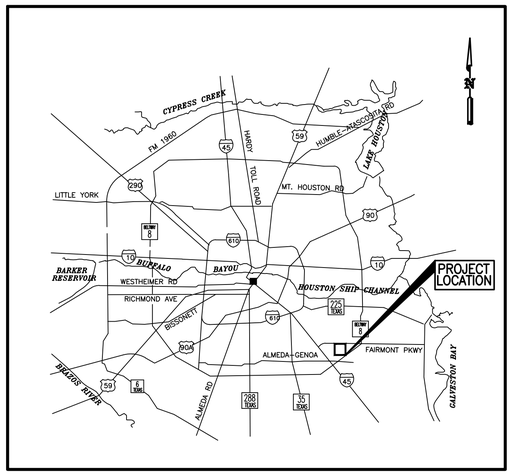
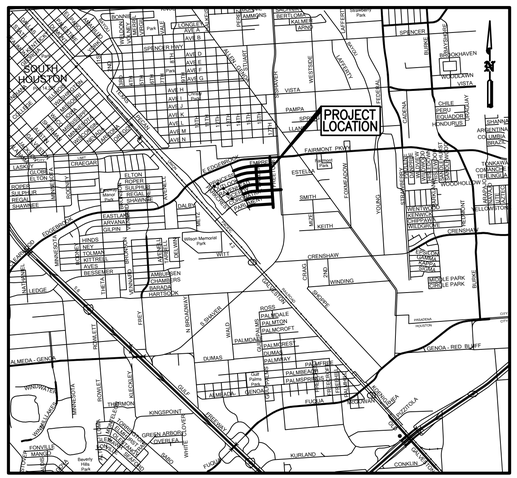
CITY OF HOUSTON

HOUSTON PUBLIC WORKS
CAPITAL IMPROVEMENTS PROJECT
ARLINGTON HEIGHTS DRAINAGE
AND PAVING IMPROVEMENTS
(SUB-PROJECT 2)

WBS NO. M-410006-0002-4



LOCATION MAP
NTS



VICINITY MAP

KEY MAP NO: 576 G
FEMA FIRM MAP NO: 48201C0915M
FEMA FIRM MAP DATE: 05/02/2019
GIMS TITLE NO: 5753D AND 5753B
COUNCIL DISTRICT E
NTS

TDLR EABPR _____

MAYOR
JOHN WHITMIRE

CONTROLLER
CHRIS HOLLINS

DISTRICT COUNCIL MEMBERS

AMY PECK, DISTRICT A
TARSHA JACKSON, DISTRICT B
ABBIE KAMIN, DISTRICT C
CAROLYN EVAN-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
ALEJANDRA SALINAS, POSITION 4
SALLIE ALCORN, POSITION 5

100% SUBMITTAL

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO & ASSOCIATES
FB NO. P-6076

WATER	TRAFFIC AND TRANSPORTATION
WASTEWATER	SIGNALS
STORMWATER	MANAGING ENGINEER/ASSISTANT DIRECTOR
NEIGHBORHOOD	PARK-FORESTRY DEPT
CONSTRUCTION	SPONSOR DIV / DEPT

CITY ENGINEER DATE

DIRECTOR OF PUBLIC WORKS AND ENGINEERING DATE

FOR CITY OF HOUSTON USE ONLY

\\hrghus\data\85130030\cad\dwga\e\01_cv.dwg Plotted May 22, 2026 at 8:30 AM by Perez, Abel

INDEX OF SHEETS

NO.	DESCRIPTION
GENERAL DRAWINGS	
1	COVER SHEET
2	INDEX OF DRAWINGS AND ABBREVIATIONS
3	SYMBOLS LEGEND
4	CONSTRUCTION, UTILITY, & KEY NOTES
5	OVERALL ROADWAY, STORM SEWER, AND BOREHOLE LAYOUT
6	OVERALL SANITARY SEWER LAYOUT
7	OVERALL WATER LAYOUT
SURVEY CONTROL MAPS	
8	SURVEY CONTROL MAP SHEET 1 OF 4
9	SURVEY CONTROL MAP SHEET 2 OF 4
10	SURVEY CONTROL MAP SHEET 3 OF 4
11	SURVEY CONTROL MAP SHEET 4 OF 4
TYPICAL SECTIONS	
12	EXISTING TYPICAL SECTION SHEET 1 OF 2
13	EXISTING TYPICAL SECTION SHEET 2 OF 2
14	PROPOSED TYPICAL SECTION SHEET 1 OF 2
15	PROPOSED TYPICAL SECTION SHEET 2 OF 2
OVERHEAD POWER LINE LAYOUT	
16	OVERHEAD UTILITIES LAYOUT
DRAINAGE AREA MAP SHEETS	
17	OVERALL DRAINAGE AREA MAP
18	PROPOSED DRAINAGE SYSTEM MAP
19	DRAINAGE AREA MAP SHEET 1 OF 5
20	DRAINAGE AREA MAP SHEET 2 OF 5
21	DRAINAGE AREA MAP SHEET 3 OF 5
22	DRAINAGE AREA MAP SHEET 4 OF 5
23	DRAINAGE AREA MAP SHEET 5 OF 5
DRAINAGE CALCULATION SHEETS	
24	HOUSTORM CALCULATION SHEET 1 OF 4
25	HOUSTORM CALCULATION SHEET 2 OF 4
26	HOUSTORM CALCULATION SHEET 3 OF 4
27	HOUSTORM CALCULATION SHEET 4 OF 4
28	100-YEAR DRAINAGE CALCULATIONS
PLAN AND PROFILE SHEETS	
29	EMPRESS DRIVE STA 1+00 TO 5+00
30	EMPRESS DRIVE STA 5+00 TO 10+00
31	EMPRESS DRIVE STA 10+00 TO 14+00
32	EMPRESS DRIVE STA 14+00 TO END
33	PRINCESS DRIVE STA 1+00 TO 5+00
34	PRINCESS DRIVE STA 5+00 TO 9+00
35	PRINCESS DRIVE STA 9+00 TO 14+00
36	PRINCESS DRIVE STA 14+00 TO END
37	OUTLOOK DRIVE STA 1+00 TO 5+00
38	OUTLOOK DRIVE STA 5+00 TO 8+00
39	OUTLOOK DRIVE STA 8+00 TO 13+00
40	OUTLOOK DRIVE STA 13+00 TO END
41	RAVENHEAD DRIVE – PLAN VIEW STA 1+00 TO 5+00
42	RAVENHEAD DRIVE – PROFILE VIEW STA 1+00 TO 5+00
43	RAVENHEAD DRIVE STA 5+00 TO 10+00
44	RAVENHEAD DRIVE STA 10+00 TO END
45	VICEROY DRIVE STA 1+00 TO 5+00
46	VICEROY DRIVE STA 5+00 TO 10+00
47	VICEROY DRIVE STA 10+00 TO 15+00
48	VICEROY DRIVE STA 15+00 TO END
49	CORONATION DRIVE STA 1+00 TO 5+00
50	CORONATION DRIVE STA 5+00 TO 10+00
51	CORONATION DRIVE STA 10+00 TO END
52	PARLIAMENT DRIVE STA 1+00 TO 5+00
53	PARLIAMENT DRIVE STA 5+00 TO 10+00
54	PARLIAMENT DRIVE STA 10+00 TO END
55	DARLENE LANE STA 1+00 TO 5+00
56	DARLENE LANE STA 5+00 TO 8+50
57	DARLENE LANE STA 8+50 TO END
58	FREETON STREET STA 1+00 TO 5+00
59	FREETON STREET STA 5+00 TO 10+00
60	FREETON STREET STA 10+00 TO 15+00
61	FREETON STREET STA 15+00 TO 19+00
62	FREETON STREET STA 19+00 TO END
CHANNEL PLAN AND PROFILE SHEETS	
63	CHANNEL C106-08-02 STA 0+00 TO 10+00
64	CHANNEL C106-08-02 STA 10+00 TO 20+00
65	CHANNEL C106-08-02 STA 20+00 TO END
66	FREETON OUTFALL TO C106-08-02
DRIVEWAY SCHEDULE	
67	DRIVEWAY SCHEDULE SHEET 1 OF 3
68	DRIVEWAY SCHEDULE SHEET 2 OF 3
69	DRIVEWAY SCHEDULE SHEET 3 OF 3
TRAFFIC CONTROL PLANS	
70	CHANNELIZING DEVICES AND BARRICADES
71	NOTES & TYPICAL SHEET DETAILS
72	TRAFFIC CONTROL NARRATIVE
73	TRAFFIC CONTROL NARRATIVE
74	TRAFFIC CONTROL NARRATIVE
75	TYPICAL SECTIONS
76	TYPICAL SECTIONS
77	TRAFFIC CONTROL PLAN OVERALL PHASING
78	TRAFFIC CONTROL PLAN OVERALL PHASING
79	TRAFFIC CONTROL PLAN PHASE 3 STEP 15
80	TRAFFIC CONTROL PLAN PHASE 3 STEP 16
81	TYPICAL ONE LANE ROAD CLOSURE WITH DETOUR ROUTING
82	TYPICAL 4-WAY INTERSECTION WITH FLAGGING OPERATION
83	TYPICAL 3-WAY (TEE) INTERSECTION WITH FLAGGING OPERATION
84	TYPICAL DETOUR OPERATION AT 4-WAY INTERSECTIONS
85	TYPICAL DETOUR OPERATION AT 3-WAY (TEE) INTERSECTIONS
86	TYPICAL FOR ONE LANE CLOSURE WITH WORKZONE (DRUM LPCB)
87	BARRIER STANDARD
88	TYPICAL CROSSWALK AND SIDEWALK CLOSURES
89	TYPICAL FOR CUL-DE-SAC CONSTRUCTION
STANDARD DETAILS	
90	DRIVEWAY DETAIL SHEET
91	PAVING DETAIL (SHEET 1 OF 4)
92	PAVING DETAIL (SHEET 2 OF 4)
93	PAVING DETAIL (SHEET 3 OF 4)
94	CONCRETE PAVING DETAIL (SHEET 4 OF 4)
95	CURB, CURB AND GUTTER AND HEADER DETAIL SHEET
96	WHEELCHAIR RAMP DETAIL SHEET
97	STORM SEWER DETAILS (SHEET 1 OF 6)
98	STORM SEWER DETAILS (SHEET 2 OF 6)
99	STORM SEWER DETAILS (SHEET 3 OF 6)
100	STORM SEWER DETAILS (SHEET 4 OF 6)
101	STORM SEWER DETAILS (SHEET 5 OF 6)
102	STORM SEWER DETAILS (SHEET 6 OF 6)
103	PAVEMENT MARKINGS DETAIL SHEET
104	PAVEMENT AND SPEED CUSHION STANDARD DETAILS
105	WATER DETAILS (SHEET 1 OF 3)
106	WATER DETAILS (SHEET 2 OF 3)
107	WATER DETAILS (SHEET 3 OF 3)
108	SAN SWR DETAILS (SHEET 1 OF 6)
109	SAN SWR DETAILS (SHEET 2 OF 6)
110	SAN SWR DETAILS (SHEET 3 OF 6)
111	SAN SWR DETAILS (SHEET 4 OF 6)
112	SAN SWR DETAILS (SHEET 5 OF 6)
113	SAN SWR DETAILS (6 OF 6)
114	CONSTRUCTION SIGN
115	TXDOT CONCRETE HEADWALL DETAIL PW-1
TREE PROTECTION PLANS	
116	TREE PROTECTION PLAN SHEET 1 OF 10
117	TREE PROTECTION PLAN SHEET 2 OF 10
118	TREE PROTECTION PLAN SHEET 3 OF 10
119	TREE PROTECTION PLAN SHEET 4 OF 10
120	TREE PROTECTION PLAN SHEET 5 OF 10
121	TREE PROTECTION PLAN SHEET 6 OF 10
122	TREE PROTECTION PLAN SHEET 7 OF 10
123	TREE PROTECTION PLAN SHEET 8 OF 10
124	TREE PROTECTION PLAN SHEET 9 OF 10
125	TREE PROTECTION PLAN SHEET 10 OF 10
STORM WATER POLLUTION PREVENTION	
126	STORM WATER POLLUTION PREVENTION NOTES
127	STORM WATER POLLUTION PREVENTION PLAN SHEET 1 OF 6
128	STORM WATER POLLUTION PREVENTION PLAN SHEET 2 OF 6
129	STORM WATER POLLUTION PREVENTION PLAN SHEET 3 OF 6
130	STORM WATER POLLUTION PREVENTION PLAN SHEET 4 OF 6
131	STORM WATER POLLUTION PREVENTION PLAN SHEET 5 OF 6
132	STORM WATER POLLUTION PREVENTION PLAN SHEET 6 OF 6
133	STORM WATER POLLUTION PREVENTION PLAN DETAILS
SIGNING PLAN	
134	SIGNING PLAN
135	SUMMARY OF SMALL SIGNS
136	SIGNING DETAIL SHEET 1 OF 7
137	SIGNING DETAIL SHEET 2 OF 7
138	SIGNING DETAIL SHEET 3 OF 7
139	SIGNING DETAIL SHEET 4 OF 7
140	SIGNING DETAIL SHEET 5 OF 7
141	SIGNING DETAIL SHEET 6 OF 7
142	SIGNING DETAIL SHEET 7 OF 7
CROSS SECTIONS	
143	CROSS SECTIONS EMPRESS DRIVE SHEET 1 OF 2
144	CROSS SECTIONS EMPRESS DRIVE SHEET 2 OF 2
145	EMPRESS DRIVE CROSS SECTION CALCULATION TABLE
146	CROSS SECTIONS PRINCESS DRIVE SHEET 1 OF 2
147	CROSS SECTIONS PRINCESS DRIVE SHEET 2 OF 2
148	PRINCESS DRIVE CROSS SECTION CALCULATION TABLE
149	CROSS SECTIONS OUTLOOK DRIVE SHEET 1 OF 2
150	CROSS SECTIONS OUTLOOK DRIVE SHEET 2 OF 2
151	OUTLOOK DRIVE CROSS SECTION CALCULATION TABLE
152	CROSS SECTIONS RAVENHEAD DRIVE SHEET 1 OF 2
153	CROSS SECTIONS RAVENHEAD DRIVE SHEET 2 OF 2
154	RAVENHEAD DRIVE CROSS SECTION CALCULATION TABLE
155	CROSS SECTIONS VICEROY DRIVE SHEET 1 OF 2
156	CROSS SECTIONS VICEROY DRIVE SHEET 2 OF 2
157	VICEROY DRIVE CROSS SECTION CALCULATION TABLE
158	CROSS SECTIONS CORONATION DRIVE SHEET 1 OF 2
159	CROSS SECTIONS CORONATION DRIVE SHEET 2 OF 2
160	CORONATION DRIVE CROSS SECTION CALCULATION TABLE
161	CROSS SECTIONS PARLIAMENT DRIVE SHEET 1 OF 2
162	CROSS SECTIONS PARLIAMENT DRIVE SHEET 2 OF 2
163	PARLIAMENT DRIVE CROSS SECTION CALCULATION TABLE
164	CROSS SECTIONS DARLENE LANE SHEET 1 OF 2
165	CROSS SECTIONS DARLENE LANE SHEET 2 OF 2
166	DARLENE LANE CROSS SECTION CALCULATION TABLE
167	CROSS SECTIONS FREETON STREET SHEET 1 OF 3
168	CROSS SECTIONS FREETON STREET SHEET 2 OF 3
169	CROSS SECTIONS FREETON STREET SHEET 3 OF 3
170	FREETON STREET CROSS SECTION CALCULATION TABLE
STREET LIGHTING LAYOUT	
171	STREET LIGHTING LAYOUT SHEET 1 OF 5
172	STREET LIGHTING LAYOUT SHEET 2 OF 5
173	STREET LIGHTING LAYOUT SHEET 3 OF 5
174	STREET LIGHTING LAYOUT SHEET 4 OF 5
175	STREET LIGHTING LAYOUT SHEET 5 OF 5

ABBREVIATIONS

AB –	ALL BELL FITTINGS	CT –	COURT	GT –	GUTTER	MIN –	MINIMUM	RCB –	REINFORCED CONCRETE BOX	STLT –	STREET LIGHT	WM –	WATERMAIN
AC –	ACRES/ACREAGE	DET –	DETAIL	GV –	GATE VALVE	MON –	MONUMENT	RCP –	REINFORCED CONCRETE PIPE	STM –	STORM	@ –	AT
ADJ –	ADJUSTMENT	DIA –	DIAMETER	H –	HORIZONTAL	N –	NORTH	RD –	ROAD	SWR –	SEWER	& –	AND
ASPH –	ASPHALT	DR –	DRIVE	IN –	INLET	NE –	NORTHEAST	ROW –	RIGHT OF WAY	SY –	SQUARE YARD	% –	PERCENT
ASSY –	ASSEMBLY	E –	EAST	INV –	INVERT	NTS –	NOT TO SCALE	R&S –	REMOVE AND SALVAGE	TC –	TOP OF CURB	" –	INCH
BC–BC –	BACK OF CURB TO BACK OF CURB	EL –	ELEVATION	IP –	IRON PIPE	NW –	NORTHWEST	RT –	RIGHT	TR –	TOP OF RIM	° –	DEGREE
BFWV –	BUTTER FLY WATER VALVE	ELEC –	ELECTRIC	JT –	JOINT	PC –	POINT OF CURVATURE	S –	SOUTH	TS&V –	TAPPING SLEEVE & VALVE		
BH –	BOREHOLE	EXIST –	EXISTING	L –	LENGTH	℄ PL –	PROPERTY LINE	SAN –	SANITARY	TX –	TEXAS		
BM –	BENCHMARK	℄ –	FLOW LINE	LF –	LINEAL FEET	PRC –	POINT OF RADIAL CURVATURE	SE –	SOUTHEAST	TXDOT –	TEXAS DEPART OF TRANSPORTATION		
C –	CENTER	F–F –	FACE OF CURB TO FACE OF CURB	LN –	LANE	PROP –	PROPOSED	SW –	SOUTHWEST	TYP –	TYPICAL		
℄ CL –	CENTERLINE	FH –	FIRE HYDRANT	LT –	LEFT	PVC –	POLYVINYL CHLORIDE	SHT –	SHEET	V –	VERTICAL		
CMP –	CORRUGATED METAL PIPE	FT ' –	FEET	MAX –	MAXIMUM	PVI –	POINT OF VERTICAL INFLECTION	ST –	STREET	W –	WEST		
CONC –	CONCRETE	GM –	GAS METER	MH –	MANHOLE	R –	RADIUS	STA –	STATION	WL –	WATERLINE		

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

INDEX OF DRAWINGS AND ABBREVIATIONS

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 2 OF 175	

\\hrghua\data\85130030\cad\dwgs\c\02_indexlgnd.dwg Plotted May 22, 2026 at 9:08 AM by Perez, Abel

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
- EDGE OF DITCHES
- FENCE LINE, WOOD
- FENCE LINE, CHAIN LINK
- FENCE LINE, BARBED WIRE
- FENCE LINE, HOG WIRE
- EDGE OF CONCRETE
- CURB LINE
- CONCRETE WALK
- EDGE OF ASPHALT
- EDGE OF SHELL OR GRAVEL
- DIMENSION LINE
- AERIAL POWER LINE
- UNDERGROUND POWER LINE
- GAS LINE
- UNKNOWN UNDERGROUND LINE
- OIL PIPELINE
- UNDERGROUND TELECOMM LINE W/VAULT
- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON-POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE

PROPOSED PLAN VIEW

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

EXISTING PLAN VIEW

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

EXISTING PROFILE VIEW

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

PROPOSED PLAN VIEW

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

PROPOSED PROFILE VIEW

- 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
- WATER LINE RESTRAINED OFFSET

MISC STANDARD ELEMENTS

- COH NORTH ARROW
- COH BAR SCALE
- REVISION CLOUD/DELTA
- DETAIL/SECTION TITLE
- SECTION CALLOUT
- DETAIL CALLOUT

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9900
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER — 5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SYMBOLS LEGEND

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 3 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\03_symbolslgnd.dwg Plotted May 22, 2026 at 9:02 AM by Perez, Abel

KEY NOTES FOR PLAN & PROFILE DRAWING CALL OUTS:

THE FOLLOWING NOTES OR PHRASES ARE SPECIFIC TO PROJECT IMPROVEMENTS AND MAY BE INCLUDED IN ALL SETS OF CONSTRUCTION DRAWINGS. THE PLAN AND PROFILE SHEETS MAY REFERENCE THE NOTES OR PHRASES IN THE PLAN VIEW OR PROFILE VIEW BY NOTE NUMBER AS LISTED BELOW:

(1) REMOVE AND DISPOSE EXIST PIPE

(2) REMOVE AND DISPOSE EXIST INLET

(3) REMOVE AND DISPOSE EXIST MANHOLE

(4) GROUT FILL AND ABANDON EXIST PIPE

(5) ABANDON EXIST MANHOLE

(6) CUT AND PLUG EXIST PIPE

(7) REMOVE PLUG AND CONNECT TO EXISTING STORM SEWER PIPE

(8) EXIST STORM SEWER TO REMAIN

(9) ADJUST EXIST MANHOLE FRAME AND COVER TO MATCH PROPOSED GRADE.

(10) ADJUST EXIST WATER VALVE BOX, WATER METER AND/OR VAULTS TO MATCH PROPOSED GRADE

(11) EXIST WATER METER TO BE RELOCATED.

(12) CONNECT TO EXIST WATER METER.

(13) REMOVE AND SALVAGE EXISTING FIRE HYDRANT.

(14) EXISTING FIRE HYDRANT TO REMAIN. PROTECT DURING CONSTRUCTION.

(15) CUT, PLUG AND ABANDON EXIST WATER LINE

(16) BLANK

(17) ROADWAY RADIUS = 25'

(18) DRIVEWAY RADIUS = 10'

(19) EXIST SIDEWALK TO REMAIN.

(20) REMOVE AND DISPOSE EXIST SIDEWALK.

(21) PROP CONC SIDEWALK (5' WIDTH UNLESS OTHERWISE NOTED)

(22) CONNECT TO EXIST SIDEWALK.

(23) PROPOSED WHEEL CHAIR RAMP.

(24) REMOVE AND DISPOSE EXIST CONCRETE PAVEMENT, CONCRETE BASE, AND CEMENT STABILIZED SHELL BASE COURSE WITH OR WITHOUT ASPHALT SURFACING.

(25) REMOVE AND DISPOSE EXIST ASPHALT PAVEMENT, WITH OR WITHOUT BASE.

(26) PROPOSED 6" THICK REINFORCED CONCRETE PAVEMENT WITH 8" STABILIZED SUBGRADE.

(27) REMOVE AND DISPOSE CURB & GUTTER, AS APPLICABLE.

(28) PROPOSED STANDARD CURB & GUTTER, AS SHOWN ON STANDARD DETAIL 02771-01-CURB, CURB AND GUTTER AND HEADER DETAILS.

(29) MATCH EXISTING CURB OR CURB AND GUTTER FOR GRADE AND ALIGNMENT.

(30) RECONNECT EXISTING CURB DRAIN.

(31) PROPOSED STANDARD CONCRETE PAVING HEADER AS SHOWN ON STANDARD DETAIL 02771-01-CURB, CURB AND GUTTER AND HEADER DETAILS.

(32) SAWCUT AND EXPOSE 18" OF EXISTING REBAR AND CONNECT TO PROPOSED CONCRETE PAVEMENT.

(33) PROPOSED FULL DEPTH SAWED JOINT, SEE NOTE 34 (BELOW).

(34) HORIZONTAL DOWELS SHALL BE NO. 6 BARS, 24 INCHES LONG, DRILLED AND EMBEDDED 12 INCHES INTO THE CENTER OF THE EXISTING SLAB WITH PO ROC OR EQUAL. DOWELS SHALL BE 12 INCHES CENTER TO CENTER, UNLESS OTHERWISE SPECIFIED.

(35) ASPHALT TRANSITION PAVEMENT 2" THICK HMAC (SURF) W/6" THICK BASE COURSE AND 8" THICK LIME TREATED SUBGRADE.

(36) EXIST SANITARY SEWER MANHOLE TO REMAIN

(37) EXIST SANITARY SEWER PIPE TO REMAIN

(38) PLUG EXIST SANITARY SEWER PIPE

(39) PROPOSED SANITARY SEWER VENT

(40) PROPOSED 6" SANITARY SERVICE LEAD WITH CLEANOUT AND WYE(S) TO BE CONNECTED TO EXIST SANITARY SEWER SERVICE LEAD AT RIGHT-OF-WAY.

(41) PROPOSED 6" SANITARY SERVICE LEAD WITH CLEANOUT AND WYE(S) TO BE PLUGGED AT THE RIGHT-OF-WAY FOR FUTURE CONNECTION.

(42) EXISTING SIGN TO BE REMOVED AND REPLACED.

(43) EXISTING POWER POLE TO BE RELOCATED BY OTHERS.

(44) EXISTING UTILITY TO BE BRACED DURING CONSTRUCTION AS NECESSARY.

(45) EXISTING IRRIGATION SYSTEM DAMAGED DURING CONSTRUCTION TO BE REPLACED TO EXISTING CONDITION OR BETTER. NOT TO BE PAID FOR SEPARATELY BUT TO BE INCLUDED IN THE OVERALL COST OF THE WORK.

(46) REQUIRED TREE PROTECTION. SEE SPECIFICATION 01562

(47) CENTER ONE FULL SECTION OF PROPOSED WATERLINE

(48) CENTER ONE FULL SECTION OF PROPOSED DIP WATERLINE

(49) SHALLOW STORM SEWER. USE CAUTION WHEN COMPACTING SUBGRADE IN AREAS DESIGNATED BY THIS KEYNOTE ON DARLENE LANE. HAND TAMP SUBGRADE IN LIEU OF MACHINE COMPACTION TO AVOID DAMAGING STORM SEWER PIPE

GENERAL NOTES

1. CONSTRUCT WASTE WATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING IN ACCORDANCE WITH THE LATEST EDITION OF THE PUBLICATIONS STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, PAVING PUBLISHED BY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER, STORM WATER LINES AND TRAFFIC CONTROL DEVICES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEER'S STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, AND STREET PAVING AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING, REFERENCED ABOVE, AT NO ADDITIONAL COST.
3. UTILITIES PRESENTED ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/800-245-4545 AND LONE STAR ONE CALL AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.
4. ALL EXISTING UTILITIES CROSSING TRENCH TO BE PROPERLY BRACED DURING CONSTRUCTION IN THE AREA.

STORM CONSTRUCTION NOTES

1. STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACK FILLED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 2317-02, 02317-3, 02317-05, 02317-06, AND 02317-07 (JULY 2019) AS APPLICABLE UNLESS OTHERWISW SHOWN ON THE DRAWINGS.
2. ALL STORM SEWER CONSTRUCTED IN SIDELOT EASMENT SHALL BE R.C.P (C-76, CLASSIII) AND SHALL BE EMBEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.
3. ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT/C.Y. STABLIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.
4. ALL TRENCH BACKFILL SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND MECHNICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMACTION TEST (ASTM D-698/AASHTO T99).
5. CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINT CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.
6. ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24" AND LARGER R.C.P. (C-76, CLASSIII).
7. ALL PRPOSED PIPE STUB-OUTS FROM MANHOLES AND INLET LEADS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
8. MINIMUM HORIZONTAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 48-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES. MINIMUM VERTICAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 24-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES.
9. ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS, AND VALAVE BOXES TO GRADE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF THIS WORK.
11. ALL DITCHES SHALL BE GRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.
12. ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.

SANITARY CONSTRUCTION NOTES

1. ALL SEWERS SHALL BE SUBJECT TO A STANDARD EXFILTRATION TEST. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE CITY REQUIREMENTS ARE MORE STRINGENT.
2. ALL MANHOLES ARE TO BE PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02082-01, 02082-02, 02082N-02, 02082-03, AND 02082N-03 UNLESS OTHERWISE NOTED. USE THE LATEST VERSION AS APPLICABLE.
3. SANITARY SEWER MANHOLES WILL HAVE BEDDING AND BACKFILL PER CITY OF HOUSTON STANDARD DETAILS DRAWING NO. 02317-08 UNLESS OTHERWISE NOTED.
4. THE SANITARY SEWER PVC PIPE SHALL BE ASTM D 3034 TYPE PSM SDR 26 GRAVITY SEWER PIPE, ASTM D2241 SDR 26 PRESSURE RATED SEWER PIPE OR AWWA C-900 DR-18 GREEN PVC PRESSURE RATED SEWER PIPE BASED ON CONSTRUCTION CONDITION REQUIREMENT AND CONFORMING TO ASTM D1784 AND CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02506 POLYVINYL CHLORIDE PIPE.
5. WHEN SS PRESSURE RATED PVC PIPE IS USED ON WATERLINE (WL) CROSSING UNDER CONDITION 1 OF COH IDM TABLE 7.3, THE SAME TYPE OF D2241 SDR 26 PVC PIPE OR C-900 GREEN DR-18 PVC GREEN PRESSURED TO BE UTILIZING IN-BETWEEN TWO SS MH'S. OR TO UTILIZE A DI TRANSITION ADAPTER FOR THE CONNECTING OF ASTM D-3034 PVC GRAVITY PIPE TO DI-OD AWWA C-900 PVC PIPE CENTERED AT WL WHEN CONNECTING TWO DIFFERENT TYPES OF PVC PIPES FOR SEWER CONSTRUCTION.
6. AWWA C-900 DR-18 PVC PIPE USES EITHER AWWA C900 DR-18 PVC FITTINGS OR DIP FITTINGS.
7. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02317-01, 02317-02, OR 02317-03 AS APPLICABLE, WITH 1 ½ SACK CEMENT/CY STABILIZED SAND BACKFILL UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE. 100 PSI PERFORMANCE RESULTS ARE STILL REQUIRED.
8. ALL NEW SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN 12 INCHES AND 9 FEET SHALL HAVE A MINIMUM OF ONE 18' JOINT OF DUCTILE IRON OR (GREEN) C900 PVC PIPE MEETING ASTM SPECIFICATION D2241 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER, PROVIDE MINIMUM 2 FOOT SEPARATION.
9. CONTRACTOR SHALL PROVIDE A MINIMUM HORIZONTAL CLEARANCE OF 9' FEET BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.
10. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3' – 6' ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADDED FOR STORM WATER TO DRAIN AWAY FROM MANHOLE RIM.
11. IN WET STABLE TRENCH AREAS USE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBER 02317-02.
12. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5% IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 217.57 LATEST AMENDMENT AND WITHOUT MECHANICAL PULLING DEVICES. NO BALL-TYPE MANDREL IS ALLOWED.
13. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.57 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.
    A. INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET.
    B. LOW-PRESSURE AIR TEST: PERFORM TEST ACCORDING TO UNI-B-6-90 OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36" (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL BE AS FOLLOWS:
        6" 340 SECONDS OR 0.855(L) FOR TEST LENGTHS GREATER THAN 398'
        8" 454 SECONDS OR 1.520(L) FOR TEST LENGTHS GREATER THAN 298'
        10" 567 SECONDS OR 2.374(L) FOR TEST LENGTHS GREATER THAN 239'
        12" 680 SECONDS OR 3.419(L) FOR TEST LENGTHS GREATER THAN 199'
        15" 850 SECONDS OR 5.342(L) FOR TEST LENGTHS GREATER THAN 159'
        18" 1020 SECONDS OR 7.693(L) FOR TEST LENGTHS GREATER THAN 133'
        WHERE L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET.
14. "SAN. S. E." INDICATES "SANITARY SEWER EASEMENT"
15. FOR SANITARY MANHOLE (MH) RIMS SET INSIDE OF OR @ CURB & GUTTER PAVEMENT AND/OR BELOW T.C., MH RIMS WILL BE SET FLUSHED WITH AN ABUTTING PAVED SURFACE. THE (VALCUN, NEENAH OR EQUAL) HEAVY DUTY BOLTED SOLID MH COVER SHALL BE PROPERLY (AND SECURELY) ATTACHED AND SEALED TO ITS COMPATIBLE GASKETED FRAME BY USING BOTH A NEOPRENE GASKET AND (AT LEAST) 4 COUNTER-SUNK HEX-HEAD COARSE THREADED ¾"-13 UNC STAINLESS STEEL BOLTS. THE HEAVY DUTY FRAME MH COVER SHALL BE SOLID (NO AIR HOLES). SAID FRAME SHALL BE BOTH EMBEDDED INTO THE MH'S TOP ALSO SECURELY ANCHORED TO THE UNDERLYING MH STRUCTURE WITH EITHER SECURELY ATTACHED EMBEDDED ANCHOR BOLTS OR THE CONCRETE MH'S EXPOSED REBARS WELDED TO THE FRAME OR OTHER EQUALLY SECURED METHODS TO PREVENT MH COVER/FRAME BLOW-OFFS/EJECTIONS.

SWPPP CONSTRUCTION NOTES

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPP) PLANS TO KEEP SILT AND OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.
2. DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATION MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALLS ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEPT BACK INTO THE EXCAVATED AREA.
3. CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FORM THE EXCAVATED AREA.
4. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
5. CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
    - DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
    - AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
    - STRUCTURAL CONTROL MEASURES.
    - LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
6. CONTRACTOR TO BE RESPONSIBLE TO MAINTAIN EXISTING DITCHES AND OR CULVERTS FOR UNOBSTRUCTED DRAINAGE AT ALL TIMES. WHERE SODDING IS DISTURBED BY EXCAVATION ON BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING OR SODDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.

STANDARD HCFCD NOTES FOR CONSTRUCTION DRAWINGS

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.

WATER CONSTRUCTION NOTES

1. ALL 4" THROUGH 12" WATER LINE TO BE AWWA C-900 PVC DR-18 BLUE PRESSURE RATED WATER MAIN WITH 2" AND SMALLER WATER SERVICE LINE TO BE CONTINUOUS TYPE K COPPER TUBING PER COH STANDARD SPECIFICATION SECTION 02503. ALL 4" THRU 54" DI PIPE WATER LINES SHALL BE AWWA C151 WITH INSIDE LINING WITH AWWA C104 AND DOUBLE WRAPPED WITH 8-MIL POLYETHYLENE SHEETS.
2. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. USE RESTRAINED JOINTS WHERE PREVENTING PIPE MOVEMENT IS NECESSARY DUE TO THRUST.
3. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT OF ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
4. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF HOUSTON AND TCEQ REGULATIONS.
5. ALL WATER VALVES SHALL BE SUPPLIED AND INS TALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
6. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EVERY 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTIMINATION PERSISTS.
7. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
8. 4" THRU 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.
9. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS. TESTS ARE TO BE PERFORMED ON THE ENTIRE FOOTAGE OF WATER PIPE INCLUDED IN THE PROJECT.
10. ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEARANCE TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.
11. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAPPED (OR OTHERWISE EFFECTIVELY COVERED) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.

GRADING NOTES

1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND.
3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN PAVED AREAS, AND SHALL NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.
4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
5. ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. DISPOSAL SHALL BE AT AN APPROVED OFF-SITE, LAWFUL LOCATION, UNLESS DIRECTED OTHERWISE BY THE OWNER.

FLOODPLAIN NOTES

1. THE PROJECT IS LOCATED PARTIALLY WITHIN ZONE AE, 1% (100-YEAR) AND ZONE X, 0.2% (500-YEAR) ANNUAL CHANCE FLOOD ZONES PER FIRM 48201C0915N. SEE SHEET 18 FOR FULL FLOODPLAIN EXTENTS
2. NO NET FILL IN FLOODPLAIN

CENTERPOINT ENERGY NOTES

CAUTION: UNDERGROUND GAS FACILITIES

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) 207-5463 OR (713) 945-8037 (7:00 A.M. TO 4:30 P.M.) 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.

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

WARNING: OVERHEAD ELECTRICAL LINES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

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

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

WARNING: UNDERGROUND ELECTRICAL UTILITIES

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

- ALL INFORMATION CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTORS ARE RESPONSIBLE MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND PIPELINES, CONDUITS, AND STRUCTURES BY CONTACTING OWNERS OF UNDERGROUND UTILITIES OR BY EXCAVATING IN ADVANCE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES WHEN AND WHERE THEY FALL IN THE PATH OF CONSTRUCTION.
- THE CONTRACTOR IS ALSO RESPONSIBLE FOR CONTACTING THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 AND TEXAS ONE CALL AT 1-800-245-4545, FORTY-EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION.
- THE LOCAT

BOREHOLE INFORMATION			
GB #	ELEV. (FT)	COORDINATE	
		EASTING (X)	NORTHING (Y)
50	32.33	3172034.6246	13803376.3938
51	31.67	3172575.6037	13803419.6642
52	31.76	3172780.1915	3172780.1915
53	32.17	3172790.3543	13803659.3471
54	31.76	3172421.3857	13803715.7354
55	31.62	3171929.1480	13803686.9137
56	32.40	3171683.7375	13803924.5946
57	32.02	3172203.1081	13803984.8406
58	32.04	3172641.5888	13804023.5124
59	32.95	3172756.9084	13804292.6964
60	32.18	3172415.8534	13804277.1641
61	32.34	3171902.8176	13804248.3367
62	32.52	3171592.2015	13804186.9810
63	33.18	3171592.9455	13804485.1108
64	31.94	3172038.6899	13804554.3460
65	32.21	3172524.9633	13804578.7627
66	33.03	3172740.1288	13804634.9791
67	32.17	3172456.1165	13804838.6157
68	31.63	3172187.3850	13804824.3899
69	32.30	3171803.9473	13804815.2481
70	32.43	3171378.5017	13804709.2997
71	32.82	3171383.9956	13805009.0961
72	31.32	3171974.4920	13805102.7310
73	31.77	3172498.7989	13805136.8193
74	33.02	3172704.7575	13804976.9322
75	32.71	3172707.9308	13805286.8457

PROPOSED IMPROVEMENTS ON BALCONES DRIVE BY OTHERS NOT IN THIS PROJECT (SEE ARLINGTON HEIGHTS SUB-PROJECT 1)

H.C.F.C.D. UNIT NO. C106-08-00

H.C.F.C.D. UNIT NO. C106-08-02

MATCH LINE (SEE BELOW)

MATCH LINE (SEE ABOVE)

LEGEND

SYMBOL	DESCRIPTION
	PROP STORM SEWER
	EXIST STORM SEWER
	GEOTECHNICAL BORING LOCATION

0 100 200
SCALE IN FEET

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

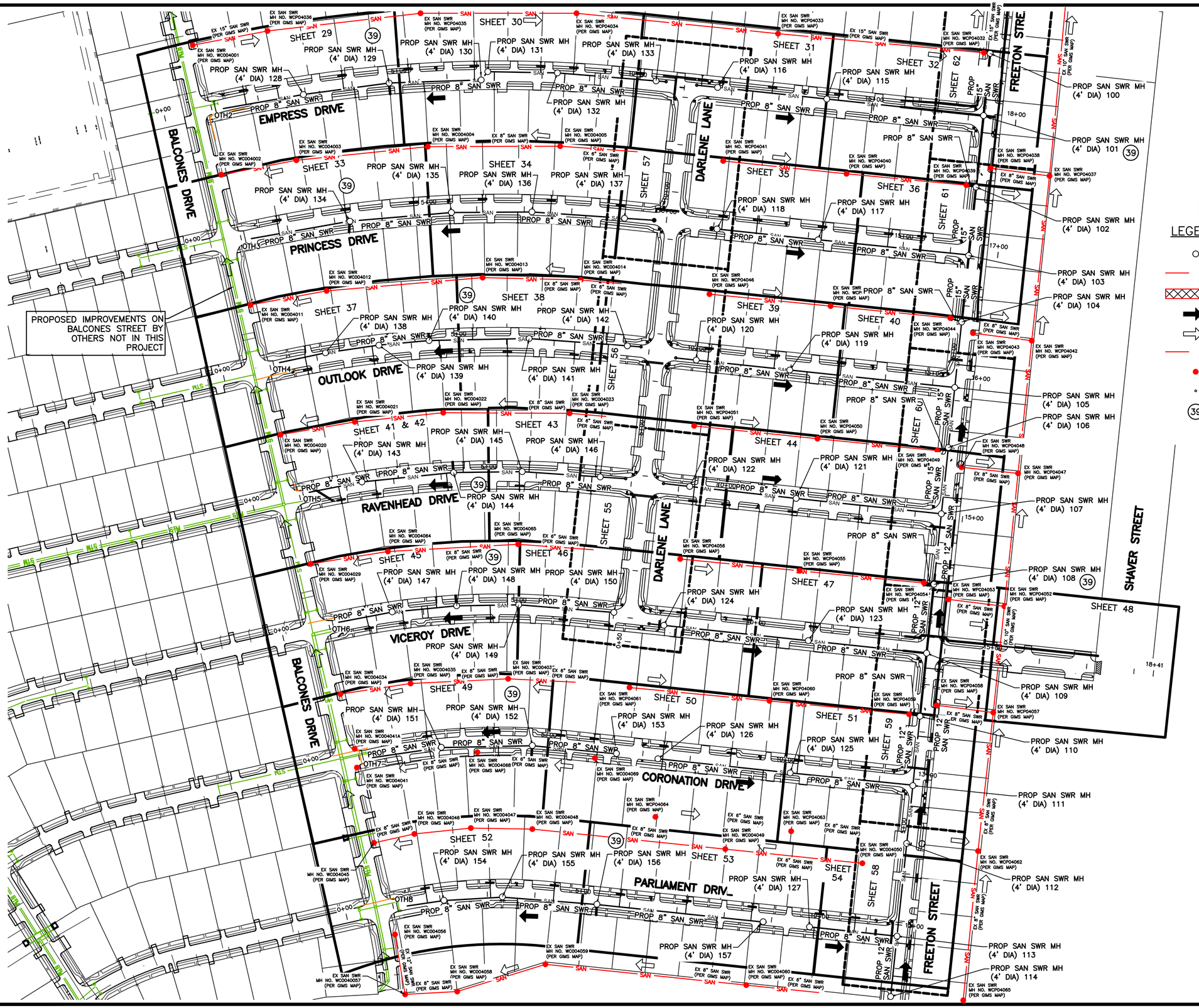
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

OVERALL ROADWAY, STORM SEWER, AND BOREHOLE LAYOUT

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=100' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 5 OF 175	

No.	Date	Revisions	Appr.

\\hrghus\data\05130030\cad\dwgs\c\overall roadway & storm sewer layout.dwg Plotted May 22, 2026 at 9:02 AM by Perez, Abel



LEGEND:

- PROP SAN SWR MH
- PROP SAN SWR PIPE
- ONE FULL SECTION OF PRESSURE RATED PIPE (18' MIN)
- DIRECTION OF PROP SAN SWR FLOW
- DIRECTION OF EX SAN SWR FLOW
- EX SAN SWR
- EX SAN SWR MH
- ◦ OTH# PROP SAN MH (BY OTHERS)
- (39) SANITARY SEWER MANHOLE WITH VENT, SEE SHEET 03

NOTE:
ALL PROP SAN SWR MH ARE GASKETED, WATERTIGHT, AND CORROSION RESISTANT

Civitas Engineering Group
ENGINEERING GROUP
Civitas Engineering Group
Engineers ▲ Planners ▲ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.8996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

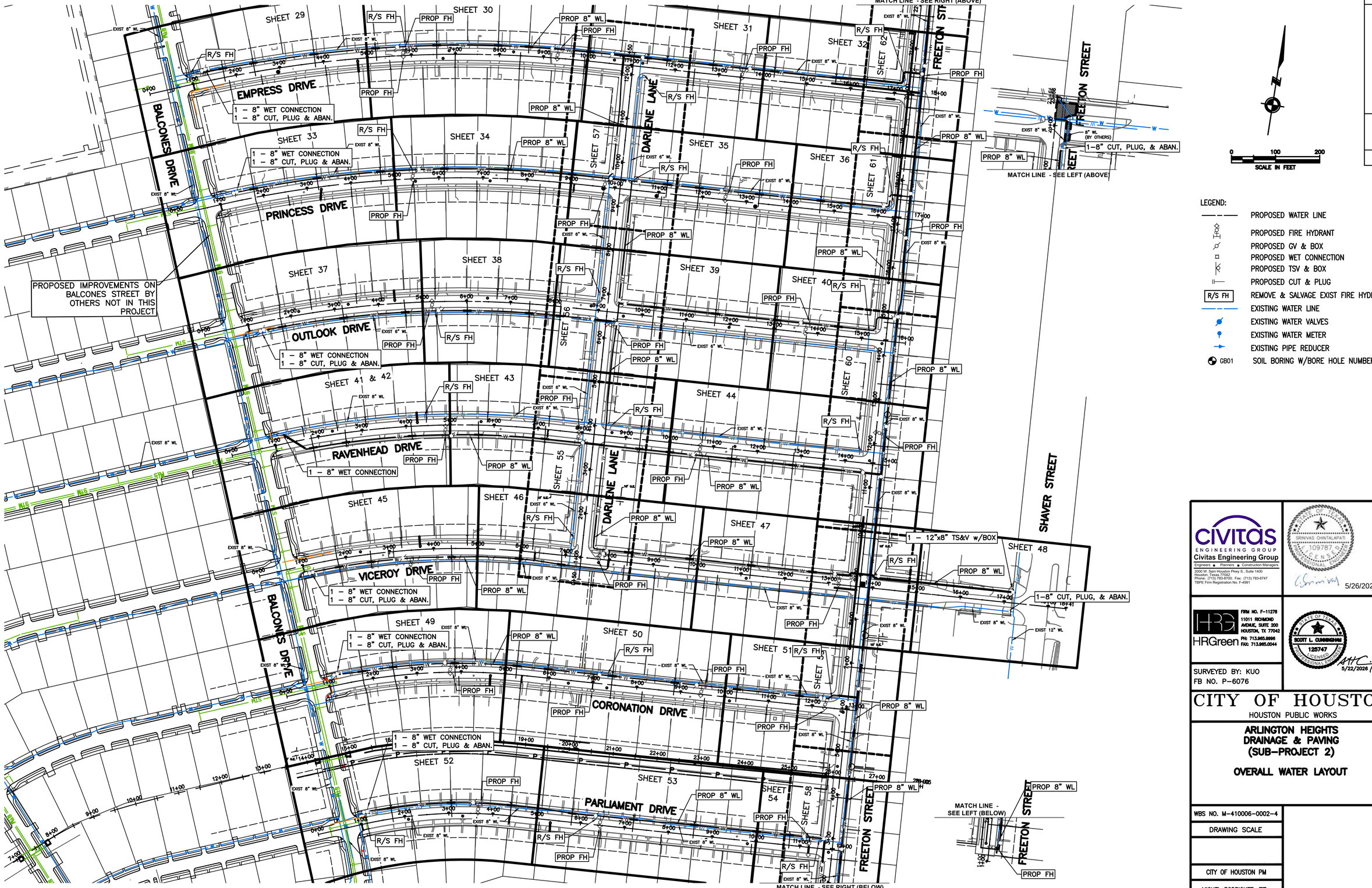
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

OVERALL SANITARY SEWER LAYOUT

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 6 OF 175	

No. | Revisions | Date | App.

\\hrghus\data\85130030\cad\dwgs\c\4b overall sanitary sewer layout.dwg Plotted May 22, 2026 at 8:55 AM by Perez, Abel



LEGEND:

- PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED GV & BOX
- PROPOSED WET CONNECTION
- PROPOSED TSV & BOX
- PROPOSED CUT & PLUG
- R/S FH — REMOVE & SALVAGE EXIST FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WATER VALVES
- EXISTING WATER METER
- EXISTING PIPE REDUCER
- GB01 — SOIL BORING W/BORE HOLE NUMBER

No.	Date	Revisions	Appr.

Civitas Engineering Group
ENGINEERS ◆ PLANNERS ◆ CONSTRUCTION MANAGERS
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, TX 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SERVAS CHITALAPU 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9098
FAX: 713.965.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

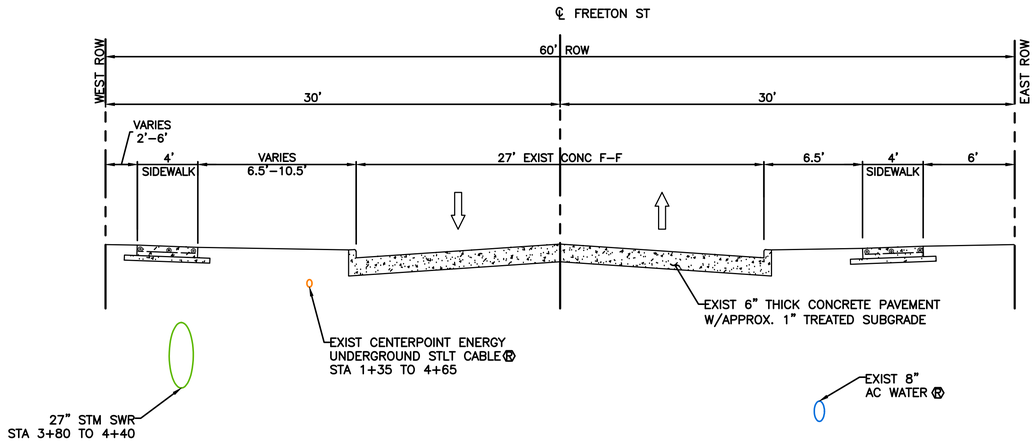
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

OVERALL WATER LAYOUT

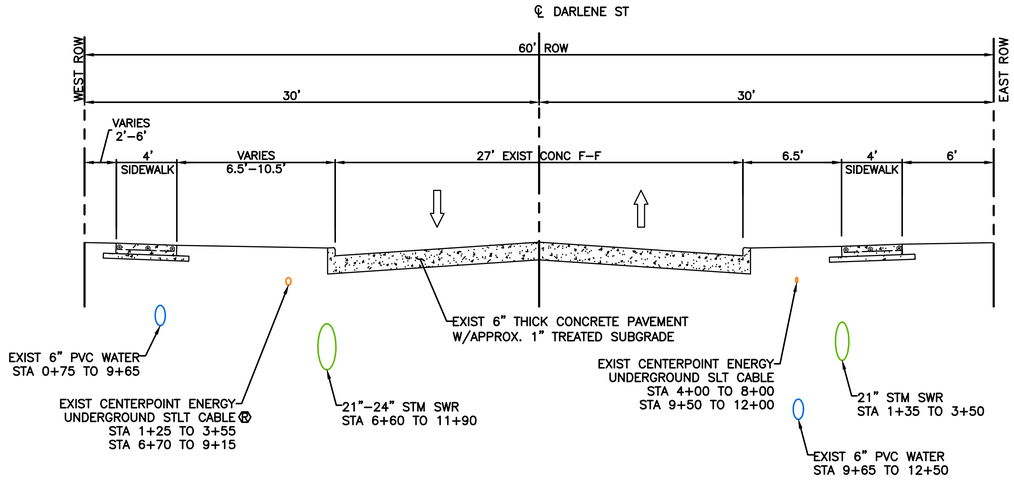
WBS NO. M–410006–0002–4	
DRAWING SCALE	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 7 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\4c overall layout water.dwg Plotted May 22, 2026 at 9:18 AM by Perez, Abel



EXISTING TYPICAL SECTION FREETON ST

SCALE: 1"=5' H
NTS V



EXISTING TYPICAL SECTION DARLENE ST

SCALE: 1"=5' H
NTS V

LEGEND

EXIST CONCRETE PAVEMENT

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

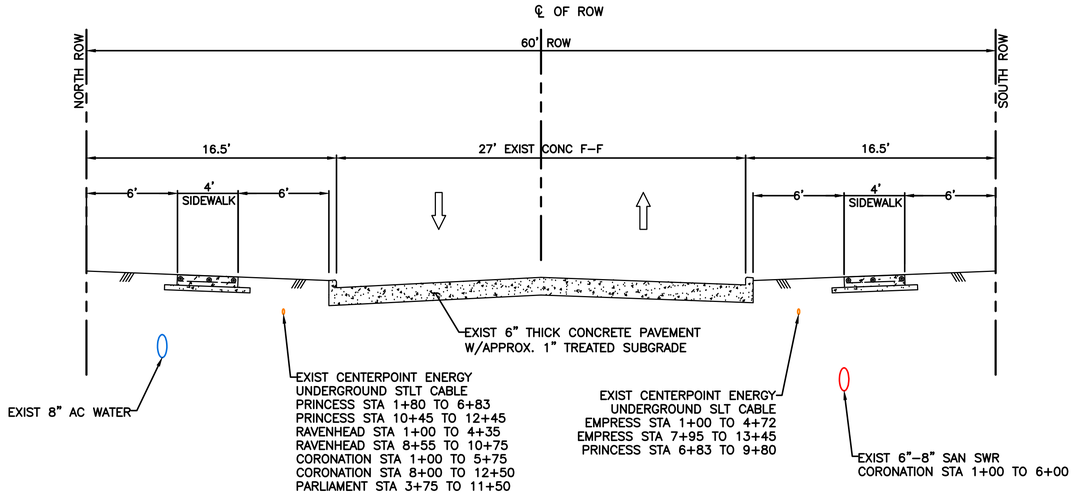
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

EXISTING TYPICAL SECTION SHEET 1 OF 2

WBS NO. M-410006-0002-3	
DRAWING SCALE	
H: 1"=5' (FULL) V: NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 12 OF 175	

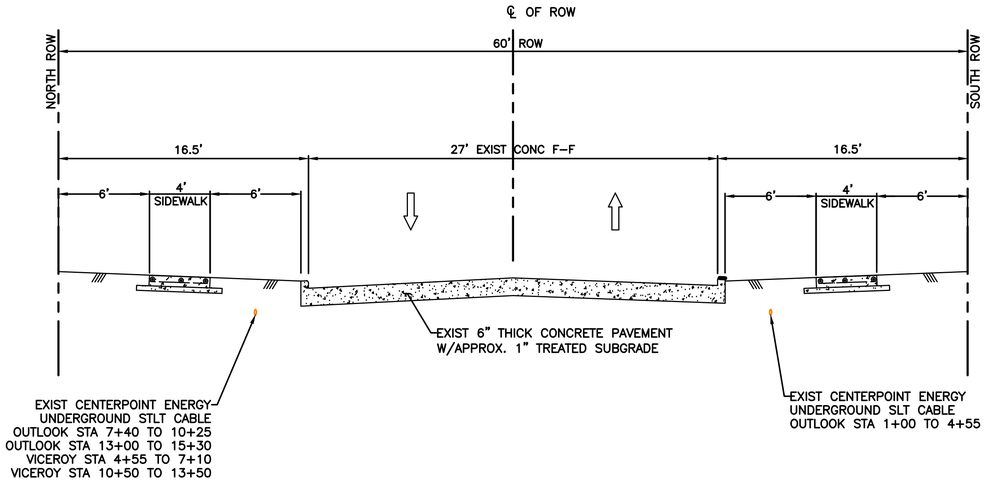
\\hrghus\data\85130030\cad\dwgs\c\existing typical section sheet 1 of 2.dwg Plotted May 22, 2026 at 8:39 AM by Perez, Abel



EXISTING TYPICAL SECTION W/CURB & GUTTER

SCALE: 1"=5' H
NTS V

EMPRESS DR	STA 1+00 TO STA 18+00
PRINCESS DR	STA 1+00 TO STA 17+00
RAVENHEAD DR	STA 1+00 TO STA 15+00
CORONATION DR	STA 1+00 TO STA 13+00
PARLIAMENT DR	STA 1+00 TO STA 12+00



EXISTING TYPICAL SECTION W/CURB & GUTTER

SCALE: 1"=5' H
NTS V

OUTLOOK DR	STA 1+00 TO STA 16+00
VICEROY DR	STA 1+00 TO STA 17+50

LEGEND

EXIST CONCRETE PAVEMENT

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9000
FAX: 713.955.0044

SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

EXISTING TYPICAL SECTION SHEET 2 OF 2

WBS NO. M-410006-0002-3

DRAWING SCALE

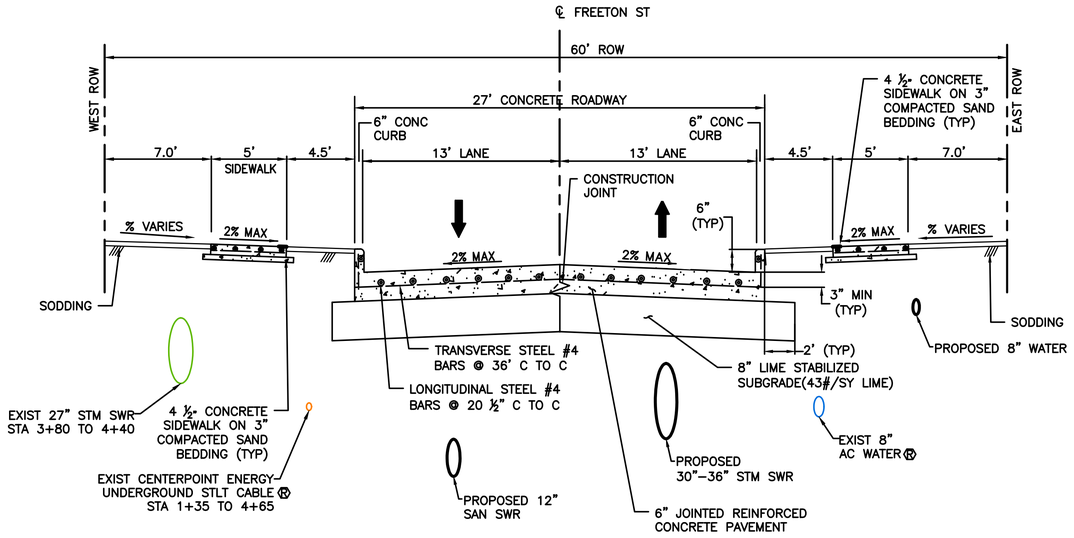
H: 1"=5' (FULL)
V: NTS

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

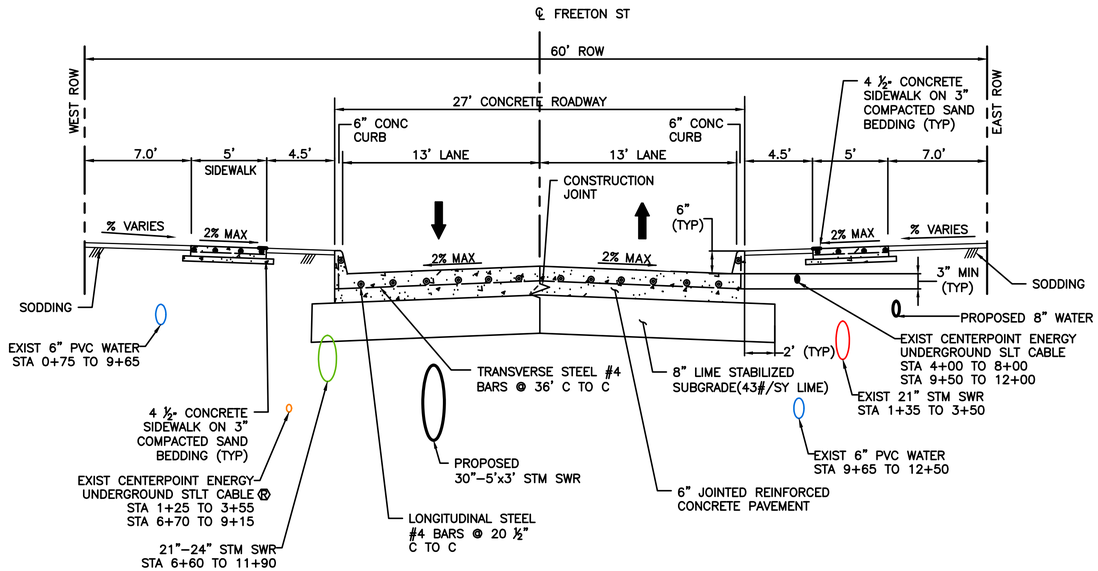
SHEET NO. 13 OF 175

\\hrghus\data\85130030\cad\dwga\c\existing typical section.dwg Plotted May 22, 2026 at 8:42 AM by Perez, Abel



PROPOSED TYPICAL SECTION FREETON ST

SCALE: 1"=5' H
NTS V



PROPOSED TYPICAL SECTION DARLENE ST

SCALE: 1"=5' H
NTS V

LEGEND

PROP CONCRETE PAVEMENT

NOTE:
ALL DISTURBED EARTHEN AREAS TO BE SODDED.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

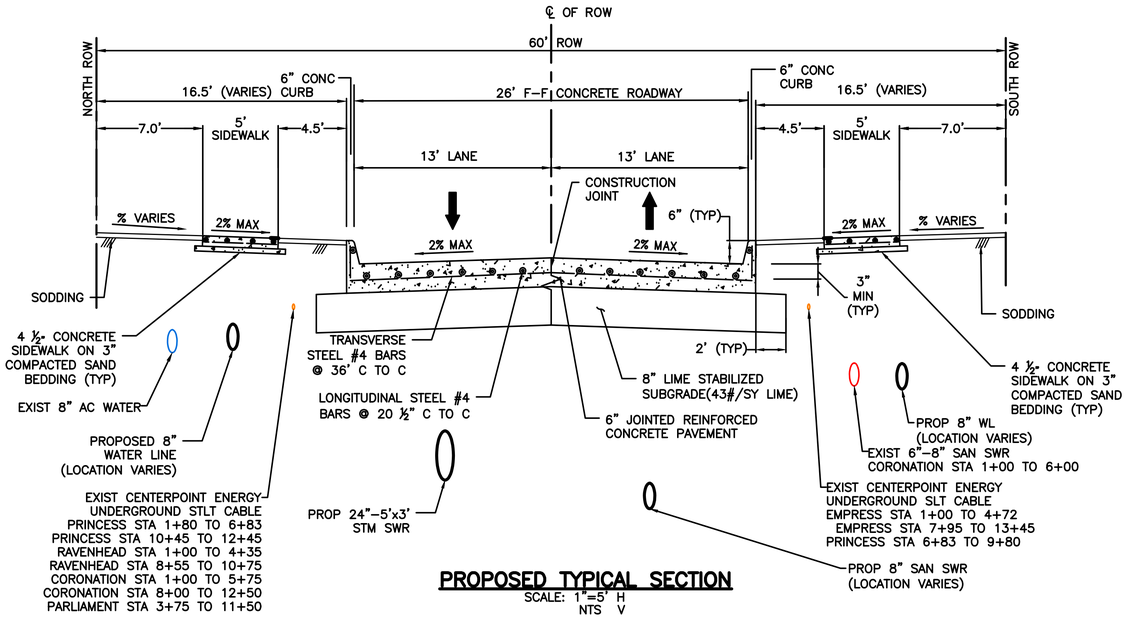
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PROPOSED TYPICAL SECTION SHEET 1 OF 2

WBS NO. M-410006-0002-3
DRAWING SCALE
H: 1"=5' (FULL) V: NTS
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 14 OF 175

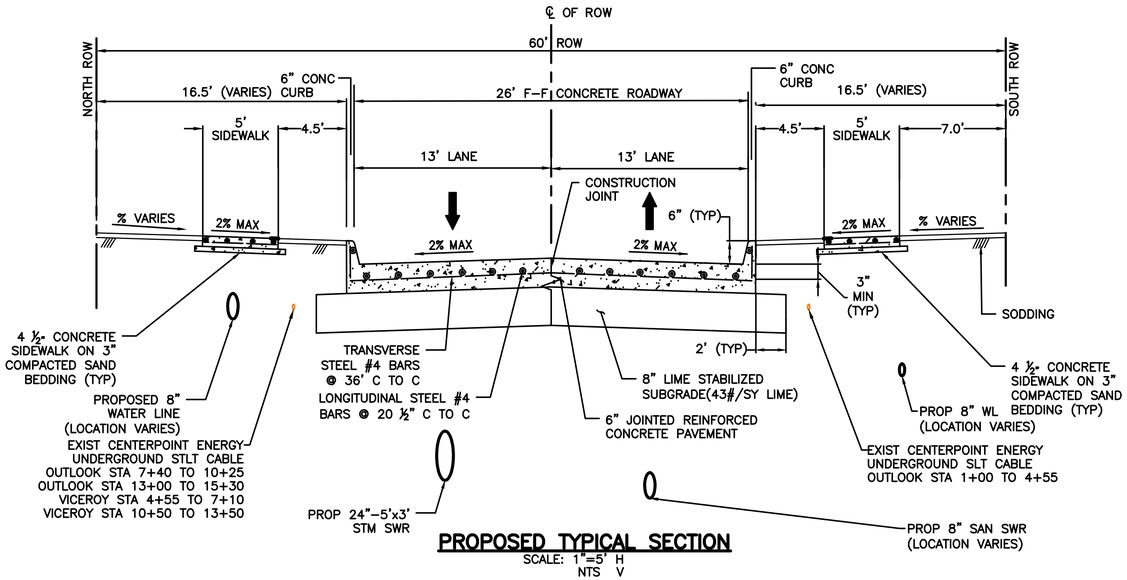
\\hrghus\data\85130030\cad\dwgs\c\proposed typical section sheet 1 of 2.dwg Plotted May 22, 2026 at 9:21 AM by Perez, Abel



PROPOSED TYPICAL SECTION

SCALE: 1"=5' H
NTS V

EMPRESS DR	STA 1+00 TO STA 18+00
PRINCESS DR	STA 1+00 TO STA 17+00
RAVENHEAD DR	STA 1+00 TO STA 15+00
CORONATION DR	STA 1+00 TO STA 13+00
PARLIAMENT DR	STA 1+00 TO STA 12+00



PROPOSED TYPICAL SECTION

SCALE: 1"=5' H
NTS V

OUTLOOK DR	STA 1+00 TO STA 16+00
VICEROY DR	STA 1+00 TO STA 17+50

LEGEND

PROP CONCRETE PAVEMENT

NOTE:
ALL DISTURBED EARTHEN AREAS TO BE SODDED.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PROPOSED TYPICAL SECTION SHEET 2 OF 2

WBS NO. M-410006-0002-3	
DRAWING SCALE	
H: 1"=5' (FULL) V: NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 15 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\proposed typical section sheet 2 of 2.dwg Plotted May 22, 2026 at 8:50 AM by Perez, Abel

EMPRESS DRIVE
PRINCESS DRIVE
OUTLOOK DRIVE
RAVENHEAD DRIVE
VICEROY DRIVE
CORONATION DRIVE
PARLIAMENT DRIVE
PARLIAMENT DRIVE
BALCONES DRIVE
BALCONES DRIVE
DARLENE LANE
SHAVER STREET
FREETON STREET
OVERHEAD UTILITY CONFLICT
OVERHEAD UTILITY
STM
P

N

0 100 200
SCALE IN FEET

LEGEND

SYMBOL	DESCRIPTION
STM STM	PROP STORM SEWER
STM STM	EXIST STORM SEWER
P	OVERHEAD POWER LINE
	POTENTIAL OVERHEAD UTILITY CONFLICT

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9066
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

OVERHEAD UTILITIES LAYOUT

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=100' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 16 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\overhead power line layout 1.dwg Plotted May 22, 2026 at 9:18 AM by Perez, Abel

N

0 200 400

SCALE IN FEET

LEGEND

SYMBOL	DESCRIPTION
	100–YR FLOODPLAIN
	500–YR FLOODPLAIN
—STM—O—STM—	PROPOSED STM SEWER

FLOODPLAIN NOTE:
THE PROJECT IS LOCATED PARTIALLY WITHIN ZONE AE, 1% (100–YEAR) ANNUAL CHANCE FLOOD ZONE PER FIRM 48201C0915N. A PORTION OF IT IS ALSO WITHIN ZONE X, 0.2% (500–YEAR) ANNUAL CHANCE FLOOD ZONE

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

OVERALL DRAINAGE AREA MAP

WBS NO. M–410006–0002–3	
DRAWING SCALE	
1"=200' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 17 OF 175	

\\hrghus\data\85130030\cad\plwgs\c\drainage area map_overall_existing.dwg Plotted May 22, 2026 at 9:12 AM by Perez, Abel

MATCH LINE

EMPRESS DRIVE

PRINCESS DRIVE

OUTLOOK DRIVE

RAVENHEAD DRIVE

VICEROY DRIVE

CORONATION DRIVE

PARLIAMENT DRIVE

DRAINAGE SYSTEM 800

DRAINAGE SYSTEM 400

DRAINAGE SYSTEM 600

DRAINAGE SYSTEM 500

DRAINAGE SYSTEM 300

DRAINAGE SYSTEM 700

DARLENE LANE

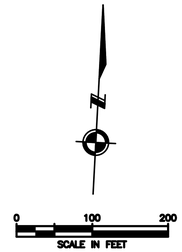
BALCONES DRIVE

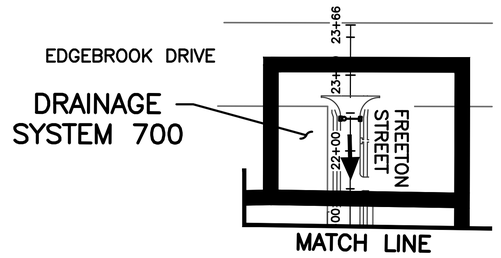
FREETON STREET

SHAVER STREET

EDGEBROOK DRIVE

HCFCD UNIT NO. C106-08-02





LEGEND

SYMBOL	DESCRIPTION
▬▬	DRAINAGE SYSTEM BOUNDARY
▬ ▬	DRAINAGE AREA BOUNDARY
←	PROPOSED SHEET FLOW (100-YEAR)
X	DENOTES CONTRIBUTING OFFSITE BASIN AREA
—STM—O—STM—	PROPOSED STM SEWER

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

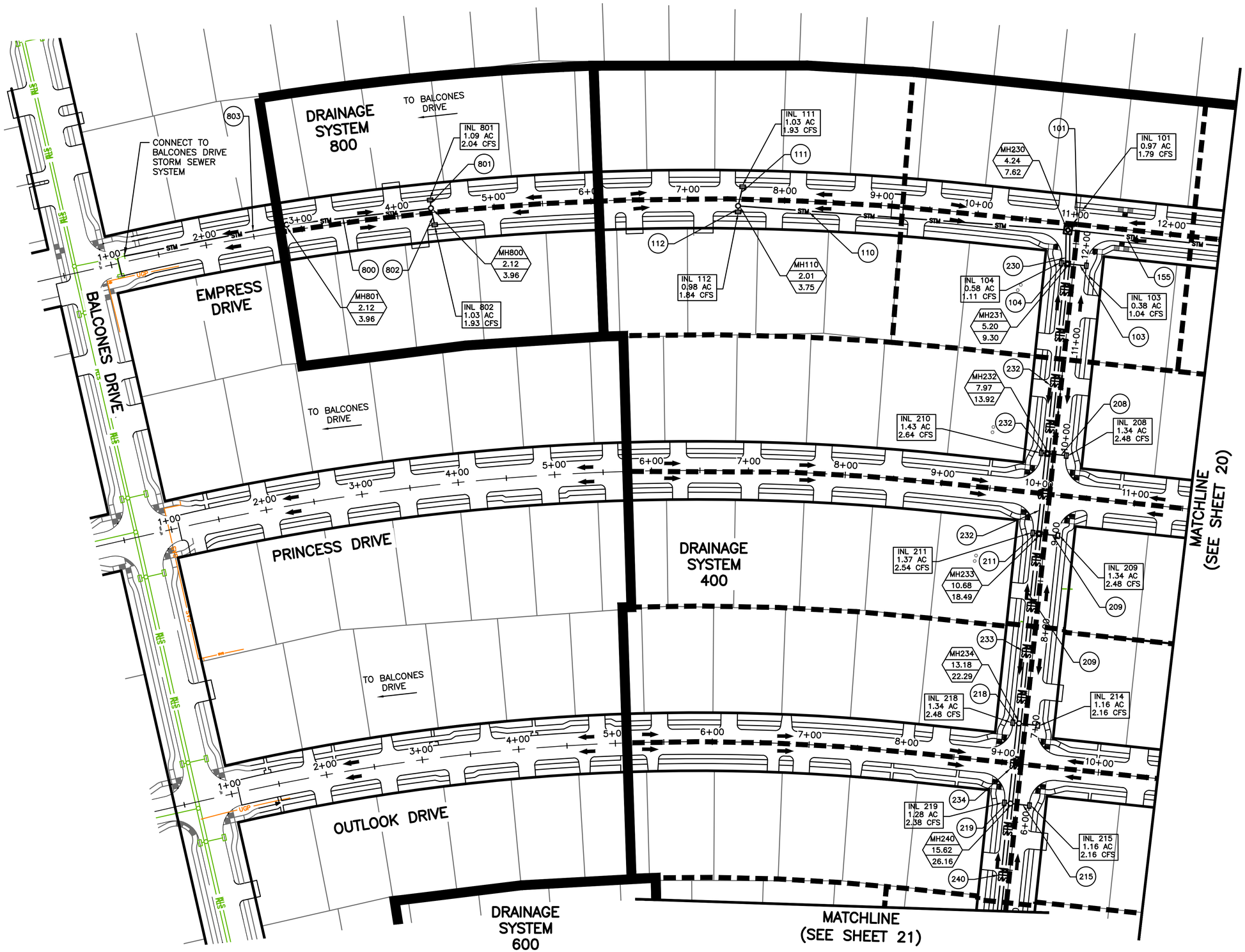
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PROPOSED DRAINAGE SYSTEM MAP

WBS NO. M-410006-0002-3	
DRAWING SCALE	
1"=100' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 18 OF 175	

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\drainage area map_overall_proposed.dwg Plotted May 22, 2026 at 9:24 AM by Perez, Abel



LEGEND

SYMBOL	DESCRIPTION
INLET NO. / DRN AREA / FLOW	DRAINAGE AREA DESIGNATION/ INLET NO. 2 YR CFS
MH# / AC / FLO	MANHOLE NUMBER / TOTAL ACCUMULATIVE ACRES / TOTAL ACCUMULATIVE 2-YEAR Q (CFS)
101	PIPE DESIGNATION (HOUSTORM)
	PROPOSED STM INLET
	DRAINAGE AREA BOUNDARY
STM — STM	PROPOSED STM SEWER
	PROPOSED STREET FLOW (2-YEAR)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6906
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

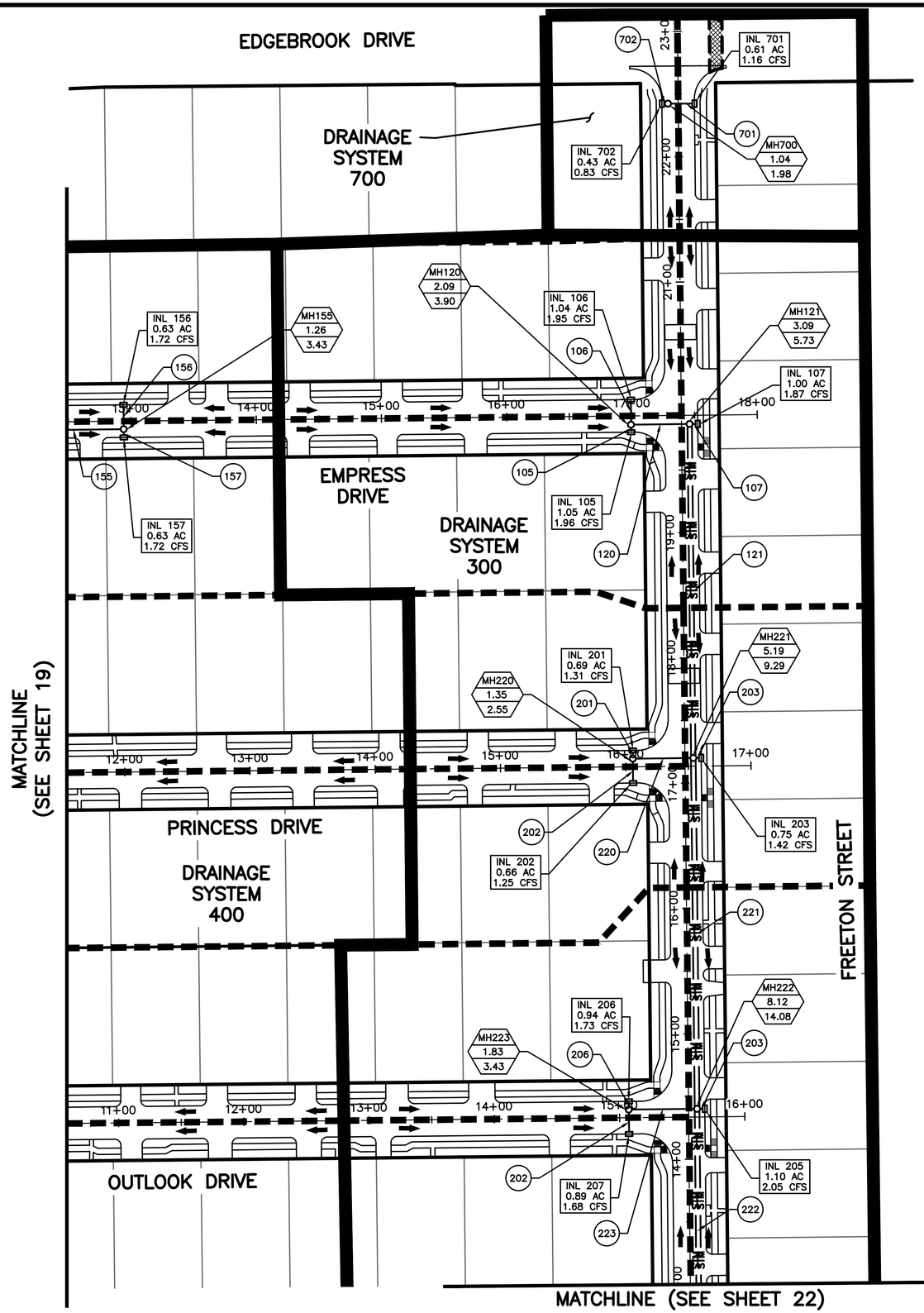
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

DRAINAGE AREA MAP SHEET 1 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 19 OF 175	

No.	Date	Revisions	App.

\\hrghus\data\85130030\cad\dwgs\c\drainage area map_01.dwg Plotted May 22, 2026 at 9:28 AM by Perez, Abel



LEGEND

SYMBOL	DESCRIPTION
INLET NO. / DRN AREA / FLOW	DRAINAGE AREA DESIGNATION/ INLET NO. 2 YR CFS
MH# / AC / FLO	MANHOLE NUMBER / TOTAL ACCUMULATIVE ACRES / TOTAL ACCUMULATIVE 2-YEAR Q (CFS)
(101)	PIPE DESIGNATION (HOUSTORM)
	PROPOSED STM INLET
	DRAINAGE AREA BOUNDARY
STM — STM	PROPOSED STM SEWER
	PROPOSED STREET FLOW (2-YEAR)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

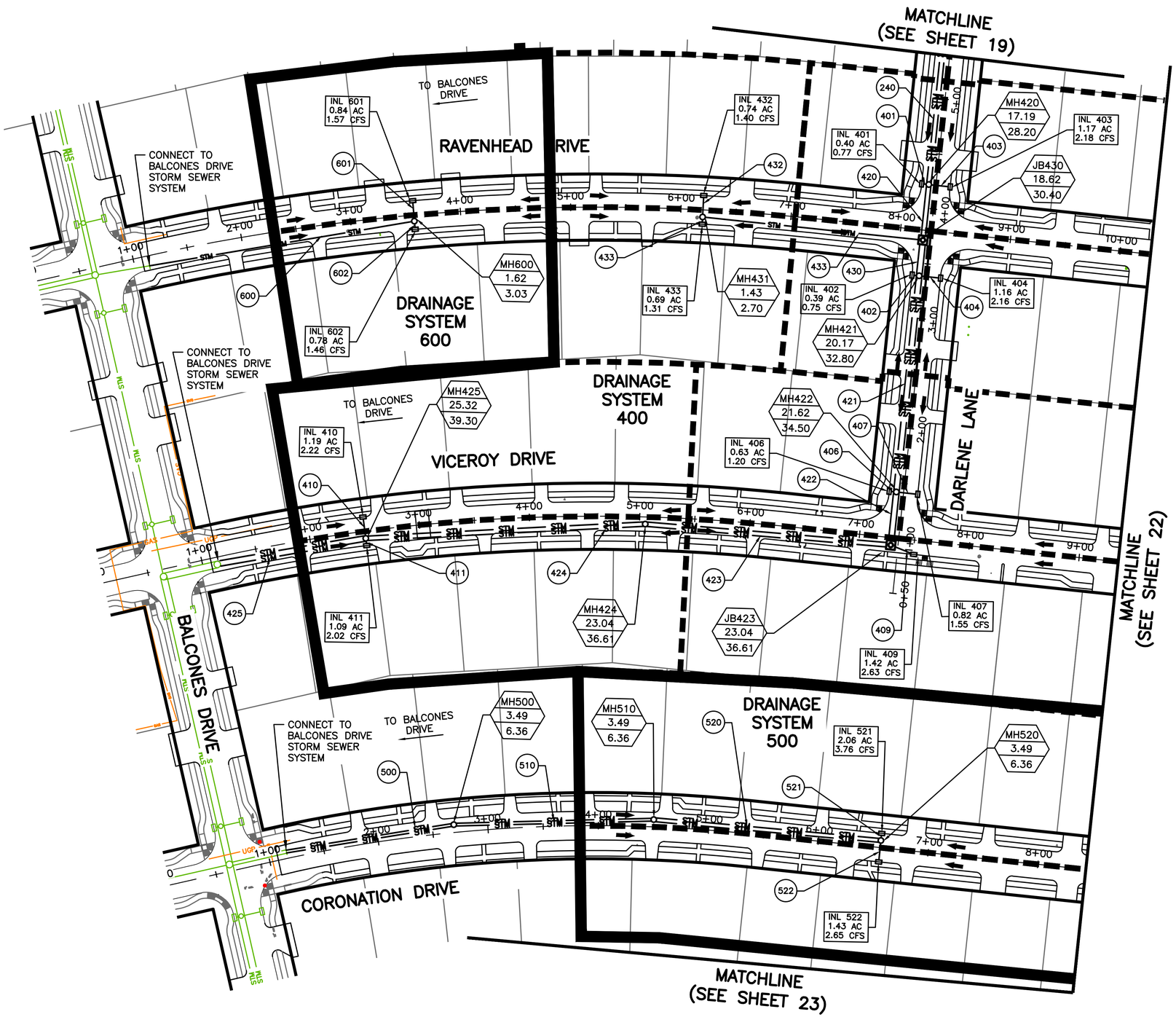
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

DRAINAGE AREA MAP SHEET 2 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 20 OF 175	

Apvd | Revisions | Date | No.

\\hrghus\data\85130030\cad\dwgs\c\drainage area map_02.dwg Plotted May 22, 2026 at 8:30 AM by Perez, Abel



LEGEND

SYMBOL	DESCRIPTION
INLET NO. / DRN AREA / FLOW	DRAINAGE AREA DESIGNATION/ INLET NO. 2 YR CFS
MH# / AC / FLO	MANHOLE NUMBER / TOTAL ACCUMULATIVE ACRES / TOTAL ACCUMULATIVE 2-YEAR Q (CFS)
101	PIPE DESIGNATION (HOUSTORM)
	PROPOSED STM INLET
	DRAINAGE AREA BOUNDARY
STM—STM	PROPOSED STM SEWER
	PROPOSED STREET FLOW (2-YEAR)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

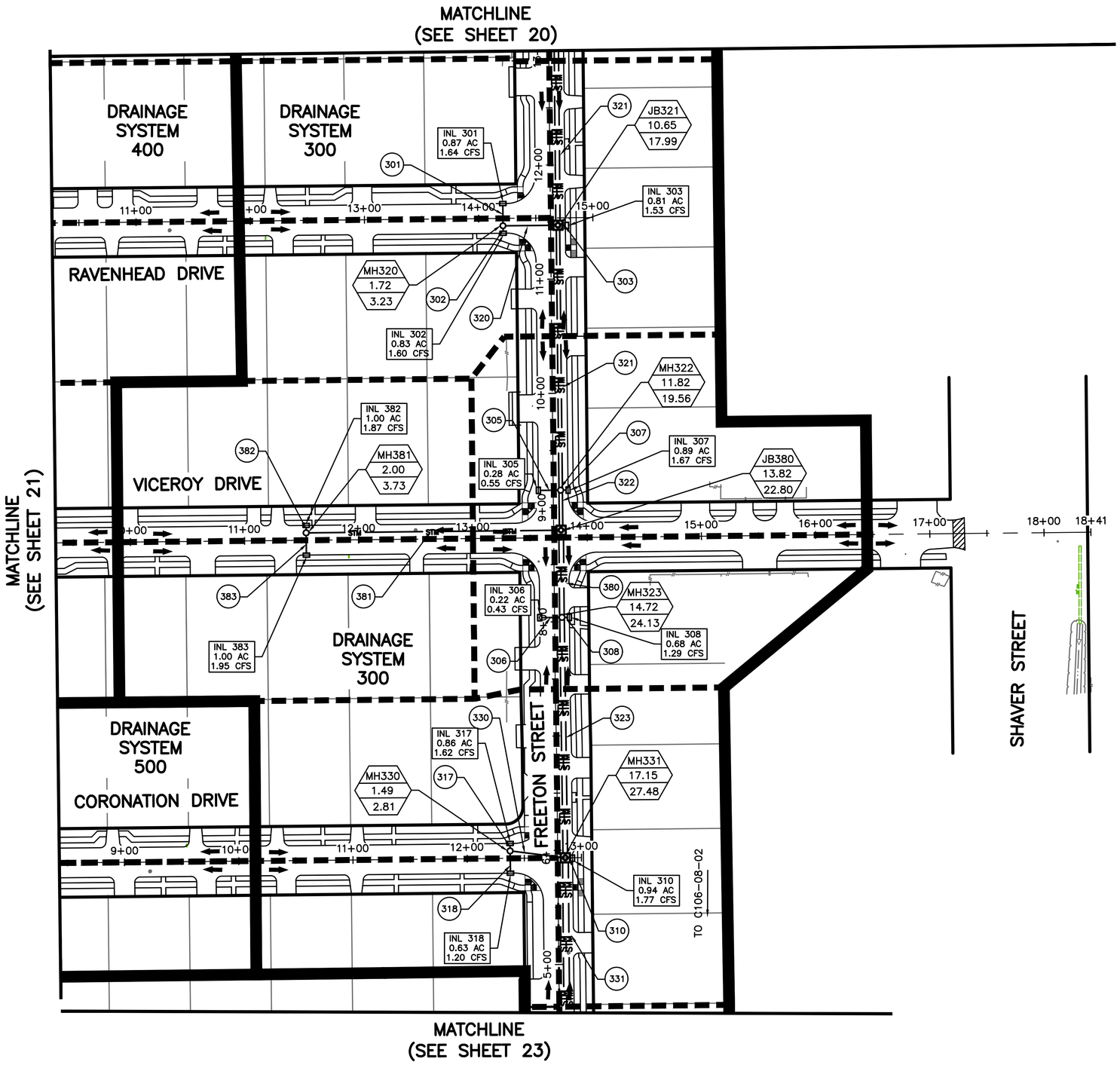
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

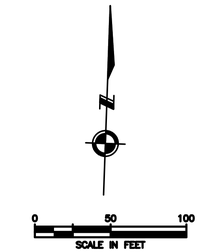
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

DRAINAGE AREA MAP SHEET 3 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 21 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\drainage area map_03.dwg Plotted May 22, 2026 at 8:45 AM by Perez, Abel





LEGEND

SYMBOL	DESCRIPTION
INLET NO. / DRN AREA / FLOW	DRAINAGE AREA DESIGNATION/ INLET NO. 2 YR CFS
MH# / AC / FLO	MANHOLE NUMBER / TOTAL ACCUMULATIVE ACRES / TOTAL ACCUMULATIVE 2-YEAR Q (CFS)
101	PIPE DESIGNATION (HOUSTORM)
	PROPOSED STM INLET
	DRAINAGE AREA BOUNDARY
STM — STM	PROPOSED STM SEWER
	PROPOSED STREET FLOW (2-YEAR)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9098
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

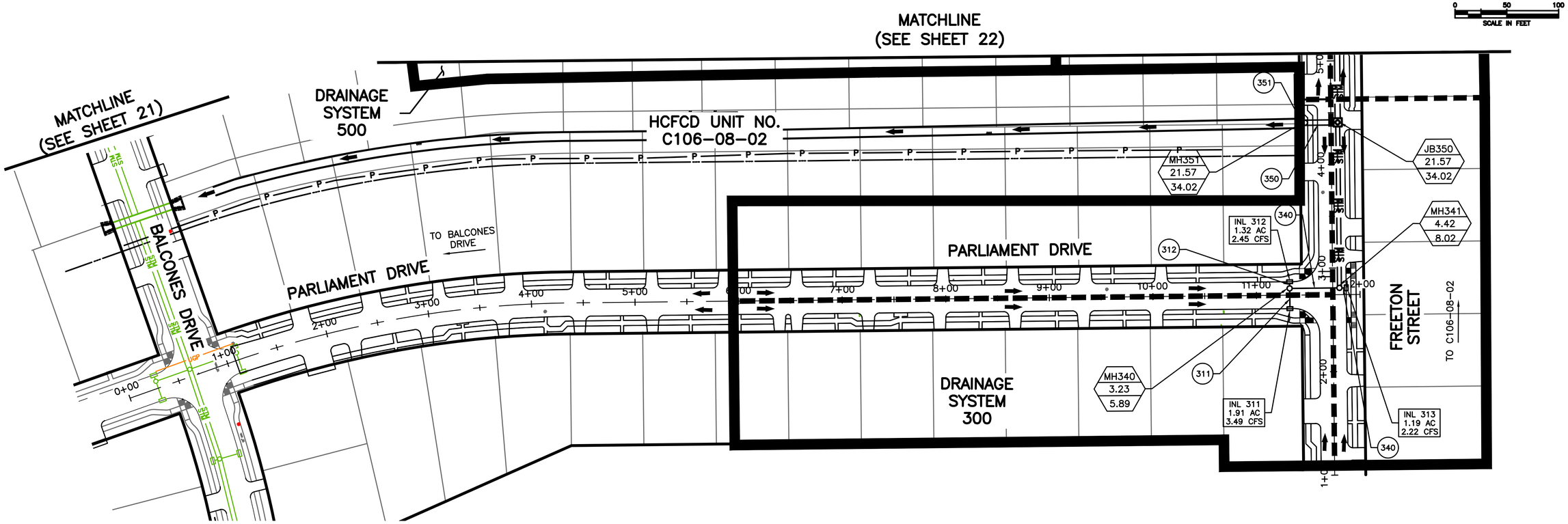
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

DRAINAGE AREA MAP SHEET 4 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 22 OF 175	

Revisions: No. | Date | Appr.

\\hrghus\data\85130030\cad\dwgs\c\drainage area map_04.dwg Plotted May 22, 2026 at 9:04 AM by Perez, Abel



LEGEND

SYMBOL	DESCRIPTION
INLET NO. / DRN AREA / FLOW	DRAINAGE AREA DESIGNATION/ INLET NO. / 2 YR CFS
MH# / AC / FLO	MANHOLE NUMBER / TOTAL ACCUMULATIVE ACRES / TOTAL ACCUMULATIVE 2-YEAR Q (CFS)
(101)	PIPE DESIGNATION (HOUSTORM)
	PROPOSED STM INLET
	DRAINAGE AREA BOUNDARY
STM STM	PROPOSED STM SEWER
	PROPOSED STREET FLOW (2-YEAR)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9098
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

DRAINAGE AREA MAP
SHEET 5 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 23 OF 175	

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\drainage area map_05.dwg Plotted May 22, 2026 at 8:59 AM by Perez, Abel

SYSTEM 300

HouStorm (City Of Houston STORM DRAIN DESIGN) Version 2.1, Update: Nov/01/2007
Run @ 8/10/2017 2:44:36 PM

PROJECT NAME : System 300 2-YR
JOB NUMBER : 410006-0002-3
PROJECT DESCRIPTION :
PROJECT File: D:\85130030\Design\Calc\HouStorm\300_2YR.stm

DESIGN FREQUENCY : 2 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 2 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
317	0.55	0.86	24.74	24.74	3.42	0.000	1.620
318	0.55	0.63	24.19	24.19	3.46	0.000	1.200
310	0.55	0.94	24.87	24.87	3.42	0.000	1.766
312	0.55	1.32	25.53	25.53	3.37	0.000	2.447
311	0.55	1.91	26.21	26.21	3.33	0.000	3.494
313	0.55	1.19	25.33	25.33	3.38	0.000	2.215
301	0.55	0.87	24.78	24.78	3.42	0.000	1.637
302	0.55	0.85	24.72	24.72	3.43	0.000	1.602
303	0.55	0.81	24.66	24.66	3.43	0.000	1.528
305	0.55	0.28	22.99	22.99	3.55	0.000	0.547
307	0.55	0.89	24.84	24.84	3.42	0.000	1.673
306	0.55	0.22	22.99	22.99	3.55	0.000	0.430
308	0.55	0.68	24.37	24.37	3.45	0.000	1.291
105	0.55	1.05	25.14	25.14	3.40	0.000	1.962
106	0.55	1.04	25.10	25.10	3.40	0.000	1.945
107	0.55	1.00	25.00	25.00	3.41	0.000	1.874
201	0.55	0.69	24.44	24.44	3.45	0.000	1.308
202	0.55	0.66	24.37	24.37	3.45	0.000	1.253
203	0.55	0.75	24.46	24.46	3.44	0.000	1.421
205	0.55	1.10	25.17	25.17	3.40	0.000	2.054
206	0.55	0.94	24.85	24.85	3.42	0.000	1.767
207	0.55	0.89	24.78	24.78	3.42	0.000	1.675
382	0.55	1.00	25.19	25.19	3.39	0.000	1.867
383	0.55	1.00	25.07	25.07	3.40	0.000	1.871

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi (%)	Left-Slope Transv (%)	Right-Slope Longi (%)	Right-Slope Transv (%)	Gutter n	Gutter DeprW (ft)	Head Allowed (ft)
317	Curb	5.00	0.00	0.30	2.00	0.80	2.00	0.013	1.50	0.50
318	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
310	Curb	5.00	0.00	0.52	2.00	0.30	2.00	0.013	1.50	0.50
312	Curb	5.00	0.00	0.30	2.00	1.00	2.00	0.013	1.50	0.50
311	Curb	5.00	0.00	1.00	2.00	0.30	2.00	0.013	1.50	0.50
313	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
105	Curb	5.00	0.00	1.00	2.00	0.30	2.00	0.013	1.50	0.50
106	Curb	5.00	0.00	0.30	2.00	1.00	2.00	0.013	1.50	0.50
107	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
201	Curb	5.00	0.00	0.30	2.00	1.00	2.00	0.013	1.50	0.50
202	Curb	5.00	0.00	1.00	2.00	0.30	2.00	0.013	1.50	0.50
203	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
205	Curb	5.00	0.00	0.40	2.00	0.30	2.00	0.013	1.50	0.50
206	Curb	5.00	0.00	0.30	2.00	1.00	2.00	0.013	1.50	0.50
207	Curb	5.00	0.00	1.00	2.00	0.30	2.00	0.013	1.50	0.50
301	Curb	5.00	0.00	0.30	2.00	1.00	2.00	0.013	1.50	0.50
302	Curb	5.00	0.00	1.00	2.00	0.30	2.00	0.013	1.50	0.50
303	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
305	Curb	5.00	0.00	1.00	2.00	0.50	2.00	0.013	1.50	0.50
307	Curb	5.00	0.00	0.50	2.00	1.00	2.00	0.013	1.50	0.50
306	Curb	5.00	0.00	0.40	2.00	0.30	2.00	0.013	1.50	0.50
308	Curb	5.00	0.00	0.30	2.00	0.40	2.00	0.013	1.50	0.50
382	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
383	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
317	Curb	5.00	n/a	n/a	1.620	6.261	0.203	7.70	6.40
318	Curb	5.00	n/a	n/a	1.200	6.261	0.166	6.25	6.90
310	Curb	5.00	n/a	n/a	1.766	6.261	0.215	7.20	7.95
312	Curb	5.00	n/a	n/a	2.447	6.261	0.267	9.00	7.20
311	Curb	5.00	n/a	n/a	3.494	6.261	0.339	8.20	10.30
313	Curb	5.00	n/a	n/a	2.215	6.261	0.250	8.70	8.70
105	Curb	5.00	n/a	n/a	1.962	6.261	0.231	6.60	8.30
106	Curb	5.00	n/a	n/a	1.945	6.261	0.229	8.25	6.60
107	Curb	5.00	n/a	n/a	1.874	6.261	0.224	8.15	8.15
201	Curb	5.00	n/a	n/a	1.308	6.261	0.176	7.10	5.70
202	Curb	5.00	n/a	n/a	1.253	6.261	0.171	5.60	7.00
203	Curb	5.00	n/a	n/a	1.421	6.261	0.186	7.35	7.35
205	Curb	5.00	n/a	n/a	2.054	6.261	0.238	8.00	8.45
206	Curb	5.00	n/a	n/a	1.767	6.261	0.215	7.95	6.35
207	Curb	5.00	n/a	n/a	1.675	6.261	0.208	6.25	7.80
301	Curb	5.00	n/a	n/a	1.637	6.261	0.204	7.75	6.20
302	Curb	5.00	n/a	n/a	1.602	6.261	0.201	6.15	7.70
303	Curb	5.00	n/a	n/a	1.528	6.261	0.195	7.55	7.55
305	Curb	5.00	n/a	n/a	0.547	6.261	0.098	4.10	4.65
307	Curb	5.00	n/a	n/a	1.673	6.261	0.207	7.10	6.25
306	Curb	5.00	n/a	n/a	0.430	6.261	0.084	4.45	4.70
308	Curb	5.00	n/a	n/a	1.291	6.261	0.174	7.10	6.70
382	Curb	5.00	n/a	n/a	1.867	6.261	0.223	8.15	8.15
383	Curb	5.00	n/a	n/a	1.871	6.261	0.223	8.15	8.15

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
323	CrcMh	0.550	14.72	32.19	2.98		0.00	24.130
317	Curb	0.550	0.86	24.74	3.42		0.00	1.620
318	Curb	0.550	0.63	24.19	3.46		0.00	1.200
330	CrcMh	0.550	1.49	24.77	3.42		0.00	2.805
310	Curb	0.550	0.94	24.87	3.42		0.00	1.766
331	CrcMh	0.550	17.15	33.53	2.91		0.00	27.478
312	Curb	0.550	1.32	25.53	3.37		0.00	2.447
311	Curb	0.550	1.91	26.21	3.33		0.00	3.494
340	CrcMh	0.550	3.23	26.33	3.32		0.00	5.894
313	Curb	0.550	1.19	25.33	3.38		0.00	2.215
341	CrcMh	0.550	4.42	26.60	3.30		0.00	8.023
350	CrcMh	0.550	21.57	34.48	2.87		0.00	34.019
Out	CrcMh	0.550	21.57	34.48	2.87		0.00	34.019
105	Curb	0.550	1.05	25.14	3.40		0.00	1.962
106	Curb	0.550	1.04	25.10	3.40		0.00	1.945
107	Curb	0.550	1.00	25.00	3.41		0.00	1.874
201	Curb	0.550	0.69	24.44	3.45		0.00	1.308
202	Curb	0.550	0.66	24.37	3.45		0.00	1.253
203	Curb	0.550	0.75	24.46	3.44		0.00	1.421
205	Curb	0.550	1.10	25.17	3.40		0.00	2.054
206	Curb	0.550	0.94	24.85	3.42		0.00	1.767
207	Curb	0.550	0.89	24.78	3.42		0.00	1.675
301	Curb	0.550	0.87	24.78	3.42		0.00	1.637
302	Curb	0.550	0.85	24.72	3.43		0.00	1.602
320	CrcMh	0.550	1.72	24.95	3.41		0.00	3.226
303	Curb	0.550	0.81	24.66	3.43		0.00	1.528
321	CrcMh	0.550	10.65	30.48	3.07		0.00	17.986
305	Curb	0.550	0.28	22.99	3.55		0.00	0.547
307	Curb	0.550	0.89	24.84	3.42		0.00	1.673
322	CrcMh	0.550	11.82	31.63	3.01		0.00	19.562
306	Curb	0.550	0.22	22.99	3.55		0.00	0.430
308	Curb	0.550	0.68	24.37	3.45		0.00	1.291
382	Curb	0.550	1.00	25.19	3.39		0.00	1.867
383	Curb	0.550	1.00	25.07	3.40		0.00	1.871
381	CrcMh	0.550	2.00	25.29	3.39		0.00	3.726
380	CrcMh	0.550	13.82	31.82	3.00		0.00	22.799
120	CrcMh	0.550	2.09	25.25	3.39		0.00	3.896
121	CrcMh	0.550	3.09	25.53	3.37		0.00	5.728
220	CrcMh	0.550	1.35	24.52	3.44		0.00	2.554
221	CrcMh	0.550	5.19	27.34	3.25		0.00	9.288
223	CrcMh	0.550	1.83	24.93	3.41		0.00	3.434
222	CrcMh	0.550	8.12	29.01	3.15		0.00	14.083

Conveyance Configuration Data

Run #	Node US	Node I.D. DS	FlowLine Elev. US (ft)	FlowLine Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
301	301	320	28.80	28.76	Ell 1	2.53	1.61	20.0	0.200	0.013
302	302	320	28.80	28.76	Ell 1	2.53	1.61	7.0	0.571	0.013
320	320	321	28.76	28.67	Cir 1	0.00	2.00	48.0	0.188	0.013
303	303	321	28.96	28.67	Ell 1	2.53	1.61	7.0	4.146	0.013
321	321	322	27.76	27.53	Cir 1	0.00	3.00	231.0	0.100	0.013
305	305	322	28.41	28.37	Cir 1	0.00	2.00	20.0	0.200	0.013
307	307	322	28.41	28.37	Cir 1	0.00	2.00	7.0	0.571	0.013
322	322	380	27.53	27.50	Cir 1	0.00	3.00	35.0	0.086	0.013
306	306	323	28.27	28.23	Cir 1	0.00	2.00	20.0	0.200	0.013
308	308	323	28.27	28.23	Cir 1	0.00	2.00	7.0	0.571	0.013
323	323	331	27.42	27.31	Box 1	4.00	3.00	216.9	0.051	0.013
317	317	330	27.50	27.43	Cir 1	0.00	2.00	7.0	1.000	0.013
318	318	330	27.50	27.43	Cir 1	0.00	2.00	20.0	0.350	0.013
330	330	331	27.43	27.31	Cir 1	0.00	2.00	49.0	0.245	0.013
310	310	331	27.60	27.31	Cir 1	0.00	2.00	7.0	4.146	0.013
331	331	350	27.31	27.24	Box 1	5.00	3.00	152.0	0.046	0.013
312	312	340	27.58	27.54	Ell 1	2.53	1.61	7.0	0.571	0.013
311	311	340	27.58	27.54	Ell 1	2.53	1.61	20.0	0.200	0.013
340	340	341	27.54	27.47	Cir 1	0.00	2.00	48.0	0.146	0.013
313	313	341	27.47	27.45	Cir 1	0.00	2.00	7.0	0.286	0.013
341	341	350	27.40	27.24	Ell 1	3.77	2.40	159.0	0.101	0.013
350	350	Out	27.24	27.22	Box 1	5.00	3.00	39.7	0.050	0.013
382	382	381	28.05	28.04	Cir 1	0.00	2.00	6.5	0.154	0.013
383	383	381	28.05	28.04	Cir 1	0.00	2.00	19.5	0.051	0.013
381	381	380	28.04	27.50	Cir 1	0.00	2.00	223.0	0.242	0.013
380	380	323	27.50	27.42	Box 1	4.00	3.00	76.3	0.105	0.013
105	105	120	28.76	28.72	Ell 1	2.53	1.61	6.0	0.667	0.013
106	106	120	28.76	28.72	Ell 1	2.53	1.61	20.0	0.200	0.013
120	120	121	28.72	28.63	Ell 1	2.53	1.61	46.7	0.193	0.013
107	107	121	28.75	28.63	Ell 1	2.53	1.61	6.5	1.846	0.013
121	121	221	28.63	28.34	Ell 1	3.46	2.20	266.0	0.109	0.013
201	201	220	28.67	28.63	Cir 1	0.00	2.00	6.5	0.615	0.013
202	202	220	28.67	28.63	Cir 1	0.00	2.00	19.5	0.205	0.013
220	220	221	28.63	28.34	Cir 1	0.00	2.00	48.2	0.602	0.013
203	203	221	28.96	28.34	Cir 1	0.00	2.00	6.5	9.582	0.013
221	221	222	28.34	28.06	Ell 1	3.77	2.40	280.0	0.100	0.013
206	206	223	28.29	28.28	Cir 1	0.00	2.00	6.5	0.154	0.013
207	207	223	28.31	28.28	Cir 1	0.00	2.00	19.5	0.154	0.013
223	223	222	28.28	28.06	Cir 1	0.00	2.00	54.5	0.404	0.013
205	205	222	28.35	28.06	Cir 1	0.00	2.00	6.2	4.683	0.013
222	222	321	28.06	27.76	Ell 1	3.77	2.40	293.0	0.102	0.013

Conveyance Hydraulic Computations. Tailwater = 30.220 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
301	30.59	30.55	32.14	0.005	0.49	1.61	2.01	0.51	1.6	10.1	0.000
302	30.59	30.55	31.14	0.005	0.38	1.61	2.73	0.50	1.6	17.1	0.000
320	30.55	30.47	32.27	0.020	0.79	1.80	2.80	1.09	3.2	9.8	0.000
303*	30.47	30.47	32.30	0.005	0.25	1.61	4.86	2.86	1.5	46.0	0.000
321	30.47	30.39	32.55	0.072	2.13	2.86	3.35	2.59	18.0	21.1	0.000
305*	30.39	30.39	32.51	0.001	0.32	2.00	1.72	1.34	0.5	10.2	0.000
307*	30.39	30.39	32.51	0.005	0.42	2.00	3.46	3.18	1.7	17.2	0.000
322	30.39	30.39	32.14	0.085	2.46	2.89	3.15	2.80	19.6	19.6	0.000
306	30.36	30.32	31.91	0.000	0.28	2.00	1.60	0.14	0.4	10.2	0.000
308*	30.32	30.32	31.91	0.003	0.37	2.00	3.20	2.90	1.3	17.2	0.000
323	30.32	30.27	32.25	0.038	2.25	2.96	2.68	2.04	24.1	27.9	0.000
317*	30.39	30.39	31.50	0.005	0.36	2.00	4.17	3.17	1.6	22.7	0.000
318	30.46	30.39	31.50	0.003	0.40	2.00	2.64	0.38	1.2	13.4	0.000
330	30.39	30.27	31.64	0.015	0.68	2.00	2.97	0.89	2.8	11.2	0.000
310*	30.27	30.27	31.60	0.006	0.27	2.00	7.06	3.26	1.8	46.3	0.000
331	30.27	30.23	31.86	0.028	2.06	2.99	2.66	1.84	27.5	35.2	0.000
312	30.44	30.40	30.67	0.012	0.46	1.61	3.24	0.76	2.4	17.1	0.000
311	30.44	30.40	30.67	0.024	0.68	1.61	2.72	1.09	3.5	10.1	0.000
340	30.40	30.37	30.80	0.067	1.21	2.00	2.96	1.88	5.9	8.7	0.000
313	30.39	30.37	31.42	0.010	0.58	2.00	2.93	0.71	2.2	12.1	0.000
341	30.37	30.23	31.64	0.015	1.06	2.40	2.64	1.13	8.0	20.8	0.000
350	30.23	30.22	32.03	0.043	2.34	3.00	2.90	2.27	34.0	36.9	0.000
382	30.88	30.87	32.05	0.007	0.62	2.00	2.23	0.59	1.9	8.9	0.000
383	30.88	30.87	32.05	0.007	0.84	2.00	1.50	0.60	1.9	5.1	0.000
381	30.87	30.39	32.19	0.027	0.80	2.00	3.19	1.19	3.7	11.2	0.000
380	30.39	30.32	32.37	0.034	1.65	2.90	3.45	1.96	22.8	40.1	0.000
105*	31.19	31.19	31.85	0.008	0.41	1.61	3.11	3.06	2.0	18.5	0.000
106	31.23	31.19	31.85	0.007	0.52	1.61	2.16	0.61	1.9	10.1	0.000
120	31.19	31.11	31.97	0.030	0.72	1.61	2.81	1.22	3.9	9.9	0.000
107*	31.11	31.11	31.90	0.007	0.32	1.61	4.14	3.01	1.9	30.7	0.000
121	31.11	30.86	32.12	0.012	0.91	2.20	2.45	0.96	5.7	17.2	0.000
201*	30.86	30.86	32.30	0.003	0.37	2.00	3.30	2.96	1.3	17.8	0.000
202	30.90	30.86	32.30	0.003	0.47	2.00	3.21	0.40	1.3	10.3	0.000
220*	30.86	30.86	32.43	0.013	0.52	2.00	3.98	3.59	2.6	17.6	0.000
203*	30.86	30.86	32.50	0.004	0.20	2.00	8.86	3.05	1.4	70.3	0.000
221	30.86	30.63	32.71	0.020	1.14	2.40	2.79	1.31	9.3	20.7	0.000
206	30.85	30.84	32.14	0.006	0.61	2.00	2.20	0.56	1.8	8.9	0.000
207	30.87	30.84	32.14	0.005	0.59	2.00	2.17	0.53	1.7	8.9	0.000
223	30.84	30.63	32.30	0.023	0.67	2.00	3.76	1.09	3.4	14.4	0.000
205*	30.63	30.63	32.35	0.008	0.28	2.00	7.71	3.37	2.1	49.2	0.000
222	30.63	30.47	32.58	0.046	1.38	2.40	3.32	1.98	14.1	21.0	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:
The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Elliptical	Concrete	1.61	2.53	9	140.2
Circular	Concrete	2.0	0.0	22	656.4
Circular	Concrete	3.0	0.0	2	266.0
Box	Concrete	3.0	4.0	2	293.23
Box	Concrete	3.0	5.0	2	191.67
Elliptical	Concrete	2.4	3.77	3	732.0
Elliptical	Concrete	2.2	3.46	1	266.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Circular Manhole		0.0	0.0	0.0	0.0	0.0	18
Curb In Sag		5.0	0.0	0.0	0.0	0.0	24
		END					

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 2 Years

THE HOUSTORM CALCULATIONS SHOWN HEREIN ARE PROVIDED FOR REFERENCE ONLY AND DO NOT GOVERN THE HYDRAULIC DESIGN OF THIS PROJECT. THE DRAINAGE DESIGN IS BASED ON HYDROLOGIC AND HYDRAULIC MODELING PERFORMED USING XPSWMM, UTILIZING CITY OF HOUSTON APPROVED MODELS. THE XPSWMM ANALYSIS AND RESULTS CONSTITUTE THE BASIS OF DESIGN FOR ALL STORM DRAINAGE IMPROVEMENTS SHOWN ON THESE PLANS.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.5999
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

HOUSTORM CALCULATION SHEET 1 OF 4

WBS NO. M-410006-0002-4

DRAWING SCALE

N.T.S.

