GATE REMOVAL

G HINGE CLIP DETAIL
NTS





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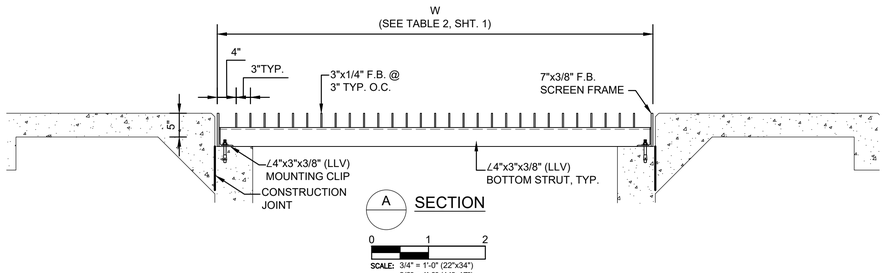

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P.E. SEAL AND SIGNATURE

ENGINEER - CONFIRM, CHANGE, OR FILL IN.

REV#	DESCRIPTION	DATE	APPR

PROJECT ID#

BOONE PARK & HACKBERRY PARK
DETENTION BASINS

FLOATABLES COLLECTION STRUCTURE
DETAIL SHEET 2 OF 3

PREPARED: | CHECKED: | APPROVED:

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

HARRIS COUNTY FLOOD CONTROL DISTRICT
9900 Northwest Freeway
Houston, Texas 77092

DATE:
10-23-2018

SHEET NUMBER
141 OF 144

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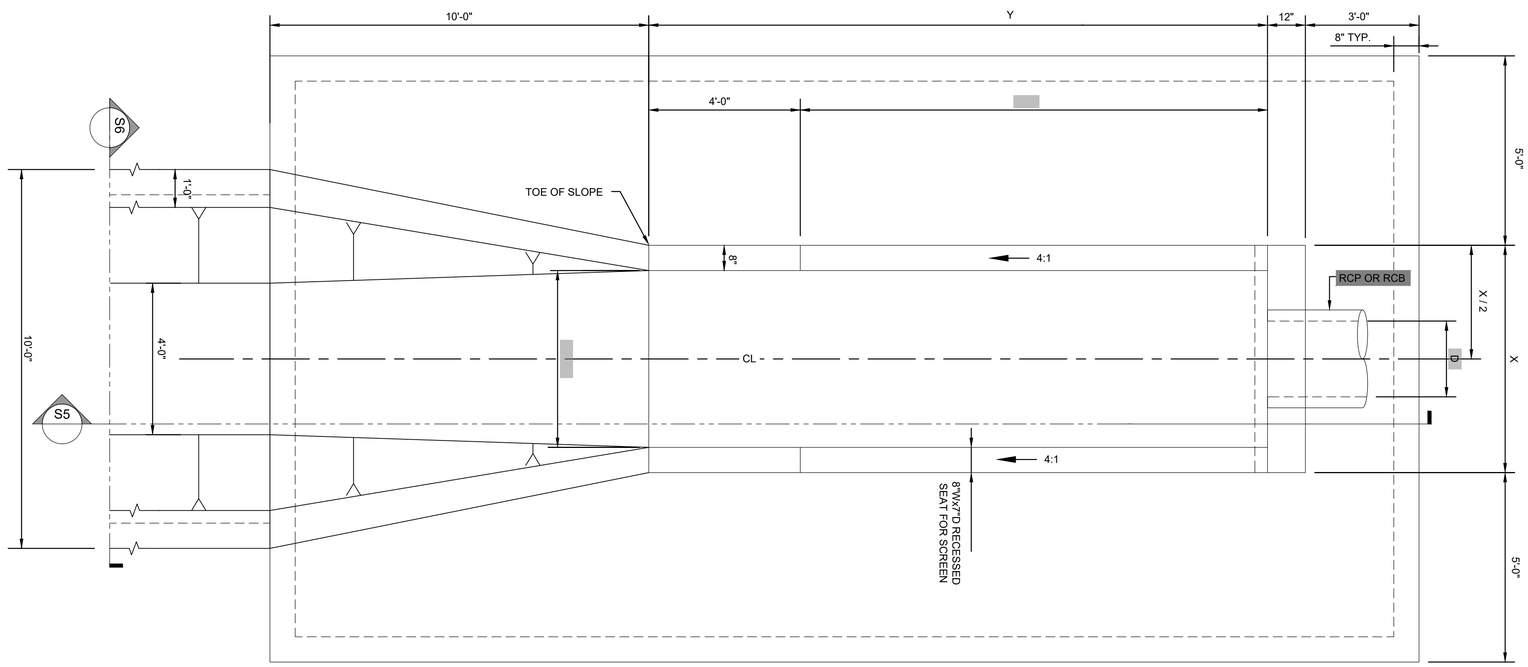
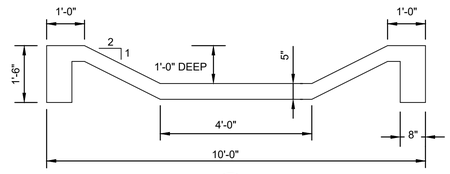
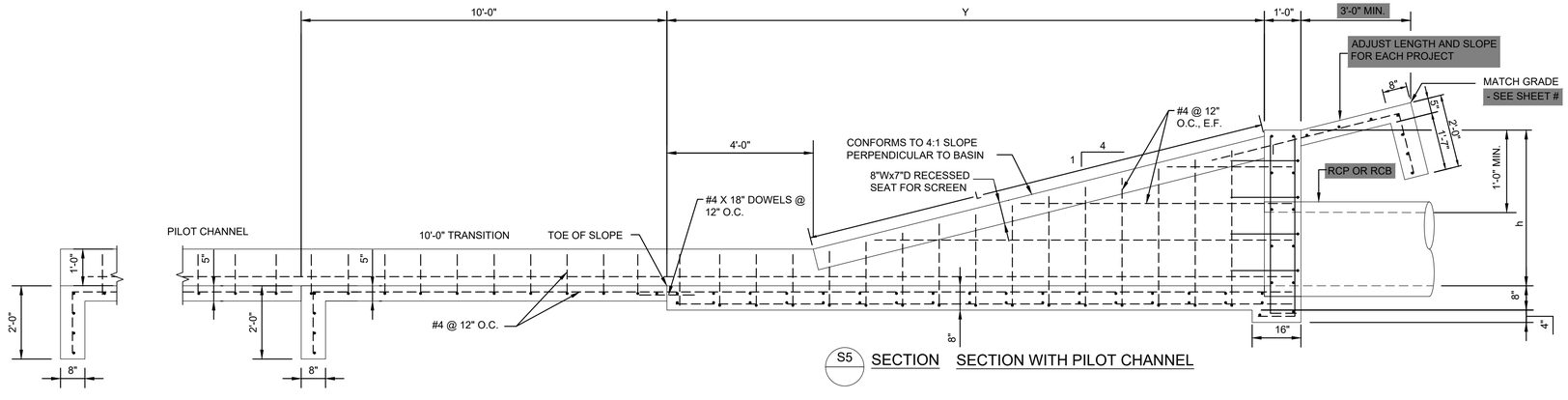