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 24 OF 175

Revisions: No. | Date | Appr.

\\hrghus\data\85130030\cad\dwgs\c\21 houstorm calculation sheet 1 of 4.dwg Plotted May 22, 2026 at 8:58 AM by Perez, Abel

SYSTEM 400

HouStorm (City Of Houston STORM DRAIN DESIGN) Version 2.1, Update: Nov/01/2007
Run @ 8/10/2017 2:44:04 PM

PROJECT NAME : System 400 2-YR
JOB NUMBER : 410006-0002-3
PROJECT DESCRIPTION :
PROJECT File: D:\85130030\Design\Calc\HouStorm\400_2YR.stm

DESIGN FREQUENCY : 2 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 2 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
410	0.55	1.19	25.31	25.31	3.39	0.000	2.216
411	0.55	1.09	25.65	25.65	3.36	0.000	2.016
101	0.55	0.97	25.89	25.89	3.35	0.000	1.785
103	0.55	0.38	10.00	10.00	4.96	0.000	1.037
104	0.55	0.58	24.09	24.09	3.47	0.000	1.107
111	0.55	1.03	25.07	25.07	3.40	0.000	1.927
112	0.55	0.98	24.96	24.96	3.41	0.000	1.838
208	0.55	1.34	25.54	25.54	3.37	0.000	2.484
209	0.55	1.34	25.53	25.53	3.37	0.000	2.484
210	0.55	1.43	25.66	25.66	3.36	0.000	2.644
211	0.55	1.37	25.57	25.57	3.37	0.000	2.538
214	0.55	1.16	25.28	25.28	3.39	0.000	2.161
215	0.55	1.16	25.28	25.28	3.39	0.000	2.161
218	0.55	1.34	25.53	25.53	3.37	0.000	2.484
219	0.55	1.28	25.44	25.44	3.38	0.000	2.377
401	0.55	0.40	23.43	23.43	3.52	0.000	0.774
402	0.55	0.39	23.47	23.47	3.52	0.000	0.754
403	0.55	1.17	25.23	25.23	3.39	0.000	2.182
404	0.55	1.16	25.25	25.25	3.39	0.000	2.163
406	0.55	0.63	24.24	24.24	3.46	0.000	1.199
407	0.55	0.82	24.70	24.70	3.43	0.000	1.546
409	0.55	1.42	25.65	25.65	3.36	0.000	2.626
432	0.55	0.74	24.48	24.48	3.44	0.000	1.401
433	0.55	0.69	24.34	24.34	3.45	0.000	1.310
156	0.55	0.63	10.00	10.00	4.96	0.000	1.720
157	0.55	0.63	10.00	10.00	4.96	0.000	1.720

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi (%)	Left-Slope Transv (%)	Right-Slope Longi (%)	Right-Slope Transv (%)	Gutter n	Gutter DeprW (ft)	Head Allowed (ft)
410	Curb	5.00	0.00	0.30	2.00	0.40	2.00	0.013	1.50	0.50
411	Curb	5.00	0.00	0.40	2.00	0.30	2.00	0.013	1.50	0.50
101	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
103	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
104	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
111	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
112	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
208	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
209	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
210	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
211	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
214	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
215	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
218	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
219	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
401	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
402	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
403	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
404	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
406	Curb	5.00	0.00	0.50	2.00	0.30	2.00	0.013	1.50	0.50
407	Curb	5.00	0.00	0.30	2.00	0.50	2.00	0.013	1.50	0.50
409	Curb	5.00	0.00	0.35	2.00	0.30	2.00	0.013	1.50	0.50
432	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
433	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
156	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
157	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
410	Curb	5.00	n/a	n/a	2.216	6.261	0.250	8.70	8.20
411	Curb	5.00	n/a	n/a	2.016	6.261	0.235	7.95	8.40
101	Curb	5.00	n/a	n/a	1.785	6.261	0.217	8.00	8.00
103	Curb	5.00	n/a	n/a	1.037	6.261	0.151	5.95	6.55
104	Curb	5.00	n/a	n/a	1.107	6.261	0.158	6.70	6.10
111	Curb	5.00	n/a	n/a	1.927	6.261	0.228	8.25	8.25
112	Curb	5.00	n/a	n/a	1.838	6.261	0.221	8.10	8.10
208	Curb	5.00	n/a	n/a	2.484	6.261	0.270	9.05	8.25
209	Curb	5.00	n/a	n/a	2.484	6.261	0.270	8.25	9.05
210	Curb	5.00	n/a	n/a	2.644	6.261	0.281	8.45	9.30
211	Curb	5.00	n/a	n/a	2.538	6.261	0.274	9.15	8.30
214	Curb	5.00	n/a	n/a	2.161	6.261	0.246	8.60	7.80
215	Curb	5.00	n/a	n/a	2.161	6.261	0.246	7.80	8.60
218	Curb	5.00	n/a	n/a	2.484	6.261	0.270	8.25	9.05
219	Curb	5.00	n/a	n/a	2.377	6.261	0.262	8.90	8.10
401	Curb	5.00	n/a	n/a	0.774	6.261	0.124	5.30	5.85
402	Curb	5.00	n/a	n/a	0.754	6.261	0.122	5.80	5.25
403	Curb	5.00	n/a	n/a	2.182	6.261	0.248	8.65	7.85
404	Curb	5.00	n/a	n/a	2.163	6.261	0.246	7.80	8.60
406	Curb	5.00	n/a	n/a	1.199	6.261	0.166	6.25	6.90
407	Curb	5.00	n/a	n/a	1.546	6.261	0.197	7.60	6.90
409	Curb	5.00	n/a	n/a	2.626	6.261	0.280	9.00	9.25
432	Curb	5.00	n/a	n/a	1.401	6.261	0.184	7.30	7.30
433	Curb	5.00	n/a	n/a	1.310	6.261	0.176	7.15	7.15
156	Curb	5.00	n/a	n/a	1.720	6.261	0.211	7.90	7.90
157	Curb	5.00	n/a	n/a	1.720	6.261	0.211	7.90	7.90

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
410	Curb	0.550	1.19	25.31	3.39		0.00	2.216
411	Curb	0.550	1.09	25.65	3.36		0.00	2.016
425	CrcMh	0.550	25.32	35.48	2.82		0.00	39.296
Out	CrcMh	0.550	25.32	35.48	2.82		0.00	39.296
101	Curb	0.550	0.97	25.89	3.35		0.00	1.785
103	Curb	0.550	0.38	10.00	4.96		0.00	1.037
104	Curb	0.550	0.58	24.09	3.47		0.00	1.107
111	Curb	0.550	1.03	25.07	3.40		0.00	1.927
112	Curb	0.550	0.98	24.96	3.41		0.00	1.838
208	Curb	0.550	1.34	25.54	3.37		0.00	2.484
209	Curb	0.550	1.34	25.53	3.37		0.00	2.484
210	Curb	0.550	1.43	25.66	3.36		0.00	2.644
211	Curb	0.550	1.37	25.57	3.37		0.00	2.538
214	Curb	0.550	1.16	25.28	3.39		0.00	2.161
215	Curb	0.550	1.16	25.28	3.39		0.00	2.161
218	Curb	0.550	1.34	25.53	3.37		0.00	2.484
219	Curb	0.550	1.28	25.44	3.38		0.00	2.377
401	Curb	0.550	0.40	23.43	3.52		0.00	0.774
402	Curb	0.550	0.39	23.47	3.52		0.00	0.754
403	Curb	0.550	1.17	25.23	3.39		0.00	2.182
404	Curb	0.550	1.16	25.25	3.39		0.00	2.163
406	Curb	0.550	0.63	24.24	3.46		0.00	1.199
407	Curb	0.550	0.82	24.70	3.43		0.00	1.546
409	Curb	0.550	1.42	25.65	3.36		0.00	2.626
432	Curb	0.550	0.74	24.48	3.44		0.00	1.401
433	Curb	0.550	0.69	24.34	3.45		0.00	1.310
424	CrcMh	0.550	23.04	34.03	2.89		0.00	36.612
423	CrcMh	0.550	23.04	34.03	2.89		0.00	36.612
422	CrcMh	0.550	21.62	33.77	2.90		0.00	34.501
421	CrcMh	0.550	20.17	32.65	2.96		0.00	32.800
430	CrcMh	0.550	18.62	32.42	2.97		0.00	30.398
431	CrcMh	0.550	1.43	24.62	3.43		0.00	2.700
420	CrcMh	0.550	17.18	32.14	2.98		0.00	28.202
240	CrcMh	0.550	15.62	30.94	3.05		0.00	26.164
234	CrcMh	0.550	13.18	30.41	3.07		0.00	22.288
233	CrcMh	0.550	10.68	29.10	3.15		0.00	18.493
232	CrcMh	0.550	7.97	28.63	3.18		0.00	13.921
231	CrcMh	0.550	5.20	27.39	3.25		0.00	9.297
230	CrcMh	0.550	4.24	27.14	3.27		0.00	7.618
110	CrcMh	0.550	2.01	25.16	3.40		0.00	3.754
156	Curb	0.550	0.63	10.00	4.96		0.00	1.720
157	Curb	0.550	0.63	10.00	4.96		0.00	1.720
155	CrcMh	0.550	1.26	10.06	4.95		0.00	3.434

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine Elev. US (ft)	FlowLine Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
410	410	425	27.65	27.15	Cir 1	0.00	2.00	20.0	2.501	0.013
411	411	425	27.65	27.15	Cir 1	0.00	2.00	7.0	7.161	0.013
425	425	Out	26.33	26.27	Cir 1	0.00	4.00	137.0	0.044	0.013
424	424	425	26.46	26.33	Cir 1	0.00	4.00	253.0	0.051	0.013
423	423	424	26.57	26.46	Cir 1	0.00	4.00	223.0	0.049	0.013
409	409	423	27.85	27.35	Cir 1	0.00	2.00	26.4	1.894	0.013
422	422	423	26.60	26.57	Box 1	5.00	3.00	48.3	0.062	0.013
406	406	422	27.70	27.60	Cir 1	0.00	2.00	7.0	1.429	0.013
407	407	422	27.70	27.60	Cir 1	0.00	2.00	20.0	0.500	0.013
402	402	421	27.70	27.20	Cir 1	0.00	2.00	7.0	7.161	0.013
404	404	421	27.70	27.20	Cir 1	0.00	2.00	20.0	2.501	0.013
421	421	422	26.70	26.60	Box 1	5.00	3.00	196.0	0.051	0.013
430	430	421	26.71	26.70	Box 1	5.00	3.00	32.5	0.031	0.013
420	420	430	26.74	26.71	Box 1	4.00	3.00	50.6	0.059	0.013
431	431	430	27.60	26.71	Cir 1	0.00	2.00	200.0	0.445	0.013
432	432	431	27.65	27.60	Cir 1	0.00	2.00	20.0	0.250	0.013
433	433	431	27.65	27.60	Cir 1	0.00	2.00	7.0	0.714	0.013
401	401	420	27.70	27.20	Cir 1	0.00	2.00	7.0	7.161	0.013
403	403	420	27.70	27.20	Cir 1	0.00	2.00	20.0	2.501	0.013
240	240	420	26.84	26.74	Box 1	4.00	3.00	196.0	0.051	0.013
234	234	240	26.88	26.84	Box 1	4.00	3.00	83.1	0.048	0.013
215	215	240	27.70	27.20	Cir 1	0.00	2.00	20.0	2.501	0.013
219	219	240	27.70	27.20	Cir 1	0.00	2.00	7.0	7.161	0.013
214	214	234	27.70	27.20	Cir 1	0.00	2.00	20.0	2.501	0.013
218	218	234	27.70	27.20	Cir 1	0.00	2.00	7.0	7.161	0.013
233	233	234	26.98	26.88	Box 1	4.00	3.00	196.0	0.051	0.013
209	209	233	27.50	27.00	Cir 1	0.00	2.00	20.0	2.501	0.013
211	211	233	27.50	27.00	Cir 1	0.00	2.00	7.0	7.161	0.013
208	208	232	27.50	27.06	Cir 1	0.00	2.00	20.0	2.201	0.013
210	210	232	27.50	27.06	Cir 1	0.00	2.00	7.0	6.298	0.013
232	232	233	27.06	26.98	Box 1	4.00	2.00	83.0	0.096	0.013
231	231	232	27.26	27.06	Box 1	4.00	2.00	196.0	0.102	0.013
103	103	231	27.40	27.26	Cir 1	0.00	2.00	20.0	0.700	0.013
104	104	231	27.40	27.26	Cir 1	0.00	2.00	7.0	2.000	0.013
230	230	231	27.29	27.26	Box 1	4.00	2.00	35.0	0.086	0.013
101	101	230	27.50	27.29	Cir 1	0.00	2.00	23.3	0.901	0.013
110	110	230	27.91	27.29	Cir 1	0.00	2.00	341.0	0.182	0.013
111	111	110	28.04	27.91	Cir 1	0.00	2.00	20.0	0.650	0.013
112	112	110	28.04	27.91	Cir 1	0.00	2.00	6.0	2.167	0.013
156	156	155	28.14	27.65	Cir 1	0.00	2.00	19.5	2.514	0.013
157	157	155	28.14	27.65	Cir 1	0.00	2.00	7.0	7.017	0.013
155	155	230	27.65	27.29	Cir 1	0.00	2.00	199.0	0.181	0.013

Conveyance Hydraulic Computations. Tailwater = 30.270 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (ft/s)	Velocity Actual (ft/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
410*	30.37	30.37	31.64	0.010	0.34	2.00	6.32	3.45	2.2	35.9	0.000
411*	30.37	30.37	31.64	0.008	0.25	2.00	8.90	3.32	2.0	60.8	0.000
425	30.37	30.27	31.77	0.074	4.00	4.00	3.13	3.13	39.3	30.2	0.000
424	30.53	30.37	32.54	0.064	4.00	4.00	2.91	2.91	36.6	32.7	0.000
423	30.68	30.53	33.82	0.064	4.00	4.00	2.91	2.91	36.6	32.0	0.000
409*	30.68	30.68	31.89	0.013	0.39	2.00	6.03	3.61	2.6	31.3	0.000
422	30.69	30.68	31.84	0.044	2.18	3.00	3.17	2.30	34.5	40.9	0.000
406*	30.69	30.69	31.71	0.003	0.29	2.00	4.33	2.92	1.2	27.2	0.000
407*	30.69	30.69	31.71	0.005	0.42	2.00	3.22	3.08	1.5	16.1	0.000
402*	30.71	30.71	31.70	0.001	0.16	2.00	6.61	2.50	0.8	60.8	0.000
404*	30.71	30.71	31.70	0.009	0.33	2.00	6.28	3.42	2.2	35.9	0.000
421	30.71	30.69	33.03	0.040	2.25	3.00	2.92	2.19	32.8	37.1	0.000
430	30.72	30.71	31.78	0.034	2.58	3.00	2.36	2.03	30.4	28.8	0.000
420	30.72	30.72	31.84	0.052	2.39	3.00	2.95	2.35	28.2	30.1	0.000
431*	30.75	30.72	31.78	0.014	0.57	2.00	3.63	3.63	2.7	15.2	0.000
432	30.80	30.75	31.65	0.004	0.48	2.00	2.45	0.45	1.4	11.4	0.000
433*	30.75	30.75	31.60	0.003	0.35	2.00	3.48	2.97	1.3	19.2	0.000
401*	30.72	30.72	31.70	0.001	0.16	2.00	6.67	2.61	0.8	60.8	0.000
403*	30.73	30.72	31.70	0.009	0.33	2.00	6.30	3.43	2.2	35.9	0.000
240	30.74	30.72	31.84	0.045	2.39	3.00	2.74	2.18	26.2	28.0	0.000
234	30.75	30.74	31.84	0.032	2.16	3.00	2.58	1.86	22.3	27.2	0.000
215*	30.74	30.74	31.70	0.009	0.33	2.00	6.28	3.42	2.2	35.9	0.000
219*	30.74	30.74	31.70	0.011	0.27	2.00	9.35	3.51	2.4	60.8	0.000
214*	30.75	30.75	31.70	0.009	0.33	2.00	6.28	3.42	2.2	35.9	0.000
218*	30.75	30.75	31.70	0.012	0.28	2.00	9.47	3.56	2.5	60.8	0.000
233	30.81	30.75	31.64	0.022	1.85	3.00	2.50	1.54	18.5	28.0	0.000
209*	30.81	30.81	31.50	0.012	0.36	2.00	6.54	3.56	2.5	35.9	0.000
211*	30.81	30.81	31.50	0.012	0.28	2.00	9.53	3.57	2.5	60.8	0.000
208*	30.86	30.86	31.50	0.012	0.37	2.00	6.25	3.56	2.5	33.7	0.000
210*	30.86	30.86	31.50	0.014	0.29	2.00	9.22	3.61	2.6	57.0	0.000
232	30.86	30.81	31.65	0.040	1.19	2.00	2.93	1.74	13.9	21.7	0.000
231	31.02	30.86	31.54	0.018	0.88	2.00	2.63	1.16	9.3	22.3	0.000
103*	31.02	31.02	31.41	0.002	0.32	2.00	3.23	2.84	1.0	19.0	0.000
104*	31.02	31.02	31.41	0.002	0.25	2.00	4.76	2.86	1.1	32.1	0.000
230	31.05	31.02	31.76	0.012	0.82	2.00	2.32	0.95	7.6	20.4	0.000
101*	31.05	31.05	31.50	0.006	0.39	2.00	4.14	3.24	1.8	21.6	0.000
110	31.57	31.05	31.66	0.027	0.87	2.00	2.87	1.19	3.8	9.7	0.000
111*	31.58	31.57	31.54	0.007	0.44	2.00	3.77	3.30	1.9	18.3	0.000
112*	31.57	31.57	31.54	0.007	0.32	2.00	5.69	3.13	1.8	33.4	0.000
156*	31.36	31.36	31.64	0.006	0.30	2.00	5.88	3.14	1.7	36.0	0.000
157*	31.36	31.36	31.64	0.006	0.23	2.00	8.42	3.14	1.7	60.2	0.000
155	31.36	31.05	31.77	0.023	0.83	2.00	2.80	1.09	3.4	9.7	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:
The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	29	1112.2
Circular	Concrete	4.0	0.0	3	613.0
Box	Concrete	3.0	5.0	3	276.8
Box	Concrete	3.0	4.0	4	525.7
Box	Concrete	2.0	4.0	3	314.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		5.0	0.0	0.0	0.0	0.0	26
Circular Manhole		0.0	0.0	0.0	0.0	0.0	17

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 2 Years
Discharge decreased downstream node Id= 424 Previous intensity used.
Run# 425 Insufficient capacity.
Run# 424 Insufficient capacity.
Run# 423 Insufficient capacity.
Run# 430 Insufficient capacity.
Upstream HGL exceeds critical elevation (Design) at node Id= 111 Run # 111
Upstream HGL exceeds critical elevation (Design) at node Id= 112 Run # 112

THE HOUSTORM CALCULATIONS SHOWN HEREIN ARE PROVIDED FOR REFERENCE ONLY AND DO NOT GOVERN THE HYDRAULIC DESIGN OF THIS PROJECT. THE DRAINAGE DESIGN IS BASED ON HYDROLOGIC AND HYDRAULIC MODELING PERFORMED USING XPSWMM, UTILIZING CITY OF HOUSTON APPROVED MODELS. THE XPSWMM ANALYSIS AND RESULTS CONSTITUTE THE BASIS OF DESIGN FOR ALL STORM DRAINAGE IMPROVEMENTS SHOWN ON THESE PLANS.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9998
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

HOUSTORM CALCULATION SHEET 2 OF 4

WBS NO. M-410006-0002-4

DRAWING SCALE

N.T.S.

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 25 OF 175

No. | Date | Revisions | Apv

\\hrghus\data\85130030\cad\dwgs\c\22 houstorm calculation sheet 2 of 4.dwg Plotted May 22, 2026 at 8:37 AM by Perez, Abel

SYSTEM 500

HouStorm (City Of Houston STORM DRAIN DESIGN) Version 2.1, Update: Nov/01/2007
Run @ 8/10/2017 9:53:29 AM

PROJECT NAME : System 500 2-YR
JOB NUMBER : 410006-0002-3
PROJECT DESCRIPTION :
PROJECT File: D:\85130030\Design\Calc\HouStorm\500_2YR.stm

DESIGN FREQUENCY : 2 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 2 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
521	0.55	2.06	26.35	26.35	3.32	0.000	3.758
522	0.55	1.43	25.57	25.57	3.37	0.000	2.649

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi (%)	Left-Slope Transv (%)	Right-Slope Longi (%)	Right-Slope Transv (%)	n	Gutter DeprW (ft)	Head Allowed (ft)
521	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	1.50
522	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	1.50

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
521	Curb	5.00	n/a	n/a	3.758	15.022	0.328	10.60	10.60
522	Curb	5.00	n/a	n/a	2.649	15.022	0.289	1.67	1.67

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
521	Curb	0.550	2.06	26.35	3.32		0.00	3.758
522	Curb	0.550	1.43	25.57	3.37		0.00	2.649
Out	CrcMh	0.550	3.49	26.38	3.31		0.00	6.362
510	CrcMh	0.550	3.49	26.38	3.31		0.00	6.362
500	CrcMh	0.550	3.49	26.38	3.31		0.00	6.362
520	CrcMh	0.550	3.49	26.38	3.31		0.00	6.362

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine Elev. US (ft)	FlowLine Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
521	521	520	28.00	27.96	Ell 1	2.53	1.61	7.0	0.571	0.013
522	522	520	28.00	27.96	Ell 1	2.53	1.61	20.0	0.200	0.013
520	520	510	27.96	27.61	Ell 1	2.53	1.61	206.0	0.170	0.013
510	510	500	27.61	27.38	Cir 1	0.00	2.50	181.0	0.127	0.013
500	500	Out	27.38	27.18	Cir 1	0.00	2.50	154.0	0.130	0.013

Conveyance Hydraulic Computations. Tailwater = 29.680 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
521*	30.23	30.22	31.10	0.028	0.56	1.61	3.84	3.68	3.8	17.1	0.000
522	30.26	30.22	31.10	0.014	0.60	1.61	2.44	0.83	2.6	10.1	0.000
520	30.22	30.04	33.36	0.079	0.94	1.61	3.30	1.99	6.4	9.3	0.000
510	30.04	29.85	31.84	0.024	1.15	2.47	2.88	1.30	6.4	14.7	0.000
500	29.85	29.68	31.70	0.024	1.15	2.50	2.89	1.30	6.4	14.8	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:
The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Elliptical	Concrete	1.61	2.53	3	233.0
Circular	Concrete	2.5	0.0	2	335.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		5.0	0.0	0.0	0.0	0.0	2
Circular Manhole		0.0	0.0	0.0	0.0	0.0	4

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 2 Years
Discharge decreased downstream node Id= 510 Previous intensity used.
Discharge decreased downstream node Id= 500 Previous intensity used.

SYSTEM 600

HouStorm (City Of Houston STORM DRAIN DESIGN) Version 2.1, Update: Nov/01/2007
Run @ 8/10/2017 10:18:47 AM

PROJECT NAME : System 600 2-YR
JOB NUMBER : 410006-0002-3
PROJECT DESCRIPTION :
PROJECT File: D:\85130030\Design\Calc\HouStorm\600_2YR.stm

DESIGN FREQUENCY : 2 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 2 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
601	0.55	0.84	25.07	25.07	3.40	0.000	1.572
602	0.55	0.78	25.14	25.14	3.40	0.000	1.457

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi (%)	Left-Slope Transv (%)	Right-Slope Longi (%)	Right-Slope Transv (%)	n	Gutter DeprW (ft)	Head Allowed (ft)
602	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
601	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
602	Curb	5.00	n/a	n/a	1.457	6.261	0.189	7.40	7.40
601	Curb	5.00	n/a	n/a	1.572	6.261	0.199	7.65	7.65

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
Out	CrcMh	0.550	1.62	25.16	3.40		0.00	3.026
600	CrcMh	0.550	1.62	25.16	3.40		0.00	3.026
602	Curb	0.550	0.78	25.14	3.40		0.00	1.457
601	Curb	0.550	0.84	25.07	3.40		0.00	1.572

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine Elev. US (ft)	FlowLine Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
602	602	600	27.65	27.29	Cir 1	0.00	2.00	8.5	4.239	0.013
601	601	600	27.65	27.29	Cir 1	0.00	2.00	17.5	2.058	0.013
600	600	Out	27.29	26.77	Cir 1	0.00	2.00	293.0	0.177	0.013

Conveyance Hydraulic Computations. Tailwater = 28.770 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
602*	29.24	29.24	31.66	0.004	0.24	1.95	6.72	3.08	1.5	46.8	0.000
601*	29.24	29.24	31.66	0.005	0.30	1.95	5.33	3.11	1.6	32.6	0.000
600	29.24	28.77	31.83	0.018	0.77	2.00	2.70	0.96	3.0	9.6	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:
The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	3	319.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Circular Manhole		0.0	0.0	0.0	0.0	0.0	2
Curb In Sag		5.0	0.0	0.0	0.0	0.0	2

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 2 Years

SYSTEM 700

HouStorm (City Of Houston STORM DRAIN DESIGN) Version 2.1, Update: Nov/01/2007
Run @ 8/10/2017 9:57:47 AM

PROJECT NAME : System 700 2-YR
JOB NUMBER : 410006-0002-3
PROJECT DESCRIPTION :
PROJECT File: D:\85130030\Design\Calc\HouStorm\100_2YR.stm

DESIGN FREQUENCY : 2 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 2 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
701	0.55	0.61	24.17	24.17	3.46	0.000	1.162
702	0.55	0.43	23.65	23.65	3.50	0.000	0.828

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi (%)	Left-Slope Transv (%)	Right-Slope Longi (%)	Right-Slope Transv (%)	n	Gutter DeprW (ft)	Head Allowed (ft)
701	Curb	5.00	0.00	1.30	2.00	0.37	2.00	0.013	1.50	0.50
702	Curb	5.00	0.00	0.30	2.00	2.00	2.00	0.013	1.50	0.50

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
701	Curb	5.00	n/a	n/a	1.162	6.261	0.163	5.15	6.55
702	Curb	5.00	n/a	n/a	0.828	6.261	0.130	6.00	4.20

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
701	Curb	0.550	0.61	24.17	3.46		0.00	1.162
702	Curb	0.550	0.43	23.65	3.50		0.00	0.828
700	CrcMh	0.550	1.04	24.34	3.45		0.00	1.975
Out	CrcMh	0.550	1.04	24.34	3.45		0.00	1.975

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine Elev. US (ft)	FlowLine Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
701	701	700	28.28	28.24	Cir 1	0.00	2.00	21.1	0.190	0.013
702	702	700	28.28	28.24	Cir 1	0.00	2.00	5.0	0.800	0.013
700	700	Out	28.24	27.88	Cir 1	0.00	2.00	45.0	0.800	0.013

Conveyance Hydraulic Computations. Tailwater = 29.880 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
701	29.92	29.88	32.14	0.003	0.46	1.64	2.10	0.42	1.2	9.9	0.000
702*	29.88	29.88	32.14	0.001	0.28	1.64	3.16	2.30	0.8	20.3	0.000
700*	29.88	29.88	32.24	0.008	0.42	2.00	4.09	3.34	2.0	20.3	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:
The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	3	71.1

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		5.0	0.0	0.0	0.0	0.0	2
Circular Manhole		0.0	0.0	0.0	0.0	0.0	2

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 2 Years

THE HOUSTORM CALCULATIONS SHOWN HEREIN ARE PROVIDED FOR REFERENCE ONLY AND DO NOT GOVERN THE HYDRAULIC DESIGN OF THIS PROJECT. THE DRAINAGE DESIGN IS BASED ON HYDROLOGIC AND HYDRAULIC MODELING PERFORMED USING XPSWMM, UTILIZING CITY OF HOUSTON APPROVED MODELS. THE XPSWMM ANALYSIS AND RESULTS CONSTITUTE THE BASIS OF DESIGN FOR ALL STORM DRAINAGE IMPROVEMENTS SHOWN ON THESE PLANS.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9999
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

HOUSTORM CALCULATION SHEET 3 OF 4

WBS NO. M-410006-0002-4

DRAWING SCALE

N.T.S.

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

Date | Revisions | Date | No.

\\rghnas\data\85130030\cad\dwgs\c\23 houstorm calculation sheet 3 of 4.dwg Plotted May 22, 2026 at 8:49 AM by Perez, Abel

SYSTEM 800

HouStorm (City Of Houston STORM DRAIN DESIGN) Version 2.1, Update: Nov/01/2007
Run @ 8/10/2017 9:59:27 AM

PROJECT NAME : System 800 2-YR
JOB NUMBER : 410006-0002-3
PROJECT DESCRIPTION :
PROJECT File: D:\85130030\Design\Calc\HouStorm\200_2YR.stm

DESIGN FREQUENCY : 2 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 2 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
802	0.55	1.03	25.07	25.07	3.40	0.000	1.927
801	0.55	1.09	25.14	25.14	3.40	0.000	2.037

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi (%)	Left-Slope Transv (%)	Right-Slope Longi (%)	Right-Slope Transv (%)	Gutter n	Gutter DeprW (ft)	Head Allowed (ft)
801	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50
802	Curb	5.00	0.00	0.30	2.00	0.30	2.00	0.013	1.50	0.50

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Ponded Right (ft)
801	Curb	5.00	n/a	n/a	2.037	6.261	0.236	8.40	8.40
802	Curb	5.00	n/a	n/a	1.927	6.261	0.228	8.25	8.25

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
Out	CrcMh	0.550	2.12	25.16	3.40		0.00	3.959
800	CrcMh	0.550	2.12	25.16	3.40		0.00	3.959
801	Curb	0.550	1.09	25.14	3.40		0.00	2.037
802	Curb	0.550	1.03	25.07	3.40		0.00	1.927

Conveyance Configuration Data

Run #	Node US	Node I.D. DS	FlowLine Elev. US (ft)	FlowLine Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
801	801	800	27.60	27.28	Cir 1	0.00	2.00	9.0	3.558	0.013
802	802	800	27.60	27.28	Cir 1	0.00	2.00	17.5	1.829	0.013
800	800	Out	27.28	26.70	Cir 1	0.00	2.00	322.0	0.180	0.013

Conveyance Hydraulic Computations. Tailwater = 28.700 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
801*	29.19	29.19	31.61	0.008	0.30	1.91	6.98	3.37	2.0	42.9	0.000
802*	29.19	29.19	31.61	0.007	0.34	1.91	5.44	3.30	1.9	30.7	0.000
800	29.19	28.70	31.78	0.030	0.89	2.00	2.91	1.26	4.0	9.6	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:
The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	3	348.5

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Circular Manhole		0.0	0.0	0.0	0.0	0.0	2
Curb In Sag		5.0	0.0	0.0	0.0	0.0	2

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 2 Years

THE HOUSTORM CALCULATIONS SHOWN HEREIN ARE PROVIDED FOR REFERENCE ONLY AND DO NOT GOVERN THE HYDRAULIC DESIGN OF THIS PROJECT. THE DRAINAGE DESIGN IS BASED ON HYDROLOGIC AND HYDRAULIC MODELING PERFORMED USING XPSWMM, UTILIZING CITY OF HOUSTON APPROVED MODELS. THE XPSWMM ANALYSIS AND RESULTS CONSTITUTE THE BASIS OF DESIGN FOR ALL STORM DRAINAGE IMPROVEMENTS SHOWN ON THESE PLANS.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6906
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

HOUSTORM CALCULATION SHEET 4 OF 4

WBS NO. M-410006-0002-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 27 OF 175

Revisions: No. | Date | Appr.

\\hrghus\data\85130030\cad\dwgs\c\26 houstorm calculation sheet 6 of 6.dwg Plotted May 22, 2026 at 9:03 AM by Perez, Abel

DRAINAGE BASIN 300			
Inlet ID	Drainage Area (AC)	ROW ELEV	100 YR WSEL
105	1.05	33.00	33.00
106	1.04	33.00	33.00
107	1.00	33.50	33.00
201	0.69	33.40	32.97
202	0.66	33.40	32.97
203	0.75	33.40	32.96
205	1.10	33.93	32.86
206	0.94	33.93	32.86
207	0.89	33.93	32.86
301	0.87	34.05	32.65
302	0.83	34.05	32.65
303	0.81	34.05	32.62
305	0.28	33.75	32.24
306	0.22	33.75	32.01
307	0.89	33.75	32.24
308	0.68	33.75	32.01
310	0.94	32.83	31.21
311	1.91	32.21	31.10
312	1.32	32.21	31.09
313	1.19	32.21	31.06
317	0.86	32.83	31.23
318	0.63	32.83	31.23
382	1.00	33.40	32.20
383	1.00	33.40	32.19

DRAINAGE BASIN 400			
Inlet ID	Drainage Area (AC)	ROW ELEV	100 YR WSEL
101	0.97	32.80	32.72
103	0.38	32.80	32.72
104	0.58	32.80	32.72
111	1.03	33.09	32.72
112	0.98	33.09	32.72
156	0.63	32.80	32.72
157	0.63	32.80	32.72
208	1.34	32.80	32.71
209	1.34	32.80	32.71
210	1.43	32.80	32.71
211	1.37	32.80	32.71
214	1.16	32.81	32.68
215	1.16	32.81	32.66
218	1.34	32.81	32.67
219	1.28	32.81	32.66
401	0.4	32.80	32.55
402	0.39	32.80	32.49
403	1.17	32.80	32.56
404	1.16	32.80	32.49
406	0.63	32.85	32.43
407	0.82	32.85	32.43
409	1.42	32.85	32.42
410	1.19	32.45	32.09
411	1.09	32.45	32.09

DRAINAGE BASIN 500			
Inlet ID	Drainage Area (AC)	ROW ELEV	100 YR WSEL
521	2.06	32.30	31.76
522	1.43	32.30	31.76

DRAINAGE BASIN 600			
Inlet ID	Drainage Area (AC)	ROW ELEV	100 YR WSEL
601	0.84	33.55	31.84
602	0.78	33.55	31.84

DRAINAGE BASIN 700			
Inlet ID	Drainage Area (AC)	ROW ELEV	100 YR WSEL
701	0.61	32.60	33.00
702	0.43	32.60	33.00

DRAINAGE BASIN 800			
Inlet ID	Drainage Area (AC)	ROW ELEV	100 YR WSEL
801	1.09	33.25	32.72
802	1.03	33.25	32.72

THE HOUSTORM CALCULATIONS SHOWN HEREIN ARE PROVIDED FOR REFERENCE ONLY AND DO NOT GOVERN THE HYDRAULIC DESIGN OF THIS PROJECT. THE DRAINAGE DESIGN IS BASED ON HYDROLOGIC AND HYDRAULIC MODELING PERFORMED USING XPSWMM, UTILIZING CITY OF HOUSTON APPROVED MODELS. THE XPSWMM ANALYSIS AND RESULTS CONSTITUTE THE BASIS OF DESIGN FOR ALL STORM DRAINAGE IMPROVEMENTS SHOWN ON THESE PLANS.

NOTE: EXTREME EVENT ANALYSIS DATA OBTAINED FROM XP–SWMM MODEL OF THE SYSTEM USING XP–SWMM VERSION 2014.

NOTE: SOME AREAS (HIGHLIGHTED CELLS) SHOW 100–YR WSEL ABOVE ROW EL. PROJECT DOES NOT MEET 100–YR LEVEL OF SERVICE, PER RDAI/PER APPROVAL.

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

100–YEAR DRAINAGE CALCULATIONS

WBS NO. M–410006–0002–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 28 OF 175

Rev. No. | Date | Revisions | Appr.

\\hrghua\data\85130030\cad\dwgs\c\28 houstorm calculation sheet 5 of 5.dwg Plotted May 22, 2026 at 9:20 AM by Perez, Abel

NO.	STATION	OFFSET	FL
A	1+73.48	38.20' LT	23.97
B	1+82.48	22.80' RT	27.79
C	2+42.72	38.30' LT	24.00
D	2+56.29	22.60' RT	28.05
E	3+81.21	38.20' LT	24.06
F	4+03.90	23.50' RT	27.75

REMOVE 1–8"X45°
1–8"X45° BEND, AB
1–8" CUT & PLUG
1–8" WET CONNECTION

ABANDON EXIST WL & TRANSFER SERVICES TO PROP WL

PROP (4' DIA) SAN MH 128
STA 2+95.04, 6.0' RT
GASKETED & WATERTIGHT

PROP B–B INL 801
STA 4+35, 13.0' LT
TC=32.11
℄ EL=27.32 (24" S)

PROP STM MH 800
STA 4+35, 4.4' LT

BLOCK 1
ALRLINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

BENCHMARK:
CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B–39
FND: "X" CUT ON CONC. ON EMPRESS
EL=32.00', ℄ STA 0+68.99, 0.86R

SCALE IN FEET 0 20 40

℄ CURVE NO 1 DATA:
PC STA 1+00.00
PI STA 5+49.28
PT STA 9+98.53
Δ = 18°52'0"
R = 2728.73'
L = 898.64'
T = 453.37'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

BALCONES DR STA 20+54.42 = EMPRESS DR STA 0+69.10

IMPROVEMENTS NOT IN THIS PROJECT – BY OTHERS

EXIST 15" SAN SWR

REMOVE SP1 24" PLUG AND CONNECT TO SP1 24" RCP

BEGIN EMPRESS DRIVE WORK STA 1+08.70

EXIST 24" RCP

EXIST 8" WL

REMOVE SP1 8" PLUG AND CONNECT TO SP1 8" PVC

PROP SAN SWR MH OTH2 (BY OTHERS, SUBPROJECT 1) STA 1+12.33, 6.91' RT

PROP 170 LF 8" SAN SWR

170 LF~24" RCP

150 LF~24" RCP

PROP 182 LF 8" SAN SWR

9 LF~24" RCP

18 LF~24" RCP

PROP STM MH 801
STA 11+34, 812.1' LT

CAUTION: CENTERPOINT ENERGY ELECTRICITY UNDERGROUND STEEL CABLE

CAUTION: CENTERPOINT ENERGY ELECTRICITY UNDERGROUND STEEL CABLE

PROP (4' DIA) SAN MH 129
STA 4+77.71, 6.0' RT
GASKETED & WATERTIGHT
CORR. RESISTANT

PROP B–B INL 802
STA 4+37, 13.0' RT
TC=32.11
℄ EL=27.34 (24" N)

NORTH ROW

SOUTH ROW

4' MIN CLR

EMPRESS DR

MATCHLINE STA 5+00
SEE SHEET 30

EMPRESS DRIVE

CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES ON BALCONES DRIVE.

(A) DENOTE AS SVC AT ROW, SEE TABLE.
(A1) DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534–03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

PVI STA=0+99.90
TC EL=31.94

PVI STA=2+77.81
TC EL=32.56

PVI STA=4+34.85
TC EL=32.11

S=0.36%

S=0.30%

S=0.30%

TIE IN PROP 24" RCP TO EXIST 24" RCP AT FL – 26.30

PROP 24" RCP STM 170 LF @ 0.18%

PROP 24" RCP STM 150 LF @ 0.18%

100–YEAR HGL

2–YEAR HGL

PROP STM MH 801
STA 11+34.16
TR=32.12
℄ EL=27.04 (24" W)
℄ EL=27.04 (24" E)

PROP STM MH 800
STA 4+35.00
TR=32.36
℄ EL=27.30 (24" W)
℄ EL=27.30 (24" S)
℄ EL=27.30 (24" N)

PROP 6" STACK (TYP.) SEE SHEET 109 AND COH DTL 02534–02

PROP 6" STACK (TYP.) SEE SHEET 109 AND COH DTL 02534–02

PROP (4' DIA) SAN MH 129
STA 4+77.71
TR EL=31.88
℄ EL=20.81 (8" E&W)
GASKETED & WATERTIGHT
CORR. RESISTANT

PROP (4' DIA) SAN MH 128
STA 2+95.04
TR EL 32.17
℄ EL= 20.00 (8" E&W)
GASKETED & WATERTIGHT

℄ EL=19.28 (8" E)

8" SAN PLUG
FL – 19.28

PROP 8" SAN x 182 LF @ S=0.44%

PROP 8" SAN x 182 LF @ S=0.44%

PROP 8" SAN x 22 LF @ S=0.44%

℄ EL=20.92

PROP 8" WL

2" MIN CLR

MATCHLINE STA 5+00
SEE SHEET 30

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

\\rghusa\data\85130030\cad\dwgs\c\pp_empress_01.dwg Plotted May 22, 2026 at 8:38 AM by Perez, Abel

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER 5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER 5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

EMPRESS DRIVE
STA 1+00 TO 5+00

WBS NO. M–410006–0002–4

DRAWING SCALE

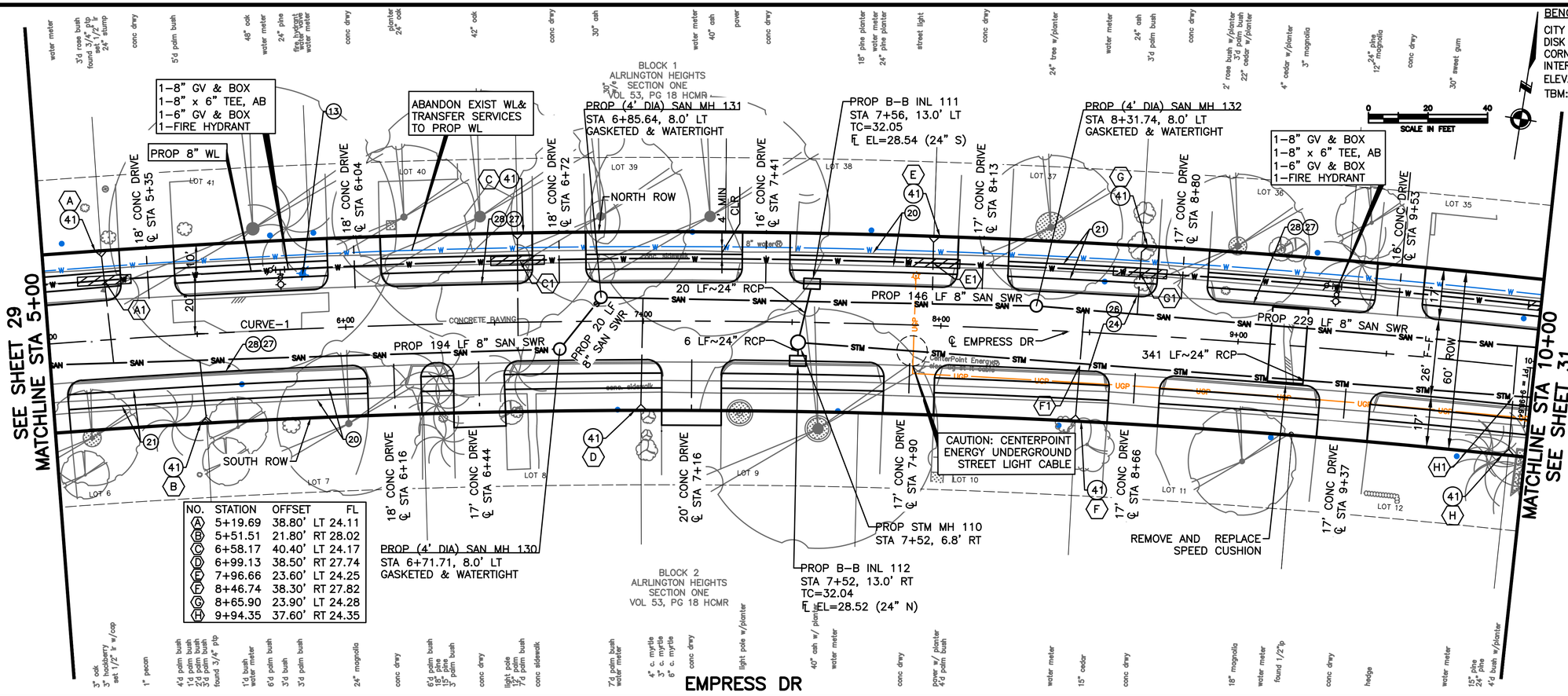
H: 1"=20' (FULL)
V: 1"=2' (FULL)

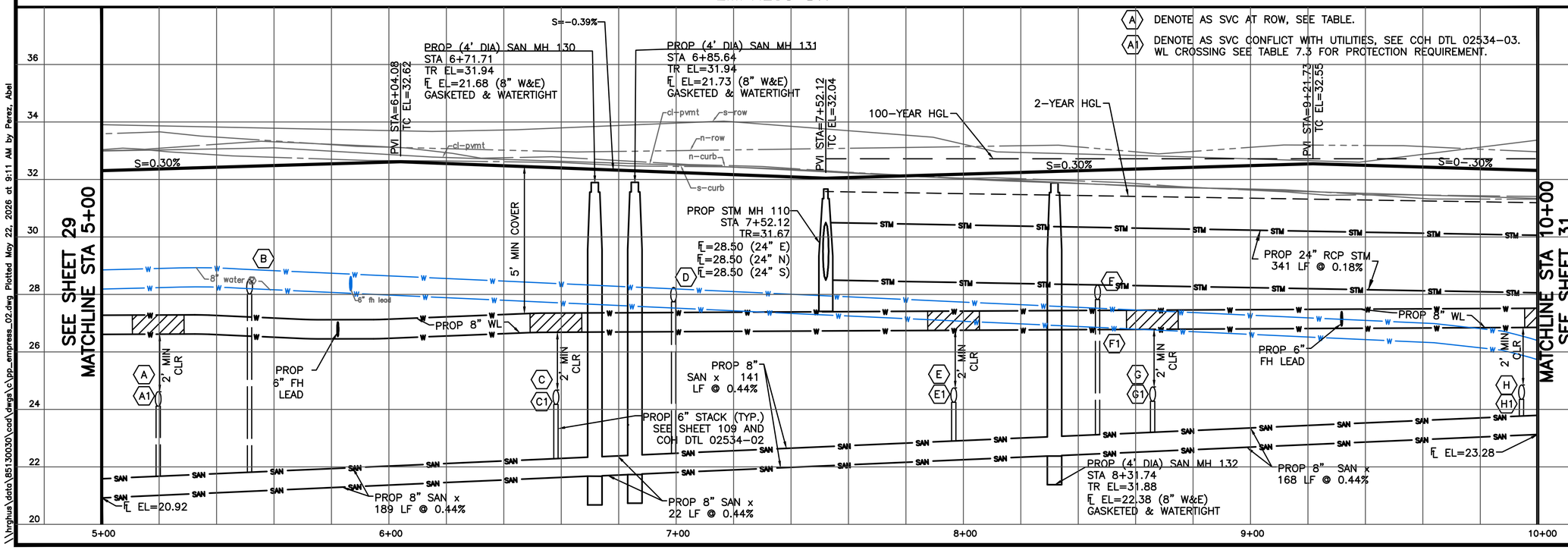
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 29 OF 175

No.	Date	Revisions	App'd





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-38
SET: ½" I.R. W/CAP ON EMPRESS DR.
EL=33.20', ℄ STA 5+19.39, 16.58L

℄ CURVE NO 1 DATA:
PC STA 1+00.00
PI STA 5+49.28
PT STA 9+98.53
△ = 18°52'0"
R = 272873'
L = 89853'
T = 45337'

NOTES:

1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.) SIGNATURE VALID FOR SIX MONTHS — DATE

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR. — DATE

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.) SIGNATURE VALID FOR SIX MONTHS. — DATE

CABLE COMPANY — DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	App.

Civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

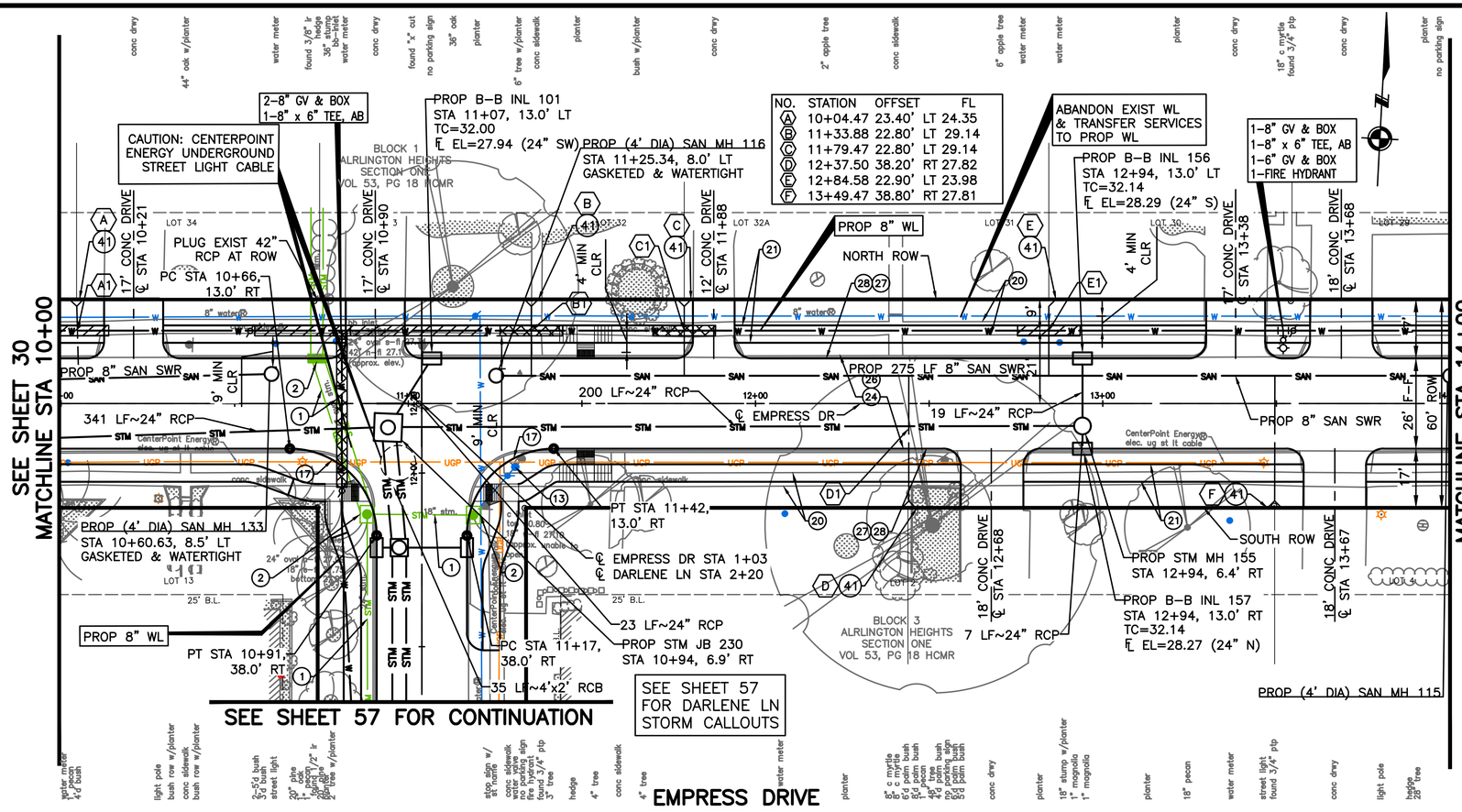
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

EMPRESS DRIVE STA 5+00 TO 10+00

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 30 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\pp_empress_02.dwg Plotted May 22, 2026 at 9:11 AM by Perez, Abel



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B–37
SET: "X" CUT ON CONC. ON EMPRESS
EL=30.72', ℄ STA 11+32.13, 9.01R

SCALE IN FEET 0 20 40

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-6700; Fax: (713) 783-6747
TBPE Firm Registration No. F-4991

STATE OF TEXAS SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

EMPRESS DRIVE STA 10+00 TO 14+00

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

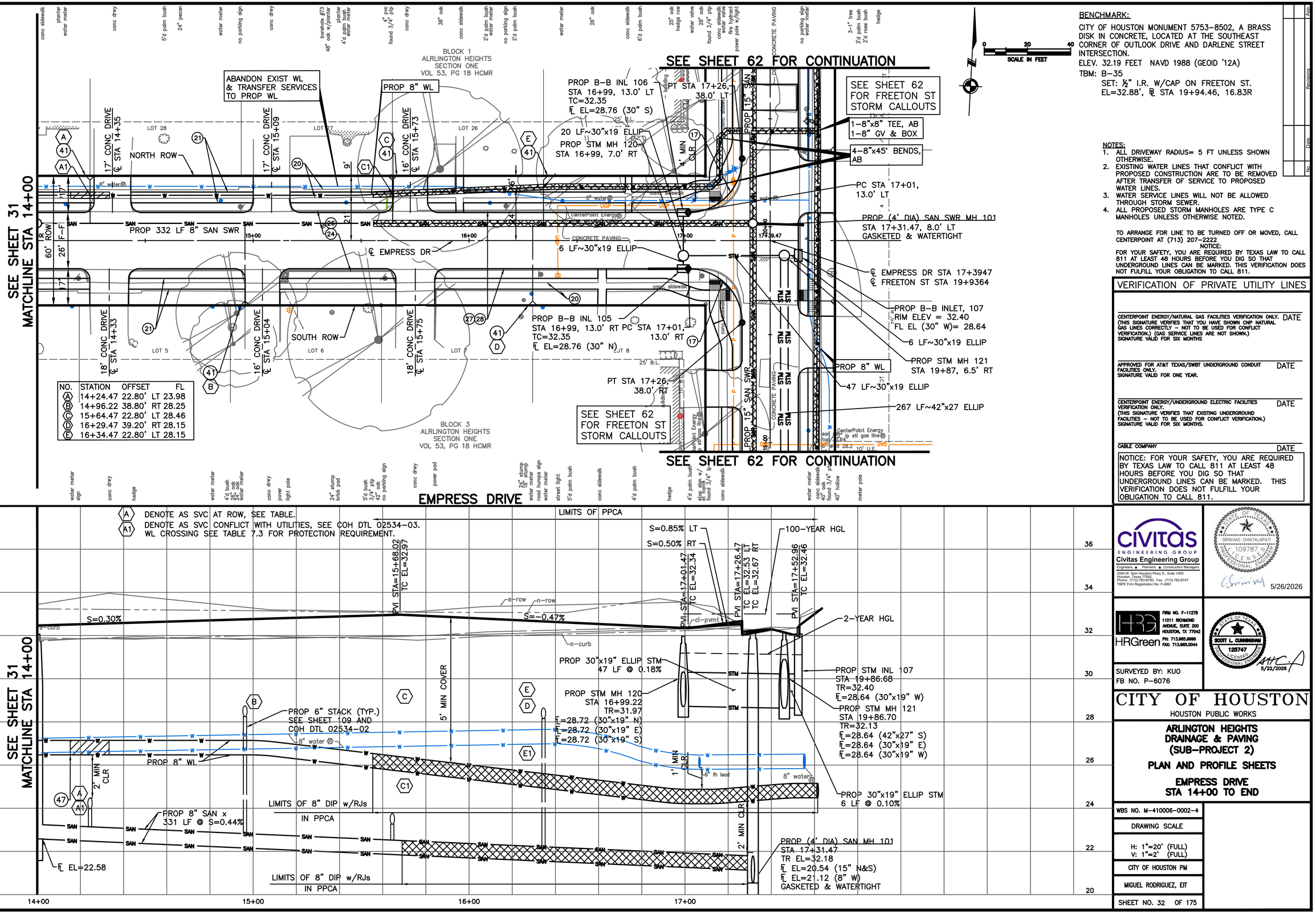
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 31 OF 175

No. | Date | Revisions | App.

\\hrghus\data\85130301\cad\dwgs\c\pp_empress_03.dwg Plotted May 22, 2026 at 9:27 AM by Perez, Abel



civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700 Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9998
FAX: 713.965.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

EMPRESS DRIVE STA 14+00 TO END

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

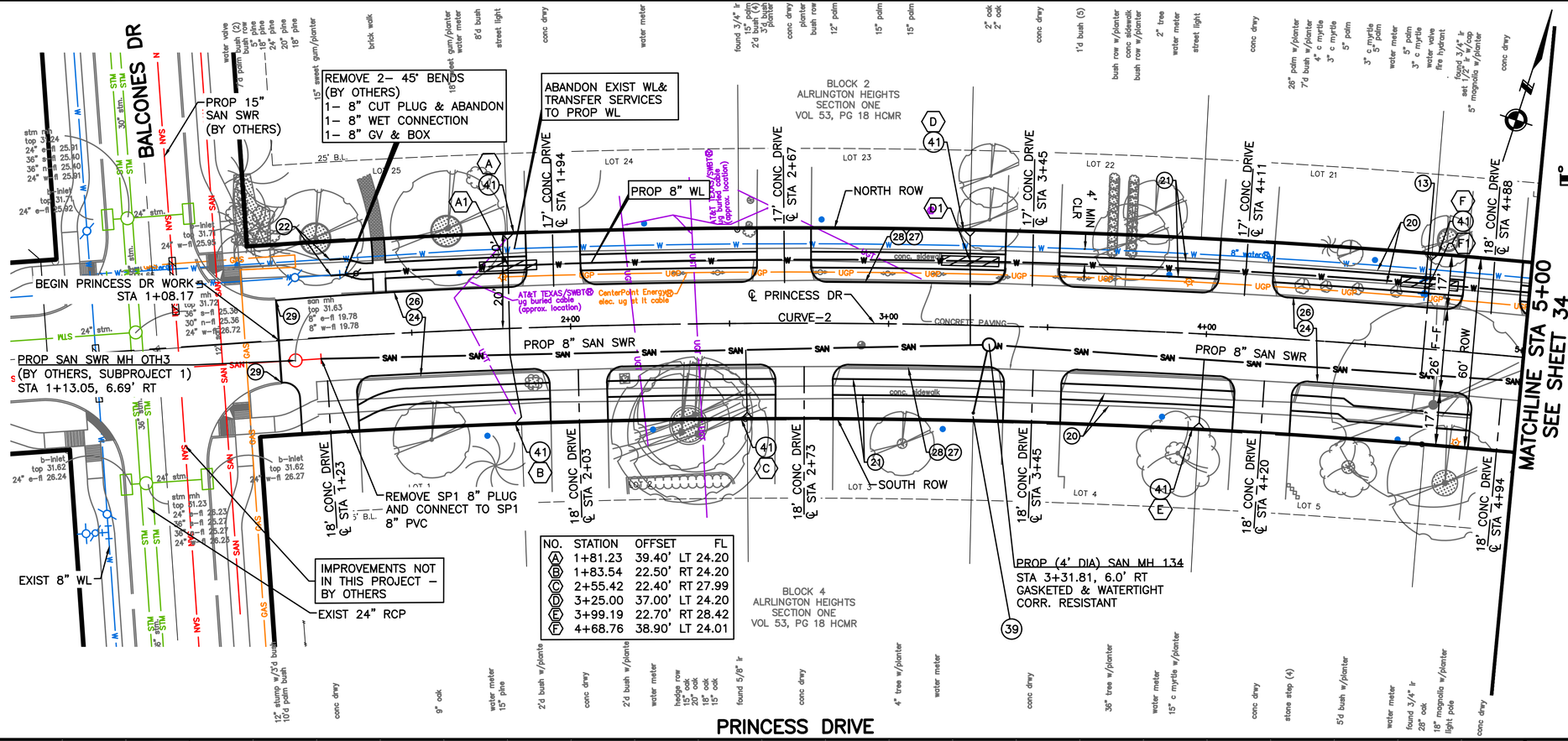
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 32 OF 175

No.	Date	Revisions	App.

\\hrghus\data\85130030\cad\dwgs\c\pp_empress_04.dwg Plotted May 22, 2026 at 8:41 AM by Perez, Abel



NO.	STATION	OFFSET	FL
A	1+81.23	39.40' LT	24.20
B	1+83.54	22.50' RT	24.20
C	2+55.42	22.40' RT	27.99
D	3+25.00	37.00' LT	24.20
E	3+99.19	22.70' RT	28.42
F	4+68.76	38.90' LT	24.01

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B–31
FND: "X" CUT ON CONC. ON PRINCESS
EL=31.99', ℄ STA 0+69.88, 0.34R

℄ CURVE NO 2 DATA:
PC STA 1+00.00
PI STA 5+03.21
PT STA 9+06.42
△ = 18°52'0"
R = 2449'
L = 80642'
T = 40689'

SCALE IN FEET 0 20 40

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

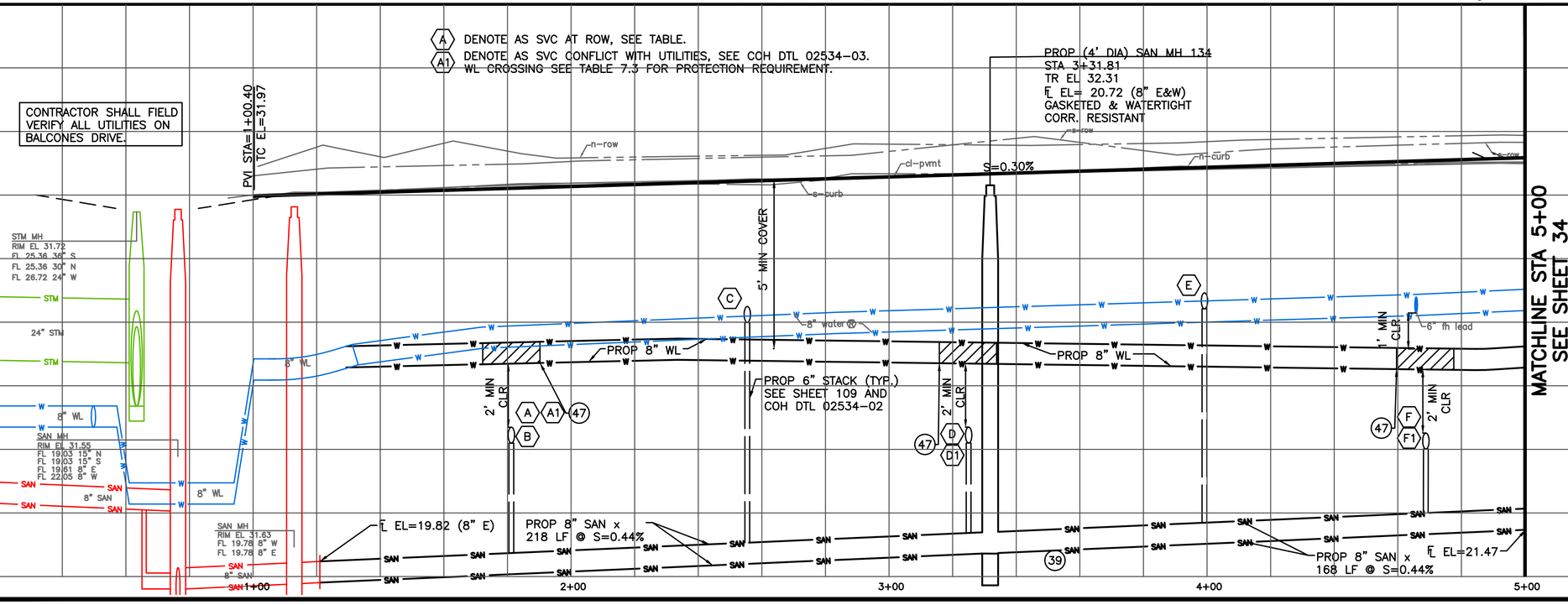
CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.



CIVITAS ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

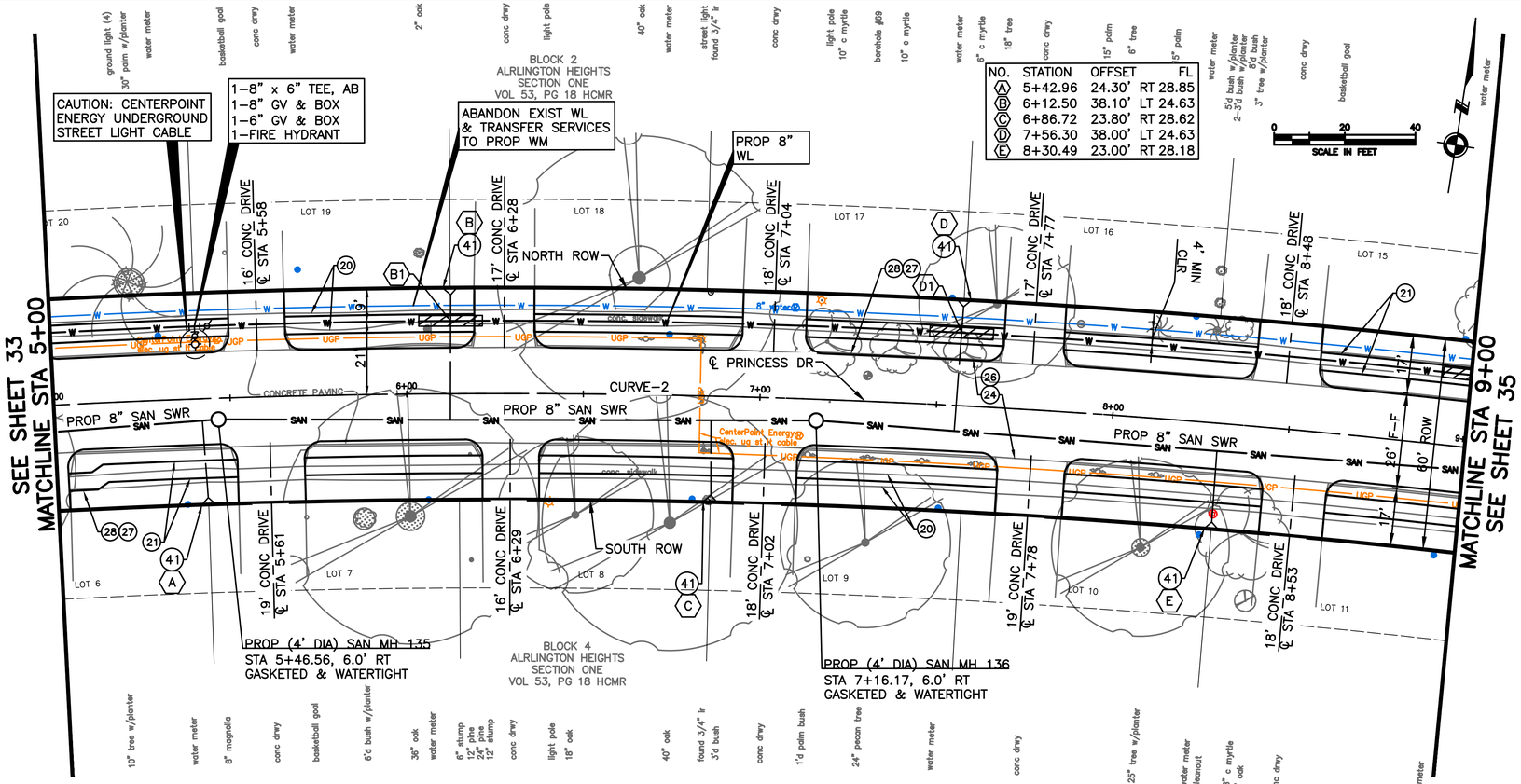
PLAN AND PROFILE SHEETS

PRINCESS DRIVE STA 1+00 TO 5+00

WBS NO.	M–410006–0002–4
DRAWING SCALE	
	H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM	
	MIGUEL RODRIGUEZ, EIT
SHEET NO.	33 OF 175

No.	Date	Revisions	App.

\\hrghus\data\85130030\cad\dwgs\c\pp_princess_01.dwg Plotted May 22, 2026 at 8:34 AM by Perez, Abel



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-32
SET: ½" I.R. W/CAP ON PRINCESS DR.
EL=33.29', ℄ STA 4+73.62, 16.64L

℄ CURVE NO 2 DATA:

PC STA 1+00.00
PI STA 5+03.21
PT STA 9+06.42
Δ = 18°52'0"
R = 2449'
L = 80642'
T = 40689'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

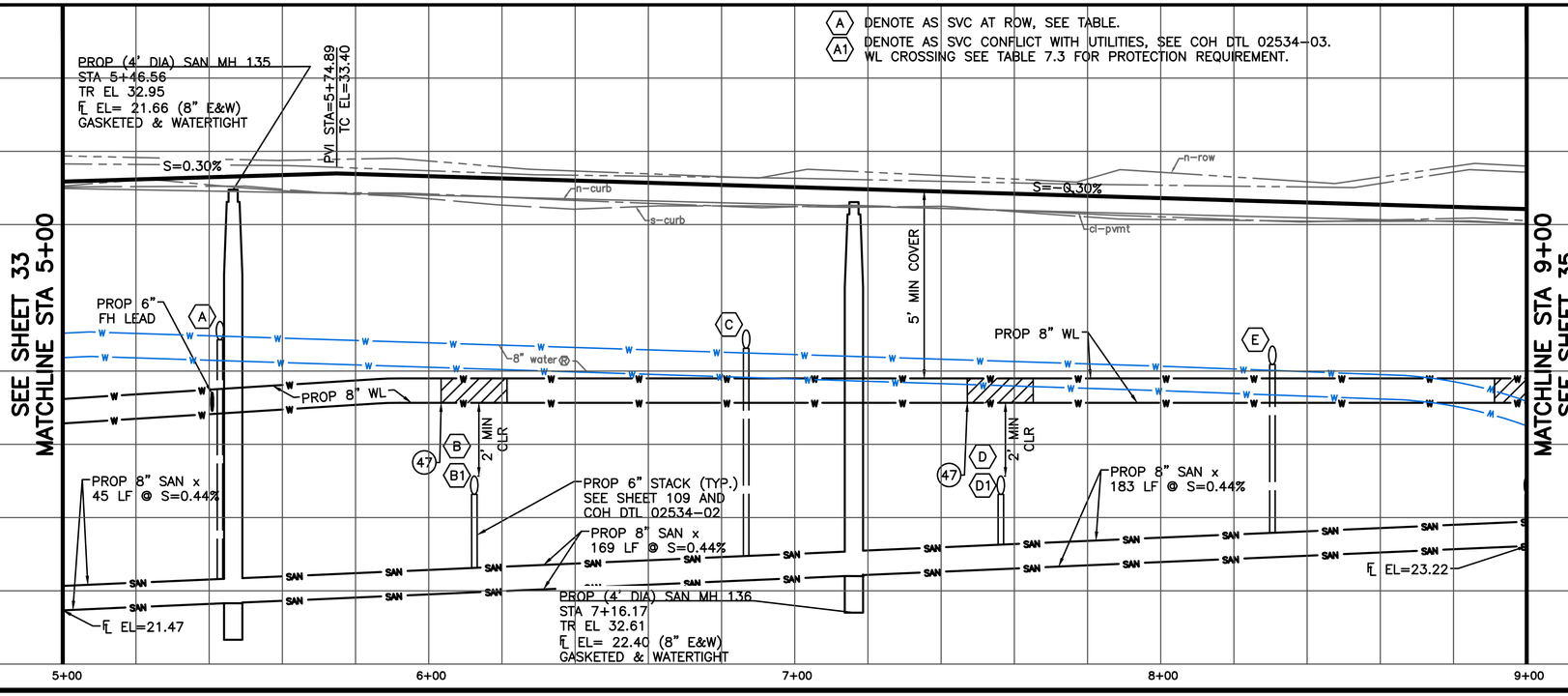
CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.



Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-9700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
PLAN AND PROFILE SHEETS

PRINCESS DRIVE STA 5+00 TO 9+00

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 34 OF 175

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\pp_princess_02.dwg Plotted May 22, 2026 at 8:41 AM by Perez, Abel

SEE SHEET 57 FOR CONTINUATION

SEE SHEET 34
MATCHLINE STA 9+00

MATCHLINE STA 14+00
SEE SHEET 36

SEE SHEET 57 FOR CONTINUATION

PROP STM JB 232
STA 9+82, 6.5' LT

PT STA 9+98.84,
38.0' LT

PROP (4' DIA) SAN MH 137
STA 9+11.70, 6.0' RT
GASKETED & WATERTIGHT

PROP 8" WL

PC STA 9+73.84,
13.0' LT

PC STA 9+73.87,
13.0' RT

PROP 8" SAN SWR

1-8" GV & BOX
1-8" x6" TEE, AB
1-8" x8" TEE, AB
1-6" GV & BOX
1-FIRE HYDRANT

CAUTION: CENTERPOINT ENERGY UNDERGROUND STREET LIGHT CABLE

PT STA 9+98.87,
38.0' RT

PC STA 10+24.84,
38.0' LT

℄ PRINCESS DR STA 10+11.85
℄ DARLENE LN STA 9+40.00

1-8" x 6" TEE, AB

1-8" GV & BOX

PT STA 10+49.84,
13.0' LT

83 LF~4'x2' RCB

PT STA 10+47.10,
13.2' RT

PT STA 10+24.87,
38.0' RT

PROP 8" WL

PROP STM JB 233
STA 8+98, 6.5' LT

BLOCK 3
ARLINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

ABANDON EXIST WM
& TRANSFER
SERVICES
TO PROP WM

1-8" GV & BOX
1-8" x6" TEE, AB
1-6" GV & BOX
1-FIRE HYDRANT

13' CONC DRIVE
℄ STA 11+37

16' CONC DRIVE
℄ STA 11+33

17' CONC DRIVE
℄ STA 10+61

18' CONC DRIVE
℄ STA 12+04

24' CONC DRIVE
℄ STA 12+70

17' CONC DRIVE
℄ STA 13+42

PROP 8" WL

NORTH ROW

SOUTH ROW

℄ PRINCESS DR

PROP 8" SAN SWR

PROP 8" SAN SWR

PROP (4' DIA) SAN MH 118
STA 10+96.20, 8.0' RT
GASKETED & WATERTIGHT

PROP (4' DIA) SAN MH 117
STA 13+21.03, 8.0' RT
GASKETED & WATERTIGHT

NO.	STATION	OFFSET	FL
A	9+00.30	37.30' LT	28.34
B	9+02.37	24.40' RT	28.34
C	11+07.60	22.80' RT	27.96
D	11+17.32	38.80' LT	29.83
E	11+90.35	22.80' RT	24.66
F	11+90.35	40.10' LT	24.66
G	12+57.32	23.40' RT	28.38
H	13+27.32	38.80' LT	24.66
I	13+97.32	22.80' RT	28.79

SEE SHEET 57
FOR DARLENE LN
STORM CALLOUTS

BLOCK 5
ARLINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

0 20 40
SCALE IN FEET

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-33
SET: "X" CUT ON CONC. ON PRINCESS
EL=31.28', ℄ STA 9+95.95, 14.98L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

PRINCESS DRIVE

A DENOTE AS SVC AT ROW, SEE TABLE.
A1 DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03.
WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

PVI STA=9+74.00
TC EL=32.20

PVI STA=9+98.84
TC EL=32.00

PVI STA=10+24.84
TC EL=32.00

PVI STA=10+50.00
TC EL=32.20

S=-0.30%
S=-0.50%
S=0.50%
S=0.30%

PROP 4'X2' RCB STM
@ 0.11%

PROP 6"
FH LEAD

PROP 8" WL

LIMITS OF 8" DIP w/RJs
(FOR OFFSET DETAILS,
SEE COH DETAIL
DWG NO 02511-01.
TYP)

LIMITS OF 8" PIPE w/RJs
(FOR OFFSET DETAILS,
SEE COH DETAIL
DWG NO 02511-01. TYP)

5' MIN COVER

1' MIN CLR
2' MIN CLR

PROP 6" STACK (TYP.)
SEE SHEET 109 AND
COH DTL 02534-02

PROP 8" SAN x
11 LF @ S=0.44%
fl EL=23.22

PROP (4' DIA) SAN MH 137
STA 9+11.70
TR EL 32.03
fl EL= 23.55 (8" W)
GASKETED & WATERTIGHT

PROP (4' DIA) SAN MH 118
STA 10+96.20
TR EL 31.97
fl EL= 24.20 (8" E)
GASKETED & WATERTIGHT

PROP 8" SAN x
246 LF @ S=0.44%

PROP (4' DIA) SAN MH 117
STA 13+21.03
TR EL 32.61
fl EL= 23.08 (8" E&W)
GASKETED & WATERTIGHT

PROP 8" SAN x
79 LF @ S=0.44%
fl EL=22.73

9+00 10+00 11+00 12+00 13+00 14+00

civitas
ENGINEERING GROUP
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4961

STATE OF TEXAS
SRINIVAS CHITALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9900
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

PRINCESS DRIVE
STA 9+00 TO 14+00

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

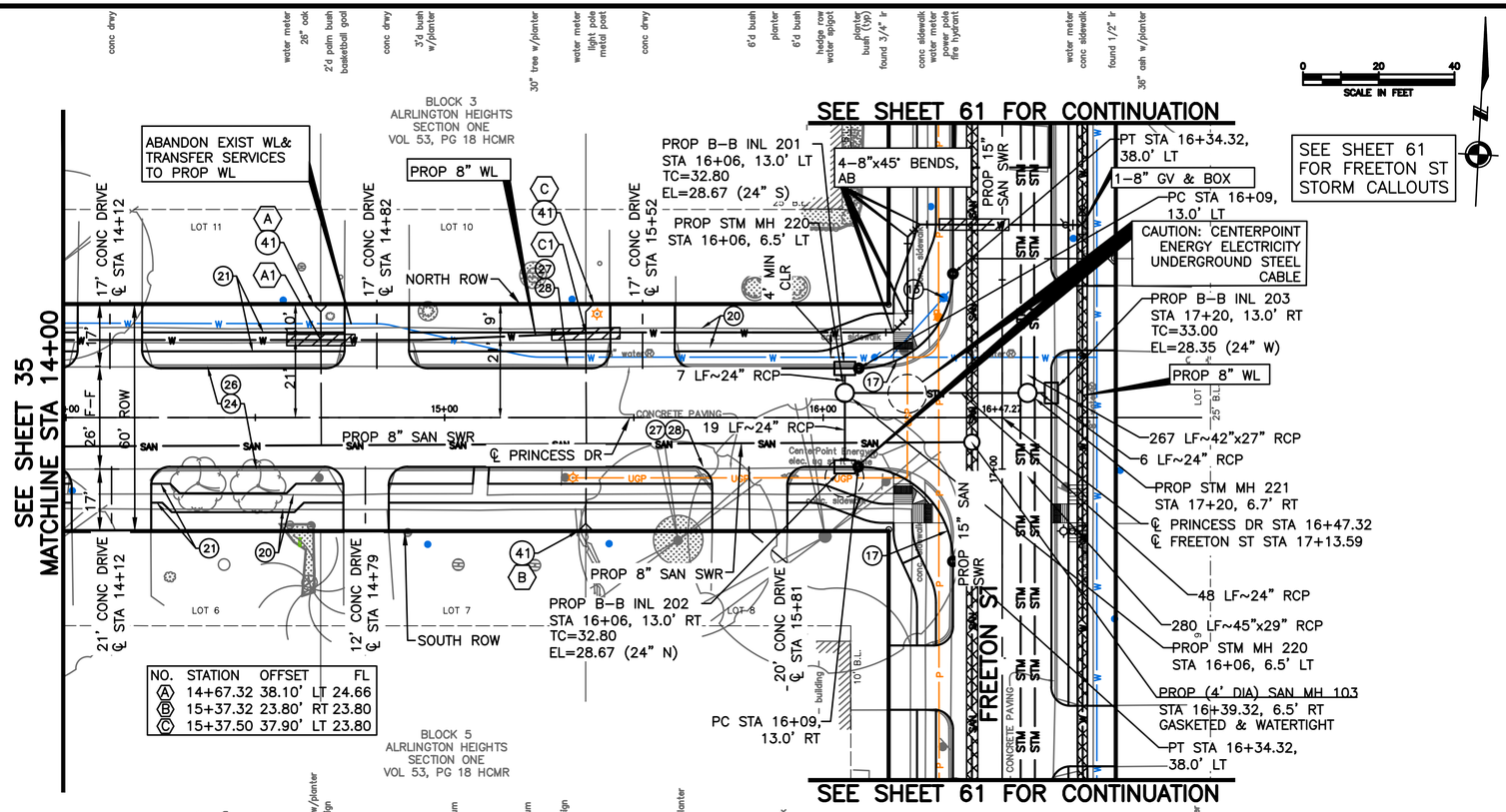
CITY OF HOUSTON PM

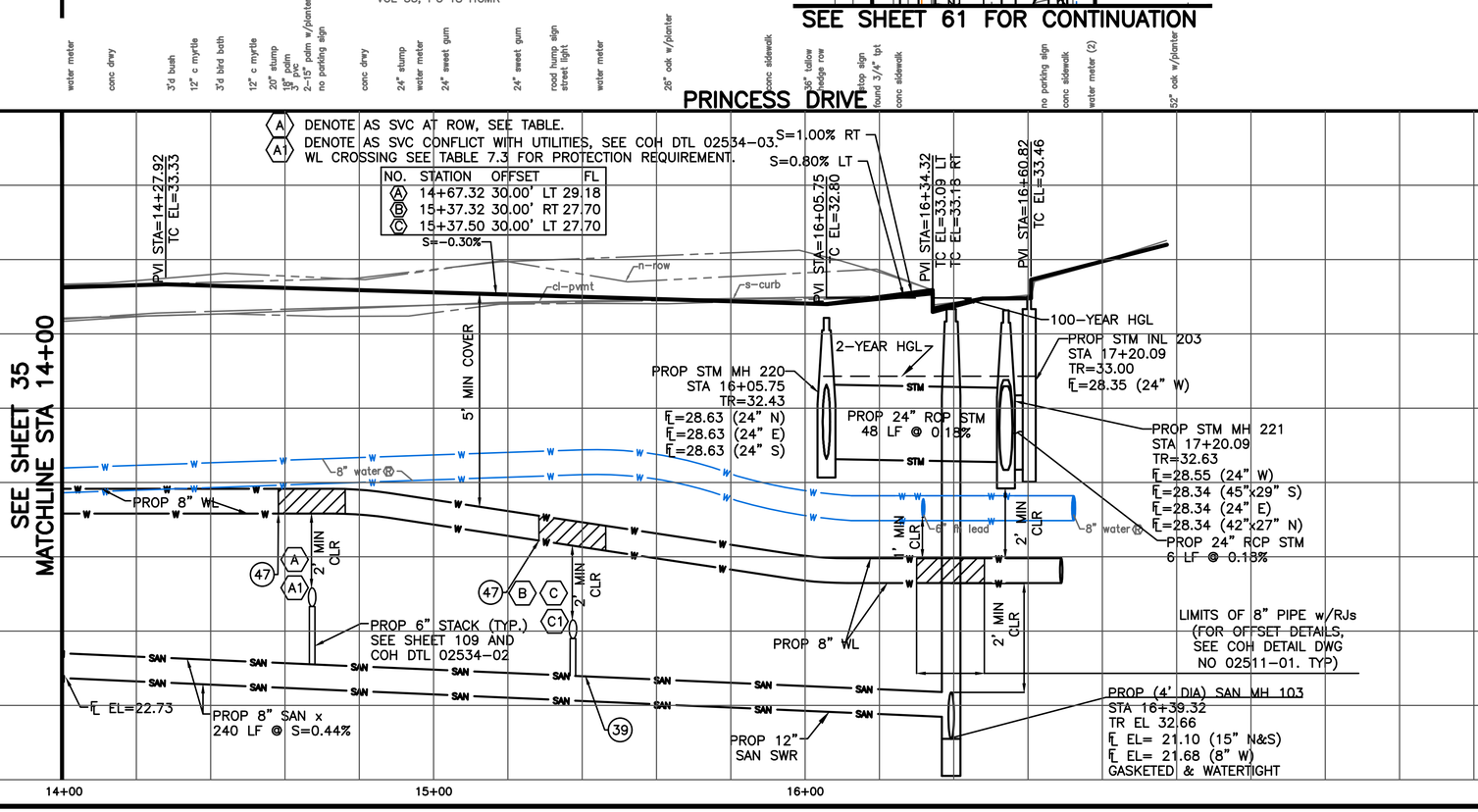
MIGUEL RODRIGUEZ, EIT

SHEET NO. 35 OF 175

No. | Date | Revisions | Appr.

\\hrghus\data\8513030\cad\dwgs\c\pp_princess_03.dwg Plotted May 22, 2026 at 9:22 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B–34
SET: ½" I.R. W/CAP ON FREETON ST.
EL=33.78', ℄ STA 17+18+94, 17.43R

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

Civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

PRINCESS DRIVE STA 14+00 TO END

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

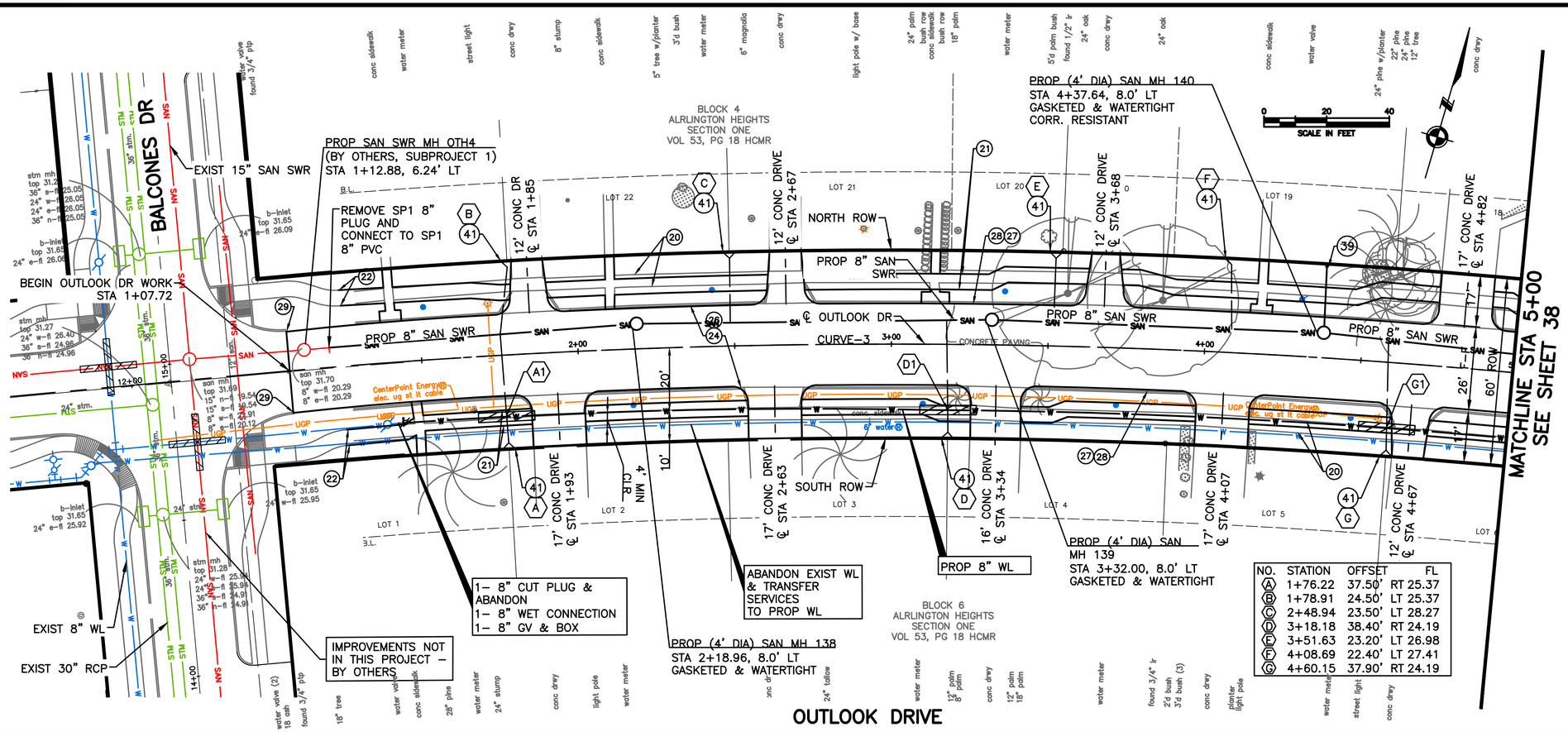
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 36 OF 175

No.	Date	Revisions	Appr.

\\hrghua\data\85130030\cad\dwgs\c\pp_princess_04.dwg Plotted May 22, 2026 at 9:19 AM by Perez, Abel



NO.	STATION	OFFSET	FL
(A)	1+76.22	37.50'	RT 25.37
(B)	1+78.91	24.50'	LT 25.37
(C)	2+48.94	23.50'	LT 28.27
(D)	3+18.18	38.40'	RT 24.19
(E)	3+51.63	23.20'	LT 26.98
(F)	4+08.69	22.40'	LT 27.41
(G)	4+60.15	37.90'	RT 24.19

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-30
"X" CUT ON CONC. ON OUTLOOK
EL=32.08', BL STA 0+69.10, 0.54R

℄ CURVE NO 3 DATA:

PC STA 1+00.00
PI STA 4+57.06
PT STA 8+14.13
Δ = 18°52'0"
R = 216873'
L = 71413'
T = 36033'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

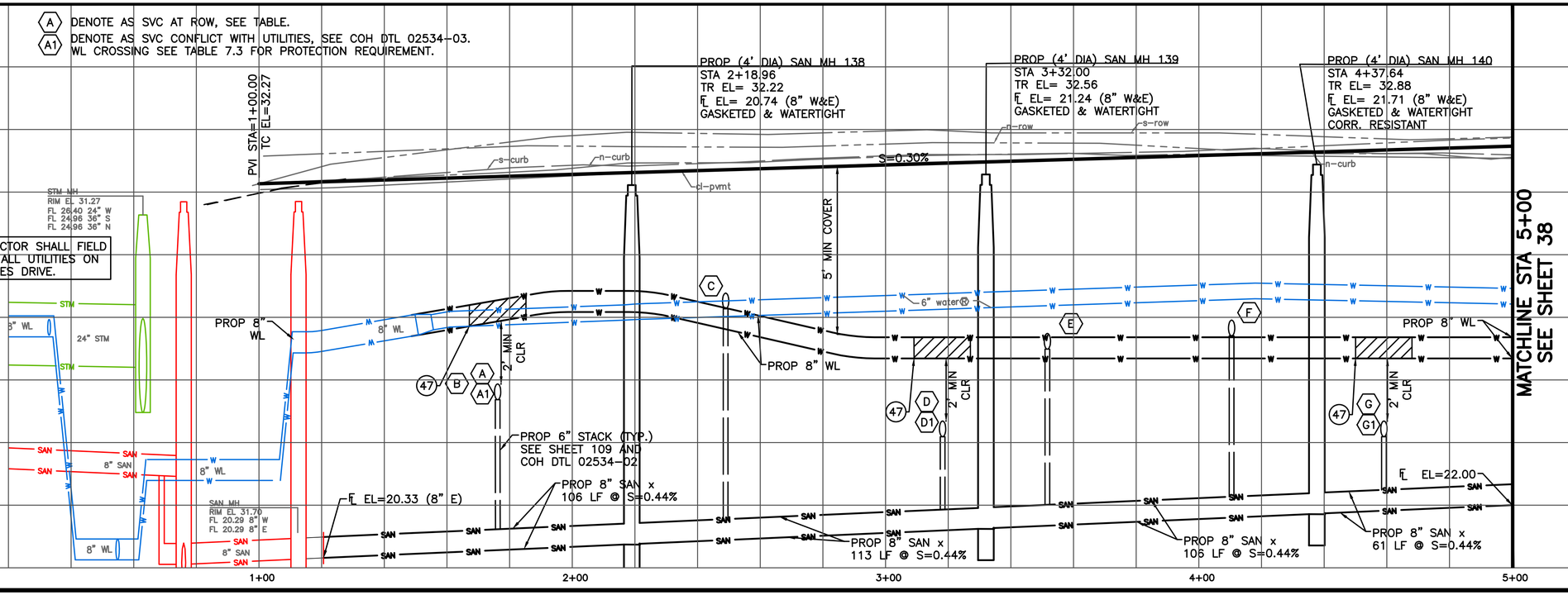
CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

A DENOTE AS SVC AT ROW, SEE TABLE.
A1 DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03.
WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.



OUTLOOK DRIVE

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700, Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

OUTLOOK DRIVE STA 1+00 TO 5+00

WBS NO. M-410006-0002-4

DRAWING SCALE

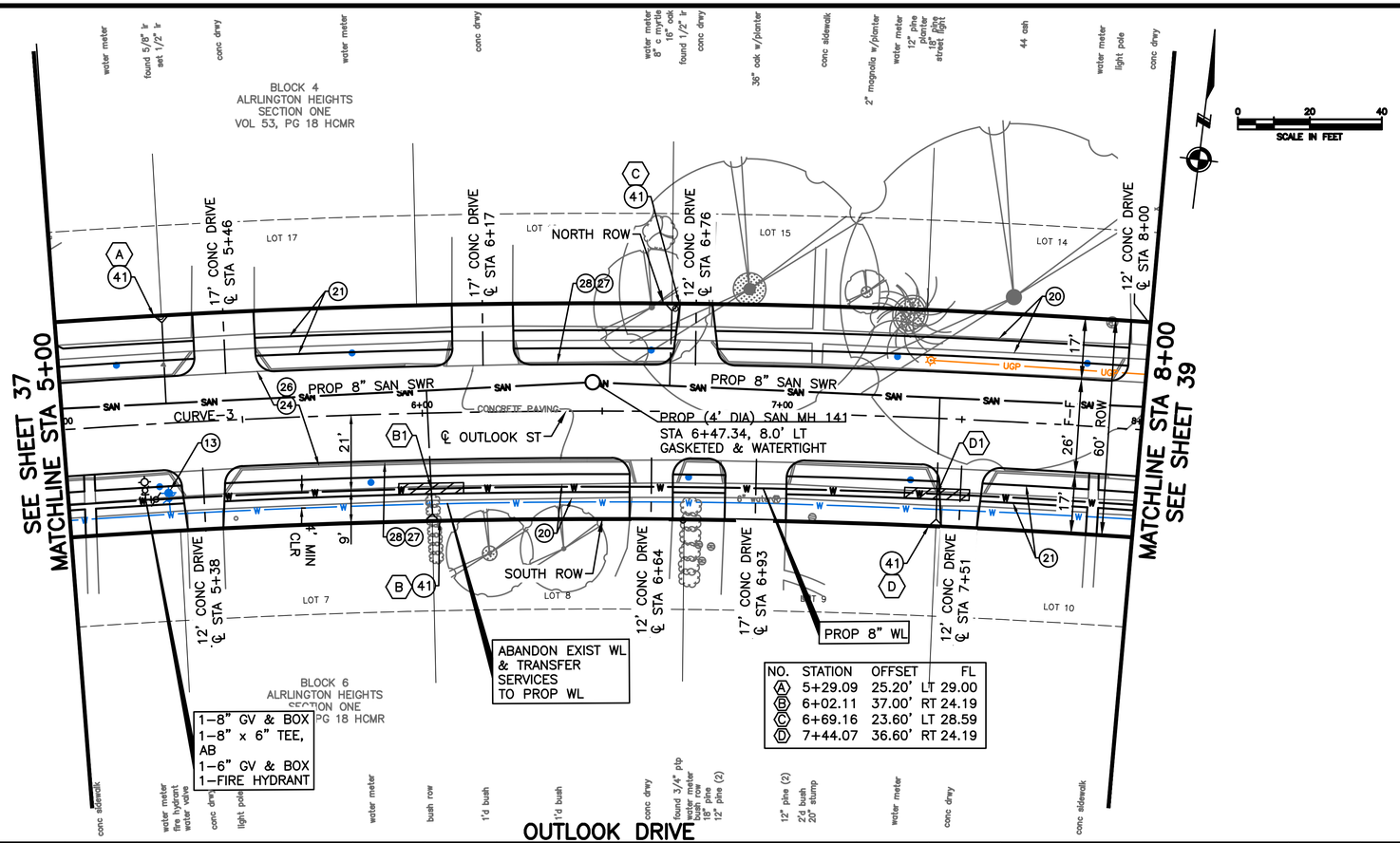
H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 37 OF 175

\\hrghus\data\85130030\cad\dwgs\c\pp_outlook_01.dwg Plotted May 22, 2026 at 9:13 AM by Perez, Abel



NO.	STATION	OFFSET	FL
A	5+29.09	25.20' LT	29.00
B	6+02.11	37.00' RT	24.19
C	6+69.16	23.60' LT	28.59
D	7+44.07	36.60' RT	24.19

℄ CURVE NO 3 DATA:
PC STA 1+00.00
PI STA 4+57.06
PT STA 8+14.13
Δ = 18°52'0"
R = 216873'
L = 71413'
T = 36033'

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-29
SET: ½" I.R. W/CAP ON OUTLOOK DR.
EL=32.94', ℄ STA 5+28.91', 16.29L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.) SIGNATURE VALID FOR SIX MONTHS — DATE

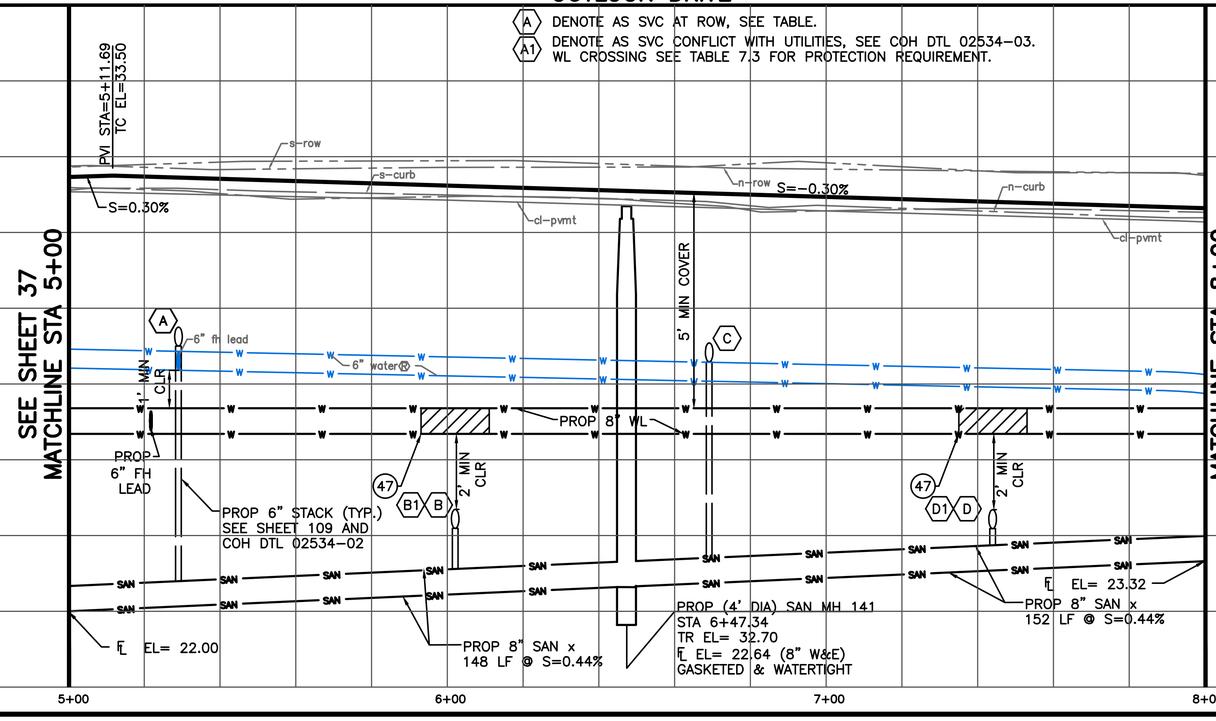
APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR. — DATE

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.) SIGNATURE VALID FOR SIX MONTHS. — DATE

CABLE COMPANY — DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

A DENOTE AS SVC AT ROW, SEE TABLE.
A1 DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.



civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
PLAN AND PROFILE SHEETS

OUTLOOK DRIVE STA 5+00 TO 8+00

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

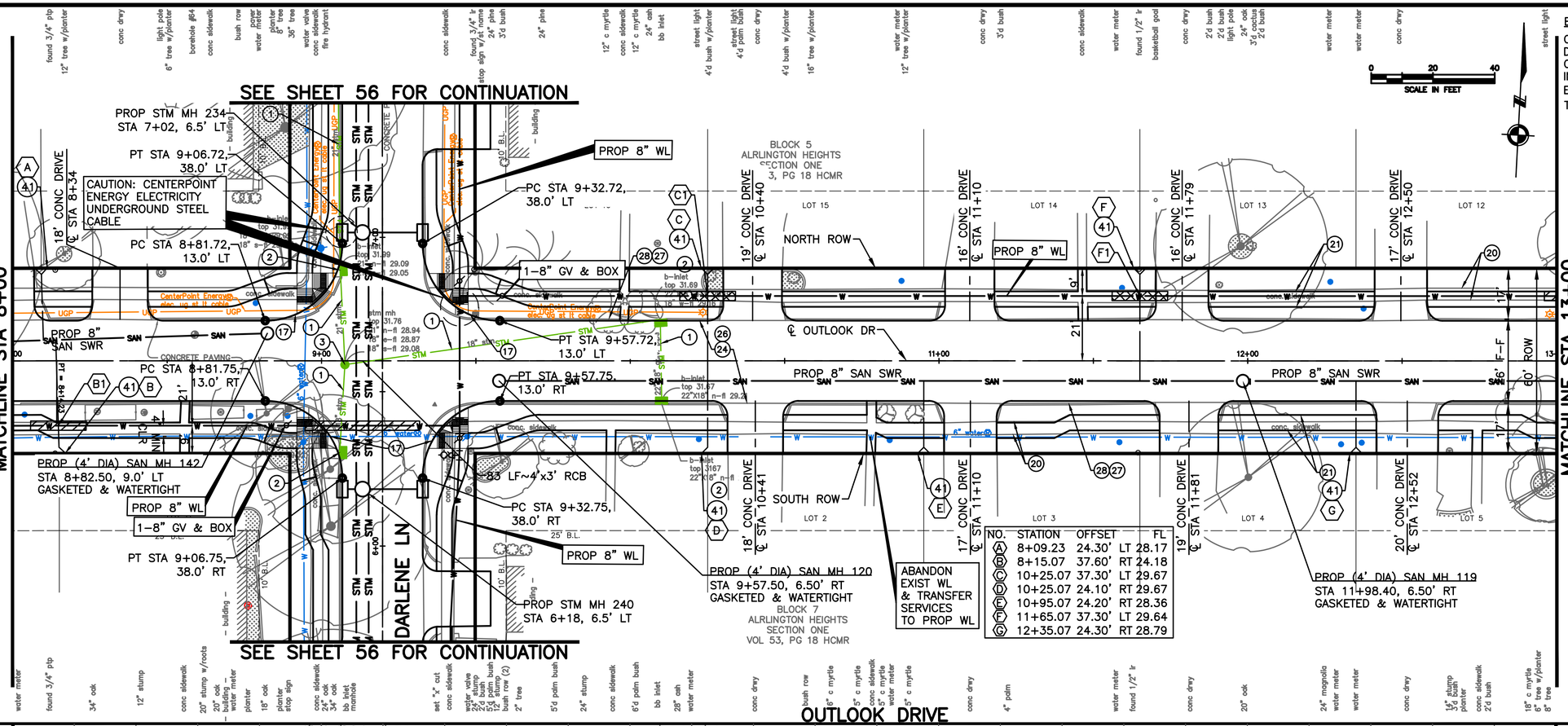
CITY OF HOUSTON PM

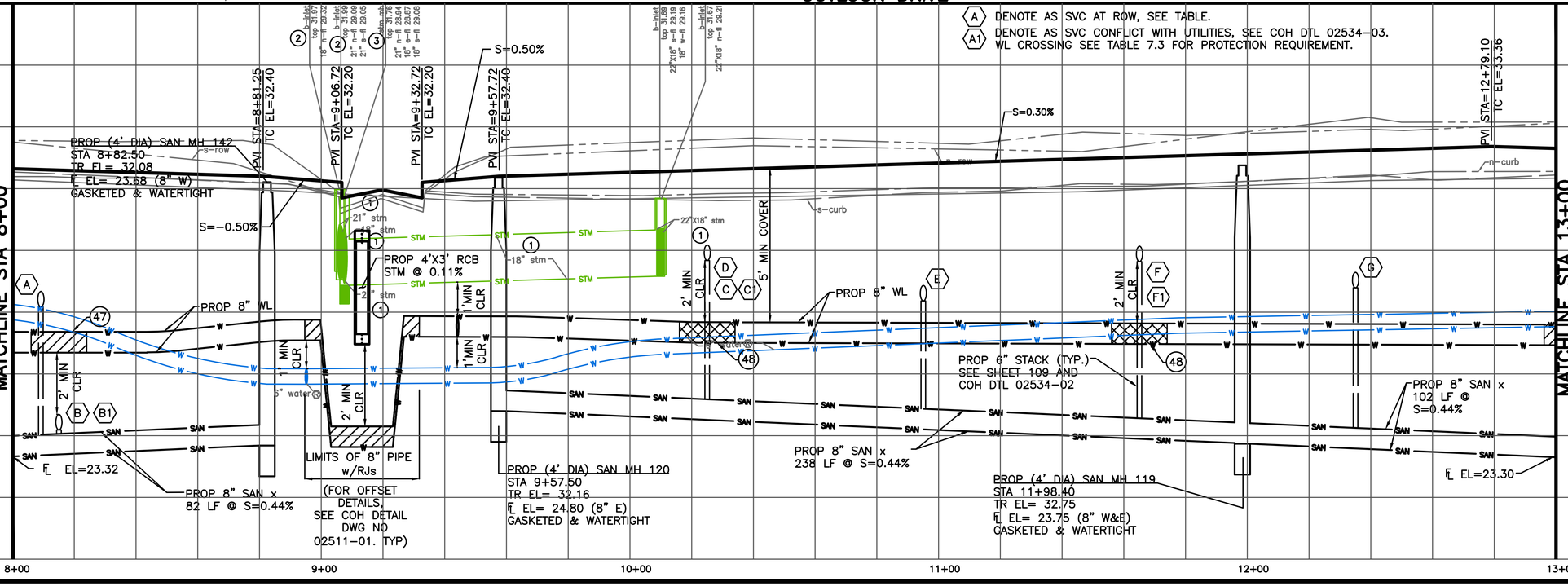
MIGUEL RODRIGUEZ, EIT

SHEET NO. 38 OF 175

No.	Date	Revisions	App.

\\rghus\data\85130030\cad\dwgs\c\pp_outlook_02.dwg Plotted May 22, 2026 at 8:40 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-28
SET "X" CUT ON CONC. ON OUTLOOK DR.
EL=31.38', ℄ STA 9+36.66, 14.18 R

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Revisions	Date	App.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

OUTLOOK DRIVE STA 8+00 TO 13+00

WBS NO. M-410006-0002-4

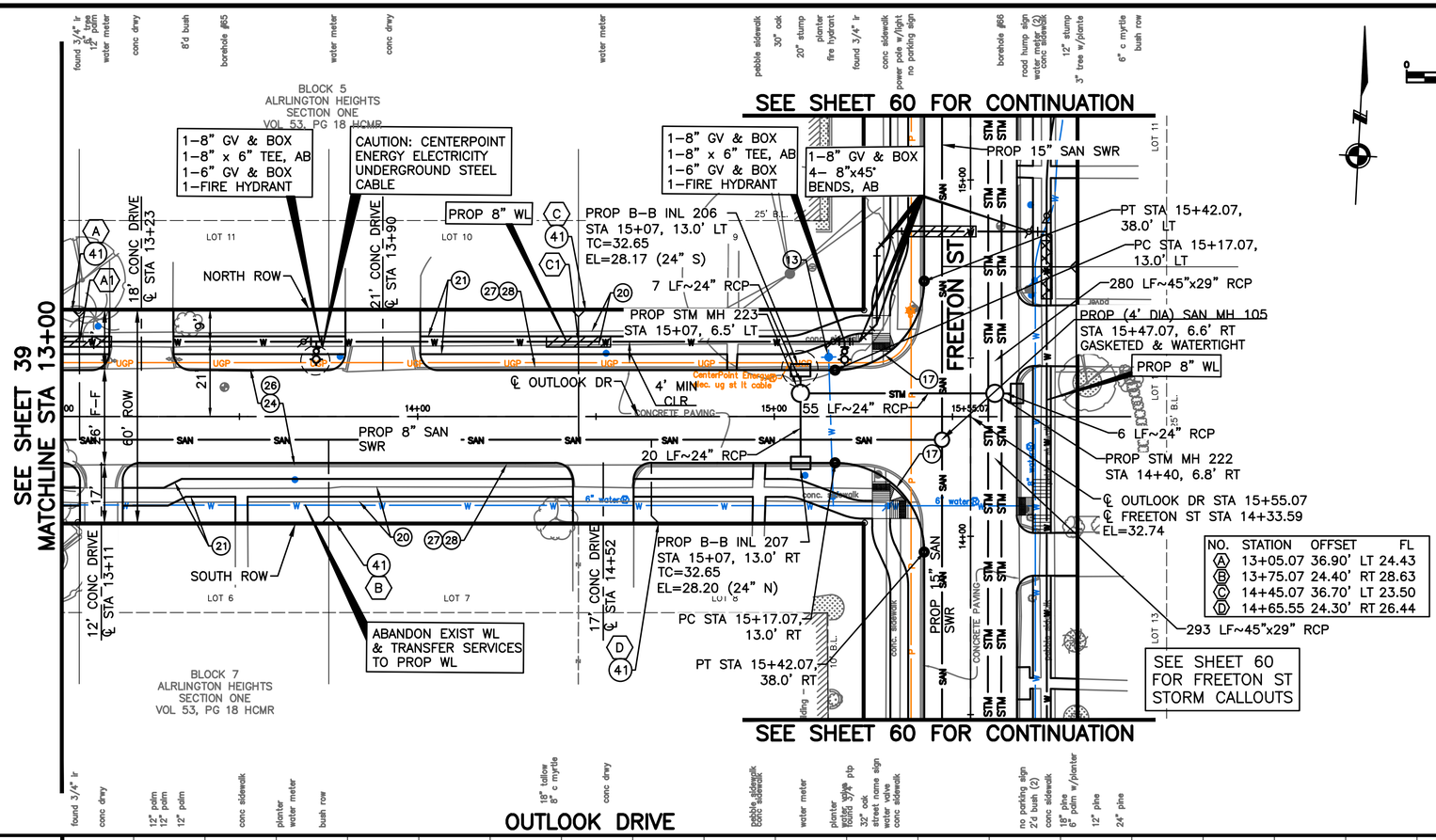
DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

\\hrghus\data\85130030\cad\dwgs\c_pp_outlook_03.dwg Plotted May 22, 2026 at 9:17 AM by Perez, Abel



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B–27
SET 1½" I.R. W/CAP ON OUTLOOK DR.
EL=33.01', ℄ STA 15+31.06, 18.94 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

Civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS · TEXAS CHINTALAPATI · 109787 · LICENSED · PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS · SCOTT L. CUNNINGHAM · 125747 · LICENSED · PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

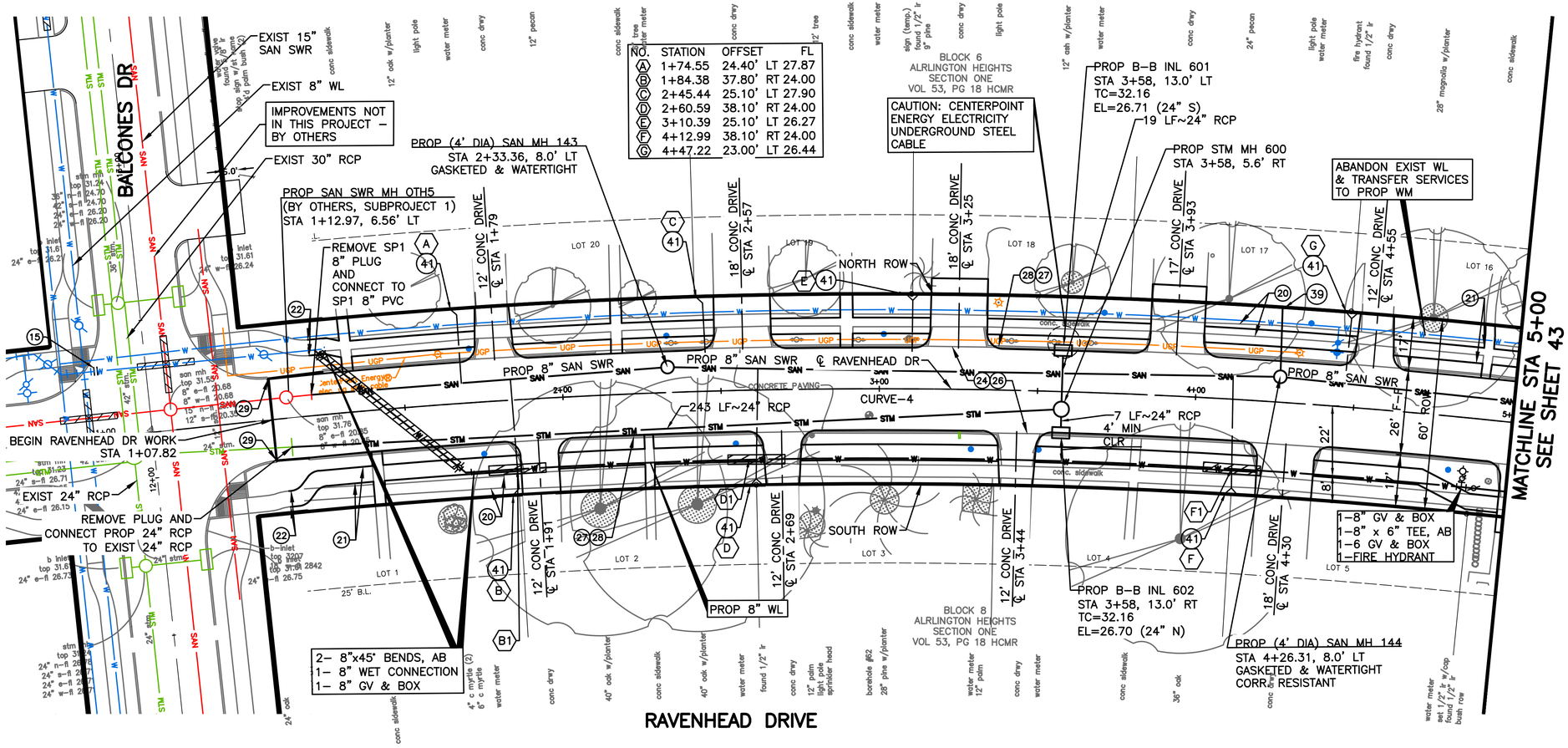
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

OUTLOOK DRIVE STA 13+00 TO END

WBS NO.	M-410006-0002-4
DRAWING SCALE	
	H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM	
	MIGUEL RODRIGUEZ, EIT
SHEET NO.	40 OF 175

\\hrghus\data\85130030\cad\dwgs\c\pp_outlook_04.dwg Plotted May 22, 2026 at 8:39 AM by Perez, Abel



NO.	STATION	OFFSET	FL
A	1+74.55	24.40' LT	27.87
B	1+84.38	37.80' RT	27.90
C	2+45.44	25.10' RT	27.90
D	2+60.59	38.10' RT	27.94
E	3+10.39	25.10' LT	26.27
F	4+12.99	38.10' RT	27.83
G	4+47.22	23.00' LT	26.44

NO.	STATION	OFFSET	FL
A	1+74.55	24.40' LT	27.87
B	1+84.38	37.80' RT	24.00
C	2+45.44	25.10' RT	27.90
D	2+60.59	38.10' RT	24.00
E	3+10.39	25.10' LT	26.27
F	4+12.99	38.10' RT	24.00
G	4+47.22	23.00' LT	26.44

℄ CURVE NO 4 DATA:

PC STA 1+00.00
PI STA 4+10.97
PT STA 7+21.93
Δ = 18°52'0"
R = 188873'
L = 62193'
T = 31381'

0 20 40
SCALE IN FEET

SEE PROFILE RAVENHEAD DRIVE
STA 1+00 TO 5+00
ON SHEET 42

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B–23
FND. "X" CUT ON CONC. ON RAVENHEAD DR.
EL=31.92', ℄ STA 0+69.56, 0.90 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ▲ Planners ▲ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

RAVENHEAD DRIVE – PLAN VIEW STA 1+00 TO 5+00

WBS NO. M–410006–0002–4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 41 OF 175	

No.	Date	Revisions	App.

\\hrghus\data\85130030\cad\dwgs\c\pp_ravenhead_01–plan.dwg Plotted May 22, 2026 at 9:26 AM by Perez, Abel

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B–23

FND. "X" CUT ON CONC. ON RAVENHEAD DR.
EL=31.92', ℄ STA 0+69.56, 0.90 L

No.	Date	Revisions	App.

0 20 40
SCALE IN FEET

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

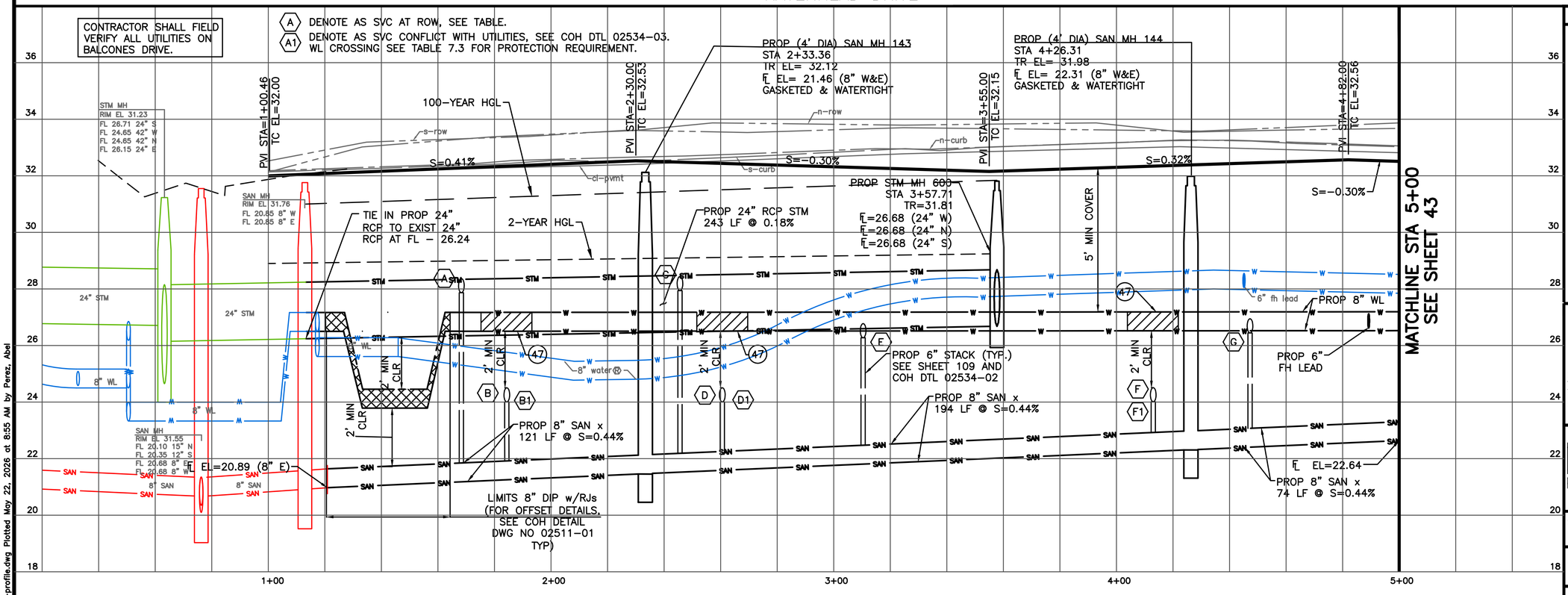
TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

RAVENHEAD DRIVE

CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES ON BALCONES DRIVE.

(A) DENOTE AS SVC AT ROW, SEE TABLE.
(A1) DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534–03.
WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.



\\hrghua\data\85130030\cad\dwgs\c\pp_ravenhead_01–profile.dwg Plotted May 22, 2026 at 8:55 AM by Perez, Abel

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

Civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

RAVENHEAD DRIVE – PROFILE VIEW STA 1+00 TO 5+00

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 42 OF 175

SEE SHEET 41
MATCHLINE STA 5+00

SEE SHEET 55 FOR CONTINUATION

SEE SHEET 55 FOR CONTINUATION

MATCHLINE STA 10+00
SEE SHEET 44

SEE SHEET 42
MATCHLINE STA 5+00

MATCHLINE STA 10+00
SEE SHEET 44

RAVENHEAD DRIVE

BLOCK 6
ARLRINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

BLOCK 7
ARLRINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

BLOCK 8
ARLRINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

BLOCK 9
ARLRINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

DARLENE LN

NORTH ROW

SOUTH ROW

℄ RAVENHEAD DR

SCALE IN FEET
0 20 40

PROP (4' DIA) SAN MH 145
STA 5+70.03, 8.0' LT
GASKETED & WATERTIGHT

PROP B–B INL 432
STA 6+20, 13.0' LT
TC=32.15
EL=27.65 (24" S)

ABANDON EXIST WL
& TRANSFER SERVICES
TO PROP WL

PROP B–B INL 433
STA 6+20, 13.0' RT
TC=32.10
EL=27.65 (24" N)

NO.	STATION	OFFSET	FL
A	5+65.40	38.80' RT	24.03
B	5+85.03	23.40' LT	26.26
C	7+17.81	37.70' RT	29.37
D	7+22.87	23.10' LT	29.37
E	9+32.87	23.20' LT	29.78
F	9+32.87	38.70' RT	29.78

PROP 8" WL

PROP 8" SAN SWR

PROP STM MH 431
STA 6+20, 6.5' RT

20 LF~24" RCP

6 LF~24" RCP

201 LF~24" RCP

PROP 8" SAN SWR

PROP STM MH 420
STA 4+22, 6.5' LT

PROP B–B INL 401
STA 4+22, 13.0' LT
TC=32.22
EL=27.70 (24" E)

PT STA 8+14.64,
38.0' LT

℄ RAVENHEAD DR STA 8+27.66
℄ DARLENE LN STA 3+80.00
EL=32.00

PC STA 7+89.64,
13.0' LT

PC STA 7+89.68,
13.0' RT

PT STA 8+14.68,
38.0' RT

1–8" GV & BOX
1–8" x6" TEE, AB
1–6" GV & BOX
1–FIRE HYDRANT

PROP (4' DIA) SAN MH 146
STA 7+87.50, 9.5' LT
GASKETED & WATERTIGHT

CAUTION: CENTERPOINT
ENERGY ELECTRICITY
UNDERGROUND STEEL
CABLE

PROP 8" WL
PROP B–B INL 403
STA 4+22, 13.0' RT
TC=32.22
EL=27.70 (24" W)

PC STA 8+40.64,
38.0' LT

PROP STM JB 430
STA 3+71, 6.5' LT

PROP (4' DIA) SAN MH 122
STA 8+67.50, 8.0' LT
GASKETED & WATERTIGHT

PC STA 8+65.64,
13.0' LT

PT STA 8+65.68,
13.0' RT

2–8" GV & BOX
1–8" x8" CROSS, AB

PC STA 8+40.68,
38.0' RT

SEE SHEET 55
FOR DARLENE LN
STORM CALLOUTS

PROP 8" WL

12' CONC DRIVE
℄ STA 5+23

19' CONC DRIVE
℄ STA 5+08

12' CONC DRIVE
℄ STA 5+70

22' CONC DRIVE
℄ STA 6+54

17' CONC DRIVE
℄ STA 6+58

17' CONC DRIVE
℄ STA 9+48

20' CONC DRIVE
℄ STA 9+50

4' MIN CLR

CURVE–4

CONCRETE PAVING

CENTERPOINT ENERGY

UGP

STM

SAN

W

b–inlet
top 31.73
18" n–fl 28.88
18" sw–fl 28.77

b–inlet
top 31.98
18" s–fl 29.20

b–inlet
top 32.37
18" ne–fl 28.55
21" s–fl 28.27
18" sw–fl 28.58

b–inlet
top 32.37
18" ne–fl 28.55
18" n–fl 28.27
18" sw–fl 28.58

b–inlet
top 32.32
18" s–fl 29.02

b–inlet
top 32.32
18" n–fl 29.03
18" s–fl 29.02

b–inlet
top 31.99
18" s–fl 29.20

stm mh
top 32.37
18" ne–fl 28.55
18" n–fl 28.27
18" sw–fl 28.58

stm mh
top 32.37
18" ne–fl 28.55
21" s–fl 28.27
18" sw–fl 28.58

stm mh
top 32.37
18" ne–fl 28.55
18" n–fl 28.27
18" sw–fl 28.58

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM:B–25
SET "X" CUT ON CONC. ON RAVENHEAD DR. EL=31.58', ℄ STA 8+13.58, 18.45 R

℄ CURVE NO 4 DATA:

PC STA 1+00.00
PI STA 4+10.97
PT STA 7+21.93
Δ = 18°52'0"
R = 188873'
L = 62193'
T = 31381'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.) SIGNATURE VALID FOR SIX MONTHS — DATE

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR. — DATE

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.) SIGNATURE VALID FOR SIX MONTHS. — DATE

CABLE COMPANY — DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No. | Revisions | Date | App'd

A DENOTE AS SVC AT ROW, SEE TABLE.
A1 DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534–03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

PROP (4' DIA) SAN MH 145
STA 5+70.03
TR EL= 31.90
℄ EL= 22.94 (8" W&E)
GASKETED & WATERTIGHT

PROP STM MH 431
STA 6+20.00
TR=31.78
℄ EL=27.60 (24" E)
℄ EL=27.60 (24" N)
℄ EL=27.60 (24" S)

PVI STA=6+20.79
TC EL=32.15

PVI STA=7+03.98
TC EL=32.60

PVI STA=7+89.18
TC EL=32.35

PVI STA=8+14.64
TC EL=32.20

PVI STA=8+40.64
TC EL=32.20

PVI STA=8+66.18
TC EL=32.35

100–YEAR HGL

2–YEAR HGL

S=–0.30%

S=–0.40%

S=0.40%

S=0.55%

S=0.30%

s–row

s–curb

cl–pvmt

n–curb

n–row

PROP 24" RCP STM
201 LF @ 0.20%

PROP 6"
FH LEAD

5' MIN COVER

2' MIN CLR

1' MIN CLR

PROP 8" WL

PROP 8" SAN x
70 LF @ S=0.44%

PROP 8" SAN x
217 LF @ S=0.44%

PROP 8" SAN x
131 LF @ S=0.44%

PROP (4' DIA) SAN MH 146
STA 7+87.50
TR EL= 32.11
℄ EL= 23.89 (8" W)
GASKETED & WATERTIGHT

PROP (4' DIA) SAN MH122
STA 8+67.50
TR EL= 32.12
℄ EL= 25.30 (8" E)
GASKETED & WATERTIGHT

PROP STM JB 430
STA 3+70.97
TR=31.83
℄ EL=27.00 (4'x3' N)
℄ EL=27.00 (5'x3' S)
℄ EL=27.20 (24" W)

℄ EL=22.64

℄ EL=24.72

LIMITS 8" PIPE w/RJs
(FOR OFFSET DETAILS,
SEE COH DETAIL
DWG NO 02511–01 TYP)

5+00 6+00 7+00 8+00 9+00 10+00

20 22 24 26 28 30 32 34 36

\\hrghus\data\85130030\cad\dwgs\c\pp_ravenhead_03.dwg Plotted May 22, 2026 at 8:53 AM by Perez, Abel

Civitas
ENGINEERING GROUP
Civitas Engineering Group
Engineers ■ Planners ■ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

RAVENHEAD DRIVE
STA 5+00 TO 10+00

WBS NO. M–410006–0002–4

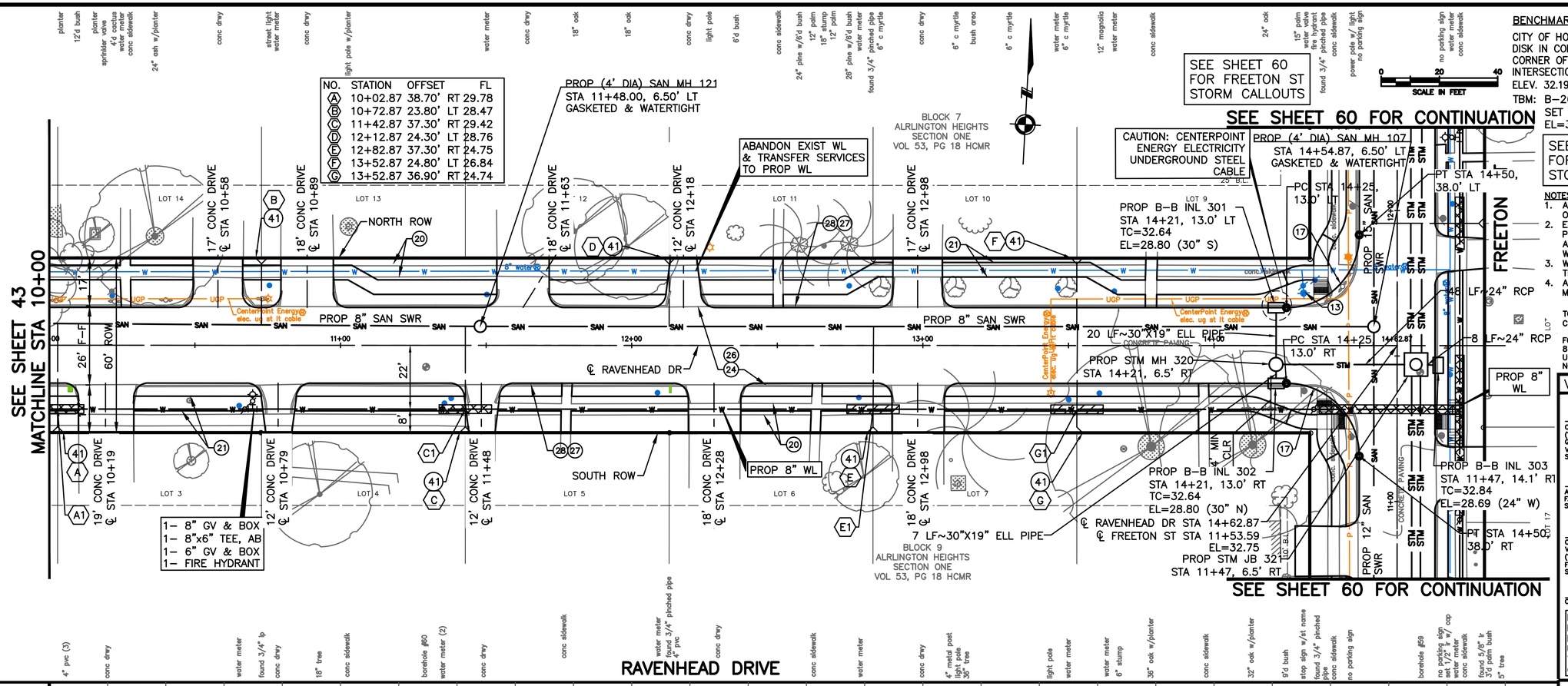
DRAWING SCALE

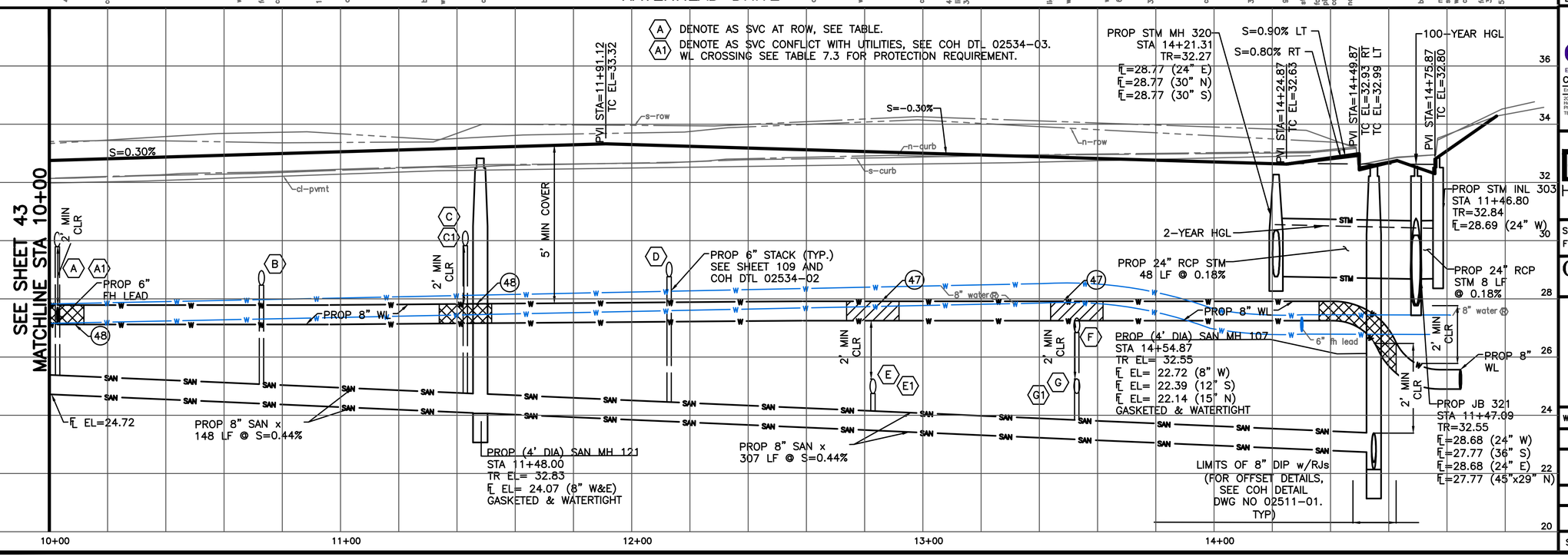
H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 43 OF 175





\\hrghus\data\85130030\cad\dwgs\c\pp_ravenhead_04.dwg Plotted May 22, 2026 at 8:49 AM by Perez, Abel

Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, TX 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9000
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

RAVENHEAD DRIVE STA 10+00 TO END

WBS NO. M–410006–0002–4

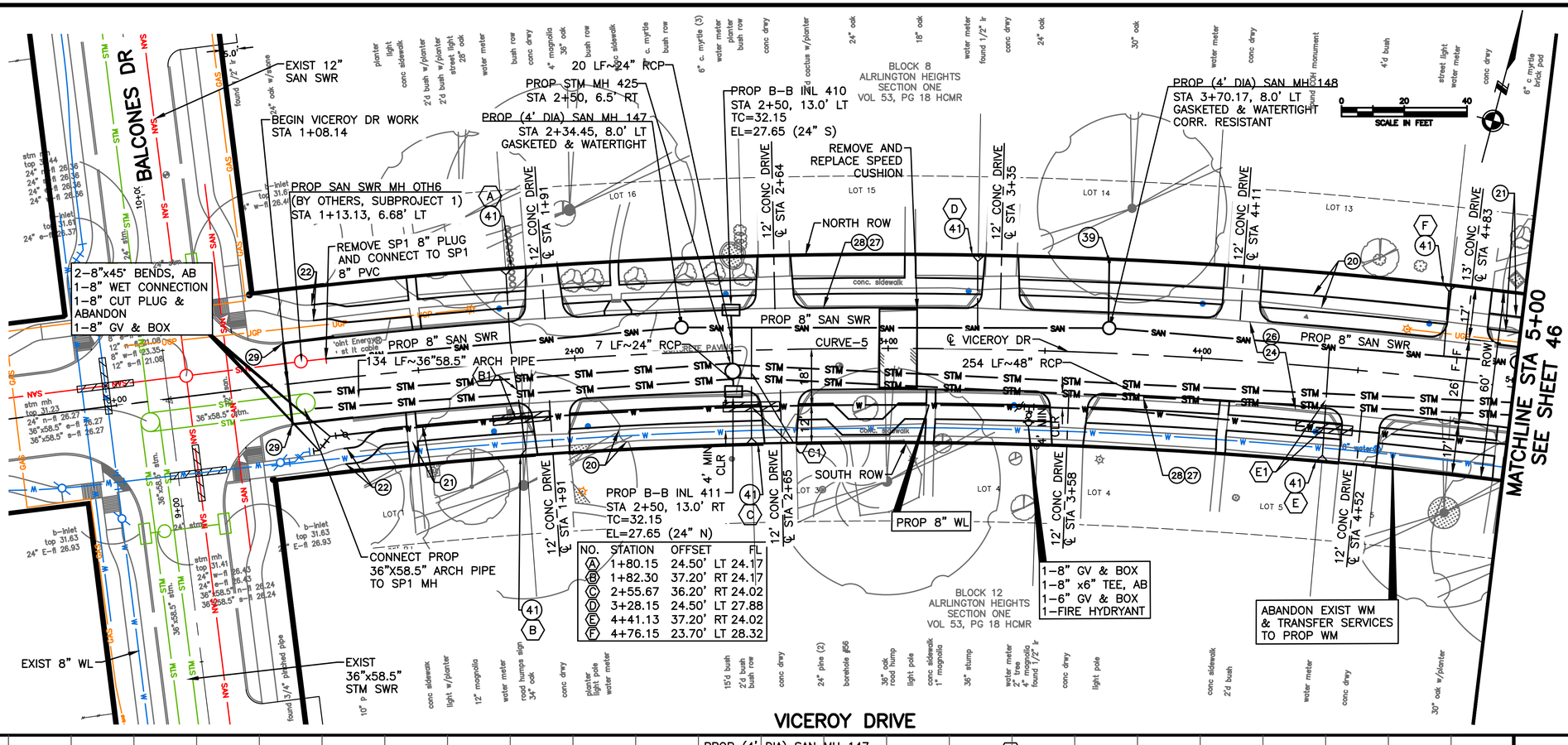
DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

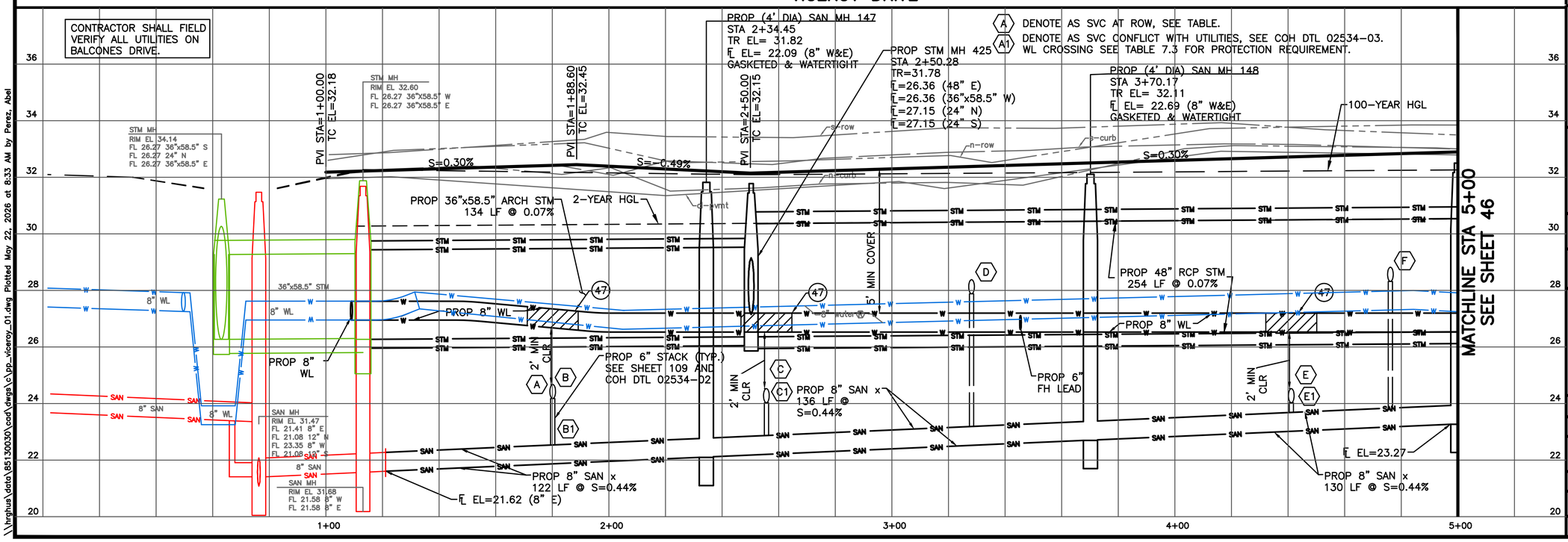
MIGUEL RODRIGUEZ, EIT

SHEET NO. 44 OF 175



NO.	STATION	OFFSET	FL
A	1+80.15	24.50' LT	24.17
B	1+82.30	37.20' RT	24.17
C	2+55.67	36.20' RT	24.02
D	3+28.15	24.50' LT	27.88
E	4+41.13	37.20' RT	24.02
F	4+76.15	23.70' LT	28.32

VICEROY DRIVE



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-13
SET 1½" I.R. W/CAP ON VICEROY DR.
EL=33.22', ℄ STA 4+32.16, 15.51 L

℄ CURVE NO 5 DATA:
PC STA 1+00.00
PI STA 3+64.86
PT STA 6+29.73
Δ = 18°52'0"
R = 160873'
L = 52973'
T = 26729'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991
SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044
STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

VICEROY DRIVE STA 1+00 TO 5+00

WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 45 OF 175

\\hrghua\data\85130030\cad\dwgs\c\pp_viceroy_01.dwg Plotted May 22, 2026 at 8:33 AM by Perez, Abel

SEE SHEET 55 FOR CONTINUATION

SEE SHEET 45
MATCHLINE STA 5+00

MATCHLINE STA 10+00
SEE SHEET 47

PROP (4' DIA) SAN MH 149
STA 5+05.00, 8.0' LT
GASKETED & WATERTIGHT

PROP 8" SAN SWR

223 LF~48" RCP

PROP STM MH 424
STA 5+05, 6.5' RT

12' CONC DRIVE ℄ STA 5+32

12' CONC DRIVE ℄ STA 5+56

NORTH ROW

CURVE=5

4' MIN CLR

4' MIN CLR

ABANDON EXIST WL & TRANSFER SERVICES TO PROP WL

12' CONC DRIVE ℄ STA 6+05

SOUTH ROW

PROP 8" WL

REMOVE AND REPLACE SPEED CUSHION

CAUTION: CENTERPOINT ENERGY ELECTRICITY UNDERGROUND STEEL CABLE

12' CONC DRIVE ℄ STA 7+00

℄ VICEROY DR STA 7+35.59
℄ DARLENE LN STA 1+00.00

197 LF~5'x3' RCB

PT STA 7+23,
38.0' LT

PROP STM JB 423
STA 0+93, 6.5' LT

PROP (4' DIA) SAN MH 150
STA 7+00.00, 8.0' LT
GASKETED & WATERTIGHT

PC STA 6+98,
13.0' LT

DARLENE LN

PC STA 7+49,
38.0' RT

2-8" x45° BEND, AB

2-8" GV & BOX
1-8" x6 TEE, AB
1-8" X8" TEE, AB
1-6" GV & BOX
1-FIRE HYDRANT

PT STA 7+74,
13.0' RT

48 LF~5'x3' RCB

PROP B-B INL 409
STA 7+51, 13.0' RT
TC=32.40
EL=27.39 (24" W)

22 LF~24" RCP

PLUG EXIST 27"RCP AT ROW

℄ VICEROY DR

PROP 8" SAN SWR

2-8" x45° BEND, AB

PROP (4' DIA) SAN MH 124
STA 7+76.10, 8.0' RT
GASKETED & WATERTIGHT

BLOCK 9
ALRLINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

1-8" GV & BOX
1-8" x6 TEE, AB
1-6" GV & BOX
1-FIRE HYDRANT

12' CONC DRIVE ℄ STA 8+47

PROP 8" WL

12' CONC DRIVE ℄ STA 9+20

NORTH ROW

18' CONC DRIVE ℄ STA 9+95

21' CONC DRIVE ℄ STA 8+21

12' CONC DRIVE ℄ STA 8+39

20' CONC DRIVE ℄ STA 9+25

SOUTH ROW

12' CONC DRIVE ℄ STA 9+86

BLOCK 12
ALRLINGTON HEIGHTS
SECTION ONE
VOL 53, PG 18 HCMR

NO.	STATION	OFFSET	FL
(A)	5+95.71	36.60' RT	29.19
(B)	6+23.78	24.70' LT	28.29
(C)	6+92.67	38.60' RT	28.44
(D)	8+34.67	22.80' RT	27.17
(E)	8+40.67	38.90' LT	28.10
(F)	9+05.67	22.50' RT	26.86
(G)	9+80.67	38.80' LT	28.78

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM:B-12
SET "X" CUT ON CONC. ON VICEROY DR.
EL=32.00', ℄ STA 7+56.95, 18.29 L

℄ CURVE NO 5 DATA:

PC STA 1+00.00
PI STA 3+64.86
PT STA 6+29.73
Δ = 18°52'0"
R = 160873'
L = 52973'
T = 26729'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VICEROY DRIVE

(A) DENOTE AS SVC AT ROW, SEE TABLE.
(A1) DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

PROP STM MH 424
STA 5+05.16
TR=32.54
℄ EL=26.54 (48" E)
℄ EL=26.54 (48" W)

PVI STA=5+43.75
TC EL=33.03

100-YEAR HGL

S=0.30%

S=-0.30%

PROP 48" RCP STM
223 LF @ 0.07%

2-YEAR HGL

PROP 8" WL

PROP (4' DIA) SAN MH 149
STA 5+00.00
TR EL= 32.50
℄ EL= 23.27 (8" W&E)
GASKETED & WATERTIGHT

PROP 8" SAN x
200 LF @ S=0.44%

PROP 6" STACK (TYP.)
SEE SHEET 109 AND COH DTL 02534-02

PROP (4' DIA) SAN MH 150
STA 7+00.00
TR EL= 32.46
℄ EL= 24.15 (8" W)
GASKETED & WATERTIGHT

S=-0.90% LT

PVI STA=6+97.54
TC EL=32.56

PVI STA=7+22.57
LT TC EL=32.20

PVI STA=7+48.57
LT TC EL=32.20

PVI STA=7+61.44
TC EL=32.37

PVI STA=7+73.57
TC EL=32.40

S=0.50% LT

PROP JB 423
STA 0+93.24
TR=32.10
℄ EL=26.73 (5'x3' N)
℄ EL=26.69 (48" W)
℄ EL=27.35 (24" E)

PROP 24" RCP STM
22 LF @ 0.18%

PROP 8" WL

PROP 6"
FH LEAD

PROP STM INL 409
STA 7+50.66
TR=32.40
℄ EL=27.39 (24" W)

PROP (4' DIA) SAN MH 124
STA 7+76.10
TR EL= 32.11
℄ EL= 26.02 (8" E)
GASKETED & WATERTIGHT

PROP 8" SAN x
224 LF @ S=0.44%

PROP 6"
FH LEAD

℄ EL=25.09

PVI STA=9+89.41
TC EL=33.05

5' MIN COVER

2' MIN CLR

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)
PLAN AND PROFILE SHEETS

VICEROY DRIVE
STA 5+00 TO 10+00

Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI
109787
LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

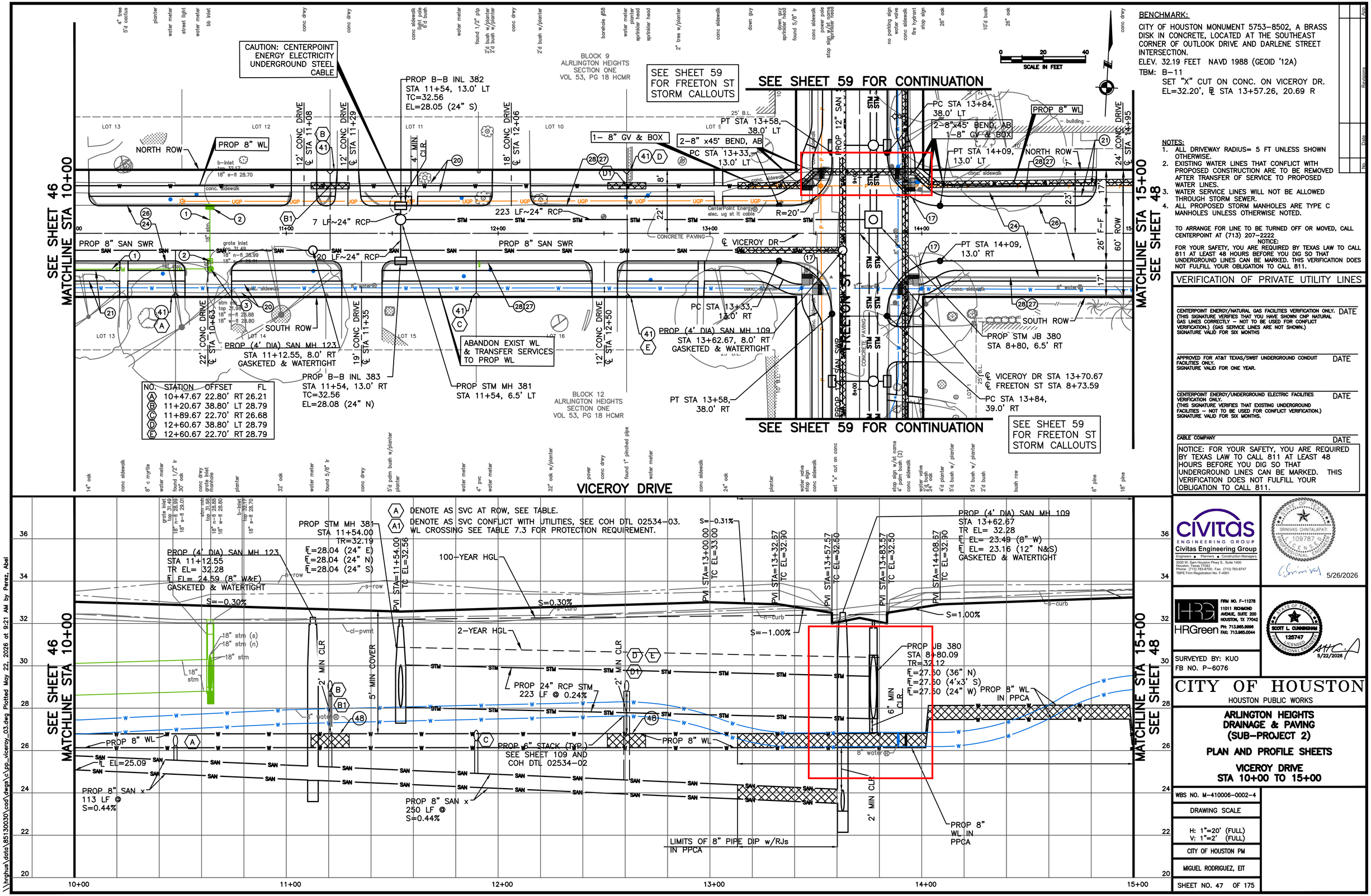
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 46 OF 175

No. | Date | Revisions | Apvd

\\hrghus\data\85130301\cad\dwgs\c\pp_viceroy_02.dwg Plotted May 22, 2026 at 9:23 AM by Perez, Abel



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B–11
SET "X" CUT ON CONC. ON VICEROY DR.
EL=32.20', ℄ STA 13+57.26, 20.69 R

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991
SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026
HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044
SURVEYED BY: KUO
FB NO. P-6076
SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

VICEROY DRIVE STA 10+00 TO 15+00

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

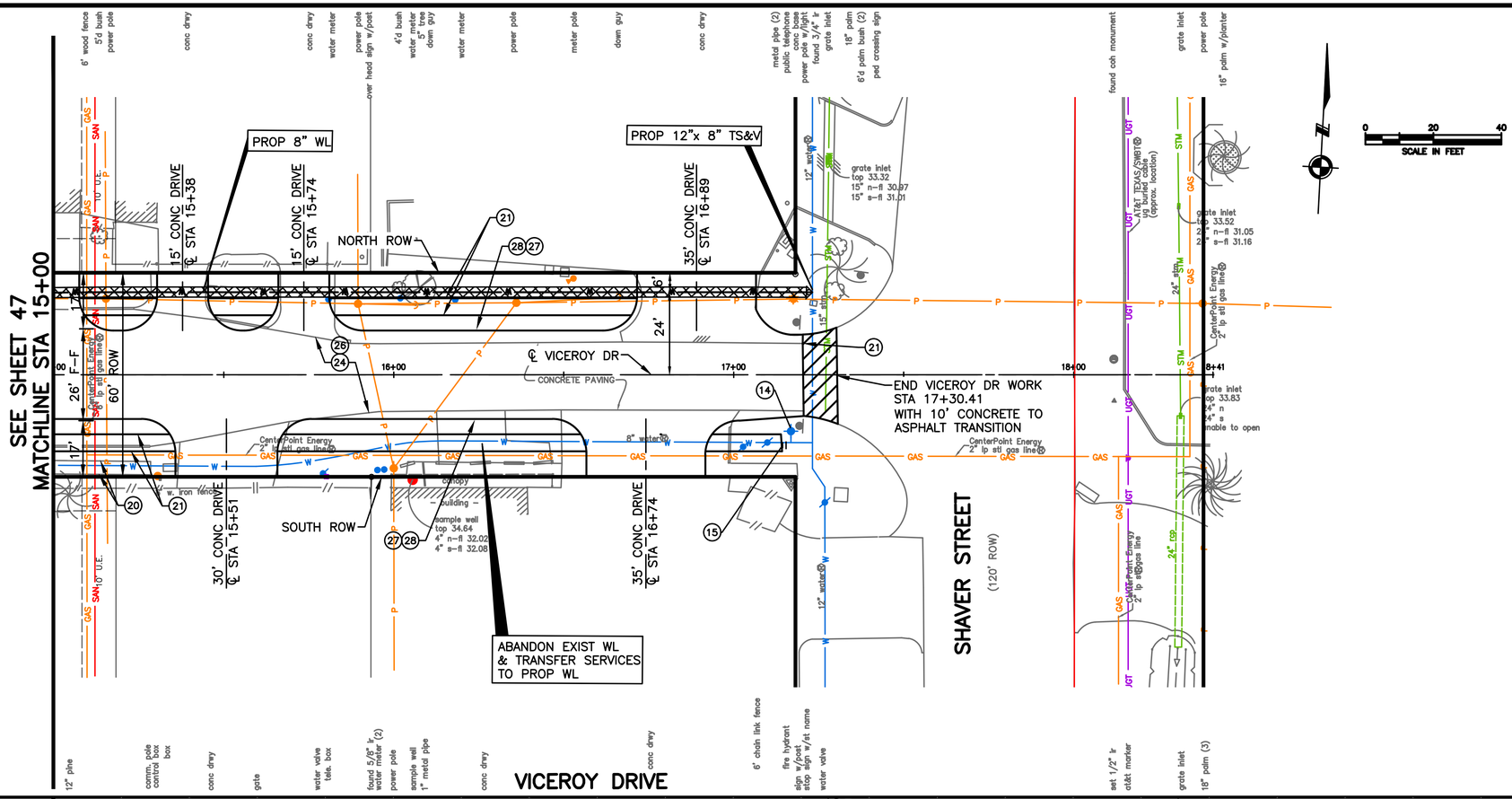
CITY OF HOUSTON PM

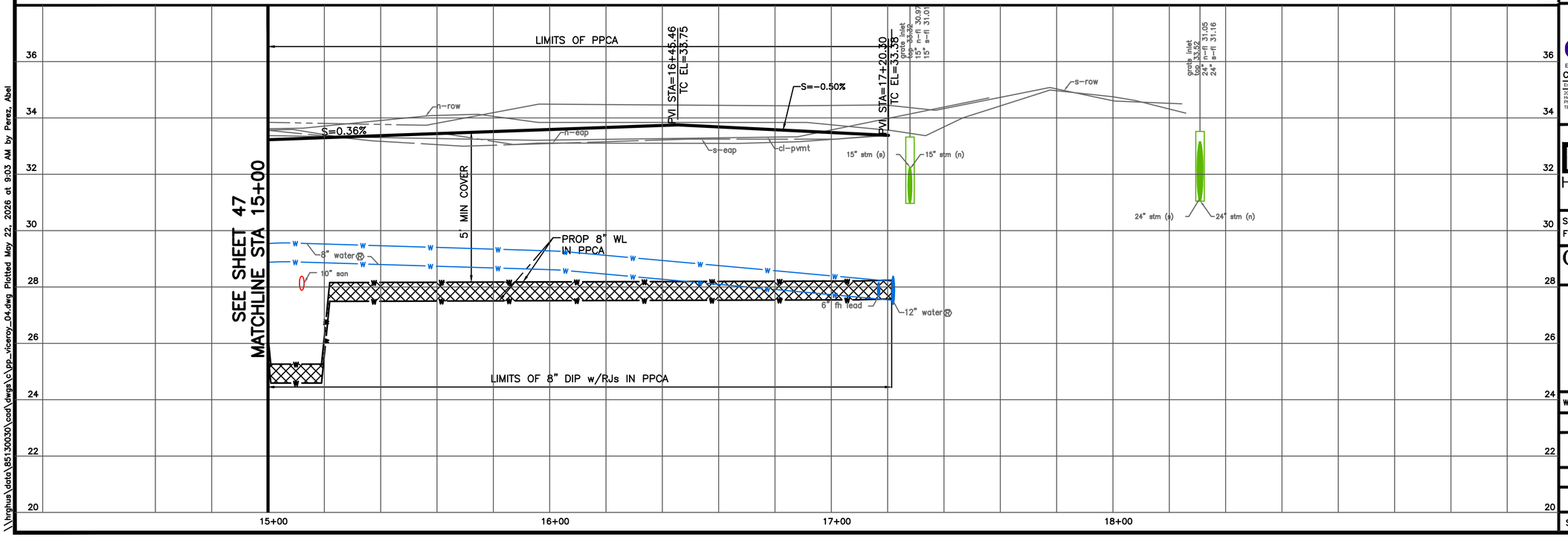
MIGUEL RODRIGUEZ, EIT

SHEET NO. 47 OF 175

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\pp_viceroy_03.dwg Plotted May 22, 2026 at 9:21 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B–50

SET ½" I.R. VICEROY DR.

EL=34.48', ℄ STA 18+11.91, 7.68 R

No.	Date	Revisions	Appr.

NOTES:

1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2) PLAN AND PROFILE SHEETS

VICEROY DRIVE STA 15+00 TO END

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 48 OF 175

\\hrghus\data\85130030\cad\dwgs\c\pp_viceroy_04.dwg Plotted May 22, 2026 at 9:03 AM by Perez, Abel

BLOCK 12
ARLINGTON HEIGHTS
SECTION THREE
VOL 12, PG 69 HCMR

BLOCK 13
ARLINGTON HEIGHTS
SECTION THREE
VOL 96, PG 29 HCMR

BLOCK 11
ARLINGTON HEIGHTS
SECTION THREE
VOL 96, PG 29 HCMR

CORONATION DRIVE

BALCONES DR

IMPROVEMENTS NOT IN THIS PROJECT – BY OTHERS

EXIST 12" SAN SWR

REMOVE EXIST 30" CONC PLUG AND CONNECT TO SP1 30" STM

CONNECT PROP 8" WL TO 8" WL (BY OTHERS) 1 – 8" GV & BOX

PROP (4' DIA) SAN MH 151
STA 2+74.29, 6.5' RT
GASKETED & WATERTIGHT

PROP 8" WL

ABANDON EXIST WL & TRANSFER SERVICES TO PROP WL

CAUTION: CENTERPOINT ENERGY UNDERGROUND STREET LIGHT CABLE

1–8" GV & BOX
1–8" x6" TEE, AB
1–8" x8" TEE, AB
1–6" GV & BOX
1–FIRE HYDRANT

154 LF~30" RCP

207 LF~42"x27" ELLIP

181 LF~30" RCP

BEGIN CORONATION DR WORK
STA 1+07.73

REMOVE EXIST 8" PLUG AND CONNECT TO SP1 8" SAN

PROP SAN SWR MH OTH7
(BY OTHERS, SUBPROJECT 1)
STA 1+13.36, 6.57' RT

PROP 8" SAN SWR

PROP STM MH 500
STA 2+70, 7.0' LT

PROP STM MH 510
STA 4+50, 6.5' LT

PROP (4' DIA) SAN MH 152
STA 4+66.76, 6.5' RT
GASKETED & WATERTIGHT
CORR. RESISTANT

ABANDON EXIST SAN & TRANSFER SERVICES TO PROP SAN

EXIST 36"x58.5" STM SWR

EXIST 8" WL

NORTH ROW

SOUTH ROW

℄ CORONATION DR

12' CONC DRIVE ℄ STA 1+83

17' CONC DRIVE ℄ STA 1+98

12' CONC DRIVE ℄ STA 2+51

12' CONC DRIVE ℄ STA 2+63

12' CONC DRIVE ℄ STA 3+20

12' CONC DRIVE ℄ STA 3+37

12' CONC DRIVE ℄ STA 3+90

12' CONC DRIVE ℄ STA 4+60

13' CONC DRIVE ℄ STA 4+50

4'MIN CLR

MATCHLINE STA 5+00
SEE SHEET 50

NO.	STATION	OFFSET	FL
(A)	1+77.59	39.30' LT	24.54
(B)	1+80.24	22.60' RT	24.54
(C)	2+47.02	38.70' LT	24.54
(D)	2+51.74	23.60' RT	24.54
(E)	3+85.88	39.90' LT	24.54
(F)	3+95.36	21.10' RT	29.22

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B–16
SET ½" I.R. W/CAP ON CORONATION DR.
EL=32.53', ℄ STA 4+35.64, 17.19 R

0 20 40
SCALE IN FEET

NOTES:

1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

℄ CURVE NO 6 DATA:

PC STA 1+00.00
PI STA 3+18.68
PT STA 5+37.43
Δ = 18°51'44"
R = 132873'
L = 43743'
T = 22068'

No.	Date	Revisions	Appr.

CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES ON BALCONES DRIVE.

(A) DENOTE AS SVC AT ROW, SEE TABLE.
(A|1) DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534–03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

SAN MH
RIM EL 32.54
FL 22.12 8" N
FL 25.04 EXIST 8" E

SAN MH
RIM EL 31.00
FL 21.85 12" N
FL 21.86 12" S
FL 22.18 8" NE
FL 23.16 8" W

STM MH
RIM EL 31.19
FL 26.06 36"x58.5" N
FL 26.06 36"x58.5" S
FL 27.10 30" E
FL 26.06 24" W

SAN MH
RIM EL 31.60
FL 22.37 8" S
FL 22.37 8" SW
FL 22.37 8" NE

PVI STA=1+00.00
TC EL=31.56

TIE IN PROP 30" RCP TO EXIST 30" RCP AT FL – 27.18

100–YEAR HGL

n–row
n–curb
s–row
s–curb

S=0.30%
cl–pvmt
S=–0.30%

PROP STM MH 500
STA 2+69.52
TR=31.69
FL=27.38 (30" E)
FL=27.38 (30" W)

PVI STA=3+83.00
TC EL=32.42

PROP STM MH 510
STA 4+50.01
TR=31.85
FL=27.62 (42"x27" E)
FL=27.62 (30" W)

PROP 42"x27" ELLIP
207 LF @ 0.17%

PROP 30" RCP STM
154 LF @ 0.13%

PROP 30" RCP STM
181 LF @ 0.13%

PROP 6" FH LEAD

2–YEAR HGL

5' MIN COVER

PROP 8" WL

PROP 6" STACK (TYP.)
SEE SHEET 109 AND
COH DTL 02534–02

2' MIN CLR

FL EL=24.00

30" STM
24" STM
8" WL
8" SAN

FL EL=22.41 (8" E)
8" SAN PLUG
FL – 22.41

PROP 8" SAN x
160 LF @ S=0.44%

PROP (4' DIA) SAN MH 151
STA 2+74.29
TR EL=31.72'
FL EL=23.02' (8" W&E)
GASKETED & WATERTIGHT

PROP 8" SAN x
191 LF @
S=0.44%

PROP (4' DIA) SAN MH 152
STA 4+66.76
TR EL=31.80'
FL EL=23.86' (8" W&E)
GASKTED & WATERTIGHT

PROP 8" SAN x
32 LF @ S=0.44%

MATCHLINE STA 5+00
SEE SHEET 50

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

\\hrghus\data\8513030\cad\dwgs\c\pp_coronation_01.dwg Plotted May 22, 2026 at 8:46 AM by Perez, Abel

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

CORONATION DRIVE STA 1+00 TO 5+00

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SEE SHEET 49
MATCHLINE STA 5+00

CAUTION: CENTERPOINT ENERGY ELECTRICITY UNDERGROUND STEEL CABLE

PROP 8" WL
207 LF~42"x27" ELLIP

PROP B-B INL 521
STA 6+56, 13.0' LT
TC=31.60
EL=28.00 (30"x19" S)

PROP STM MH 520
STA 6+56, 6.5' LT

BLOCK 12
ARLINGTON HEIGHTS
SECTION THREE
VOL 12, PG 69 HCMR

1-8" GV & BOX
1-8" x 6" TEE, AB
1-6" GV & BOX
1-FIRE HYDRANT

ABANDON EXIST WL
& TRANSFER SERVICES
TO PROP WL

PROP 8" WL

1-8" GV & BOX
1-8" x 6" TEE,
AB 1-6" GV &
BOX 1-FIRE
HYDRANT

CAUTION: CENTERPOINT ENERGY ELECTRIC UNDERGROUND STEEL CABLE

NORTH ROW

12' CONC DRIVE ℄ STA 5+31
12' CONC DRIVE ℄ STA 6+01
17' CONC DRIVE ℄ STA 6+88
12' CONC DRIVE ℄ STA 7+53
18' CONC DRIVE ℄ STA 8+29
12' CONC DRIVE ℄ STA 8+90
12' CONC DRIVE ℄ STA 9+63

LOT 27 LOT 26 LOT 25 LOT 24 LOT 23

4' MIN CLR

CONCRETE PAVING

6 LF~30"x19" RCP

℄ CORONATION DR

20 LF~30"x19" RCP

PROP 8" SAN SWR

EXIST 6" SAN SWR

ABANDON EXIST SAN & TRANSFER SERVICES TO PROP SAN

PROP (4' DIA) SAN MH 153
STA 6+44.71, 6.5' RT
GASKETED & WATERTIGHT

PROP B-B INL 522
STA 6+56, 13.0' RT
TC=31.60
EL=28.00 (30"x19" N)

BLOCK 11
ARLINGTON HEIGHTS
SECTION THREE
VOL 96, PG 29 HCMR

PROP (4' DIA) SAN MH 126
STA 7+32.40, 8.0' RT
GASKETED & WATERTIGHT

SOUTH ROW

12' CONC DRIVE ℄ STA 5+47
16' CONC DRIVE ℄ STA 6+27
12' CONC DRIVE ℄ STA 6+83
23' CONC DRIVE ℄ STA 7+62
19' CONC DRIVE ℄ STA 8+29
18' CONC DRIVE ℄ STA 9+00
17' CONC DRIVE ℄ STA 9+71

LOT 16 LOT 15 LOT 14 LOT 13 LOT 12 LOT 11 LOT 10 LOT 9

NO.	STATION	OFFSET	FL
A	5+24.74	38.20' LT	29.70
B	5+37.43	23.20' RT	25.99
C	5+95.46	37.80' LT	29.70
D	6+04.43	25.40' RT	27.25
E	7+42.46	38.70' LT	28.82
F	7+42.46	22.80' RT	28.82
G	8+13.46	21.80' RT	27.60
H	8+84.46	38.80' LT	28.82
I	9+55.46	22.80' RT	26.97

MATCHLINE STA 10+00
SEE SHEET 51

0 20 40
SCALE IN FEET

N

BENCHMARK:
CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-17
SET ½" I.R. W/CAP ON CORONATION DR.
EL=32.28', ℄ STA 8+15.35, 18.98 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	App.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4951
SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TEXAS 77042
PH: 713.985.0996
FAX: 713.985.0044
STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

CORONATION DRIVE STA 5+00 TO 10+00

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 50 OF 175

CORONATION DRIVE

100-YEAR HGL
2-YEAR HGL
n-row
s-row
n-curb
s-curb
cl-pvmt
S=-0.30%
S=0.30%

PVI STA=6+56.00
TC EL=31.60

PROP STM MH 520
STA 6+56.36
TR=31.23
℄=27.96 (42"x27" W)
℄=27.96 (30"x19" N)
℄=27.96 (30"x19" S)

PROP (4' DIA) SAN MH 126
STA 7+32.40
TR EL=31.43
℄ EL=26.59 (8" E)
GASKETED & WATERTIGHT

PROP 42"x27" ELLIP STM
207 LF @ 0.17%

PROP 8" WL

PROP 8" SAN x
145 LF @ S=0.44%

PROP 8" SAN x
268 LF @ S=0.44%

PROP (4' DIA) SAN MH 153
STA 6+44.71
TR EL=31.26
℄ EL=24.65 (8" W)
GASKETED & WATERTIGHT

PROP 6" FH LEAD

℄ EL=24.00

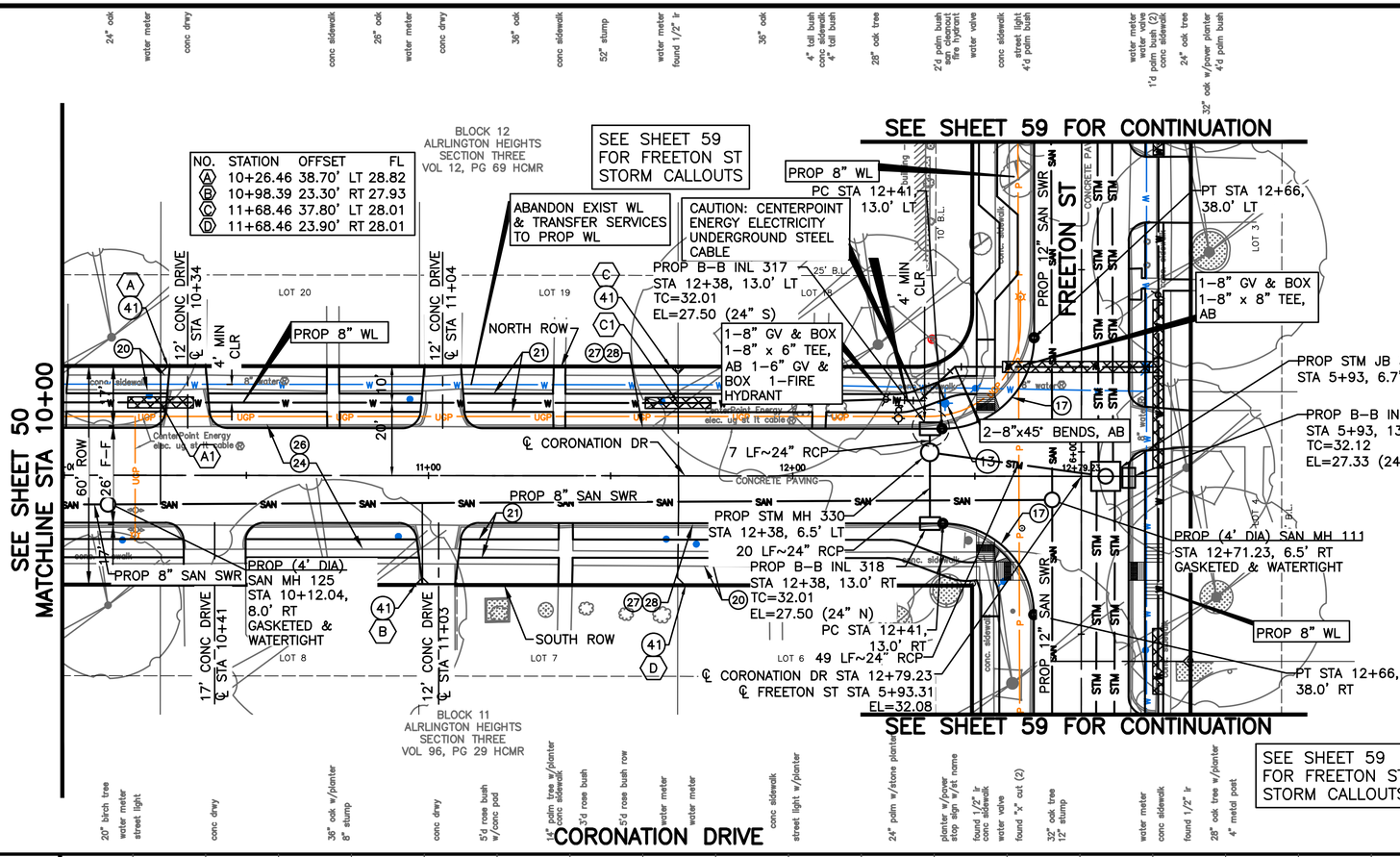
℄ EL=25.41

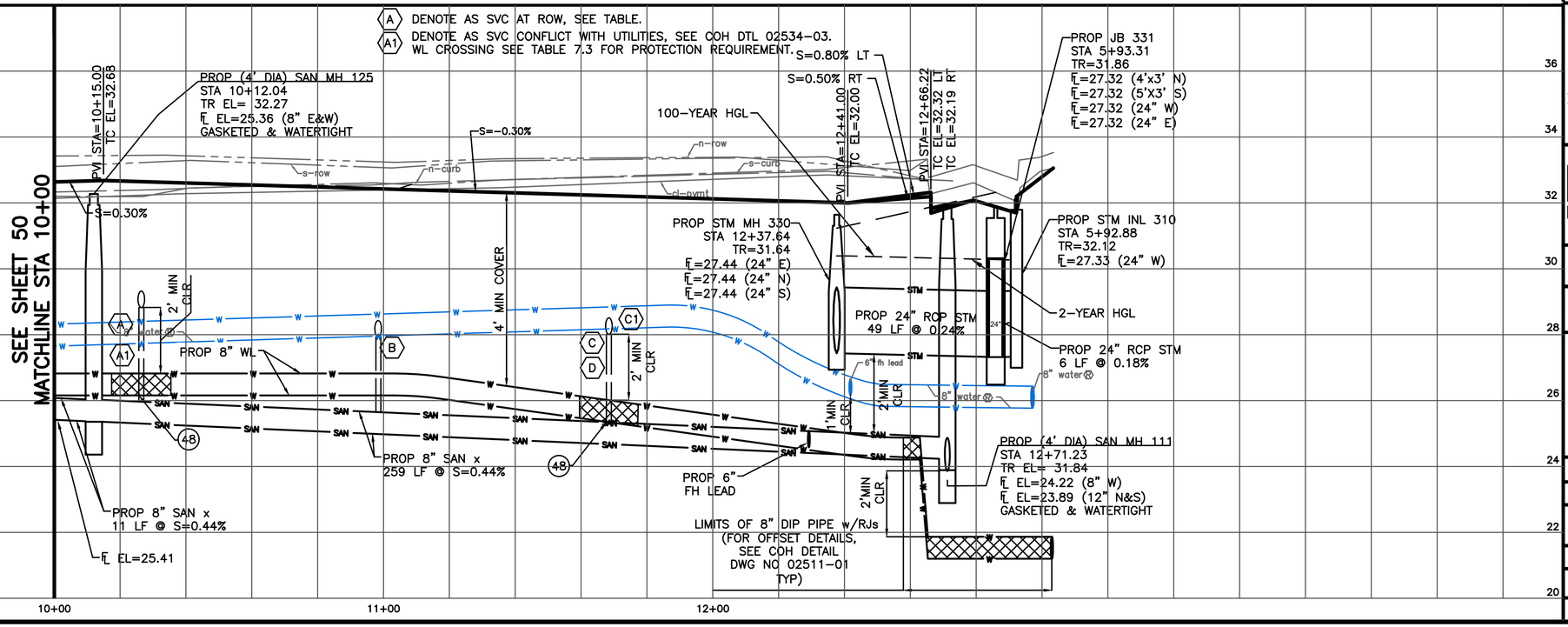
2' MIN CLR
5' MIN COVER
1' MIN CLR

A DENOTE AS SVC AT ROW, SEE TABLE.
A1 DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03.
WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

5+00 6+00 7+00 8+00 9+00 10+00

\\hrghus\data\85130030\cad\dwgs\c\pp_coronation_02.dwg Plotted May 22, 2026 at 9:14 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM:B–18
FND. "X" CUT ON CONC. ON CORONATION DR.
EL=32.51', ℄ STA 12+62.96, 14.26 R

N

0 20 40
SCALE IN FEET

No.	Date	Revisions	Appr.

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI
109787
LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PLAN AND PROFILE SHEETS

CORONATION DRIVE STA 10+00 TO END

WBS NO. M–410006–0002–4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 51 OF 175

\\hrghus\data\85130030\cad\dwga\c\pp_coronation_03.dwg Plotted May 22, 2026 at 8:59 AM by Perez, Abel

IMPROVEMENTS NOT IN THIS PROJECT – BY OTHERS

EXIST 12" SAN SWR

REMOVE 2– 45° BENDS, (BY OTHERS) 1– 8" WET CONNECTION 1– 8" GV & BOX

PROP (4' DIA) SAN MH 154
STA 2+07.65, 6.5' RT
GASKETED & WATERTIGHT

PROP 8" WL

ABANDON EXIST WL & TRANSFER SERVICES TO PROP WL

PROP (4' DIA) SAN MH 155
STA 3+31.52, 6.5' RT
GASKETED & WATERTIGHT

1–8" GV & BOX
1–8" x6" TEE, AB
1–6" GV & BOX
1–FIRE HYDRANT

EXIST 48" STM SWR

BALCONES DR

BEGIN PARLIAMENT DR WORK STA 1+08.31

℄ PARLIAMENT DR

CURVE–7 3+00

2–00 CONCRETE PAVING

PROP 8" SAN SWR

NORTH ROW

SOUTH ROW

18' CONC DRIVE ℄ STA 1+80

19' CONC DRIVE ℄ STA 2+49

12' CONC DRIVE ℄ STA 3+13

18' CONC DRIVE ℄ STA 3+84

12' CONC DRIVE ℄ STA 4+46

24' CONC DRIVE ℄ STA 1+86

12' CONC DRIVE ℄ STA 2+23

12' CONC DRIVE ℄ STA 2+95

12' CONC DRIVE ℄ STA 3+71

12' CONC DRIVE ℄ STA 4+46

BLOCK 11–A ARLINGTON HEIGHTS SECTION FOUR VOL 114, PG 36 HCMR

BLOCK 16 ARLINGTON HEIGHTS SECTION FOUR VOL 114, PG 36 HCMR

LOT 22 · LOT 23 · LOT 24 · LOT 25 · LOT 26 · LOT 27 · LOT 3 · LOT 4 · LOT 5 · LOT 6

EXIST 42" STM SWR

EXIST 8" WL

REMOVE SP1 8" PLUG AND CONNECT TO SP1 8" PVC

PROP SAN SWR MH OTH8 (BY OTHERS, SUBPROJECT 1) STA 1+13.15, 5.81' RT

MATCHLINE STA 5+00 SEE SHEET 53

PARLIAMENT DRIVE

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B–21
SET ½" I.R. W/CAP ON PARLIAMENT DR.
EL=32.87',
℄ STA 4+55.73, 16.75 L

0 20 40
SCALE IN FEET

℄ CURVE NO 7 DATA:
PC STA 1+00.00
PI STA 2+69.00
PT STA 4+37.06
△ = 18°53'3372"
R = 102219'
L = 33706'
T = 17053'

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES ON BALCONES DRIVE.

(A) DENOTE AS SVC AT ROW, SEE TABLE.
(A1) DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534–03.
WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

NO.	STATION	OFFSET	FL
(A)	1+72.54	37.70' LT	22.39
(B)	2+13.79	23.80' RT	27.64
(C)	3+05.63	38.50' LT	28.74
(D)	3+62.64	22.30' RT	28.10
(E)	4+38.78	39.90' LT	28.73

PVI STA=1+09.52
TC EL=31.83

PROP (4' DIA) SAN MH 154
STA 2+07.65
TR EL= 31.75
℄ EL= 23.59 (8" W&E)
GASKETED & WATERTIGHT

PROP (4' DIA) SAN MH 155
STA 3+31.52
TR EL= 32.12
℄ EL= 24.13 (8" W&E)
GASKETED & WATERTIGHT

S=0.30%

STM MH
RIM EL. 31.24
FL 28.12 24" E
FL 28.12 24" N
FL 28.12 24" S

STM MH
RIM EL. 31.45
FL 28.06 24" E
FL 26.56 42" S
FL 28.06 48" N
FL 28.06 24" W

STM MH
RIM EL. 31.23
FL 28.15 24" S
FL 28.15 24" W
FL 28.15 24" N

SAN MH
RIM EL. 31.33
FL 23.22 8" SW
FL 23.22 8" E

SAN MH
RIM EL. 31.48
FL 22.69 12" N
FL 22.69 12" S
FL 23.48 8" W
FL 23.02 8" NE

5' MIN COVER · 2' MIN CLR · 1'MIN CLR

PROP 6" STACK (TYP.) SEE SHEET 109 AND COH DTL 02534–02

PROP 6" FH LEAD

PROP 8" WL

PROP 8" SAN x 123 LF @ S=0.44%

PROP 8" SAN x 94 LF @ S=0.44%

8" SAN PLUG FL – 23.26

℄ EL=23.26 (8" E)

PROP 8" SAN x 168 LF @ S=0.44%

℄ EL=24.88

MATCHLINE STA 5+00 SEE SHEET 53

1+00 · 2+00 · 3+00 · 4+00 · 5+00

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS · SRINIVAS CHINTALAPATI · 109787 · LICENSED · PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9998
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS · SCOTT L. CUNNINGHAM · 125747 · LICENSED · PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)
PLAN AND PROFILE SHEETS

PARLIAMENT DRIVE STA 1+00 TO 5+00

WBS NO. M–410006–0002–4

DRAWING SCALE

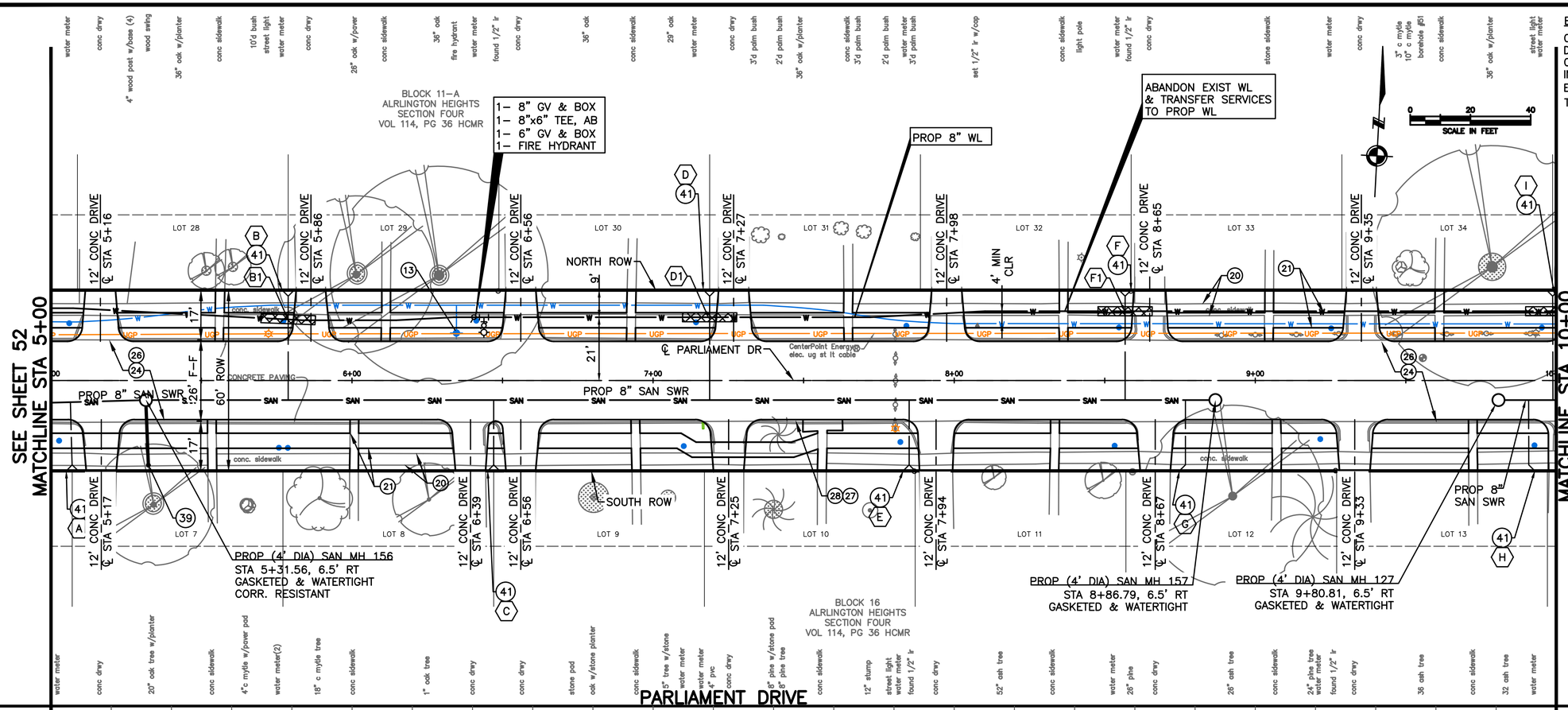
H: 1"=20' (FULL)
V: 1"=2' (FULL)

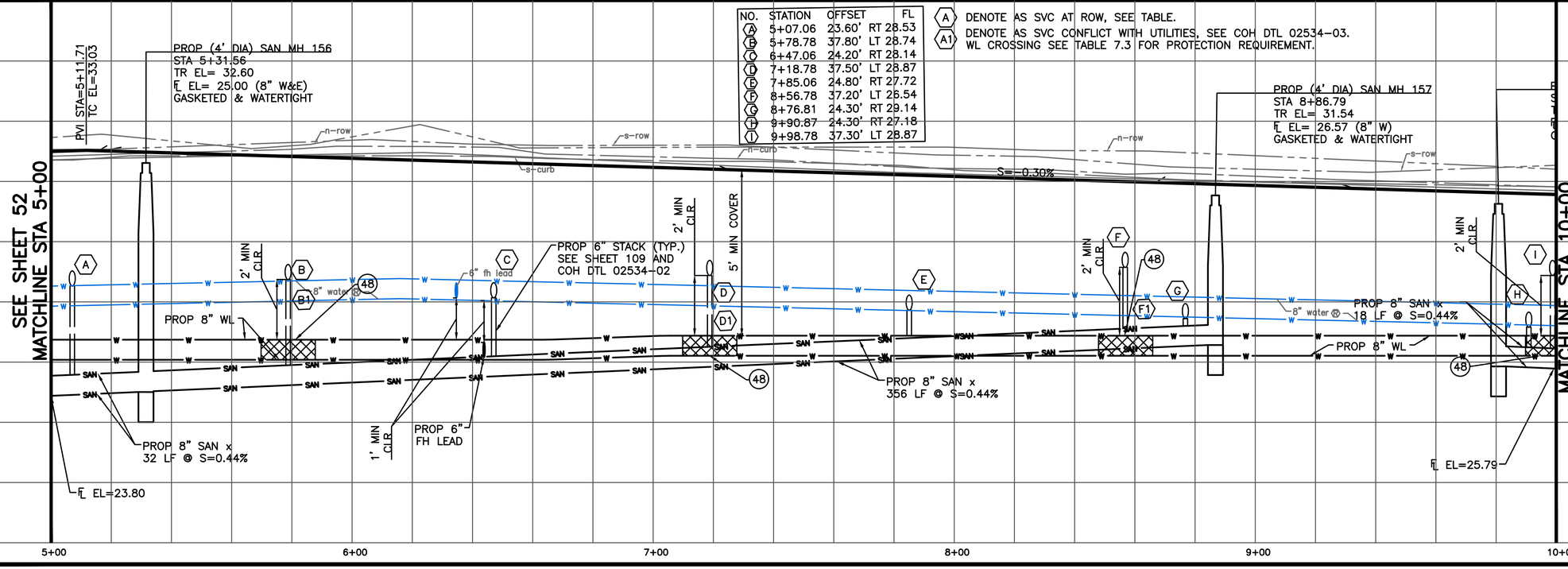
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 52 OF 175

\\hrghus\data\8513030\cad\dwgs\c\pp_parliament_01.dwg Plotted May 22, 2026 at 8:51 AM by Perez, Abel





NO.	STATION	OFFSET	FL
A	5+07.06	23.60' RT	28.53
B	5+78.78	37.80' LT	28.74
C	6+47.06	24.20' RT	28.14
D	7+18.78	37.50' LT	28.87
E	7+85.06	24.80' RT	27.72
F	8+56.78	37.20' LT	28.54
G	8+76.81	24.30' RT	29.14
H	9+90.87	24.30' RT	27.18
I	9+98.78	37.30' LT	28.87

(A) DENOTE AS SVC AT ROW, SEE TABLE.
(A1) DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03.
WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-20
SET ½" I.R. ON PARLIAMENT DR.
EL=32.50', ℄ STA 8+07.70, 18.33 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) PLAN AND PROFILE SHEETS

PARLIAMENT DRIVE STA 5+00 TO 10+00

WBS NO. M-410006-0002-4

DRAWING SCALE

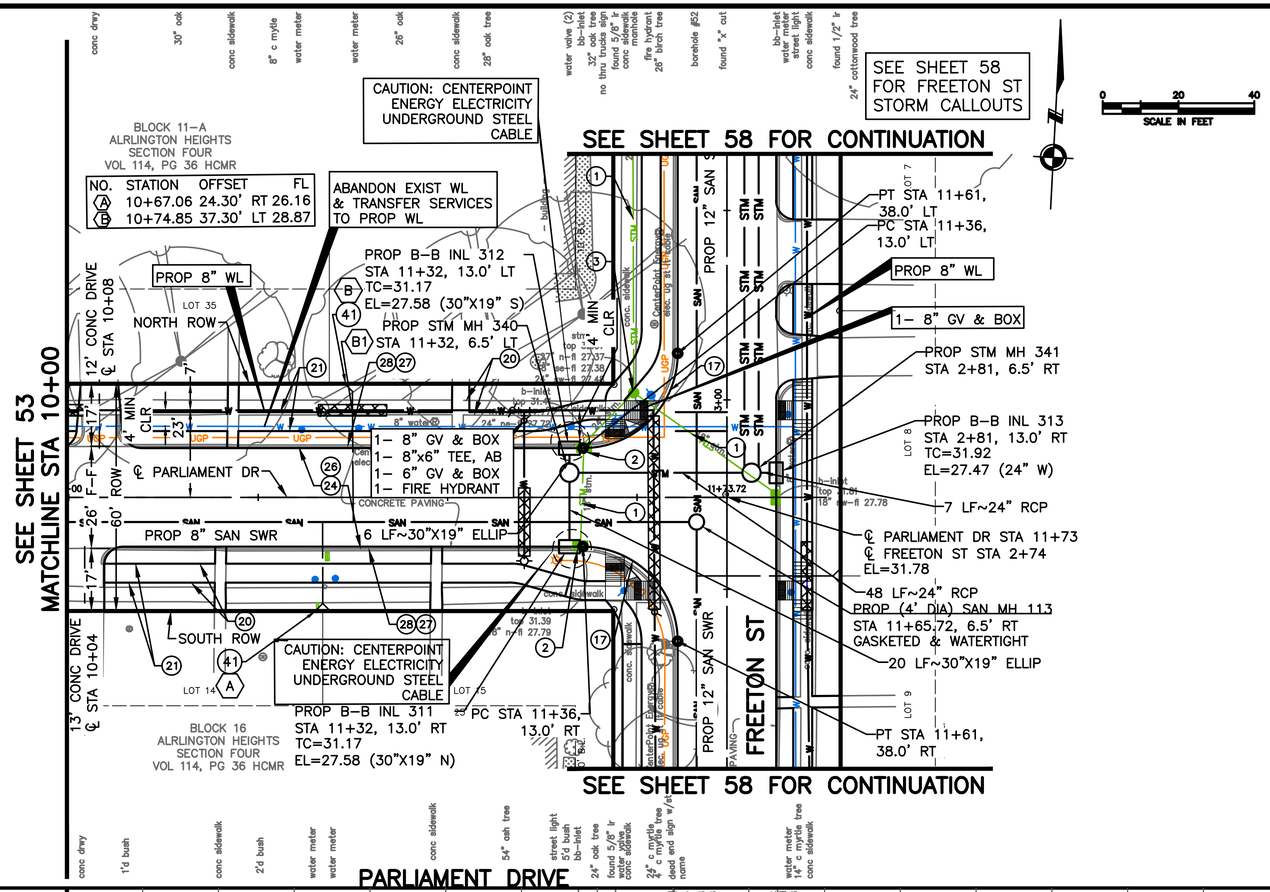
H: 1"=20' (FULL)
V: 1"=2' (FULL)

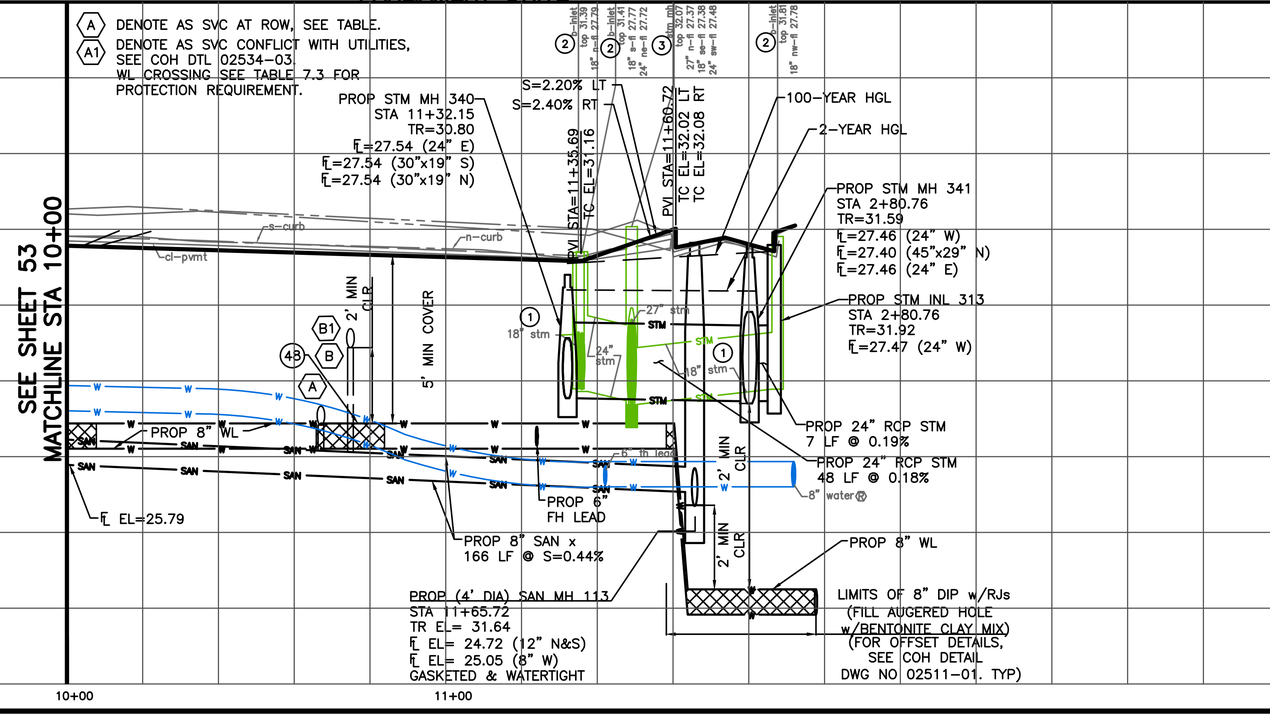
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 53 OF 175

\\hrghus\data\85130030\cad\dwgs\c\pp_parliament_02.dwg Plotted May 22, 2026 at 9:10 AM by Perez, Abel





\\hrghus\data\85130030\cad\dwgs\c\pp_parliament_03.dwg Plotted May 22, 2026 at 8:30 AM by Perez, Abel

BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-19
FND. "X" CUT ON CONC. ON PARLIAMENT DR.
EL=31.71', ℄ STA 11+73.39, 0.77 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

Civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.5006
FAX: 713.955.0044

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

PARLIAMENT DRIVE STA 10+00 TO END

WBS NO. M-410006-0002-4

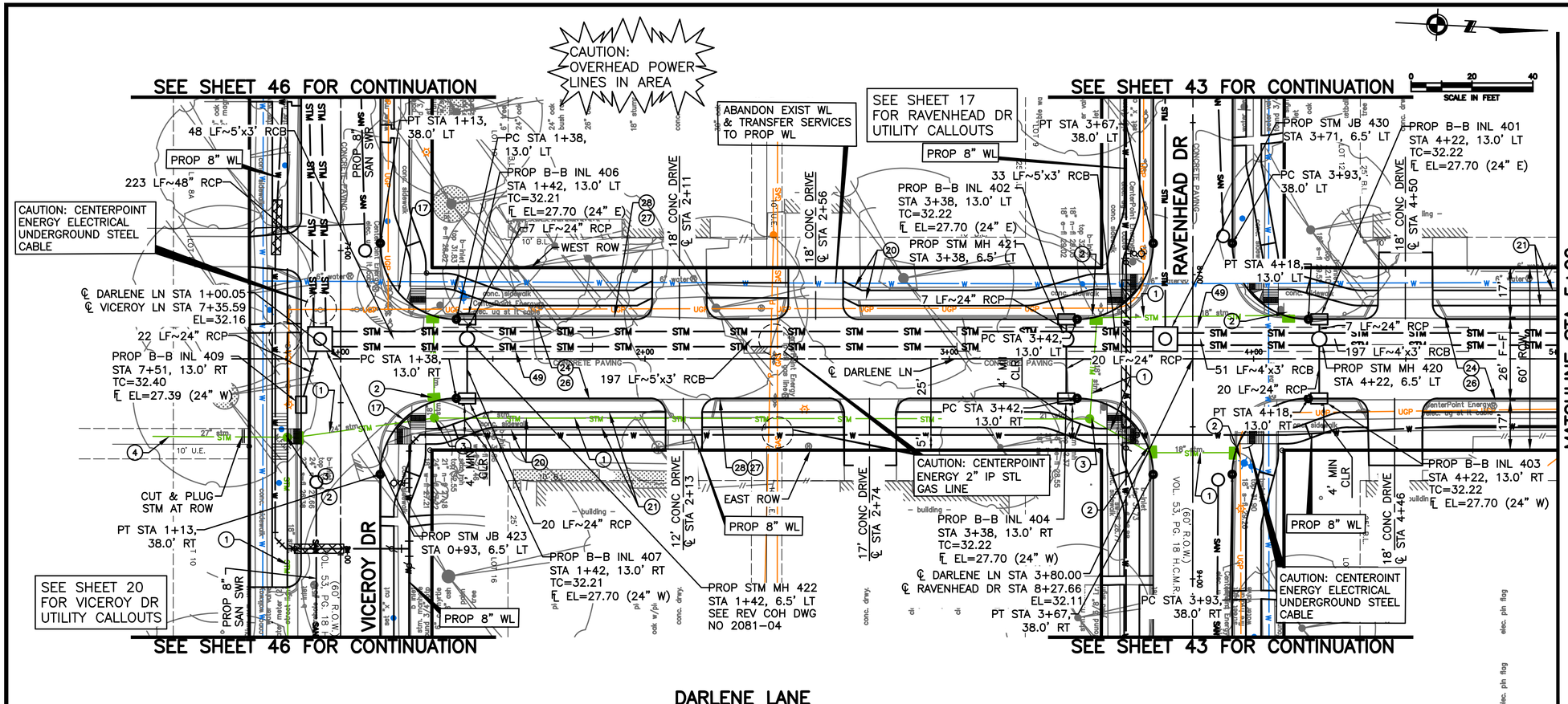
DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 54 OF 175



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-12
SET "X" CUT ON CONC. ON VICEROY DR.
EL=32.00', ℄ STA 17+56.95 18.29 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

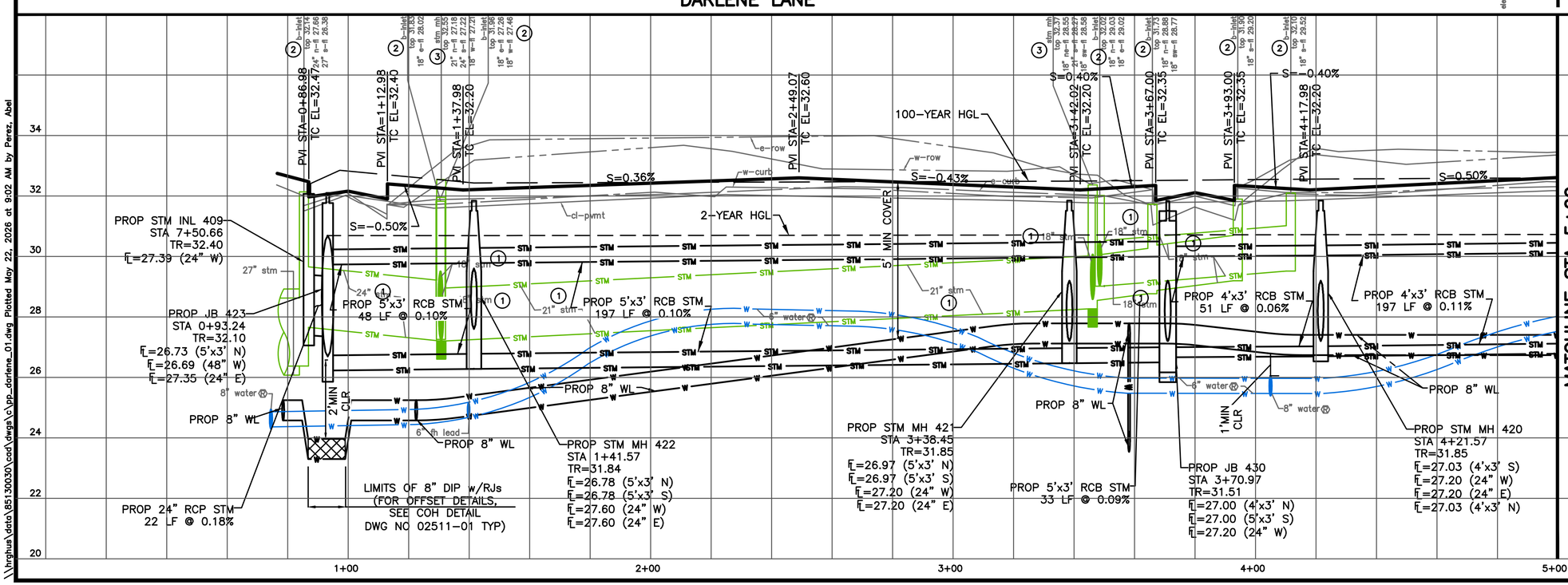
APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

DARLENE LANE



civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

DARLENE LANE STA 1+00 TO 5+00

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

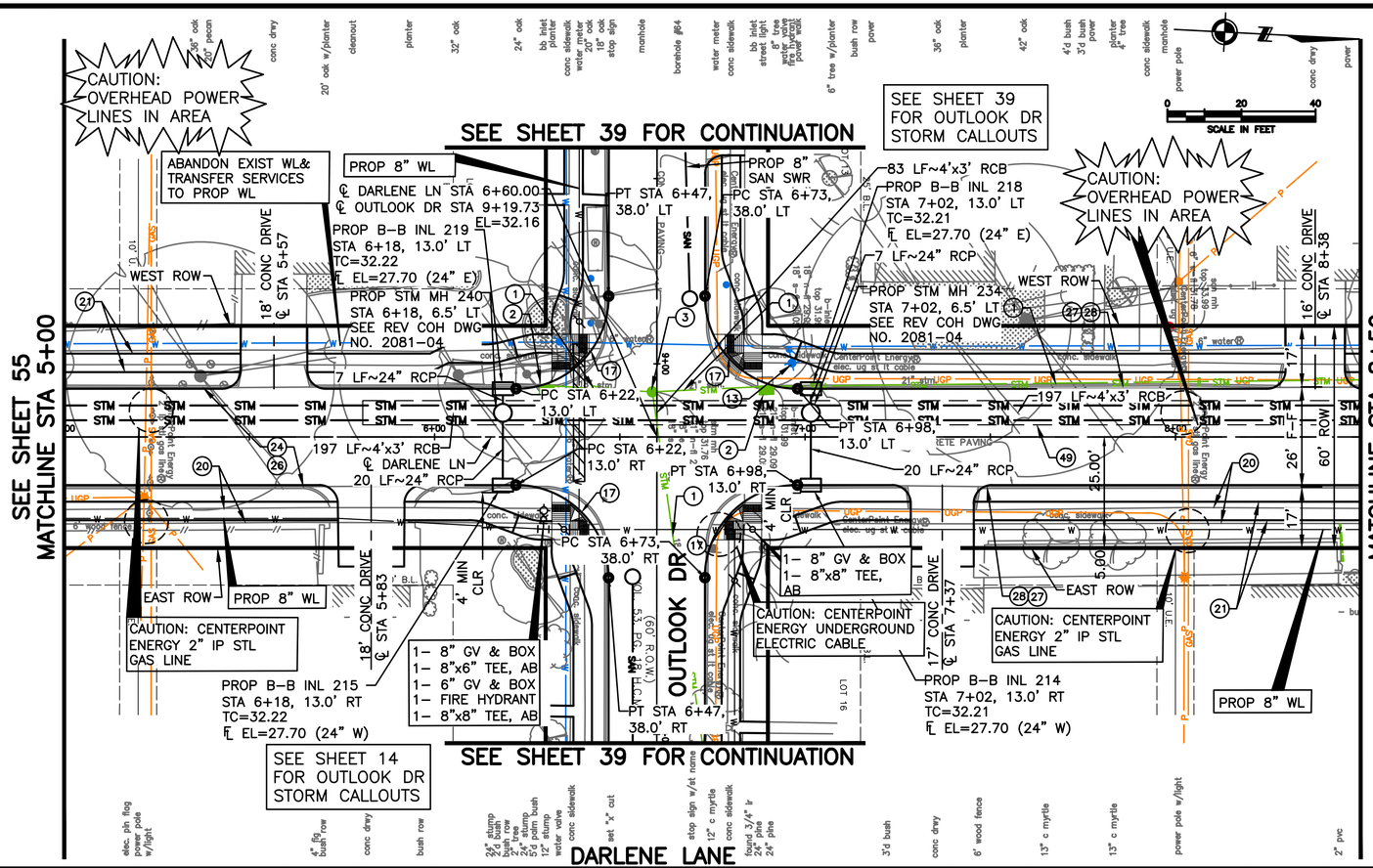
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 55 OF 175

No.	Date	Revisions	App.

\\hrghus\data\8513030\cad\dwgs\c\pp_darlene_01.dwg Plotted May 22, 2026 at 9:02 AM by Perez, Abel



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-28
SET "X" CUT ON CONC. ON OUTLOOK DR.
EL=31.38', ℄ STA 9+36.66, 14.18 R

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	App.