PLAN WITH PILOT CHANNEL



S6 SECTION



S5 SECTION SECTION WITH PILOT CHANNEL

SEE SHEET 1 AND 2 OF 3 FOR DETAILS, DIMENSION TABLES, AND NOTES.

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ENGINEER - CONFIRM, CHANGE, OR FILL IN.

0 2 4
SCALE: 1/2" = 1'-0" (22"x34")
1/4" = 1'-0" (11"x17")

REV#	DESCRIPTION	DATE	APPR

PROJECT ID#

BOONE PARK & HACKBERRY PARK
DETENTION BASINS

FLOATABLES COLLECTION STRUCTURE
DETAIL SHEET 3 OF 3

PREPARED:

CHECKED:

APPROVED:

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

HARRIS COUNTY FLOOD CONTROL DISTRICT
9900 Northwest Freeway
Houston, Texas 77092

DATE:
10-23-2018

SHEET NUMBER
142 OF 144

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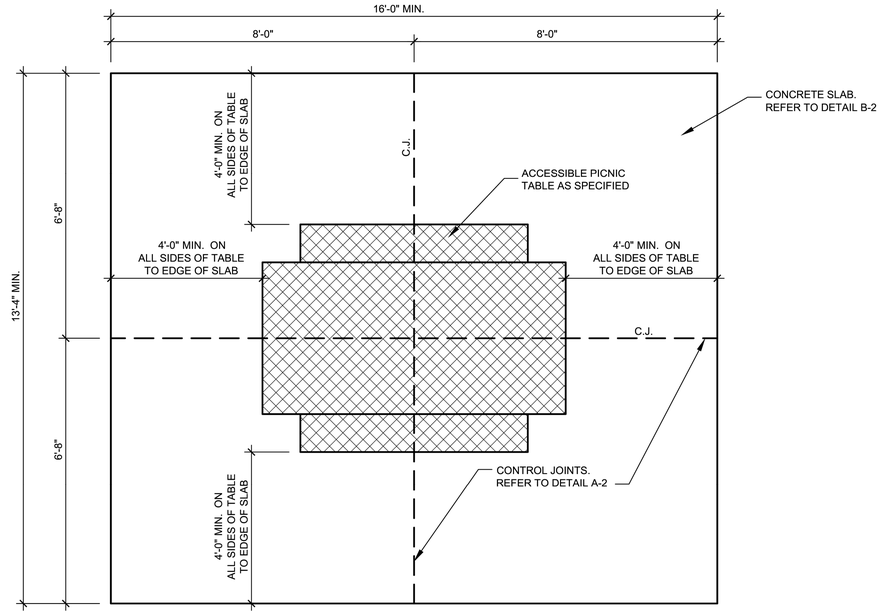
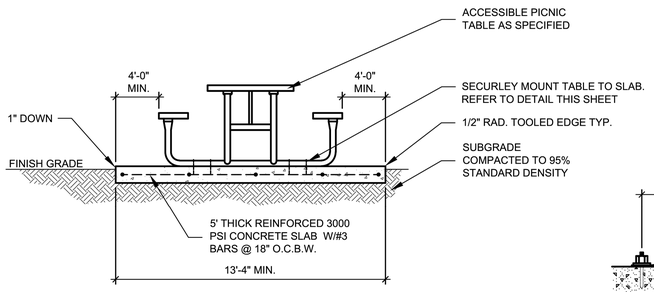


GENERAL NOTES:

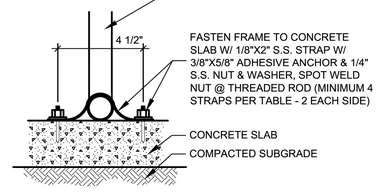
1. TABLE PAD AND ADJACENT ACCESSIBLE AREA TO HAVE A CROSS SLOPE NOT TO EXCEED 2% IN ANY DIRECTION
2. SURFACE MOUNT TABLE TO SLAB W/ CONCRETE ANCHOR PER MANUFACTURER SPECIFICATIONS.

B 3 ACCESSIBLE PICNIC TABLE PLAN

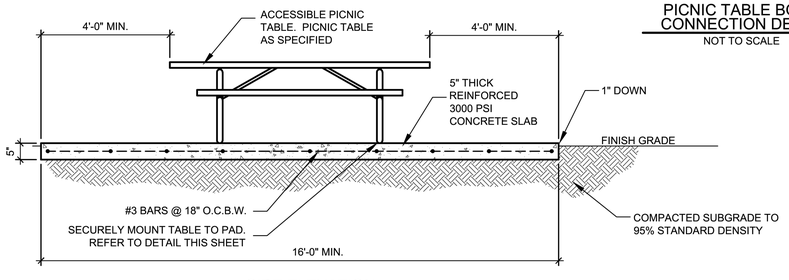
SCALE: 1/2"= 1'-0"



END ELEVATION
NOT TO SCALE



PICNIC TABLE BOLT CONNECTION DETAIL
NOT TO SCALE



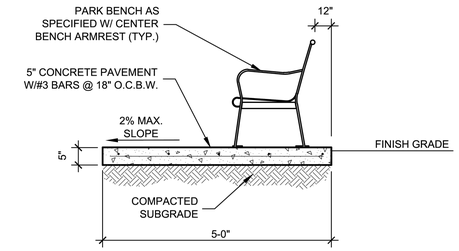
SIDE ELEVATION
NOT TO SCALE

GENERAL NOTES:

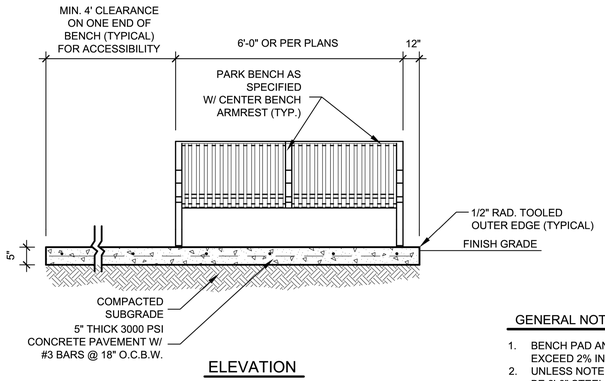
1. TABLE PAD AND ADJACENT ACCESSIBLE AREA TO HAVE A CROSS SLOPE NOT TO EXCEED 2% IN ANY DIRECTION
2. SURFACE MOUNT TABLE TO SLAB W/ CONCRETE ANCHOR PER MANUFACTURER SPECIFICATIONS.