CIVITAS ENGINEERING GROUP
Civitas Engineering Group
Engineers ● Planners ● Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS
SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

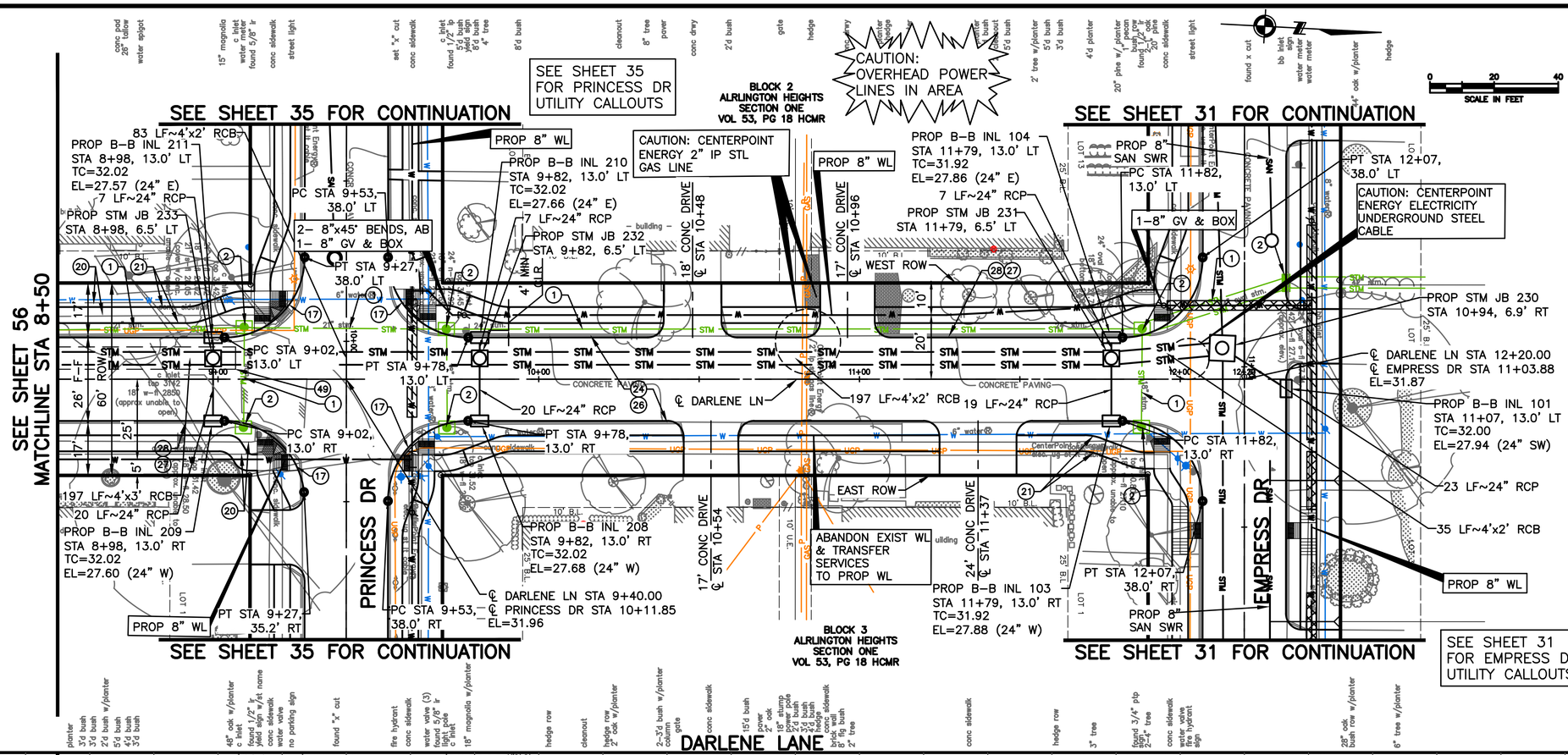
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

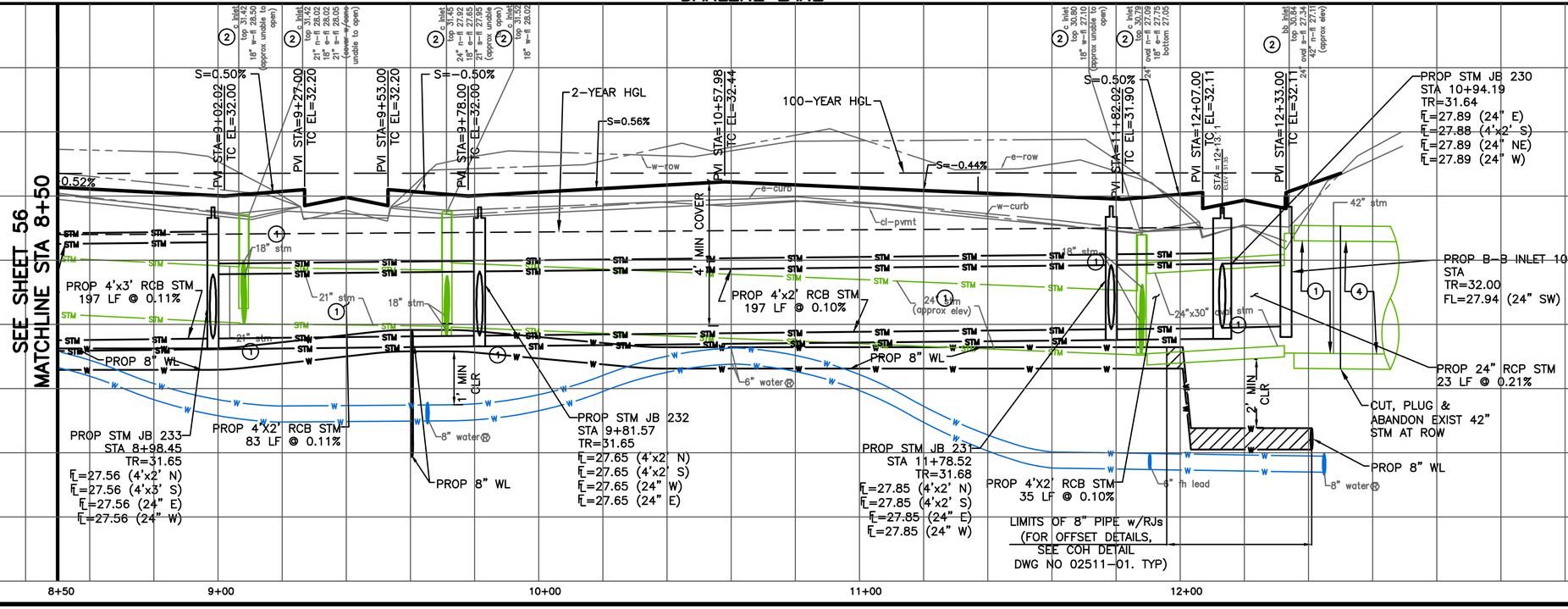
PLAN AND PROFILE SHEETS

DARLENE LANE STA 5+00 TO 8+50

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 56 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\pp_darlene_03.dwg Plotted May 22, 2026 at 9:09 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-33
SET "X" CUT ON CONC. ON PRINCESS DR.
EL=31.28', ℄ STA 9+95.95, 14.90 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

Civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400, Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

STATE OF TEXAS · BRIVAS CHINTALAPATI · 109787 · LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.865.0006
FAX: 713.865.0044

STATE OF TEXAS · SCOTT L. CUNNINGHAM · 125747 · LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

DARLENE LANE STA 8+50 TO END

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

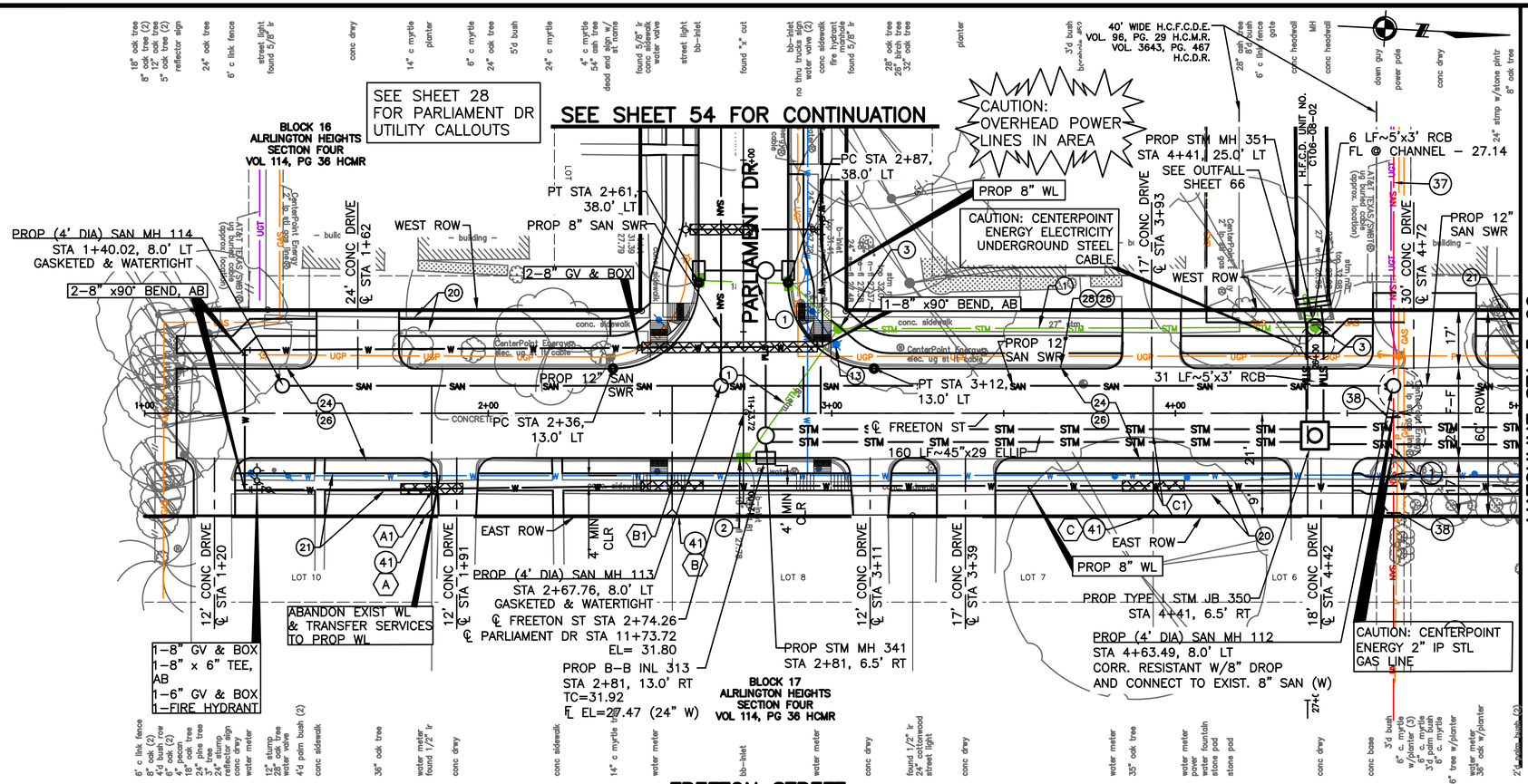
CITY OF HOUSTON PM

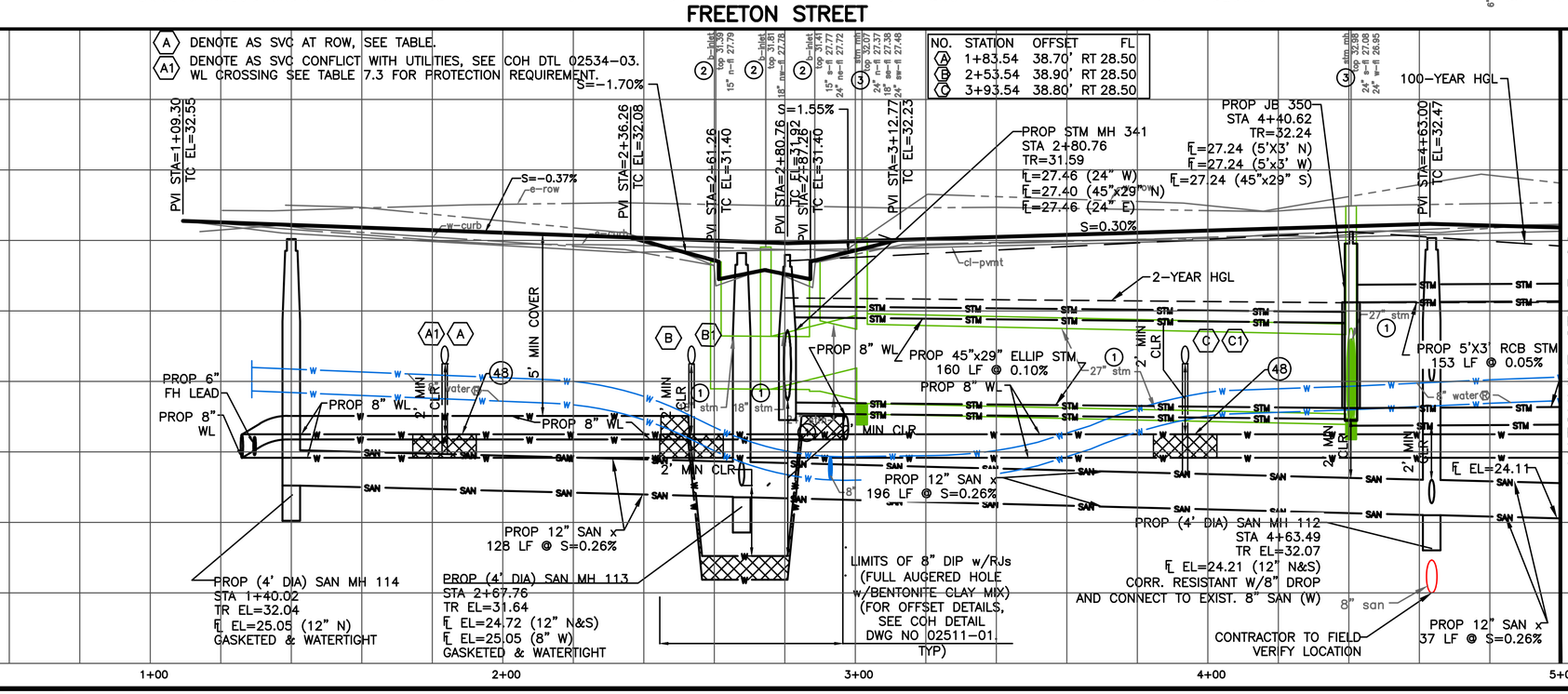
MIGUEL RODRIGUEZ, EIT

SHEET NO. 57 OF 175

No.	Date	Revisions	App'd

\\hrghus\data\85130030\cad\dwgs\c\pp_darlene_04.dwg Plotted May 22, 2026 at 8:51 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-19
FND. "X" CUT ON CONC. ON PARLIAMENT DR.
EL=31.71', ℄ STA 11+73.39, 0.77 L

SCALE IN FEET 0 20 40

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.) SIGNATURE VALID FOR SIX MONTHS — DATE

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR. — DATE

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO TO BE USED FOR CONFLICT VERIFICATION.) SIGNATURE VALID FOR SIX MONTHS. — DATE

CABLE COMPANY — DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400, Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991
RINNAS CHINTALAPATI, 109787, LICENSED PROFESSIONAL ENGINEER, STATE OF TEXAS
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044
SCOTT L. CUNNINGHAM, 125747, LICENSED PROFESSIONAL ENGINEER, STATE OF TEXAS
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

FREETON STREET STA 1+00 TO 5+00

WBS NO. M-410006-0002-4

DRAWING SCALE

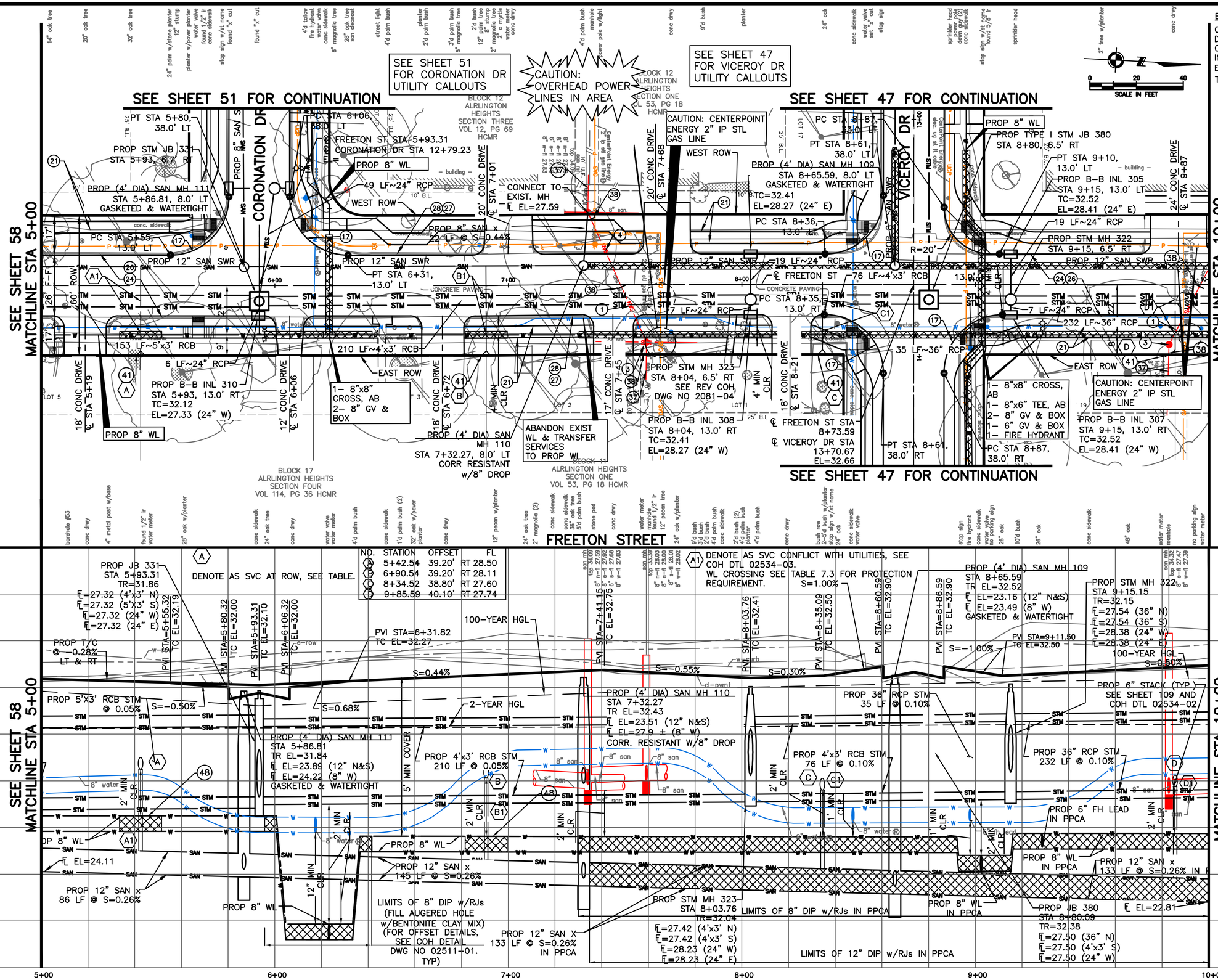
H: 1"=20' (FULL)
V: 1"=2' (FULL)

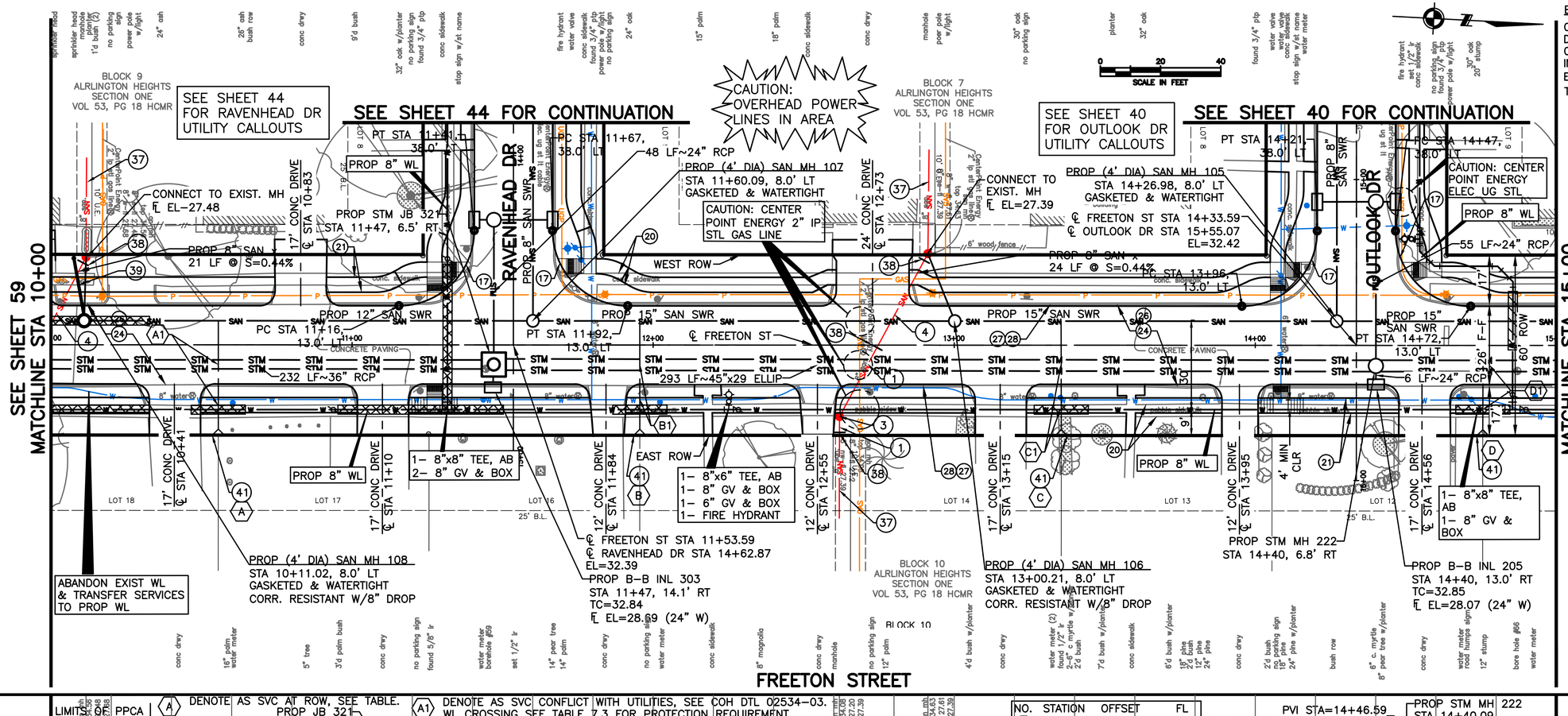
CITY OF HOUSTON PM

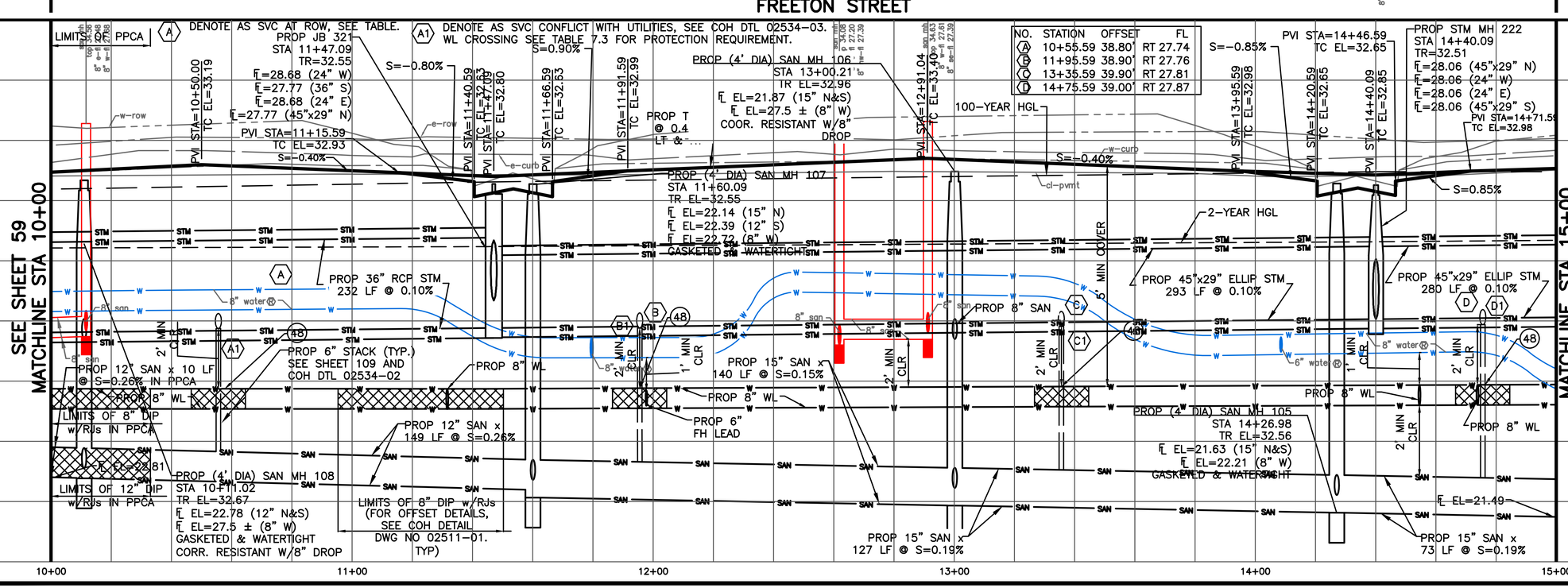
MIGUEL RODRIGUEZ, EIT

SHEET NO. 58 OF 175

\\hrghus\data\85130030\cad\dwgs\c\pp_freeton_01.dwg Plotted May 22, 2026 at 8:36 AM by Perez, Abel


SEE SHEET 51 FOR CORONATION DR UTILITY CALLOUTS
CAUTION: OVERHEAD POWER LINES IN AREA
SEE SHEET 47 FOR VICEROY DR UTILITY CALLOUTS
SEE SHEET 51 FOR CONTINUATION
SEE SHEET 47 FOR CONTINUATION
SEE SHEET 58 MATCHLINE STA 5+00
MATCHLINE STA 10+00 SEE SHEET 60
CORONATION DR
VICEROY DR
FREETON STREET
BLOCK 12 ARLINGTON HEIGHTS SECTION THREE VOL 12, PG 69 HCMR
BLOCK 12 ARLINGTON HEIGHTS SECTION ONE VOL 53, PG 18 HCMR
BLOCK 17 ARLINGTON HEIGHTS SECTION FOUR VOL 114, PG 36 HCMR
BLOCK 11 ARLINGTON HEIGHTS SECTION ONE VOL 53, PG 18 HCMR
PROP JB 331 STA 5+93.31 TR=31.86
PROP (4' DIA) SAN MH 111 STA 5+86.81, 8.0' LT GASKETED & WATERTIGHT
PROP STM JB 331 STA 5+93, 6.7' RT
PROP 8" WL
PROP 8" SAN
PROP 12" SAN SWR
PROP T/C @ 0.28% LT & RT
PROP 5'x3' RCB STM @ 0.05%
PROP 4'x3' RCB STM 210 LF @ 0.05%
PROP 4'x3' RCB STM 76 LF @ 0.10%
PROP 36" RCP STM 35 LF @ 0.10%
PROP 36" RCP STM 232 LF @ 0.10%
PROP (4' DIA) SAN MH 110 STA 7+32.27 TR EL=32.43
PROP (4' DIA) SAN MH 109 STA 8+65.59 TR EL=32.52
PROP STM MH 322 STA 9+15.15 TR=32.15
PROP STM MH 323 STA 8+03.76 TR=32.04
PROP JB 380 STA 8+80.09 TR=32.38
PROP 6" STACK (TYP.) SEE SHEET 109 AND COH DTL 02534-02
PROP 6" FH LEAD IN PPCA
PROP 8" WL IN PPCA
PROP 12" SAN x 145 LF @ S=0.26%
PROP 12" SAN x 133 LF @ S=0.26% IN PPCA
PROP 12" SAN x 86 LF @ S=0.26%
LIMITS OF 8" DIP w/RJs (FILL AUGERED HOLE w/BENTONITE CLAY MIX) (FOR OFFSET DETAILS, SEE COH DETAIL DWG NO 02511-01. TYP)
LIMITS OF 8" DIP w/RJs IN PPCA
LIMITS OF 12" DIP w/RJs IN PPCA
ABANDON EXIST WL & TRANSFER SERVICES TO PROP WL
CONNECT TO EXIST. MH @ EL=27.59
49 LF~24" RCP
19 LF~24" RCP
7 LF~24" RCP
232 LF~36" RCP
35 LF~36" RCP
153 LF~5'x3' RCB
210 LF~4'x3' RCB
6 LF~24" RCP
1- 8"x8" CROSS, AB
2- 8" GV & BOX
1- 8"x6" TEE, AB
1- 6" GV & BOX
1- FIRE HYDRANT
CAUTION: CENTERPOINT ENERGY 2" IP STL GAS LINE
CAUTION: CENTERPOINT ENERGY 2" IP STL GAS LINE
WEST ROW
EAST ROW
PC STA 5+55, 13.0' LT
PT STA 6+31, 13.0' LT
PC STA 6+06, 38.0' LT
PT STA 5+80, 38.0' LT
PC STA 7+72, 38.0' LT
PT STA 7+45, 38.0' LT
PC STA 8+35, 13.0' RT
PT STA 8+61, 38.0' RT
PC STA 8+87, 13.0' LT
PT STA 8+61, 38.0' LT
PC STA 8+87, 38.0' RT
PT STA 9+10, 13.0' LT
PC STA 8+36, 13.0' LT
PROP B-B INL 310 STA 5+93, 13.0' RT TC=32.12 EL=27.33 (24" W)
PROP B-B INL 308 STA 8+04, 13.0' RT TC=32.41 EL=28.27 (24" W)
PROP B-B INL 305 STA 9+15, 13.0' LT TC=32.52 EL=28.41 (24" E)
PROP B-B INL 307 STA 9+15, 13.0' RT TC=32.52 EL=28.41 (24" W)
PROP (4' DIA) SAN MH 110 STA 7+32.27, 8.0' LT CORR RESISTANT w/8" DROP
PROP STM MH 323 STA 8+04, 6.5' RT SEE REV COH DWG NO 2081-04
PROP (4' DIA) SAN MH 109 STA 8+65.59, 8.0' LT GASKETED & WATERTIGHT TC=32.41 EL=28.27 (24" E)
PROP STM MH 322 STA 9+15, 6.5' RT
CONNECT TO EXIST. MH @ EL=27.59
FREETON ST STA 8+73.59
VICEROY DR STA 13+70.67 EL=32.66
FREETON ST STA 7+01
VICEROY DR STA 13+00
CONC DRIVE @ STA 5+19
CONC DRIVE @ STA 6+06
CONC DRIVE @ STA 6+72
CONC DRIVE @ STA 7+45
CONC DRIVE @ STA 8+21
CONC DRIVE @ STA 9+87
NO. STATION OFFSET FL
A 5+42.54 39.20' RT 28.50
B 6+90.54 39.20' RT 28.11
C 8+34.52 38.80' RT 27.60
D 9+85.59 40.10' RT 27.74
DENOTE AS SVC AT ROW, SEE TABLE.
DENOTE AS SVC CONFLICT WITH UTILITIES, SEE COH DTL 02534-03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.
100-YEAR HGL
2-YEAR HGL
PVI STA=6+31.82 TC EL=32.27
S=0.44%
S=0.68%
S=-0.50%
S=-0.55%
S=0.30%
S=1.00%
S=-1.00%
S=0.50%
PVI STA=5+80.32 TC EL=32.00
PVI STA=5+93.31 TC EL=32.10
PVI STA=6+06.32 TC EL=32.00
PVI STA=7+41.15 TC EL=32.76
PVI STA=8+03.76 TC EL=32.41
PVI STA=8+35.09 TC EL=32.50
PVI STA=8+60.59 TC EL=32.90
PVI STA=8+86.59 TC EL=32.90
PVI STA=9+11.50 TC EL=32.50
5' MIN COVER
2' MIN CLR
1' MIN CLR
12" MIN CLR
4' MIN CLR
BENCHMARK:
CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM:B-18
FND. "X" CUT ON CONC. ON CORONATION DR.
EL=32.51', ℄ STA 12+62.96, 14.26 R
SCALE IN FEET
NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.
TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.
VERIFICATION OF PRIVATE UTILITY LINES
CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.) SIGNATURE VALID FOR SIX MONTHS
DATE
APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR.
DATE
CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. (THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES - NOT TO BE USED FOR CONFLICT VERIFICATION.) SIGNATURE VALID FOR SIX MONTHS.
DATE
CABLE COMPANY
DATE
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.
No. Revisions Date App.
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400 Houston, Texas 77042 Phone: (713) 783-8700; Fax: (713) 783-8747 TBPE Firm Registration No. F-4981
SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026
HRGreen
FIRM NO. F-11278 11011 RICHMOND AVENUE, SUITE 200 HOUSTON, TX 77042 PH: 713.955.9005 FAX: 713.955.0044
SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026
SURVEYED BY: KUO
FB NO. P-6076
CITY OF HOUSTON
HOUSTON PUBLIC WORKS
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
PLAN AND PROFILE SHEETS
FREETON STREET STA 5+00 TO 10+00
WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL)
V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 59 OF 175
\\hrghus\data\0513030\cad\dwgs\c\pp_freeton_02.dwg Plotted May 22, 2026 at 9:17 AM by Perez, Abel





BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B-26
SET ½" I.R. W/CAP ON FREETON ST.
EL=33.62', ℄ STA 11+52.96, 16.75 R

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	App.

civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

FREETON STREET STA 10+00 TO 15+00

WBS NO. M-410006-0002-4

DRAWING SCALE

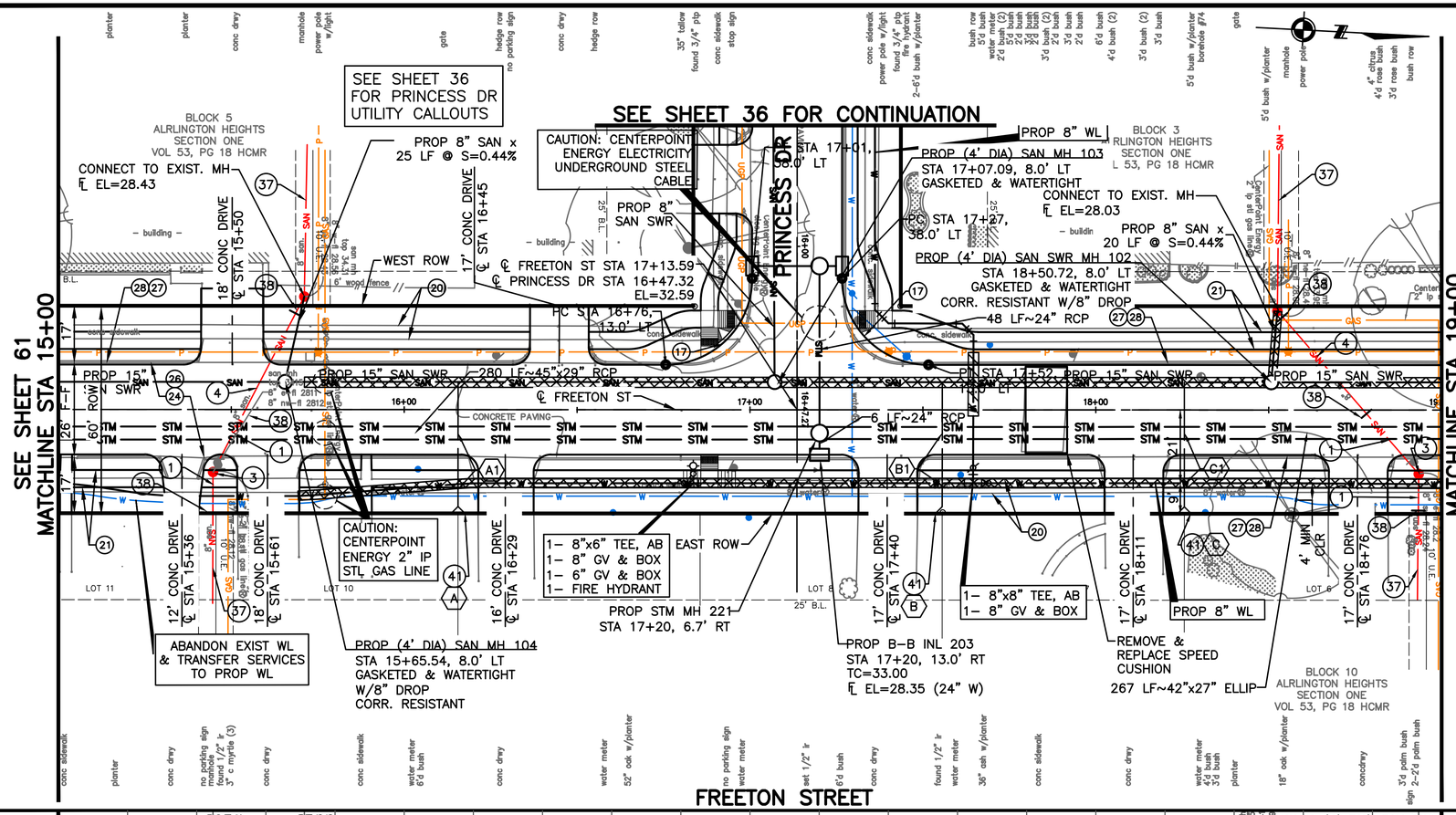
H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 60 OF 175

\\hrghua\data\85130030\cad\dwgs\c\pp_freeton_04.dwg Plotted May 22, 2026 at 8:47 AM by Perez, Abel



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753-8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.
ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)
TBM: B-34
SET "X" CUT ON CONC. ON FREETON ST.
EL=33.78', ℄ STA 17+18.94, 17.34 R

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207-2222
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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

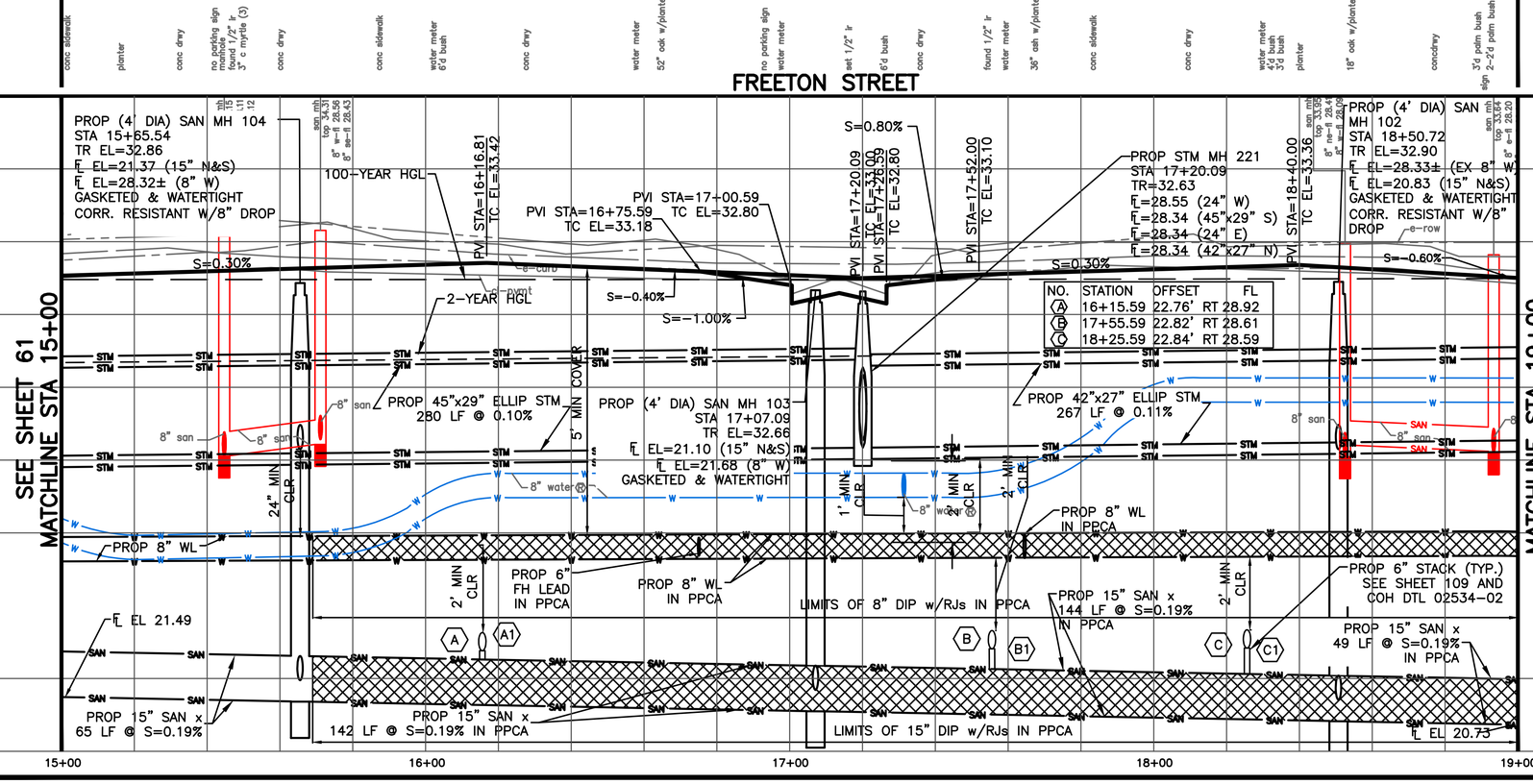
APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

NO.	STATION	OFFSET	FL
A	16+15.59	38.80'	RT 28.92
B	17+55.59	38.80'	RT 28.61
C	18+25.59	38.70'	RT 28.59



NO.	STATION	OFFSET	FL
A	16+15.59	22.76'	RT 28.92
B	17+55.59	22.82'	RT 28.61
C	18+25.59	22.84'	RT 28.59

A1 DENOTE AS SVC CONFLICT WITH UTILITIES SEE COH DTL 02534-03. WL CROSSING SEE TABLE 7.3 FOR PROTECTION REQUIREMENT.

A DENOTE AS SVC AT ROW SEE TABLE.

No.	Date	Revisions	App.

Civitas Engineering Group
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700, Fax: (713) 783-8747
TBPE Firm Registration No. F-4991
SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044
SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

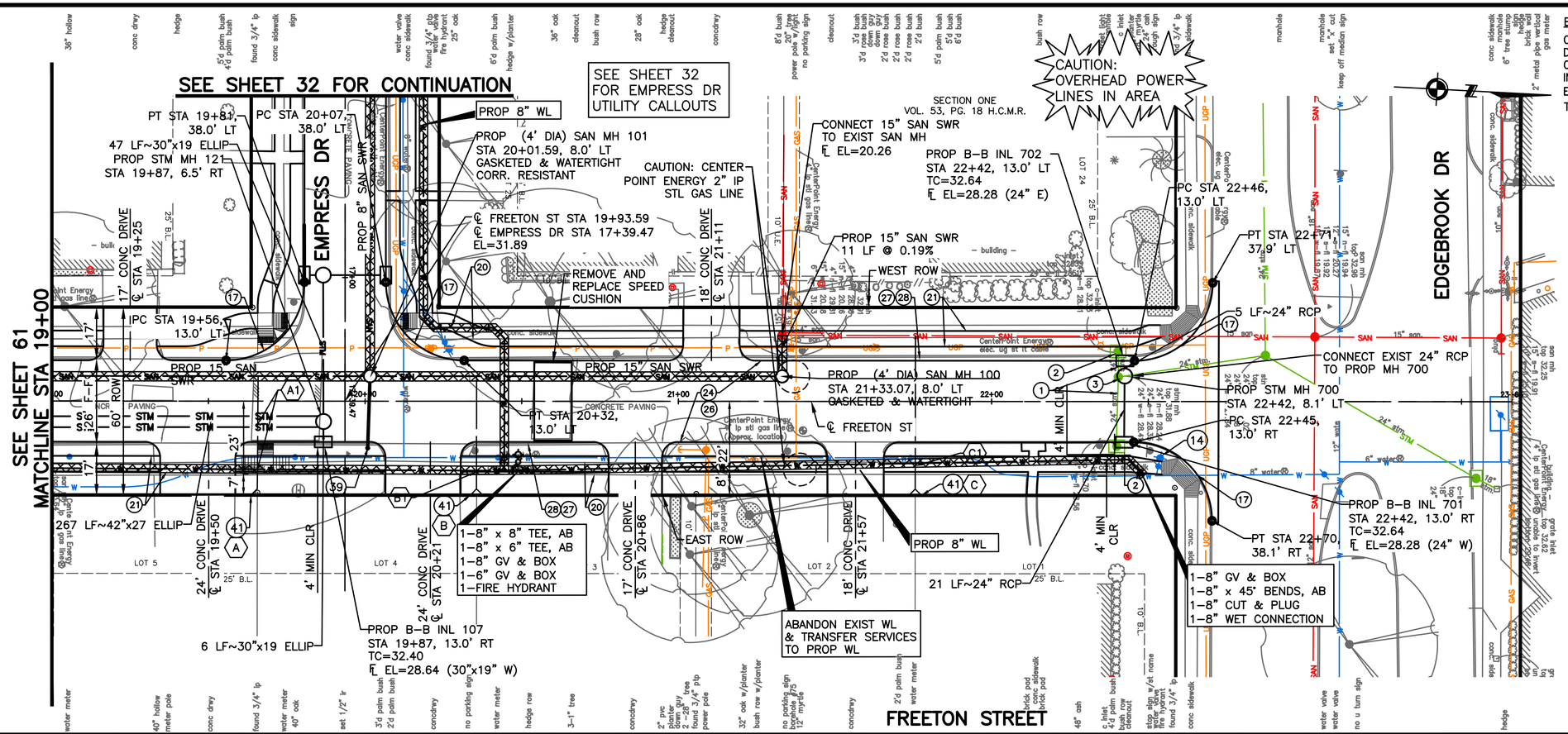
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

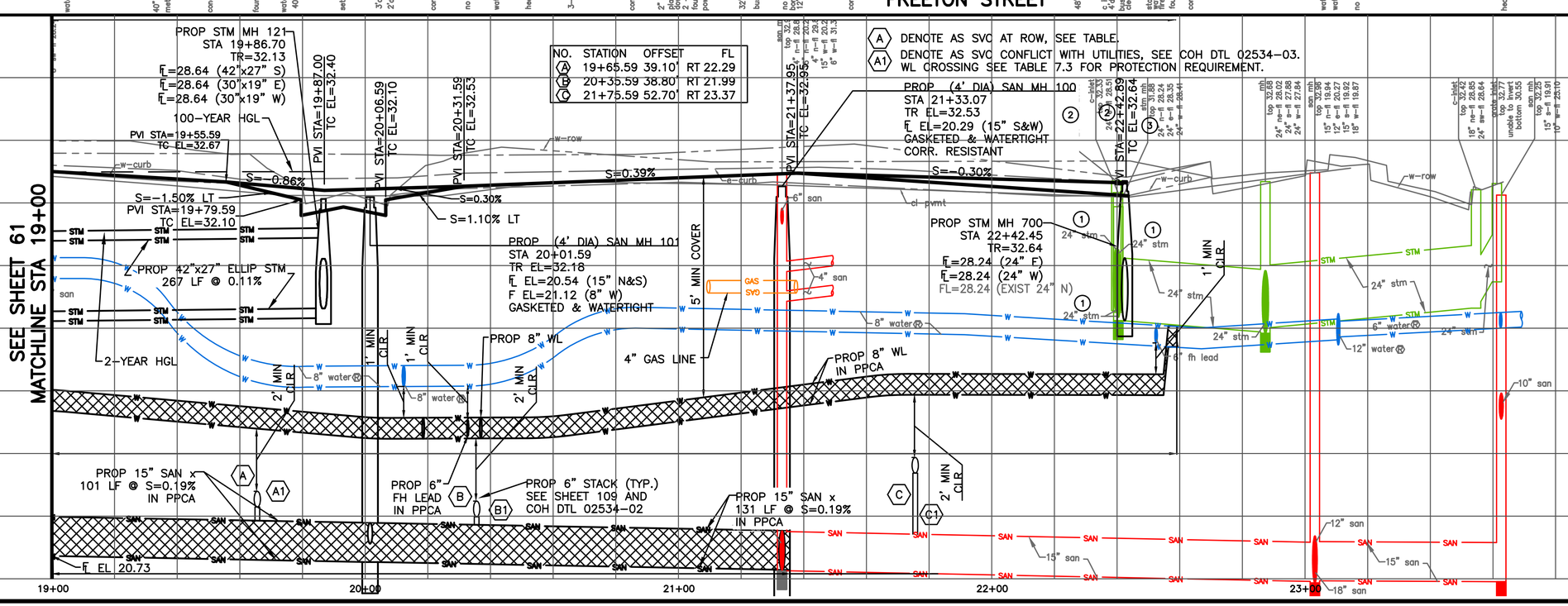
PLAN AND PROFILE SHEETS

FREETON STREET STA 15+00 TO 19+00

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 61 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\pp_freeton_06.dwg Plotted May 22, 2026 at 9:13 AM by Perez, Abel





civitas ENGINEERING GROUP
Civitas Engineering Group
Engineers ◆ Planners ◆ Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400 Houston, Texas 77042
Phone: (713) 783-8700; Fax: (713) 783-8747
TBPE Firm Registration No. F-4981
SRINIVAS CHINTALAPATI 109787 LICENSED PROFESSIONAL ENGINEER
5/26/2026
HRGreen FIRM NO. F-11278 11011 RICHMOND AVENUE, SUITE 200 HOUSTON, TX 77042 PH: 713.985.9906 FAX: 713.985.0044
STATE OF TEXAS SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026
SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PLAN AND PROFILE SHEETS

FREETON STREET STA 19+00 TO END

WBS NO. M-410006-0002-4

DRAWING SCALE

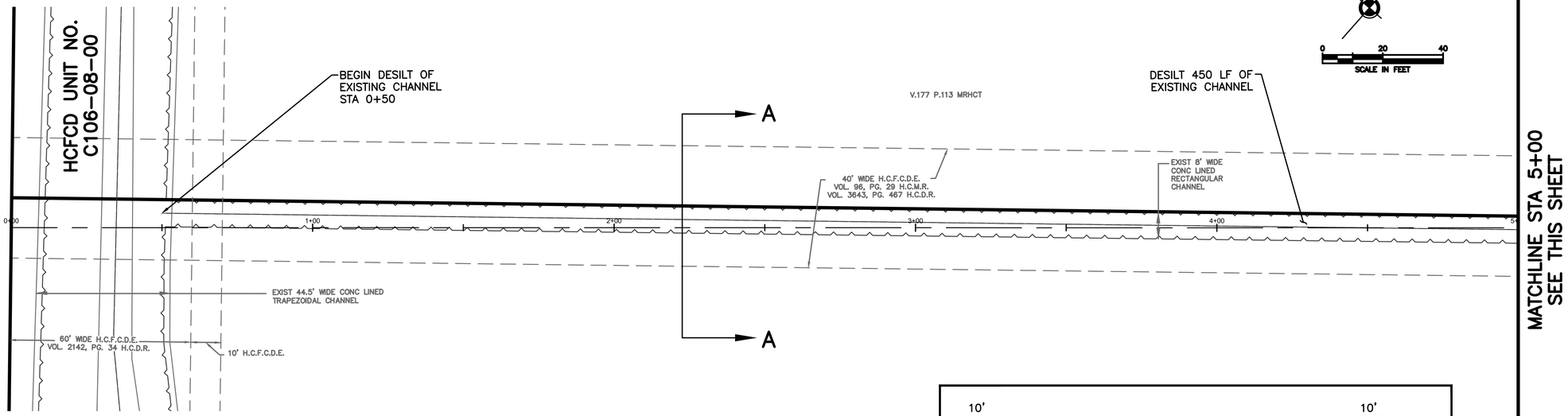
H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

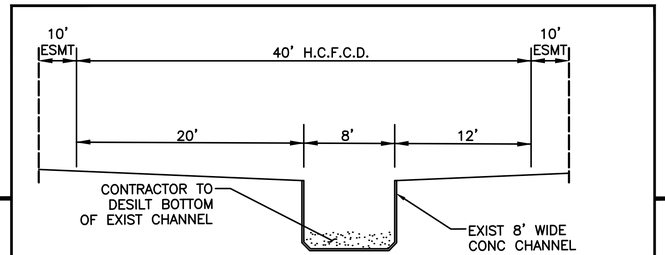
MIGUEL RODRIGUEZ, EIT

SHEET NO. 62 OF 175

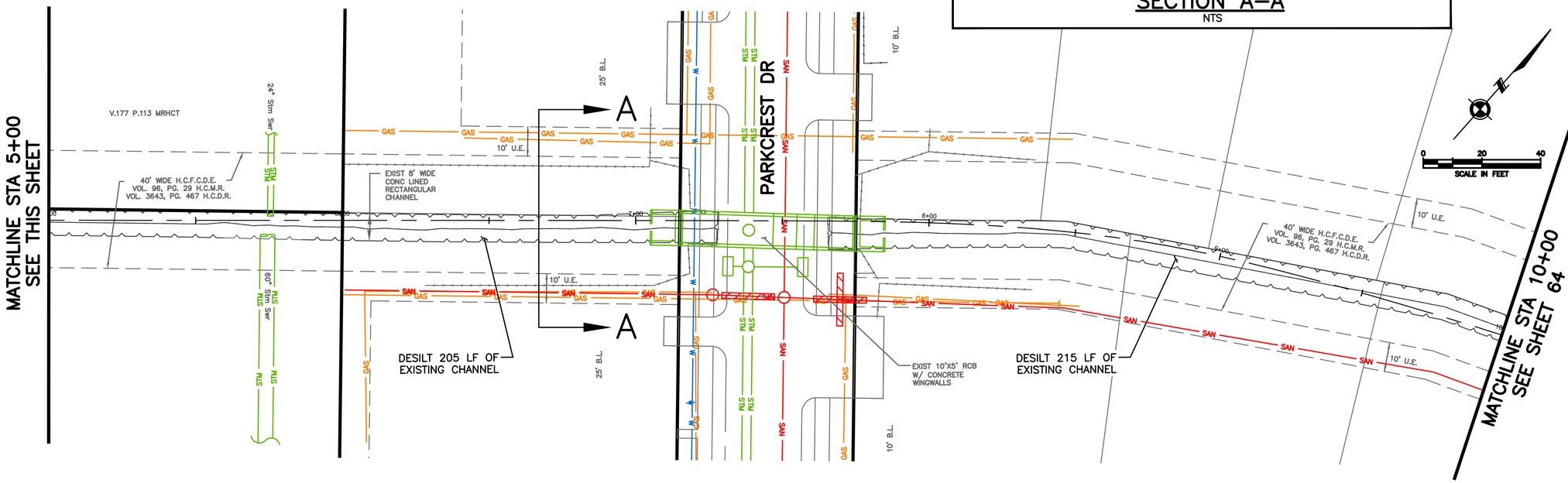
\\hrghus\data\8513030\cad\dwgs\c\pp_freeton_07.dwg Plotted May 22, 2026 at 8:56 AM by Perez, Abel



HCFCD UNIT NO.
C106-08-02



SECTION A-A
NTS



HCFCD UNIT NO.
C106-08-02

HRGreen
FIRM NO. F-11278
11011 RICHMOND
AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

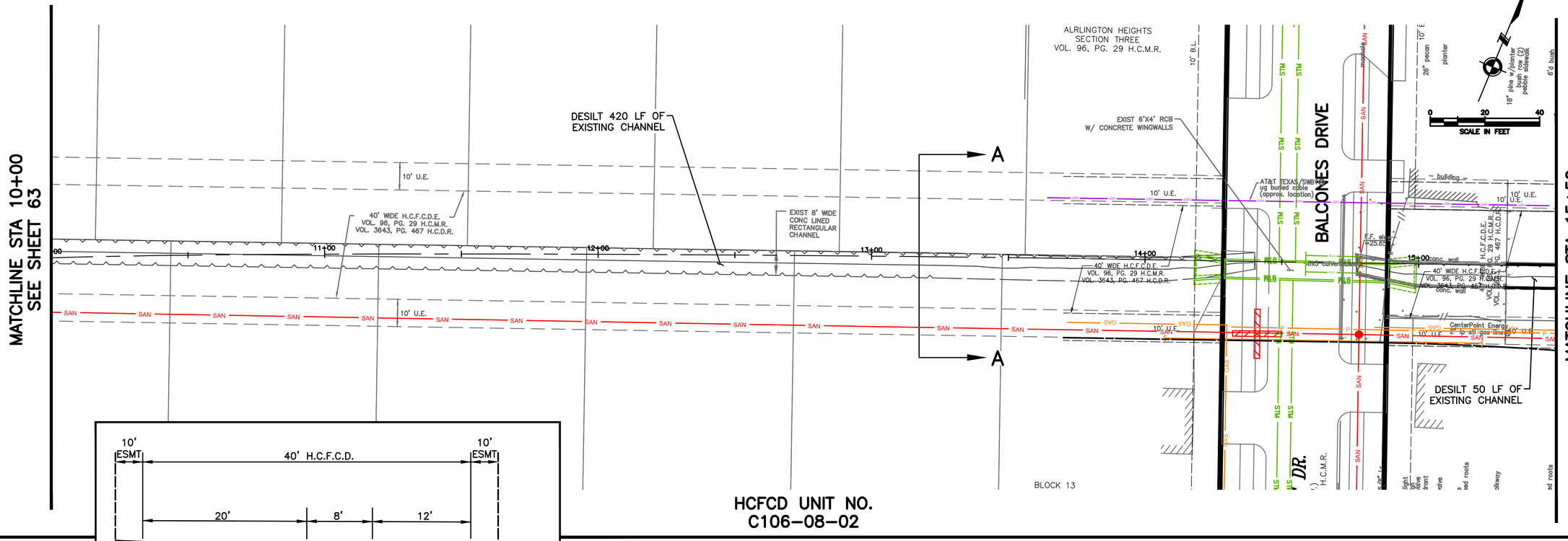
**ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)**

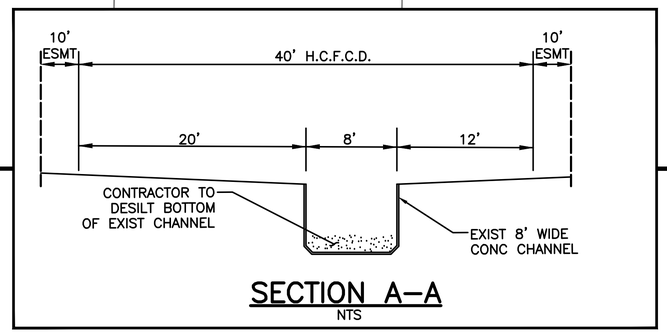
**CHANNEL C106-08-02
STA 0+00 TO 10+00**

WBS NO. M-410006-0002-4
DRAWING SCALE
1"=20' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 63 OF 175

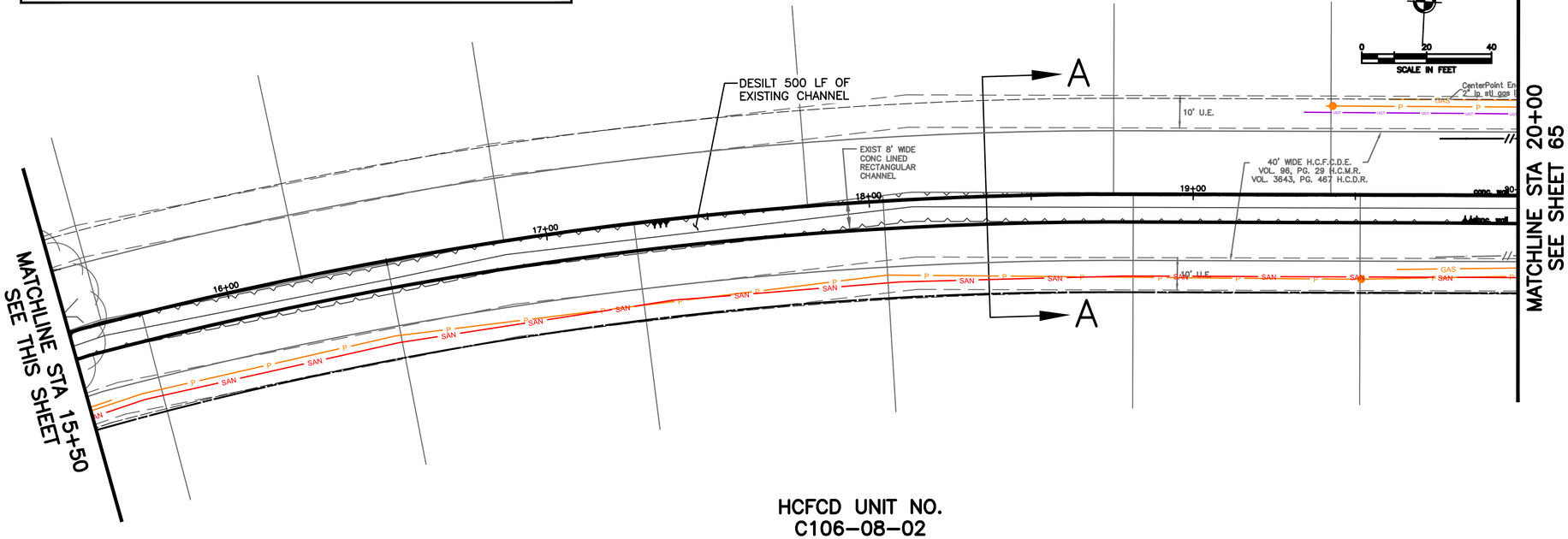
No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\channel pp1.dwg Plotted May 22, 2026 at 8:53 AM by Perez, Abel





SECTION A–A
NTS



HCFCD UNIT NO.
C106–08–02

HCFCD UNIT NO.
C106–08–02

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

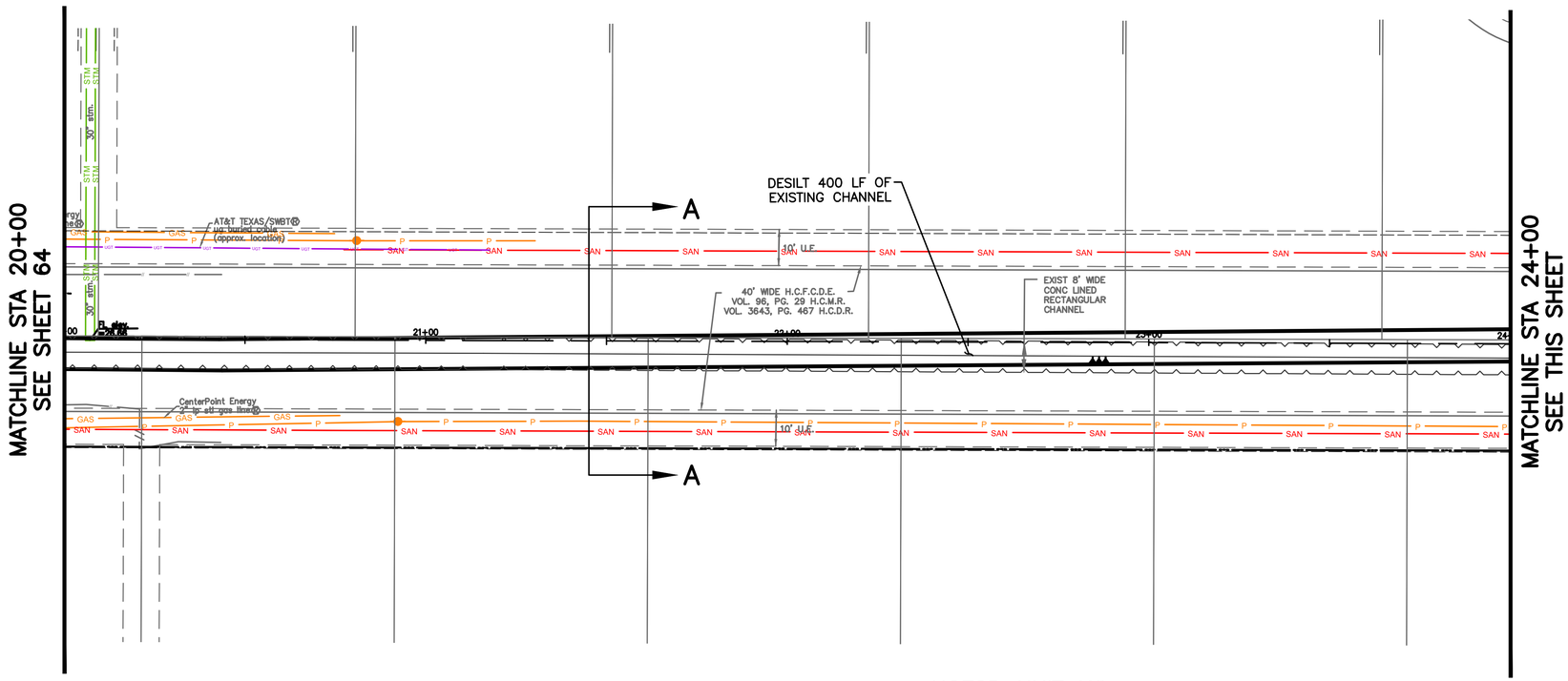
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

CHANNEL C106–08–02
STA 10+00 TO 20+00

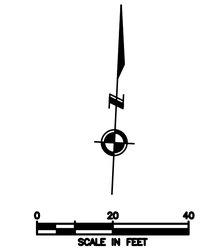
WBS NO. M–410006–0002–4
DRAWING SCALE
1"=20' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 64 OF 175

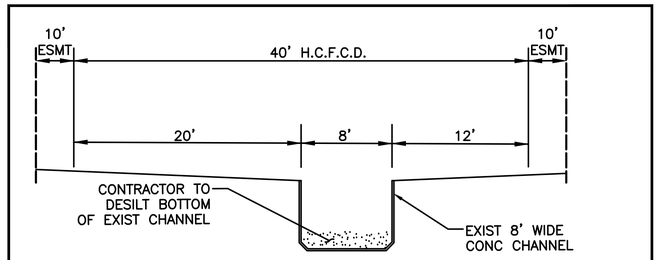
No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\channel pp2.dwg Plotted May 22, 2026 at 8:44 AM by Perez, Abel

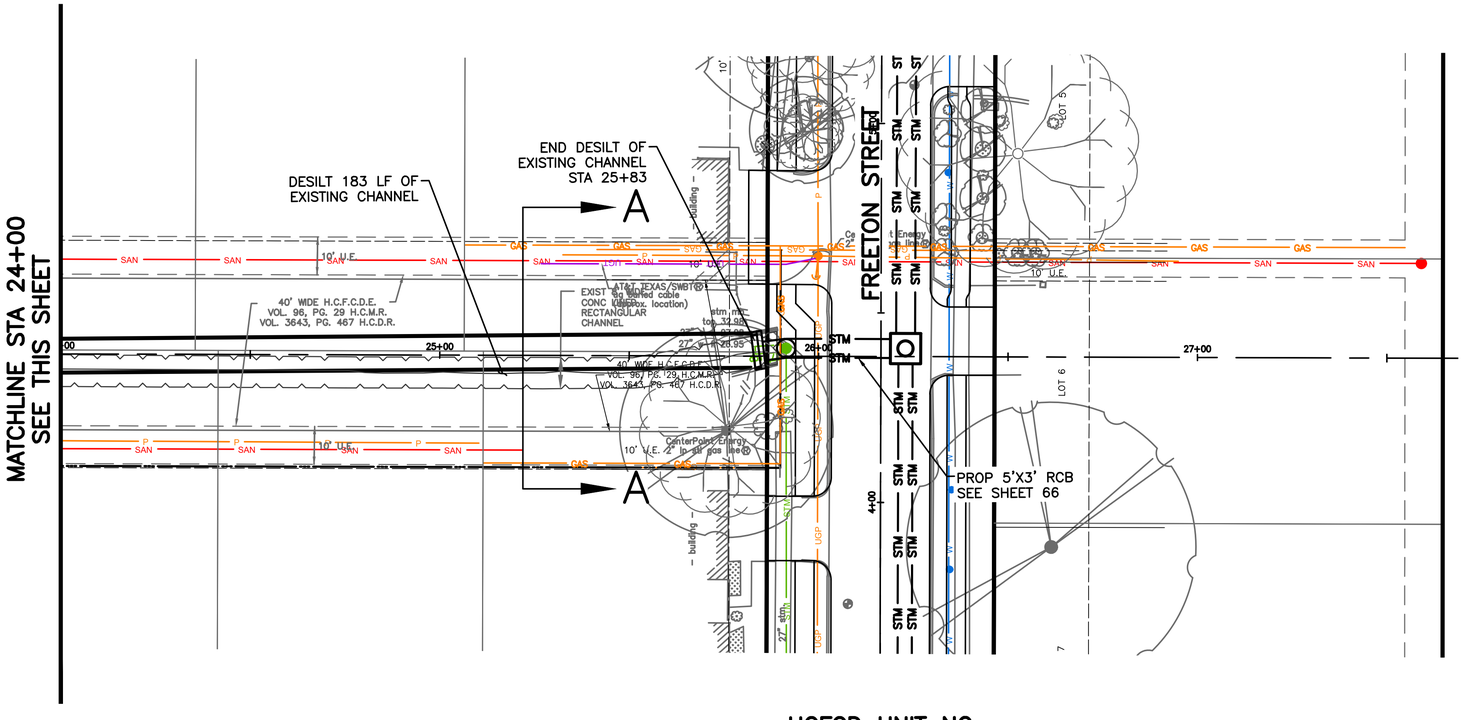


HCFCD UNIT NO.
C106-08-02

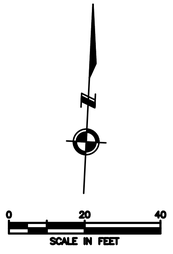




SECTION A-A
NTS



HCFCD UNIT NO.
C106-08-02



HRGreen
FIRM NO. F-11278
11011 RICHMOND
AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

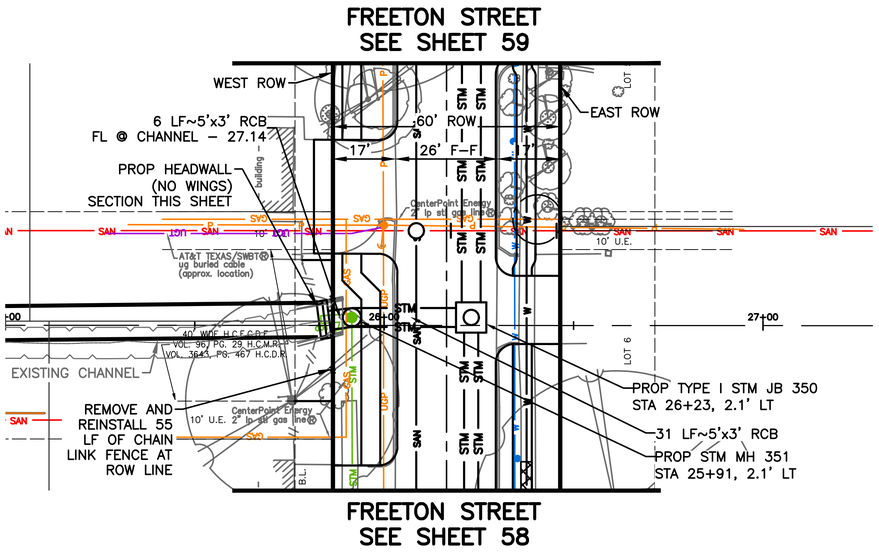
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

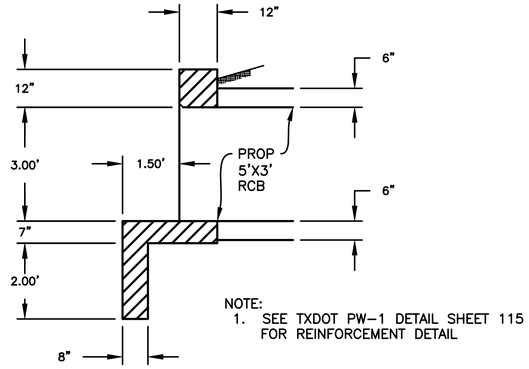
CHANNEL C106-08-02 STA 20+00 TO END

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=20' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 65 OF 175	

No. | Date | Revisions | Appr.

\\hrghus\data\85130030\cad\dwgs\c\channel pp3.dwg Plotted May 22, 2026 at 9:15 AM by Perez, Abel

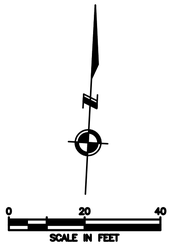




NOTE:
1. SEE TXDOT PW-1 DETAIL SHEET 115 FOR REINFORCEMENT DETAIL

HEADWALL SECTION

SCALE: N.T.S.



BENCHMARK:

CITY OF HOUSTON MONUMENT 5753–8502, A BRASS DISK IN CONCRETE, LOCATED AT THE SOUTHEAST CORNER OF OUTLOOK DRIVE AND DARLENE STREET INTERSECTION.

ELEV. 32.19 FEET NAVD 1988 (GEOID '12A)

TBM: B–19

FND. "X" CUT ON CONC. ON PARLIAMENT DR.
EL=31.71', ℄ STA 11+73.39, 0.77 L

NOTES:
1. ALL DRIVEWAY RADIUS= 5 FT UNLESS SHOWN OTHERWISE.
2. EXISTING WATER LINES THAT CONFLICT WITH PROPOSED CONSTRUCTION ARE TO BE REMOVED AFTER TRANSFER OF SERVICE TO PROPOSED WATER LINES.
3. WATER SERVICE LINES WILL NOT BE ALLOWED THROUGH STORM SEWER.
4. ALL PROPOSED STORM MANHOLES ARE TYPE C MANHOLES UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT (713) 207–2222

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

No.	Date	Revisions	Appr.

VERIFICATION OF PRIVATE UTILITY LINES

CENTERPOINT ENERGY/NATURAL GAS FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP NATURAL GAS LINES CORRECTLY – NOT TO BE USED FOR CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT SHOWN.)
SIGNATURE VALID FOR SIX MONTHS

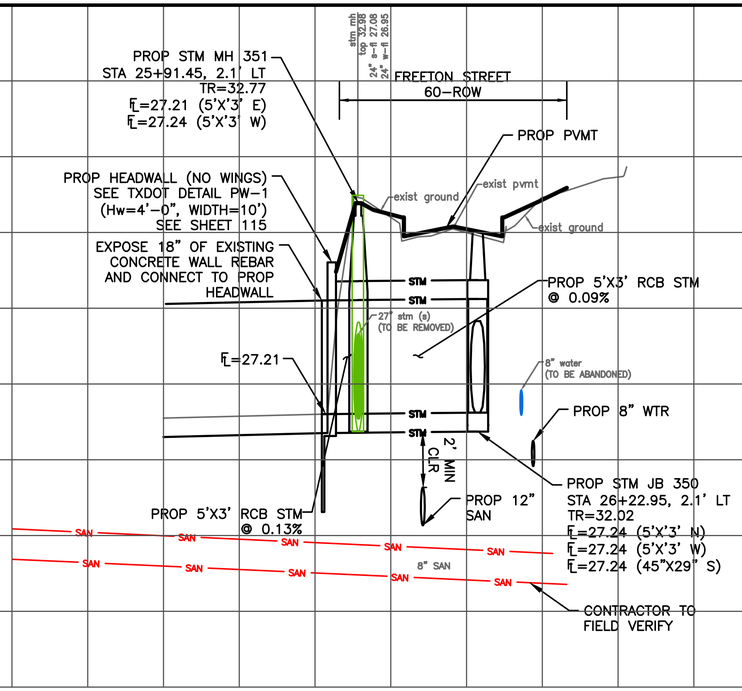
APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. DATE
SIGNATURE VALID FOR ONE YEAR.

CENTERPOINT ENERGY/UNDERGROUND ELECTRIC FACILITIES VERIFICATION ONLY. DATE
(THIS SIGNATURE VERIFIES THAT EXISTING UNDERGROUND FACILITIES – NOT TO BE USED FOR CONFLICT VERIFICATION.)
SIGNATURE VALID FOR SIX MONTHS.

CABLE COMPANY DATE

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 VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

OUTFALL TO HCFCD UNIT NO. C106–08–02



civitas
ENGINEERING GROUP
Civitas Engineering Group
Engineers • Planners • Construction Managers
2000 W. Sam Houston Pkwy S., Suite 1400
Houston, Texas 77042
Phone: (713) 783-8700 Fax: (713) 783-8747
TBPE Firm Registration No. F-4991

SRINIVAS CHINTALAPATI
109787
LICENSED
PROFESSIONAL ENGINEER
5/26/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

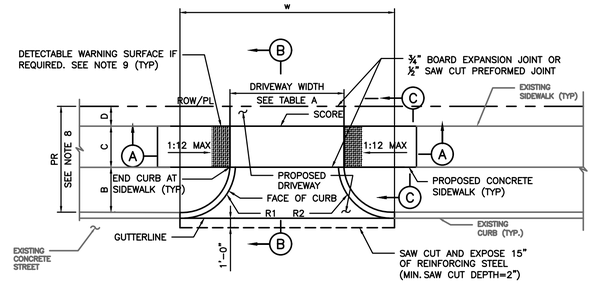
PLAN AND PROFILE SHEETS

FREETON OUTFALL TO C106–08–02

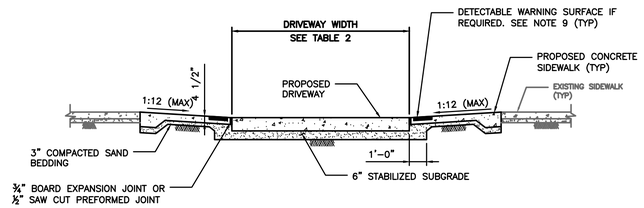
WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 66 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\outfall pp.dwg Plotted May 22, 2026 at 8:38 AM by Perez, Abel

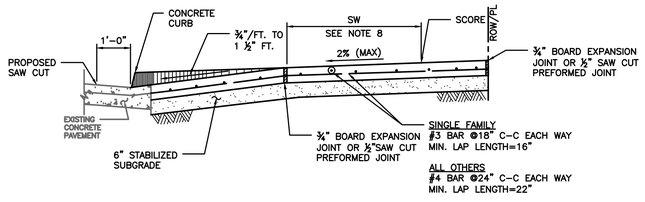
SHEET NO.	STREET NAME	STATION	SIDE	DETAIL DIMENSIONS							EXISTING DRIVEWAY @ ROW	DRIVEWAY LENGTH REQ'D BEYOND ROW (T)	TOP OF CURB CENTERLINE ELEVATION	PROPOSED GUTTER ELEVATION (A) @ CL	PROPOSED S/W BOTT ELEVATION @ CL	PROPOSED S/W TOP ELEVATION @ CL	PROPOSED SLOPE % S/W @ CL	EXISTING ROW ELEVATION @ CL	PROPOSED SLOPE % TO ROW @ CL	DRIVEWAY SERVICE TO
				R1 FT	R2 FT	A FT	W FT	B FT	C FT	D FT										
30	Empress	1+89	L	5	5	18	28	4.5	5	6.5	CONC	0	32.26	31.76	32.32	32.42	2%	33.31	12.1%	RESIDENTIAL
30	Empress	2+01	R	5	5	17	27	4.5	5	7.5	CONC	0	32.30	31.80	32.36	32.46	2%	33.39	11.0%	RESIDENTIAL
30	Empress	2+57	L	5	5	18	28	4.5	5	7.5	CONC	0	32.52	32.02	32.58	32.68	2%	33.34	7.4%	RESIDENTIAL
30	Empress	2+75	R	5	5	17	27	4.5	5	7.5	CONC	0	32.57	32.07	32.63	32.73	2%	33.47	8.5%	RESIDENTIAL
30	Empress	3+26	L	5	5	17	27	4.5	5	7.5	CONC	0	32.44	31.94	32.50	32.60	2%	33.50	10.6%	RESIDENTIAL
30	Empress	3+44	R	5	5	21	31	4.5	5	7.5	CONC	0	32.38	31.88	32.44	32.54	2%	33.17	7.0%	RESIDENTIAL
30	Empress	3+97	L	5	5	18	28	4.5	5	7.5	CONC	**5**	32.22	31.72	32.28	32.38	2%	33.75	10.1%	RESIDENTIAL
30	Empress	4+20	R	5	5	18	28	4.5	5	7.5	CONC	**5**	32.16	31.66	32.22	32.32	2%	33.58	9.3%	RESIDENTIAL
30	Empress	4+66	L	5	5	18	28	4.5	5	7.5	CONC	0	32.20	31.70	32.26	32.36	2%	33.57	14.8%	RESIDENTIAL
30	Empress	4+95	R	5	5	17	27	4.5	5	7.5	CONC	0	32.28	31.78	32.34	32.44	2%	33.65	14.8%	RESIDENTIAL
31	Empress	5+35	L	5	5	18	28	4.5	5	7.5	CONC	0	32.41	31.91	32.47	32.57	2%	33.60	12.4%	RESIDENTIAL
31	Empress	6+04	L	5	5	18	28	4.5	5	7.5	CONC	0	32.62	32.12	32.68	32.78	2%	33.31	5.7%	RESIDENTIAL
31	Empress	6+16	R	5	5	18	28	4.5	5	7.5	CONC	0	32.57	32.07	32.63	32.73	2%	33.91	14.4%	RESIDENTIAL
31	Empress	6+44	R	5	5	17	27	4.5	5	7.5	CONC	**5**	32.47	31.97	32.53	32.63	2%	34.05	10.5%	RESIDENTIAL
31	Empress	6+72	L	5	5	18	28	4.5	5	7.5	CONC	0	32.35	31.85	32.41	32.51	2%	33.00	5.2%	RESIDENTIAL
31	Empress	7+16	R	5	5	20	30	4.5	5	7.5	CONC	**5**	32.18	31.68	32.24	32.34	2%	34.03	12.7%	RESIDENTIAL
31	Empress	7+41	L	5	5	16	26	4.5	5	7.5	CONC	0	32.08	31.58	32.14	32.24	2%	33.18	11.2%	RESIDENTIAL
31	Empress	7+90	R	5	5	17	27	4.5	5	7.5	CONC	0	32.15	31.65	32.21	32.31	2%	33.14	9.7%	RESIDENTIAL
31	Empress	8+13	L	5	5	17	27	4.5	5	7.5	CONC	0	32.22	31.72	32.28	32.38	2%	33.32	11.2%	RESIDENTIAL
31	Empress	8+66	R	5	5	17	27	4.5	5	7.5	CONC	0	32.38	31.88	32.44	32.54	2%	32.97	4.4%	RESIDENTIAL
31	Empress	8+80	L	5	5	17	27	4.5	5	7.5	CONC	0	32.42	31.92	32.48	32.58	2%	32.95	3.6%	RESIDENTIAL
31	Empress	9+37	R	5	5	17	27	4.5	5	7.5	CONC	0	32.50	32.00	32.09	32.19	2%	32.60	4.1%	RESIDENTIAL
31	Empress	9+53	L	5	5	16	26	4.5	5	7.5	CONC	0	32.45	31.95	32.51	32.61	2%	33.18	6.2%	RESIDENTIAL
32	Empress	10+21	L	5	5	17	27	4.5	5	7.5	CONC	0	32.25	31.75	32.31	32.41	2%	32.81	4.0%	RESIDENTIAL
32	Empress	10+90	L	5	5	17	27	4.5	5	7.5	CONC	0	32.05	31.55	31.64	31.74	2%	32.22	5.1%	RESIDENTIAL
32	Empress	11+88	L	5	5	12	22	4.5	5	7.5	CONC	0	32.25	31.75	31.84	31.94	2%	32.42	5.1%	RESIDENTIAL
32	Empress	12+68	R	5	5	18	28	4.5	5	7.5	CONC	0	32.22	31.72	32.28	32.38	2%	32.75	3.6%	RESIDENTIAL
32	Empress	13+38	L	5	5	17	27	4.5	5	7.5	CONC	0	32.27	31.77	32.33	32.43	2%	33.14	8.1%	RESIDENTIAL
32	Empress	13+67	R	5	5	18	28	4.5	5	7.5	CONC	0	32.36	31.86	32.42	32.52	2%	33.31	9.2%	RESIDENTIAL
32	Empress	13+68	L	5	5	18	28	4.5	5	7.5	CONC	0	32.37	31.87	32.43	32.53	2%	33.13	6.6%	RESIDENTIAL
33	Empress	14+33	R	5	5	18	28	4.5	5	7.5	CONC	0	32.55	32.05	32.61	32.71	2%	33.58	10.2%	RESIDENTIAL
33	Empress	14+35	L	5	5	17	27	4.5	5	7.5	CONC	0	32.57	32.07	32.63	32.73	2%	33.32	6.5%	RESIDENTIAL
33	Empress	15+04	R	5	5	16	26	4.5	5	7.5	CONC	0	32.77	32.27	32.83	32.93	2%	33.30	3.6%	RESIDENTIAL
33	Empress	15+09	L	5	5	17	27	4.5	5	7.5	CONC	0	32.79	32.29	32.85	32.95	2%	33.29	3.2%	RESIDENTIAL
33	Empress	15+73	L	5	5	16	26	4.5	5	7.5	CONC	0	32.95	32.45	33.01	33.11	2%	33.48	3.6%	RESIDENTIAL
33	Empress	15+75	R	5	5	18	28	4.5	5	7.5	CONC	0	32.95	32.45	32.54	32.64	2%	33.10	4.8%	RESIDENTIAL
34	Princess	1+23	R	5	5	18	28	4.5	5	7.5	CONC	0	32.04	31.54	32.10	32.20	2%	32.84	7.2%	RESIDENTIAL
34	Princess	1+94	L	5	5	17	27	4.5	5	7.5	CONC	0	32.25	31.75	32.31	32.41	2%	33.18	8.9%	RESIDENTIAL
34	Princess	2+03	R	5	5	18	28	4.5	5	7.5	CONC	0	32.28	31.78	32.34	32.44	2%	33.07	7.0%	RESIDENTIAL
34	Princess	2+67	L	5	5	17	27	4.5	5	7.5	CONC	0	32.47	31.97	32.53	32.63	2%	33.26	7.0%	RESIDENTIAL
34	Princess	2+73	R	5	5	18	28	4.5	5	7.5	CONC	0	32.49	31.99	32.55	32.65	2%	33.22	6.2%	RESIDENTIAL
34	Princess	3+45	L	5	5	17	27	4.5	5	7.5	CONC	0	32.71	32.21	32.77	32.87	2%	33.56	7.8%	RESIDENTIAL
34	Princess	3+45	R	5	5	18	28	4.5	5	7.5	CONC	0	32.71	32.21	32.77	32.87	2%	33.83	11.4%	RESIDENTIAL
34	Princess	4+11	L	5	5	17	27	4.5	5	7.5	CONC	0	32.90	32.40	32.96	33.06	2%	33.73	7.6%	RESIDENTIAL
34	Princess	4+20	R	5	5	18	28	4.5	5	7.5	CONC	0	32.93	32.43	32.99	33.09	2%	33.45	3.4%	RESIDENTIAL
34	Princess	4+88	L	5	5	18	28	4.5	5	7.5	CONC	0	33.14	32.64	33.20	33.30	2%	33.88	6.4%	RESIDENTIAL
34	Princess	4+94	R	5	5	18	28	5.5	5	5.5	CONC	0	33.15	32.65	33.34	33.44	2%	33.66	2.2%	RESIDENTIAL
35	Princess	5+58	L	5	5	16	26	4.5	5	7.5	CONC	0	33.35	32.85	33.41	33.51	2%	33.75	1.8%	RESIDENTIAL
35	Princess	5+61	R	5	5	19	29	4.5	5	7.5	CONC	0	33.36	32.86	33.18	33.28	2%	33.61	3.1%	RESIDENTIAL
35	Princess	6+28	L	5	5	17	27	4.5	5	7.5	CONC	0	33.24	32.74	33.15	33.25	2%	33.51	2.2%	RESIDENTIAL
35	Princess	6+29	R	5	5	16	26	4.5	5	7.5	CONC	0	33.23	32.73	33.00	33.10	2%	33.36	2.1%	RESIDENTIAL
35	Princess	7+02	R	5	5	18	28	4.5	5	7.5	CONC	0	33.02	32.52	32.84	32.94	2%	33.26	3.0%	RESIDENTIAL
35	Princess	7+04	L	5	5	18	28	4.5	5	7.5	CONC	0	33.01	32.51	33.07	33.17	2%	33.51	3.2%	RESIDENTIAL
35	Princess	7+77	L	5	5	17	27	4.5	5	7.5	CONC	0	32.79	32.29	32.85	32.95	2%	33.16	1.4%	RESIDENTIAL
35	Princess	7+78	R	5	5	19	29	4.5	5	7.5	CONC	0	32.79	32.29	32.70	32.80	2%	33.10	2.7%	RESIDENTIAL
35	Princess	8+48	L	5	5	18	28	4.5	5	7.5	CONC	0	32.58	32.08	32.64	32.74	2%	33.13	3.8%	RESIDENTIAL
35	Princess	8+53	R	5	5	18	28	4.5	5	7.5	CONC	0	32.56	32.06	32.62	32.72	2%	33.01	2.5%	RESIDENTIAL
36	Princess	10+61	R	5	5	17	27	4.5	5	7.5	CONC	0	32.23	31.73	32.29	32.39	2%	32.76	3.6%	RESIDENTIAL
36	Princess	11+33	R	5	5	16	26	4.5	5	7.5	CONC	0	32.45	31.95	32.51	32.61	2%	32.80	1.2%	RESIDENTIAL
36	Princess	11+37	L	5	5	13	23	4.5	5	7.5	CONC	0	32.46	31.96	32.05	32.15	2%	32.75	6.7%	RESIDENTIAL
36	Princess	12+04	R	5	5	18	28	4.5	5	7.5	CONC	0	32.66	32.16	32.43	32.53	2%	32.74	1.5%	RESIDENTIAL
36	Princess	12+70	L	5	5	24	34	4.5	5	7.5	CONC	0	32.86	32.36	32.77	32.87	2%	33.07	1.4%	RESIDENTIAL
36	Princess	12+75	R	5	5	18	28	4.5	5	7.5	CONC	0	32.88	32.38	32.47	32.57	2%	33.21	7.2%	RESIDENTIAL
36	Princess	13+42	L	5	5	17	27	4.5	5	7.5	CONC	0	33.08	32.58	32.76	32.86	2%	33.17	2.8%	RESIDENTIAL
36	Princess	13+42	R	5	5	17	27	4.5	5	7.5	CONC	0	33.08	32.58	33.14	33.24	2%	33.44	1.3%	RESIDENTIAL
37	Princess	14+12	L	5	5	17	27	4.5	5	7.5	CONC	0	33.29	32.79	33.02	33.12	2%	33.37	2.1%	RESIDENTIAL
37	Princess	14+12	R	5	5	21	31	4.5	5	7.5	CONC	0	33.29	32.79	32.97	33.07	2%	33.31	1.9%	RESIDENTIAL
37	Princess	14+79	R	5	5	12	22	4.5	5	7.5	CONC	0	33.18	32.68	33.04	33.14	2%	33.49	3.3%	RESIDENTIAL
37	Princess	14+82	L	5	5	17	27	4.5	5	7.5	CONC	0	33.17	32.67	33.03	33.13	2%	33.47	3.2%	RESIDENTIAL
37	Princess	15+52	L	5	5	17	27	4.5	5	7.5	CONC	0	32.96	32.46	33.02	33.12	2%	33.40	2.4%	RESIDENTIAL
37	Princess	15+81	R	5	5	20	30	4.5	5	7.5	CONC	0	32.87	32.37	32.55	32.65	2%	33.90	15.3%	RESIDENTIAL



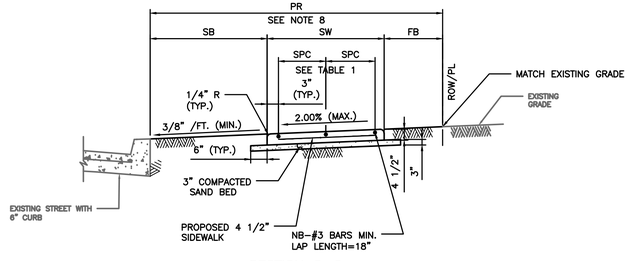
PLAN VIEW
DRIVEWAY



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY
WITH EXCESSIVE ELEVATION DIFFERENCE
WITH EXISTING SIDEWALK



SECTION B–B
TYPICAL DRIVEWAY SECTION



SECTION C–C
TYPICAL SIDEWALK SECTION

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40–552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. ALL JOINTS ALONG THE SIDEWALK SHALL BE CONSTRUCTED ACCORDING TO DRAWING 02752–02 AND SPECIFICATION 02752.
4. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS
5. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE AND INCLUDE 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
6. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
7. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
8. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
9. DETECTABLE WARNING SURFACES:
   - 9.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
     - 9.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD, OR TRAFFIC SIGNAL CONTROLLED; OR
     - 9.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
   - 9.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 9.3. REFER TO STANDARD DETAILS 02775–06 TO 02775–07 FOR DETECTABLE WARNING SURFACE STANDARDS.
10. ALL PROPOSED DRIVEWAYS WILL BE CONCRETE.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9000
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

DRIVEWAY SCHEDULE SHEET 1 OF 3

WBS NO. M–410006–0002–4

DRAWING SCALE
NOT TO SCALE

CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

SHEET NO. 67 OF 175

\\hrghua\data\85130030\cad\dwgs\c\driveway_schedule.dwg Plotted May 22, 2026 at 9:19 AM by Perez, Abel

SHEET NO.	STREET NAME	STATION	SIDE	DETAIL DIMENSIONS							EXISTING DRIVEWAY @ ROW	DRIVEWAY LENGTH REQ'D BEYOND ROW (T)	TOP OF CURB CENTERLINE ELEVATION	PROPOSED GUTTER ELEVATION (A) @ CL	PROPOSED S/W BOTT ELEVATION @ CL	PROPOSED S/W TOP ELEVATION @ CL	PROPOSED SLOPE % S/W @ CL	EXISTING ROW ELEVATION @ CL	PROPOSED SLOPE % TO ROW @ CL	DRIVEWAY SERVICE TO
				R1 FT	R2 FT	A FT	W FT	B FT	C FT	D FT										
38	Outlook	1+85	L	5	5	12	22	4.5	5	7.5	CONC	0	32.52	32.02	32.58	32.68	2%	33.48	9.3%	RESIDENTIAL
38	Outlook	1+93	R	5	5	17	27	4.5	5	7.5	CONC	0	32.54	32.04	32.60	32.70	2%	33.73	12.4%	RESIDENTIAL
38	Outlook	2+63	R	5	5	17	27	4.5	5	7.5	CONC	0	32.76	32.26	32.82	32.92	2%	33.84	10.9%	RESIDENTIAL
38	Outlook	2+67	L	5	5	12	22	4.5	5	7.5	CONC	0	32.77	32.27	32.83	32.93	2%	33.85	10.9%	RESIDENTIAL
38	Outlook	3+34	R	5	5	16	26	6.5	5	5.5	CONC	0	32.97	32.47	33.28	33.38	2%	33.89	7.4%	RESIDENTIAL
38	Outlook	3+68	L	5	5	12	22	7	5	5	CONC	0	33.07	32.57	33.20	33.30	2%	33.56	3.2%	RESIDENTIAL
38	Outlook	4+07	R	5	5	17	27	4.5	5	7.5	CONC	0	33.19	32.69	33.25	33.35	2%	33.87	5.6%	RESIDENTIAL
38	Outlook	4+67	R	5	5	12	22	4.5	5	7.5	CONC	0	33.37	32.87	32.96	33.06	2%	33.67	6.8%	RESIDENTIAL
38	Outlook	4+82	L	5	5	17	27	7.3	5	4.77	CONC	0	33.41	32.91	33.28	33.38	2%	33.67	4.1%	RESIDENTIAL
39	Outlook	5+38	R	5	5	12	22	4.5	5	7.5	CONC	0	33.42	32.92	33.33	33.43	2%	33.66	1.8%	RESIDENTIAL
39	Outlook	5+46	L	5	5	17	27	4.5	5	7.5	CONC	0	33.40	32.90	33.46	33.56	2%	33.88	2.9%	RESIDENTIAL
39	Outlook	6+17	L	5	5	17	27	4.5	5	7.5	CONC	0	33.19	32.69	33.25	33.35	2%	33.90	6.0%	RESIDENTIAL
39	Outlook	6+64	R	5	5	12	22	4.5	5	7.5	CONC	0	33.05	32.55	33.11	33.21	2%	33.73	5.6%	RESIDENTIAL
39	Outlook	6+76	L	5	5	12	22	4.5	5	7.5	CONC	0	33.01	32.51	33.07	33.17	2%	33.70	5.7%	RESIDENTIAL
39	Outlook	6+93	R	5	5	17	27	4.5	5	7.5	CONC	0	32.96	32.46	33.02	33.12	2%	33.88	8.8%	RESIDENTIAL
39	Outlook	7+51	R	5	5	12	22	4.5	5	7.5	CONC	0	32.79	32.29	32.85	32.95	2%	33.58	7.0%	RESIDENTIAL
39	Outlook	8+00	L	5	5	12	22	4.5	5	7.5	CONC	0	32.64	32.14	32.70	32.80	2%	33.58	9.0%	RESIDENTIAL
40	Outlook	8+34	L	5	5	18	28	4.5	5	7.5	CONC	0	32.55	32.05	32.61	32.71	2%	33.52	9.4%	RESIDENTIAL
40	Outlook	10+40	L	5	5	19	29	4.5	5	7.5	CONC	0	32.65	32.15	32.71	32.81	2%	33.39	6.4%	RESIDENTIAL
40	Outlook	10+41	R	5	5	18	28	4.5	5	7.5	CONC	0	32.65	32.15	32.71	32.81	2%	33.64	9.7%	RESIDENTIAL
40	Outlook	11+10	L	5	5	16	26	4.5	5	7.5	CONC	0	32.85	32.35	32.91	33.01	2%	33.27	2.1%	RESIDENTIAL
40	Outlook	11+10	R	5	5	17	27	7	5	5	CONC	0	32.85	32.35	33.05	33.15	2%	33.44	3.8%	RESIDENTIAL
40	Outlook	11+79	L	5	5	17	27	4.5	5	7.5	CONC	0	33.06	32.56	33.12	33.22	2%	33.59	3.6%	RESIDENTIAL
40	Outlook	11+81	R	5	5	19	29	4.5	5	7.5	CONC	0	33.07	32.57	33.13	33.23	2%	33.72	5.2%	RESIDENTIAL
40	Outlook	12+50	L	5	5	17	27	4.5	5	7.5	CONC	0	33.28	32.78	33.34	33.44	2%	34.15	8.1%	RESIDENTIAL
40	Outlook	12+52	R	5	5	20	30	4.5	5	7.5	CONC	0	33.28	32.78	33.34	33.44	2%	33.89	4.6%	RESIDENTIAL
41	Outlook	13+11	R	5	5	12	22	7	5	5	CONC	0	33.27	32.77	33.65	33.75	2%	34.17	6.5%	RESIDENTIAL
41	Outlook	13+23	L	5	5	18	28	4.5	5	7.5	CONC	0	33.23	32.73	33.29	33.39	2%	34.16	8.9%	RESIDENTIAL
41	Outlook	13+90	L	5	5	21	31	4.5	5	7.5	CONC	0	33.03	32.53	33.09	33.19	2%	34.12	11.0%	RESIDENTIAL
41	Outlook	14+52	R	5	5	17	27	4.5	5	7.5	CONC	0	32.85	32.35	32.91	33.01	2%	34.05	12.5%	RESIDENTIAL
42	Ravenhead	1+79	L	5	5	12	22	4.5	5	7.5	CONC	0	32.38	31.88	32.44	32.54	2%	33.38	9.8%	RESIDENTIAL
42	Ravenhead	1+91	R	5	5	12	22	4.5	5	7.5	CONC	0	32.41	31.91	32.47	32.57	2%	33.40	9.7%	RESIDENTIAL
42	Ravenhead	2+57	L	5	5	18	28	4.5	5	7.5	CONC	0	32.45	31.95	32.51	32.61	2%	33.87	15.4%	RESIDENTIAL
42	Ravenhead	2+69	R	5	5	12	22	4.5	5	7.5	CONC	0	32.41	31.91	32.47	32.57	2%	33.53	11.4%	RESIDENTIAL
42	Ravenhead	3+25	L	5	5	18	28	4.5	5	7.5	CONC	**5**	32.24	31.74	32.30	32.40	2%	34.15	13.2%	RESIDENTIAL
42	Ravenhead	3+44	R	5	5	12	22	4.5	5	7.5	CONC	0	32.18	31.68	32.24	32.34	2%	33.68	16.5%	RESIDENTIAL
42	Ravenhead	3+93	L	5	5	17	27	4.5	5	7.5	CONC	**5**	32.28	31.78	32.34	32.44	2%	34.18	13.1%	RESIDENTIAL
42	Ravenhead	4+30	R	5	5	18	28	4.5	5	7.5	CONC	0	32.40	31.90	32.46	32.56	2%	33.58	12.2%	RESIDENTIAL
42	Ravenhead	4+55	L	5	5	12	22	4.5	5	7.5	CONC	0	32.48	31.98	32.54	32.64	2%	33.61	11.6%	RESIDENTIAL
44	Ravenhead	5+08	R	5	5	19	29	10.5	5	1.5	CONC	**5**	32.49	31.99	33.30	33.40	2%	33.90	6.1%	RESIDENTIAL
44	Ravenhead	5+23	L	5	5	12	22	4.5	5	7.5	CONC	0	32.44	31.94	32.50	32.60	2%	33.87	15.6%	RESIDENTIAL
44	Ravenhead	5+70	R	5	5	12	22	10.5	5	1.3	CONC	**5**	32.30	31.80	33.11	33.21	2%	33.76	7.1%	RESIDENTIAL
44	Ravenhead	6+54	L	5	5	22	32	4.5	5	7.5	CONC	0	32.33	31.83	32.39	32.49	2%	33.31	9.6%	RESIDENTIAL
44	Ravenhead	6+58	R	5	5	17	27	4.5	5	7.5	CONC	0	32.35	31.85	32.41	32.51	2%	33.80	15.8%	RESIDENTIAL
44	Ravenhead	9+48	L	5	5	17	27	9.5	5	2.5	CONC	0	32.60	32.10	32.77	32.87	2%	33.02	2.2%	RESIDENTIAL
44	Ravenhead	9+50	R	5	5	20	30	4.5	5	7.5	CONC	0	32.60	32.10	32.66	32.76	2%	33.30	5.8%	RESIDENTIAL
45	Ravenhead	10+19	R	5	5	19	29	4.5	5	7.5	CONC	0	32.81	32.31	32.87	32.97	2%	33.44	4.9%	RESIDENTIAL
45	Ravenhead	10+58	L	5	5	17	27	9.5	5	2.5	CONC	0	32.93	32.43	33.38	33.48	2%	33.68	4.0%	RESIDENTIAL
45	Ravenhead	10+79	R	5	5	12	22	4.5	5	7.5	CONC	0	33.00	32.50	33.06	33.16	2%	33.36	1.3%	RESIDENTIAL
45	Ravenhead	10+89	L	5	5	18	28	9.5	5	2.5	CONC	0	33.02	32.52	33.38	33.48	2%	33.74	6.6%	RESIDENTIAL
45	Ravenhead	11+48	R	5	5	12	22	4.5	5	7.5	CONC	0	33.19	32.69	33.25	33.35	2%	33.97	6.9%	RESIDENTIAL
45	Ravenhead	11+63	L	5	5	18	28	4.5	5	7.5	CONC	0	33.24	32.74	33.30	33.40	2%	33.64	1.8%	RESIDENTIAL
45	Ravenhead	12+18	L	5	5	12	22	4.5	5	7.5	CONC	0	33.25	32.75	33.31	33.41	2%	33.73	2.9%	RESIDENTIAL
45	Ravenhead	12+28	R	5	5	18	28	4.5	5	7.5	CONC	0	33.21	32.71	33.27	33.37	2%	33.94	6.2%	RESIDENTIAL
45	Ravenhead	12+98	L	5	5	17	27	10.5	5	1.5	CONC	0	33.00	32.50	33.81	33.91	2%	34.15	9.2%	RESIDENTIAL
45	Ravenhead	12+98	R	5	5	18	28	4.5	5	7.5	CONC	0	33.00	32.50	33.06	33.16	2%	34.26	13.3%	RESIDENTIAL
46	Viceroy	1+91	L	5	5	12	22	4.5	5	7.5	CONC	0	32.43	31.93	32.49	32.59	2%	33.22	7.0%	RESIDENTIAL
46	Viceroy	1+91	R	5	5	12	22	4.5	5	7.5	CONC	0	32.43	31.93	32.49	32.59	2%	33.34	8.6%	RESIDENTIAL
46	Viceroy	2+64	L	5	5	12	22	4.5	5	7.5	CONC	0	32.19	31.69	32.25	32.35	2%	32.58	1.7%	RESIDENTIAL
46	Viceroy	2+65	R	5	5	12	22	4.5	5	7.5	CONC	0	32.19	31.69	32.25	32.35	2%	33.40	12.6%	RESIDENTIAL
46	Viceroy	3+35	L	5	5	12	22	4.5	5	7.5	CONC	0	32.40	31.90	32.13	32.23	2%	32.53	2.7%	RESIDENTIAL
46	Viceroy	3+58	R	5	5	12	22	4.5	5	7.5	CONC	0	32.47	31.97	32.53	32.63	2%	33.74	13.4%	RESIDENTIAL
46	Viceroy	4+11	L	5	5	12	22	4.5	5	7.5	CONC	0	32.63	32.13	32.69	32.79	2%	33.70	10.8%	RESIDENTIAL
46	Viceroy	4+52	R	5	5	12	22	4.5	5	7.5	CONC	0	32.75	32.25	32.81	32.91	2%	33.70	9.2%	RESIDENTIAL
46	Viceroy	4+83	L	5	5	13	23	4.5	5	7.5	CONC	0	32.85	32.35	32.91	33.01	2%	33.85	9.8%	RESIDENTIAL
47	Viceroy	5+32	R	5	5	12	22	4.5	5	7.5	CONC	0	32.99	32.49	33.05	33.15	2%	33.42	2.2%	RESIDENTIAL
47	Viceroy	5+56	L	5	5	12	22	4.5	5	7.5	CONC	0	32.99	32.49	33.05	33.15	2%	33.54	3.8%	RESIDENTIAL
47	Viceroy	6+05	R	5	5	12	22	4.5	5	7.5	CONC	0	32.84	32.34	32.90	33.00	2%	33.42	4.2%	RESIDENTIAL
47	Viceroy	7+00	R	5	5	12	22	4.5	5	7.5	CONC	0	32.56	32.06	32.62	32.72	2%	33.15	4.4%	RESIDENTIAL
47	Viceroy	8+21	R	5	5	21	31	4.5	5	7.5	CONC	0	32.59	32.09	32.65	32.75	2%	33.48	8.4%	RESIDENTIAL
47	Viceroy	8+39	R	5	5	12	22	4.5	5	7.5	CONC	0	32.59	32.09	32.65	32.75	2%	33.38	7.1%	RESIDENTIAL
47	Viceroy	8+47	L	5	5	12	22	4.5	5	7.5	CONC	0	32.63	32.13	32.69	32.79	2%	33.45	7.4%	RESIDENTIAL
47	Viceroy	9+20	L	5	5	12	22	4.5	5	7.5	CONC	0	32.85	32.35	32.91	33.01	2%	33.55	5.8%	RESIDENTIAL
47	Viceroy	9+25	R	5	5	20	30	9.5	5	2.5	CONC	0	32.86	32.36	33.31	33.41	2%	33.67	6.4%	RESIDENTIAL
47	Viceroy	9+86	R	5	5	12	22	4.5	5	7.5	CONC	0	33.04	32.54	33.10	33.20	2%	33.45	2.0%	RESIDENTIAL
47	Viceroy	9+95	L	5	5	18	28	4.5	5	7.5	CONC	0	33.04	32.54	33.10	33.20	2%	33.53	3.0%	RESIDENTIAL
48	Viceroy	10+63	R	5	5	22	32	4.5	5	7.5	CONC	0	32.83	32.33	32.89	32.99	2%	33.36	3.6%	RESIDENTIAL
48	Viceroy	11+08	L	5	5	12	22	4.5	5	7.5	CONC	0	32.71	32.21	32.77	32.87	2%	33.82	11.3%	RESIDENTIAL
48	Viceroy	11+29	L	5	5	12	22	4.5	5	7.5	CONC	0	32.65	32.15	32.71	32.81	2%	33.85	12.5%	RESIDENTIAL
48	Viceroy	11+35	R	5	5	19	29	4.5	5	7.5	CONC	0	32.62	32.12	32.68	32.78	2%	33.45	7.6%	RESIDENTIAL
48	Viceroy	12+06	L	5	5	18	28	4.5	5	7.5	CONC	0	32.72	32.22	32.78	32.88	2%	33.54	7.4%	RESIDENTIAL
48	Viceroy	12+50	R	5	5	12	22	4.5	5	7.5	CONC	0	32.85	32.35	32.91	33.01	2%	33.39	3.7%	RESIDENTIAL
48	Viceroy	14+95	L	5	5	24	34	4.5	5	7.5	CONC	0	33.21	32.71	33.27	33.37	2%	33.61	1.8%	RESIDENTIAL
49	Viceroy	15+38	L	5	5	15	25	4.5	5	7.5	NR	0	33.37	32.87	33.43	33.53	2%	33.89	3.4%	RESIDENTIAL
49	Viceroy	15+51	R	5	5	30	40	4.5	5	7.5	ASPH	0	33.41	32.91	33.47	33.57	2%	33.73	0.8%	RESIDENTIAL
49	Viceroy	15+74	L	5	5	15	25	4.5	5	7.5	CONC	0	33.50	33.00	33.56	33.66	2%	34.13	4.9%	RESIDENTIAL
49	Viceroy	16+74	R	5	5	35	45	4.5	5	7.5	CONC	0	33.61	33.11	33.67	33.77	2%	34.43	7.4%	RESIDENTIAL
49	Viceroy	16+89	L	5	5	35	45	4.5	5	7.5	ASPH	0	33.54	33.04	33.49	33.59	2%	33.84	2.0%	RESIDENTIAL

NOTE:
1. FOR DRIVEWAY NOTES AND DETAILS, SEE DRIVEWAY TABLE SHEET 1 OF 3 (SHEET 67)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.5006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

DRIVEWAY SCHEDULE SHEET 2 OF 3

WBS NO. M-410006-0002-4

DRAWING SCALE
NOT TO SCALE

CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

SHEET NO. 68 OF 175

No.	Date	Revisions	Appv.

\\hrghus\data\85130030\cad\dwgs\c\driveway_schedule.dwg Plotted May 22, 2026 at 9:27 AM by Perez, Abel

SHEET NO.	STREET NAME	STATION	SIDE	DETAIL DIMENSIONS							EXISTING DRIVEWAY @ ROW	DRIVEWAY LENGTH REQ'D BEYOND ROW (1)	TOP OF CURB CENTERLINE ELEVATION	PROPOSED GUTTER	PROPOSED S/W BOTT	PROPOSED S/W TOP	PROPOSED SLOPE % S/W	EXISTING ROW	PROPOSED SLOPE % TO ROW	DRIVEWAY SERVICE TO
				R1 FT	R2 FT	A FT	W FT	B FT	C FT	D FT				ELEVATION (A) @ CL	ELEVATION @ CL	ELEVATION @ CL	@ CL	ELEVATION @ CL	@ CL	
50	Coronation	1+83	L	5	5	12	22	4.5	5	7.5	CONC	0	31.81	31.31	31.87	31.97	2%	33.26	15.8%	RESIDENTIAL
50	Coronation	1+98	R	5	5	17	27	9.5	5	2.5	CONC	0	31.86	31.36	32.55	32.65	2%	33.03	11.3%	RESIDENTIAL
50	Coronation	2+51	L	5	5	12	22	9.3	5	2.6	CONC	0	32.02	31.52	32.68	32.78	2%	33.01	4.9%	RESIDENTIAL
50	Coronation	2+63	R	5	5	12	22	9.5	5	2.5	CONC	0	32.06	31.56	32.32	32.42	2%	32.68	6.4%	RESIDENTIAL
50	Coronation	3+20	L	5	5	12	22	9.3	5	2.7	CONC	0	32.23	31.73	32.47	32.57	2%	32.85	6.5%	RESIDENTIAL
50	Coronation	3+37	R	5	5	12	22	9.5	5	2.5	CONC	0	32.28	31.78	32.97	33.07	2%	33.37	8.1%	RESIDENTIAL
50	Coronation	3+90	L	5	5	12	22	9.2	5	2.8	CONC	0	32.40	31.90	32.45	32.55	2%	32.79	4.9%	RESIDENTIAL
50	Coronation	4+50	R	5	5	13	23	4.5	5	7.5	CONC	0	32.22	31.72	32.28	32.38	2%	32.70	2.9%	RESIDENTIAL
50	Coronation	4+60	L	5	5	12	22	9.2	5	2.8	CONC	0	32.19	31.69	32.33	32.43	2%	32.66	4.5%	RESIDENTIAL
51	Coronation	5+31	L	5	5	12	22	4.5	5	7.5	CONC	0	31.97	31.47	32.03	32.13	2%	32.54	4.1%	RESIDENTIAL
51	Coronation	5+47	R	5	5	12	22	4.5	5	7.5	CONC	0	31.93	31.43	31.99	32.09	2%	32.34	2.0%	RESIDENTIAL
51	Coronation	6+01	L	5	5	12	22	4.5	5	7.5	CONC	0	31.77	31.27	31.83	31.93	2%	33.00	12.9%	RESIDENTIAL
51	Coronation	6+27	R	5	5	16	26	4.5	5	7.5	CONC	0	31.69	31.19	31.75	31.85	2%	32.34	5.2%	RESIDENTIAL
51	Coronation	6+83	R	5	5	12	22	4.5	5	7.5	CONC	0	31.68	31.18	31.74	31.84	2%	32.33	5.2%	RESIDENTIAL
51	Coronation	6+88	L	5	5	17	27	4.5	5	7.5	CONC	0	31.70	31.20	31.76	31.86	2%	33.01	14.0%	RESIDENTIAL
51	Coronation	7+53	L	5	5	12	22	4.5	5	7.5	CONC	0	31.89	31.39	31.95	32.05	2%	32.74	7.8%	RESIDENTIAL
51	Coronation	7+62	R	5	5	23	33	4.5	5	7.5	CONC	0	31.92	31.42	31.98	32.08	2%	32.53	4.6%	RESIDENTIAL
51	Coronation	8+29	L	5	5	18	28	4.5	5	7.5	CONC	0	32.12	31.62	32.18	32.28	2%	33.09	9.4%	RESIDENTIAL
51	Coronation	8+29	R	5	5	19	29	4.5	5	7.5	CONC	0	32.12	31.62	32.18	32.28	2%	32.65	3.6%	RESIDENTIAL
51	Coronation	8+90	L	5	5	12	22	9.5	5	2.5	CONC	0	32.30	31.80	32.75	32.85	2%	33.02	2.8%	RESIDENTIAL
51	Coronation	9+00	R	5	5	18	28	4.5	5	7.5	CONC	0	32.33	31.83	32.39	32.49	2%	32.76	2.2%	RESIDENTIAL
51	Coronation	9+63	L	5	5	12	22	4.5	5	7.5	CONC	0	32.52	32.02	32.58	32.68	2%	33.39	8.1%	RESIDENTIAL
51	Coronation	9+71	R	5	5	17	27	4.5	5	7.5	CONC	0	32.55	32.05	32.61	32.71	2%	32.98	2.2%	RESIDENTIAL
52	Coronation	10+34	L	5	5	12	22	4.5	5	7.5	CONC	0	32.62	32.12	32.68	32.78	2%	33.45	7.6%	RESIDENTIAL
52	Coronation	10+41	R	5	5	17	27	4.5	5	7.5	CONC	0	32.60	32.10	32.66	32.76	2%	33.29	5.7%	RESIDENTIAL
52	Coronation	11+03	R	5	5	12	22	4.5	5	7.5	CONC	0	32.42	31.92	32.48	32.58	2%	33.06	5.0%	RESIDENTIAL
52	Coronation	11+04	L	5	5	12	22	4.5	5	7.5	CONC	0	32.41	31.91	32.47	32.57	2%	33.23	7.4%	RESIDENTIAL
53	Parliament	1+80	L	5	5	18	28	4.5	5	7.5	CONC	0	32.04	31.54	32.10	32.20	2%	32.81	6.8%	RESIDENTIAL
53	Parliament	1+86	R	5	5	24	34	9.5	5	2.4	CONC	**5**	32.06	31.56	32.75	32.85	2%	33.39	6.0%	RESIDENTIAL
53	Parliament	2+23	R	5	5	12	22	9.5	5	2.5	CONC	0	32.15	31.65	32.60	32.70	2%	32.93	5.2%	RESIDENTIAL
53	Parliament	2+49	L	5	5	19	29	4.5	5	7.5	CONC	0	32.24	31.74	32.30	32.40	2%	33.26	10.1%	RESIDENTIAL
53	Parliament	2+95	R	5	5	12	22	9.5	5	2.5	CONC	0	32.38	31.88	32.93	33.03	2%	33.21	3.4%	RESIDENTIAL
53	Parliament	3+13	L	5	5	12	22	4.5	5	7.5	CONC	0	32.44	31.94	32.50	32.60	2%	33.14	5.8%	RESIDENTIAL
53	Parliament	3+71	R	5	5	12	22	4.5	5	7.5	CONC	0	32.61	32.11	32.67	32.77	2%	32.95	1.0%	RESIDENTIAL
53	Parliament	3+84	L	5	5	18	28	4.5	5	7.5	CONC	0	32.65	32.15	32.71	32.81	2%	33.23	4.2%	RESIDENTIAL
53	Parliament	4+46	L	5	5	12	22	4.5	5	7.5	CONC	0	32.83	32.33	32.89	32.99	2%	33.10	0.1%	RESIDENTIAL
53	Parliament	4+46	R	5	5	12	22	4.5	5	7.5	CONC	0	32.83	32.33	32.65	32.75	2%	33.07	3.0%	RESIDENTIAL
54	Parliament	5+16	L	5	5	12	22	4.5	5	7.5	CONC	0	33.02	32.52	33.08	33.18	2%	33.56	3.7%	RESIDENTIAL
54	Parliament	5+17	R	5	5	12	22	4.5	5	7.5	CONC	0	33.02	32.52	32.70	32.80	2%	33.06	2.1%	RESIDENTIAL
54	Parliament	5+86	L	5	5	12	22	4.5	5	7.5	CONC	0	32.81	32.31	32.87	32.97	2%	33.23	2.1%	RESIDENTIAL
54	Parliament	6+39	R	5	5	12	22	4.5	5	7.5	CONC	0	32.65	32.15	32.71	32.81	2%	33.26	4.6%	RESIDENTIAL
54	Parliament	6+56	L	5	5	12	22	4.5	5	7.5	CONC	0	32.60	32.10	32.66	32.76	2%	33.14	3.7%	RESIDENTIAL
54	Parliament	6+56	R	5	5	12	22	4.5	5	7.5	CONC	0	32.60	32.10	32.66	32.76	2%	33.22	4.8%	RESIDENTIAL
54	Parliament	7+25	R	5	5	12	22	7.5	5	4.5	CONC	0	32.39	31.89	32.83	32.93	2%	33.21	4.1%	RESIDENTIAL
54	Parliament	7+27	L	5	5	12	22	4.5	5	7.5	CONC	0	32.39	31.89	32.45	32.55	2%	33.14	6.5%	RESIDENTIAL
54	Parliament	7+94	R	5	5	12	22	4.5	5	7.5	CONC	0	32.19	31.69	32.25	32.35	2%	32.90	6.0%	RESIDENTIAL
54	Parliament	7+98	L	5	5	12	22	4.5	5	7.5	CONC	0	32.17	31.67	32.23	32.33	2%	33.14	9.4%	RESIDENTIAL
54	Parliament	8+65	L	5	5	12	22	4.5	5	7.5	CONC	0	31.97	31.47	32.03	32.13	2%	33.01	10.4%	RESIDENTIAL
54	Parliament	8+67	R	5	5	12	22	4.5	5	7.5	CONC	0	31.97	31.47	32.03	32.13	2%	32.52	3.8%	RESIDENTIAL
54	Parliament	9+33	R	5	5	12	22	4.5	5	7.5	CONC	0	31.77	31.27	31.83	31.93	2%	32.34	4.1%	RESIDENTIAL
54	Parliament	9+35	L	5	5	12	22	4.5	5	7.5	CONC	0	31.76	31.26	31.82	31.92	2%	32.70	9.0%	RESIDENTIAL
55	Parliament	10+04	R	5	5	13	23	4.5	5	7.5	CONC	0	31.56	31.06	31.62	31.72	2%	32.53	9.4%	RESIDENTIAL
55	Parliament	10+08	L	5	5	12	22	4.5	5	7.5	CONC	0	31.54	31.04	31.60	31.70	2%	32.37	7.6%	RESIDENTIAL
56	Darlene	2+11	L	5	5	18	28	7	5	5	CONC	0	32.47	31.97	32.85	32.95	2%	33.68	12.7%	RESIDENTIAL
56	Darlene	2+13	R	5	5	12	22	4.5	5	7.5	CONC	0	32.48	31.98	32.54	32.64	2%	33.48	9.8%	RESIDENTIAL
56	Darlene	2+56	L	5	5	18	28	7	5	5	CONC	0	32.57	32.07	32.56	32.66	2%	33.13	7.4%	RESIDENTIAL
56	Darlene	2+74	R	5	5	17	27	4.5	5	7.5	CONC	**5**	32.49	31.99	32.55	32.65	2%	34.05	10.4%	RESIDENTIAL
56	Darlene	4+46	R	5	5	18	28	4.5	5	7.5	CONC	**5**	32.35	31.85	32.41	32.51	2%	34.50	15.1%	RESIDENTIAL
56	Darlene	4+50	L	5	5	18	28	4.5	5	7.5	CONC	**5**	32.36	31.86	32.42	32.52	2%	33.92	10.4%	RESIDENTIAL
57	Darlene	5+57	L	5	5	18	28	4.5	5	7.5	CONC	0	32.52	32.02	32.58	32.68	2%	33.40	8.2%	RESIDENTIAL
57	Darlene	5+83	R	5	5	18	28	4.5	5	7.5	CONC	**5**	32.39	31.89	32.45	32.55	2%	34.11	11.7%	RESIDENTIAL
57	Darlene	7+37	R	5	5	17	27	4.5	5	7.5	CONC	**5**	32.32	31.82	32.38	32.48	2%	34.04	11.7%	RESIDENTIAL
57	Darlene	8+38	L	5	5	16	26	4.5	5	7.5	CONC	0	32.33	31.83	32.39	32.49	2%	33.43	11.2%	RESIDENTIAL
58	Darlene	10+48	L	5	5	18	28	4.5	5	7.5	CONC	0	32.39	31.89	32.45	32.55	2%	33.32	8.9%	RESIDENTIAL
58	Darlene	10+54	R	5	5	17	27	4.5	5	7.5	CONC	0	32.42	31.92	32.48	32.58	2%	33.95	16.9%	RESIDENTIAL
58	Darlene	10+96	L	5	5	17	27	4.5	5	7.5	CONC	0	32.28	31.78	32.34	32.44	2%	33.33	10.5%	RESIDENTIAL
58	Darlene	11+37	R	5	5	24	34	4.5	5	7.5	CONC	0	32.10	31.60	32.16	32.26	2%	33.04	9.0%	RESIDENTIAL

SHEET NO.	STREET NAME	STATION	SIDE	DETAIL DIMENSIONS							EXISTING DRIVEWAY @ ROW	DRIVEWAY LENGTH REQ'D BEYOND ROW (1)	TOP OF CURB CENTERLINE ELEVATION	PROPOSED GUTTER	PROPOSED S/W BOTT	PROPOSED S/W TOP	PROPOSED SLOPE % S/W	EXISTING ROW	PROPOSED SLOPE % TO ROW	DRIVEWAY SERVICE TO
				R1 FT	R2 FT	A FT	W FT	B FT	C FT	D FT				ELEVATION (A) @ CL	ELEVATION @ CL	ELEVATION @ CL	@ CL	ELEVATION @ CL	@ CL	
59	Freeton	1+20	R	5	5	12	22	4.5	5	7.5	CONC	0	32.51	32.01	32.10	32.20	2%	32.82	6.9%	RESIDENTIAL
59	Freeton	1+62	L	5	5	24	34	9.5	5	2.5	CONC	0	32.36	31.86	32.43	32.53	2%	32.87	9.6%	RESIDENTIAL
59	Freeton	1+91	R	5	5	12	22	4.5	5	7.5	CONC	0	32.25	31.75	32.31	32.41	2%	32.89	5.0%	RESIDENTIAL
59	Freeton	3+11	R	5	5	12	22	4.5	5	7.5	CONC	0	32.01	31.51	32.07	32.17	2%	32.74	6.2%	RESIDENTIAL
59	Freeton	3+39	R	5	5	17	27	4.5	5	7.5	CONC	0	32.11	31.61	32.17	32.27	2%	32.87	6.6%	RESIDENTIAL
59	Freeton	3+93	L	5	5	17	27	4.5	5	7.5	CONC	0	32.25	31.75	32.31	32.41	2%	33.19	9.0%	RESIDENTIAL
59	Freeton	4+42	R	5	5	18	28	4.5	5	7.5	CONC	0	32.41	31.91	32.47	32.57	2%	33.19	6.9%	RESIDENTIAL
59	Freeton	4+72	L	5	5	30	40	9.5	5	2.5	CONC	**5**	32.45	31.95	33.14	33.24	2%	34.03	9.2%	RESIDENTIAL
60	Freeton	5+19	R	5	5	18	28	4.5	5	7.5	CONC	0	32.54	32.04	32.60	32.70	2%	33.24	5.8%	RESIDENTIAL
60	Freeton	6+06	R	5	5	12	22	4.5	5	7.5	CONC	0	32.20	31.70	32.26	32.36	2%	33.61	15.3%	RESIDENTIAL
60	Freeton	6+72	R	5	5	18	28	4.5	5	7.5	CONC	0	32.53	32.03	32.59	32.69	2%	33.82	13.7%	RESIDENTIAL
60	Freeton	7+01	L	5	5	20	30	9.75	5	2.25	CONC	**5**	32.68	32.18	33.40	33.50	2%	34.53	12.8%	RESIDENTIAL
60	Freeton	7+45	R	5	5	17	27	4.5	5	7.5	CONC	0	32.87	32.37	32.93	33.03	2%	33.60	6.2%	RESIDENTIAL
60	Freeton	7+68	L	5	5	20	30	4.5	5	7.5	CONC	**5**	32.78	32.28	32.84	32.94	2%	35.10	16.5%	RESIDENTIAL
60	Freeton	8+21	R	5	5	18	28	4.5	5	7.5	CONC	0	32.56	32.06	32.62	32.72	2%	33.96	15.2%	RESIDENTIAL
60	Freeton	9+87	L	5	5	24	34	4.5	5	7.5	CONC	**5**	32.88	32.38	32.94	33.04	2%	34.96	14.5%	RESIDENTIAL
61	Freeton	10+41	R	5	5	17	27	4.5	5	7.5	CONC	0	33.15	32.65	33.21	33.31	2%	34.17	10.1%	RESIDENTIAL
61	Freeton	10+83	L	5	5	17	27	4.5	5	7.5	CONC	**5**	33.07	32.57	33.13	33.23	2%	34.99	13.3%	RESIDENTIAL
61	Freeton	11+10	R	5	5	17	27	4.5	5	7.5	CONC	0	32.95	32.45	33.01	33.11	2%	34.46	16.6%	RESIDENTIAL
61	Freeton	11+84	R	5	5	12	22	4.5	5	7.5	CONC	0	32.96	32.46	33.02	33.12	2%	34.28	14.1%	RESIDENTIAL
61	Freeton	12+55	R	5	5	12	22	4.5	5	7.5	CONC	0	33.25	32.75	33.31	33.41	2%	34.14	8.4%	RESIDENTIAL
61	Freeton	12+73	L	5	5	24	34	7	5	5	CONC	**5**	33.33	32.83	33.71	33.81	2%	34.93	10.3%	RESIDENTIAL
61	Freeton	13+15	R	5	5	17	27	4.5	5	7.5	PEBBLE	0	33.30	32.80	33.36	33.46	2%	34.15	7.8%	RESIDENTIAL
61	Freeton	13+95	R	5	5	12	22	4.5	5	7.5	PEBBLE	0	32.99	32.49	33.05	33.15	2%	34.32	14.2%	RESIDENTIAL
61	Freeton	14+56	R	5	5	17	27	4.5	5	7.5	CONC	0	32.93	32.43	32.99	33.09	2%	34.28	14.5%	RESIDENTIAL
62	Freeton	15+36	R	5	5	12	22	4.5	5	7.5	CONC	0	33.18	32.68	33.24	33.34	2%	34.28	11.2%	RESIDENTIAL
62	Freeton	15+50	L	5	5	18	28	4.5	5	7.5	CONC	**5**	33.22	32.72	33.28	33.38	2%	34.78	10.4%	RESIDENTIAL
62	Freeton	15+61	R	5	5	18	28	4.5	5	7.5	CONC	**5**	33.25	32.75	33.31	33.41	2%	34.57	14.1%	RESIDENTIAL
62	Freeton	16+29	R	5	5	16	26	4.5	5	7.5	CONC	0	33.37	32.87	33.43	33.53	2%	33.93	4.0%	RESIDENTIAL
62	Freeton	16+45	L	5	5	17	27	4.5	5	7.5	CONC	0	33.31	32.81	33.37	33.47	2%	34.13	7.4%	RESIDENTIAL
62	Freeton	17+40	R	5	5	17	27	4.5	5	7.5	CONC	0	33.06	32.56	33.12	33.22	2%	33.87	7.3%	RESIDENTIAL
62	Freeton	18+11	R	5	5	17	27	4.5	5	7.5	CONC	0	33.27	32.77	33.33	33.43	2%	34.27	9.8%	RESIDENTIAL
62	Freeton	18+76	R	5	5	17	27	4.5	5	7.5	CONC	0	33.47	32.97	33.53	33.63	2%	33.95	2.9%	RESIDENTIAL
63	Freeton	19+25	L	5	5	17	27	4.5	5	7.5	CONC	0	32.85	32.35	32.91	33.01	2%	33.79	9.0%	RESIDENTIAL
63	Freeton	19+50	R	5	5	24	34	4.5	5	7.5	CONC	0	32.70	32.20	32.76	32.86	2%	33.73	10.2%	RESIDENTIAL
63	Freeton	20+21	R	5	5	24	34	4.5	5	7.5	CONC	0	32.48	31.98	32.54	32.64	2%	33.58	11.2%	RESIDENTIAL
63	Freeton	20+86	R	5	5	18	28	4.5	5	7.5	CONC	0	32.74	32.24	32.80	32.90	2%	33.61	8.1%	RESIDENTIAL
63	Freeton	21+11	L	5	5	18	28	4.5	5	7.5	CONC	0	32.84	32.34	32.90	33.00	2%	33.36	3.4%	RESIDENTIAL
63	Freeton	21+57	R	5	5	18	28	4.5	5	7.5	CONC	0	32.89	32.39	32.95	33.05	2%	33.64	6.5%	RESIDENTIAL

NOTE:
1. FOR DRIVEWAY NOTES AND DETAILS, SEE DRIVEWAY TABLE SHEET 1 OF 3 (SHEET 67)

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
DRIVEWAY SCHEDULE SHEET 3 OF 3

WBS NO. M-410006-0002-4

DRAWING SCALE
NOT TO SCALE

CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

SHEET NO. 69 OF 175

No.	Date	Revisions	Appv.

\\hrghus\data\85130030\cad\dwgs\c\driveway_schedule.dwg Plotted May 22, 2026 at 9:16 AM by Perez, Abel

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

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://geotub.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.

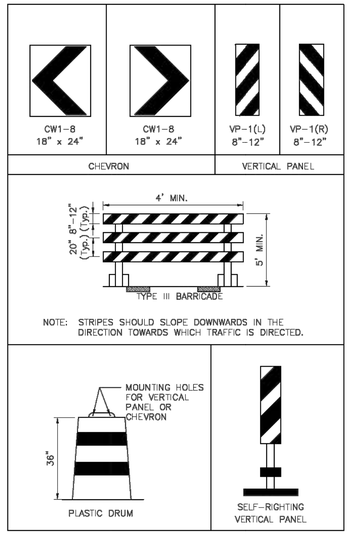
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

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

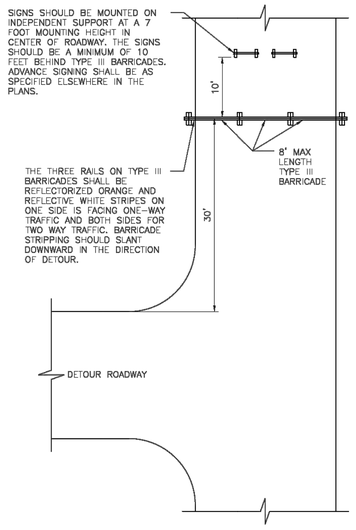


CHANNELIZATION AND BARRICADES

LEGEND:

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

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.



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

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DIRECTOR OF HOUSTON PUBLIC WORKS

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

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

DRAWING SCALE
NOT TO SCALE

FOR CITY OF HOUSTON USE ONLY

EXISTING POSTED SPEED LIMITS:
EAST EDGEBROOK DRIVE: 35 MPH
ALL OTHER CROSS STREETS: 30 MPH

ADDITIONAL NOTE:

CONTRACTOR TO NOTIFY POLICE DEPARTMENT, FIRE DEPARTMENT, SCHOOL, SCHOOL DISTRICT, METRO, AND UNITED STATES POSTAL SERVICES OF ONE WAY OPERATION A MINIMUM OF FIVE (5) WORKING DAYS BEFORE IMPLEMENTATION.

ISANI civil • design • engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

NOTES, CHANNELIZING DEVICES AND BARRICADES

TCP- 1 OF 19 SHEET 1 OF 2

WBS NO. M-410006-0002-4
DRAWING SCALE
N.A.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 70 OF 175

No.	Date	Revisions	App.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP-Notes.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\plt drv\HC_PDF_Gray.plt

ADDITIONAL NOTES:

1. PLACE ADVANCE WARNING SIGNS ALONG THE PROJECT AREA DURING CONSTRUCTION FOR ALL PHASES/STEPS.
2. PLACE DETOUR SIGNS ALONG THE PROJECT AREA WHERE APPLICABLE AND/OR AS SHOWN ON PLANS.
3. RESTORE TRAFFIC ONTO THE NEWLY CONSTRUCTED PAVEMENT THEN PROCEED WITH CONSTRUCTION IN BLOCK SEGMENTS.
4. MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION. PROVIDE LOW PROFILE CONCRETE BARRIERS (LPCB) AS SHOWN ON THE TYPICAL SHEET (TYP-6) TCP-17 OF 19 FOR PROVIDING ACCESS TO DRIVEWAYS DURING CONSTRUCTION. LPCB'S SHOULD NOT BLOCK THE DRIVEWAY ACCESS DURING CONSTRUCTION.
5. AVOID EXISTING DRIVEWAYS WHEN PLACING THE TRAFFIC CONTROL SIGNS.
6. 800 FEET ROLLING CLOSURES. CONTRACTOR SHOULD CONSTRUCT THE UNDERGROUND UTILITIES ON ONE SIDE OF THE STREET PER THE TRAFFIC CONTROL PLAN IN BLOCKS. SEE TYPICAL SHEET (TYP-6) TCP-17 OF TCP FOR DETAILS.
7. PROPOSED STORM SEWER INCLUDES THE TRUNK LINE, LATERALS, MANHOLES AND INLETS.
8. PROPOSED CONCRETE PAVEMENT INCLUDES THE CURBS, PAVEMENT, SIDEWALK (IF ANY) AND THE DRIVEWAYS.
9. SEE ROADWAY PLAN AND PROFILE DRAWINGS FOR EXACT WIDTH OF THE PAVEMENTS.
10. SEE ROADWAY PLAN AND PROFILE DRAWINGS FOR LIMITS OF PROPOSED ASPHALT TRANSITION, ASPHALT PAVEMENT, AND CONCRETE PAVEMENT.
11. CONSTRUCTION AT DEAD END STREETS WILL BE PERFORMED AS TWO HALVES, WITH A FLAGGER OPERATION DURING WORKING HOURS AND ADD'L SIGN FOR NON-WORKING HOURS.
12. CONTRACTOR SHALL INSTALL LOW PROFILE CONCRETE BARRIER AT STORM SEWER WORK LOCATIONS. LOW PROFILE CONCRETE BARRIER TO REMAIN AT LOCATIONS WHERE ELEVATION DIFFERENCE BETWEEN THE DRIVING SURFACE AND WORK AREA EXCEEDS 18 INCHES.
13. CONTRACTOR SHALL INSTALL LOW PROFILE CONCRETE BARRIER ONLY FOR THE LENGTH OF THE CONSTRUCTION ZONE.
14. USE "TYPICAL ONE LANE ROAD CLOSURE" DETAIL SHEETS TCP-13,14,17 OF 19 FOR FLAGGING OPERATION FOR THESE PHASES /STEPS.
15. CONTRACTOR SHALL NOT BLOCK THE ENTIRE LENGTH OF THE PROJECT DURING CONSTRUCTION.
16. CONTRACTOR SHALL NOT BLOCK OR CONSTRUCT TWO CONSECUTIVE STREET INTERSECTIONS AT THE SAME TIME DURING CONSTRUCTION.
17. CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION."ONE WAY" AND "DETOUR" SIGNS SHALL BE PLACED AT ALL DRIVEWAYS BY THE CONTRACTOR APPROPRIATELY.
18. WHERE APPLICABLE, DITCHES SHALL BE OPENED AT END OF EACH DAY TO ENSURE ADEQUATE DRAINAGE.
19. ALL ADVANCED WARNING SIGNS TO BE PLACED PER THE TEXAS MUTCD LATEST VERSION.

TYPICAL TITLE DESCRIPTION

TYP-1 TYPICAL ONE LANE ROAD CLOSURE WITH DETOUR ROUTING (TCP-12 OF 19)

TYP-2 TYPICAL 4-WAY INTERSECTION WITH FLAGGING OPERATION (TCP-13 OF 19)

TYP-3 TYPICAL 3-WAY(TEE) INTERSECTION WITH FLAGGING OPERATION (TCP-14 OF 19)

TYP-4 TYPICAL DETOUR OPERATION AT 4-WAY INTERSECTIONS (TCP-15 OF 19)

TYP-5 TYPICAL DETOUR OPERATION AT 3-WAY(TEE) INTERSECTIONS (TCP-16 OF 19)

TYP-6 TYPICAL FOR ONE LANE CLOSURE WITH WORKZONE (DRUM/ LPCB) (TCP-17 OF 19)

TYP-7 BARRIER STANDARD (TCP-18 OF 19)

TYP-8 TYPICAL CROSSWALK AND SIDEWALK CLOSURES (TCP-19 OF 19)

TYP-9 TYPICAL FOR CUL-DE -SAC CONSTRUCTION (TYP III) (TCP-19A OF 19)

Rev. | No. | Date | Revisions | App.

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

ADDITIONAL NOTES & TYPICAL SHEET DETAILS

TCP-2 OF 19 SHEET 2 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE

N.A.

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 71 OF 175

FILE:P:\ACTIVE\17PW89\Working\Traffic Control Plans\89TCP-Notes.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP-Narrative.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

TRAFFIC CONTROL PLANS

FOR ALL PHASES AND STEPS:

- PLACE CONSTRUCTION ADVANCE WARNING SIGNS, DRUMS, LPCBs, CHEVRON, BARRICADES, AND SIGNS PER TMUTCD AS NEEDED. LPCBs SHOULD HAVE REFLECTORS INSTALLED ONCE PUT IN PLACE ON PROJECT SITE.
- PLACE FILTER FABRIC FENCING, INLET PROTECTION BARRIERS, AND OTHER SWPPP MEASURES AS NEEDED.
- CONSTRUCT PROPOSED WATER LINE AND SANITARY SEWER OFFSETS (WHEREVER SHOWN ON PLANS) PRIOR TO STORM SEWER CONSTRUCTION.
- CONTRACTOR CAN WORK MULTIPLE PHASES AT THE SAME TIME FOLLOWING TMUTCD GUIDELINES AS LONG AS THE TRAFFIC FLOW IS NOT AFFECTED.
- NO ADJACENT INTERSECTIONS OR STREETS TO BE CONSTRUCTED TOGETHER.
- DO NOT START ANY NEW CONSTRUCTION BEFORE THE PREVIOUS PHASE/STEP IS COMPLETED.
- ALL THE INTERSECTION PAVEMENT IN A PARTICULAR PHASE IS TO BE CONSTRUCTED FIRST AND WILL BE OPENED TO TRAFFIC FIRST WITHIN THE SPECIFIC STEP/PHASE.
- CONTRACTOR TO REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE PROJECT SITE. MATERIAL SHALL BE HAULED OFF-SITE AND DISPOSED IN ACCORDANCE WITH SWPPP AND LOCAL REGULATIONS.

PHASE 0 (PROPOSED WATER LINE):

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" WATERLINE AS SHOWN ON PLANS.

PHASE 1 (STEPS 1 TO 15):

INTERSECTIONS TO BE CONSTRUCTED IN THIS PHASE AFTER STORM SEWER INSTALLATION:

PARLIAMENT DR AND FREETON ST INTERSECTION, CORONATION DR AND FREETON ST INTERSECTION, VICEROY DR AND FREETON ST INTERSECTION, RAVENHEAD DR AND FREETON ST INTERSECTION, OUTLOOK DR AND FREETON ST INTERSECTION, PRINCESS DR AND FREETON ST INTERSECTION, EMPRESS DR AND FREETON ST INTERSECTION.

STEP 1: (FROM BEGINNING OF FREETON ST TO CORONATION DR & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP, 36-INCH RCP, 4'X3' RCB), MANHOLE AND INLETS ON EAST SIDE.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 2: (FROM CORONATION DR & FREETON ST INTERSECTION TO VICEROY DR & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP TO 36-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 3: (FROM VICEROY DR & FREETON ST INTERSECTION TO RAVENHEAD DR. & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP TO 36-INCH RCP), MANHOLE AND INLETS ON EAST SIDE.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 4: (FROM RAVENHEAD DR & FREETON ST INTERSECTION TO OUTLOOK DR & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP TO 36-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 5: (FROM OUTLOOK DR & FREETON ST INTERSECTION TO PRINCESS DR & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP TO 36-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 6: (FROM PRINCESS DR & FREETON ST INTERSECTION TO EMPRESS DR & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP TO 30-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 7: (FROM EMPRESS DR & FREETON ST INTERSECTION TO E EDGEBROOK DR & FREETON ST INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 8: (FROM E EDGEBROOK DR & FREETON ST INTERSECTION TO EMPRESS DR & FREETON ST INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 15" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH), MANHOLE AND INLET.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 9: (FROM EMPRESS DR & FREETON ST INTERSECTION TO PRINCESS DR & FREETON ST INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 15" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH AND 30-INCH), MANHOLES AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 10: (FROM PRINCESS DR & FREETON ST INTERSECTION TO OUTLOOK DR & FREETON ST INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 15" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP).
- PROPOSED REMAINING PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 11: (FROM OUTLOOK DR & FREETON ST INTERSECTION TO RAVENHEAD DR & FREETON ST INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 15" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP).
- PROPOSED REMAINING PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 12: (FROM RAVENHEAD DR & FREETON ST INTERSECTION TO VICEROY DR & FREETON ST INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 12" SANITARY SEWER AND MANHOLE.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED REMAINING PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 13: (FROM VICEROY DR & FREETON ST INTERSECTION TO CORONATION DR & FREETON ST INTERSECTION - SOUTHBOUND)

- PROPOSED 12" SANITARY SEWER AND MANHOLE.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLET.
- PROPOSED REMAINING PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 14: (FROM CORONATION DR & FREETON ST INTERSECTION TO PARLIAMENT DR & FREETON ST INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 12" SANITARY SEWER AND MANHOLE.
- PROPOSED STORM SEWER, MANHOLE AND INLETS
- PROPOSED REMAINING PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 15: (FROM PARLIAMENT DR & FREETON ST INTERSECTION TO END OF PROJECT - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 12" SANITARY SEWER AND MANHOLE.

ISANI
civil & design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TRAFFIC CONTROL NARRATIVE

TCP-3 OF 19 SHEET 1 OF 3

WBS NO. M-410006-0002-4

DRAWING SCALE

N.A.

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 72 OF 175

- PROPOSED STORM SEWER (24-INCH RCP AND 36-INCH RCP), MANHOLE AND INLETS.
- PROPOSED REMAINING PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

PHASE 2 (STEPS 1 TO 12):

INTERSECTIONS TO BE CONSTRUCTED:

VICEROY DR AND DARLENE LN INTERSECTION, RAVENHEAD DR AND DARLENE LN INTERSECTION, OUTLOOK DR AND DARLENE LN INTERSECTION, PRINCESS DR AND DARLENE LN INTERSECTION.

STEP 1: (FROM BEGIN PROJECT AT VICEROY DR & BALCONES DR TO VICEROY DR AND FREETON ST INTERSECTION – EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP AND 48-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 2: (FROM BEGIN PROJECT AT VICEROY DR & BALCONES TO VICEROY DR & DARLENE LN INTERSECTION – WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 2A: (FROM VICEROY DR & DARLENE LN INTERSECTION TO VICEROY DR & FREETON ST INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 3: (FROM VICEROY DR & FREETON ST INTERSECTION TO VICEROY DR & SHAVER ST INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 4: (FROM VICEROY DR & FREETON ST INTERSECTION TO VICEROY DR & SHAVER ST INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 5: (FROM VICEROY DR & DARLENE LN INTERSECTION TO RAVENHEAD DR & DARLENE LN INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP AND 5'X3' RCB), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 6: (FROM RAVENHEAD DR & DARLENE LN INTERSECTION TO OUTLOOK DR & DARLENE LN INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP AND 4'X3' RCB), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 7: (FROM OUTLOOK DR & DARLENE LN INTERSECTION TO PRINCESS DR & DARLENE LN INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP AND 4'X3' RCB), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 8: (FROM PRINCESS DR & DARLENE LN INTERSECTION TO EMPRESS DR & DARLENE LN INTERSECTION - SOUTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP AND 30-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 9: (FROM PRINCESS DR & DARLENE LN INTERSECTION TO EMPRESS DR & DARLENE LN INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 10: (FROM OUTLOOK DR & DARLENE LN INTERSECTION TO PRINCESS DR & DARLENE LN INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 11: (FROM RAVENHEAD DR & DARLENE LN INTERSECTION TO OUTLOOK DR & DARLENE LN INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 12: (FROM VICEROY DR & DARLENE LN INTERSECTION TO RAVENHEAD DR & DARLENE LN INTERSECTION - NORTHBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

PHASE 3 (STEPS 1 TO 20):

INTERSECTIONS TO BE CONSTRUCTED IN THIS PHASE AFTER STORM SEWER INSTALLATION:

DARLENE LN AND EMPRESS DR INTERSECTION.

STEP 1: (FROM BEGINING OF PARLIAMENT DR TO BEFORE PARLIAMENT DR & FREETON ST INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24" RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 2: (FROM BEGINING OF PARLIAMENT DR TO BEFORE PARLIAMENT DR & FREETON ST INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24" RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 3: (FROM BEGINING OF CORONATION DR TO BEFORE CORONATION DR & FREETON ST INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP AND 30-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 4: (FROM BEGINING OF CORONATION DR AND BALCONES DR TO BEFORE CORONATION DR & FREETON ST INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 5: (FROM BEGINING OF RAVENHEAD DR AND BALCONES DR TO BEFORE CORONATION DR & DARLENE LN INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9956
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TRAFFIC CONTROL NARRATIVE

TCP-4 OF 19 SHEET 2 OF 3

WBS NO. M-410006-0002-4

DRAWING SCALE

N.A.

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 73 OF 175

No.	Date	Revisions	App.

FILE:P:\ACTIVE\17PV89\WorkingTraffic Control Plans\89TCP-Narrative.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Grey.plt

STEP 6: (FROM BEGINING OF RAVENHEAD DR AND BALCONES DR TO BEFORE CORONATION DR. & DARLENE LN INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 7: (RAVENHEAD DR. BETWEEN DARLENE LN & FREETON ST - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 8: (RAVENHEAD DR BETWEEN DARLENE LN & FREETON ST - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 9: (FROM BEGINING OF OUTLOOK DR TO BEFORE OUTLOOK DR & DARLENE LN INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 10: (FROM BEGINING OF OUTLOOK DR TO BEFORE OUTLOOK DR & DARLENE LN INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 11: (OUTLOOK DR BETWEEN DARLENE LN & FREETON ST - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP), MANHOLES AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 12: (OUTLOOK DR BETWEEN DARLENE LN & FREETON ST - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 13: (FROM BEGINING OF PRINCESS DR TO BEFORE PRINCESS DR & DARLENE LN INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 14: (FROM BEGINING OF PRINCESS DR TO BEFORE PRINCESS DR & DARLENE LN INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 15: (PRINCESS DR BETWEEN DARLENE LN & FREETON ST - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP) AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 16: (PRINCESS DR BETWEEN DARLENE LN & FREETON ST - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 17: (FROM BEGINING OF EMPRESS DR TO EMPRESS DR & DARLENE LN INTERSECTION - EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP AND 30-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 18: (FROM BEGINING OF EMPRESS DR TO EMPRESS DR & DARLENE LN INTERSECTION - WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 19: (FROM EMPRESS DR & DARLENE ROAD INTERSECTION TO BEFORE EMPRESS DR & FREETON ST INTERSECTION- EASTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED 8" SANITARY SEWER AND MANHOLES.
- PROPOSED STORM SEWER (24-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

STEP 20: (FROM EMPRESS DR & DARLENE ROAD INTERSECTION TO BEFORE EMPRESS DR & FREETON ST INTERSECTION- WESTBOUND)

CONSTRUCT THE FOLLOWING DURING THIS STEP:

- PROPOSED STORM SEWER (24-INCH RCP), MANHOLE AND INLETS.
- PROPOSED PAVEMENT (13-FEET), PROPOSED SIDEWALK AND PROPOSED CONCRETE CURB.

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TRAFFIC CONTROL NARRATIVE

TCP-5 OF 19 SHEET 3 OF 3

WBS NO. M-410006-0002-4

DRAWING SCALE

N.A.

CITY OF HOUSTON PM

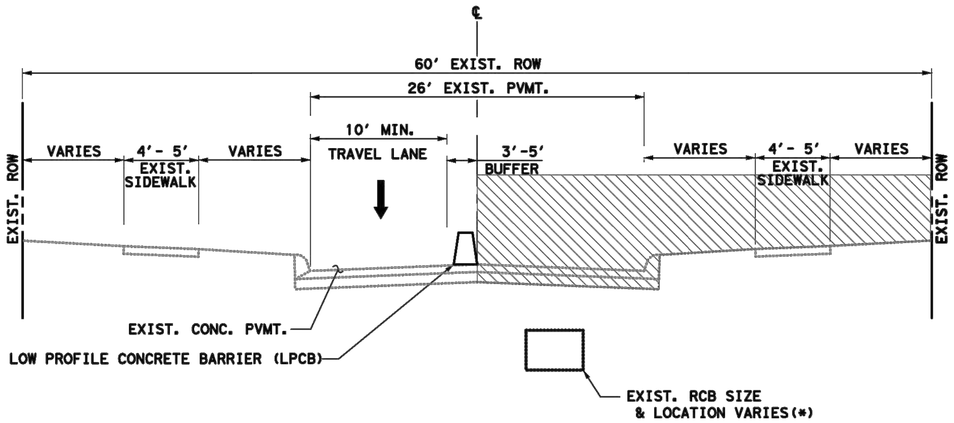
MIGUEL RODRIGUEZ, EIT

SHEET NO. 74 OF 175

No. | Date | Revisions | Appr.

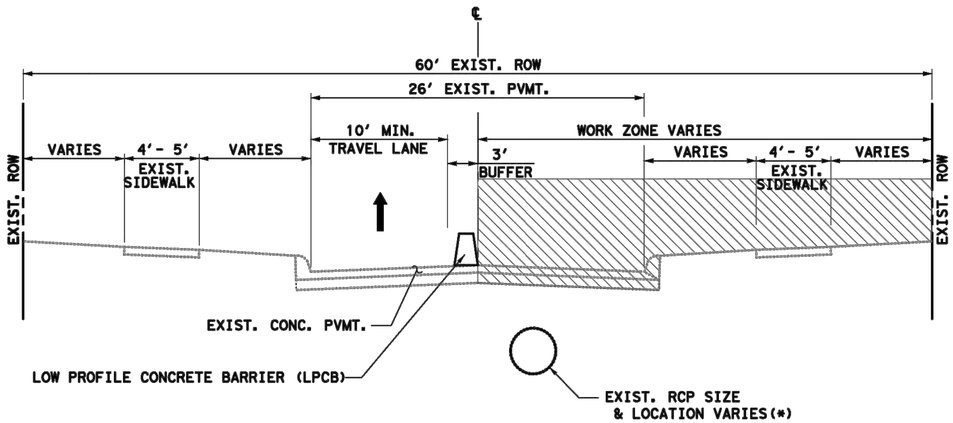
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP-Narrative.dgn
DATE:4/29/2026



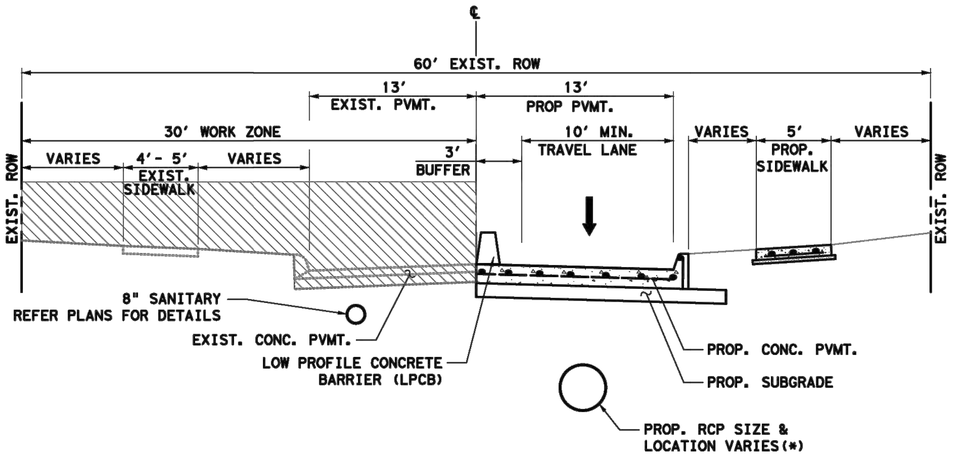
TYPICAL FOR HALF CONSTRUCTION

FREETON ST. - PHASE 1 STEP 1
REFER TO TCP -19A STDS



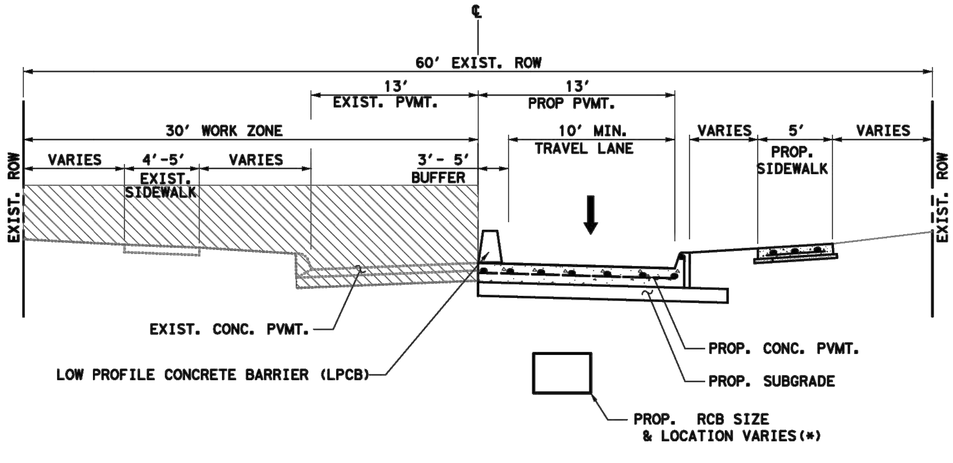
TYPICAL FOR HALF CONSTRUCTION

FREETON ST. - PHASE 1 STEP 2 TO PHASE 1 STEP 7
VICEROY DR. - PHASE 2 STEP 1, PHASE 2 STEP 3
PARLIAMENT DR. - PHASE 3 STEP 1
RAVENHEAD DR. - PHASE 3 STEP 5, PHASE 3 STEP 7
OUTLOOK DR. - PHASE 3 STEP 9, PHASE 3 STEP 11
PRINCESS DR. - PHASE 3 STEP 13, PHASE 3 STEP 15
EMPRESS DR. - PHASE 3 STEP 17, PHASE 3 STEP 19



TYPICAL FOR OTHER HALF CONSTRUCTION

FREETON ST. - PHASE 1 STEP 8 TO PHASE 1 STEP 13
VICEROY DR. - PHASE 2 STEP 2, PHASE 1 STEP 2A, PHASE 2 STEP 4
PARLIAMENT DR. - PHASE 3 STEP 2
RAVENHEAD DR. - PHASE 3 STEP 6, PHASE 3 STEP 8
OUTLOOK DR. - PHASE 3 STEP 10, PHASE 3 STEP 12
PRINCESS DR. - PHASE 3 STEP 14, PHASE 3 STEP 16
EMPRESS DR. - PHASE 3 STEP 18, PHASE 3 STEP 20



TYPICAL FOR OTHER HALF CONSTRUCTION

FREETON ST. - PHASE 1 STEP 14 TO PHASE 1 STEP 15

0 5' 10'
SCALE: 1" = 5'

* SEE PLAN AND PROFILE SHEETS FOR EXACT LOCATION OF STORM SEWER

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9966
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL SECTIONS

TCP-6 OF 19 SHEET 1 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE

HORIZ. 1"=5'

CITY OF HOUSTON PM

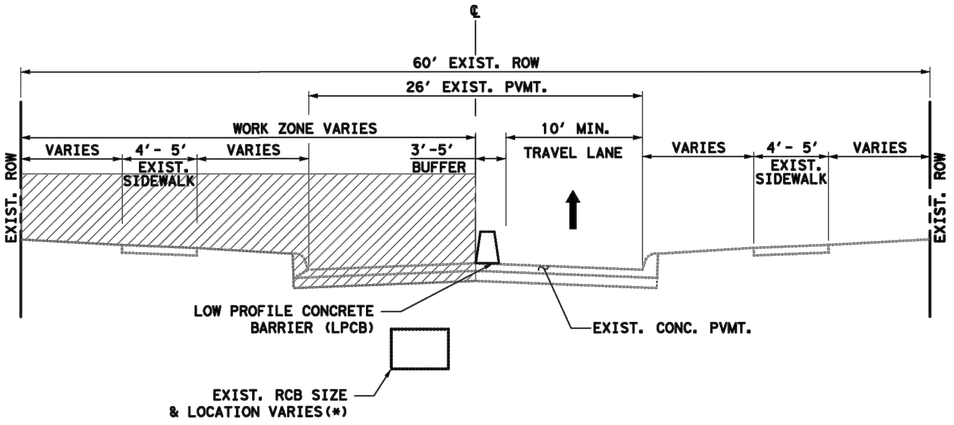
MIGUEL RODRIGUEZ, EIT

SHEET NO. 75 OF 175

Area
Revisions
Date
No.

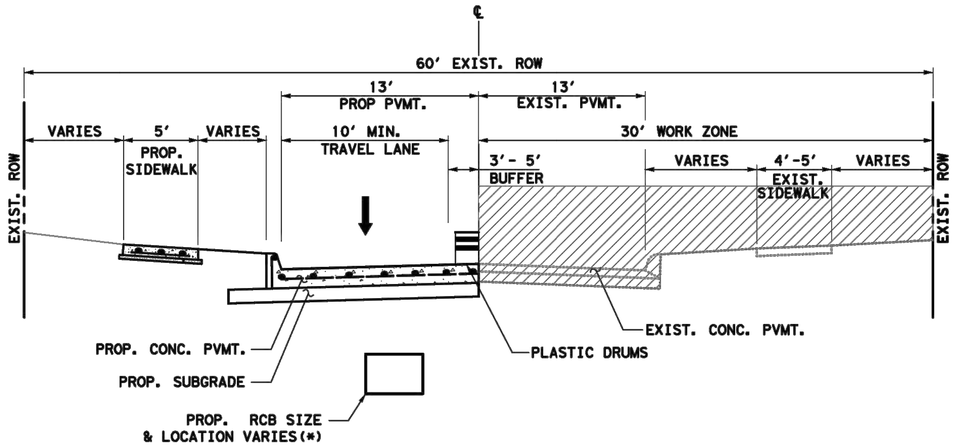
P:\Micro-Projects\Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP-TYP-01.dgn
DATE:4/29/2026



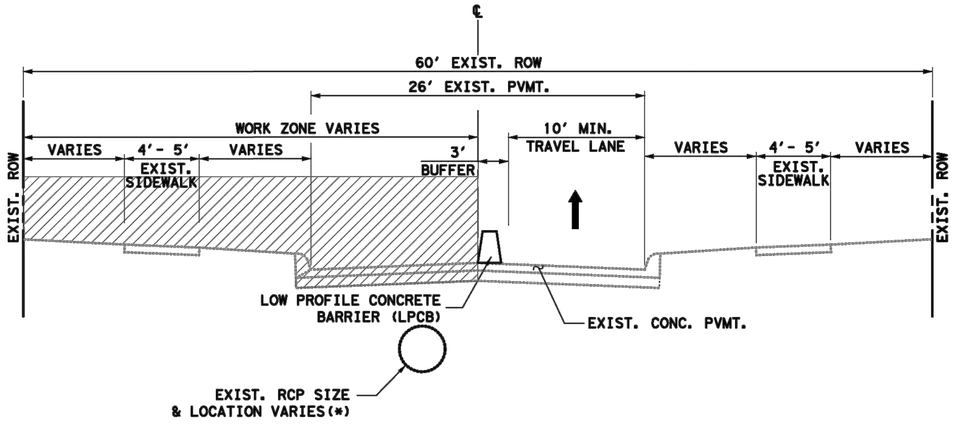
TYPICAL FOR HALF CONSTRUCTION

DARLENE LN. - PHASE 2 STEP 5 TO PHASE 2 STEP 8



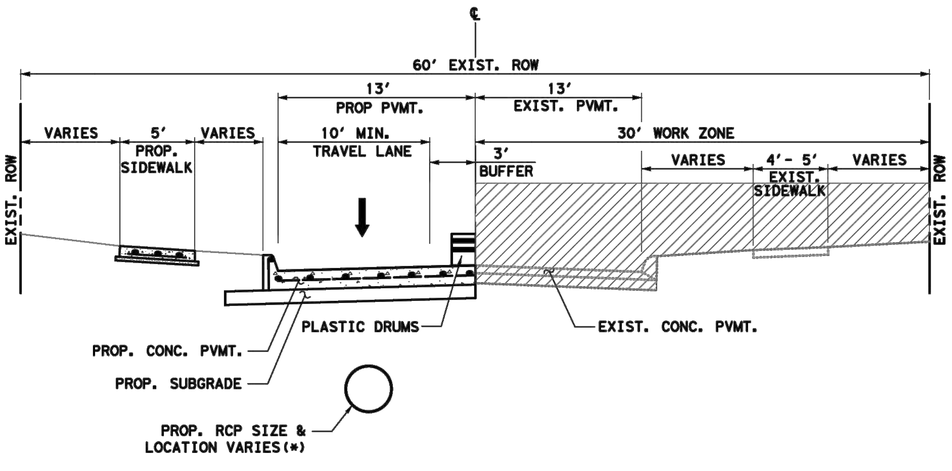
TYPICAL FOR OTHER HALF CONSTRUCTION

DARLENE LN. - PHASE 2 STEP 9 TO PHASE 2 STEP 12



TYPICAL FOR HALF CONSTRUCTION

CORONATION DR. - PHASE 3 STEP 3



TYPICAL FOR OTHER HALF CONSTRUCTION

CORONATION DR. - PHASE 3 STEP 4

0 5' 10'

SCALE: 1" = 5'

* SEE PLAN AND PROFILE SHEETS FOR EXACT LOCATION OF STORM SEWER

ISANI civil & design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #5575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL SECTIONS

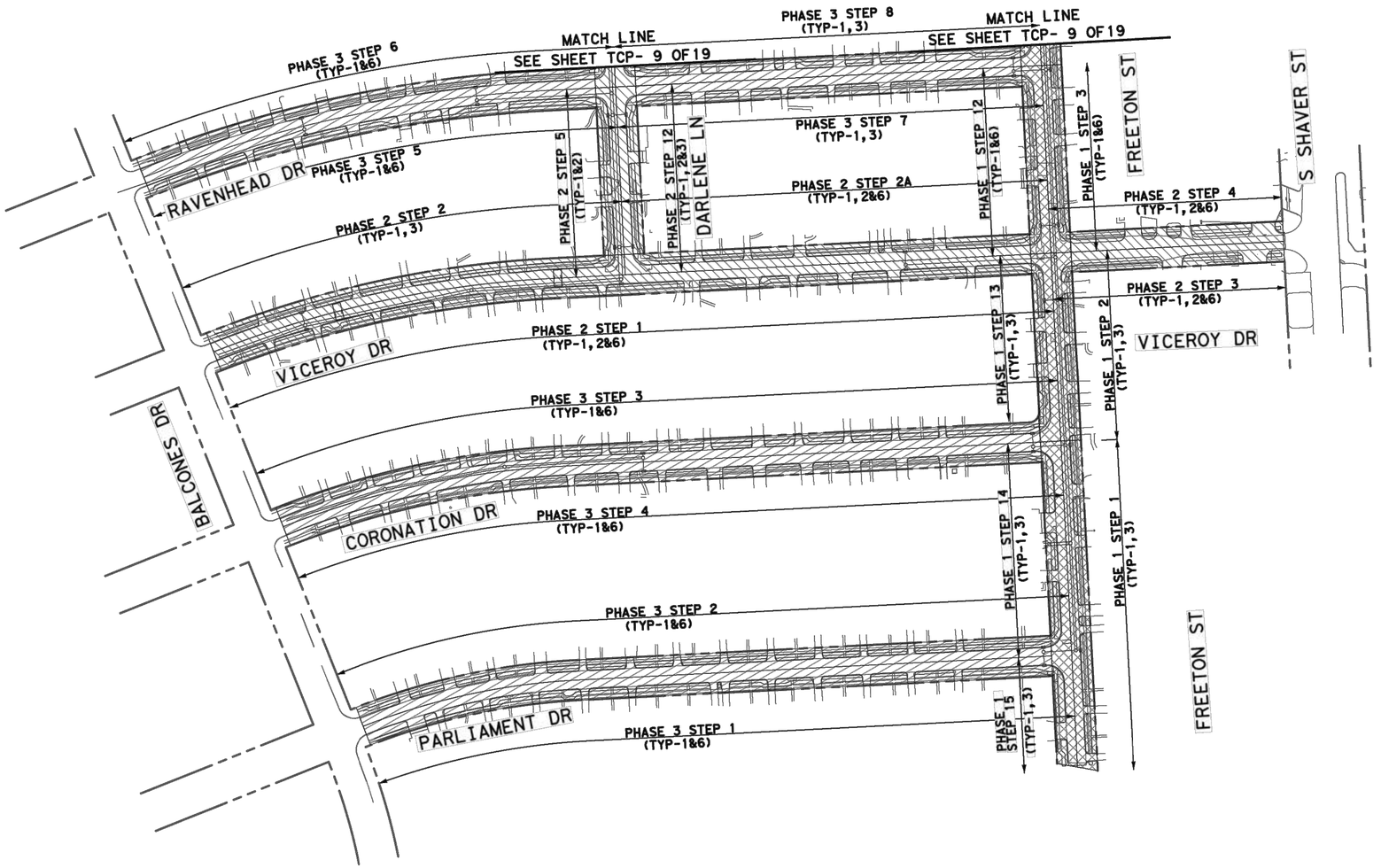
TCP-7 OF 19

SHEET 2 OF 2

WBS NO. M-410006-0002-4	
DRAWING SCALE	
HORIZ. 1"=5'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 76 OF 175	

Rev. No. | Date | Revisions | App.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP-TYP-02.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt



0 100' 200'

SCALE: 1" = 100'

N

LEGEND:

- PHASE 1
- PHASE 2
- PHASE 3

NOTES:

1. SEE SHEET TCP-2 OF 19 FOR ADDITIONAL NOTES FOR TCP DURING CONSTRUCTION.

ISANI
civil · design · engineers
10448 Westoffice Drive
Houston, TX 77042
P 713.747.2399 F 713.748.3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TRAFFIC CONTROL PLAN
OVERALL PHASING

TCP- 8 OF 19

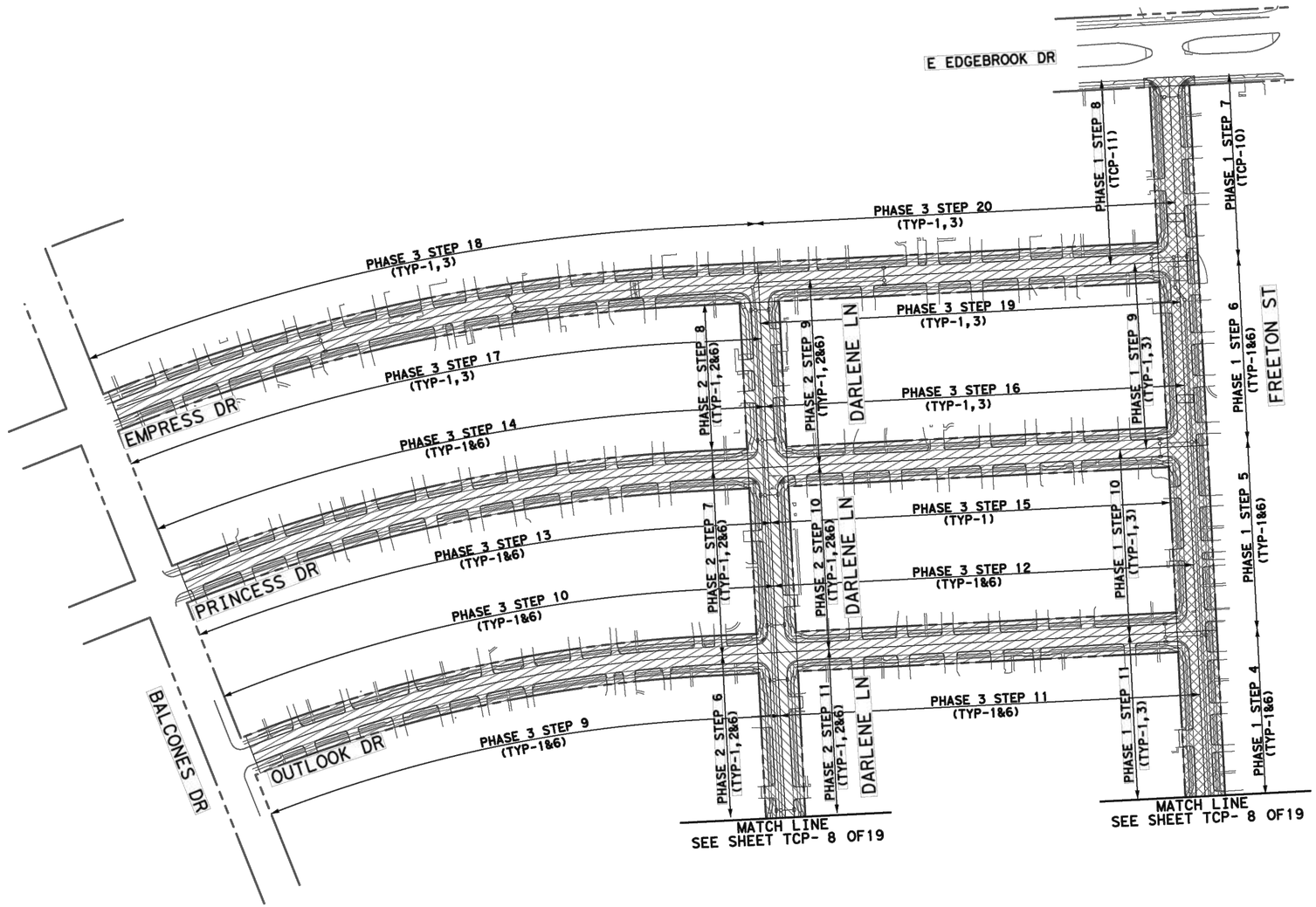
SHEET 1 OF 2

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=100'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 77 OF 175	

Revisions

No.	Date	Appr.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP_01.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\plt drv\HC_PDF_Gray.plt



0 100' 200'
SCALE: 1" = 100'

LEGEND:

- PHASE 1
- PHASE 2
- PHASE 3

NOTES:

1. SEE SHEET TCP- 08 FOR ADDITIONAL NOTES FOR TCP DURING CONSTRUCTION.

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

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

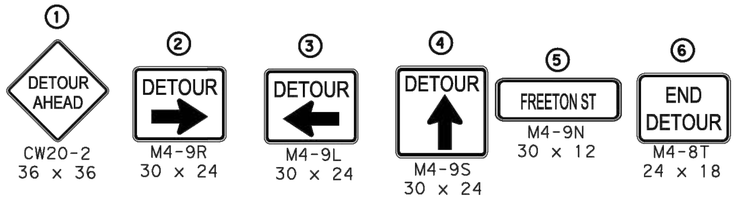
TRAFFIC CONTROL PLAN
OVERALL PHASING

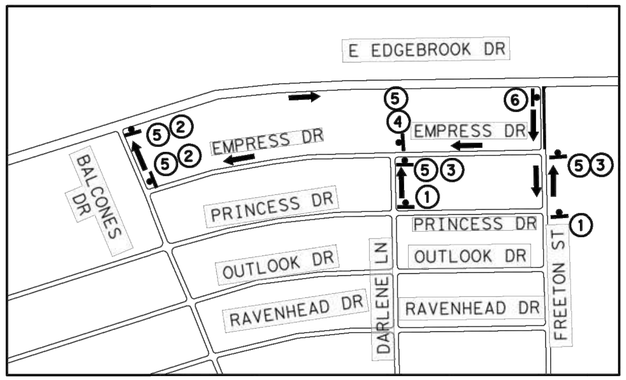
TCP- 9 OF 19 SHEET 2 OF 2

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=100'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 78 OF 175	

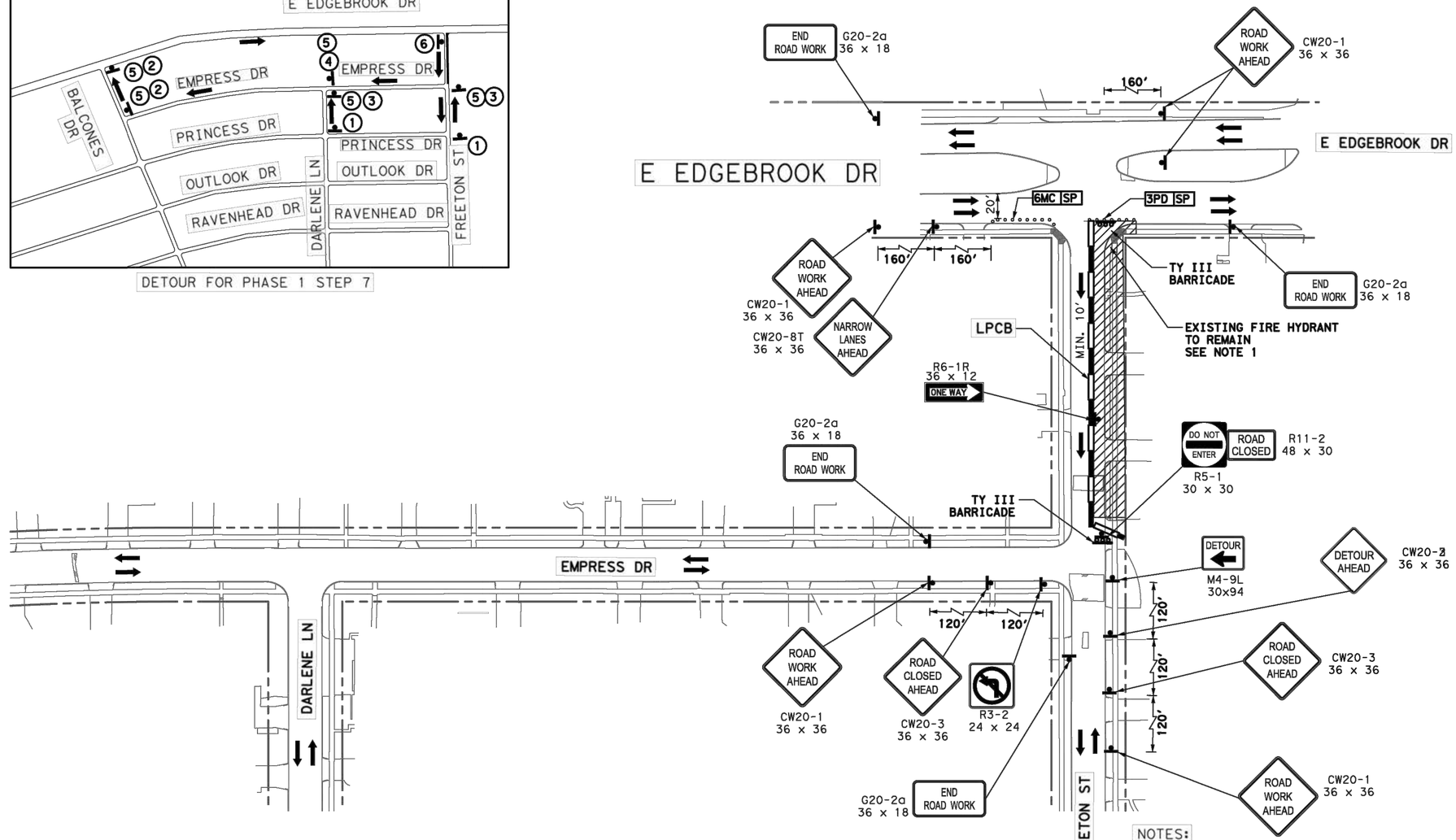
Revisions: No. | Date | App.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP_02.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt





DETOUR FOR PHASE 1 STEP 7



NOTES:

1. CONTRACTOR TO CO-ORDINATE WITH HOUSTON FIRE DEPARTMENT (HFD) REGARDING THE FIRE HYDRANT WITHIN EXISTING ROW.
2. NO TWO CONSECUTIVE INTERSECTION AND COMMERCIAL DRIVEWAYS ARE TO BE CLOSED AT THE SAME TIME.
3. ACCESS TO ALL DRIVEWAYS SHOULD BE MAINTAINED DURING CONSTRUCTION.

0 50' 100'
SCALE: 1" = 50'

LEGEND:

- WORK/CONSTRUCTION ZONE
- PREVOUSLY CONSTRUCTED
- PLASTIC DRUM, CONE, TUBULAR MARKER
- PROPOSED SIGN POST
- TYPE III BARRICADE
- TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- 3PD PLASTIC DRUM (DRUM) (SEE LEGEND SP FOR SPACING)
- 4CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- 5VP DRUM WITH VERTICAL PANEL (SEE LEGEND SP FOR SPACING)
- 6MC TUBULAR MARKERS OR TRAFFIC CONES (SEE LEGEND SP FOR SPACING)
- 7 TRAILER MOUNTED FLASHING ARROW PANEL (FAP)
- SP SPACED @ 30' C-C (ALONG WORK ZONE & TAPERS) SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)

ISANI
civil · design · engineering
10448 Westoffice Drive
Houston, TX 77042
P 713.747.2399 F 713.748.3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TRAFFIC CONTROL PLAN PHASE 1 STEP 7

TCP-10 OF 19

WBS NO. M-410006-0002-4

DRAWING SCALE

HORIZ. 1"=50'

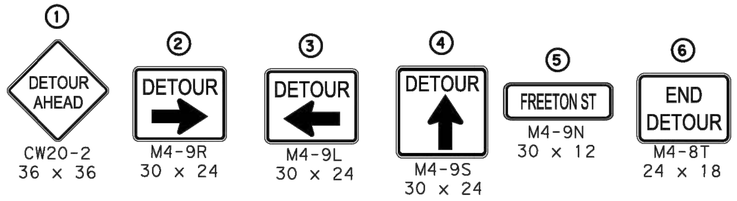
CITY OF HOUSTON PM

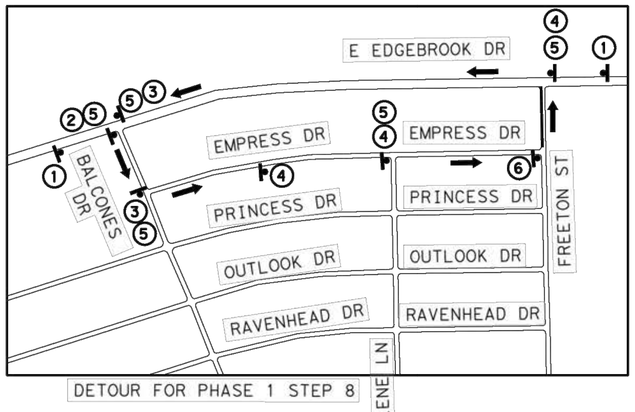
MIGUEL RODRIGUEZ, EIT

SHEET NO. 79 OF 175

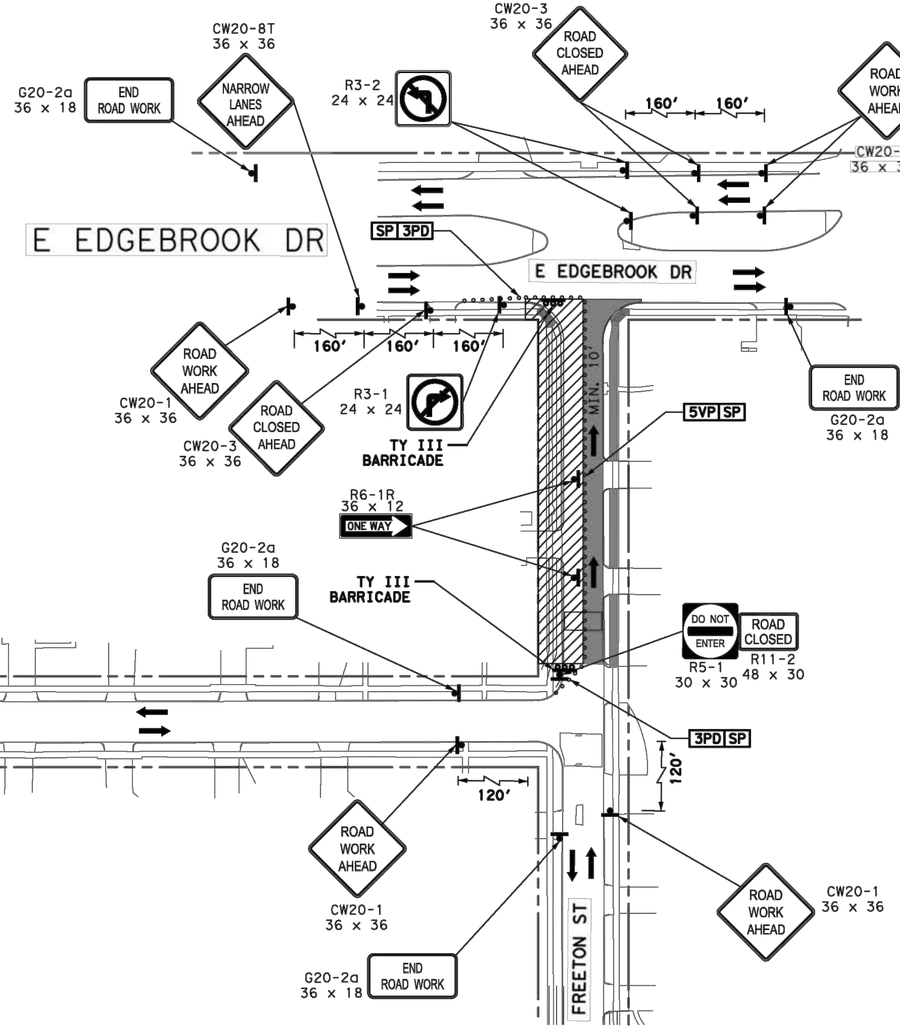
Apv. | Revisions | Date | No.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP_Phase 1_Step 7.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt





DETOUR FOR PHASE 1 STEP 8



NOTES:

1. NO TWO CONSECUTIVE INTERSECTION AND COMMERCIAL DRIVEWAYS ARE TO BE CLOSED AT THE SAME TIME.
2. ACCESS TO ALL DRIVEWAYS SHOULD BE MAINTAINED DURING CONSTRUCTION.

0 50' 100'
SCALE: 1" = 50'

LEGEND:

- WORK/CONSTRUCTION ZONE
- PREVOUSLY CONSTRUCTED
- PLASTIC DRUM, CONE, TUBULAR MARKER
- PROPOSED SIGN POST
- TYPE III BARRICADE
- TRAFFIC FLOW
- 2 LOW PROFILE CONCRETE BARRIER (LPCB) (TY 1 AND TY 2)
- 3PD PLASTIC DRUM (DRUM) (SEE LEGEND SP FOR SPACING)
- 4CL DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (LEFT) (SEE LEGEND SP FOR SPACING)
- 4CR DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM (RIGHT) (SEE LEGEND SP FOR SPACING)
- 5VP DRUM WITH VERTICAL PANEL (SEE LEGEND SP FOR SPACING)
- 6MC TUBULAR MARKERS OR TRAFFIC CONES (SEE LEGEND SP FOR SPACING)
- 7 TRAILER MOUNTED FLASHING ARROW PANEL (FAP)
- SP SPACED @ 30' C-C (ALONG WORK ZONE & TAPERS)
  SPACED @ 5' C-C (AT INTERSECTIONS & ON RADII)

ISANI
civil | design | engineers
10448 Westoffice Drive
Houston, TX 77042
P 713.747.2399 F 713.748.3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

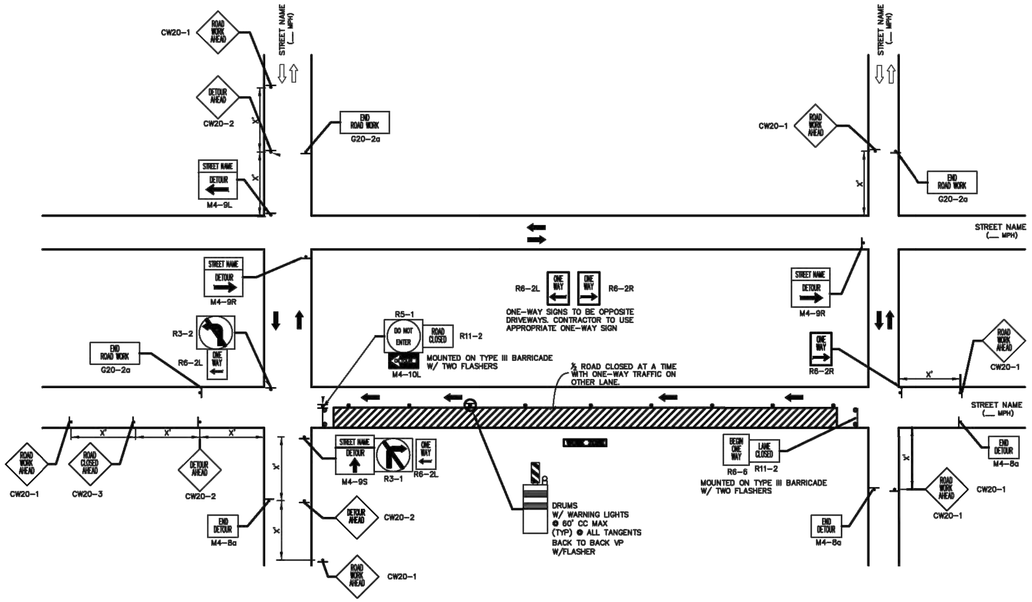
TRAFFIC CONTROL PLAN PHASE 1 STEP 8

TCP-11 OF 19

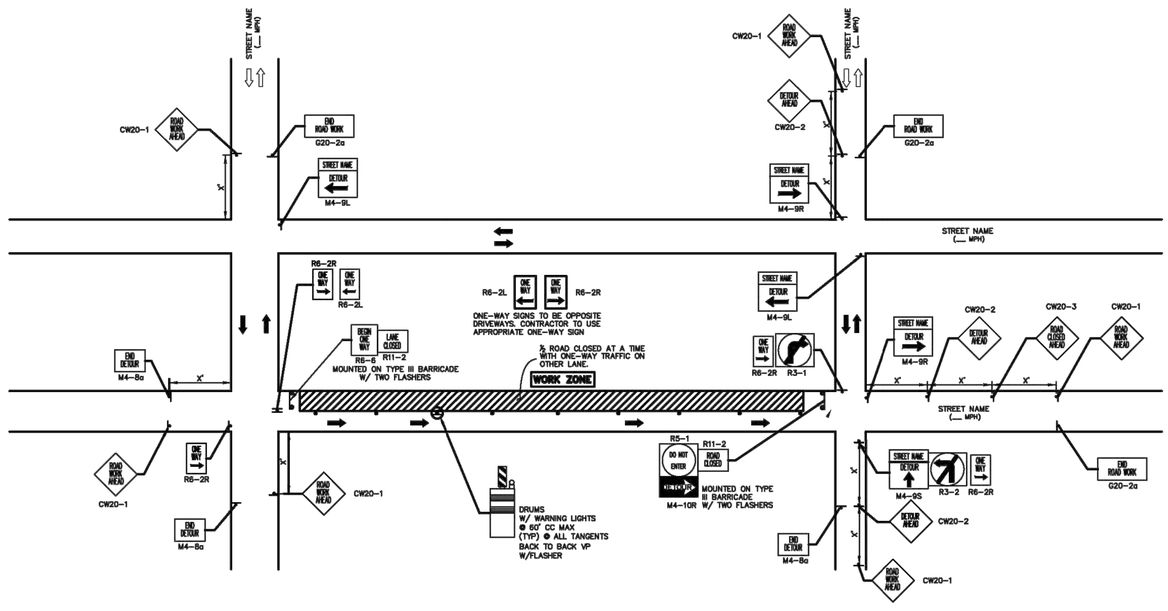
WBS NO. M-410006-0002-4	
DRAWING SCALE	
HORIZ. 1"=50'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 80 OF 175	

Apps | Revisions | Date | No.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\89TCP_Phase 1_Step 8.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\plt drv\HC_PDF_Gray.plt



TYPICAL NEIGHBORHOOD STREET DETOUR — EAST/NORTH BOUND (NTS)



TYPICAL NEIGHBORHOOD STREET DETOUR — WEST/SOUTH BOUND (NTS)

LEGEND

- TYPE III BARRICADE
- AREA UNDER CONSTRUCTION
- EXISTING TRAVELWAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. SEE SHEET TCP 1 OF 19 FOR TRAFFIC CONTROL PLAN NOTES, LEGEND, TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES.
2. A 10' MINIMUM WIDTH EMERGENCY LANE SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
3. ALL FLASHERS TO CONFORM TO MUTCD BY USE AND TYPE.
4. SEE SHEET 18 OF 19 FOR BARRICADE STANDARDS
5. CONTRACTOR SHALL NOT BLOCK OR CONSTRUCT TWO ADJACENT COMMERCIAI DRIVEWAYS/SIDE STREETS AT THE SAME TIME

No.	Date	Revisions	App.

ISANI civil • design • engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS — V.N.MURTHY MADE — 134936 — LICENSED PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9956
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

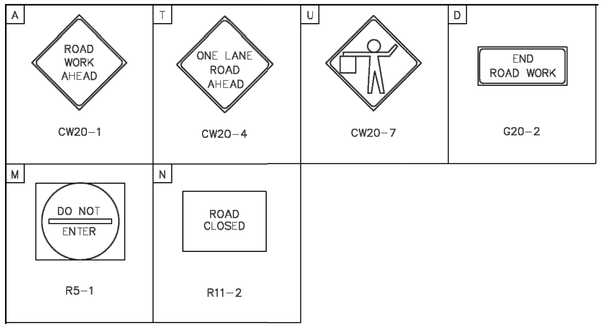
ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

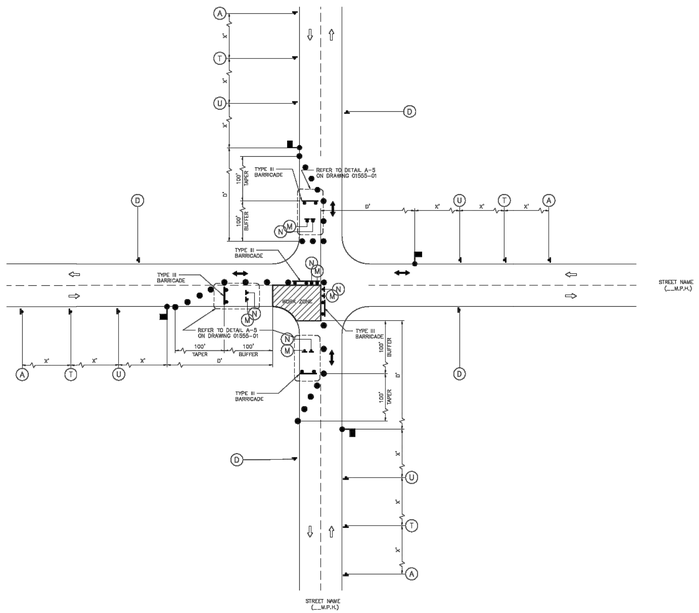
TYPICAL ONE LANE ROAD CLOSURE WITH DETOUR ROUTING (TYP-1)

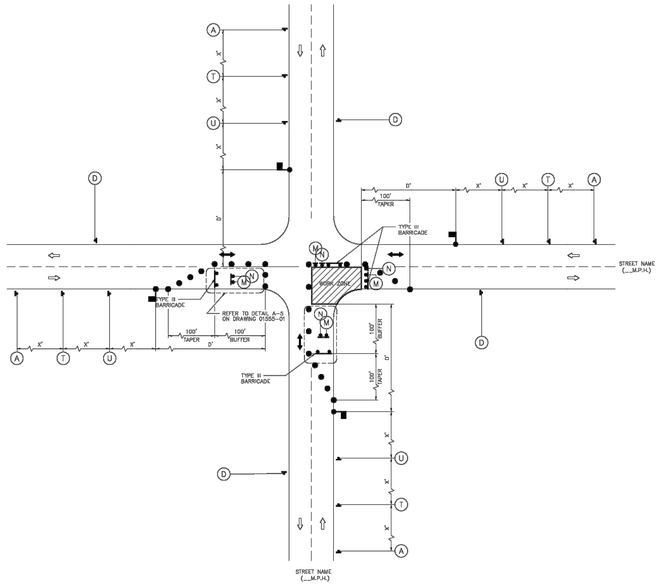
TCP-12 OF 19 — SHEET 1 OF 6

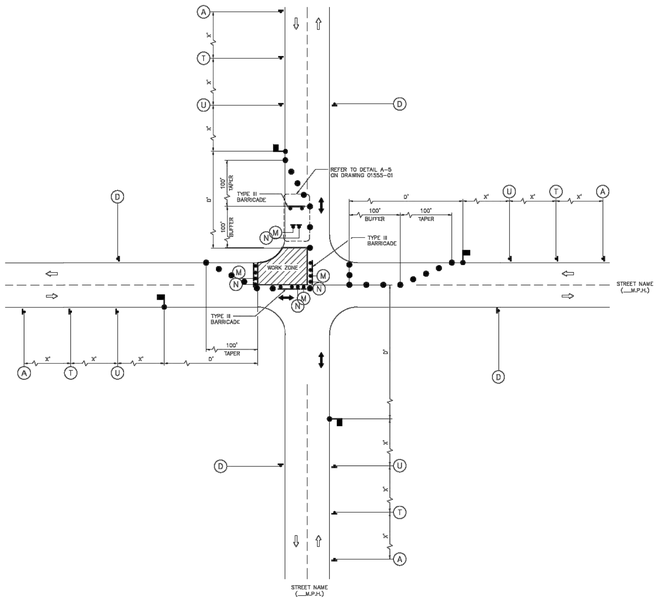
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 81 OF 175	

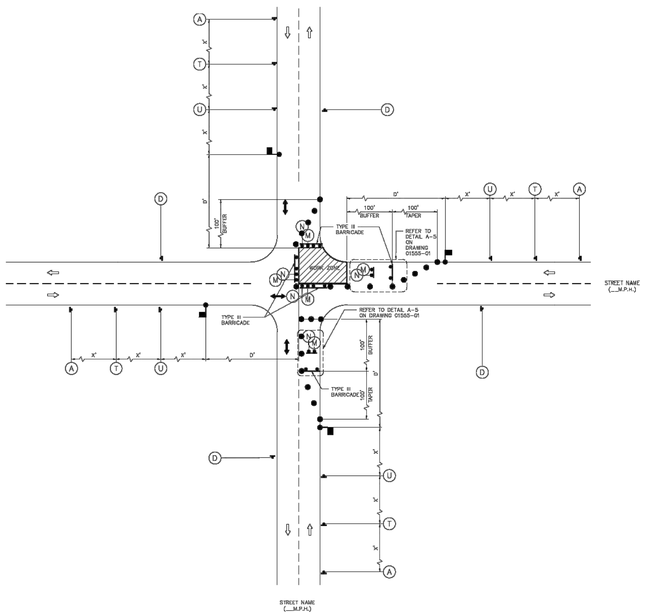
FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\Typicals\89TYP_ 01,02&03.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt











LEGEND:

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

NOTES:

1. SEE SHEET TCP 1 OF 19 FOR TRAFFIC CONTROL PLAN NOTES, LEGEND, TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES.
2. A 10' MINIMUM WIDTH EMERGENCY LANE SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
3. ALL FLASHERS TO CONFORM TO MUTCD BY USE AND TYPE.
4. SEE SHEET 18 OF 19 FOR BARRICADE STANDARDS
5. CONTRACTOR TO COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS AND ALLOW TWO-WAY TRAFFIC.

No.	Date	Revisions	App.

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

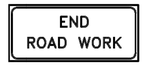
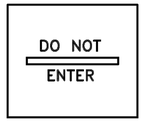
ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL 4-WAY INTERSECTION WITH FLAGGING OPERATION (TYP-2)

TCP-13 OF 19 SHEET 2 OF 6

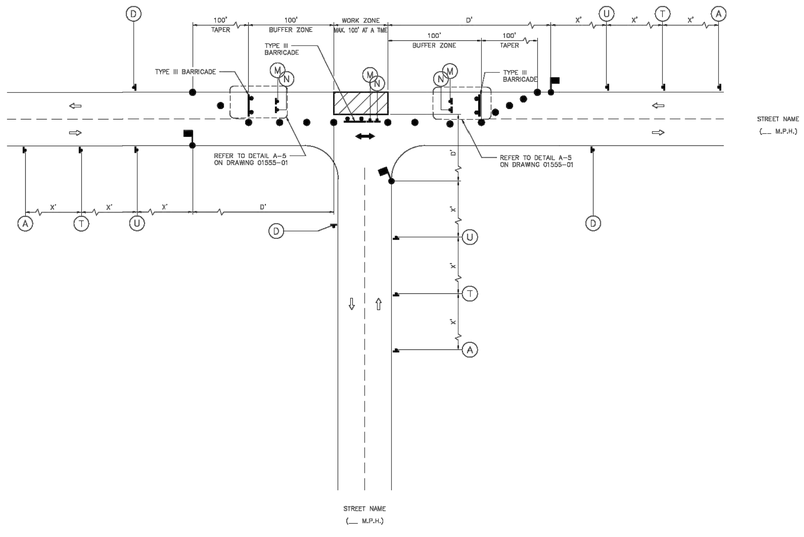
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 82 OF 175	

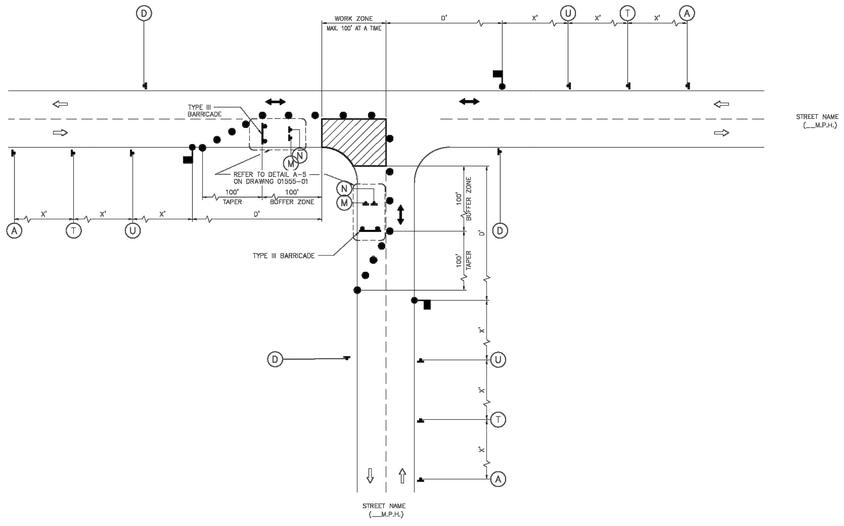
FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\Typicals\89TYP_ 01,02&03.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

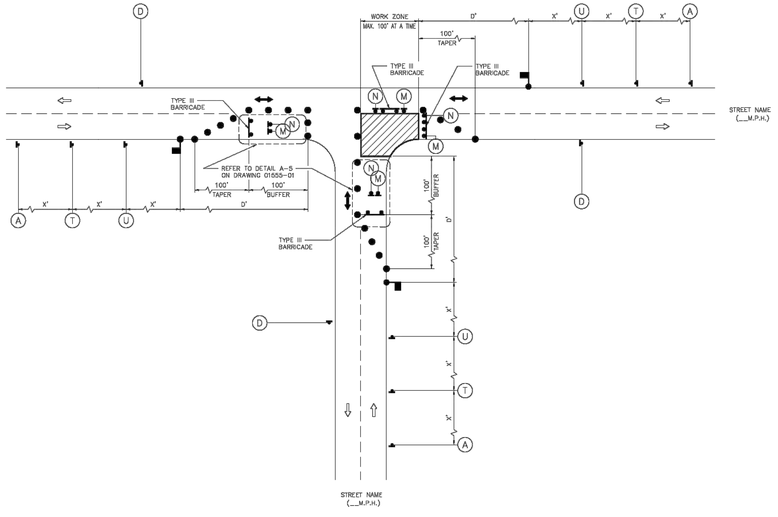
A	T	U	D	M	N
					
CW20-1	CW20-4	CW20-7	G20-2	R5-1	R11-2

LEGEND:

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







NOTES:

1. MINOR WORK ONLY.
2. CONTRACTOR TO USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS.
3. DAYTIME WORK ONLY.
4. SEE SHEET 1 OF 19 FOR TRAFFIC CONTROL PLAN NOTES, LEGEND, TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES.
5. SEE SHEET 18 OF 19 FOR BARRICADE STANDARDS.
6. CONTRACTOR TO COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS AND ALLOW TWO-WAY TRAFFIC.

ISANI civil & design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
Ph: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL 3-WAY (TEE) INTERSECTION WITH FLAGGING OPERATION (TYP-3)

TCP- 14 OF 19

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 83 OF 175	

No.	Date	Revisions	App.

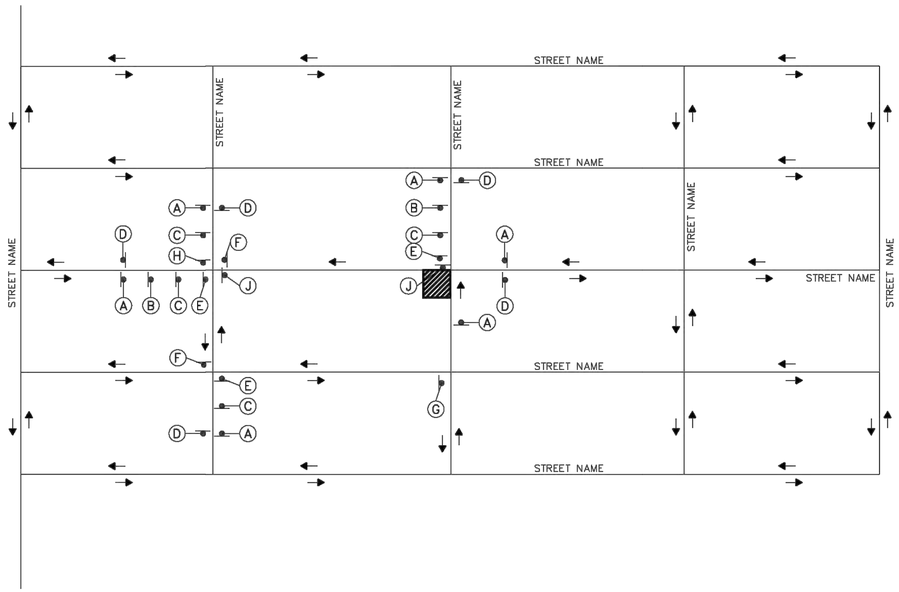
FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\Typicals\89TYP_ 01,02&03.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

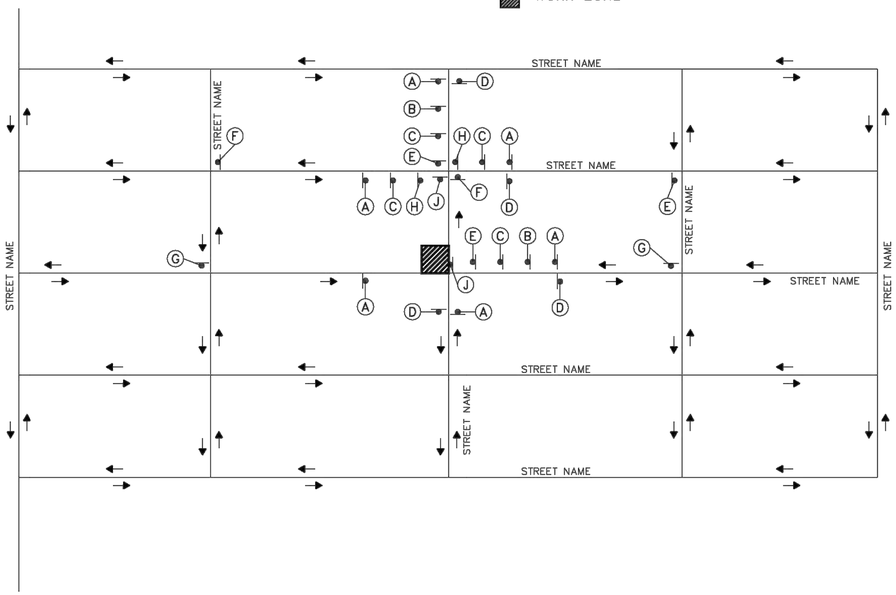
A	B	C	D	E	F	G	H	J
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	STREET NAME DETOUR →	STREET NAME DETOUR ←	END DETOUR	STREET NAME DETOUR ↑	ROAD CLOSED TO THRU TRAFFIC
CW20-1 36" X 36"	CW20-3 36" X 36"	CW20-2 36" X 36"	G20-2a 36" X 18"	M4-9R	M4-9L	M4-8A 24 X 18"	M4-9S	R11-4 60" X 30"

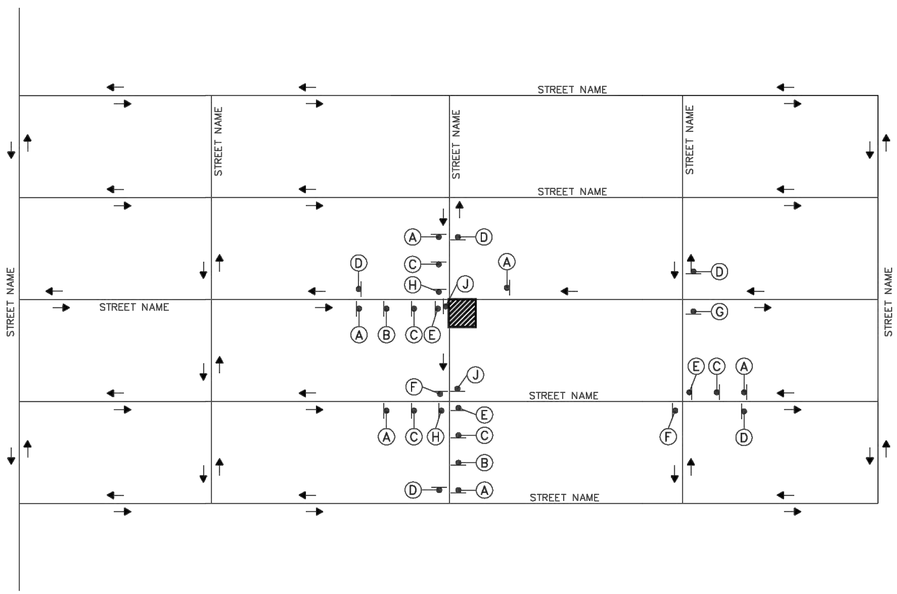
STREET	: SPEED LIMITS
EAST EDGEBROOK DRIVE	: 35 MPH
OTHER ROAD	: 30 MPH

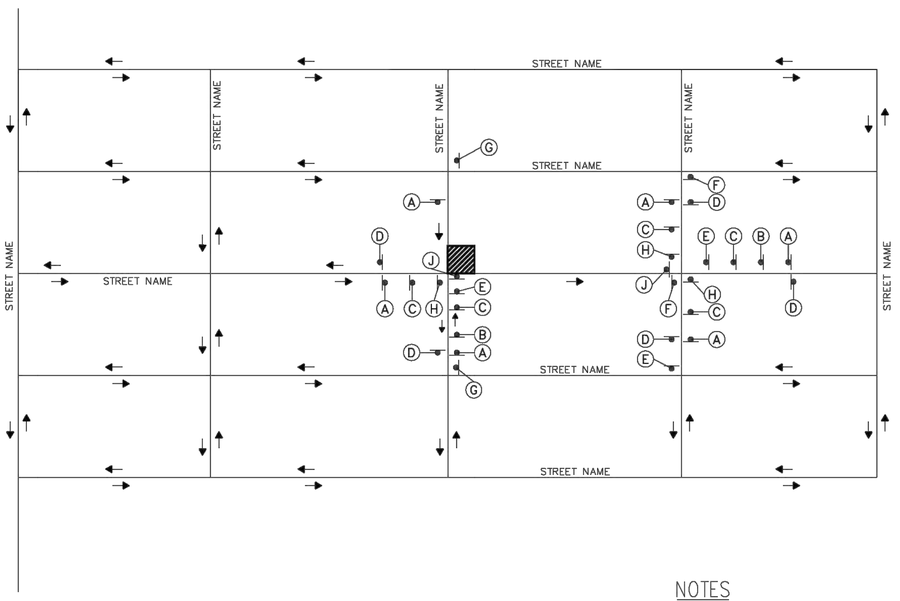
LEGEND

- SIGN
- TRAFFIC FLOW
- WORK ZONE









NOTES

1. FLAGGER CONTRACTOR SHALL NOT BLOCK OR CONSTRUCT TWO ADJACENT DRIVEWAYS/SIDE STREETS AT THE SAME TIME.

ISANI civil & design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS · V.N.MURTHY MADE · 134936 · LICENSED PROFESSIONAL ENGINEER · 4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL DETOUR OPERATION AT 4-WAY INTERSECTIONS (TYP-4)

TCP-15 OF 19

SHEET 4 OF 6

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 84 OF 175	

No.	Date	Revisions	App.

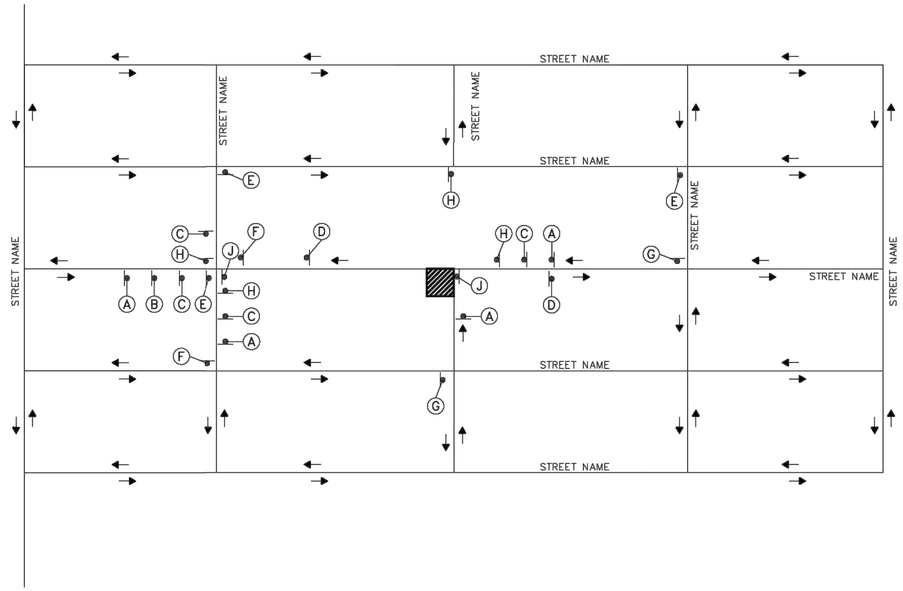
FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\Typicals\89TYP_04.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

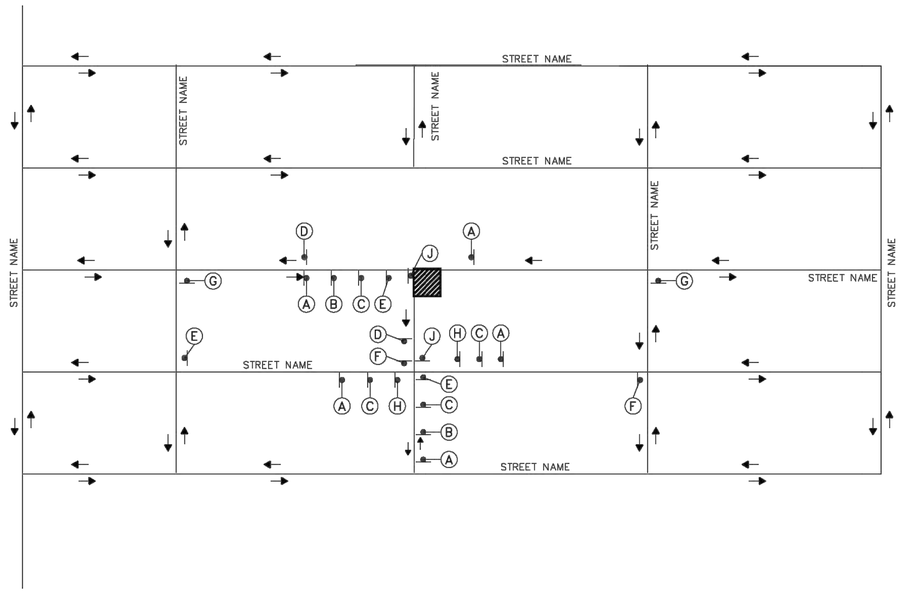
A	B	C	D	E	F	G	H	J
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	STREET NAME DETOUR →	STREET NAME DETOUR ←	END DETOUR	STREET NAME DETOUR ↑	ROAD CLOSED TO THRU TRAFFIC
CW20-1 36" X 36"	CW20-3 36" X 36"	CW20-2 36" X 36"	G20-2a 36" X 18"	M4-9R	M4-9L	M4-8A 24 X 18"	M4-9S	R11-4 60" X 30"

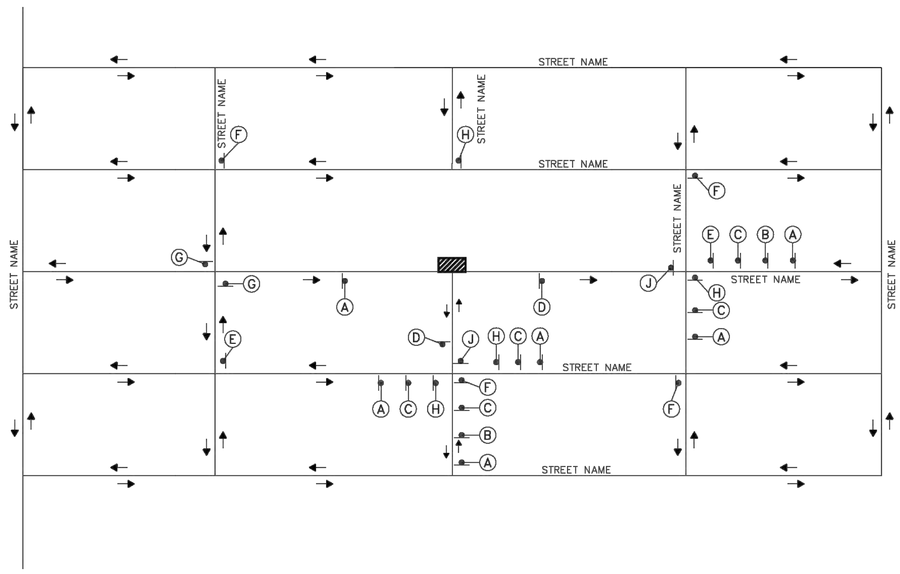
STREET	: SPEED LIMITS
EAST EDGEBROOK DRIVE	: 35 MPH
OTHER ROAD	: 30 MPH

LEGEND

- SIGN
- TRAFFIC FLOW
- WORK ZONE







NOTES

1. FLAGGER CONTRACTOR SHALL NOT BLOCK OR CONSTRUCT TWO ADJACENT DRIVEWAYS/SIDE STREETS AT THE SAME TIME.

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS V.N.MURTHY MADE 134936 LICENSED PROFESSIONAL ENGINEER

4/29/2026

HRGreen FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9956
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

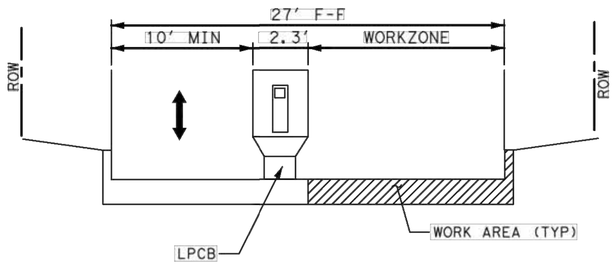
TYPICAL DETOUR OPERATION AT 3-WAY(TEE) INTERSECTIONS (TYP-5)

TCP-16 OF 19 SHEET 5 OF 6

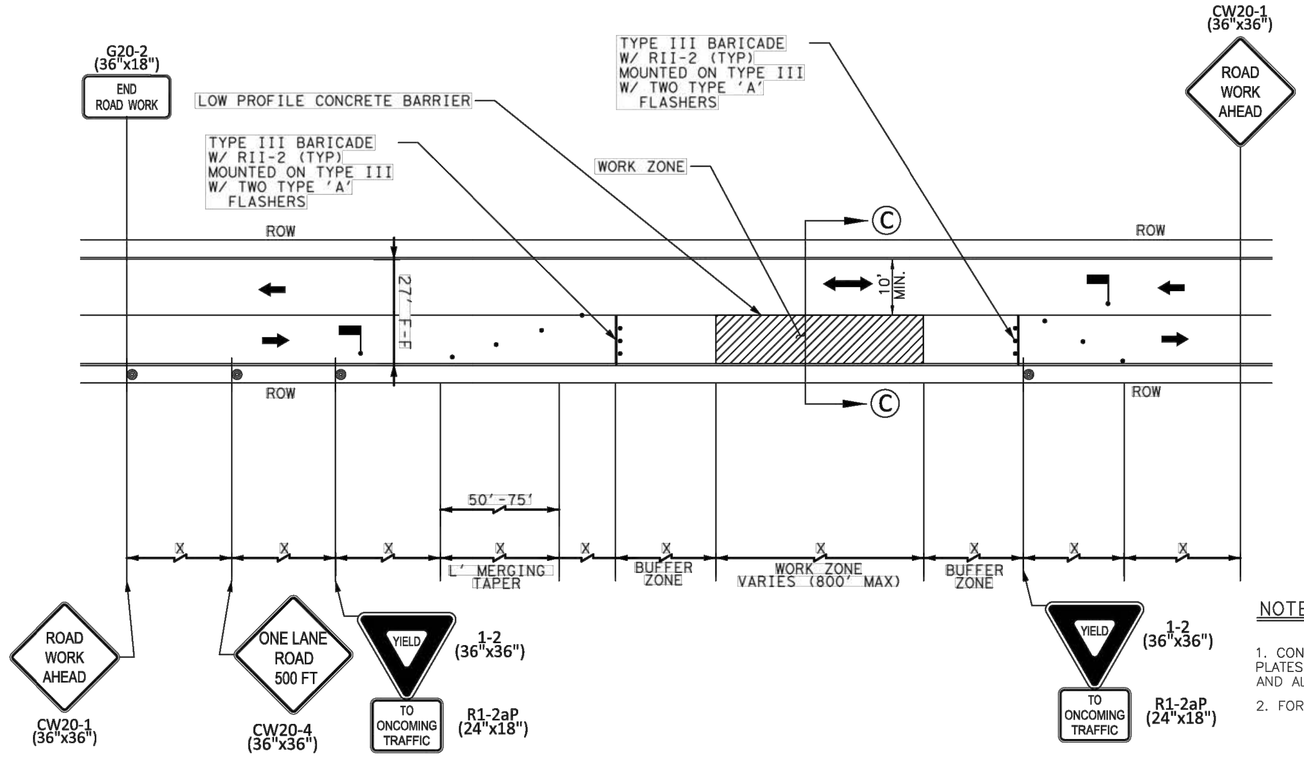
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 85 OF 175	

No.	Date	Revisions	App.

FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\Typicals\89TYP_05.dgn P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt
DATE:4/29/2026



SECTION
C-C

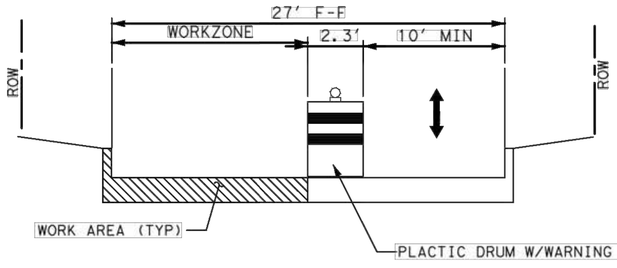


NOTES:

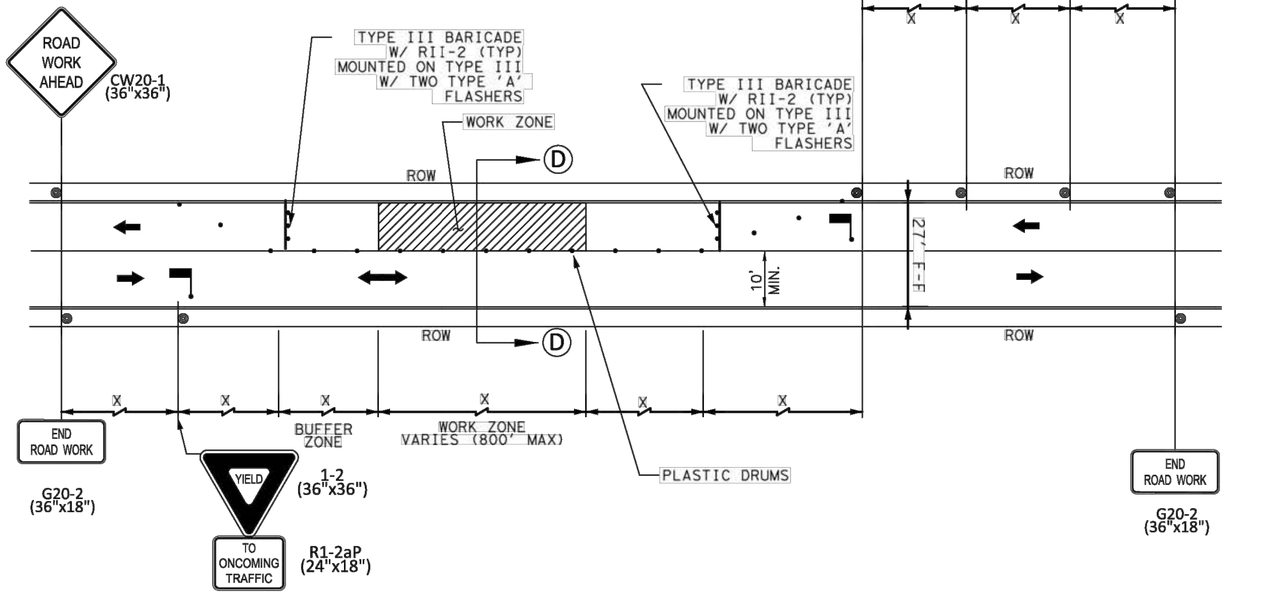
1. CONTRACTOR TO COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS. AND ALLOW TWO-WAY TRAFFIC.
2. FOR THE DISTANCE BETWEEN THE SIGNS REFER TO TCP 1 OF 19.

LEGEND:

- ONE LANE TWO WAY TRAFFIC
- CONSTRUCTION ZONE
- TRAFFIC SIGN
- LOW PROFILE CONCRETE TRAFFIC BARRIER WITH REFLECTORS (LPCB) (TY 1 AND TY2)
- FLAGGER (FOR DAY OPERATIONS)



SECTION
D-D



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

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND
AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9966
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL FOR ONE LANE CLOSURE WITH WORKZONE (DRUM/ LPCB) (TYP-6)

TCP- 17 OF 19 SHEET 6 OF 6

WBS NO. M-410006-0002-4

DRAWING SCALE

N.T.S.

CITY OF HOUSTON PM

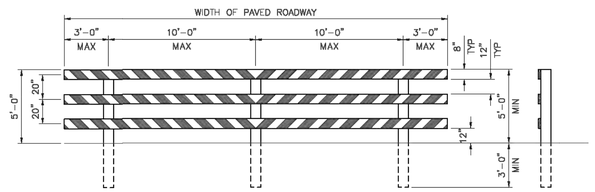
MIGUEL RODRIGUEZ, EIT

SHEET NO. 86 OF 175

Revisions: No. | Date | App.

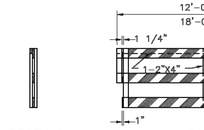
FILE:P:\ACTIVE\17PV89\Working\Traffic Control Plans\Typicals\89TYP_06.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER ADAPTING THIS STANDARD FOR USE ON A SPECIFIC PROJECT TO ADDRESS THE SAFETY CONCERNS ASSOCIATED WITH SUCH USE. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM THIS USE.
WHILE THIS STANDARD IS BELIEVED TO BE ACCURATE, IT IS FURNISHED "AS IS" WITHOUT WARRANTY OF ANY KIND AND ANY USE OF THIS STANDARD IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM THIS USE.

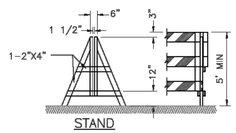


TYPE III BARRICADE
FOR END OF ROAD

FOR TYPE III BARRICADE FOR END OF ROAD, THE THREE (3) RAILS SHALL BE REFLECTIVE RED AND REFLECTIVE WHITE STRIPES ON SIDE FACING TRAFFIC



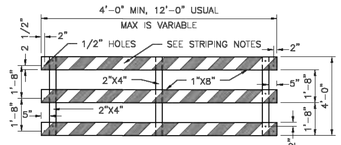
PANEL



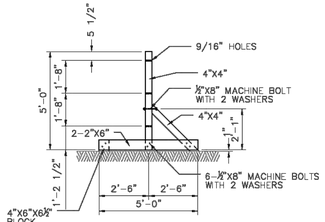
STAND

ASSEMBLY

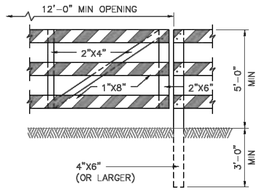
DEMOUNTABLE TYPE III BARRICADE



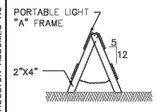
PANEL FOR TYPE III BARRICADE



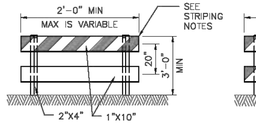
STAND FOR TYPE III BARRICADE



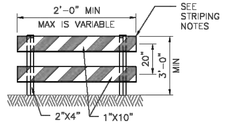
GATE FOR TYPE III BARRICADE



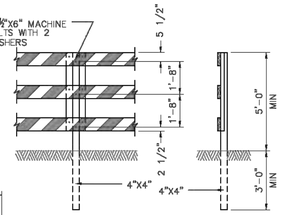
"A" FRAME



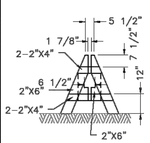
TYPE I



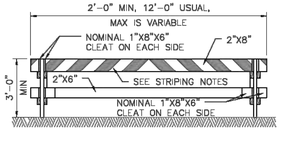
TYPE II



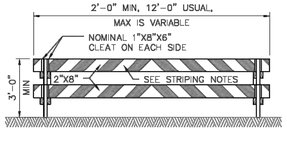
POST FOR TYPE III BARRICADE



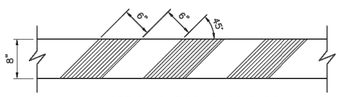
DEMOUNTABLE



TYPE I



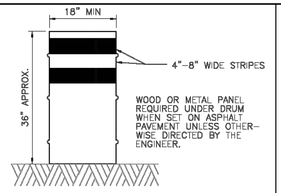
TYPE II



STRIPING FOR BARRICADE

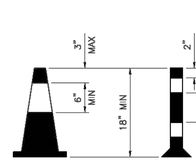
BARRICADE NOTES:

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



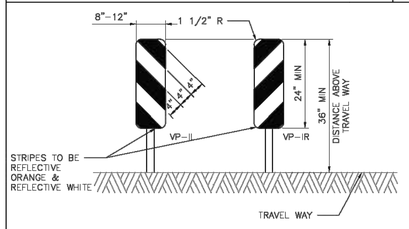
DRUMS

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



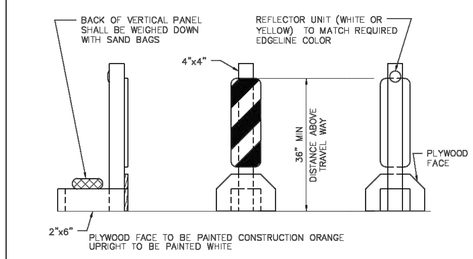
CONES

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



VERTICAL PANELS (VP)

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



TYPICAL PORTABLE VERTICAL PANEL OR DELINEATOR

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

APPROVED BY:	APPROVED BY:
Salud Ibanwar	Hoang Nguyen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-14

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BARRICADE AND CHANNELIZING DEVICES

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

ISANI
civil & design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9986
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-5076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

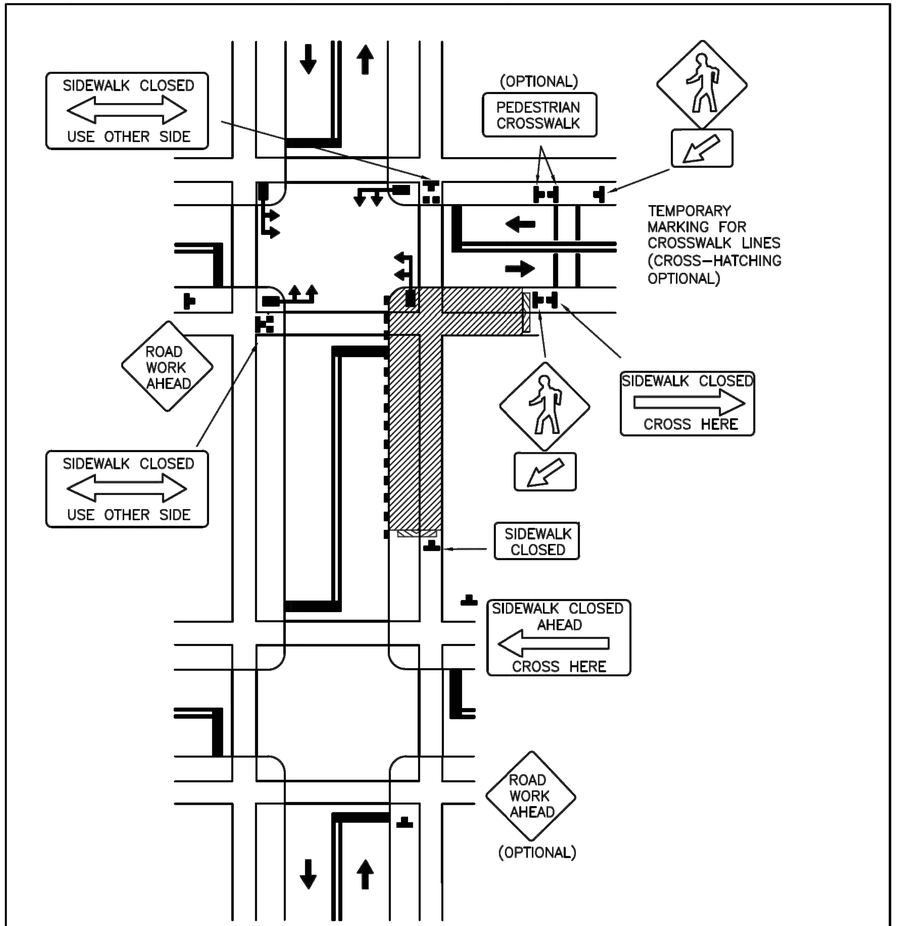
BARRIER STANDARD

TCP-18 OF 19

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 87 OF 175	

No.	Date	Revisions	App'd

FILE:P:\ACTIVE\17PV89\Working\Project Standards\89TCP-STD Barrier.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt



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

APPROVED BY:

CITY ENGINEER	CITY TRAFFIC ENGINEER	DIRECTOR OF HPW
DocuSigned by: Sukait Kanwar 9EF8B0C841F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...	DocuSigned by: Carol Haddock A93C410B72B3453...

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CROSSWALK CLOSURES AND PEDESTRIAN DETOURS

(SCALE: NOT TO SCALE)

EFF DATE: NOV–27–2023 | DWG NO: 01555–16

ISANI civil • design • engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

TYPICAL CROSSWALK AND SIDEWALK CLOSURES

TCP–19 OF 19

WBS NO. M–410006–0002–4

DRAWING SCALE

N.T.S.

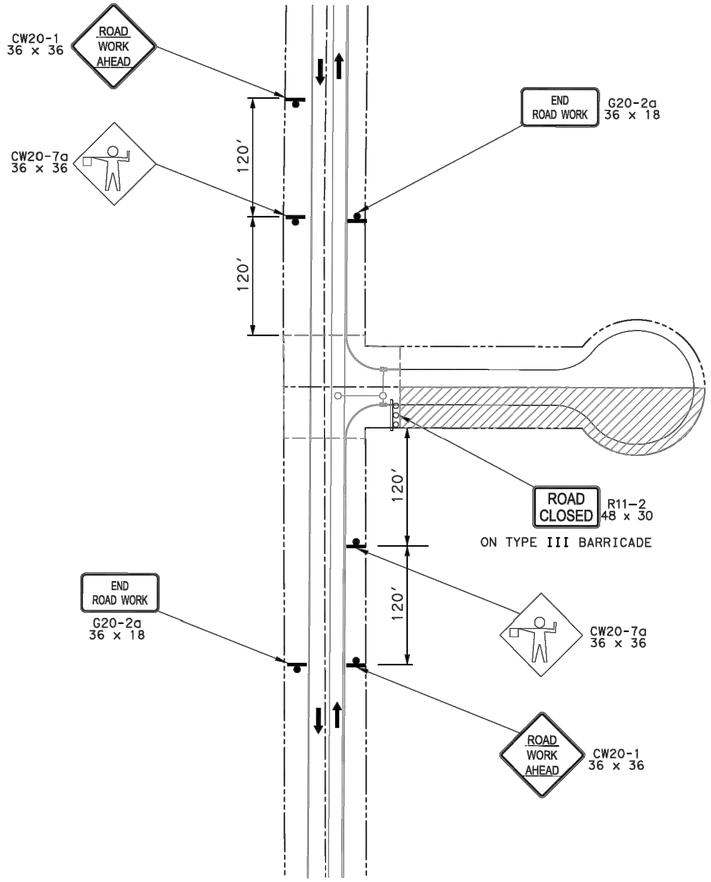
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

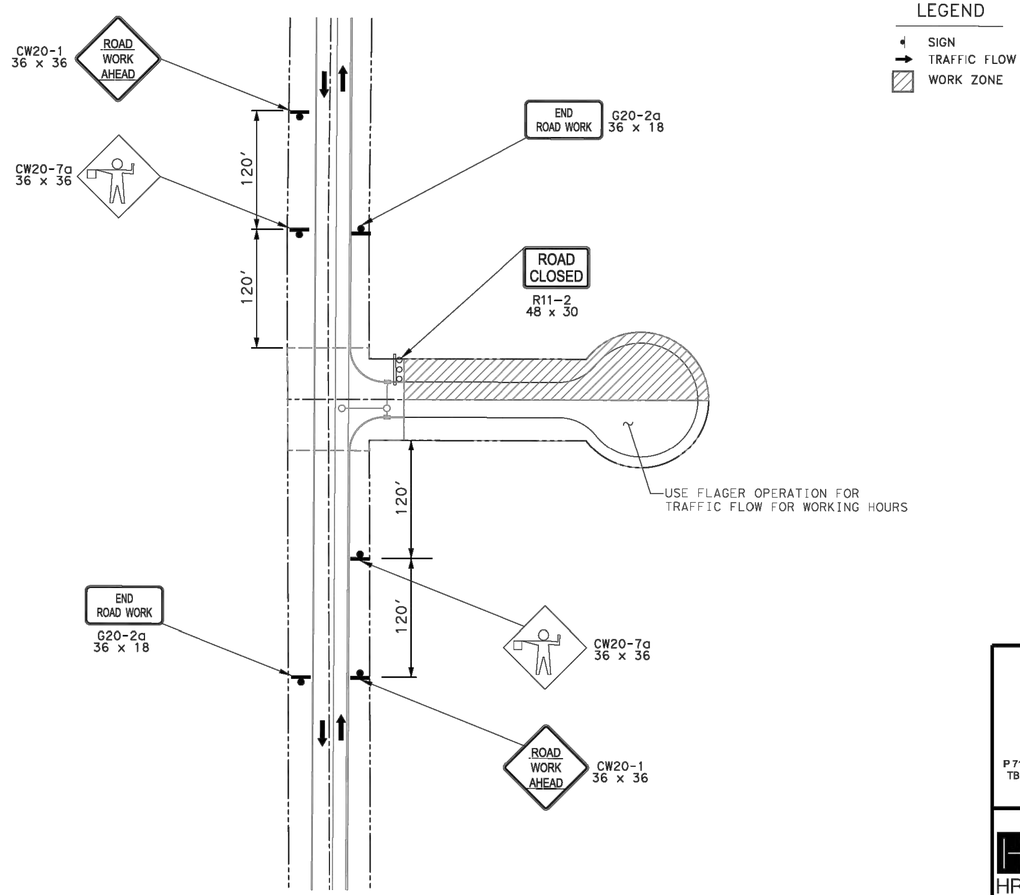
SHEET NO. 88 OF 175

No. | Date | Revisions | App.

FILE:P:\ACTIVE\17PV89\Working\Project Standards\89TCP-STD Crosswalk.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt



STEP A



STEP B

LEGEND

- SIGN
- TRAFFIC FLOW
- WORK ZONE

No.	Date	Revisions	App.

ISANI civil design engineers
10448 Westoffice Drive
Houston, TX 77042
P 713 747 2399 F 713 748 3748
TBPE Firm Registration #4575

STATE OF TEXAS
V.N.MURTHY MADE
134936
LICENSED
PROFESSIONAL ENGINEER
4/29/2026

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TYPICAL FOR CUL-DE-SAC CONSTRUCTION (Typ III)

TCP-19A OF 19

WBS NO. M-410006-0002-4

DRAWING SCALE

N.T.S.

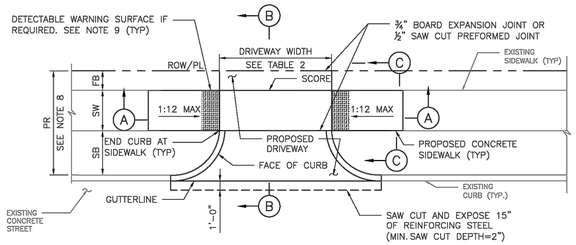
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

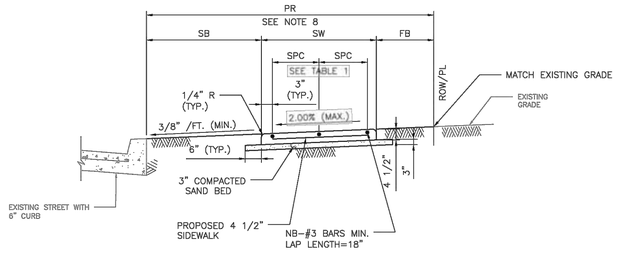
SHEET NO. 89 OF 175

FILE:P:\ACTIVE\17PV89\Working\Project Standards\89TCP-STD Deadends.dgn
DATE:4/29/2026
P:\Micro-Project-Setup\Timber Forest Drive\pltdrv\HC_PDF_Gray.plt

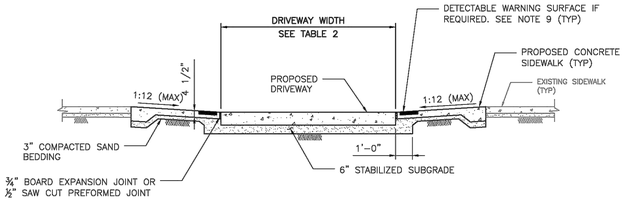
DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



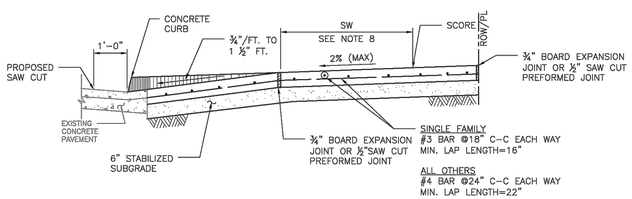
PLAN VIEW
DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY
WITH EXCESSIVE ELEVATION DIFFERENCE
WITH EXISTING SIDEWALK



SECTION B–B
TYPICAL DRIVEWAY SECTION

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
f_c' = 3,500 PSI AND f_y = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS NO. OF BARS "NB"	LONGITUDINAL STEEL #3 BARS SPACING "SPC" (IN)	LONGITUDINAL STEEL #3 BARS END BAR SPACING (IN)	TRANSVERSE STEEL #3 BARS SPACING (IN)
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) WIDTH (FT) MIN	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) WIDTH (FT) MAX	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) RADIUS (FT) MIN	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) RADIUS (FT) MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MIN	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) WIDTH (FT) MAX	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) RADIUS (FT) MIN	TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY) RADIUS (FT) MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MIN	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) WIDTH (FT) MAX	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) RADIUS (FT) MIN	TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY) RADIUS (FT) MAX
ONE–WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO–WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE–WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42–146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40–552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. ALL JOINTS ALONG THE SIDEWALK SHALL BE CONSTRUCTED ACCORDING TO DRAWING 02752–02 AND SPECIFICATION 02752.
4. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)
5. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE AND INCLUDE 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
6. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
7. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
8. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
9. DETECTABLE WARNING SURFACES:
   - 9.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
     - 9.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD, OR TRAFFIC SIGNAL CONTROLLED; OR
     - 9.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
   - 9.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 9.3. REFER TO STANDARD DETAILS 02775–06 TO 02775–07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sulad Kunwar	DocuSigned by: Hilding McAllen
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02754–01B

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DRIVEWAY DETAIL WITH 6" CURBED STREETS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

No.	Date	Revisions	Appv

HRGreen — FIRM NO. F–11278, 11011 RICHMOND AVENUE, SUITE 200, HOUSTON, TX 77042, PH: 713.985.9006, FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER — 5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

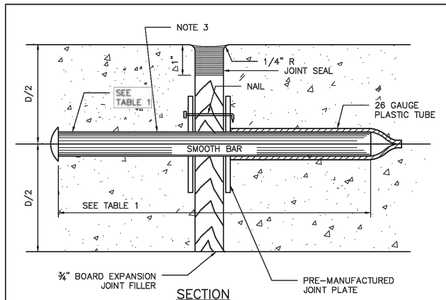
DRIVEWAY DETAIL SHEET

WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 90 OF 175	

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

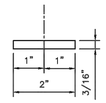
\\hrghus\data\85130030\cad\dwg\c\driveway detail sheet.dwg Plotted May 22, 2026 at 8:45 AM by Perez, Abel

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



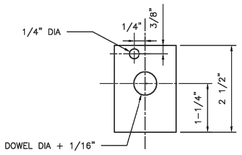
SECTION

DOWEL TYPE EXPANSION JOINT



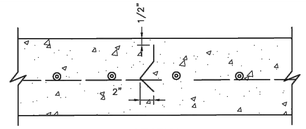
PLAN VIEW

JOINT PLATE



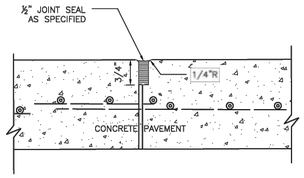
ELEVATION VIEW

JOINT PLATE



SECTION

DEFORMED METAL STRIP



SECTION

CONSTRUCTION JOINT SEAL

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. UNITS TO BE SPACED 12" CENTER ON CENTER.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 3" MIN COVER.
5. CITY OF HOUSTON APPROVED PRODUCTS MAY BE USED AS JOINT PLATE ALTERNATIVE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sulaf Kanawi — CITY ENGINEER

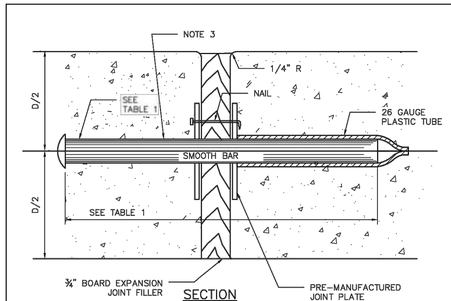
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023 | DWG NO: 02752-01

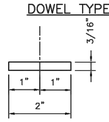
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH ITS USE. THE ENGINEER OF RECORD (EOR) IS TO DEVELOP THOSE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR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

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



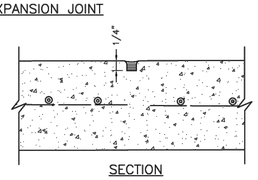
SECTION

DOWEL TYPE EXPANSION JOINT



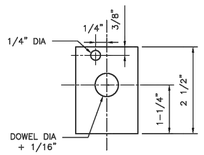
PLAN VIEW

JOINT PLATE



SECTION

CONTROL JOINT

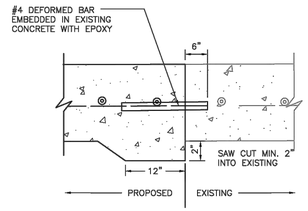


ELEVATION VIEW

JOINT PLATE

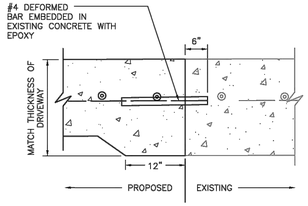
TABLE 1

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



SECTION

SIDEWALK TO EXISTING SIDEWALK



SECTION

SIDEWALK TO EXISTING DRIVEWAY

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: Sulaf Kanawi — CITY ENGINEER

DocuSigned by: Carl Haddock — DIRECTOR OF HPW

DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023 | DWG NO: 02752-02

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER — 5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PAVING DETAIL (SHEET 1 OF 4)

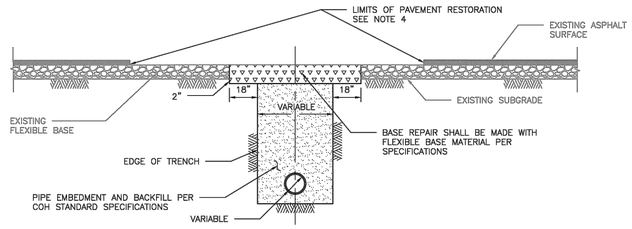
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 91 OF 175	

No.	Date	Revisions	App.

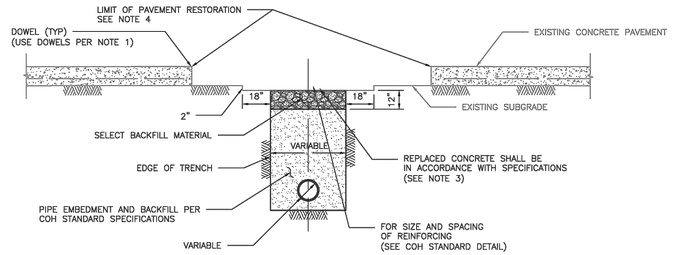
\\hrghus\data\85130030\cad\dwgs\c\paving detail sheet (1 of 4).dwg Plotted May 22, 2026 at 8:52 AM by Perez, Abel

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

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



ELEVATION A
REPAIR OF FLEXIBLE BASE PAVEMENT



ELEVATION B
REPAIR OF REINFORCED CONCRETE PAVEMENT

NOTES:

1. EXPOSE 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BAR, 24" LONG, 24" C-C, DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB. WITH "PO ROC" OR EQUAL.
2. IF REINFORCED CONCRETE IS OVERLAYED WITH ASPHALT, REPLACE WITH 2" MIN HMAC SURFACING.
3. REFER TO STANDARD DETAIL 02751-01 FOR REINFORCING STEEL REQUIREMENTS.
4. REFER TO STANDARD DETAIL 02951-01 THROUGH 03 FOR PAVEMENT RESTORATION LIMITS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT REPAIR DETAIL
FOR STREET CUTS
(FLEX-BASE PAVEMENT & CONCRETE PAVEMENT)
(SCALE: NOT TO SCALE)

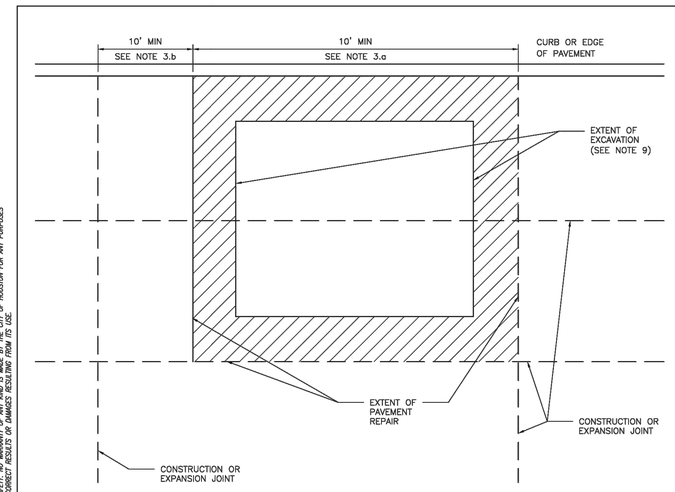
APPROVED BY:

DocuSigned by: Sukat Barawar — CITY ENGINEER
DocuSigned by: Carl Haldbrook — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023 | DWG NO: 02951-04

No.	Date	Revisions	Appr.

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6



NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. WIDTH:
   REPLACE PANEL WIDTH TO NEAREST CONSTRUCTION OR EXPANSION JOINT BEYOND EDGE OF EXCAVATION.
3. LENGTH:
   a. MINIMUM LENGTH OF PAVEMENT REPAIR ALONG TRAVEL WAY IS 10' FROM THE NEAREST JOINT.
   b. IF EXTENT OF PAVEMENT REPAIR IS LESS THAN 10' FROM EXISTING CONSTRUCTION OR EXPANSION JOINT, EXTEND PAVEMENT REPAIR TO EXISTING JOINT.
4. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF PANEL REPLACEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02951-PAVEMENT REPAIR AND RESTORATION) IF REINFORCING IS BROKEN OFF OR DOES NOT EXIST.
5. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
6. MAINTAIN EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
7. SPECIALTY PAVEMENTS (IE: BRICK PAVERS) TO BE REPLACED WITH MATCHING PAVEMENT IN ALL CASES.
8. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764-RAISED PAVEMENT MARKERS AND 02767-THERMOPLASTIC PAVEMENT MARKINGS.
9. EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02951-04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX-BASE PAVEMENT & CONCRETE PAVEMENT).

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT > 5YRS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukat Barawar — CITY ENGINEER
DocuSigned by: Carl Haldbrook — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023 | DWG NO: 02951-02

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9900
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

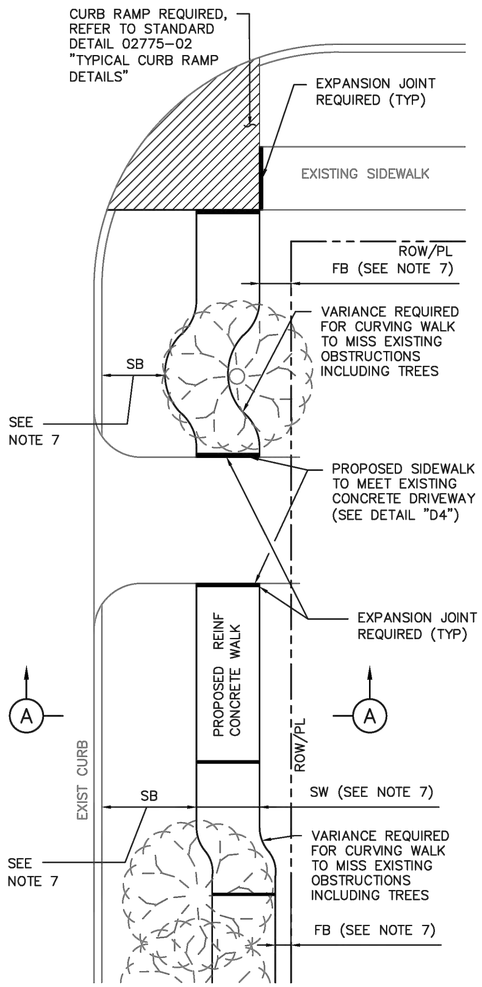
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

PAVING DETAIL (SHEET 2 OF 4)

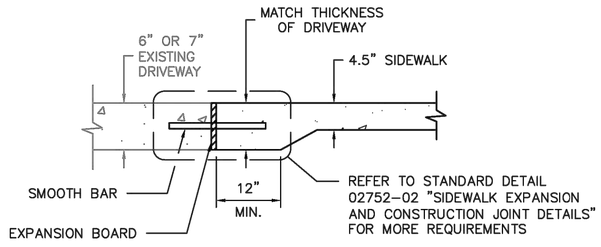
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 92 OF 175	

\\hrghus\data\85130030\cad\dwgs\s\paving detail sheet (2 of 4).dwg Plotted May 22, 2026 at 8:34 AM by Perez, Abel

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



PLAN VIEW

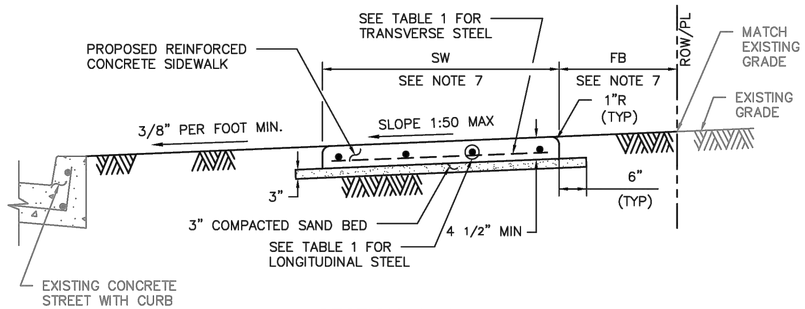


DETAIL D4
DRIVEWAY/SIDEWALK HEADER

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.

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

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL SIDEWALK LAYOUT AND DETAILS FOR STREETS WITH CURBS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukait kanwar — CITY ENGINEER
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carol Haddock — DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02775–01

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

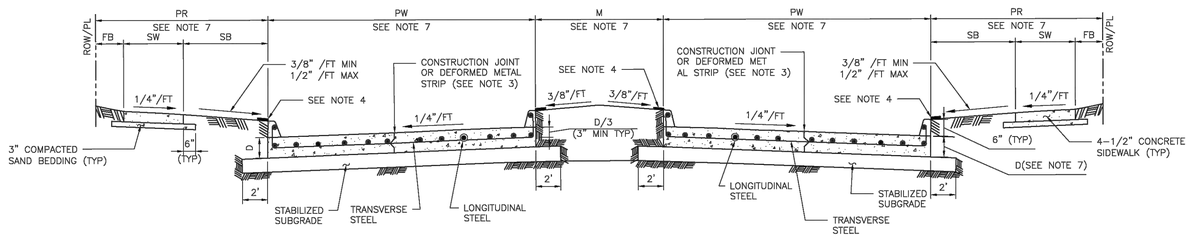
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PAVING DETAIL (SHEET 3 OF 4)

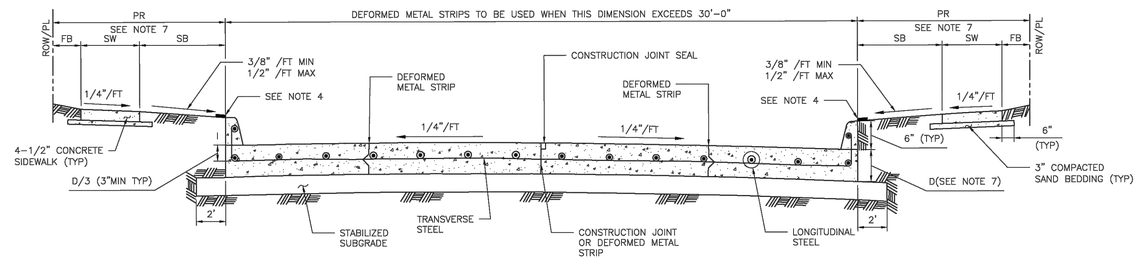
WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 93 OF 175	

No.	Date	Revisions	App.

\\hrghus\data\85130030\cad\dwgs\c\paving details sheet (3 of 4).dwg Plotted May 22, 2026 at 8:49 AM by Perez, Abel



TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

NOTES:

1. THE MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 15'-0".
2. ALL EARTHEN AREAS ARE TO BE HYDROMULCHED UNLESS SHOWN OTHERWISE ON DRAWINGS.
3. CONTRACTOR MAY SAW CUT IN LIEU OF DEFORMED METAL STRIP.
4. USE STRIP OF SOD GRASS TO PREVENT EROSION UNTIL STAND OF GRASS IS ESTABLISHED.
5. AN EQUAL OR LARGER AREA OF WELDED REINFORCEMENT BAR CONFORMING TO ASTM A497, MAY BE SUBSTITUTED FOR REBARS LISTED IN TABLE 1.
6. IF AVAILABLE ROW IS NOT SUFFICIENT TO ACCOMMODATE SIDEWALK WIDTH (SW) ACCORDING TO IDM REQUIREMENTS, ENGINEER SHALL OBTAIN A VARIANCE FROM THE CITY ENGINEER.
7. REFER TO CONTRACT DRAWINGS FOR PAVEMENT WIDTH (PW) AND PAVEMENT THICKNESS (D), MEDIAN (M), PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

TABLE 1

REINFORCING STEEL BAR SIZES AND SPACINGS FOR VARIOUS PAVEMENT THICKNESSES (D) WITH: MAXIMUM TRANSVERSE CONTROL JOINT SPACING = 20'-0"
MAXIMUM EXPANSION JOINT SPACING = 80'-0"
fc' = 4,000 PSI/28 DAYS AND FY = 60,000 PSI

PAVEMENT THICKNESS 'D' (IN)	PAVEMENT WIDTH 'PW' (FT)	LONGITUDINAL STEEL									TRAVERSE STEEL		
		#4 BARS			#5 BARS			#6 BARS			#4 BARS	#5 BARS	#6 BARS
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	SPACING (IN)	SPACING (IN)	SPACING (IN)
6	28	17	20.50	4.00	–	–	–	–	–	–	36	–	–
7	25	17	18.25	4.00	–	–	–	–	–	–	36	–	–
7	35	24	18.00	3.00	–	–	–	–	–	–	36	–	–
7	36	25	17.75	3.00	–	–	–	–	–	–	36	–	–
7	37	25	18.25	3.00	–	–	–	–	–	–	36	–	–
7	41	28	18.00	3.00	–	–	–	–	–	–	36	–	–
7	45	31	17.75	3.75	–	–	–	–	–	–	36	–	–
8	25	20	15.50	2.75	13	24.50	3.0	–	–	–	36	36	–
8	34	27	15.50	2.50	17	25.00	4.0	–	–	–	36	36	–
8	35	27	16.00	2.00	18	24.25	4.0	–	–	–	36	36	–
8	36	28	15.75	3.25	18	25.00	3.0	–	–	–	30	36	–
8	44	24	15.75	4.00	22	24.75	4.0	–	–	–	30	36	–
8	45	35	15.75	2.25	23	24.25	3.0	–	–	–	30	36	–
9	25	22	14.00	3.00	14	22.50	4.0	–	–	–	36	36	–
9	34	31	13.50	2.00	19	22.25	3.5	–	–	–	30	36	–
9	35	31	13.75	3.75	20	21.75	3.5	–	–	–	30	36	–
9	36	32	13.75	3.00	21	21.25	3.5	–	–	–	30	36	–
9	44	39	13.75	2.75	25	21.75	3.0	–	–	–	24	36	–
9	45	39	14.00	4.00	26	21.25	4.5	–	–	–	24	36	–
10	25	24	12.75	3.50	17	18.25	4.0	–	–	–	36	36	36
10	34	33	12.50	4.00	21	20.00	4.0	–	–	–	30	36	36
10	35	34	12.50	3.75	23	18.75	4.0	–	–	–	30	36	36
10	36	35	12.50	3.50	24	18.50	3.0	–	–	–	30	36	36
10	44	44	12.00	4.00	29	18.50	4.5	–	–	–	24	36	36
10	45	44	12.50	3.00	29	19.00	3.0	–	–	–	24	36	36
11	25	27	11.25	3.00	17	18.25	4.0	12	26.75	3	36	36	36
11	34	36	11.50	2.75	24	17.50	2.5	17	25.00	4	24	36	36
11	35	37	11.50	3.00	24	18.00	3.0	17	25.75	4	24	36	36
11	36	40	11.00	2.00	25	17.75	3.0	17	26.50	4	24	36	36
11	44	48	11.125	2.50	30	18.00	3.0	21	26.00	4	24	36	36
11	45	49	11.125	3.00	31	17.75	4.0	22	25.50	3	24	36	36
12	25	–	–	–	19	16.25	4.0	13	24.50	3	36	36	36
12	34	–	–	–	26	16.00	4.0	18	23.50	4	24	36	36
12	35	–	–	–	26	16.50	4.0	19	23.00	3	24	36	36
12	36	–	–	–	27	16.25	4.5	20	22.25	4.5	24	36	36
12	44	–	–	–	33	16.25	4.0	24	22.50	5	24	30	36
12	45	–	–	–	35	15.75	3.0	25	22.25	3	24	30	36

MINIMUM LAP LENGTH (L):
A. # 4 BARS ; L = 22 INCHES
B. # 5 BARS ; L = 27 INCHES
C. # 6 BARS ; L = 32 INCHES

APPROVED BY:	APPROVED BY:
DocuSigned by: Sulaiman Kanwar	DocuSigned by: HIEN NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02751-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CONCRETE PAVEMENT DETAILS

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

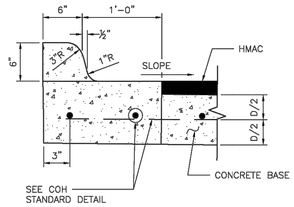
CONCRETE PAVING DETAIL
(SHEET 4 OF 4)

WBS NO. M-410006-0002-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 94 OF 175

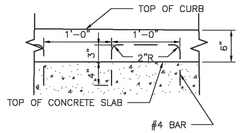
No.	Date	Revisions	Appv.

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS RESPONSIBLE FOR ADEQUATELY ADDRESSING THESE CONCERNS AS THEY RELATE TO EACH SPECIFIC PROJECT. THE EOR IS ALSO RESPONSIBLE FOR DETERMINING THE APPLICABILITY OF THIS STANDARD TO EACH PROJECT. THE CITY OF HOUSTON MAKES NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

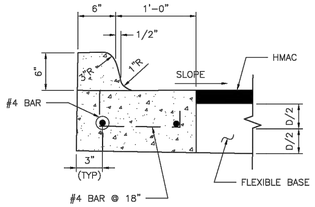
\\hrghus\data\85130030\cad\dwgs\c\concrete paving detail (sheet 4 of 4).dwg Plotted May 22, 2026 at 9:21 AM by Perez, Abel



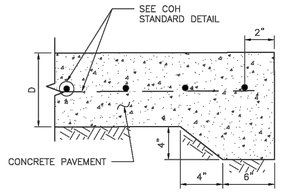
ESPLANADE CURB CONNECTED TO CONCRETE BASE



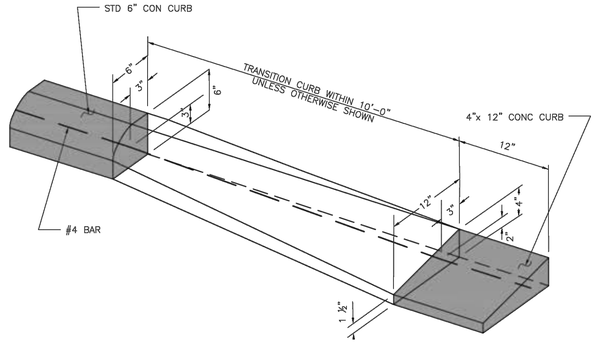
ALTERNATE CONCRETE CURB REINFORCEMENT



ESPLANADE CURB CONNECTED TO FLEXIBLE BASE

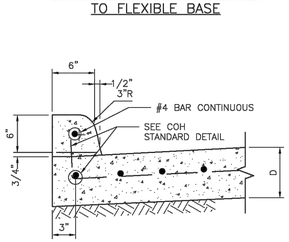


STANDARD CONCRETE PAVING HEADER

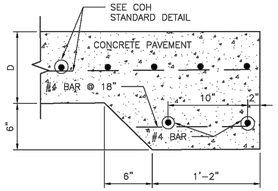


CURB TRANSITION

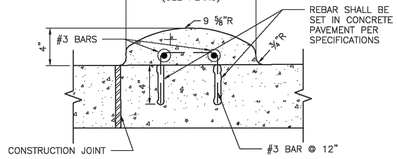
(SEE NOTES)



CONCRETE CURB

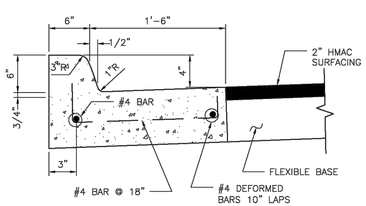


STANDARD RAILROAD HEADER

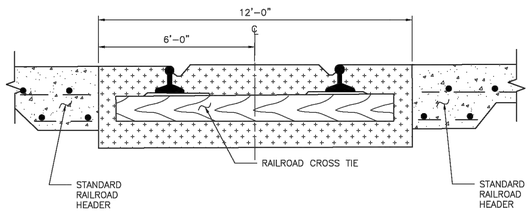


MOUNTABLE CURB

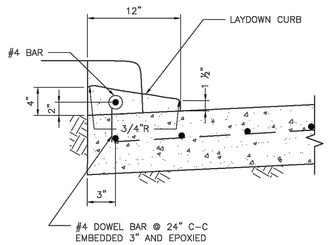
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 BAR @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT. SET #4 DOWEL BARS, 25" LONG AT 12" C-C WHEN PAVEMENT SECTION POURED.



MONOLITHIC CURB AND GUTTER

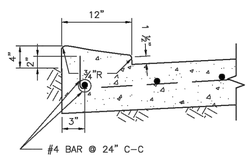


STANDARD RAILROAD CROSSING – SINGLE TRACK



4-INCH x 12-INCH TRANSITION CURB

(SEE NOTES)



4-INCH x 12-INCH MONOLITHIC CURB

(SEE NOTES)

4"x12" MONOLITHIC AND TRANSITION CURB NOTES:

1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS, NON-RESIDENTIAL STREETS, AND RESIDENTIAL STREETS.
2. TRANSITIONS FROM 6- INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10-FEET TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" IS TO BE INSTALLED.

APPROVED BY:	APPROVED BY:
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY:	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02771-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CURB, CURB AND GUTTER AND HEADER DETAILS

DRAWING SCALE	FOR CITY OF HOUSTON USE ONLY
NOT TO SCALE	

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CURB, CURB AND GUTTER AND HEADER DETAIL SHEET

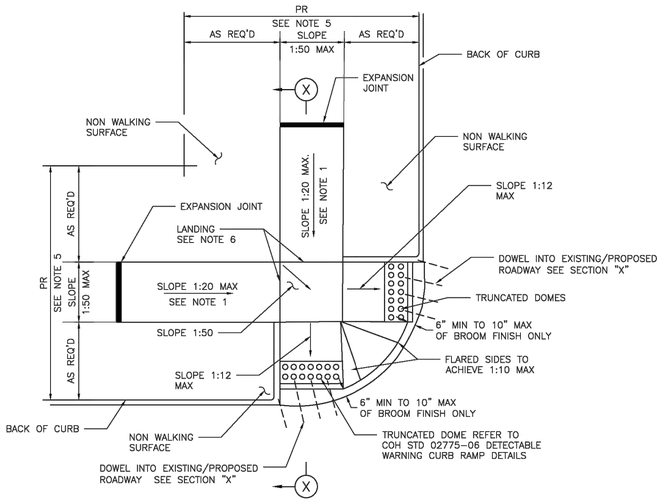
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 95 OF 175	

No.	Date	Revisions	Appv.

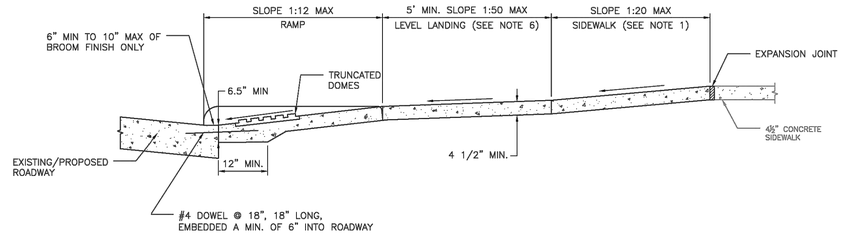
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD, (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR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

\\hrghus\data\8513030\cad\dwgs\c\curb, curb & gutter and header detail sheet.dwg Plotted May 22, 2026 at 9:10 AM by Perez, Abel

i Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5



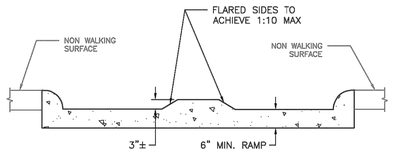
STREETS WITH NON– WALKING SURFACE BEHIND CURB
SEE NOTE–7



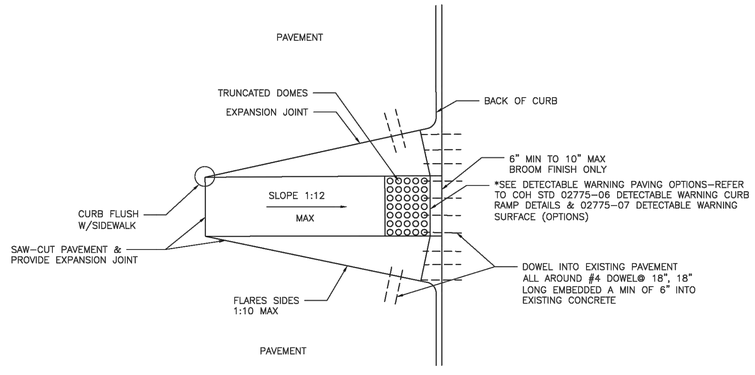
SECTION X–X

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: Sulad Kunwar 9EFB80C041F5478...	DocuSigned by: LAMNG NGUYEN 55A28EFDA7154C0...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A5DC4159F2D4A5A...	
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	

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9000
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

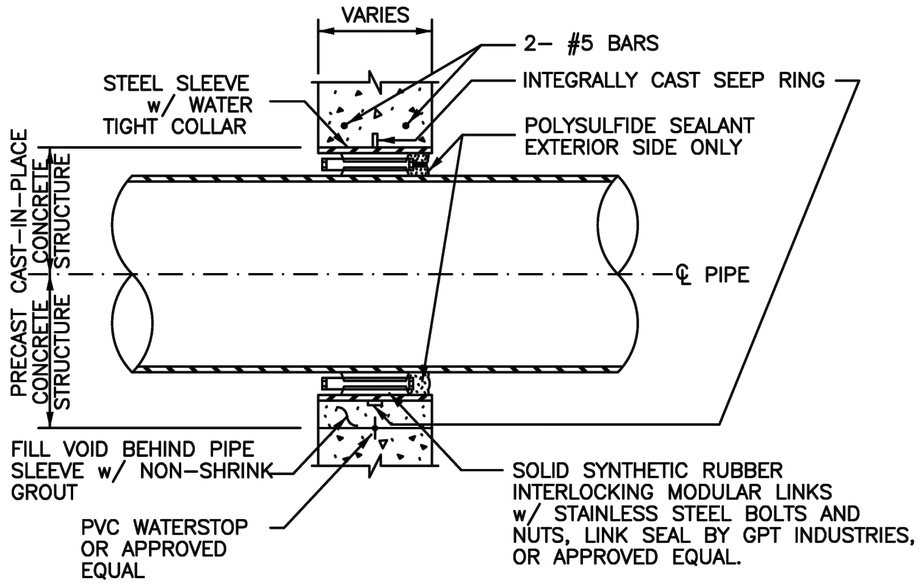
WHEELCHAIR RAMP DETAIL SHEET

WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 96 OF 175	

No.	Date	Revisions	Apv

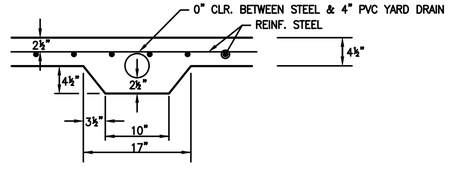
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD FOR EACH PROJECT IS RESPONSIBLE FOR ADDRESSING SITE SPECIFIC CONDITIONS AND REQUIREMENTS AND AUTHORIZING THE USE OF THIS STANDARD FOR EACH APPLICATION. THE USER OF THIS STANDARD AGREES, BY USE OR APPLICATION OF THIS STANDARD, TO HOLD HARMLESS THE CITY OF HOUSTON FOR ANY AND ALL LIABILITY OF ANY NATURE ARISING FROM OR CONNECTED TO THE USE OF THIS STANDARD. THE USER FURTHER AGREES TO INDEMNIFY AND DEFEND THE CITY OF HOUSTON FOR ANY DAMAGES RESULTING FROM ITS USE. WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

\\hrghus\data\85130030\cad\dwgs\wheelchair ramp detail.dwg Plotted May 22, 2026 at 8:59 AM by Perez, Abel

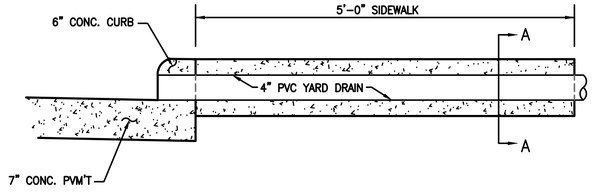


TYPICAL WALL PENETRATION DETAIL

N.T.S.

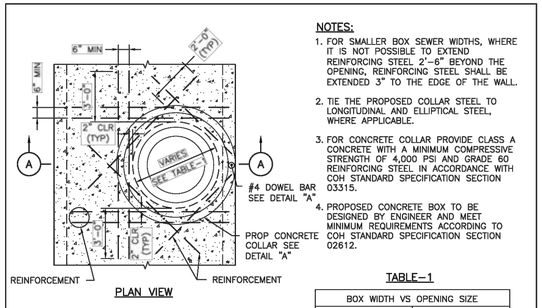


DETAIL A–A



DETAIL OF YARD DRAIN THROUGH SIDEWALK AND CURB

N.T.S.



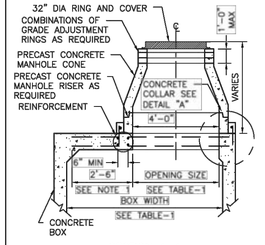
PLAN VIEW

NOTES:

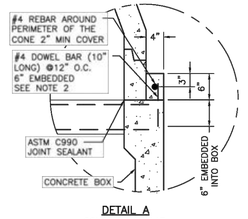
1. FOR SMALLER BOX SEWER WIDTHS, WHERE IT IS NOT POSSIBLE TO EXTEND REINFORCING STEEL 2'–6" BEYOND THE OPENING, REINFORCING STEEL SHALL BE EXTENDED 3" TO THE EDGE OF THE WALL.
2. TIE THE PROPOSED COLLAR STEEL TO LONGITUDINAL AND ELLIPTICAL STEEL, WHERE APPLICABLE.
3. FOR CONCRETE COLLAR PROVIDE CLASS A CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AND GRADE 60 REINFORCING STEEL IN ACCORDANCE WITH COH STANDARD SPECIFICATION SECTION 03315.
4. PROPOSED CONCRETE BOX TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO COH STANDARD SPECIFICATION SECTION 02612.

TABLE–1

BOX WIDTH VS OPENING SIZE	
BOX WIDTH (INCHES)	OPENING SIZE (INCHES)
48"	36"
GREATER THAN 48"	48"



SECTION A–A



DETAIL A
CONCRETE COLLAR

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

APPROVED BY:

Signed by: OA — CITY ENGINEER

Signed by: — DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER MANHOLE TYPE "C" FOR PROPOSED CONCRETE BOX SEWER

(SCALE: NOT TO SCALE)

EFF DATE: MAR–02–2026 | DWG NO: 02082–15

HRGreen
FRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER — 5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

STORM SEWER DETAILS (SHEET 1 OF 6)

WBS NO. M–410006–0002–4

DRAWING SCALE

N.T.S.

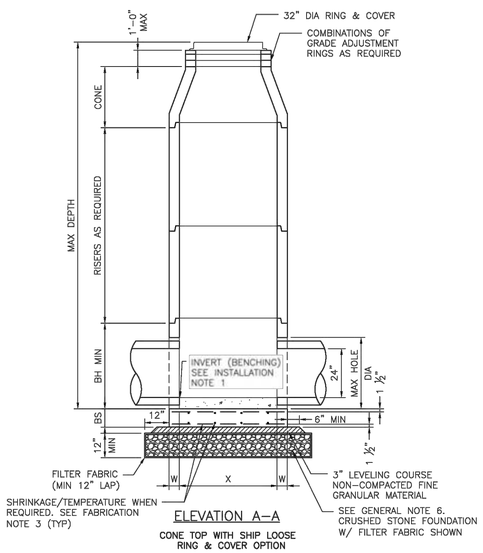
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 97 OF 175

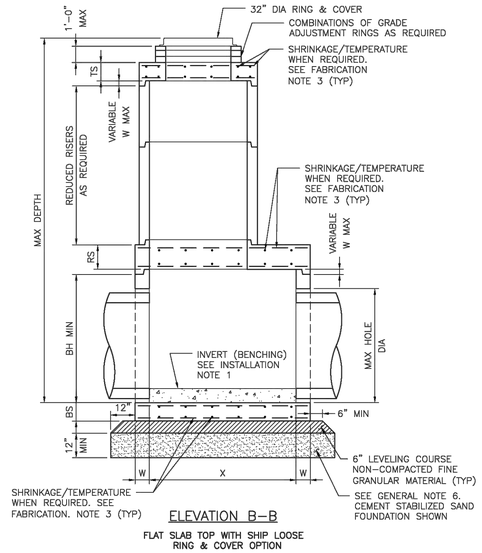
No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwga\c\48 storm water pollution prevention notes.dwg Plotted May 22, 2026 at 9:04 AM by Perez, Abel



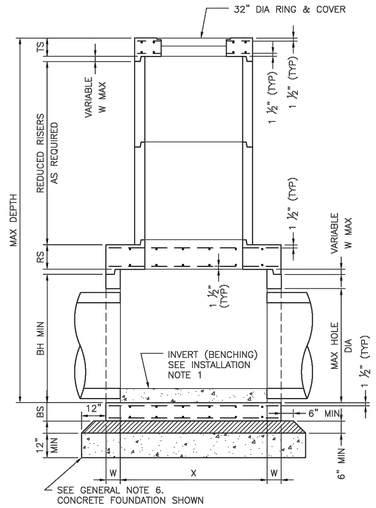
ELEVATION A–A

CONE TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION B–B

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION C–C

FLAT SLAB TOP WITH INVERTED RING & COVER OPTION

FABRICATION NOTES:

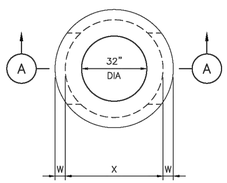
1. PROVIDE CLASS "H" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF BASE, RISER AND CONE IN ACCORDANCE WITH ASTM C478.
3. SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN^2/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 ¾".
6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
8. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE SHOWN. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED.

INSTALLATION NOTES:

1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO THIS ITEM. REFER TO CITY OF HOUSTON SPECIFICATION 02082 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'–0" MAX AS SHOWN.
5. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'–6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'–6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'–0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:

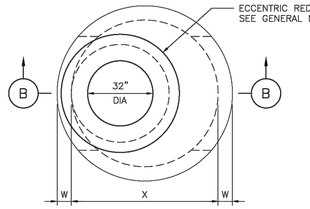
1. SEE TABLE–1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
2. DESIGNED ACCORDING TO ASTM C478.
3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082–PRECAST CONCRETE MANHOLES.
4. PIPE OD + PLACEMENT TOLERANCE MUST BE EQUAL OR LESS THAN MAX HOLE DIA. FOR RIGID PIPE, PLACEMENT TOLERANCE IS 4" MAX, 2" MIN. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE.
5. STORM WATER SEWER PIPE INTERNAL DIA SHALL NOT BE LESS THAN 24".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
9. CONES MAY BE CONCENTRIC OR ECCENTRIC. REDUCTION CONES ARE ACCEPTABLE. REFER TO MANUFACTURER FOR CONE DIMENSIONS.
10. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO ROUND MANHOLES LARGER THAN 6–FOOT DIA.



PLAN VIEW A

COVER NOT SHOWN

4–FT DIA MANHOLE

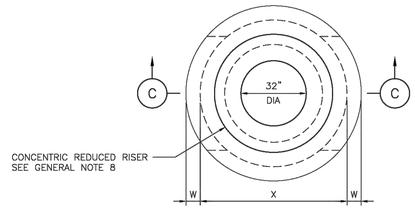


PLAN VIEW B

COVER NOT SHOWN

5–FT & 6–FT DIA MANHOLE

ECCENTRIC MANHOLE (PREFERRED CONFIGURATION)



PLAN VIEW C

COVER NOT SHOWN

5–FT & 6–FT DIA MANHOLE

ECCENTRIC MANHOLE (ALTERNATE CONFIGURATION)

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	MIN HEIGHT	MAX HOLE DIA
	X	BS	W	ID	RS	TS	MAX DEPTH	BH MIN	MAX HOLE DIA
	FT	IN.	IN.	IN.	IN.	IN.	FT.	IN.	IN.
PRM	4	9	5	–	–	9	25	42	35
	5	9	6	48	9	9	25	42	42
	6	9	7	48/60*	12	9	25	42	56

(*) 60–IN REDUCED RISER IS TO BE USED WHEN DEEMED NECESSARY TO SATISFY WALL PENETRATION SPACING REQUIREMENTS.

APPROVED BY:	APPROVED BY:
Signed by:	Signed by:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02082–12

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER TYPE "C"
PRECAST ROUND MANHOLE

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE

NOT TO SCALE

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

STORM SEWER DETAILS (SHEET 2 OF 6)

WBS NO. M–410006–0002–4

DRAWING SCALE

N.T.S.

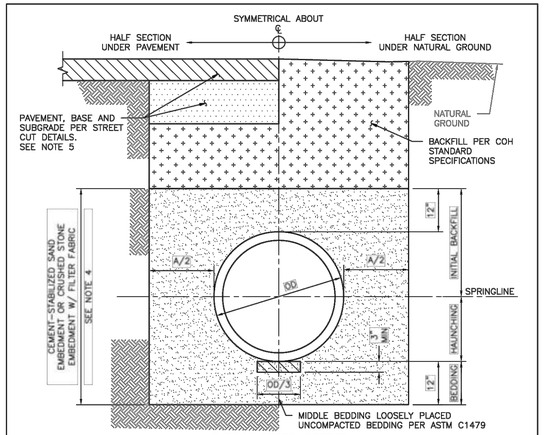
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 98 OF 175

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

\\hrghus\data\85130030\cad\dwga\c\storm sewer details -- sheet 2.dwg Plotted May 22, 2026 at 9:12 AM by Perez, Abel



TYPICAL CROSS-SECTION

NOTES:

1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
30" OR LESS	24"
36" TO 42"	36"
GREATER THAN 42"	48"

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.
5. REFER TO THE COH STD DETAILS 02951-01 THROUGH 05 FOR STREET CUT REQUIREMENTS.
6. FOR THERMOPLASTIC STORM SEWER PIPE INSTALLATION REFER TO COH STD DETAIL 02317-10G.

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

APPROVED BY:

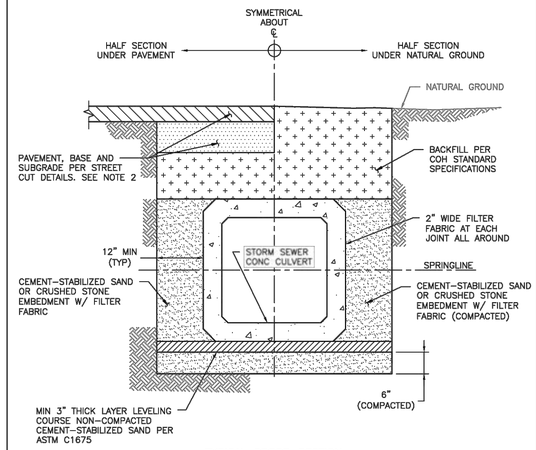
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02317-03



TYPICAL CROSS-SECTION

NOTES:

1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPARATION SHALL BE 6".
2. REFER TO COH STANDARD DETAILS 02951-01 THROUGH 05 FOR STREET CUT REQUIREMENTS.

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

APPROVED BY:

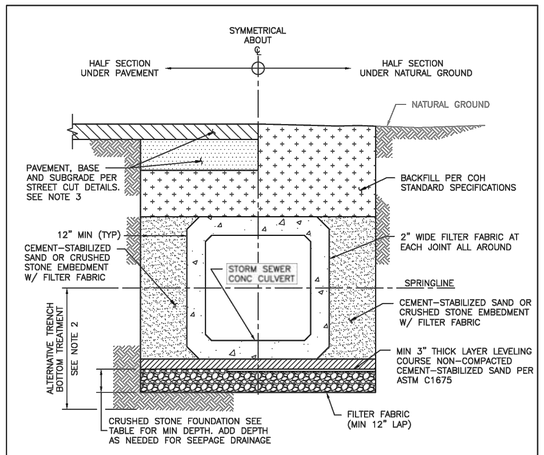
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02317-05



TYPICAL CROSS-SECTION

NOTES:

1. WHERE MULTIPLE BOX SEWERS ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPARATION SHALL BE 6".
2. ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY ENGINEERS AND AS PAID FOR IN THE PROPOSAL.
3. REFER TO COH STANDARD DETAILS 02951-01 THROUGH 05 FOR STREET CUT REQUIREMENTS.

TABLE

CULVERT SIZE (FT)	FOUNDATION DEPTH (INCHES)
3' X 2' TO 6' X 6'	12"
6' X 6' AND LARGER	18"

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

APPROVED BY:

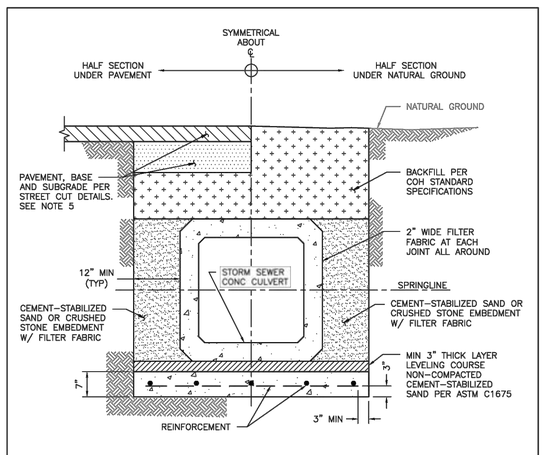
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL WITH SEAL SLAB

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02317-06



TYPICAL CROSS-SECTION

NOTES:

1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPARATION 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 1,000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
4. PRECAST SEAL SLAB MAY BE USED AS APPROVED BY CITY ENGINEER.
5. REFER TO COH STANDARD DETAILS 02951-01 THROUGH 05 FOR STREET CUT REQUIREMENTS.

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

APPROVED BY:

CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02317-07

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9998
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

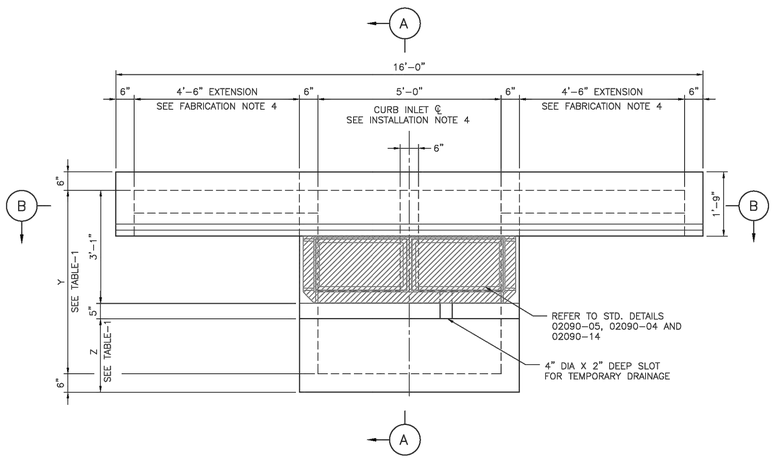
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STORM SEWER DETAILS (SHEET 3 OF 6)

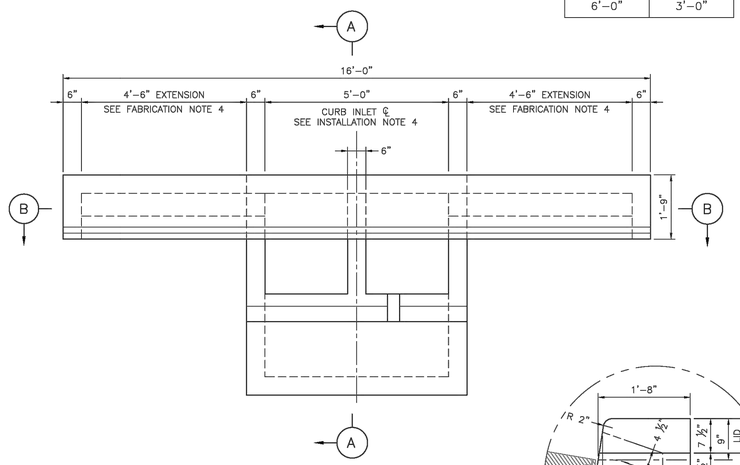
WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 99 OF 175	

\\hrghua\data\85130030\cad\dwgs\c\storm sewer details -- sheet 3.dwg Plotted May 22, 2026 at 8:36 AM by Perez, Abel

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



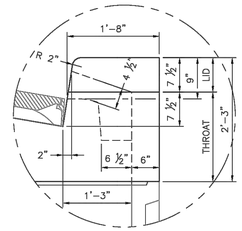
PLAN VIEW
(SHOWING LEFT AND RIGHT EXTENSIONS)



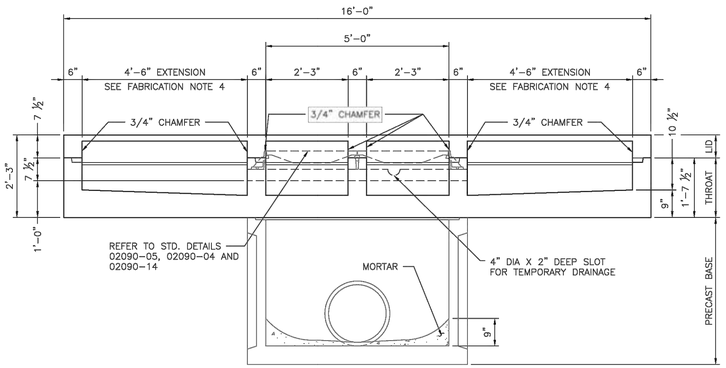
PLAN VIEW WITHOUT FRAME
(SHOWING LEFT AND RIGHT EXTENSIONS)

TABLE–1

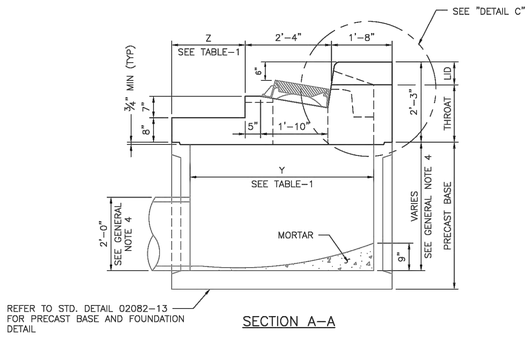
SIZE (Y)	Z
3'–0"	0'–0"
4'–0"	1'–0"
5'–0"	2'–0"
6'–0"	3'–0"



DETAIL C



SECTION B–B
(SHOWING LEFT AND RIGHT EXTENSIONS)



SECTION A–A

FABRICATION NOTES:

1. PROVIDE CLASS "H" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR.
3. PROVIDE TYPICAL CLEAR COVER OF 1 ½" TO REINFORCING STEEL FROM SURFACE OF CONCRETE OR LOWER OUTSIDE SHOULDER.
4. EXTENSIONS MAY BE RIGHT, OR LEFT (INLET TYPE B–B(1)), BOTH (INLET TYPE B–B(2)) OR NONE (INLET TYPE B–B). PROVIDE EXTENSIONS AS SPECIFIED ELSEWHERE IN PLANS.
5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾". TOP SLAB MAY EMPLOY A BUTT JOINT WITH DOWELS AT THE CONTRACTOR'S OPTION.
6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. CHAMFER VERTICAL EDGES ON INLET LID ¾" AS SHOWN IN SECTION B–B.

INSTALLATION NOTES:

1. INLET THROAT IS PLACED UNDER ROADWAY AND INTENDED FOR DIRECT TRAFFIC. INLET LID IS NOT FOR DIRECT TRAFFIC. DO NOT PLACE INLET LID IN ROADWAY.
2. SEAL TONGUE AND GROOVE JOINTS AND BUTT JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. REFERENCE POINT IS LOCATED WHERE THE CENTERLINE (℄) OF THE MAIN THROAT INTERSECTS THE NORMAL GUTTER LINE. REFER TO STD. DETAIL 02771–03 CURB AND GUTTER TRANSITION FOR PRECAST INLET TYPE B–B FOR MORE INFORMATION.

GENERAL NOTES:

1. DESIGNED ACCORDING TO ASTM C913.
2. OPEN AREA OF MAIN THROAT = 324 SQ IN. OPEN AREA OF ONE EXTENSION THROAT = 324 SQ IN.
3. PAYMENT FOR INLET IS PER COH STANDARD SPECIFICATION 02633. EXTENSIONS ARE SUBSIDIARY TO INLET.
4. DIMENSION VARIES BASED ON PIPE DIAMETER AND WALL THICKNESS.

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02633–02

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PRECAST CONCRETE STORM SEWER INLET TYPE "B–B", "B–B(1)" AND "B–B(2)"

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
NOT TO SCALE

No.	Date	Revisions	Appv

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

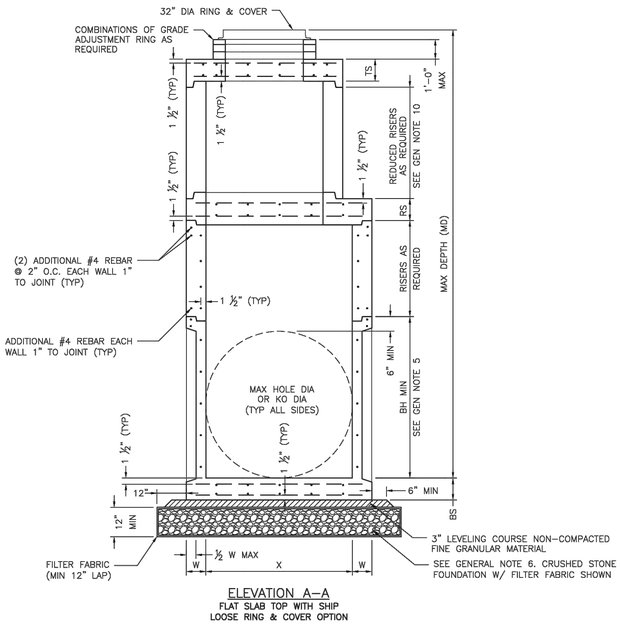
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

STORM SEWER DETAILS (SHEET 4 OF 6)

WBS NO. M–410006–0002–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 100 OF 175

\\hrghus\data\85130030\cad\dwgs\c\storm sewer details -- sheet 4.dwg Plotted May 22, 2026 at 8:55 AM by Perez, Abel



ELEVATION A–A
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION

FABRICATION NOTES:

1. PROVIDE CLASS "H" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF RISER AND CONE IN ACCORDANCE WITH ASTM C478.
3. PROVIDE TYPICAL MINIMUM CONCRETE CLEAR COVER OF 1 ½" TO REINFORCING STEEL AT INTERIOR OR EXTERIOR WALLS.
4. SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN^2/FT EACH WAY.
5. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
6. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
7. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
9. MAXIMUM SPACING OF REINFORCEMENT IS 8".
10. AT MANUFACTURERS OPTION, PROVIDE CAST OR CORED HOLES OR THIN WALL PANELS (KO) TO THE MAXIMUM DIA SHOWN FOR EACH. WHEN NO PENETRATION IS REQUIRED, IT IS ACCEPTABLE TO PROVIDE A WALL WITH NO SECTIONAL REDUCTION.
11. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE ALLOWED. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED. REFER TO 02082–12 FOR OPTIONS.
12. BASES AND RISERS MAY HAVE CAST, CUT OR THIN WALL PANEL (KO) THAT ARE ROUND AND DO NOT EXTEND INTO THE FLOOR, INTO WALLS, OR WITHIN 6" OF THE JOINT ABOVE OR BELOW.

INSTALLATION NOTES:

1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO MANHOLE/INLET. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS FOR MANHOLES AND SECTION 02633 FOR INVERT (BENCHING) REQUIREMENTS FOR INLETS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. FOR RIGID PIPE, CUT HOLE IN THIN WALL PANEL (KO) 4" MAX, 2" MIN LARGER THAN PIPE OD.
5. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE AND HOLE SIZE. CENTER PIPE IN HOLE AND INSTALL BOOT/SEAL PER MANUFACTURER'S SPECIFICATION.
6. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'–0" MAX AS SHOWN.
7. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'–6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'–6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'–0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:

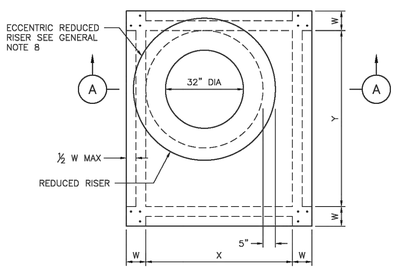
1. SEE TABLE–1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF INLET/MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
2. DESIGNED ACCORDING TO ASTM C478 AND/OR ASTM C913.
3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082 PRECAST CONCRETE MANHOLES AND FOR PRECAST INLETS PER SECTION 02633 PRECAST CONCRETE INLETS, HEADWALLS, AND WINGWALLS.
4. PRECAST BASE CONSISTS OF BASE SLAB, BASE UNIT, RISERS (AS REQUIRED), REDUCING SLAB (AS REQUIRED), AND REDUCED RISERS (AS REQUIRED).
5. MIN HEIGHT SHOWN FOR STOCK BASE UNITS. USE STOCK BASE UNITS WHENEVER PRACTICAL. SMALLER HEIGHT BASE UNITS CAN BE USED IN SPECIAL INSTALLATION CIRCUMSTANCES, WHEN NOTED ELSEWHERE IN THE PLANS. ABSOLUTE MINIMUM HEIGHT OF BASE UNITS IS 2'–6".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
7. ALL STORM WATER INLETS/MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED INLET/MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE INLET/MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
9. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO BOX INLETS/MANHOLES LARGER THAN 8–FOOT BY 8–FOOT.
10. REFER TO STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE DETAIL (02082–12) FOR REDUCED RISER DESIGN REQUIREMENTS.

TABLE–1

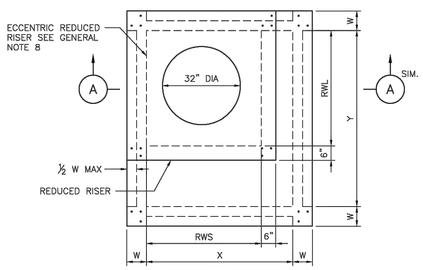
PRECAST BOX INLET (PBI) OR PRECAST BOX MANHOLE (PBM) MINIMUM REQUIREMENTS FOR 24 IN. TO 78 IN. INTERNAL DIA STORM SEWER PIPES.

	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISE WALL THICKNESS		REDUCED RISER DIA	REDUCED RISER SIZE	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MIN HEIGHT (SEE GEN NOTE 5)	MAX HOLE DIA (SEE FAB NOTE 12)	MAX KO DIA (SEE FAB NOTE 12)
			MD ≤15 FT	15 FT < MD ≤ 25 FT (2)							
	X & Y	BS	W	W	ID	RWS x RWL	RS	TS	BH MIN	MAX HOLE DIA	KO DIA
	FT.	IN.	IN.	IN.	IN.	FT.	IN.	IN.	FT.	IN.	IN.
PBI/PBM	3X3 (1)	6	6	6	N/A	N/A	N/A	9	3.50	36	36
	4X4 (1)	6	6	6	N/A	N/A	N/A	9	4.50	48	48
	3X5 (1)	6	6	6	N/A	3X3	N/A	9	3.50	36/60	36/60
	4X5 (1)	6	6	6	48	3X3 / 4X4 / 3X5	9	9	4.50	48/60	48/60
	5X5 (1)	6	6	6	48	3X3 / 4X4 / 3X5	9	9	5.50	60	60
	5X6	9	6	8	48	3X3 / 4X4 / 3X5	9	9	5.50	60/72	60/72
	6X6	9	6	8	48	3X3 / 4X4 / 3X5	9	9	6.50	72	72
	8X8	9	8	10	48	3X3 / 4X4 / 3X5	12	9	8.50	96	72

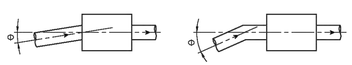
TABLE–1 NOTES:
(1) ROUND MANHOLES ARE PREFERRED FOR THESE SIZES.
(2) MAX DEPTH (MD) DENOTES THE MAX INSTALLATION DEPTH MEASURED TO THE TOP OF BASE SLAB.



PLAN VIEW A
(ROUND REDUCED OPTION)
COVER NOT SHOWN



PLAN VIEW B
(SQUARE REDUCED OPTION)
COVER NOT SHOWN



(A) ANGLE OF ENTRY IS LESS THAN OR EQUAL TO 7°

(B) ANGLE OF ENTRY IS GREATER THAN 7°

CONNECT PIPES WITHIN 7° OF NORMAL TO PRECAST BASE WALL. IF NECESSARY, USE PIPE ELBOW OR CURVED APPROACH ALIGNMENT TO STAY WITHIN THIS LIMIT.

PIPE CONNECTION DETAIL

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02082–13

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER PRECAST BOX INLET/MANHOLE

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

No.	Date	Revisions	Appv

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.5006
FAX: 713.955.5044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

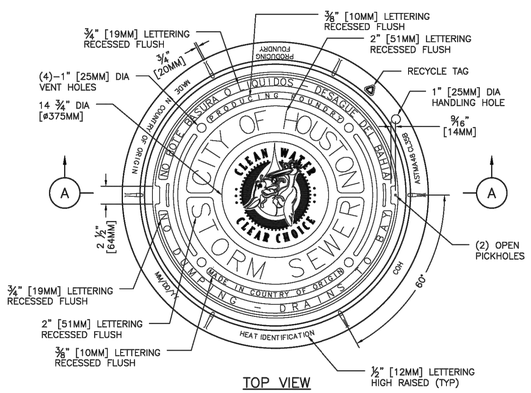
STORM SEWER DETAILS (SHEET 5 OF 6)

WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 101 OF 175	

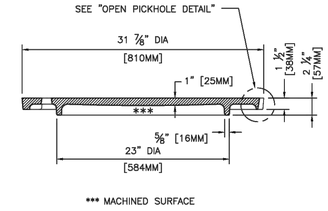
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR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

\\hrghus\data\85130030\cad\dwgs\c\storm sewer details -- sheet 5.dwg Plotted May 22, 2026 at 9:03 AM by Perez, Abel

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE USER'S REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL SAFETY PROBLEMS ASSOCIATED WITH ITS USE OR ALL APPLICABLE REGULATORY REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE USER TO ESTABLISH APPROPRIATE SAFETY AND HEALTH PRACTICES AND DETERMINE THE APPLICABILITY OF REGULATORY LIMITATIONS PRIOR TO USE. ACCEPTS RESPONSIBILITY FOR THEIR APPROPRIATE, ACCURATE AND SAFE. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



TOP VIEW



*** MACHINED SURFACE

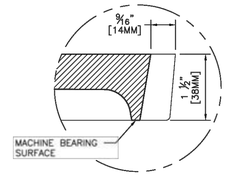
COVER SECTION

NOTES:

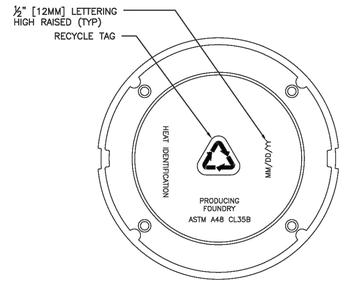
1. APPROXIMATE WEIGHTS:

   FRAME – 125 LBS (57KGS)
   COVER – 205 LBS (93KGS)
   UNIT – 330 LBS (150KGS)

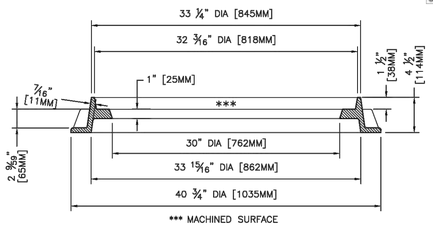
2. MATERIALS – GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V1430 ASY OR APPROVED EQUAL
5. IDENTIFICATION MARKINGS MUST COMPLY WITH CITY SPECIFICATIONS. MARKINGS NOT SHOWN ON THIS DETAIL MUST BE PLACED ON THE CASTING:
   A. PROVIDE ALL FRAME MARKINGS ON THE TOP SIDE OF THE FRAME.
   B. PROVIDE GRATE AND COVER MARKINGS ON EITHER TOP OR BOTTOM OF CASTING.



OPEN PICKHOLE DETAIL



BOTTOM VIEW OF COVER

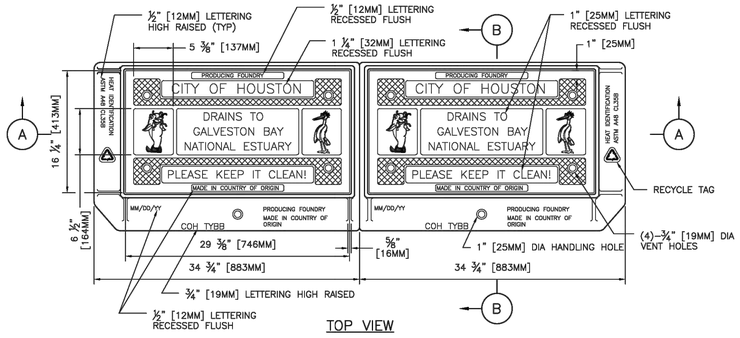


*** MACHINED SURFACE

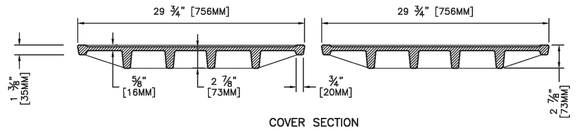
FRAME SECTION

SECTION A–A

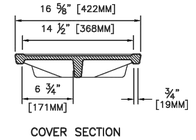
CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
STORM SEWER MANHOLE FRAME AND COVER	
(SCALE: NOT TO SCALE)	
APPROVED BY:	
Signed by: CITY ENGINEER	Signed by: DIRECTOR OF HPW
EFF DATE: MAR–02–2026	DWG NO: 02090–02



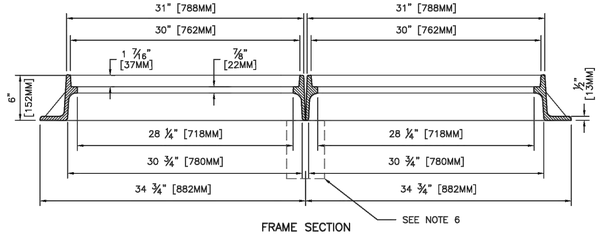
TOP VIEW



COVER SECTION

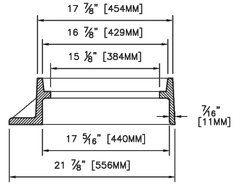


COVER SECTION



FRAME SECTION

SECTION A–A



FRAME SECTION

SECTION B–B

NOTES:

1. APPROXIMATE WEIGHTS:

   EACH FRAME – 125 LBS (57KGS)
   EACH COVER – 120 LBS (55KGS)
   EACH UNIT – 245 LBS (111KGS)

2. MATERIALS – GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V4243 ASY OR APPROVED EQUAL.
5. IDENTIFICATION MARKINGS MUST COMPLY WITH CITY SPECIFICATIONS. MARKINGS NOT SHOWN ON THIS DETAIL MUST BE PLACED ON THE CASTING:
   A. PROVIDE ALL FRAME MARKINGS ON THE TOP SIDE OF THE FRAME.
   B. PROVIDE GRATE AND COVER MARKINGS ON EITHER TOP OR BOTTOM OF CASTING.
6. FOR INLET MAINTENANCE REFER TO COH STD 02632–04. FOR NEW INLET CONSTRUCTION REFER TO COH STD 02633–02.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
STORM SEWER TYPE "B–B" INLET DOUBLE ASSEMBLY	
(SCALE: NOT TO SCALE)	
APPROVED BY:	
Signed by: CITY ENGINEER	Signed by: DIRECTOR OF HPW
EFF DATE: MAR–02–2026	DWG NO: 02090–04

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

STORM SEWER DETAILS (SHEET 6 OF 6)

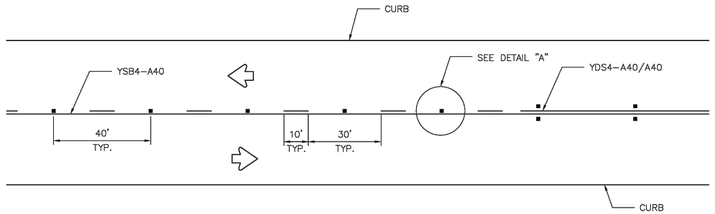
WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 102 OF 175	

No.	Date	Revisions	App

\\hrghus\data\85130030\cad\dwgs\c\storm sewer details – sheet 6.dwg Plotted May 22, 2026 at 8:42 AM by Perez, Abel

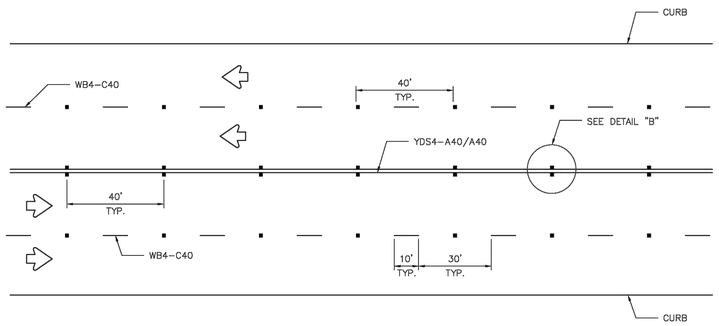
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR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

CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE

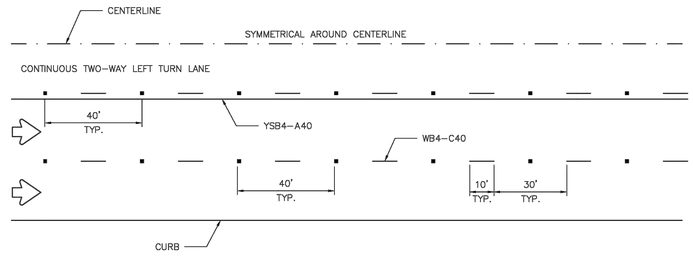


CENTERLINE & LANE LINES FOR FOUR LANE TWO–WAY STREETS

RRPM TYPE C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE PLACED ON 40–FOOT CENTERS.

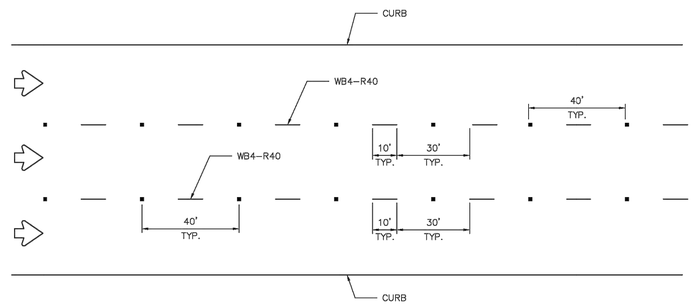


CENTERLINE & LANE LINES FOR TWO–WAY LEFT TURN LANE



LANE LINES FOR ONE–WAY MULTILANE STREET

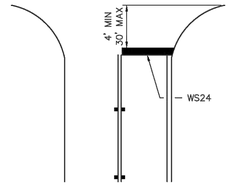
RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG–WAY TRAFFIC.



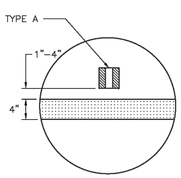
GENERAL NOTES:

1. EDGELINE ADJACENT TO CURB AND GUTTER IS NOT REQUIRED IN ALL CASES, HOWEVER SHALL BE PLACED AS DIRECTED BY CITY TRAFFIC ENGINEER.
2. THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAYS SHALL BE MEASURED FROM THE INSIDE OF EDGELINE TO INSIDE OF EDGELINE OF A TWO LANE ROADWAY.
3. ALL RAISED PAVEMENT MARKERS PLACED IN BROKEN LINES SHALL BE PLACED IN LINE WITH AND MIDWAY BETWEEN THE STRIPES.
4. ON CONCRETE PAVEMENTS THE RAISED PAVEMENT MARKERS SHOULD BE PLACED TO ONE SIDE OF THE LONGITUDINAL JOINTS.
5. ALL PAVEMENT MARKING MATERIAL SHALL MEET THE REQUIRED MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.

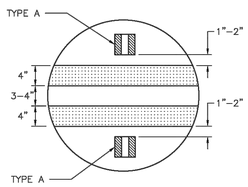
GUIDE FOR PLACEMENT OF STOP LINES & CENTERLINE



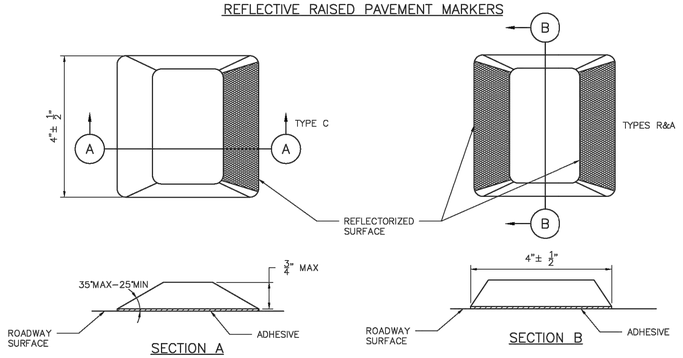
DETAIL "A"



DETAIL "B"



REFLECTIVE RAISED PAVEMENT MARKERS



APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar	DocuSigned by: HANG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02760–05

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

No.	Date	Revisions	Appv.

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER — 5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

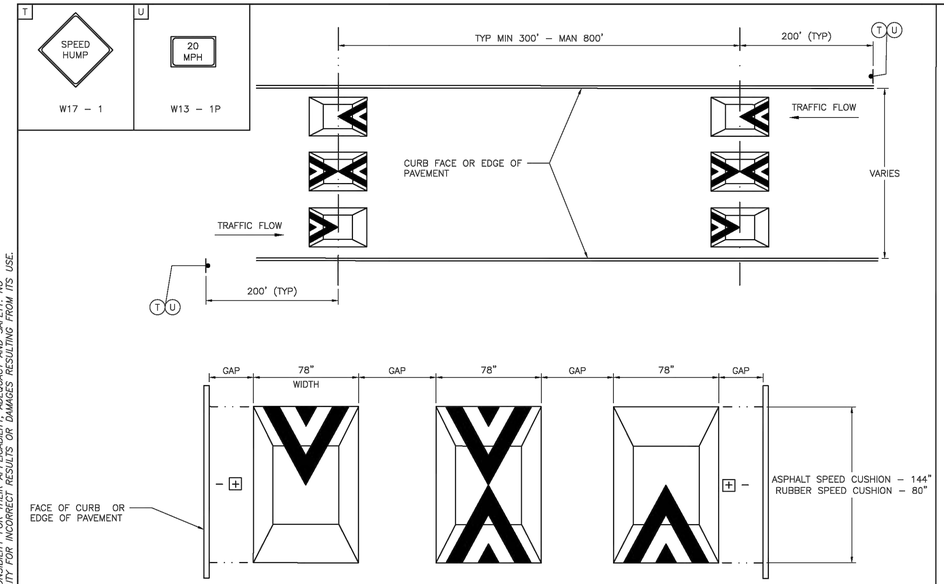
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PAVEMENT MARKINGS DETAIL SHEET

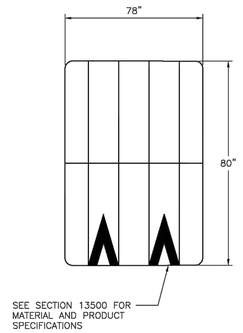
WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 103 OF 175	

\\hrghus\data\85130030\cad\dgn\c\pavement markings detail.dwg Plotted May 22, 2026 at 9:25 AM by Perez, Abel

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5

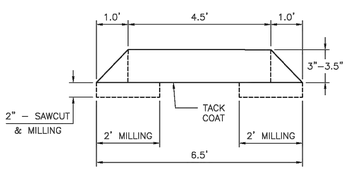


RUBBER SPEED CUSHION

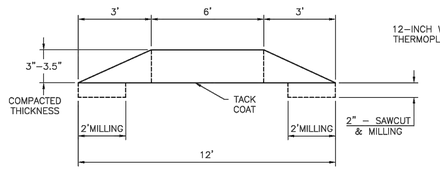


INSTALL PER MANUFACTURER'S SPECIFICATIONS

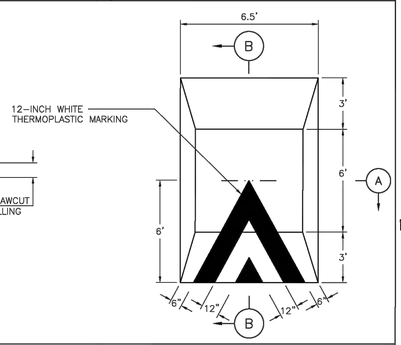
ASPHALT SPEED CUSHION – INSTALLATION DETAILS

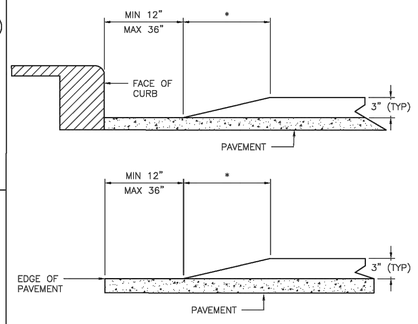


SECTION A – A



SECTION B – B





* RUBBER CUSHION – 12" TAPER, ASPHALT CUSHION – 12" TAPER.

TYPICAL SPEED CUSHIONS ARRANGEMENT FOR A GIVEN PAVEMENT WIDTH

PAVEMENT WIDTH (FT)	No OF CUSHIONS	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)	CUSHION (IN)	GAP (IN)
16	2	12	78	12	78	12						
18	2	20	78	20	78	20						
20	2	30	78	24	78	30						
22	2	36	78	36	78	36						
24	3	15	78	12	78	12	78	15				
26	3	20	78	19	78	19	78	20				
28	3	27	78	24	78	24	78	27				
30	3	31	78	32	78	32	78	31				
32	4	18	78	12	78	12	78	12	78	18		
34	4	21	78	18	78	18	78	18	78	21		
36	4	24	78	24	78	24	78	24	78	24		
38	4	30	78	28	78	28	78	28	78	30		
40	4	33	78	34	78	34	78	34	78	33		
42	5	19	78	19	78	19	78	19	78	19	78	19
44	5	23	78	23	78	23	78	23	78	23	78	23

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. IT IS THE RESPONSIBILITY OF THE ENGINEER PERFORMING THE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, THE ENGINEER ACCEPTS RESPONSIBILITY FOR INCORRECT DESIGN, IMPROPER SPECIFICATION, AND FOR SUPERVISION NECESSARY TO ENSURE PROPER INSTALLATION AND OPERATION OF THIS DEVICE. THE CITY OF HOUSTON ("CITY") IN REVIEWING THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, CONSTRUES ITSELF TO BE ACTING IN A GOVERNMENTAL CAPACITY AND NOT IN A PROPRIETARY CAPACITY. THE CITY MAKES NO WARRANTY OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, AS TO THE ADEQUACY OR SAFETY OF ANY DESIGN REQUIREMENTS OR AUTHORIZATION OF USE, AND THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

CONTRACTOR TO INSTALL BLUE RAISED PAVEMENT MARKERS FOR FIRE HYDRANTS. A BLUE REFLECTIVE TRAFFIC MARKER, APPROXIMATELY 4 INCHES BY 4 INCHES, SHALL BE PLACED ON THE STREET IN A PERMANENT MANNER TO INDICATE A FIRE HYDRANT. THE MARKER SHOULD BE PLACED OFF THE CENTERLINE OF THE STREET 4 TO 6 INCHES TO INDICATE ON WHICH SIDE OF THE STREET THE FIRE HYDRANT IS LOCATED.