B 2 ACCESSIBLE PICNIC TABLE DETAILS

NOT TO SCALE



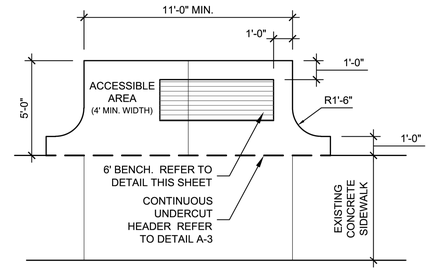
SECTION



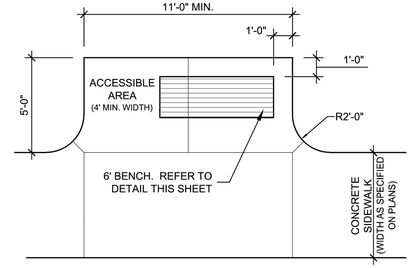
ELEVATION

B 5 TYPICAL BENCH DETAILS

NOT TO SCALE



PLAN AT EXISTING CONCRETE WALK



PLAN AT NEW CONCRETE WALK

GENERAL NOTES:

1. BENCH PAD AND ADJACENT ACCESSIBLE AREA TO HAVE A CROSS SLOPE NOT TO EXCEED 2% IN ANY DIRECTION.
2. UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATIONS, ALL BENCHES TO BE 6'-0" STEELSITES SERIES RB-28 WITH CENTER ARMREST BY VICTOR STANLEY OR APPROVED EQUAL. COLOR SHALL BE RAL 6009.
3. SURFACE MOUNT BENCH TO SLAB W/ CONCRETE ANCHOR PER MANUFACTURER SPECIFICATIONS.

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-6570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
MISCELLANEOUS DETAILS (SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-430296-0018-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 143 OF 144	

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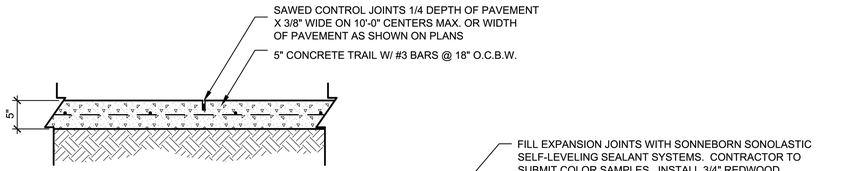
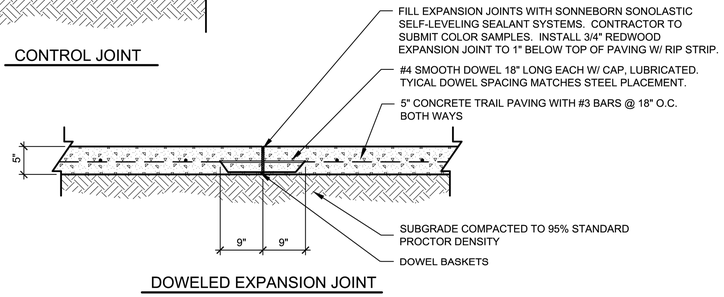


CONTROL JOINT



DOWELED EXPANSION JOINT

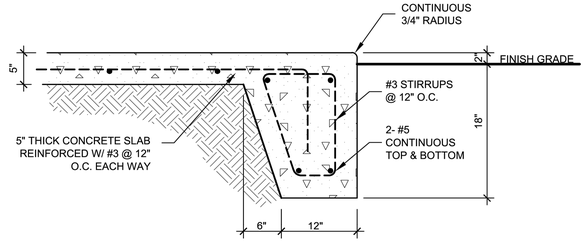
GENERAL NOTES:

1. LOCATE DOWELED EXPANSION JOINTS ON MAXIMUM 100'-0" CENTERS.
2. THE MAXIMUM CONTROL JOINT SPACING SHALL BE THE WIDTH OF THE TRAIL OR AS SHOWN ON THE PLANS.
3. COMPACTION REQUIREMENTS NOTED ARE A MINIMUM STANDARD. REFER TO GEOTECHNICAL REPORT FOR SPECIFIC PROJECT REQUIREMENTS WHICH SHALL PREVAIL.

A/2 DOWELED EXPANSION AND CONTROL JOINT DETAILS

SCALE : 3/4" = 1'-0"

NOTE:
CONTRACTOR TO PROVIDE SHOP DRAWINGS TO BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS.



B/8 PARK SHELTER SLAB EDGE DETAIL

NOT TO SCALE

GANNETT FLEMING
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

BOONE PARK & HACKBERRY PARK
MISCELLANEOUS DETAILS (SHEET 2 OF 2)

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CITY OF HOUSTON PM	
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SHEET NO. 144 OF 144	

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