NOTES:

1. SPEED CUSHIONS AND ASSOCIATED SIGNS AND PAVEMENT MARKINGS WILL BE CONSTRUCTED AT LOCATIONS DESIGNED BY TRANSPORTATION AND DRAINAGE OPERATIONS (TDO) OR PER PLANS APPROVED BY TDO.
2. CONTRACTOR SHALL CONTACT THE CONSTRUCTION COORDINATOR BEFORE ANY STREET IS TEMPORARILY CLOSED FOR CONSTRUCTION.
3. THE TYPE OF SPEED CUSHION AND DISTANCE BETWEEN EACH CUSHION WILL BE DETERMINED BY TDO.
4. NO PART OF A SPEED CUSHION SHALL BE LOCATED IN FRONT OF DRIVEWAY APPROACH; RATHER THERE SHOULD BE A MINIMUM OF 6 FEET FROM THE EDGE OF A DRIVEWAY, WHEN PRACTICAL.
5. SPEED CUSHIONS SHOULD BE PLACED AS CLOSE AS POSSIBLE TO THE PROPERTY LINES INSTEAD OF MID – LOT LOCATION, WHERE PRACTICAL.
6. SPEED CUSHIONS SHOULD BE INSTALLED AT A RIGHT ANGLE TO THE CENTERLINE TANGENT OF THE ROADWAY.
7. TRAFFIC CONTROL CONSISTING OF SIGNS SHALL BE PROVIDED TO ADVISE ROADWAY USER OF SPEED CUSHIONS PRESENT. TRAFFIC SIGNS, AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
8. ALL SIGNS AND PAVEMENT MARKINGS WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
9. CONTRACTOR SHALL NOT OPEN SPEED CUSHIONS TO TRAFFIC UNTIL ALL REQUIRED WARNING SIGNS AND PAVEMENT MARKINGS ARE COMPLETED.
10. CONTRACTOR WILL MAINTAIN TEMPORARY MARKINGS UNTIL PERMANENT MARKINGS ARE INSTALLED.
11. CONTRACTOR SHALL COMPLETE THE CUSHION INSTALLATION TO FORM ONE COMPLETE HUMP BEFORE LEAVING THE JOB SITE.
12. CONTRACTOR SHALL WORK ONE HALF OF THE STREET AT A TIME AND MAINTAIN TWO – WAY TRAFFIC WITH CERTIFIED FLAGGER.
13. ASPHALT SPEED CUSHION SHALL BE CONSTRUCTED WITH TYPE D ASPHALT MIX PER CITY OF HOUSTON SPECIFICATIONS; A TACK COAT SHALL BE APPLIED PRIOR TO APPLICATION OF PAVEMENT MATERIAL.
14. ASPHALT SPEED CUSHIONS SHALL BE COMPACTED PER CITY OF HOUSTON SPECIFICATIONS AND SHAPE ACCORDING TO INSTALLATION DETAILS. COMPACTION SHALL REQUIRE UTILIZATION OF ALL NECESSARY SIZES AND TYPES OF ROLLERS TO ACCOMPLISH PROPER COMPACTION AND SHAPE.
15. ASPHALT SPEED CUSHIONS ARE TO BE CONSTRUCTED BETWEEN 3" – 3 ½" IN HEIGHT.
16. CONTRACTOR SHALL NOTIFY GARY DRABEK (832–395–2997) A MINIMUM OF TWO BUSINESS DAYS IN ADVANCE OF THE INSTALLATION OF SPEED CUSHIONS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar	DocuSigned by: LONG NGUYEN
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 13501–01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SPEED CUSHIONS ARRANGEMENT AND INSTALLATION

	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
NOT TO SCALE	

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.5996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

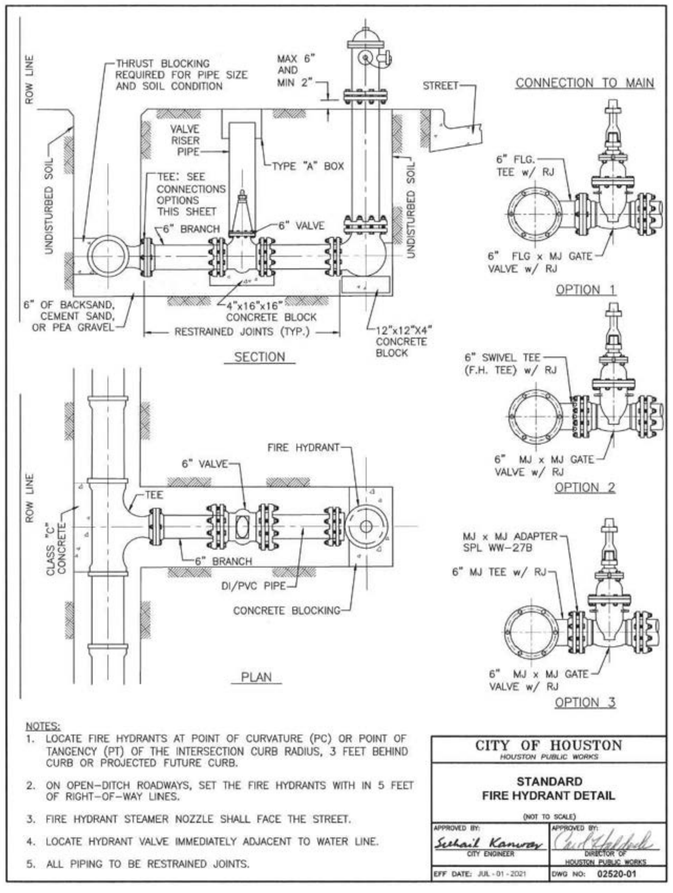
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

PAVEMENT AND SPEED CUSHION STANDARD DETAILS

WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 104 OF 175	

No.	Date	Revisions	Appv

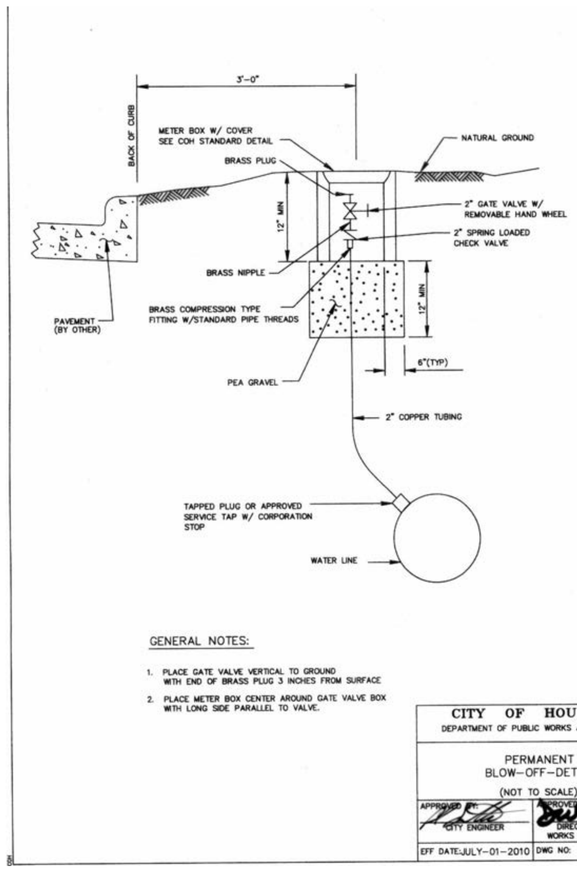
\\hrghus\data\85130030\cad\dwgs\c\speed cushion detail.dwg Plotted May 22, 2026 at 9:29 AM by Perez, Abel



NOTES:

1. LOCATE FIRE HYDRANTS AT POINT OF CURVATURE (PC) OR POINT OF TANGENCY (PT) OF THE INTERSECTION CURB RADIUS, 3 FEET BEHIND CURB OR PROJECTED FUTURE CURB.
2. ON OPEN-DITCH ROADWAYS, SET THE FIRE HYDRANTS WITH IN 5 FEET OF RIGHT-OF-WAY LINES.
3. FIRE HYDRANT STEAMER NOZZLE SHALL FACE THE STREET.
4. LOCATE HYDRANT VALVE IMMEDIATELY ADJACENT TO WATER LINE.
5. ALL PIPING TO BE RESTRAINED JOINTS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STANDARD FIRE HYDRANT DETAIL (NOT TO SCALE)	
APPROVED BY: Sukait Kanuoy CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02520-01



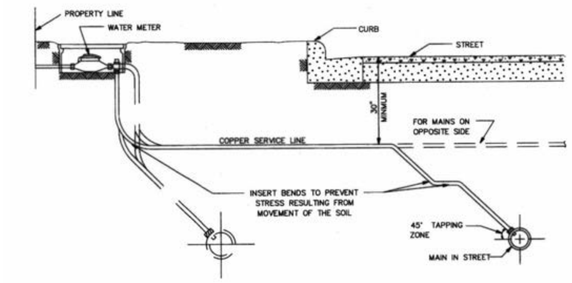
GENERAL NOTES:

1. PLACE GATE VALVE VERTICAL TO GROUND WITH END OF BRASS PLUG 3 INCHES FROM SURFACE
2. PLACE METER BOX CENTER AROUND GATE VALVE BOX WITH LONG SIDE PARALLEL TO VALVE.

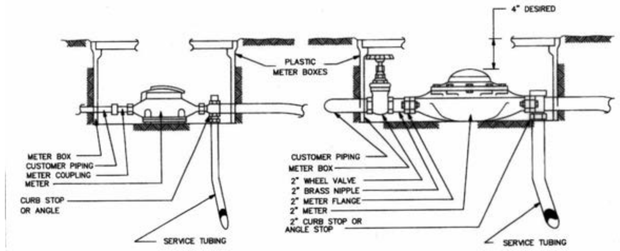
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
PERMANENT BLOW-OFF-DETAIL (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE:JULY-01-2010	DWG NO: 02524-01

NOTES:

1 1/2" METER SET IS SAME AS 2" EXCEPT WHEEL VALVE IS NOT REQUIRED.



TYPICAL SECTION SERVICE LINE



5/8", 3/4" AND 1" METER SET

2" METER SET

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TYPICAL METER SETTINGS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02526-01

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.865.9006
FAX: 713.865.0044

SURVEYED BY: KUO
FB NO. P-6076

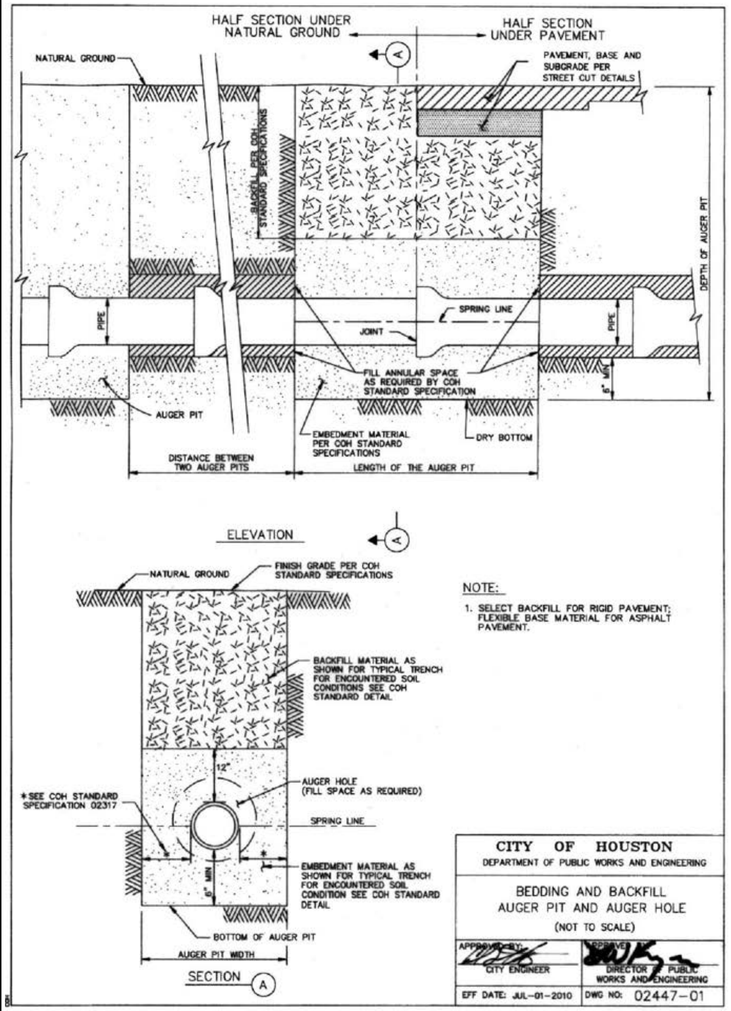
STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
WATER DETAILS (SHEET 1 OF 3)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 105 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\water detail sheet (1 of 3).dwg Plotted May 22, 2026 at 9:06 AM by Perez, Abel



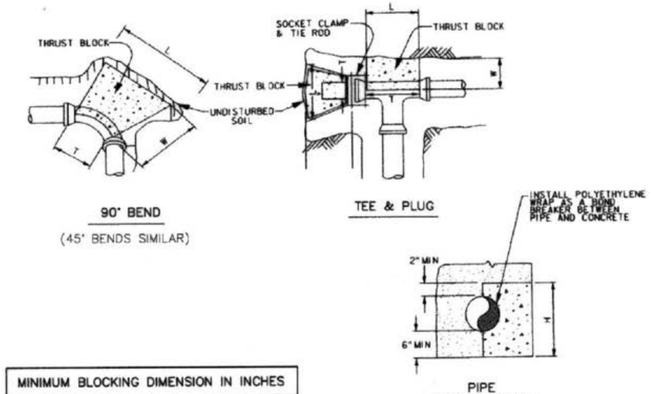
NOTE:

1. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

BEDDING AND BACKFILL
AUGER PIT AND AUGER HOLE
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02447-01



MINIMUM BLOCKING DIMENSION IN INCHES												
PIPE SIZE	90° BEND				45° BEND				TEE/PLUG			
	W	H	L	T	W	H	L	T	W	H	L	T
4"	6	12	14	10	6	8	11	8	6	10	12	12
6"	8	14	26	12	8	14	14	12	8	14	19	19
8"	10	16	40	16	10	18	20	16	10	18	26	26
10"	12	24	42	18	12	22	25	18	12	24	30	30
12"	14	36	40	30	14	26	30	22	14	26	40	40

CORRECTION FACTORS		
SOIL TYPE	SOIL BEARING STRENGTH S_B (lb/ft²)	MULTIPLY "L" AND "H" BY
SOFT CLAY	1000	1.73
SILT	1500	1.41
SANDY SILT	3000	1.00
SAND	4000	0.87
SANDY CLAY	6000	0.71
HARD CLAY	9000	0.58

NOTES:

1. DEPTH "W" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE.
2. BLOCKING MUST BE PLACED AGAINST UNDISTURBED EARTH. WHERE THIS IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
3. PROVIDE CONCRETE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 03315 - CONCRETE FOR UTILITY CONSTRUCTION.
4. BLOCKING DIMENSIONS SHOWN ARE BASED ON 3000 PSI SOIL BEARING STRENGTH AND 125 PSI INTERNAL WATER PRESSURE. FOR OTHER SOIL CONDITIONS, MULTIPLY DIMENSIONS "L" AND "H" BY THE APPROPRIATE CORRECTION FACTOR.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

THRUST BLOCK DETAIL
FOR WATER LINES
(4-INCH TO 12 INCH)
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02511-02

PIPE TAPPING SCHEDULE				
WATER MAIN TYPE AND DIAMETER	SERVICE SIZE			
	3/4"	1"	1 1/2"	2"
4" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
4" ASBESTOS (EXISTING) CEMENT	WBSS	WBSS	DSS, WBSS	DSS, WBSS
4" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
16" AND UP CAST IRON OR DUCTILE IRON	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP ASBESTOS (EXISTING) CEMENT	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP PVC (AWWA C900)	DWBSS	DWBSS	DWBSS	DWBSS

DSS - DUAL STRAP SADDLES
WBSS - WIDE BAND STRAP SADDLES
DWBSS - DUAL WIDE BAND STRAP SADDLES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SERVICE TAPS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02512-02

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

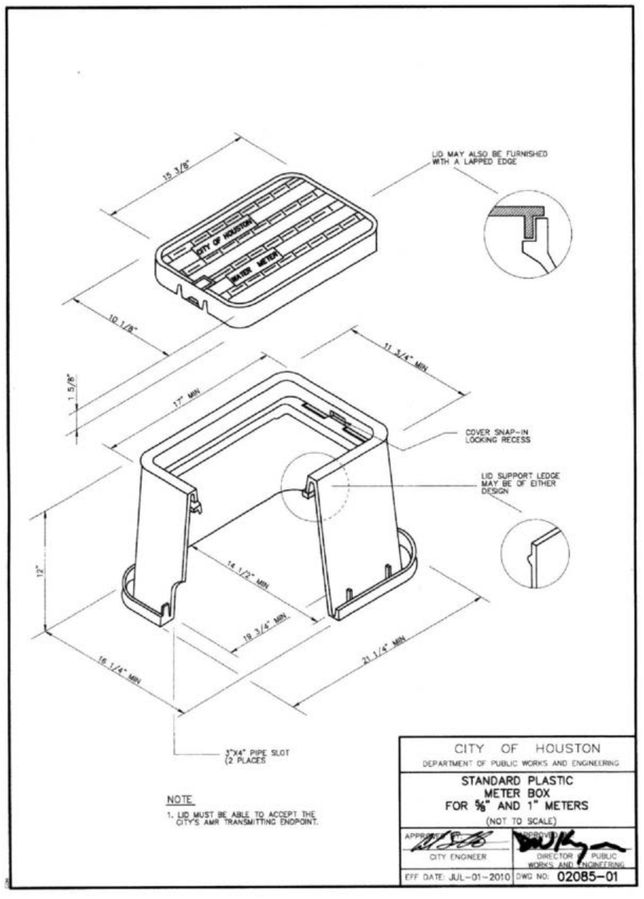
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)
WATER DETAILS
(SHEET 2 OF 3)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 106 OF 175	

No.	Date	Revisions	Apv.

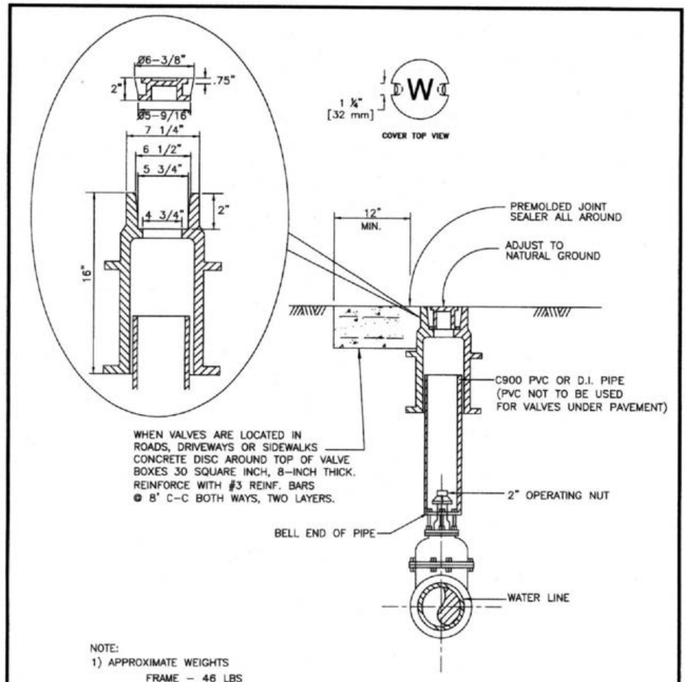
\\hrghus\data\85130030\cad\dwgs\c\water detail sheet (2 of 3).dwg Plotted May 22, 2026 at 9:27 AM by Perez, Abel



NOTE.

1. LID MUST BE ABLE TO ACCEPT THE CITY'S AMR TRANSMITTING ENDPOINT.

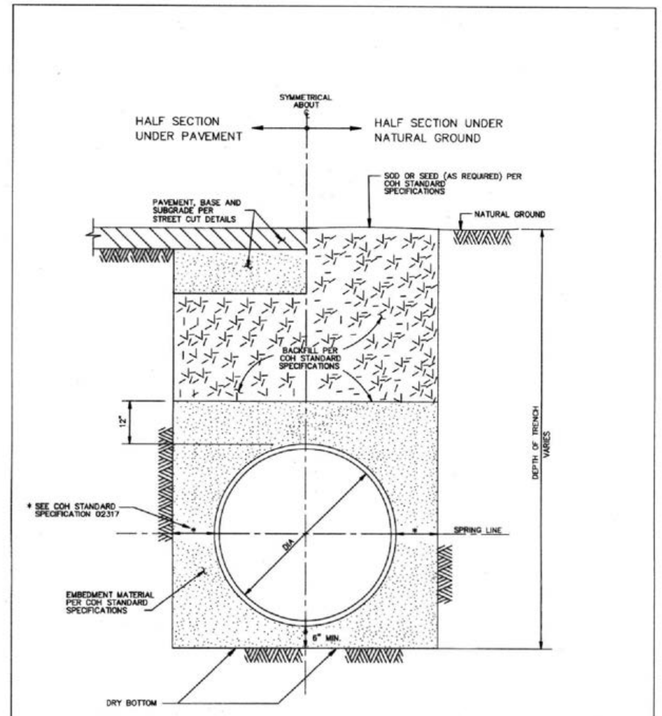
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
STANDARD PLASTIC METER BOX FOR ⅝" AND 1" METERS (NOT TO SCALE)	
APPROVED: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-01



NOTE:

1) APPROXIMATE WEIGHTS
   FRAME – 46 LBS
   COVER – 10 LBS
2) MATERIAL – GRAY IRON ASTM A48 CL35B

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
VALVE BOX DETAIL (NOT TO SCALE)	
APPROVED: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF. DATE: JULY 01, 2010	DWG. NO: 02085-03



CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
WATER DISTRIBUTION MAIN BEDDING AND BACKFILL FOR OPEN CUT TRENCHES (NOT TO SCALE)	
APPROVED: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02317-04

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.865.0006
FAX: 713.865.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

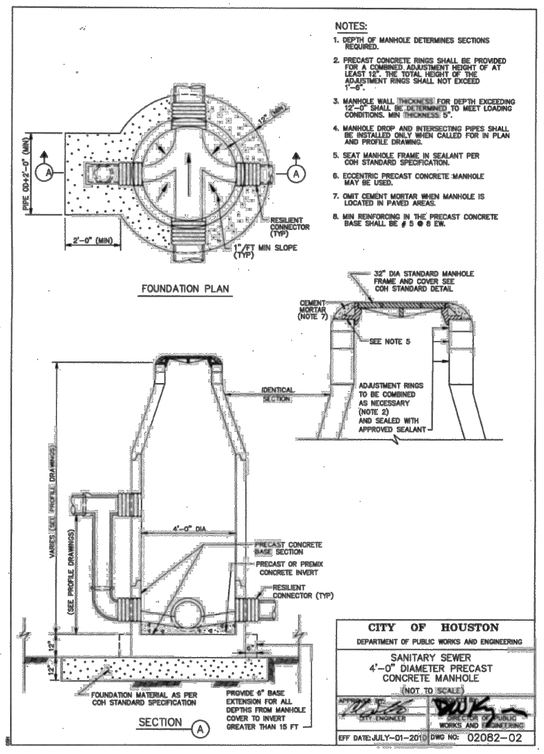
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

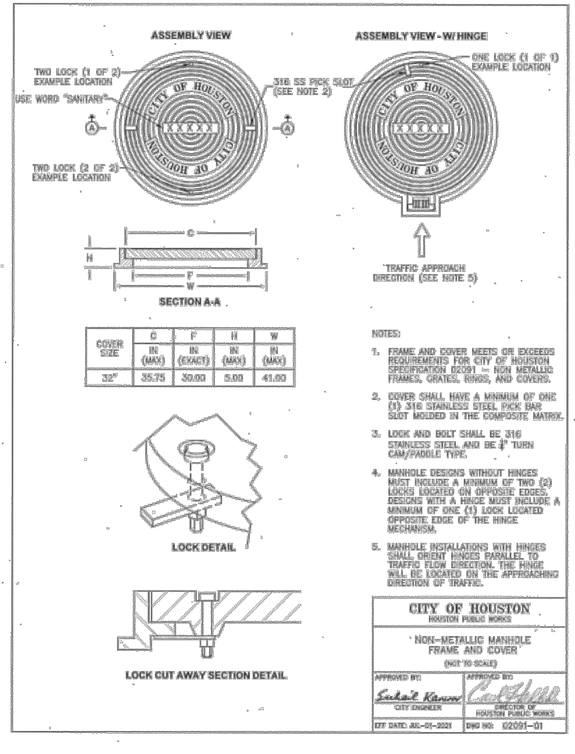
WATER DETAILS (SHEET 3 OF 3)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 107 OF 175	

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\water detail sheet (3 of 3).dwg Plotted May 22, 2026 at 9:20 AM by Perez, Abel





No.	Date	Revisions	Appv

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6900
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

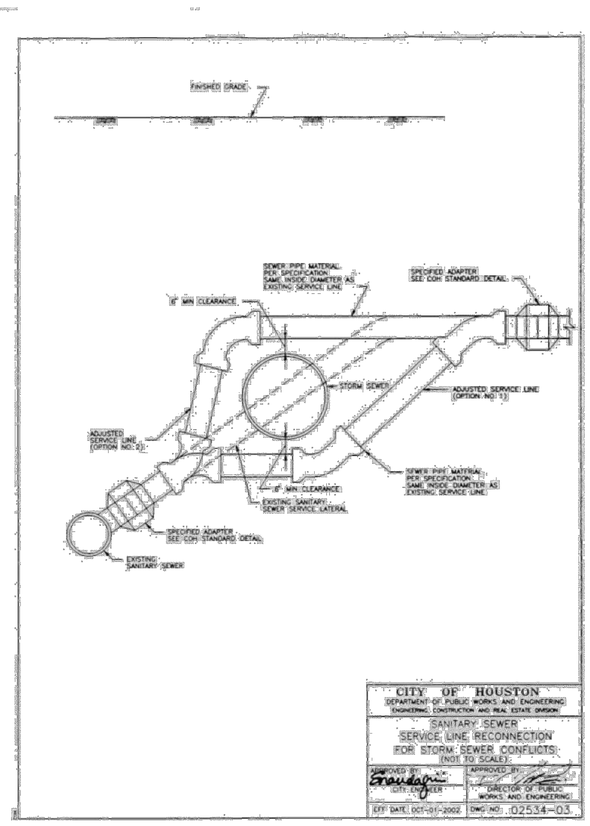
STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

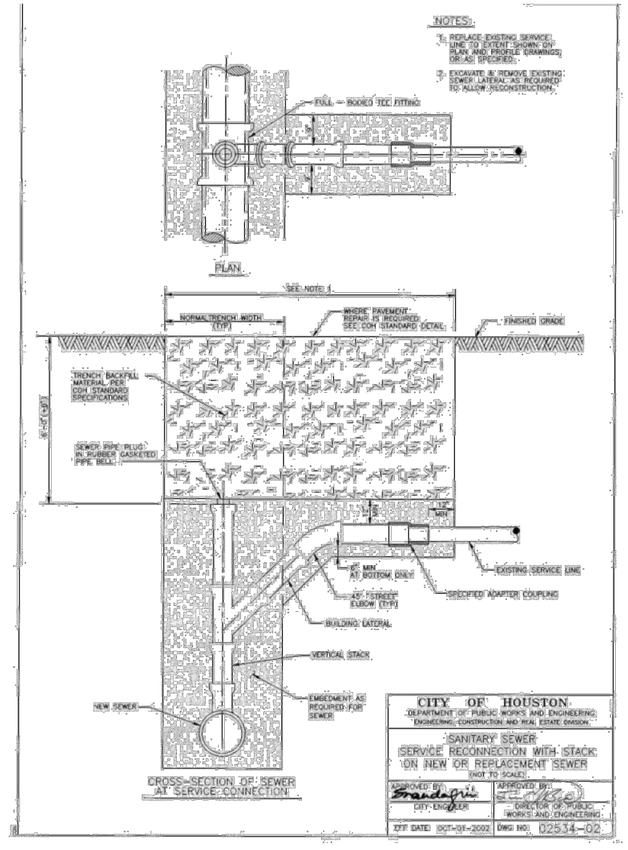
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

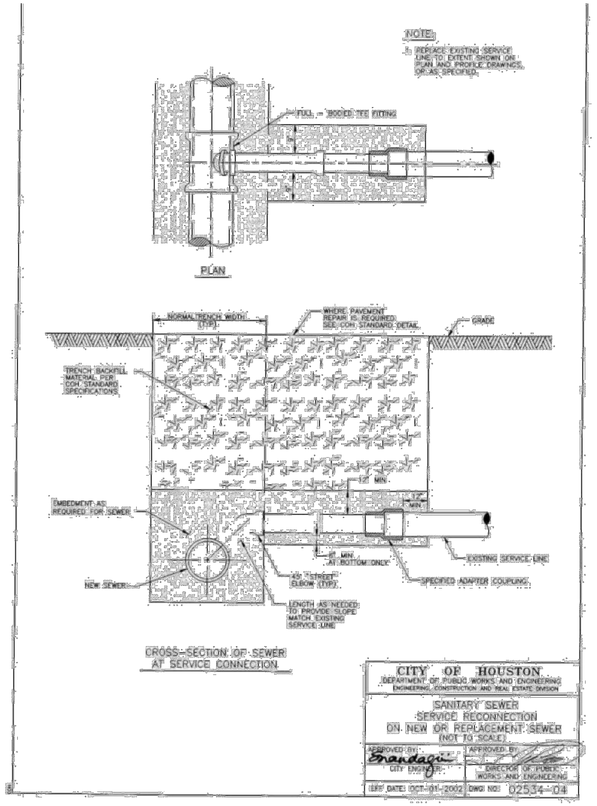
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) SAN SWR DETAILS (SHEET 1 OF 6)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 108 OF 175	

\\hrghua\data\85130030\cad\dwgs\c\san swr details (1 of 5).dwg Plotted May 22, 2026 at 8:32 AM by Perez, Abel







No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9998
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

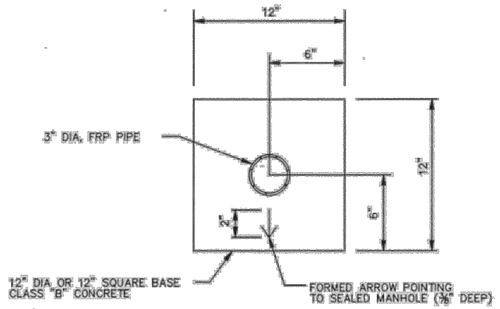
STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)
SAN SWR DETAILS (SHEET 2 OF 6)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 109 OF 175	

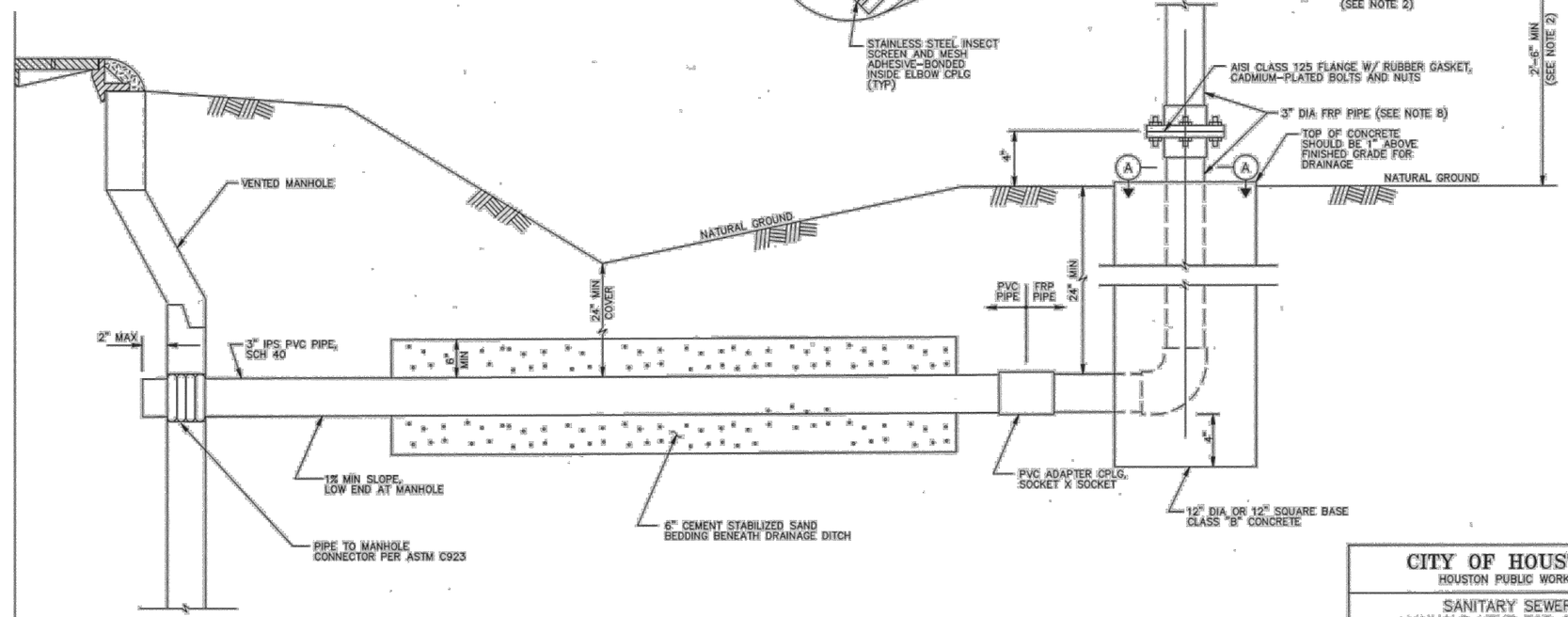
\\hrghus\data\65130030\cad\dwgs\c\san swr details (2 of 5).dwg Plotted May 22, 2026 at 8:43 AM by Perez, Abel



SECTION (A)
CONCRETE FOUNDATION
(SEE NOTE 8)

NOTES:

1. INSTALL AT LOCATION AND BASED ON 0.2 PERCENT FLOOD ELEVATION SHOWN ON PLAN AND PROFILE DWGS.
2. MINIMUM VENT HEIGHT ELEVATION IS TO BE 2'-6" ABOVE THE NATURAL GROUND OR AS REQUIRED BY CHAPTER 19 SECTION 19-33 OF THE CITY OF HOUSTON CODE OF ORDINANCES, WHICHEVER IS HIGHER.
3. WHEN FLOODPROOFED VENTS ARE SPECIFIED BY THE EOR, REFER TO THE CONTRACT DOCUMENTS FOR CONSTRUCTION REQUIREMENTS.
4. DRAIN TO VENTED (ADJACENT) MH AT MIN 1% SLOPE. CONNECT TO MANHOLE WITH SPECIFIED CONNECTOR.
5. WHEN VENT CROSSES DRAINAGE DITCH, PROVIDE CEMENT STABILIZED SAND BEDDING
6. THE VENT IS TO BE INSTALLED WITHIN THE RIGHT OF WAY.
7. SEE COH STANDARD SPECIFICATIONS FOR PROTECTIVE COATING REQUIREMENTS FOR EXPOSED FRP PIPE.
8. THIS STANDARD DETAIL SETS THE MINIMUM REQUIREMENTS FOR THE MANHOLE VENT'S CONCRETE FOUNDATION AND VENT PIPE SIZE. THE EOR IS RESPONSIBLE FOR THE ADEQUACY AND DESIGN OF THE CONCRETE FOUNDATION AND VENT PIPE SIZE AND SHALL PROVIDE CONSTRUCTION DETAILS IN THE DRAWINGS.



CITY OF HOUSTON
HOUSTON PUBLIC WORKS

SANITARY SEWER
MANHOLE VENT FOR SEALED MANHOLE
(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-06

HRGreen
FRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9996
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

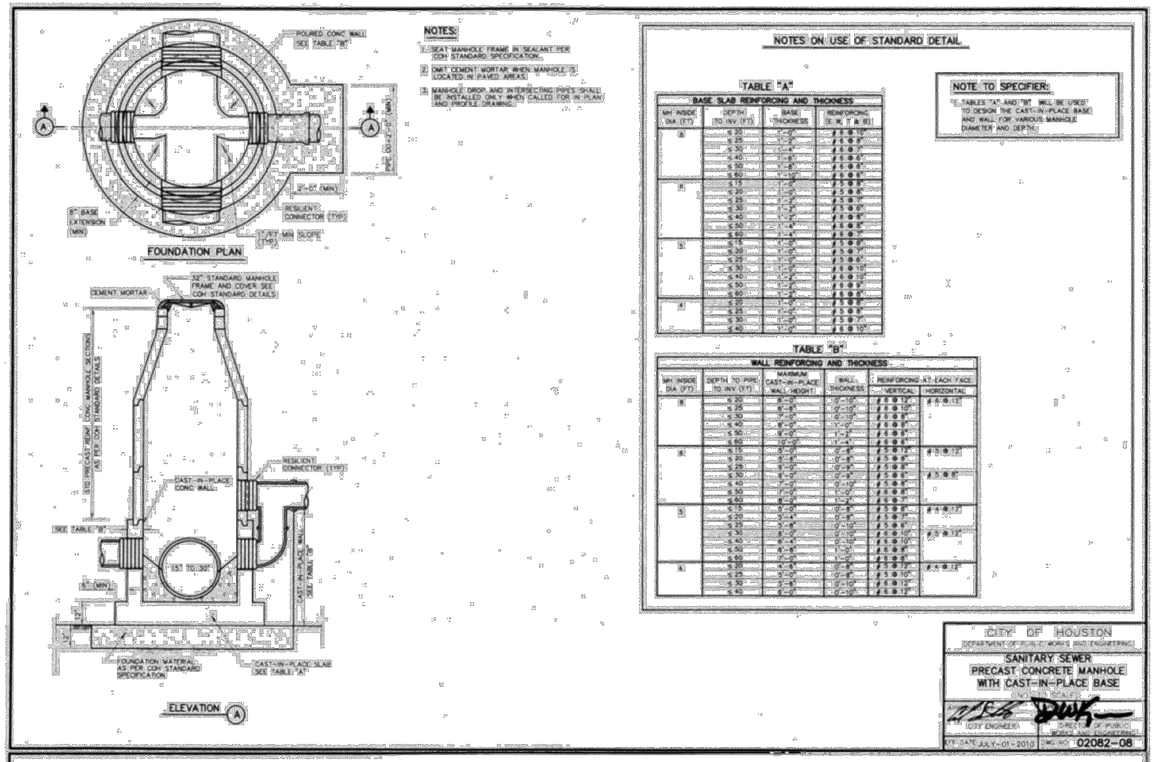
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
SAN SWR DETAILS (SHEET 3 OF 6)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 110 OF 175	

No.	Date	Revisions	App.

\\hrghus\data\85130030\cad\dwgs\c\san swr details (3 of 5).dwg Plotted May 22, 2026 at 8:47 AM by Perez, Abel



HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

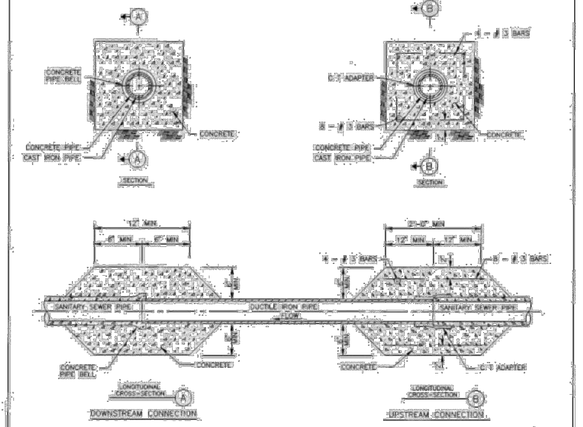
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
SAN SWR DETAILS (SHEET 4 OF 6)

WBS NO. M-410006-0002-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 111 OF 175

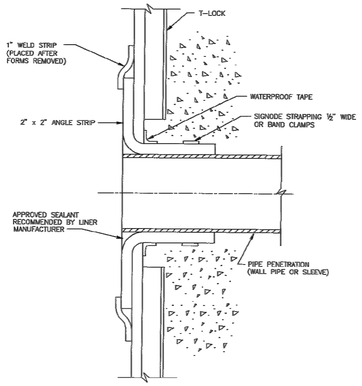
No.	Date	Revisions	Appr.

\\hrghus\data\85130301\cad\dwgs\c\san swr details (4 of 5).dwg Plotted May 22, 2026 at 8:36 AM by Perez, Abel

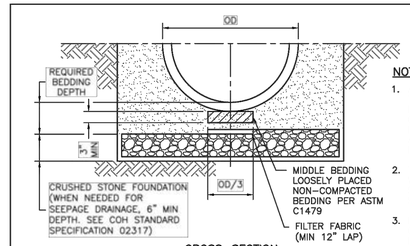
NOTE:
1. THE CONTRACTOR SHALL CENTER A MINIMUM OF 19 FOOT JOINT OF DUCTILE IRON PIPE OR C900 PVC PIPE ACROSS THE CENTER OF THE PROPOSED STORM SEWER.



CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER DUCTILE IRON PIPE STORM SEWER CROSSING (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02531-03

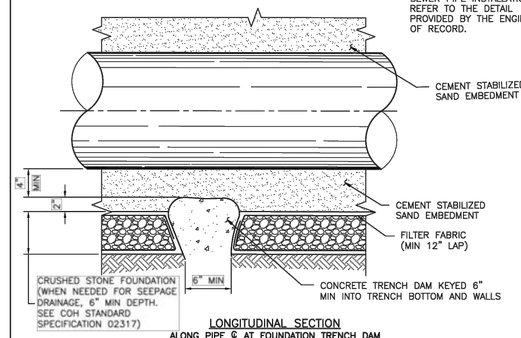


CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SEALING PENETRATION THROUGH PVC-LINED CONCRETE WALL (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02531-06



CROSS-SECTION
OF CRUSHED STONE FOUNDATION

NOTES:
1. ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
2. THIS DETAIL SHALL BE USED WITH CEMENT STABILIZED SAND EMBEDMENT, IN WET STABLE TRENCH CONDITIONS.
3. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.
4. FOR THERMOPLASTIC STORM SEWER PIPE INSTALLATION REFER TO THE DETAIL PROVIDED BY THE ENGINEER OF RECORD.



LONGITUDINAL SECTION
ALONG PIPE ℄ AT FOUNDATION TRENCH DAM

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

APPROVED BY:		CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD
Signed by: CITY ENGINEER	Signed by: DIRECTOR OF HPW	SANITARY OR STORM SEWER CRUSHED STONE FOUNDATION FOR WET STABLE TRENCH (SCALE: NOT TO SCALE)
		EFF DATE: MAR-02-2026 | DWG NO: 02317-02

No.	Date	Revisions	App'd

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

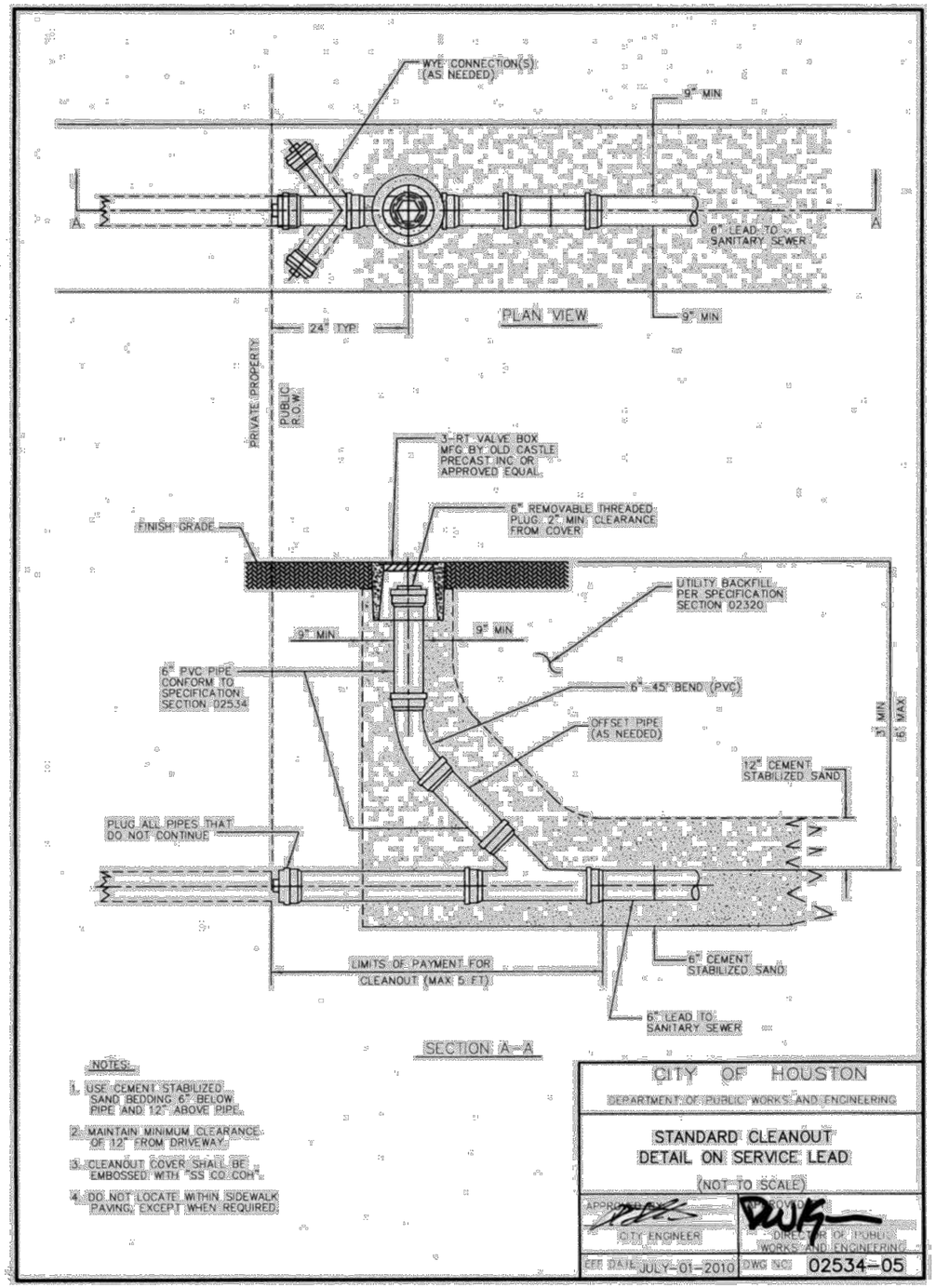
SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)
SAN SWR DETAILS
(SHEET 5 OF 6)

WBS NO. M-410006-0002-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 112 OF 175

\\hrghus\data\85130030\cad\dwgs\c\san swr details (5 of 5).dwg Plotted May 22, 2026 at 8:44 AM by Perez, Abel



NOTES:

1. USE CEMENT STABILIZED SAND BEDDING 6" BELOW PIPE AND 12" ABOVE PIPE.
2. MAINTAIN MINIMUM CLEARANCE OF 12" FROM DRIVEWAY.
3. CLEANOUT COVER SHALL BE EMBOSSED WITH "SS CO COH".
4. DO NOT LOCATE WITHIN SIDEWALK PAVING, EXCEPT WHEN REQUIRED.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STANDARD CLEANOUT DETAIL ON SERVICE LEAD

(NOT TO SCALE)

APPROVED
CITY ENGINEER

APPROVED
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE JULY-01-2010 DWG NO. 02534-05

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6900
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

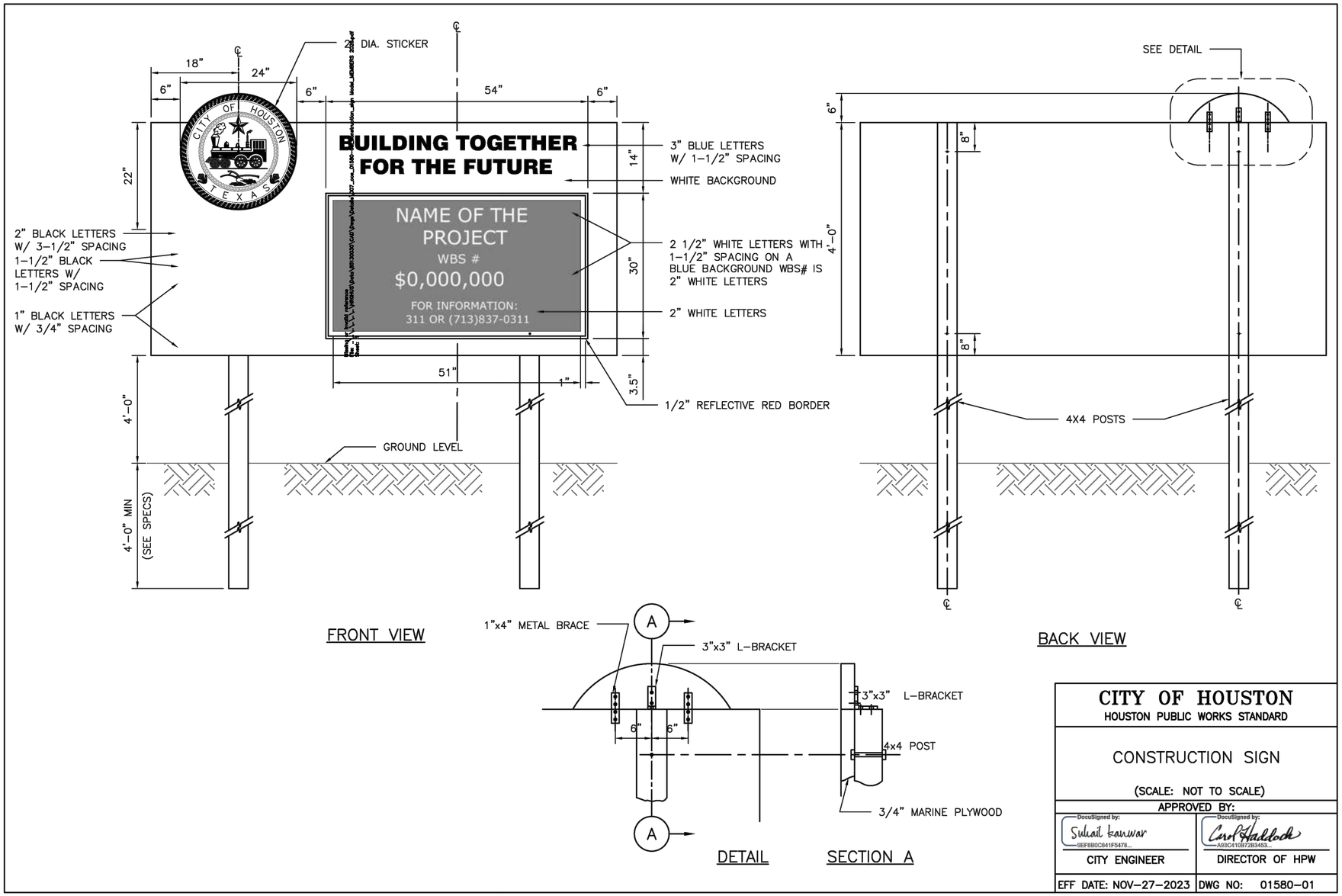
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) SAN SWR DETAILS (6 OF 6)

WBS NO. M-410006-0002-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 113 OF 175	

\\hrghua\data\85130030\cad\dwgs\c\san swr details (6 of 6).dwg Plotted May 22, 2026 at 9:21 AM by Perez, Abel

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6



* NOTE: CONTRACTOR TO CONTACT CITY OF HOUSTON FOR MOST RECENT LIST OF COUNCIL MEMBERS PRIOR TO MANUFACTURING SIGN.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
CONSTRUCTION SIGN (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Suhail kanwar CITY ENGINEER	DocuSigned by: Carol Haddock DIRECTOR OF HPW
EFF DATE: NOV–27–2023	DWG NO: 01580–01

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

CONSTRUCTION SIGN

WBS NO. M–410006–0002–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 114 OF 175	

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

\\hrghua\data\85130030\cad\dwgs\c\construction sign.dwg Plotted May 22, 2026 at 9:28 AM by Perez, Abel

No.	Date	Revisions	Appv

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

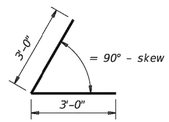
Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing (2~wings) (4)		Estimated Quantities per ft of Toewall (1~toewall)	
					Bars J1		Bars J2					
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	Reinf Lb/Ft)	Conc (CY/Ft)	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
3'-0"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.98	0.444	6.85	0.071
3'-3"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.32	0.462	6.85	0.071
3'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	80.67	0.730	7.07	0.078
6'-6"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'-0"	2'-10"	2'-2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'-5"	3'-0"	2'-5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'-2"	3'-6"	2'-8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'-8"	3'-9"	2'-11"	1'-0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'-2"	4'-0"	3'-2"	1'-2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'-5"	3'-5"	1'-4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'-6"	4'-10"	3'-8"	1'-6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'-0"	3'-11"	1'-7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING
(2~wings)

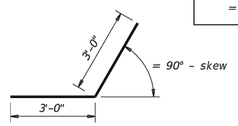
Bar	Size	No.	Spa
D1	#6	~	1'-0"
D2	#6	~	1'-0"
E1	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'-0"
V	#4	~	1'-0"

TABLE OF TOEWALL REINFORCING

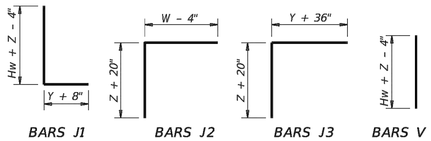
Bar	Size	No.	Spa
J3	#4	~	1'-0"
M2	#4	2	~
E2	#4	~	1'-0"



BARS D1



BARS D2



BARS J1 BARS J2 BARS J3 BARS V

WING DIMENSION FORMULAS:
(All values are in feet.)

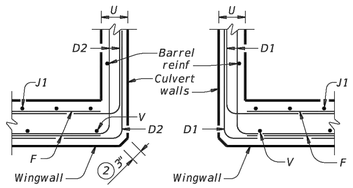
Hw = H + T + C
Lw = (Hw) (SL) ÷ cosine (θ) for Type PW-1
= (Hw - 1') (SL) ÷ cosine (θ) for Type PW-2 and Hw ≥ 4'
= (Hw - 0.5') (SL) ÷ cosine (θ) for Type PW-2 and Hw < 4'

For cast-in-place culverts:
Ltw = [(N) (S) + (N + 1) (U)] ÷ cosine (θ)

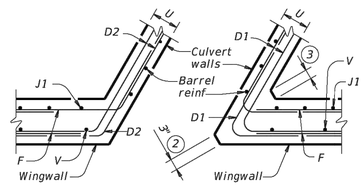
For precast culverts:
Ltw = [(N) (2 U + S) + (N - 1) (0.5')] ÷ cosine (θ)
Total Wingwall Area (two wings ~ SF)
= (2)(Hw)(Lw) for Type PW-1
= (2)(Hw)(Lw) - 6 SF for Type PW-2 and Hw ≥ 4'
= (2)(Hw)(Lw) - 1.5 SF for Type PW-2 and Hw < 4'

Hw = Height of wingwall
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans
SL:1 = Channel slope ratio. (horizontal: 1 vertical, usual value is 2:1)
θ = Culvert skew

See applicable box culvert standard sheet for S, H, T, and U values.



SECTION C-C - PW-1



SECTION C-C - PW-2

1. Skew = 0°
2. At discharge end, chamfer may be ¾" minimum.
3. For 15° skew ~ 1"
   For 30° skew ~ 2"
   For 45° skew ~ 3"
4. Quantities shown are for two Type PW-1 wings. Adjust concrete volume for Type PW-2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.
5. Provide weepholes for Hw = 5'-0" and greater. Fill around weepholes with coarse gravel.
6. Extend Bars E2 1'-6" minimum into the wingwall footing.
7. Lap Bars M1 1'-6" minimum with Bars M2.
8. Place Bars G as shown, equally spaced at 8" maximum. Provide at least two pairs of Bars G per wing.
9. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
10. For vehicle safety, the following requirements must be met:
    - For structures without bridge rail, construct curbs no more than 3" above finished grade.
    - For structures with bridge rail, construct curbs flush with finished grade.

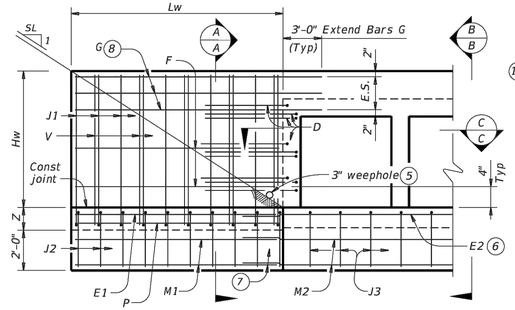
    Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
11. 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.
12. 3'-0" for Hw < 4'.
13. 6" for Hw < 4'.

DESIGNER NOTES:
Type PW-1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
Type PW-2 can only be used for applications without a railing mounted to the wingwall.

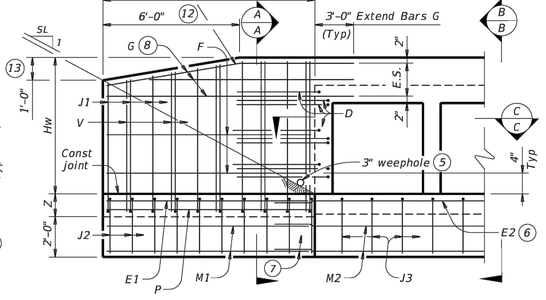
MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.

GENERAL NOTES:
Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.
Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

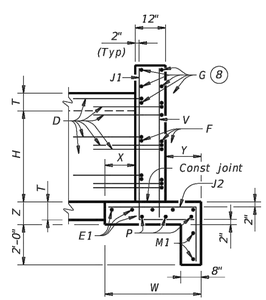
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.



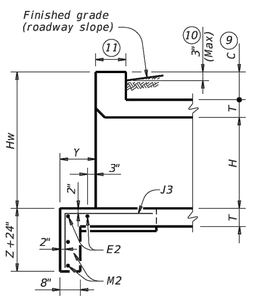
PARTIAL ELEVATION - PW-1



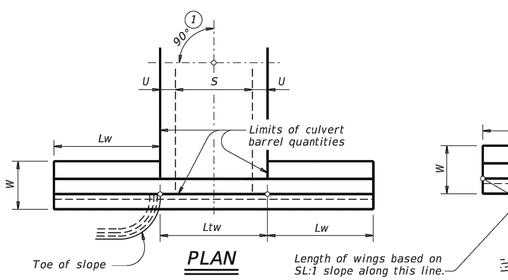
PARTIAL ELEVATION - PW-2



SECTION A-A
(Showing wing reinforcement.)

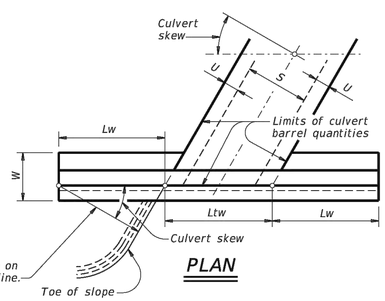


SECTION B-B
(Showing wing reinforcement.)



PLAN

DETAILS FOR NON-SKEWED BOX CULVERTS



PLAN

DETAILS FOR SKEWED BOX CULVERTS
(Showing 30° skew.)

Texas Department of Transportation | Bridge Division Standard

CONCRETE WINGWALLS WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2

PW

FILE: CD-PW-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

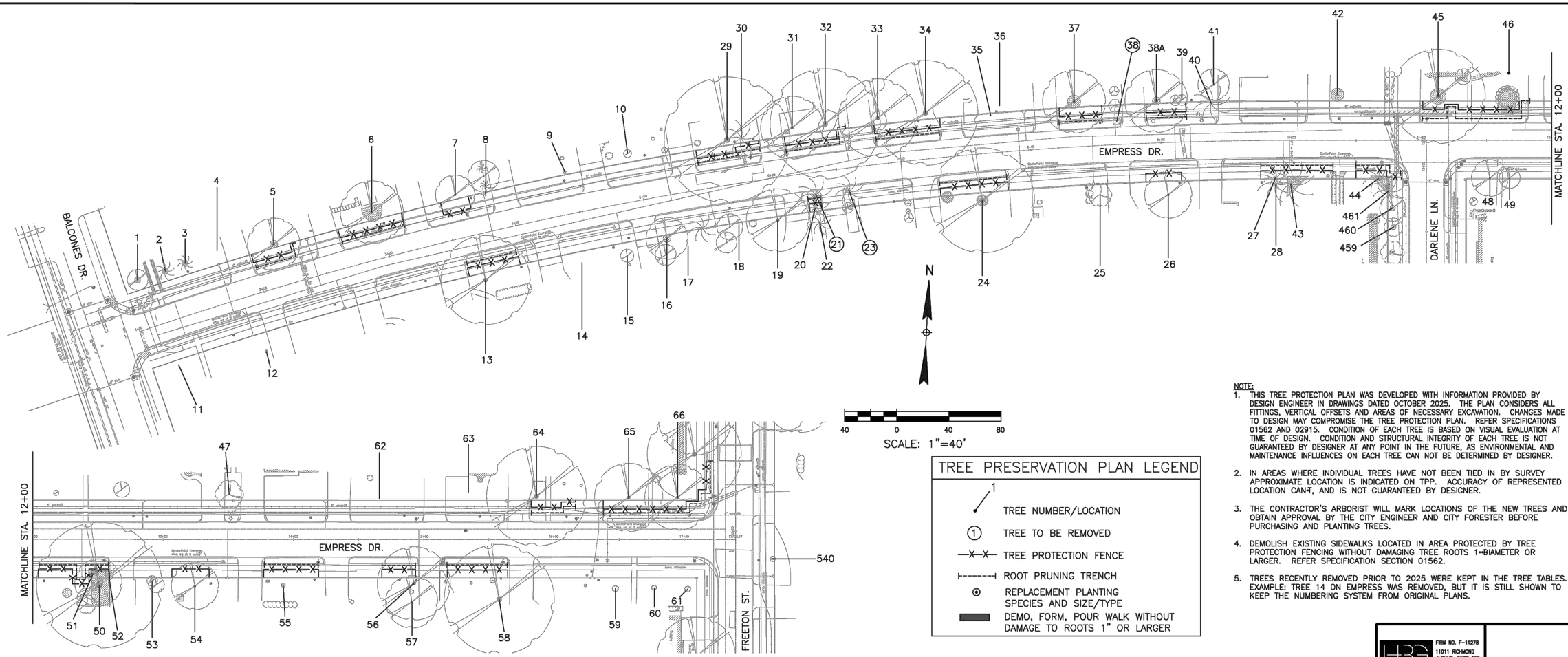
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

TXDOT CONCRETE HEADWALL DETAIL PW-1

WBS NO. M-410006-0002-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 115OF 175

No.	Date	Revisions	App.

\\rghus\data\85130030\cad\dwgs\c\txdot pw-1 detail.dwg Plotted May 22, 2026 at 8:44 AM by Perez, Abel



TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CANT, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1" DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

Tree No.	Location	Description	Comments	Treatment
Trees on Empress Drive				
1	203 Empress	6" Magnolia	80% dieback, Poor, Private tree	
2	203 Empress	12' Palm	Tree recently removed	
3	203 Empress	6' Palm	Tree recently removed	
4	207 Empress	21" Mulberry	Tree recently removed	
5	207 Empress	20" Magnolia	30% dieback, Private tree	Root prune for water tap&lead, Root prune for walk, Bore waterline, Fence, Clearance Prune
6	211 Empress	34" Live Oak	Arboriculturally Significant, Private tree	Hand dig water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
7	215 Empress	12" Shumard Oak	Private tree	Bore waterline, Fence, Clearance prune
8	219 Empress	5' Palm	Tree recently removed	
9	219 Empress	1' Palm	Private tree	
10	223 Empress	5" Magnolia	Tree recently removed	
11	202 Empress	30" Water Oak	Tree recently removed	
12	210 Empress	20" Crepe Myrtle	Tree recently removed	
13	218 Empress	28" Live Oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
14	222 Empress	25" Sweetgum	Tree recently removed	
15	226 Empress	4" Pear	Private tree	
16	226 Empress	14" Sugarberry	Private tree	Clearance prune
17	226 Empress	3" Pecan	Private tree	
18	230 Empress	10' Palm	Private tree	
19	230 Empress	18" Magnolia	Tree recently removed	
20	234 Empress	20" Pine	Ordinance tree	Fence, Root prune for walk
21	234 Empress	5' Palm	Not ordinance tree, Remove for walk	Remove tree, no replacement required
22	234 Empress	14" Pine	Private tree	Fence, Root prune for walk
23	234 Empress	8' Palm	Not ordinance tree, Remove for walk	Remove tree, no replacement required
24	238 Empress	31" Water oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
25	246 Empress	15" Crepe Myrtle	Private tree	Clearance prune
26	246 Empress	13" Magnolia	Private tree	Fence, Clearance prune
27	250 Empress	12" Pine	Ordinance tree	Root prune for walk, Fence, Clearance prune
28	250 Empress	18" Pine	Private tree	Fence, Root prune for walk
29	227 Empress	40" Live Oak	Arboriculturally Significant, Private tree	Hand dig water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
30	227 Empress	22" Pine	Private tree	Hand dig water lead, Root prune for walk, Bore waterline, Fence, Clearance prune
31	231 Empress	25" Live Oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
32	231 Empress	36" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance Prune
33	235 Empress	24" Water Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune

Tree No.	Location	Description	Comments	Treatment
Trees on Empress Drive				
34	235 Empress	28" Water Oak	Arboriculturally Significant, Private tree, Hypoxylon, Poor condition	Hand dig water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
35	239 Empress	14" Pine	Tree recently removed	
36	239 Empress	18" Pine	Tree recently removed	
37	243 Empress	22" Mulberry	50% dieback, Poor, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
38	243 Empress	3' Palm	Not ordinance tree, Remove for walk	Remove tree, no replacement required
38A	247 Empress	26" Baldcypress	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
39	247 Empress	2" Loquat	Private tree	
40	251 Empress	26" Pine	Ordinance tree	Bore waterline, Root prune for walk, Fence, Clearance prune
41	251 Empress	12" Magnolia	Private tree	
42	255 Empress	35" Arizona Ash	Topped to 10' stump, Private, Not impacted	
43	254 Empress	24" Pine	Private tree	Hand dig water lead, Root prune walk, Fence, Clearance prune
44	254 Empress	13" Pine	Ordinance tree	Root prune for walk, Fence, Clearance prune
45	255 Empress	35" Live Oak	Arboriculturally Significant, Private tree	Root prune for vertical bend, Root prune for walk, Fence, Bore waterline, Clearance prune
46	307 Empress	38" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Bore Waterline, Clearance prune
47	315 Empress	12" Creps Myrtle	Private tree	Clearance prune
48	302 Empress	7" Pear	Not Ordinance tree	
49	302 Empress	4" Pear	Not Ordinance tree	
50	310 Empress	30" Arizona Ash	Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
51	310 Empress	4' aloe	Not Ordinance tree	
52	310 Empress	3' Aloe	Not Ordinance tree	
53	314 Empress	2" Magnolia	Private tree	
54	314 Empress	13" Pecan	Private tree	Fence
55	318 Empress	20" Arizona Ash	Tree recently removed	
56	322 Empress	16" Live Oak	Private tree	Hand dig water lead, Root prune for walk, Fence, Clearance prune
57	322 Empress	28" Live Oak	Private tree	
58	322 Empress	34" Live Oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
59	334 Empress	1' Sago	Tree recently removed	
60	334 Empress	1' Sago	Private tree	
61	334 Empress	1' Sago	Private tree	
62	323 Empress	22" Pecan	Tree recently removed	
63	327 Empress	36" Live Oak	Tree recently removed	
64	331 Empress	36" Live Oak	Arboriculturally Significant, Private tree	Root prune for water tap&lead, Root prune for walk, Bore waterline, Fence, Clearance Prune
65	335 Empress	26" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
66	335 Empress	22" Live Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
EMPRESS DRIVE

SHEET 1 OF 10

WBS NO. M-410006-0002-4

DRAWING SCALE

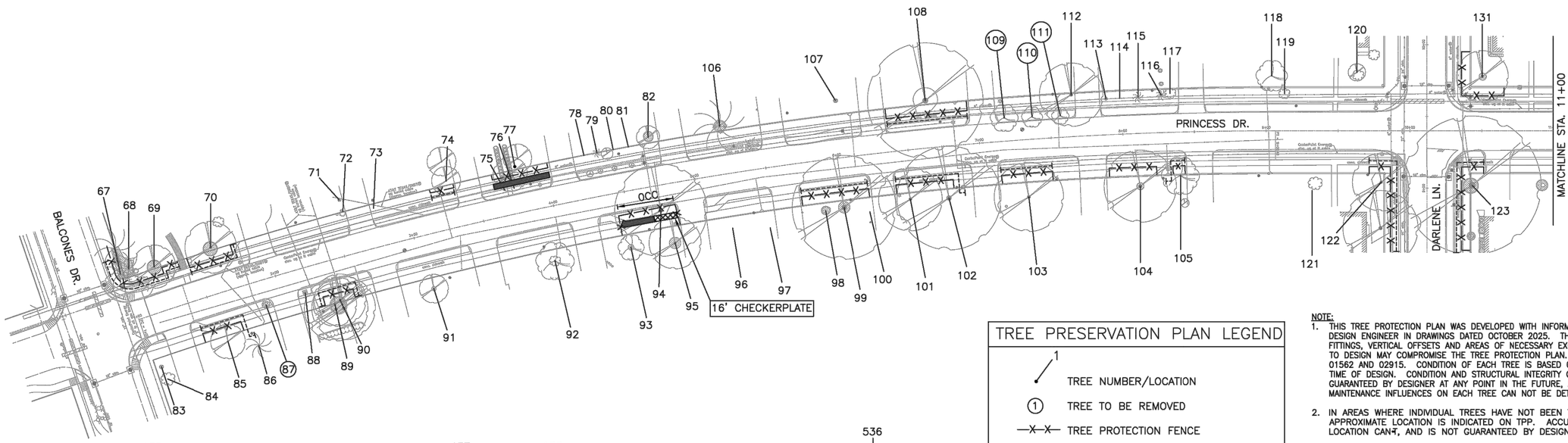
1"=40'

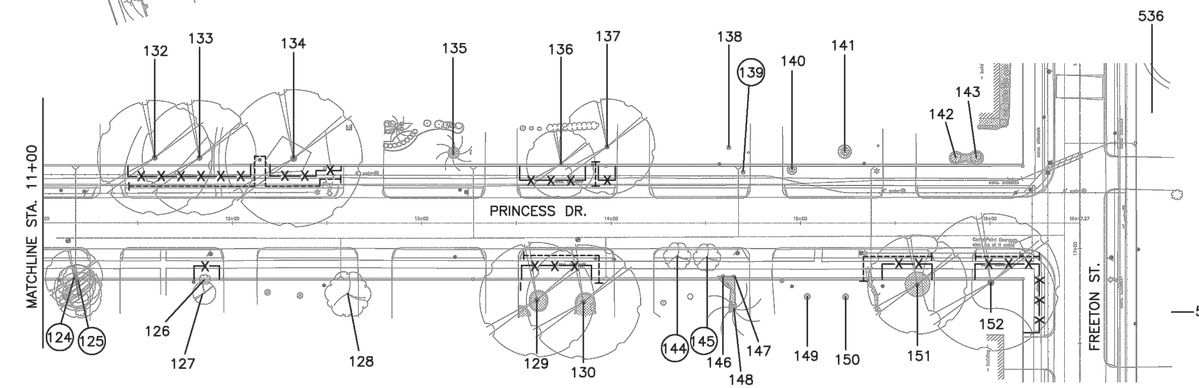
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 116 OF 175

No.	Date	Revisions	App





N

40 0 40 80

SCALE: 1"=40'

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER
- —OCC— ZERO CUTBACK CURB

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CANNOT, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1" DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

Tree No.	Location	Description	Comments	Treatment
Trees on Princess Drive				
67	203 Princess	14" Pine	Ordinance tree	Root prune for walk, Fence, Clearance prune
68	203 Princess	14" Pine	Private tree	Root prune for walk, Fence
69	203 Princess	12" Red Maple	Private tree	Root prune for waterline, Fence, Clearance prune
70	203 Princess	23" Red Maple	Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Bore Waterline, Clearance prune
71	211 Princess	10' Palm	Tree recently removed	
72	211 Princess	2" Crepe Myrtle	Private tree	
73	211 Princess	1' Yucca	Tree recently removed	
74	215 Princess	10" Live Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
75	215 Princess	1" Sycamore	Tree recently removed	
76	215 Princess	1" Sycamore	Tree recently removed	
77	215 Princess	12" Sycamore	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Bore waterline, Fence, Clearance prune
78	219 Princess	5" Juniper	Tree recently removed	
79	219 Princess	5' Palm	Tree recently removed	
80	219 Princess	3" Sweetgum	Private tree	
81	219 Princess	5' Palm	Tree recently removed	
82	223 Princess	5" Magnolia	70% dieback, Poor, Private tree	Clearance prune
83	202 Princess	4" Arizona Ash	Private tree	
84	202 Princess	3' Sago	Private tree	
85	202 Princess	10" Shumard Oak	Private tree	Root prune for water lead, Root prune for walk, Fence, Clearance prune
86	202 Princess	13" Pine	Private tree	Fence
87	206 Princess	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
88	206 Princess	1' Sago	Tree recently removed	
89	206 Princess	13" Water Oak	Ordinance tree	Root prune for water lead, Root prune for walk, Fence, Clearance prune
90	206 Princess	12" Water Oak	Ordinance tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
91	210 Princess	6" Pecan	Private tree	
92	214 Princess	12" Crepe Myrtle	Private tree	
93	218 Princess	4" Crepe Myrtle	Private tree	
94	218 Princess	27" Water Oak	Ordinance tree	Zero Curb cutback, 16' checker plate, Fence, Hand dig water service lead
95	222 Princess	16" Magnolia	80% dieback, Poor, Private tree	
96	222 Princess	12" Mallow	Tree recently removed	
97	226 Princess	9" Magnolia	Tree recently removed	
98	226 Princess	4' Sago	Private tree	
99	226 Princess	30" Live Oak	Arboriculturally Significant, Private tree	Hand dig water service lead, Root prune for walk, Fence, Clearance prune
100	226 Princess	16" Pine	Tree recently removed	

Tree No.	Location	Description	Comments	Treatment
Trees on Princess Drive				
101	230 Princess	14" Shumard Oak	Private tree	Root prune for walk, Fence, Clearance prune
102	230 Princess	28" Water Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Fence
103	234 Princess	24" Pecan	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
104	238 Princess	20" Arizona Ash	Topped to 16', Poor, Private tree	Fence, Clearance prune
105	242 Princess	20" Crepe Myrtle	Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
106	223 Princess	10' Palm	Private tree	Clearance prune
107	227 Princess	2" Live Oak	Tree recently removed	
108	231 Princess	28" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
109	235 Princess	10" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
110	235 Princess	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
111	235 Princess	4" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
112	239 Princess	14" Chinaberry	Not Ordinance tree	
113	239 Princess	10' Palm	Tree recently removed	
114	239 Princess	4" Loquat	Tree recently removed	
115	239 Princess	6' Palm	Not Ordinance tree	
116	239 Princess	1' Palm	Not Ordinance tree	
117	239 Princess	2' Sago	Not Ordinance tree	
118	Not available	10" Crepe Myrtle	Private tree	
119	Not available	4" Privet	Not Ordinance tree	Clearance prune
120	Not available	4" Privet	Private tree	
121	Not available	1' Sago	Private tree	
122	Not available	12" Magnolia	Private tree	Root prune for walk, Fence, Clearance prune
123	302 Princess	31" Water oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
124	302 Princess	10" Burford Holly	Not ordinance tree, Remove for walk	Remove tree, no replacement required
125	302 Princess	12" Burford Holly	Not ordinance tree, Remove for walk	Remove tree, no replacement required
126	306 Princess	7" Juniper	50% dieback, Poor, Private tree	Fence, Clearance prune
127	306 Princess	14" Magnolia	Private tree	Fence, Clearance prune
128	314 Princess	18" Crepe Myrtle	40% dieback, Private tree	Clearance prune
129	318 Princess	32" Live Oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
130	318 Princess	36" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
131	Not available	12" Magnolia	40% dieback, Private tree	Fence, Clearance prune
132	309 Princess	22" Water Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
133	309 Princess	22" Water Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
134	315 Princess	26" Water Oak	35% canopy loss to storm damage, Arboriculturally Significant, Private tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
135	319 Princess	3' Sago	Private tree	
136	323 Princess	10" Shumard Oak	Private tree	Bore waterline, Fence, Clearance prune
137	323 Princess	20" Water Oak	Private tree	Fence, Bore waterline, Root prune for water tap & lead
138	323 Princess	25" Live Oak	Tree recently removed	
139	331 Princess	2' Aloe	Not ordinance tree, Remove for sanitary lead	Remove tree, no replacement required
140	331 Princess	1' Palm	Not Ordinance tree	
141	331 Princess	20" Vitex	Tree recently removed	
142	Not available	4' Sago	Private tree	
143	Not available	5' Sago	Private tree	
144	322 Princess	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
145	322 Princess	4" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
146	322 Princess	10' Palm	Not Ordinance tree	
147	322 Princess	10' Palm	Not Ordinance tree	
148	322 Princess	2' Palm	Not Ordinance tree	
149	326 Princess	22" Sycamore	Tree recently removed	
150	326 Princess	24" Sycamore	Tree recently removed	
151	330 Princess	17" Live Oak	Damage from private drive const, Private tree	Root prune for walk, Fence, Clearance prune
152	330 Princess	26" Tallow	Damage from private drive const, Private tree	Root prune for walk, Fence, Clearance prune

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. ◦ Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: Craig N Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
PRINCESS DRIVE

SHEET 2 OF 10

WBS NO. M-410006-0002-4

DRAWING SCALE

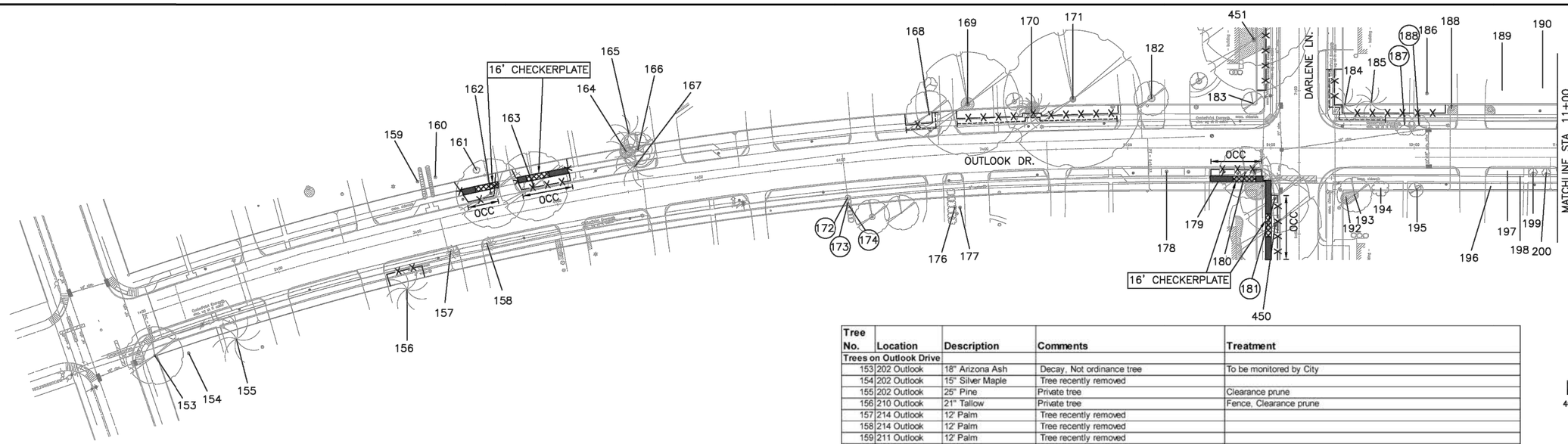
1"=40'

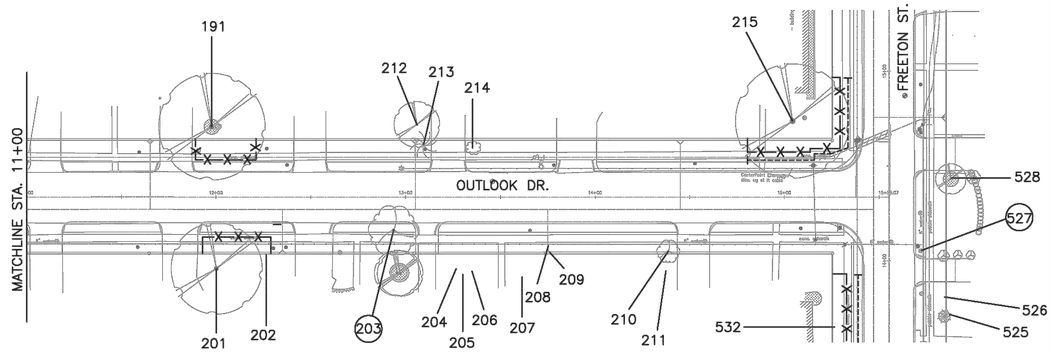
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 117 OF 175

No.	Date	Revisions	App.





N

40 0 40 80

SCALE: 1"=40'

Tree No.	Location	Description	Comments	Treatment
Trees on Outlook Drive				
153	202 Outlook	18" Arizona Ash	Decay, Not ordinance tree	To be monitored by City
154	202 Outlook	15" Silver Maple	Tree recently removed	
155	202 Outlook	25" Pine	Private tree	Clearance prune
156	210 Outlook	21" Tallow	Private tree	Fence, Clearance prune
157	214 Outlook	12' Palm	Tree recently removed	
158	214 Outlook	12' Palm	Tree recently removed	
159	211 Outlook	12' Palm	Tree recently removed	
160	219 Outlook	10' Palm	Tree recently removed	
161	219 Outlook	2' Sago	Private tree	
162	219 Outlook	24" Tallow	Ordinance tree	Zero Curb Cutback, 16' checker plate, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Bore Fence, Clearance prune
163	219 Outlook	26" Live Oak	Arboriculturally Significant, Ordinance tree	Zero Curb Cutback, 16' checker plate, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Bore Fence, Clearance prune
164	223 Outlook	18" Pine	Dead	To be addressed by HPARD
165	223 Outlook	16" Pine	Private tree	
166	223 Outlook	5" Crepe Myrtle	Not Ordinance tree	Clearance prune
167	223 Outlook	20" Pine	Dead	To be addressed by HPARD
168	231 Outlook	16" Water Oak	Ordinance tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
169	235 Outlook	36" Southern Red Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
170	235 Outlook	22" Pine	Ordinance tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
171	241 Outlook	35" Arizona Ash	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
172	226 Outlook	5" Photinia	Not ordinance tree, Remove for walk	Remove tree, no replacement required
173	226 Outlook	5" Photinia	Not ordinance tree, Remove for walk	Remove tree, no replacement required
174	226 Outlook	5" Photinia	Not ordinance tree, Remove for walk	Remove tree, no replacement required
175	226 Outlook	5" Photinia	Private tree	
176	234 Outlook	12" Pine	Tree recently removed	
177	234 Outlook	11" Pine	Tree recently removed	
178	242 Outlook	27" Live Oak	Tree recently removed	
179	242 Outlook	17" Live Oak	Tree recently removed	
180	242 Outlook	14" Live Oak	Ordinance tree	Zero Curb cutback, 16' checker plate, Fence, Demo-form-pour walk without damage to 1" diameter or larger, Clearance prune
181	242 Outlook	21" Live Oak	Ordinance tree, Remove for larger radius	Remove tree, Provide 21" in replacement
182	241 Outlook	15" Crepe Myrtle	Private tree	Clearance prune
183	241 Outlook	12" Raintree	Private tree	Clearance prune
184	303 Outlook	20" Pine	Private tree	Root prune for water fitting, Root prune for walk, Fence, Bore waterline
185	303 Outlook	20" Pine	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
186	303 Outlook	23" Arizona Ash	Tree recently removed	
187	303 Outlook	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
188	303 Outlook	10" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
189	307 Outlook	18" Red Maple	Tree recently removed	
190	307 Outlook	13" Red Maple	Tree recently removed	
191	315 Outlook	23" Water Oak	Private tree	Bore waterline, Fence, Clearance prune
192	302 Outlook	1' Sago	Private tree	
193	302 Outlook	11" Water Oak	Private tree	Clearance prune
194	302 Outlook	1' Sago	Not Ordinance tree	
195	302 Outlook	1' Sago	Not Ordinance tree	
196	306 Outlook	1" Boxwood Hedge	Tree recently removed	
197	306 Outlook	4" Crepe Myrtle	Tree recently removed	
198	306 Outlook	4" Crepe Myrtle	Tree recently removed	
199	306 Outlook	5" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
200	306 Outlook	4" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
201	314 Outlook	18" Water Oak	Private tree	Fence, Clearance prune
202	314 Outlook	18" Magnolia	Tree recently removed	
203	318 Outlook	15" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
204	322 Outlook	2' Sago	Tree recently removed	
205	322 Outlook	3' Sago	Tree recently removed	
206	322 Outlook	3' Sago	Tree recently removed	
207	322 Outlook	2" Mulberry	Tree recently removed	
208	330 Outlook	4" Holly Hedge	Tree recently removed	
209	330 Outlook	4" Holly Hedge	Tree recently removed	
210	330 Outlook	10" Crepe Myrtle	Not Ordinance tree	Clearance prune
211	330 Outlook	14" Tallow	Tree recently removed	
212	323 Outlook	8" Pear	Topped, Private tree	Clearance prune
213	323 Outlook	3' Sago	Not Ordinance tree	Clearance prune
214	323 Outlook	4' Sago	Not Ordinance tree	
215	331 Outlook	32" Water Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ----- ROOT PRUNING TRENCH
- ⊙ REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- ▬ DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER
- —OCC— ZERO CUTBACK CURB

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CAN'T, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1" DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9966
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: Craig N. Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
OUTLOOK DRIVE

SHEET 3 OF 10

WBS NO. M-410006-0002-4

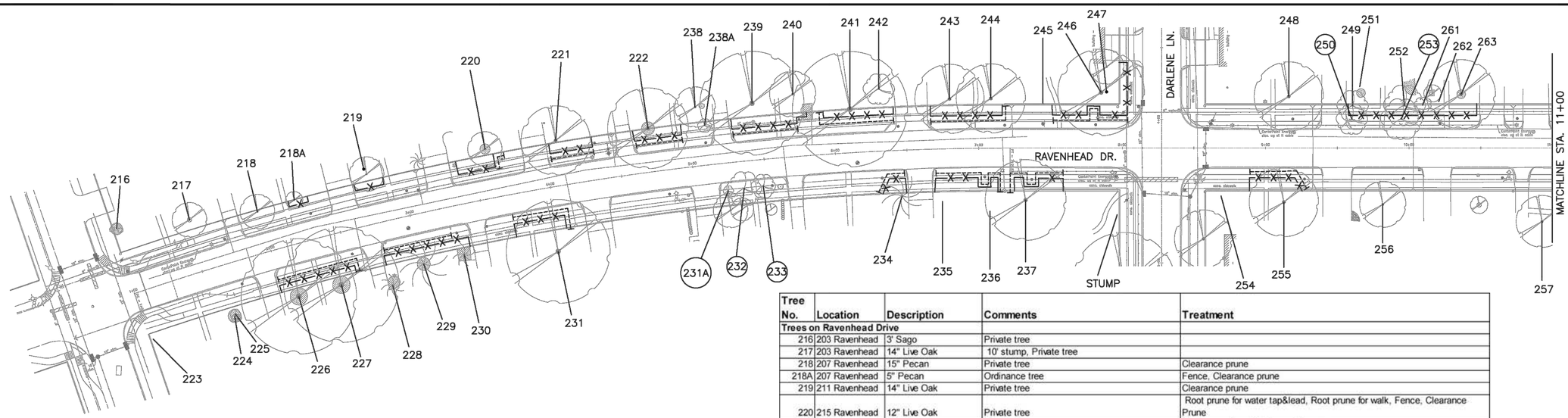
DRAWING SCALE

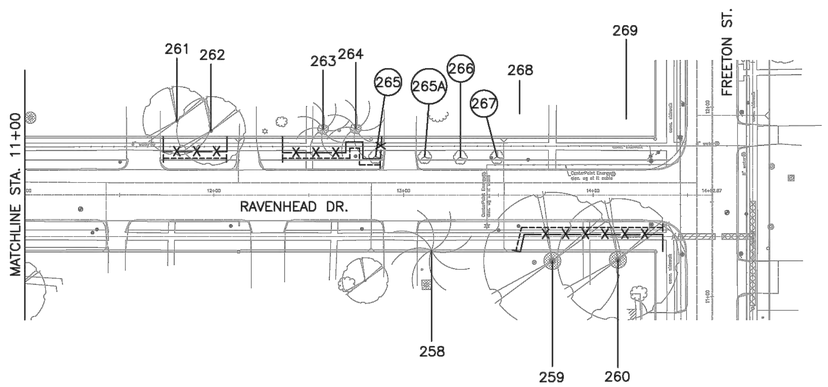
1"=40'

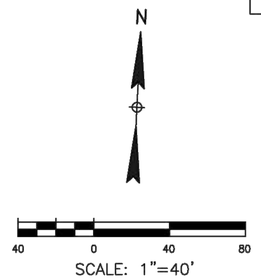
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 118 OF 175







TREE PRESERVATION PLAN LEGEND

- TREE NUMBER/LOCATION
- (1) TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CAN'T, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1" DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

Tree No.	Location	Description	Comments	Treatment
Trees on Ravenhead Drive				
216	203 Ravenhead	3' Sago	Private tree	
217	203 Ravenhead	14" Live Oak	10' stump, Private tree	
218	207 Ravenhead	15" Pecan	Private tree	Clearance prune
218A	207 Ravenhead	5" Pecan	Ordinance tree	Fence, Clearance prune
219	211 Ravenhead	14" Live Oak	Private tree	Clearance prune
220	215 Ravenhead	12" Live Oak	Private tree	Root prune for water tap&lead, Root prune for walk, Fence, Clearance Prune
221	219 Ravenhead	21" Pecan	Private tree	Root prune for walk, Fence, Clearance prune
222	223 Ravenhead	25" Live Oak	Arboriculturally Significant, Private tree, Storm damage	Root prune for walk, Fence, Clearance prune
223	202 Ravenhead	21" Live Oak	Tree recently removed	
224	202 Ravenhead	4" Crepe Myrtle	Private tree	
225	202 Ravenhead	4" Crepe Myrtle	Private tree	
226	210 Ravenhead	36" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
227	210 Ravenhead	38" Water Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
228	214 Ravenhead	6' Sago	Private tree	
229	214 Ravenhead	27" Pine	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
230	214 Ravenhead	6' Sago	Private tree	
231	218 Ravenhead	30" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
231A	226 Ravenhead	5" Crepe Myrtle	Remove for stabilization back of curb, Not ordinance tree	Remove tree, no replacement required
232	226 Ravenhead	10" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
233	226 Ravenhead	10" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
234	234 Ravenhead	21" Pine	Ordinance tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
235	234 Ravenhead	21" Water Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
236	234 Ravenhead	26" Water Oak	Tree recently removed	
237	238 Ravenhead	18" Water Oak	Private tree, Hypoxylon, Poor	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
238	223 Ravenhead	6" Crepe Myrtle	Private tree	
239	227 Ravenhead	34" Water Oak	Private tree, Storm damage	Root prune for walk, Fence
240	227 Ravenhead	15" Magnolia	Private tree	
241	231 Ravenhead	33" Willow Oak	Arboriculturally Significant, Private tree, Storm damage	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
242	231 Ravenhead	12" Crepe Myrtle	Private tree	
243	235 Ravenhead	24" Live Oak	Private tree	Root prune for walk, Fence
244	235 Ravenhead	23" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
245	239 Ravenhead	5' Stump	Tree recently removed	
246	239 Ravenhead	30" Water Oak	Private tree, Hypoxylon, Poor	Root prune for water service lead, Root prune for walk, Fence
247	Not used			
248	302 Ravenhead	24" Water Oak	Tree recently removed	
249	307 Ravenhead	15" Crepe Myrtle	Not Ordinance tree	Clearance prune
250	307 Ravenhead	14" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
251	307 Ravenhead	12" Citrus spp	Private tree	
252	307 Ravenhead	19" Crepe Myrtle	Private tree	Fence, Clearance prune
253	307 Ravenhead	18" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
254	302 Ravenhead	3' Stump	Tree recently removed	
255	302 Ravenhead	22" Live Oak	Private tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
256	306 Ravenhead	17" Laurel Oak	Private tree	Root prune for sidewalk
257	314 Ravenhead	15" Mulberry	Private tree	
258	326 Ravenhead	35" Pine	Ordinance tree	Bore waterline, Root prune for walk, Fence, Clearance prune
259	330 Ravenhead	28" Live Oak	Private tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
260	330 Ravenhead	27" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
261	311 Ravenhead	14" Arborvitae	Private tree	
262	311 Ravenhead	2' Aloe	Private tree	
263	311 Ravenhead	24" Arizona Ash	Private tree	Fence, Clearance prune
263A	319 Ravenhead	16" Live Oak	Private tree	Root prune for walk, Fence, Clearance prune
263B	319 Ravenhead	22" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance Prune
263C	323 Ravenhead	24" Pine	Private tree	Root prune for walk, Fence, Clearance prune
264	323 Ravenhead	25" Pine	Private tree	Root prune for walk, Fence, Clearance prune
265	327 Ravenhead	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
265A	327 Ravenhead	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
266	327 Ravenhead	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
267	327 Ravenhead	5" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
268	331 Ravenhead	13" Magnolia	Tree recently removed	
269	331 Ravenhead	18" Magnolia	Tree recently removed	

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com

APPROVED: Craig N. Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

TREE PROTECTION PLAN
RAVENHEAD DRIVE

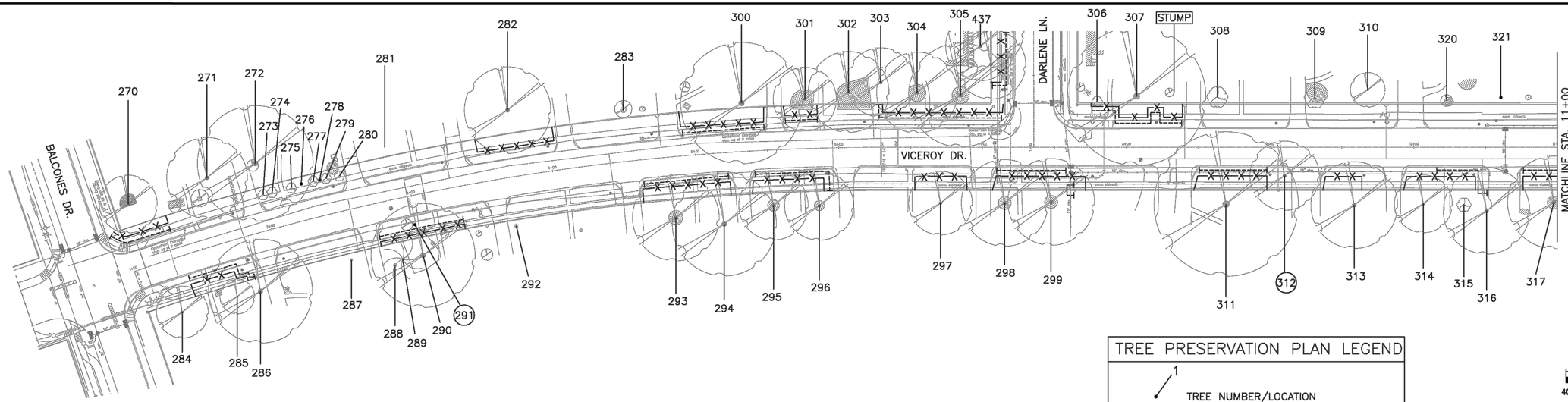
SHEET 4 OF 10

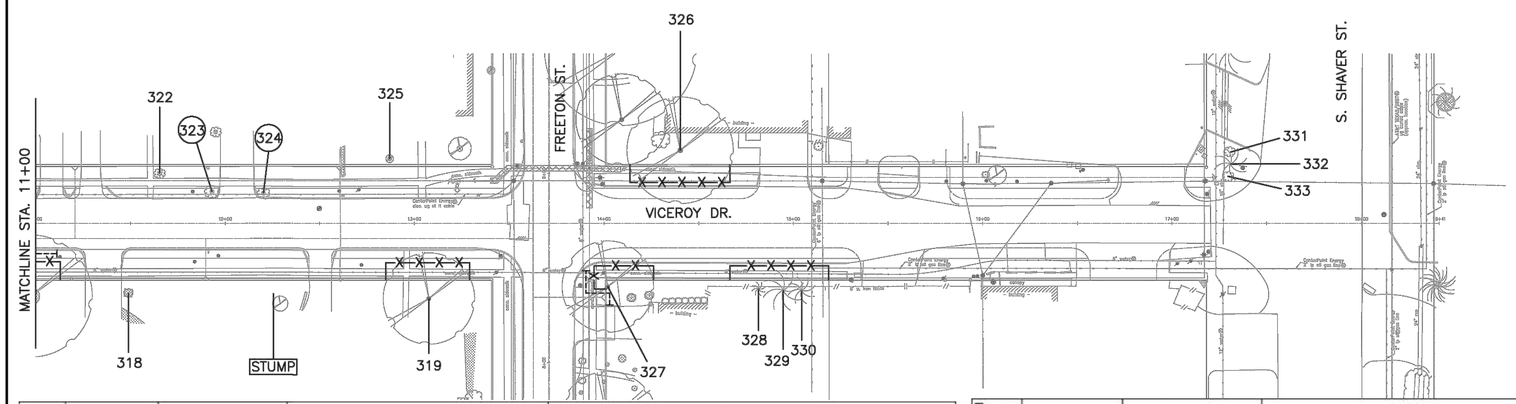
WBS NO. M-410006-0002-4

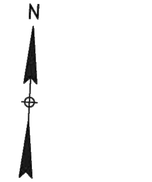
DRAWING SCALE
1"=40'

CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

SHEET NO. 119 OF 175







SCALE: 1"=40'

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CANT, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1"•DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

Tree No.	Location	Description	Comments	Treatment
Trees on Viceroy Drive				
270	203 Viceroy	22" Live Oak	Private tree	Root prune for walk, Fence, Clearance prune
271	203 Viceroy	25" Water Oak	50% dieback, Poor, Private tree	
272	207 Viceroy	45" Live Oak	Arboriculturally Significant, Private tree	Clearance prune
273	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
274	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
275	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
276	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
277	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
278	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
279	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
280	207 Viceroy	4" Crepe Myrtle	Not Ordinance tree	
281	211 Viceroy	16" Live Oak	Tree recently removed	
282	215 Viceroy	30" Live Oak	Arboriculturally Significant, Private tree	Fence, Clearance prune
283	219 Viceroy	3" Prunus spp	Private tree	
284	202 Viceroy	12" Pear	Private tree	Clearance prune
285	202 Viceroy	11" Magnolia	Private tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
286	202 Viceroy	32" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
287	206 Viceroy	2" Citrus	Tree recently removed	
288	210 Viceroy	18" Pine	Private tree	Root prune for walk, Fence, Bore waterline
289	210 Viceroy	20" Pine	Private tree	Root prune for walk, Fence, Bore waterline
290	210 Viceroy	34" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
291	210 Viceroy	2" Loquat	Not ordinance tree, Remove for walk	Remove tree, no replacement required
292	214 Viceroy	1" Loquat	Tree recently removed	
293	226 Viceroy	30" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Fence, Clearance prune
294	294 Viceroy	35" Post Oak	50% dieback, Private tree	Bore waterline, Root prune for walk, Fence
295	294 Viceroy	28" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
296	294 Viceroy	20" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
297	298 Viceroy	18" Magnolia	Private tree	Bore waterline, Fence, Clearance prune
298	302 Viceroy	35" Live oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
299	302 Viceroy	26" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
300	223 Viceroy	36" Live Oak	Arboriculturally Significant, Private tree, Interior foliage stripped	Root prune for walk, Fence, Clearance prune
301	227 Viceroy	14" Water Oak	Private tree	Root prune for walk, Fence, Clearance prune
302	227 Viceroy	25" Sycamore	Dead, Private tree, not impacted	

Tree No.	Location	Description	Comments	Treatment
Trees on Viceroy Drive				
303	231 Viceroy	22" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance Prune
304	231 Viceroy	28" Live Oak	Private tree	Root prune for walk, Fence, Clearance prune
305	231 Viceroy	28" Live Oak	Private tree	Root prune for walk, Fence, Clearance prune
306	303 Viceroy	6" Crepe Myrtle	Private tree	Clearance prune
307	303 Viceroy	34" Arizona Ash	Trunk cavity, Private tree	Root prune for water lead, Root prune for walk, Fence, Clearance prune
308	307 Viceroy	12" Crepe Myrtle	Private tree	Clearance prune
309	311 Viceroy	10" Crepe Myrtle	Private tree	Clearance prune
310	311 Viceroy	11" Red Maple	Private tree	Clearance prune
311	310 Viceroy	35" Arizona Ash	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
312	314 Viceroy	18" Tallow	Not ordinance tree, Remove for walk	Remove tree, no replacement required
313	314 Viceroy	24" Water Oak	Private tree	Fence, Bore waterline
314	318 Viceroy	12" Water Oak	Private tree	Fence, Bore waterline
315	318 Viceroy	6" Crepe Myrtle	Private tree	Clearance prune
316	322 Viceroy	23" Water Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
317	322 Viceroy	25" Live Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
318	326 Viceroy	4' Sago	Tree recently removed	
319	Not available	20" Live Oak	Private tree	Fence, Bore waterline
320	315 Viceroy	6' Aloe	Private tree	
321	319 Viceroy	1' Sago	Private tree	
322	323 Viceroy	2" Yaupon	Not Ordinance tree	Clearance prune
323	327 Viceroy	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
324	327 Viceroy	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
325	331 Viceroy	3" Chinese Pistache	Private tree	
326	Not available	26" Live Oak	Private tree	Fence, Bore waterline
327	Not available	20" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
328	Not available	12" Pine	Private tree	Fence, Bore waterline
329	Not available	12" Pine	Private tree	Fence, Bore waterline
330	Not available	12" Pine	Private tree	Fence, Bore waterline
331	Not available	3' Sago	Not Ordinance tree	
332	Not available	20' Palm	Not Ordinance tree	
333	Not available	3' Sago	Not Ordinance tree	

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com

APPROVED: Craig N. Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
VICEROY DRIVE

SHEET 5 OF 10

WBS NO. M-410006-0002-4

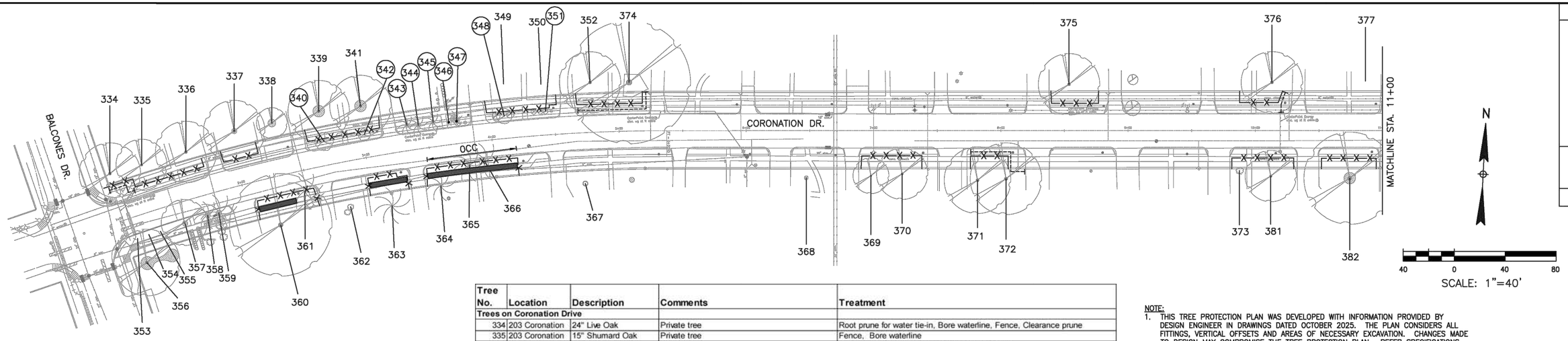
DRAWING SCALE

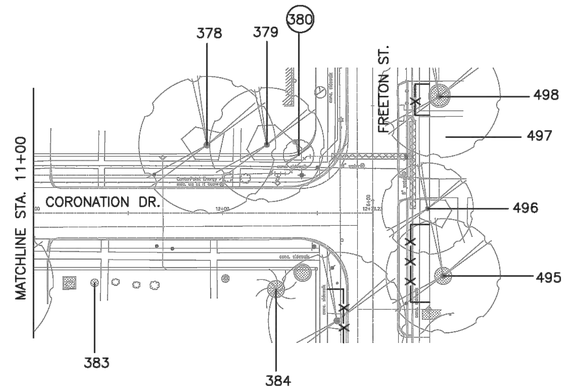
1"=40'

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 120 OF 175





N

40 0 40 80

SCALE: 1"=40'

Tree No.	Location	Description	Comments	Treatment
Trees on Coronation Drive				
334	203 Coronation	24" Live Oak	Private tree	Root prune for water tie-in, Bore waterline, Fence, Clearance prune
335	203 Coronation	15" Shumard Oak	Private tree	Fence, Bore waterline
336	203 Coronation	22" Shumard Oak	Private tree	Fence, Root prune for sidewalk, Bore waterline
337	207 Coronation	26" Camphor	Topped, Private tree	Bore waterline, Fence
338	207 Coronation	12" Camphor	Private tree	
339	211 Coronation	21" Live Oak	Private tree	Bore waterline, Fence, Clearance prune
340	211 Coronation	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
341	211 Coronation	21" Live Oak	Private tree	Bore waterline, Fence, Clearance prune
342	211 Coronation	5" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
343	215 Coronation	4' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
344	215 Coronation	4' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
345	215 Coronation	4' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
346	215 Coronation	4' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
347	215 Coronation	4' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
348	219 Coronation	4" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
349	219 Coronation	30" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Fence, Clearance prune
350	219 Coronation	24" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Fence, Clearance prune
351	219 Coronation	4" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
352	223 Coronation	20" Live Oak	Private tree	Bore waterline, Fence, Clearance prune
353	202 Coronation	16" Pine	Dead	To be addressed by HPARD
354	202 Coronation	14" Pine	Dead	To be addressed by HPARD
355	202 Coronation	13" Pine	Dead	To be addressed by HPARD
356	202 Coronation	25" Pecan	Dead	To be addressed by HPARD
357	202 Coronation	15" Pine	Dead	To be addressed by HPARD
358	202 Coronation	13" Pine	Dead	To be addressed by HPARD
359	202 Coronation	19" Pine	Dead	To be addressed by HPARD
360	206 Coronation	31" Water Oak	Arboriculturally Significant, Private tree, Storm damage	Demo-form-pour walk without damage to tree roots 1" or larger, Fence, Clearance prune
361	206 Coronation	23" Pine	Dead	To be addressed by HPARD
362	210 Coronation	4' Sago	Private tree	
363	210 Coronation	19" Pine	Private tree	Demo-form-pour walk without damage to tree roots 1" or larger, Fence
364	216 Coronation	18" Pine	Private tree	Demo-form-pour walk without damage to tree roots 1" or larger, Fence
365	216 Coronation	17" Pine	Ordinance tree	Zero Curb Cutback, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
366	216 Coronation	16" Pine	Ordinance tree	Zero Curb Cutback, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
367	226 Coronation	4' Sago	Private tree	
368	232 Coronation	25" Arizona Ash	Tree recently removed	
369	306 Coronation	12" Pecan	Private tree	Fence, Clearance prune
370	306 Coronation	15" Water Oak	Private tree	Fence, Clearance prune
371	306 Coronation	26" Live Oak	Private tree	Root prune for walk, Fence, Clearance prune
372	306 Coronation	33" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Clearance prune
373	322 Coronation	3" Althea	Private tree	
374	223 Coronation	31" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
375	311 Coronation	19" Lacebark Elm	Topped, Private tree	Bore waterline, Fence, Clearance prune
376	319 Coronation	20" Lacebark Elm	Private tree	Root prune for water tap & lead, Root prune for walk, Bore waterline, Fence, Clearance prune
377	323 Coronation	22" Willow Oak	Tree recently removed	
378	331 Coronation	30" Live Oak	Topped, Poor, Private tree	
379	331 Coronation	30" Live Oak	Topped, Poor, Private tree	
380	331 Coronation	8" Crepe Myrtle	50% dieback, Poor, Ordinance tree, Remove for water bends	Remove tree, no replacement required
381	320 Coronation	19" Lacebark Elm	Private tree	Fence, Clearance prune
382	326 Coronation	35" Arizona Ash	Topped, Private tree	Fence, Clearance prune
383	330 Coronation	15' Palm	Tree recently removed	
384	Not available	15' Palm	Private tree	

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CAN~~T~~, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1~~"~~ DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER
- OCC ZERO CUTBACK CURB

HRGreen FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9998
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. ◦ Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: Craig N. Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
CORONATION DRIVE

SHEET 6 OF 10

WBS NO. M-410006-0002-4

DRAWING SCALE

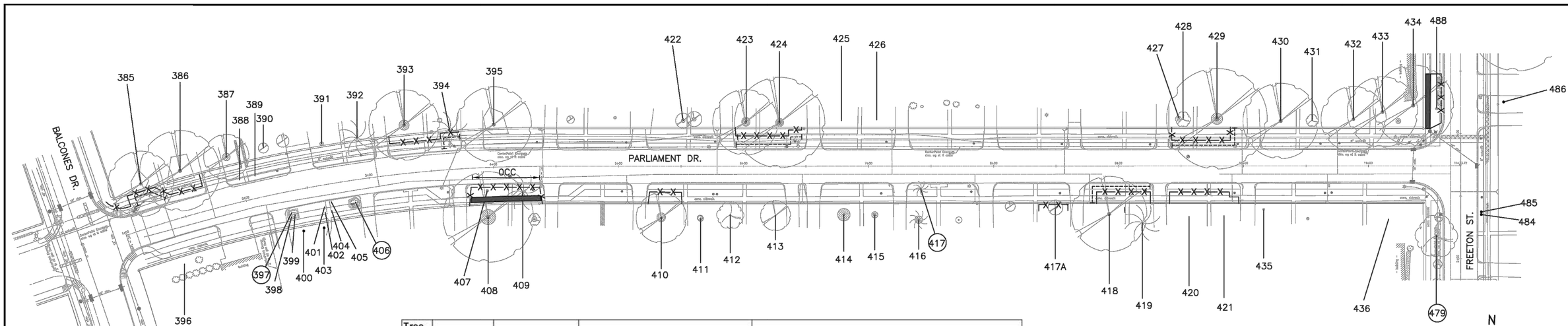
1"=40'

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 121 OF 175

No.	Date	Revisions	App.



Tree No.	Location	Description	Comments	Treatment
Trees on Parliament Drive				
385	203 Parliament	28" Live Oak	Arboriculturally Significant, Private tree	Root prune for water tie-in, Bore waterline, Fence, Clearance prune
386	203 Parliament	28" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Fence, Clearance prune
387	207 Parliament	17" Live Oak	Private tree	Bore waterline, Fence, Clearance prune
388	207 Parliament	2' Sago	Tree recently removed	
389	207 Parliament	2' Sago	Tree recently removed	
390	207 Parliament	4" Magnolia	Private tree	
391	211 Parliament	8' Palm	Tree recently removed	
392	211 Parliament	8' Palm	Private tree	
393	215 Parliament	26" Water Oak	Arboriculturally Significant, Private tree	Bore waterline, Fence, Clearance prune
394	215 Parliament	20" Pine	Private tree	Root prune for fire hydrant, Fence, Bore waterline
395	219 Parliament	28" Willow Oak	Tree recently removed	
396	4303 Balcones	Stump	Tree recently removed	
397	210 Parliament	4" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
398	210 Parliament	4" Crepe Myrtle	Tree recently removed	
399	210 Parliament	4" Crepe Myrtle	Tree recently removed	
400	210 Parliament	2" Crepe Myrtle	Tree recently removed	
401	210 Parliament	2" Crepe Myrtle	Tree recently removed	
402	210 Parliament	3" Crepe Myrtle	Tree recently removed	
403	210 Parliament	3" Crepe Myrtle	Tree recently removed	
404	210 Parliament	3" Crepe Myrtle	Tree recently removed	
405	210 Parliament	4" Crepe Myrtle	Tree recently removed	
406	210 Parliament	3" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
407	218 Parliament	15" Pine	Tree recently removed	
408	218 Parliament	35" Water Oak	Tree recently removed	
409	218 Parliament	19" Pine	Ordinance tree	Zero Curb Cutback, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
410	226 Parliament	19" Live Oak	Private tree	Fence, Clearance prune
411	226 Parliament	3" Crepe Myrtle	Private tree	
412	302 Parliament	18" Crepe Myrtle	Private tree	
413	302 Parliament	2" Live Oak	Private tree	
414	306 Parliament	28" Water Oak	Tree recently removed	
415	306 Parliament	5" Pear	Tree recently removed	
416	310 Parliament	10" Juniper	Private tree	
417	310 Parliament	6" Juniper	Not ordinance tree, Remove for walk	Remove tree, no replacement required
417A	314 Parliament	7" Water Oak	Private tree	Fence, Clearance prune
418	318 Parliament	30" Arizona Ash	Cavities, Poor, Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Bore waterline, Clearance prune
419	318 Parliament	24" Pine	Private tree	Root prune for walk, Fence
420	322 Parliament	35" Arizona Ash	Cavities, Poor, Private tree	Fence, Clearance prune
421	322 Parliament	28" Arizona Ash	Private tree	Fence, Clearance prune
422	227 Parliament	38" Water Oak	Tree recently removed	
423	303 Parliament	28" Live Oak	Private tree	Bore waterline, Root prune for walk, Fence
424	303 Parliament	34" Live Oak	Arboriculturally Significant, Private tree	Root prune for fire hydrant, Bore waterline, Root prune for walk, Fence, Clearance prune
425	307 Parliament	25" Water Oak	Tree recently removed	
426	307 Parliament	25" Water Oak	Tree recently removed	
427	323 Parliament	4" Crepe Myrtle	Private tree	
428	323 Parliament	10" Crepe Myrtle	Private tree	
429	323 Parliament	38" Water Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Fence, Bore waterline, Clearance prune
430	327 Parliament	27" Water Oak	Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
431	327 Parliament	4" Crepe Myrtle	Private tree	
432	Not available	25" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
433	Not available	26" Live Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
434	Not available	26" Live Oak	Arboriculturally Significant, Private tree	Root prune for fire hydrant, Root prune for walk, Bore waterline, Fence, Clearance prune
435	326 Parliament	2" Prunus	Private tree	
436	330 Parliament	45" Arizona Ash	Tree recently removed	

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CAN~~T~~, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1~~"~~ DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER
- —OCC— ZERO CUTBACK CURB

N

40 0 40 80

SCALE: 1"=40'

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200, HOUSTON, TX 77042
PH: 713.965.9999
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: Craig N Koehl 05-19-2026

CITY OF HOUSTON

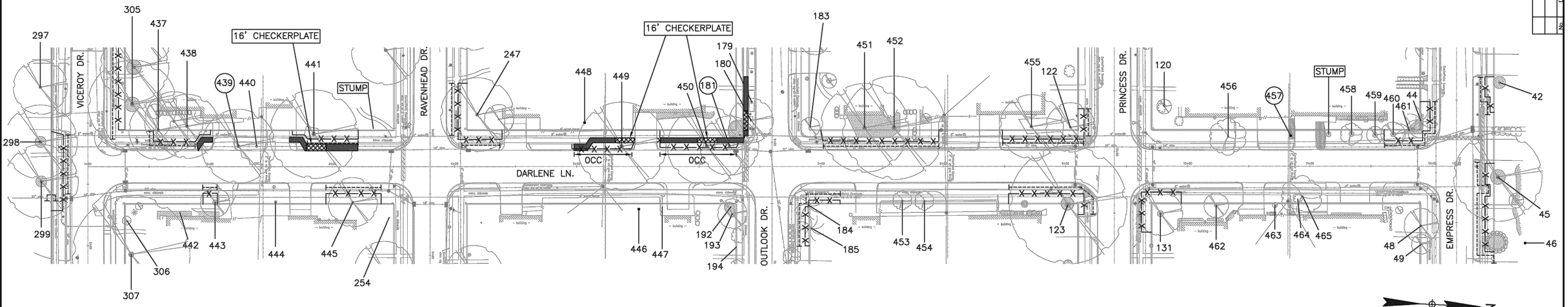
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
PARLIAMENT DRIVE

SHEET 7 OF 10

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 122 OF 175	



Tree No.	Location	Description	Comments	Treatment
Trees on Darlene Lane				
437	Not available	23" Catalpa	30% dieback, Ordinance tree	Root prune for walk, Bore waterline, Fence, Clearance prune
438	Not available	24" Water Oak	Arboriculturally Significant, Private tree	Root prune for walk, Bore waterline, Fence, Clearance prune
439	Not available	30" Live Oak	Arboriculturally Significant, Ordinance tree, Remove for ADA sidewalk	Remove tree, Provide 30" in mitigation or replacement
440	Not available	15" Crepe Myrtle	Tree recently removed	
441	Not available	31" Water Oak	Arboriculturally Significant, Ordinance tree, Hypoxylon	Root prune for walk, 16' checker plate, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
442	303 Viceroy	10" Crepe Myrtle	Private tree	
443	303 Viceroy	15" Water Oak	Ordinance tree	Root prune for walk, Fence, Clearance prune
444	302 Ravenhead	21" Water Oak	Tree recently removed	
445	302 Ravenhead	15" Water Oak	Ordinance tree	Root prune for walk, Bore waterline, Fence, Clearance prune
446	302 Outlook	12" Arizona Ash	Private tree	Clearance prune
447	302 Outlook	5" Fig	Private tree	
448	Not available	6" American Elm	Tree recently removed	
449	242 Outlook	36" Live Oak	Arboriculturally Significant, Ordinance tree	Zero Curb Cutback, 16' checker plate, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
450	242 Outlook	28" Live Oak	Arboriculturally Significant, Ordinance tree	Zero Curb Cutback, 16' checker plate, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Clearance prune
451	Not available	30" Water Oak	Arboriculturally Significant, Private tree, Storm damage	Root prune for walk, Fence, Clearance prune
452	Not available	36" Water Oak	Dead	To be addressed by HPARD
453	303 Outlook	10" Crepe Myrtle	Tree recently removed	
454	303 Outlook	9" Crepe Myrtle	Tree recently removed	
455	Not available	26" Tallow	Private tree	Root prune for walk, Fence, Clearance prune
456	Not available	15" Crepe Myrtle	Not Ordinance tree	
457	Not available	1" Boxwood Hedge	Not ordinance tree, Remove for walk	Remove tree, no replacement required
458	254 Empress	18" Crepe Myrtle	Not Ordinance tree	
459	254 Empress	2" Pear	Not Ordinance tree	
460	254 Empress	1" Loquat	Not Ordinance tree	
461	254 Empress	15" Pine	Ordinance tree	Bore waterline, Root prune for walk, Fence, Clearance prune
462	303 Princess	10" Live Oak	Private tree	Clearance prune
463	303 Princess	4" Live Oak	Private tree	
464	302 Empress	8" Fig	Not Ordinance tree	Clearance prune
465	302 Empress	10" Crepe Myrtle	Not Ordinance tree	Clearance prune

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER
- —OCC— ZERO CUTBACK CURB

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CAN'T, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1" DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

N

40 0 40 80

SCALE: 1"=40'

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: 05-19-2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
DARLENE LANE

SHEET 8 OF 10

WBS NO. M-410006-0002-4

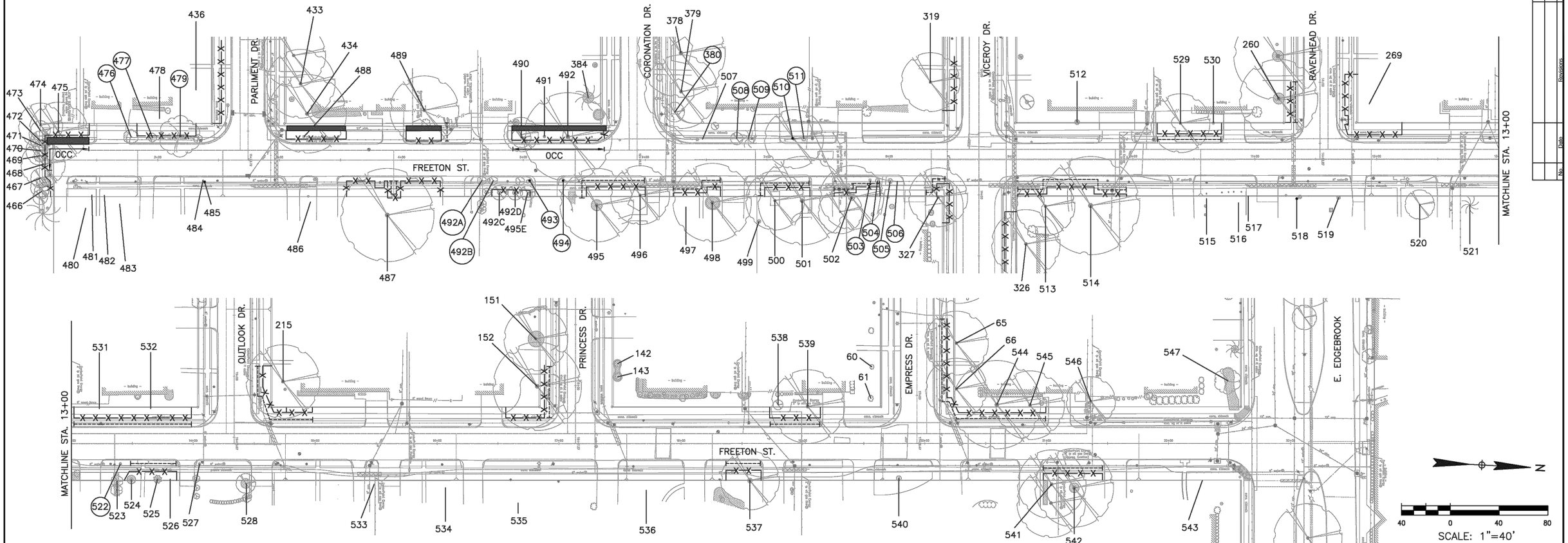
DRAWING SCALE

1"=40'

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 123 OF 175



Tree No.	Location	Description	Comments	Treatment
Trees on Freeton Street				
466	4307 Freeton	9" Live Oak	Ordinance tree	Fence
467	4307 Freeton	8" Arizona Ash	Not Ordinance tree	Fence
468	4307 Freeton	15" Live Oak	Ordinance tree	Zero Curb Cutback, Fence, Clearance prune
469	Not available	12" Water Oak	Ordinance tree	Zero Curb Cutback, Fence, Clearance prune
470	Not available	4" Water Oak	Ordinance tree	Zero Curb Cutback, Fence, Clearance prune
471	Not available	12" Water Oak	Ordinance tree	Fence, Clearance prune
472	Not available	6" Water Oak	Ordinance tree	Fence, Clearance prune
473	Not available	12" Water Oak	Ordinance tree	Fence, Clearance prune
474	Not available	16" Water Oak	Ordinance tree	Fence, Clearance prune
475	Not available	24" Tallow	Ordinance tree	Zero Curb Cutback, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
476	Not available	6" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
477	Not available	7" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
478	Not available	22" Live Oak	Private tree	Fence, Clearance prune
479	Not available	16" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
480	4307 Freeton	22" Live Oak	Tree recently removed	
481	4307 Freeton	3' Sago	Tree recently removed	
482	4307 Freeton	3' Sago	Tree recently removed	
483	4307 Freeton	28" Water Oak	Tree recently removed	
484	4303 Freeton	6" Crepe Myrtle	Tree recently removed	
485	4303 Freeton	4" Rock Elm	Tree recently removed	
486	4227 Freeton	18" Sycamore	Tree recently removed	
487	4227 Freeton	32" Water Oak	Arboriculturally Significant, Private tree	Root prune for sanitary, Fence, Bore waterline, Clearance prune
488	Not available	19" Lacebark Elm	Tree recently removed	
489	Not available	30" Green Ash	Private tree	Root prune for storm, Demo-form-pour walk without damage to roots larger than 1" diameter, Fence, Clearance prune
490	Not available	13" Water Oak	Ordinance tree	Zero Curb Cutback, Demo-Form-Pour walk without damage to roots larger than 1", Fence, Clearance prune
491	Not available	18" Tallow	Tree recently removed	
492	Not available	26" Tallow	Ordinance tree	Zero Curb Cutback, Demo-Form-Pour walk without damage to roots larger than 1", Fence, Clearance prune
492A	Not available	3" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
492B	Not available	3" Crepe Myrtle	Not ordinance tree, Remove for walk	Remove tree, no replacement required
492C	Not available	5" Baldcypress	Ordinance tree	Fence, Clearance prune
492D	Not available	6" Baldcypress	Ordinance tree	Fence, Clearance prune
492E	Not available	6" Baldcypress	Ordinance tree	Fence, Clearance prune
493	Not available	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
494	Not available	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
495	4215 Freeton	26" Live Oak	Arboriculturally Significant, Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
496	4215 Freeton	22" Live Oak	Ordinance tree	Bore waterline, Root prune for walk, Fence, Clearance prune
497	4215 Freeton	1' Sago	Tree recently removed	
498	4215 Freeton	26" Water Oak	Arboriculturally Significant, Private tree	Root prune for vertical bend, Root prune for walk, Fence, Bore waterline, Clearance prune
499	4215 Freeton	10" Pecan	Private tree	
500	4215 Freeton	19" Live Oak	Private tree	Root prune for sanitary lead, Root prune for walk, Bore waterline, Fence, Clearance prune
501	4215 Freeton	26" Willow Oak	Tree recently removed	
502	Not available	22" Live Oak	Private tree	Root prune for vertical bend, Root prune for walk, Fence, Bore waterline, Clearance prune

Tree No.	Location	Description	Comments	Treatment
Trees on Freeton Street				
503	Not available	10" Arborvitae	Not ordinance tree, Remove for walk	Remove tree, no replacement required
504	Not available	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
505	Not available	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
506	Not available	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
507	Not available	1' Sago	Tree recently removed	
508	Not available	4" Loquat	Not ordinance tree, Remove for walk	Remove tree, no replacement required
509	Not available	3' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
510	Not available	5" Loquat	Not ordinance tree, Remove for walk	Remove tree, no replacement required
511	Not available	1' Sago	Not ordinance tree, Remove for walk	Remove tree, no replacement required
512	Not available	4" Japanese Magnolia	Private tree	
513	Not available	24" Live Oak	Arboriculturally Significant, Private tree	Root prune for vertical bend, Root prune for walk, Fence, Bore waterline, Clearance prune
514	Not available	32" Live Oak	Arboriculturally Significant, Private tree	Root prune for vertical bend, Root prune for walk, Fence, Bore waterline, Clearance prune
515	Not available	5' Sago	Tree recently removed	
516	Not available	6" Pear	Tree recently removed	
517	Not available	2' Sago	Tree recently removed	
518	Not available	2' Sago	Private tree	
519	Not available	2' Sago	Private tree	
520	4031 Freeton	10" Magnolia	Tree recently removed	
521	4027 Freeton	4' Sago	Private tree	
522	4027 Freeton	4" Oleander	Not ordinance tree, Remove for walk	Remove tree, no replacement required
523	4027 Freeton	8" Crepe Myrtle	Private tree	
524	4027 Freeton	1' Sago	Private tree	
525	4027 Freeton	10" Pine	Ordinance tree	Bore waterline, Root prune for walk, Fence
526	4027 Freeton	20" Pine	Tree recently removed	
527	Not available	4" Oleander	Tree recently removed	
528	Not available	4" Pear	Private tree	
529	Not available	22" Willow Oak	90% dieback, Ordinance tree	Root prune for walk, Fence, Clearance prune
530	Not available	24" Water Oak	Tree recently removed	
531	Not available	25" Water Oak	Arboriculturally Significant, Ordinance tree	Root prune for walk, Fence, Clearance prune
532	Not available	28" Water Oak	Arboriculturally Significant, Ordinance tree	Root prune for walk, Fence, Clearance prune
533	4011 Freeton	2" Crepe Myrtle	Tree recently removed	
534	4011 Freeton	4' Sago	Tree recently removed	
535	4007 Freeton	34" Water Oak	Tree recently removed	
536	4003 Freeton	35" Arizona Ash	Tree recently removed	
537	3923 Freeton	13" Live Oak	Ordinance tree	Root prune for walk, Bore waterline, Fence, Clearance prune
538	Not available	4" Citrus	Tree recently removed	
539	Not available	30" Tallow	Private tree	Root prune for walk, Fence, Clearance prune
540	3915 Freeton	33" Water Oak	Tree recently removed	
541	3905 Freeton	25" Crepe Myrtle	Private tree	Root prune for walk, Bore waterline, Fence, Clearance prune
542	3905 Freeton	25" Shumard Oak	Arboriculturally Significant, Private tree	Bore waterline, Root prune for walk, Fence, Clearance prune
543	3901 Freeton	45" Arizona Ash	Tree recently removed	
544	Not available	28" Live Oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
545	Not available	22" Live Oak	Arboriculturally Significant, Private tree	Root prune for walk, Fence, Clearance prune
546	Not available	10" Crepe Myrtle	Topped, Poor, Private tree	
547	Not available	5" Crepe Myrtle	Tree recently removed	
548	Esplanade	16" Live Oak	Ordinance tree	Fence

TREE PRESERVATION PLAN LEGEND

- 1 — TREE NUMBER/LOCATION
- (1) — TREE TO BE REMOVED
- —X—X— TREE PROTECTION FENCE
- ROOT PRUNING TRENCH
- REPLACEMENT PLANTING SPECIES AND SIZE/TYPE
- DEMO, FORM, POUR WALK WITHOUT DAMAGE TO ROOTS 1" OR LARGER
- —OCC— ZERO CUTBACK CURB

NOTE:

1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2025. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS 01562 AND 02915. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CAN'T, AND IS NOT GUARANTEED BY DESIGNER.
3. THE CONTRACTOR'S ARBORIST WILL MARK LOCATIONS OF THE NEW TREES AND OBTAIN APPROVAL BY THE CITY ENGINEER AND CITY FORESTER BEFORE PURCHASING AND PLANTING TREES.
4. DEMOLISH EXISTING SIDEWALKS LOCATED IN AREA PROTECTED BY TREE PROTECTION FENCING WITHOUT DAMAGING TREE ROOTS 1" DIAMETER OR LARGER. REFER SPECIFICATION SECTION 01562.
5. TREES RECENTLY REMOVED PRIOR TO 2025 WERE KEPT IN THE TREE TABLES. EXAMPLE: TREE 14 ON EMPRESS WAS REMOVED, BUT IT IS STILL SHOWN TO KEEP THE NUMBERING SYSTEM FROM ORIGINAL PLANS.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9998
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: Cindy N Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

TREE PROTECTION PLAN
FREETON STREET

SHEET 9 OF 10

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 124 OF 175	

Tree Removal List

Tree No.	Location	Description	Replacement requirement
21	234 Empress	5' Palm	0
23	234 Empress	8' Palm	0
38	243 Empress	3' Palm	0
87	206 Princess	1' Sago	0
109	235 Princess	10" Crepe Myrtle	0
110	235 Princess	6" Crepe Myrtle	0
111	235 Princess	4" Crepe Myrtle	0
124	302 Princess	10" Burford Holly	0
125	302 Princess	12" Burford Holly	0
139	331 Princess	2' Aloe	0
144	322 Princess	6" Crepe Myrtle	0
145	322 Princess	4" Crepe Myrtle	0
172	226 Outlook	5" Photinia	0
173	226 Outlook	5" Photinia	0
174	226 Outlook	5" Photinia	0
181	242 Outlook	21" Live Oak	21
187	303 Outlook	6" Crepe Myrtle	0
188	303 Outlook	10" Crepe Myrtle	0
199	306 Outlook	5" Crepe Myrtle	0
200	306 Outlook	4" Crepe Myrtle	0
203	318 Outlook	15" Crepe Myrtle	0
231A	226 Ravenhead	5" Crepe Myrtle	0
232	226 Ravenhead	10" Crepe Myrtle	0
233	226 Ravenhead	10" Crepe Myrtle	0
250	307 Ravenhead	14" Crepe Myrtle	0
253	307 Ravenhead	18" Crepe Myrtle	0
265	327 Ravenhead	6" Crepe Myrtle	0
265A	327 Ravenhead	6" Crepe Myrtle	0
266	327 Ravenhead	6" Crepe Myrtle	0
267	327 Ravenhead	5" Crepe Myrtle	0
291	210 Viceroy	2" Loquat	0
312	314 Viceroy	18" Tallow	0
323	327 Viceroy	1' Sago	0
324	327 Viceroy	1' Sago	0
340	211 Coronation	6" Crepe Myrtle	0
342	211 Coronation	5" Crepe Myrtle	0
343	215 Coronation	4' Sago	0
344	215 Coronation	4' Sago	0
345	215 Coronation	4' Sago	0
346	215 Coronation	4' Sago	0
347	215 Coronation	4' Sago	0
348	219 Coronation	4" Crepe Myrtle	0
351	219 Coronation	4" Crepe Myrtle	0
380	331 Coronation	8" Crepe Myrtle	0
397	210 Parliament	4" Crepe Myrtle	0
406	210 Parliament	3" Crepe Myrtle	0
417	310 Parliament	6" Juniper	0
439	Not available	30" Live Oak	30
457	Not available	1" Boxwood Hedge	0
476	Not available	6" Crepe Myrtle	0
477	Not available	7" Crepe Myrtle	0
479	Not available	16" Crepe Myrtle	0
492A	Not available	3" Crepe Myrtle	0
492B	Not available	3" Crepe Myrtle	0
493	Not available	1' Sago	0
494	Not available	1' Sago	0
503	Not available	10" Arborvitae	0
504	Not available	1' Sago	0
505	Not available	1' Sago	0
506	Not available	1' Sago	0
508	Not available	4" Loquat	0
509	Not available	3' Sago	0
510	Not available	5" Loquat	0
511	Not available	1' Sago	0
522	4027 Freeton	4" Oleander	0
		TOTAL REPLACEMENT INCHES REQUIRED	**51**

Tree Replacement List

Quantity	Caliper Size	Species	Container/Tree Spade size
		TOTAL REPLACEMENT INCHES INCLUDED IN PLAN	**0**

NOTE: Tree replacement locations shown on plans must be coordinated with adjacent property owner and City of Houston Urban Forestry and PWE prior to PURCHASING trees and excavation for planting. Coordination shall be completed by construction contractor's Certified Arborist. Trees to be maintained and watered for 2 years following planting per standard spec 02915. Timing of planting may be delayed in periods of drought with mandatory water restrictions in place-timing to be coordinated with City of Houston Urban Forestry. Trees in esplanade groupings to be planted in common bed with 4" of hardwood mulch between trees.

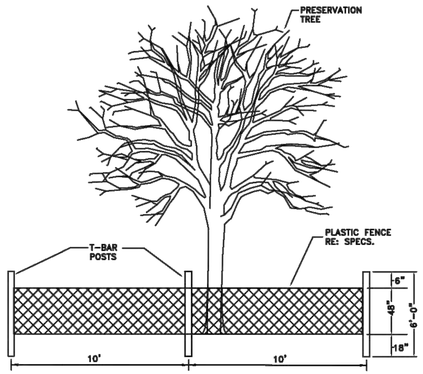
Cash Allowance Due Parks from HPW for Balance of Mitigation Not Planted on Project

	Required Mitigation total	Mitigation rate/inch	
0-5.99"		$ 297.98	$ -
6-11.99"		$ 496.64	$ -
12" +	51	$ 662.19	$ 33,771.69
		TOTAL REQUIRED MITIGATION FEE	**$ 33,771.69**

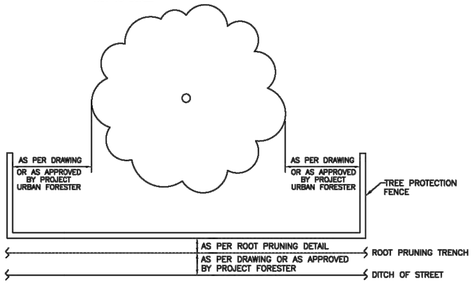
Arboriculturally Significant Tree List

Tree No.	Location	Description
6	211 Empress	34" Live Oak
13	218 Empress	28" Live Oak
24	238 Empress	31" Water oak
29	227 Empress	40" Live Oak
31	231 Empress	25" Live Oak
32	231 Empress	36" Live Oak
33	235 Empress	24" Water Oak
34	235 Empress	28" Water Oak
42	255 Empress	35" Arizona Ash
45	255 Empress	35" Live Oak
46	307 Empress	38" Live Oak
58	322 Empress	34" Live Oak
63	327 Empress	36" Live Oak
64	331 Empress	36" Live Oak
65	335 Empress	26" Live Oak
99	226 Princess	30" Live Oak
103	234 Princess	24" Pecan
123	302 Princess	31" Water oak
129	318 Princess	32" Live Oak
130	318 Princess	36" Live Oak
134	315 Princess	26" Water Oak
138	323 Princess	25" Live Oak
163	219 Outlook	28" Live Oak
169	235 Outlook	36" Southern Red Oak
178	242 Outlook	27" Live Oak
222	223 Ravenhead	25" Live Oak
226	210 Ravenhead	36" Live Oak
227	210 Ravenhead	38" Water Oak
236	234 Ravenhead	26" Water Oak
241	231 Ravenhead	33" Willow Oak
272	207 Viceroy	45" Live Oak
282	215 Viceroy	30" Live Oak
286	202 Viceroy	32" Live Oak
290	210 Viceroy	34" Live Oak
293	226 Viceroy	30" Live Oak
295	294 Viceroy	28" Live Oak
298	302 Viceroy	35" Live oak
299	302 Viceroy	28" Live Oak
300	223 Viceroy	36" Live Oak
349	219 Coronation	30" Live Oak
350	219 Coronation	24" Live Oak
356	202 Coronation	25" Pecan
360	208 Coronation	31" Water Oak
372	306 Coronation	33" Live Oak
374	223 Coronation	31" Live Oak
385	203 Parliament	28" Live Oak
386	203 Parliament	28" Live Oak
393	215 Parliament	26" Water Oak
395	219 Parliament	28" Willow Oak
414	306 Parliament	28" Water Oak
422	227 Parliament	38" Water Oak
429	323 Parliament	38" Water Oak
432	Not available	25" Live Oak
433	Not available	26" Live Oak
434	Not available	26" Live Oak
438	Not available	24" Water Oak
439	Not available	30" Live Oak
441	Not available	31" Water Oak
449	242 Outlook	35" Live Oak
450	242 Outlook	28" Live Oak
451	Not available	30" Water Oak
452	Not available	36" Water Oak
487	4227 Freeton	32" Water Oak
495	4215 Freeton	26" Live Oak
513	Not available	24" Live Oak
514	Not available	32" Live Oak
531	Not available	25" Water Oak
532	Not available	28" Water Oak
535	4007 Freeton	34" Water Oak
540	3915 Freeton	33" Water Oak
542	3905 Freeton	25" Shumard Oak
544	Not available	28" Live Oak
545	Not available	22" Live Oak

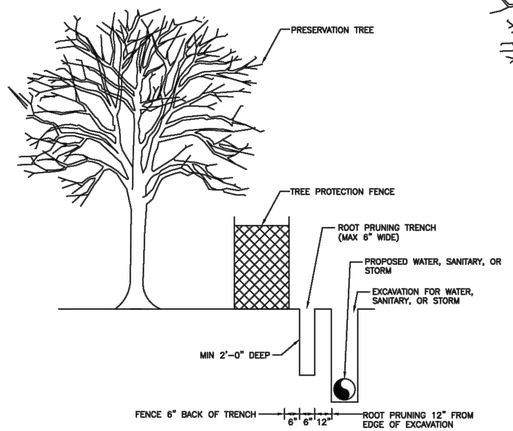
TREES IDENTIFIED BY CITY OF HOUSTON FORESTRY/PARKS & RECREATION DEPARTMENT AS ARBORICULTURALLY SIGNIFICANT ARE IDENTIFIED HERE AND/OR IN TREATMENT SCHEDULE INCLUDED ON TPP SHEETS. ARBORICULTURALLY SIGNIFICANT TREES ARE TO BE PRUNED UNDER DIRECT SUPERVISION OF CITY OF HOUSTON FORESTRY. MINIMAL PRUNING WILL BE ALLOWED FOR CONSTRUCTION EQUIPMENT ACCESS, AND IN SOME CASES NO PRUNING WILL BE ALLOWED. CONTRACTOR MUST REVIEW CONDITIONS AROUND AND/OR UNDER THE CANOPY OF ARBORICULTURALLY SIGNIFICANT TREES AND CONSIDER RESTRICTIONS WHEN PREPARING COST ESTIMATE AND PLANNING CONSTRUCTION EQUIPMENT THAT WILL BE NECESSARY TO ACCOMPLISH DESIGN INSTALLATION WITH MINIMAL TO NO TREE PRUNING.



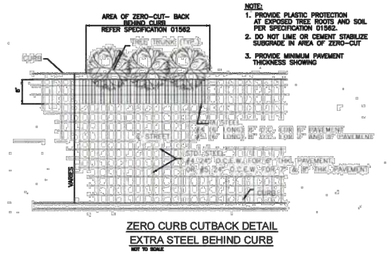
TREE PROTECTION FENCING DETAIL A
NOT TO SCALE



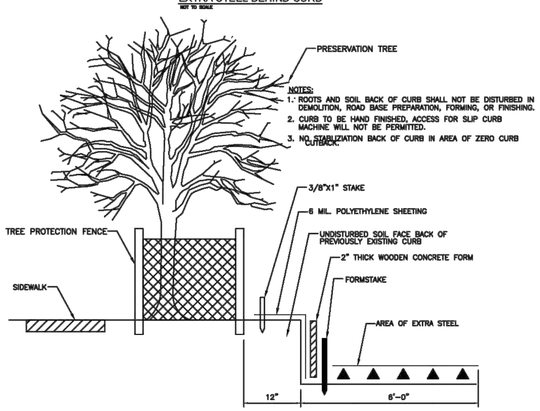
TREE PROTECTION FENCING DETAIL B
NOT TO SCALE



ROOT PRUNE FOR WATER, SANITARY, OR STORM LINE
NOT TO SCALE

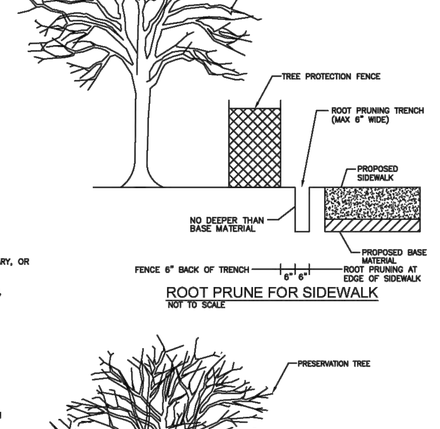


ZERO CURB CUTBACK DETAIL
EXTRA STEEL BEHIND CURB
NOT TO SCALE

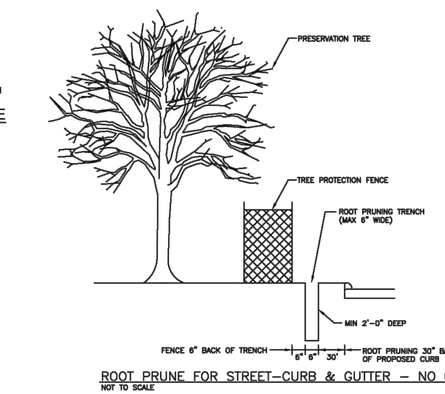


ZERO CURB CUTBACK DETAIL-PROFILE VIEW
NOT TO SCALE

ROOT PRUNE FOR WATER, SANITARY, OR STORM LINE
NOT TO SCALE



ROOT PRUNE FOR SIDEWALK
NOT TO SCALE



ROOT PRUNE FOR STREET-CURB & GUTTER - NO OCC
NOT TO SCALE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9998
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED: Craig N. Koehl 05-19-2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

TREE PROTECTION PLAN
REMOVAL LIST AND DETAILS

SHEET 10 OF 10

WBS NO. M-410006-0002-4

DRAWING SCALE

1"=40'

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 125 OF 175

STORM WATER POLLUTION PREVENTION NOTES

I. EROSION SEDIMENT CONTROLS

A. STABILIZATION PRACTICES:
HYDRO-MULCH SEEDING AND SODDING OF UNPAVED DISTURBED AREAS.

B. STRUCTURAL PRACTICES:

THE CONTRACTOR SHALL INSTALL THE FILTER FABRIC FENCE IN THE DISTURBED AREAS AS NEEDED, ACCORDING TO THE PROPOSED CONSTRUCTION SEQUENCE PLANS. SEE THE TCP PLANS FOR CONSTRUCTION SEQUENCE/PHASING.

USE INLET PROTECTION BARRIERS NEAR THE CONSTRUCTION AREA FOR INLETS POTENTIALLY CONTAMINATED BY FLOW FROM CONSTRUCTION. THE CONTRACTOR MUST ENSURE THAT THE BARRIERS DO NOT CAUSE ANY TRAFFIC HAZARDS.

C. OFF-SITE VEHICLE TRACKING:

THE CONTRACTOR SHALL MINIMIZE OFF-SITE TRACKING OF SEDIMENTS. SEDIMENTS TRACKED OFF-SITE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO COST TO THE OWNER, SPRINKLING WILL BE USED TO CONTROL DUST AS NECESSARY.

II. OTHER CONTROLS AND MAINTENANCE

A. WASTE DISPOSAL:

WASTE MATERIALS: ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED METAL DUMPSTERS. THE DUMPSTERS WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND DEBRIS WILL BE HAULED TO AN APPROVED LANDFILL. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE OR BURNT. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL.

HAZARDOUS WASTE: NO HAZARDOUS WASTE IS EXPECTED TO BE GENERATED OR ENCOUNTERED IN THIS PROJECT. IN THE EVENT THAT HAZARDOUS WASTE IS ENCOUNTERED, ALL HAZARDOUS WASTE WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY THE LOCAL OR STATE REGULATIONS OR AS DIRECTED BY THE CITY ENGINEER.

SANITARY WASTE: ALL SANITARY WASTE WILL BE REGULARLY COLLECTED FROM THE PORTABLE UNITS, IF REQUIRED, BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

B. DEMONSTRATION OF COMPLIANCE WITH STATE OR LOCAL REGULATIONS/LAWS:

THE PROPOSED PROJECT WILL BE IN COMPLIANCE WITH ALL APPLICABLE STATE AND LOCAL WASTE DISPOSAL AND SANITARY SEWER REGULATIONS.

C. MAINTENANCE:

HYDRO-MULCH DISTURBED AREAS BETWEEN THE PROPERTY LINE AND THE GUTTER AS SOON AS POSSIBLE, PER THE APPLICABLE SPECIFICATIONS.

REMOVE IMMEDIATELY TRENCH EXCAVATION SOILS OR BACKFILL IN CONTINUOUS OPERATIONS.

REMOVE SEDIMENT FROM BEHIND THE REINFORCED FILTER FABRIC BARRIERS OR OTHER DEVICES WHEN IT BECOMES ABOUT ½ HEIGHT OF THE DEVICES. REMOVE ANY SEDIMENT THAT ACCUMULATE IN THE STORM SEWER INLETS. REMOVE ALL TEMPORARY CONTROLS AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED WITH PERMANENT CONTROLS.

I. SWPPP CONSTRUCTION NOTES

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

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

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

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

5. CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 OR GREATER.
   - * DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
   - * AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
   - * STRUCTURAL CONTROL MEASURES.
   - * LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

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

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

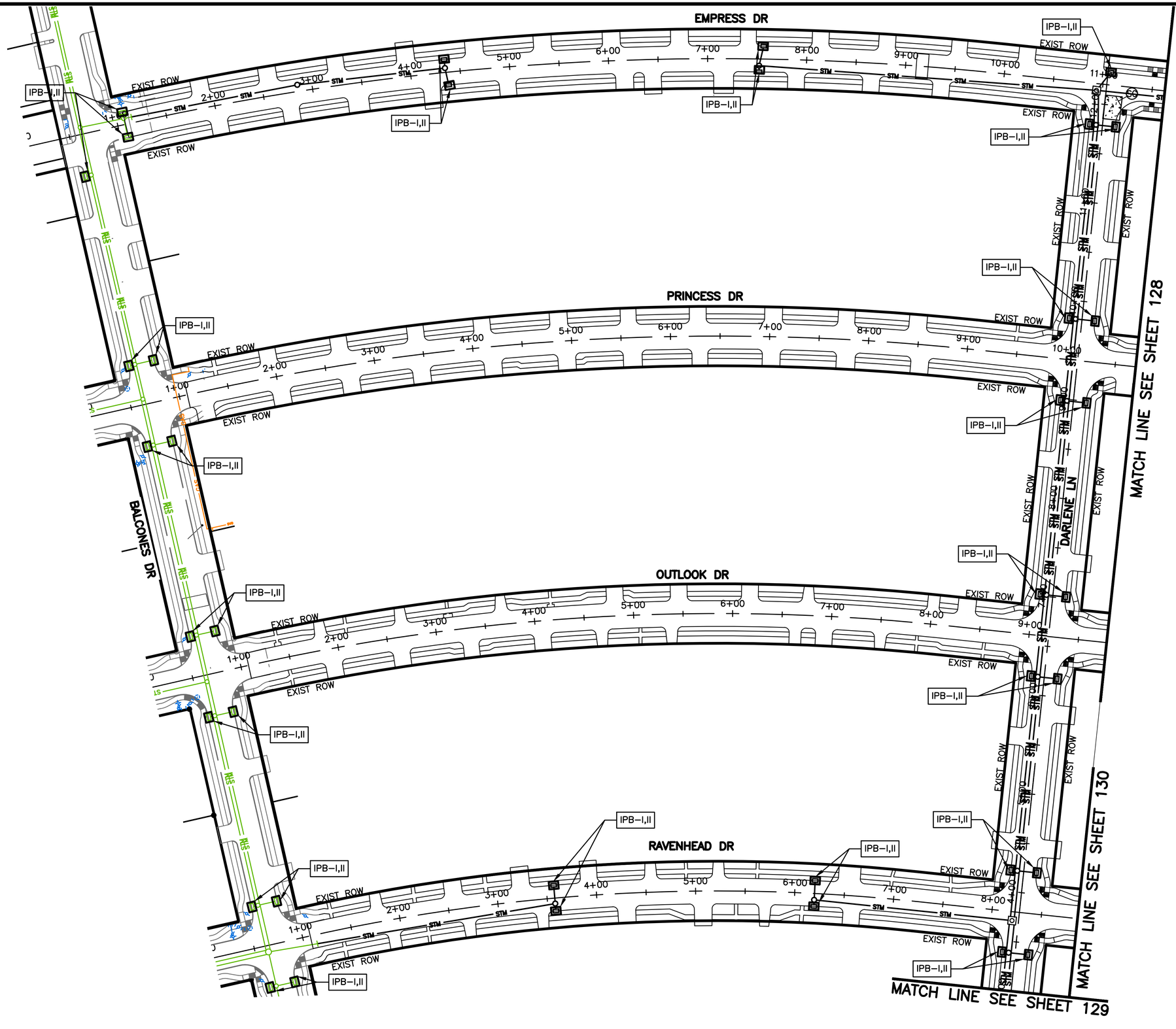
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB-PROJECT 2)

STORM WATER POLLUTION PREVENTION NOTES

WBS NO. M-410006-0002-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 126 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\sw3p-notes.dwg Plotted May 22, 2026 at 8:46 AM by Perez, Abel



0 50 100
SCALE IN FEET

N

LEGEND

IPB–I	INLET PROTECTION BARRIER STAGE I (DROP INLET BASKET)
IPB–II	INLET PROTECTION BARRIER STAGE II (GRAVEL BAGS)
SC	STABILIZED CONSTRUCTION EXIT

NOTES:

1. FOR STANDARD DETAILS, SEE STORM WATER POLLUTION PREVENTION PLAN DETAILS SHEET.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT/ENTRANCE INCLUDING TRUCK WASHING AREA, VERIFIED IN FIELD AND AUTHORIZED BY THE CITY ENGINEER.

Apvd | Revisions | Date | No.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6900
FAX: 713.985.6044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P–6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

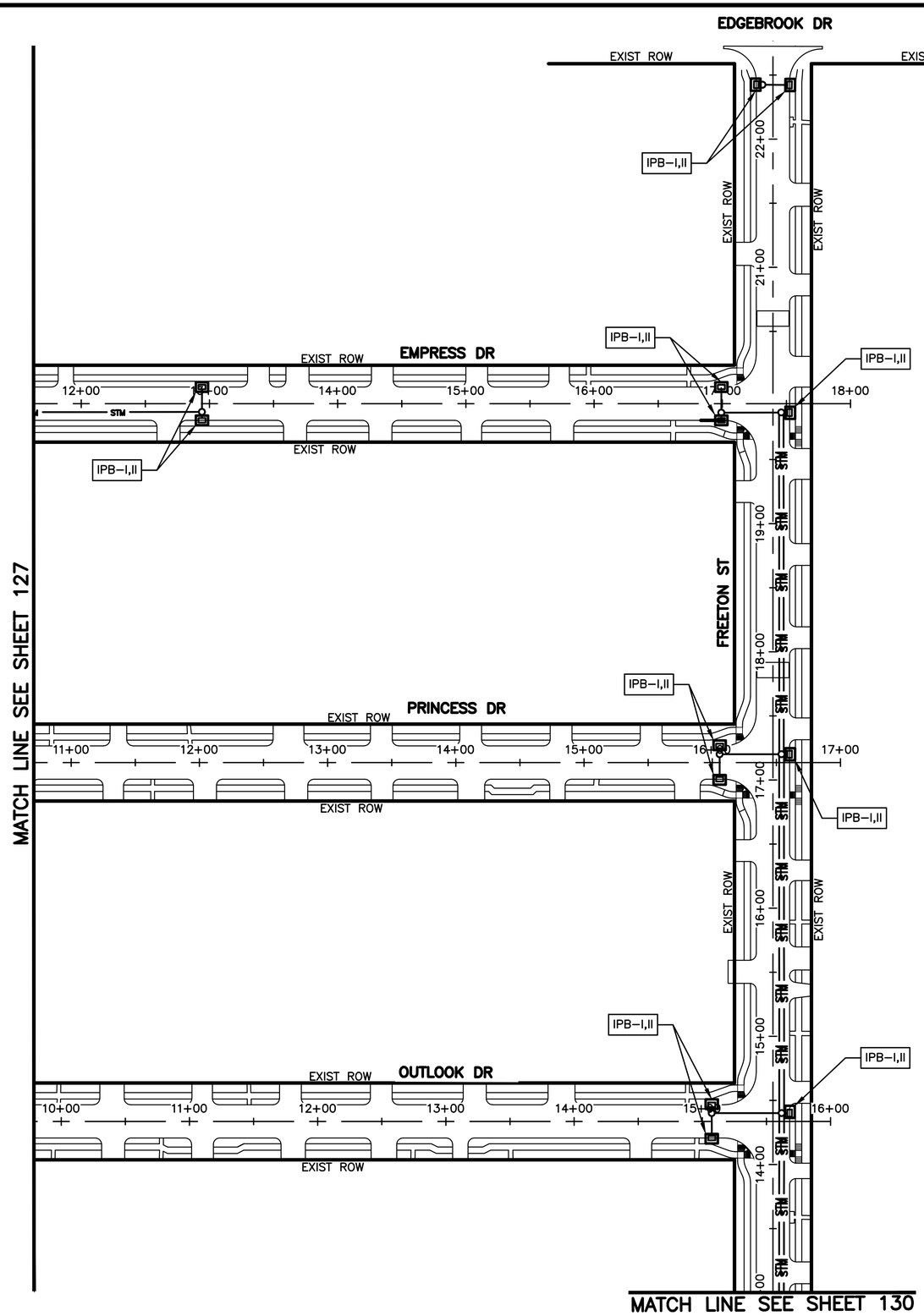
ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

STORM WATER POLLUTION PREVENTION PLAN SHEET
1 OF 6

SHEET 1 OF 5

WBS NO. M–410006–0002–3	
DRAWING SCALE	
H: 1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 127 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\sw3p–1.dwg Plotted May 22, 2026 at 9:11 AM by Perez, Abel



0 50 100
SCALE IN FEET

N

LEGEND

IPB–I	INLET PROTECTION BARRIER STAGE I (DROP INLET BASKET)
IPB–II	INLET PROTECTION BARRIER STAGE II (GRAVEL BAGS)
SC	STABILIZED CONSTRUCTION EXIT

NOTES:

1. FOR STANDARD DETAILS, SEE STORM WATER POLLUTION PREVENTION PLAN DETAILS SHEET.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT/ENTRANCE INCLUDING TRUCK WASHING AREA, VERIFIED IN FIELD AND AUTHORIZED BY THE CITY ENGINEER.

No. | Date | Revisions | App'd

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

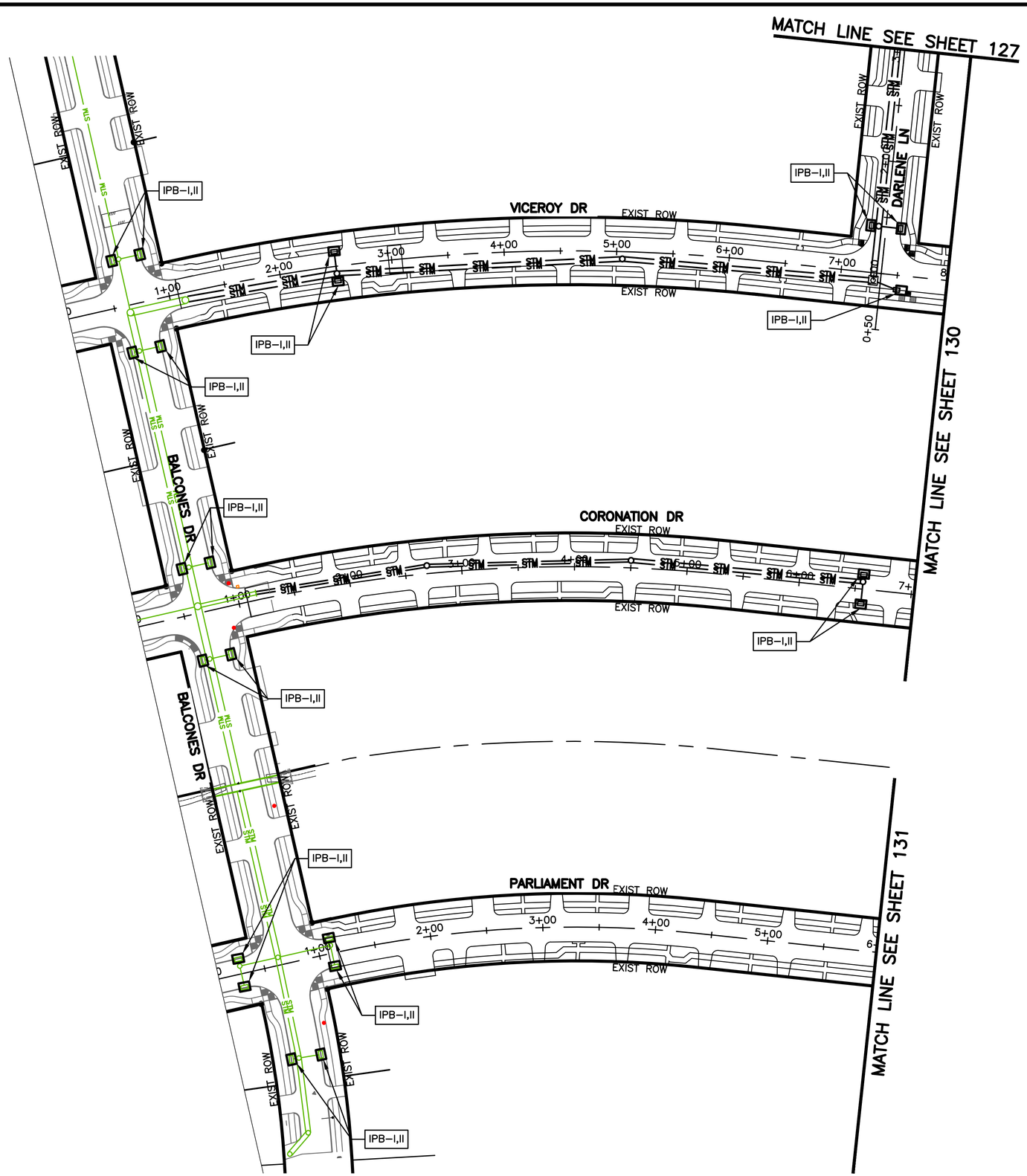
ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

STORM WATER POLLUTION PREVENTION PLAN SHEET 2 OF 6

SHEET 2 OF 5

WBS NO. M–410006–0002–3	
DRAWING SCALE	
H: 1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 128 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\50 storm water pollution prevention plan.dwg Plotted May 22, 2026 at 8:42 AM by Perez, Abel



0 50 100
SCALE IN FEET

N

LEGEND

IPB–I	INLET PROTECTION BARRIER STAGE I (DROP INLET BASKET)
IPB–II	INLET PROTECTION BARRIER STAGE II (GRAVEL BAGS)
SC	STABILIZED CONSTRUCTION EXIT

NOTES:

1. FOR STANDARD DETAILS, SEE STORM WATER POLLUTION PREVENTION PLAN DETAILS SHEET.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT/ENTRANCE INCLUDING TRUCK WASHING AREA, VERIFIED IN FIELD AND AUTHORIZED BY THE CITY ENGINEER.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9998
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

STORM WATER POLLUTION PREVENTION PLAN SHEET
3 OF 6

SHEET 3 OF 5

WBS NO. M–410006–0002–3	
DRAWING SCALE	
H: 1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 129 OF 175	

\\hrghus\data\85130030\cad\dwgs\e\51 storm water pollution prevention plan.dwg Plotted May 22, 2026 at 8:48 AM by Perez, Abel

MATCH LINE SEE SHEET 128

MATCH LINE SEE SHEET 129

MATCH LINE SEE SHEET 131

RAVENHEAD DR

VICEROY DR

CORONATION DR

FREETON DR

S. SHAVER DR

EXIST ROW

STM

IPB–I,II

0 50 100
SCALE IN FEET

N

LEGEND

IPB–I INLET PROTECTION BARRIER STAGE I (DROP INLET BASKET)

IPB–II INLET PROTECTION BARRIER STAGE II (GRAVEL BAGS)

SC STABILIZED CONSTRUCTION EXIT

NOTES:

1. FOR STANDARD DETAILS, SEE STORM WATER POLLUTION PREVENTION PLAN DETAILS SHEET.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT/ENTRANCE INCLUDING TRUCK WASHING AREA, VERIFIED IN FIELD AND AUTHORIZED BY THE CITY ENGINEER.

Apv. | Revisions | Date | No.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

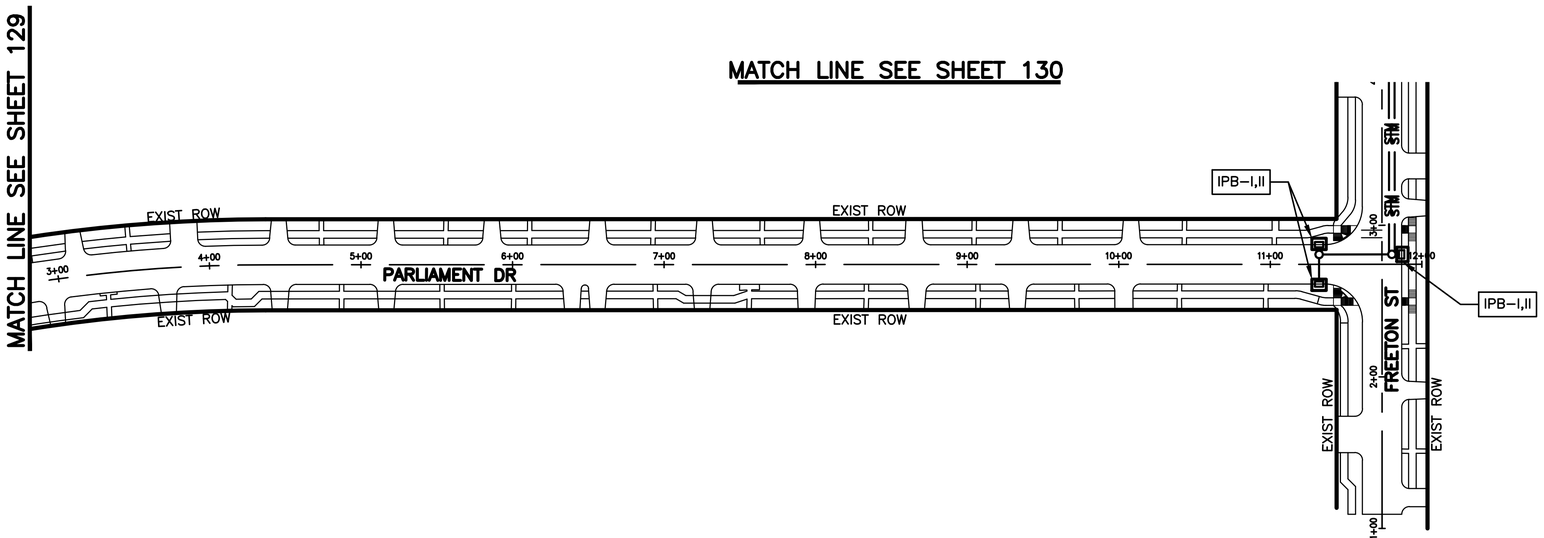
ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

STORM WATER POLLUTION PREVENTION PLAN SHEET 4 OF 6

SHEET 4 OF 5

WBS NO. M–410006–0002–3
DRAWING SCALE
H: 1"=50' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 130 OF 175

\\hrghua\data\85130030\cad\dwgs\c\52 storm water pollution prevention plan.dwg Plotted May 22, 2026 at 8:32 AM by Perez, Abel



0 50 100
SCALE IN FEET

N

LEGEND

IPB–I	INLET PROTECTION BARRIER STAGE I (DROP INLET BASKET)
IPB–II	INLET PROTECTION BARRIER STAGE II (GRAVEL BAGS)
SC	STABILIZED CONSTRUCTION EXIT

No.	Date	Revisions	Appr.

NOTES:

1. FOR STANDARD DETAILS, SEE STORM WATER POLLUTION PREVENTION PLAN DETAILS SHEET.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT/ENTRANCE INCLUDING TRUCK WASHING AREA, VERIFIED IN FIELD AND AUTHORIZED BY THE CITY ENGINEER.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9998
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)

STORM WATER POLLUTION PREVENTION PLAN SHEET
5 OF 6

WBS NO. M–410006–0002–3

DRAWING SCALE

H: 1"=50' (FULL)

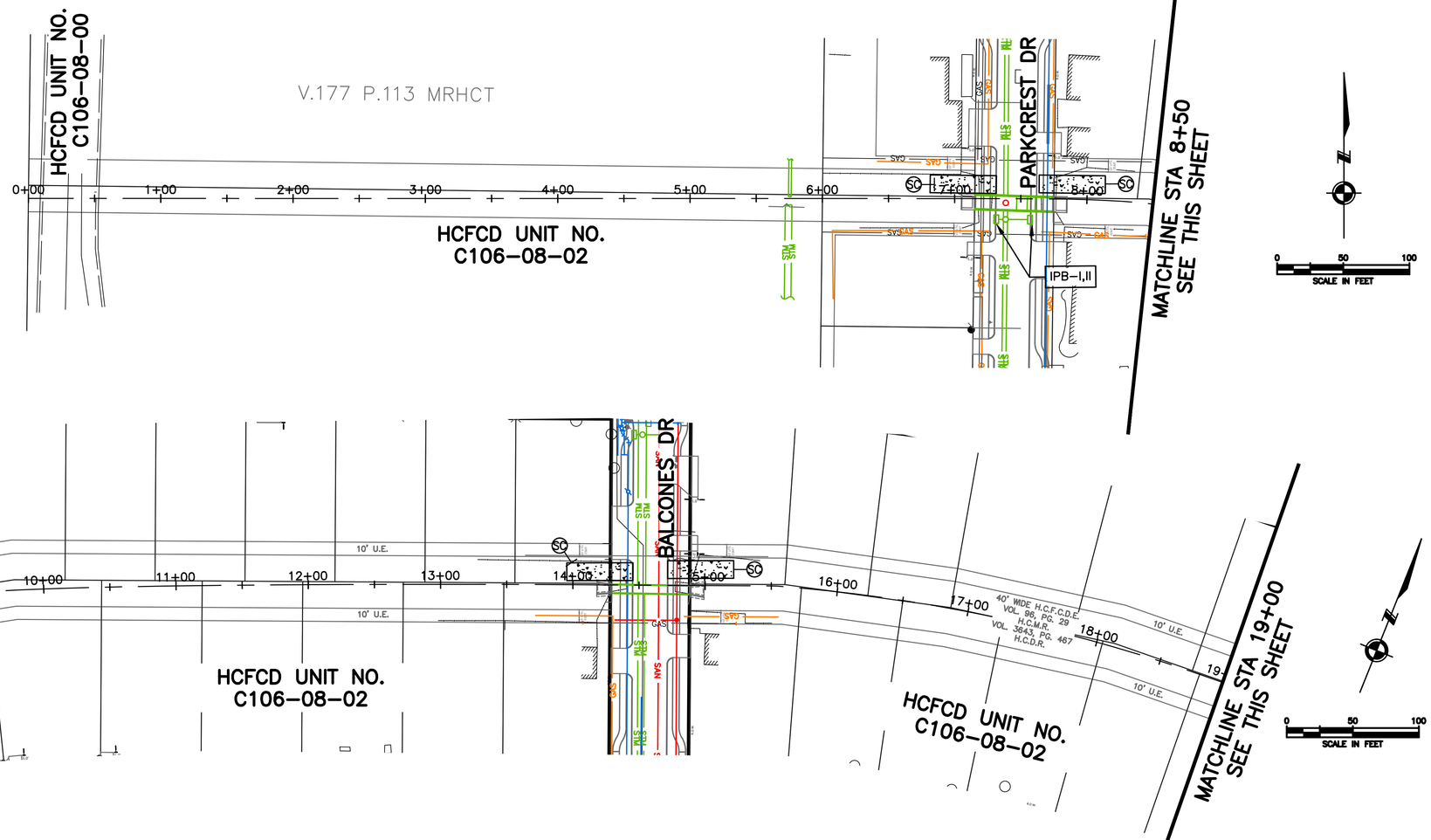
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 131 OF 175

\\hrghus\data\85130030\cad\dwgs\c\sw3p–5.dwg Plotted May 22, 2026 at 9:22 AM by Perez, Abel

\\hrghus\data\85130030\cad\dwgs\c\storm pollution prevention plan - channel.dwg Plotted: May 22, 2026 at 9:07 AM by Perez, Abel



BALCONES DRIVE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9000
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

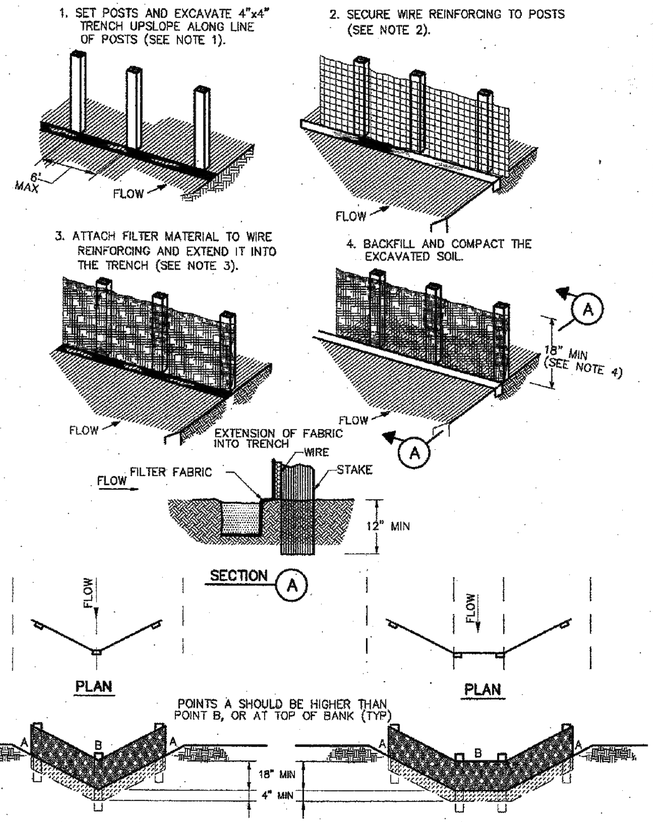
STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STORM WATER POLLUTION PREVENTION PLAN SHEET 6 OF 6

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 132 OF 175	

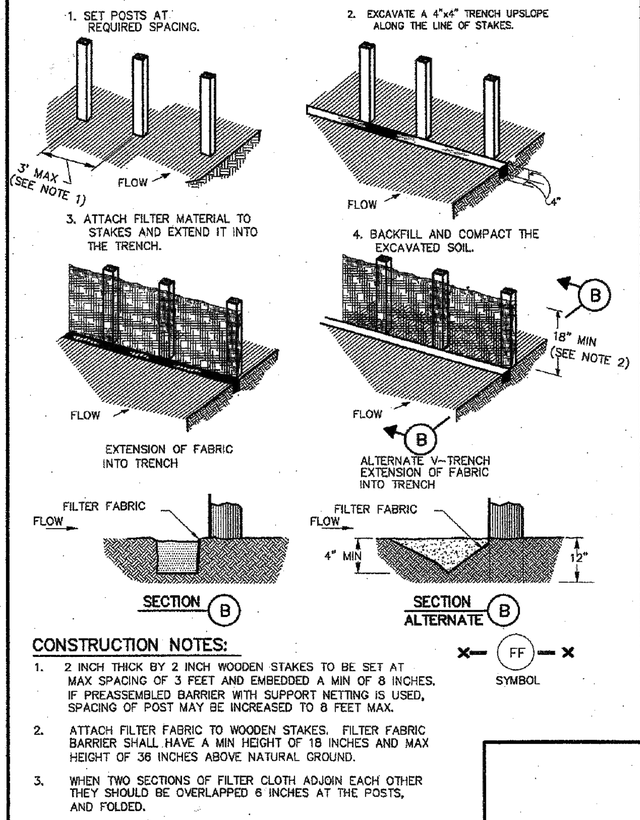


CONSTRUCTION NOTES:

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

SYMBOL

REINFORCED FILTER FABRIC BARRIER

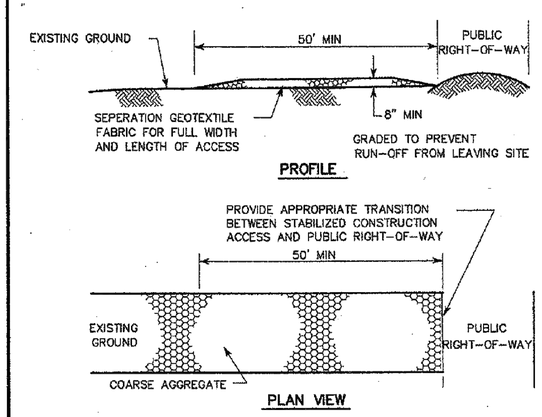


CONSTRUCTION NOTES:

1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

SYMBOL

FILTER FABRIC BARRIER

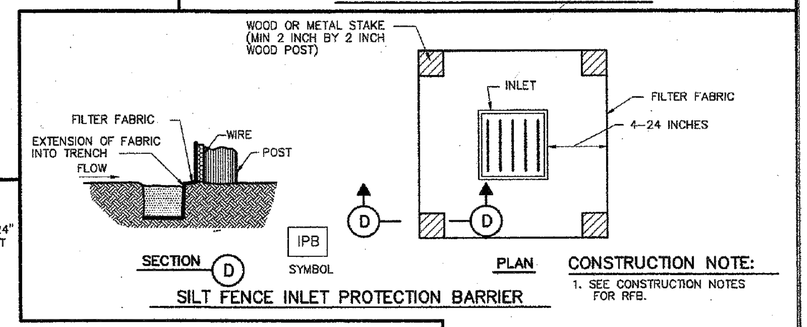


CONSTRUCTION NOTES:

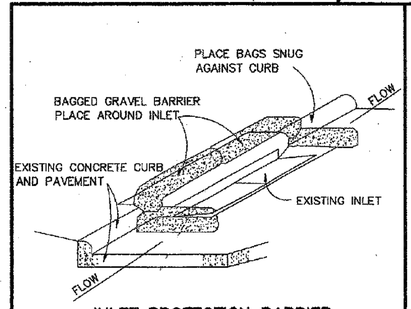
1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

SYMBOL

STABILIZED CONSTRUCTION ACCESS

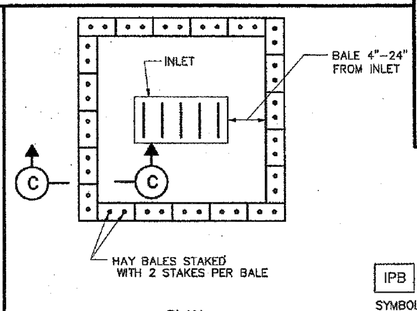


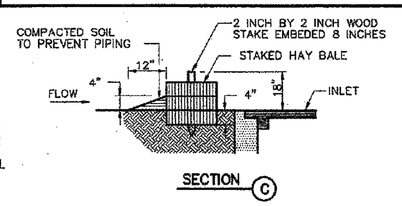
CONSTRUCTION NOTE:
1. SEE CONSTRUCTION NOTES FOR RFB.



INLET PROTECTION BARRIER

(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER





HAY BALE INLET PROTECTION BARRIER

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS
(NOT TO SCALE)

APPROVED — CITY ENGINEER
APPROVED — DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010
DWG NO: 01571-01

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

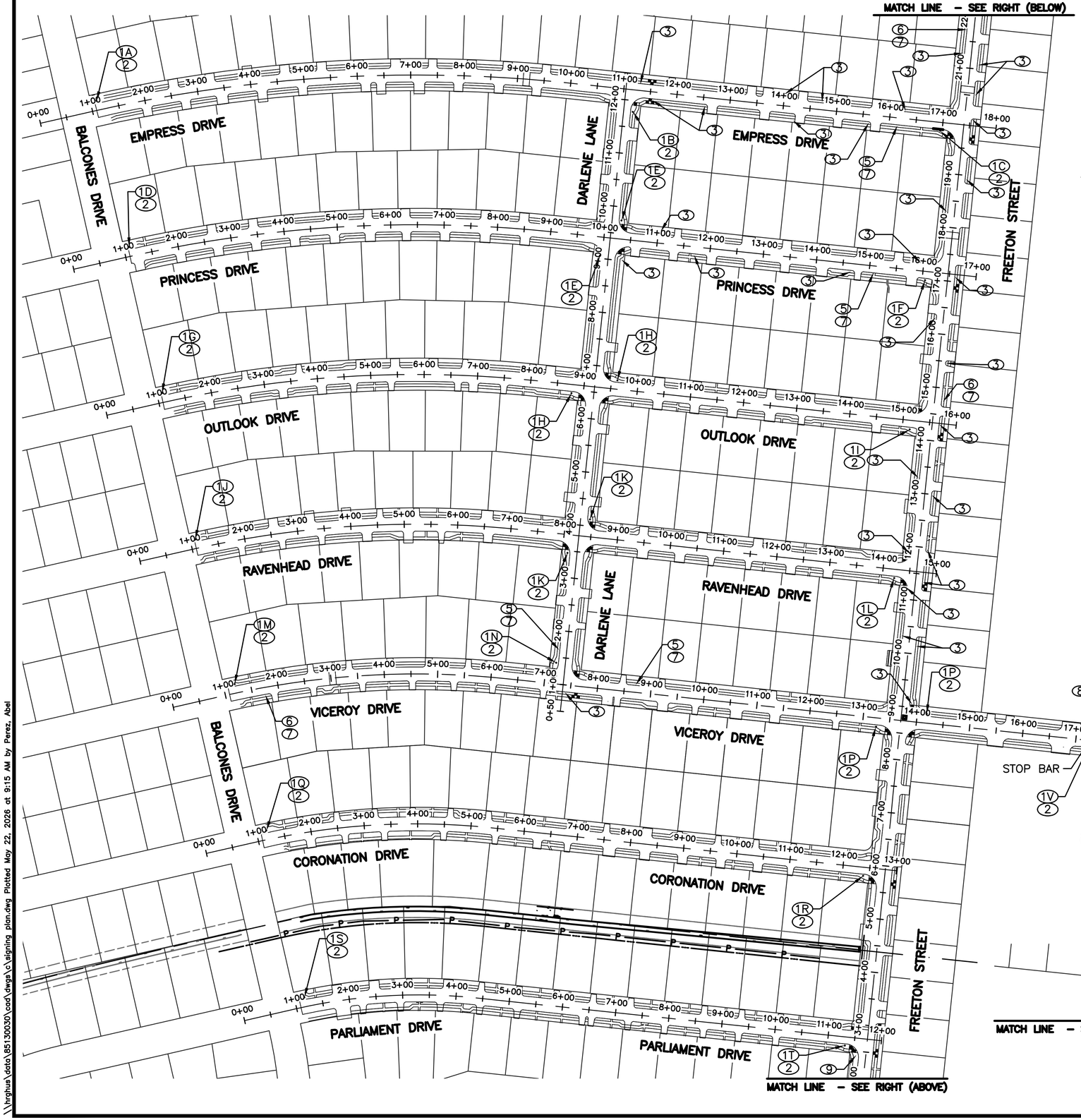
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

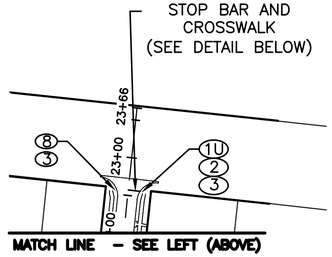
STORM WATER POLLUTION PREVENTION PLAN DETAILS

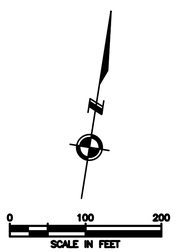
WBS NO. M-410006-0002-4	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 133 OF 175	

No.	Date	Revisions	App'd

\\hrghus\data\85130030\cad\dwgs\c\110a storm water pollution prevention plan details.dwg Plotted May 22, 2026 at 8:48 AM by Perez, Abel







1 STREET 500 / STREET 500 — STREET NAME SIGN

2 STOP — R1-1

3 SCHOOL DWS 7 AM – 4 PM — R8-3

4 NO PARKING ANY TIME — R8-3A

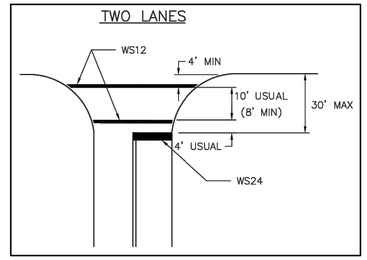
5 SPEED HUMPS — W17-1

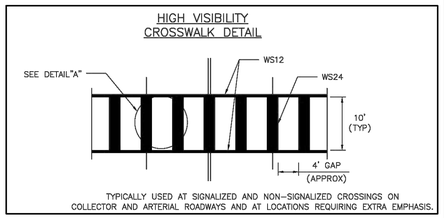
6 SPEED HUMPS — W17-1

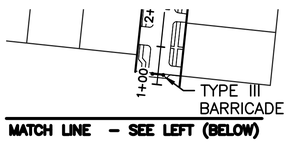
7 20 M.P.H. — R13-1P

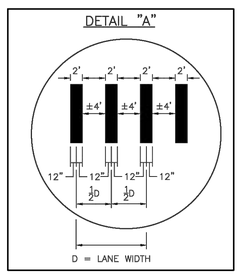
8 NO THRU TRUCKS — R5-2B

9 NO OUTLET — W14-2









1A EMPRESS DR 200 / BALCONES DR 3900
1B EMPRESS DR 300 / DARLENE LN 3900
1C EMPRESS DR 300 / FREETON ST 3900
1D PRINCESS DR 200 / BALCONES DR 3900
1E PRINCESS DR 300 / DARLENE LN 4000
1F PRINCESS DR 300 / FREETON ST 4000
1G OUTLOOK DR 200 / BALCONES LN 4000
1H OUTLOOK DR 300 / DARLENE LN 4000
1I OUTLOOK DR 300 / FREETON ST 4000
1J RAVENHEAD DR 200 / BALCONES DR 4000
1K RAVENHEAD DR 300 / DARLENE LN 4100
1L RAVENHEAD DR 300 / FREETON ST 4100
1M VICEROY DR 200 / BALCONES DR 4100
1N VICEROY DR 200 / DARLENE LN 4100
1O CORONATION DR 300 / BALCONES ST 4200
1P VICEROY DR 300 / FREETON ST 4100
1Q CORONATION DR 300 / FREETON ST 4200
1R PARLIAMENT DR 200 / BALCONES DR 4300
1S PARLIAMENT DR 200 / FREETON ST 4300
1T EDGEBROOK DR 400 / FREETON ST 3900
1U RAVENHEAD DR 200 / BALCONES DR 4000
1V VICEROY DR 200 / SHAVER DR 4100

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS — SCOTT L. CUNNINGHAM — 125747 — LICENSED PROFESSIONAL ENGINEER — 5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SIGNING PLAN

WBS NO. M-410006-0002-3

DRAWING SCALE

1"=100' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 134 OF 175

No. | Date | Revisions | App'd

\\hrghus\data\85130030\cad\dwgs\c\signing plan.dwg Plotted May 22, 2026 at 9:15 AM by Perez, Abel

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X–XXXX)					BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		TY = TYPE
							FRP = Fiberglass TWT = Thin–Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase–Conc SB=Slipbase–Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	TY N TY S
134	R1–1		STOP	30x30								
134	W14–1P		DEAD END	36x9								
134	R8–3		NO PARKING (SYMBOL)	24x30								
134	R8–3A		NO PARKING	24x30								
134	W17–1		ROAD HUMPS (ARROW)	30x30								
134	W17–1		ROAD HUMP	30x30								
134	R2–1		SPEED LIMIT	24x30								
134	R5–2B		NO THRU TRUCKS	24x30								
134	W14–1		DEAD END	30x30								

HRGreen
FIRM NO. F–11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB–PROJECT 2)

SUMMARY OF SMALL SIGNS

WBS NO. M–410006–0002–4

DRAWING SCALE

NTS

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 135 OF 175

Revisions: No. | Date | Apvd

\\hrghus\data\85130030\cad\dwgs\c\summary of small signs.dwg Plotted May 22, 2026 at 8:45 AM by Perez, Abel

GENERAL NOTES

1. THE EXISTING SIGNS LOCATED ON PUBLIC CONSTRUCTION SITE ARE THE PROPERTY OF THE CITY OF HOUSTON. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO THE TRAFFIC OPERATIONS CENTER (2200 PATTERSON). THE GENERAL TRAFFIC SUPERINTENDENT (832-395-6728/6756) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.
2. AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS DIVISION OF THE PUBLIC WORKS AND ENGINEERING DEPARTMENT (832-395-6728/6756) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER ONLY CITY SIGNS AND POSTS IDENTIFIED BY TRAFFIC OPERATIONS DIVISION TO 2200 PATTERSON.
3. PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.
4. ALL GROUND MOUNTED STOP SIGNS, WARNING SIGNS, AND OTHER REGULATORY SIGNS SHALL USE AT A MINIMUM HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING.
5. ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.
6. ALL OTHER SIGNS SHALL USE SUPER ENGINEER GRADE SHEETING.
7. ALL BLANKS TO BE INSTALLED SHALL BE OF THE 3000, 5000 OR 6000 SERIES ALUMINUM WITH A YEILD STRENGTH OF 3003-H14 ALLOY.
8. "T" DENOTES THICKNESS OF SIGN BLANKS.
9. ALL HOLES SHALL BE ⅜" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND / OR ROUGH EDGES.
10. SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL ON SHEET 01509-03.
11. ALL SIGN BLANK ARE TO BE ETCHED, DEGREASED, AND HAVE AN ALODINE FINISH PRIOR TO APPLICATION OF LEGENDS.
12. ALL DETAILS ARE NOT TO SCALE.
13. ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE LATEST TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND STANDARD HIGHWAY SIGNS LATEST EDITION.
14. REINSTALLATION OF PREVIOUSLY EXISTING SIGNS, WHERE REQUIRED PER PLANS, SHALL BE AT THE CONTRACTOR'S EXPENSE.

TYPICAL GROUND SIGN INSTALLATION PERFORATED SQUARE METAL TUBING

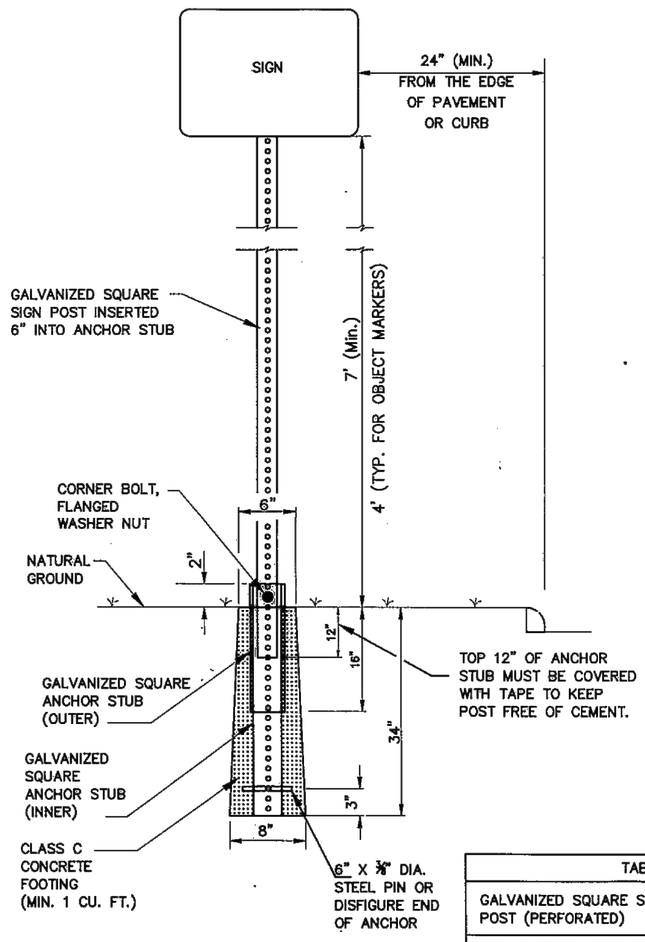
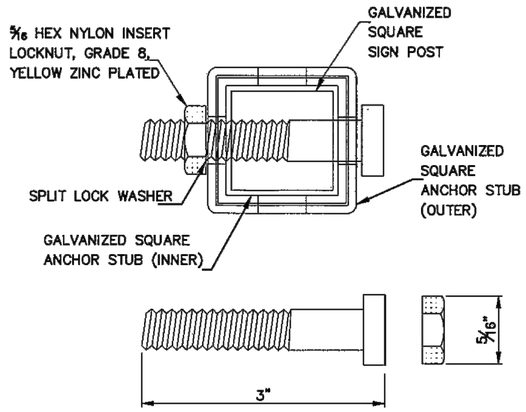
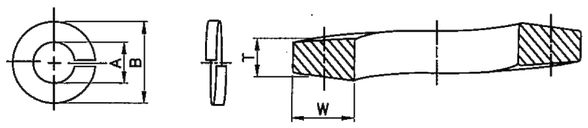


TABLE A	
GALVANIZED SQUARE SIGN POST (PERFORATED)	1-3/4" x 1-3/4" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED) (INNER)	2" x 2" x 36" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED) (OUTER)	2¼" x 2¼" x 18" (14 GAUGE)

CORNER BOLT



5/16" SPLIT LOCK WASHER, HIGH ALLOY MECHANICAL DEPOSITED YELLOW SINK



NOMINAL WASHER SIZE	A INSIDE DIAMETER MAX	A INSIDE DIAMETER MIN	B OUTSIDE DIAMETER MAX	T MEAN SECTION (Thickness)	W SECTION WIDTH
5/16"	0.322	0.314	0.583	0.078	0.125

DIMENSIONS: ASME B18.21.1
MATERIAL: ALLOY STEEL PER ASME B18.211
FINISH: MECHANICAL ZINC PER ASME B695, CLASS 5, TYPE 2 (YELLOW)

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

GENERAL NOTES AND GROUND SIGN MOUNTING
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: SEP-2016	DWG NO: 01509-01

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

SCOTT L. CUNNINGHAM 125747 LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SIGNING DETAIL SHEET 1 OF 7

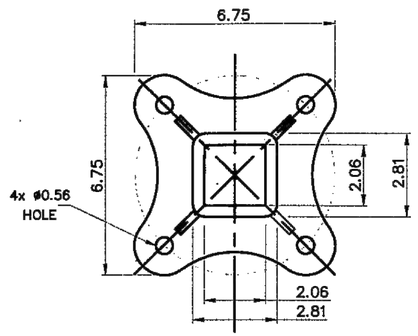
WBS NO. M-410006-0002-4	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 136 OF 175	

No.	Date	Revisions	App.

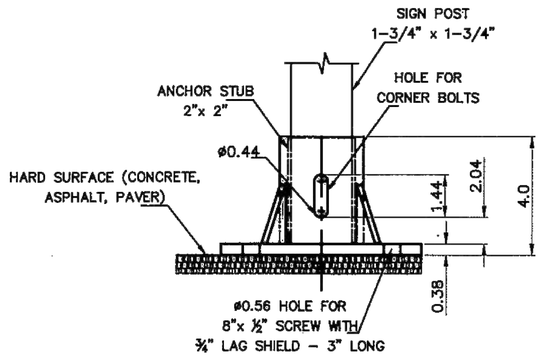
\\hrghus\data\85130030\cad\dwg\c\signing detail sheet 1.dwg Plotted May 22, 2026 at 8:52 AM by Perez, Abel

TYPICAL HARD SURFACE INSTALLATION GALVANIZED SIGN BASE

TOP VIEW

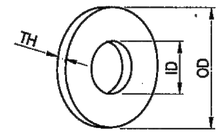


SIDE VIEW



NOTES:
1. MATERIAL: ASTM A-536 GRADE 65-45-12 DUCTILE IRON
2. HOT DIP GALVANIZE PER ASTM A-153
3. ALL DIMENSIONS ARE IN INCHES

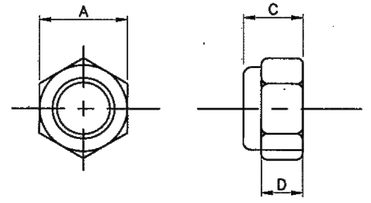
1/2" FLAT WASHERS, LOW CARBON, SAE, ZINC PLATED



SAE FLAT WASHERS									
	ID			OD			THICKNESS–TH		
SIZE	BASIC	TOLERANCE		BASIC	TOLERANCE		BASIC	PLUS	MINUS
		PLUS	MINUS		PLUS	MINUS			
1/2	0.515	0.015	0.005	1.062	0.030	0.007	0.095	0.121	0.074

DIMENSIONS: ASME B18.21.1, TYPE A PLAIN WASHERS
MATERIAL: CARBON STEEL
FINISH: Fe/Zn 3AT PER ASTM F1941

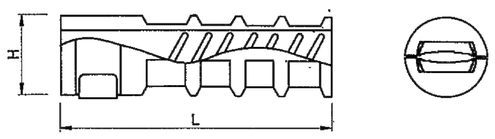
HEX NYLON INSERT LOCKNUTS (NE), GRADE 8, YELLOW ZINC PLATED



	C		A		D
SIZE	THICKNESS		WIDTH ACROSS FLATS		HEX HEGHT
	MAX	Min	MAX	Min	Min
5/16	0.359	0.329	0.502	0.489	0.250

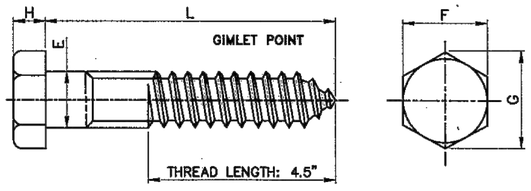
DIMENSIONS: ASME B18.16.6
MATERIAL: CARBON STEEL, GRADE 8 PER ASME B18.16.6, NYLON 6/6
THREAD REQUIREMENTS: ASME B1.1 UNC& UNF CLASS 2B

ANCHOR LAG SHIELD - ZINC ALLOY



TH	L		H
LAG THREAD SIZE	LENGTH		DRILLED HOLE SIZE
	NOMINAL		
¼"	2"	3"	3/4"

8" HEX LAG SCREWS, HOT DIPPED GALVANIZED



	E		F		G		H		L
DIAMETER	BODY DIAMETER		WIDTH ACROSS FLATS		WIDTH ACROSS CORNERS		HEIGHT		LENGTH
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	
1/2	0.515	0.482	0.750	0.725	0.866	0.826	0.384	0.302	8

MATERIAL: PER A307 GRADE A
COATING: HOT DIP ZINC PER ASTM F2329 OR IN ACCORDANCE WITH CLASS C OF ASTM A153 AND CLASS D FOR 3/8" DIAMETER AND LESS

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SIGN BASE
MOUNTING DETAILS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: SEP-2016
DWG NO. 01509-01A

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SIGNING DETAIL SHEET 2 OF 7

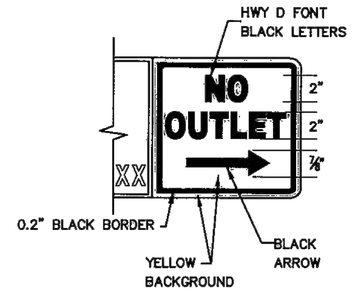
WBS NO. M-410006-0002-4	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 137 OF 175	

Revisions: No. | Date | Apvd

\\hrghus\data\85130030\cad\dwgs\c\signing detail sheet 2.dwg Plotted May 22, 2026 at 8:58 AM by Perez, Abel

9" D3 – STREET NAME SIGN

D3 W/ NO OUTLET SIGNAGE

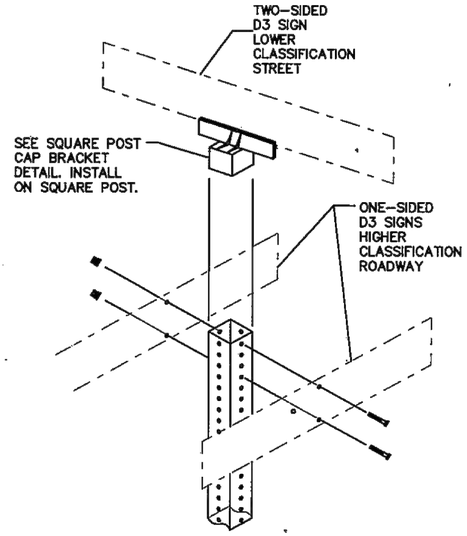


D3 – STREET NAME SIGN

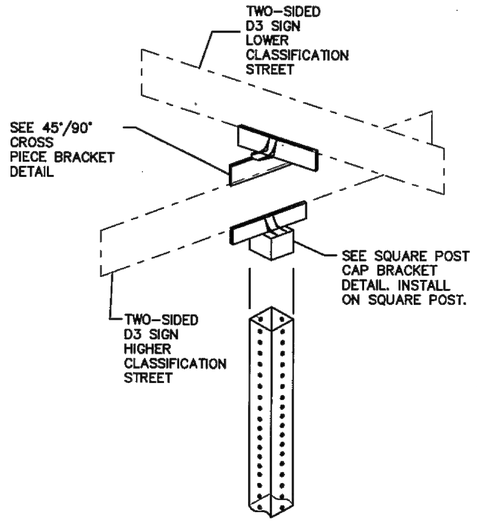
HEIGHT	SEE SIGN SIZES
LENGTH	30" MIN. * 48" MAX.** 1' INCREMENTS OF LENGTH
THICKNESS	0.125"
SUBSTRATE	ALUMINUM ALLOY, 5052–H38 (ASTM B–209)
SIGN FACE MATERIALS	GREEN FILM OVER HIGH INTESITY GRADE VIP SHEETING
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK
COLOR	LETTERS – WHITE REFLECTIVE BORDER – WHITE REFLECTIVE BACKGROUND – GREEN REFLECTIVE

NOTES:

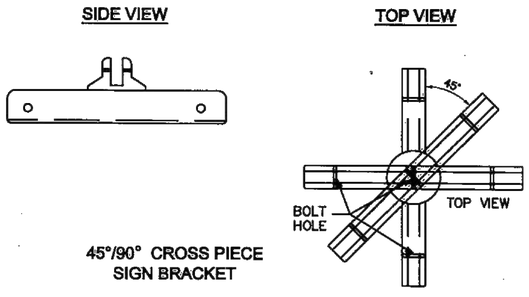
- TYPICAL SIGN PLATE SHOULD BE 42".
- SIGN PLATE LONGER THAN 48" MUST BE APPROVED BY THE CITY ENGINEER.
- ALL DIMENSIONS ARE IN INCHES.



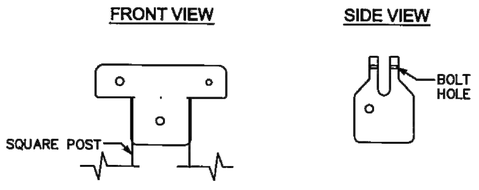
D3 SIGNS GREATER THAN 42"
PLATES IN LENGTH



D3 SIGNS LESS THAN OR EQUAL TO 42"
PLATES IN LENGTH



45°/90° CROSS PIECE
SIGN BRACKET



SQUARE POST CAP
BRACKET DETAILS

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STREET NAME SIGN
AND SIGN MOUNTING

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: SEP–2016	DWG NO: 01509–02

HRGreen
FIRM NO. F–11278
11011 RICHMOND
AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9956
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P–6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

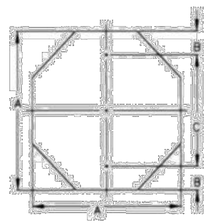
**ARLINGTON HEIGHTS
DRAINAGE & PAVING
(SUB–PROJECT 2)**

SIGNING DETAIL SHEET 3 OF 7

WBS NO. M–410006–0002–4	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 138 OF 175	

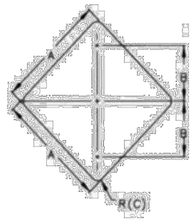
Revisions: No. | Date | Apvd

\\hrghus\data\85130030\cad\dwg\c\signing detail sheet 3.dwg Plotted May 22, 2026 at 9:04 AM by Perez, Abel



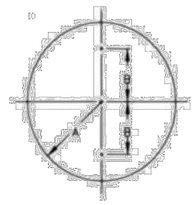
OCTAGONAL

A	B	C	T
36	3	30	0.080



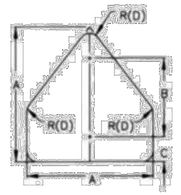
DIAMOND

A	B	C	T
24	12	1½	0.080
30	15	1¾	0.080
36	18	2½	0.080



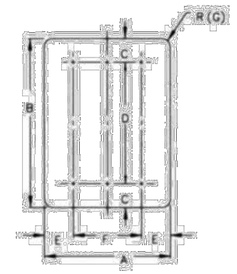
CIRCLE

A	B	T
15	15	0.080
18	12	0.080



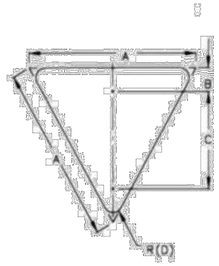
PENTAGON (SCHOOL)

A	B	C	D	T
36	24	3	2½	0.080



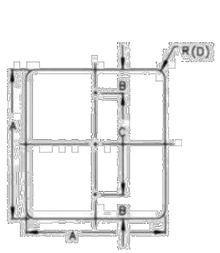
VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
36	48	6	36	6	24	2½	0.080
48	60	6	48	9	30	3	0.080



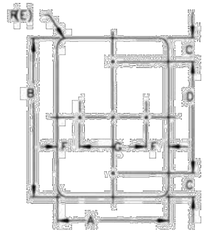
EQUILATERAL TRIANGLE

A	B	C	D	T
36	3	21	2	0.080



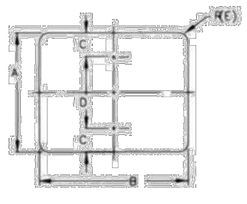
SQUARE (A)

A	B	C	D	T
18	3	12	1½	0.080
24	3	18	1½	0.080
30	3	24	1¾	0.080



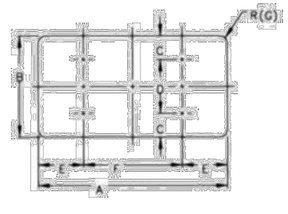
VERTICAL / HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
12	18	1½	15	1½	1½	9	0.080
12	36	3	30	1½	1½	9	0.080
18	24	3	18	1½	1½	15	0.080
24	30	3	24	1½	3	18	0.080
24	36	3	30	1½	3	18	0.080
24	48	6	36	1¾	3	18	0.080
30	36	3	30	1¾	3	24	0.080



HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
24	12	1½	9	1½	3	0.080	
24	18	3	12	1½	3	0.080	
30	24	3	18	1½	3	0.080	
36	12	1½	9	1½	3	0.080	



HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
36	24	3	18	6	24	1½	0.080
48	24	3	18	9	30	1¾	0.080
48	36	6	24	9	30	2½	0.080
60	24	3	18	12	36	1½	0.080
60	36	6	24	12	36	2½	0.080

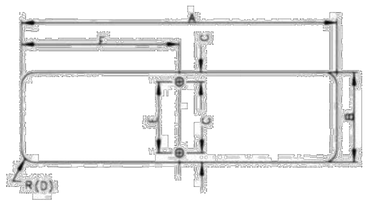


TABLE - DJ SIGNS

A	B	C	D	E	F	G	T
30	9	1½	¾	8	15	15	0.125
36	9	1½	¾	8	18	18	0.125
42	9	1½	¾	8	21	18	0.125
48	9	1½	¾	8	24	18	0.125

NOTE:
1. A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "NO OUTLET" SUPPLEMENT IS REQUIRED.
2. THE CITY OF HOUSTON "STOP" AND "YIELD" SIGNS SHALL BE A MINIMUM 36". SPECIAL PERMISSION FROM THE CITY TRAFFIC ENGINEER IS REQUIRED FOR LESS THAN 36" SIGNS.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

GROUND MOUNTED SIGN SIZES

(NOT TO SCALE)

APPROVED BY: CITY TRAFFIC ENGINEER

APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF. DATE: JUL 01 2012 DWG. NO. 0509-03

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

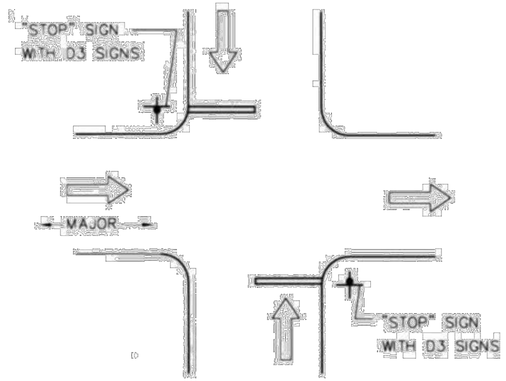
SIGNING DETAIL SHEET 4 OF 7

WBS NO. M-410006-0002-4
DRAWING SCALE
NTS
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 139 OF 175

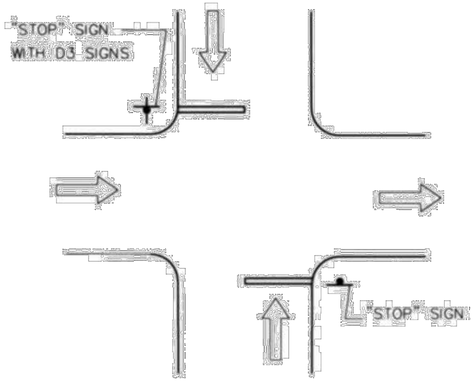
No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwgs\c\signing detail sheet 4.dwg Plotted May 22, 2026 at 8:48 AM by Perez, Abel

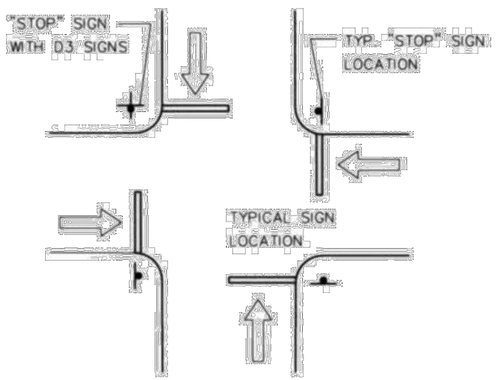
TYPICAL SIGN PLACEMENT



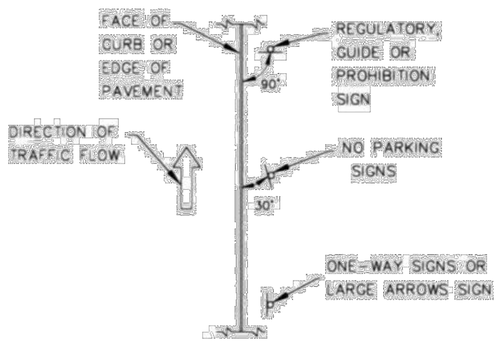
TWO-WAY STOP
AND ONE-WAY OPERATION
ON MAJOR/LOCAL INTERSECTION



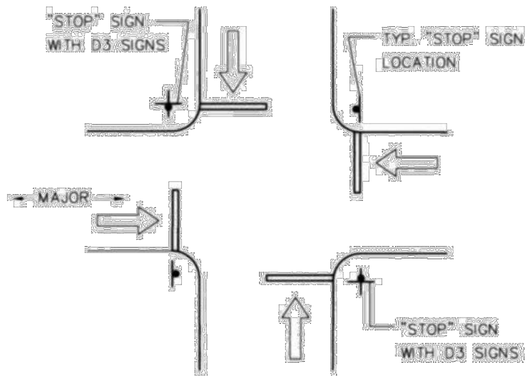
TWO-WAY STOP
AND ONE-WAY OPERATION
ON LOCAL/LOCAL INTERSECTION



FOUR-WAY STOP CONTROL
ON LOCAL/LOCAL INTERSECTION



MAST ARM INSTALLATION
REFER TO TRAFFIC SIGNAL DETAILS
FOR ADDITIONAL INFORMATION



FOUR-WAY STOP CONTROL
ON MAJOR/LOCAL INTERSECTION

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL SIGN PLACEMENT
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF. DATE JUL 01 2012 DWG. NO. 0509-04

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6900
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SIGNING DETAIL SHEET 5 OF 7

WBS NO. M-410006-0002-4
DRAWING SCALE
NTS
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 140 OF 175

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwga\c\signing detail sheet 5.dwg Plotted May 22, 2026 at 9:27 AM by Perez, Abel

REGULATORY SIGNS		
Stop	R1-1	36x36
Yield	R1-2	36x36x36
All Way Plaque	R1-3P	18x6
Yield Here to Pedestrians	R1-5a	36x48
Except Right Turn (Plaque)	R1-10P(1)	24x18
Except Buses (Plaque)	R1-10P(2)	24x18
Speed Limit	R2-1	30x36
Minimum Speed Limit (Plaque)	R2-4P	24x30
No Right Turns	R3-1	36x36
No Left Turns	R3-2	36x36
No U-Turns	R3-4	36x36
Left/Right Turn Only	R3-5	30x36
Thru Only	R3-5a	30x36
Left Turn/Thru	R3-6	30x36
Left/Right Lane Must Turn Left/Right	R3-7	36x36
Advance Intersection lane Control (Varies)	R3-8	Varies x 30
Two-Way Left Turn Only (Overhead)	R3-9a	30x36
Two-Way Left Turn Lane (Post Mounted)	R3-9b	24x36
BEGIN	R3-9cP	30x12
END	R3-9dP	30x12
Reversible Lane Control (Symbol)	R3-9e	108x48
Reversible Lane Control (Post Mounted)	R3-9f	36x54
Advance Reversible Lane Control Transition	R3-9g,9h	108x36
End Reversible Lane	R3-9i	108x48
Bike Lane	R3-17	24x18
Slower Traffic Keep Right	R4-3	24x30
Begin right Turn Lane Yield to Bikes	R4-4	36x30
Keep Right	R4-7	24x30
Keep Left	R4-8	24x30
Do Not Drive on Shoulder	R4-17	24x30
Do Not Pass on Shoulder	R4-18	24x30
Do Not Enter	R5-1	36x36
Wrong Way	R5-1a	42x30
No Trucks (Symbol)	R5-2(1)	24x24
No Thru Trucks (Text)	R5-2(2)	24x30
One Way (Long)	R6-1	54x18
One Way	R6-2	30x36
Roundabout Directional (2 Chevrons)	R6-4	30x24
Roundabout Circulation (Plaque)	R6-5P	30x30
Begin One Way	R6-6	30x36
End One Way	R6-7	30x36
Parking Restriction (Arrow)	R7-2 (1)	12x18
Parking Restriction (To Corner)	R7-2 (2)	12x18
Parking Restriction (Bus Zone)	R7-2 (3)	12x18

REGULATORY SIGNS		
Parking Restriction (Valet Zone)	R7-2 (4)	12x18
Parking Restriction (Peak Period)	R7-2 (5)	12x18
Parking Restriction (Emergency Veh. Only)	R7-2 (6)	12x18
Parking Restriction (Taxi Zone)	R7-2 (7)	12x18
Parking Restriction (No Stopping or Standing)	R7-2 (8)	12x18
Parking Restriction (Jitney Stop)	R7-2 (9)	12x18
Parking Restriction (Ped-Cab Zone)	R7-2 (10)	12x18
Parking Restriction (Limo Zone)	R7-2 (11)	12x18
Parking Restriction (Commercial Veh. Zone)	R7-2 (12)	12x18
Parking Restriction (Fed./City Authorized Veh.Only)	R7-2 (13)	12x18
Parking Restriction (U.S. Marshal Parking Only)	R7-2 (14)	12x18
Parking Restriction (Emergency)	R7-2 (15)	12x18
Parking Time Limit (Varies)	R7-108	12x18
Handicapped Parking	R7-8T	12x18
Tow Away Zone (Plaque)	R7-201P	12x6
Parking Meter (COH)	R7-110	12x18
On Tracks (Plaque)	R8-3eP	24x18
Cross Only At Crosswalks (Symbol)	R9-2	12x18
No Pedestrian Crossing (Symbol)	R9-3	18x18
No Pedestrian Crossing	R9-3a	12x18
Pedestrian Crossing	R9-8	36x18
Sidewalk Closed	R9-9	24x12
Sidewalk Closed-Use Other Side	R9-10	24x12
Sidewalk Closed Cross Here	R9-11a	24x12
Push Button For Pedestrian Crossing	R10-3e	9x15
Left on Green Arrow Only	R10-5	30x36
Stop Here on Red	R10-6	24x36
Do Not Block Intersection	R10-7	24x30
Left/Right Turn Signal	R10-10	30x36
No Turn on Road (Text)	R10-11a	36x48
Left Turn Yield on Green	R10-12	30x36
Crosswalk, Stop on Red	R10-23	24x30
Keep Off Median	R11-1	24x30
Road Closed	R11-2	48x30
Road Closed Local Traffic Only	R11-3a	60x30
Bridge Out Local Traffic Only	R11-3b	60x30
Road Closed to Thru Traffic	R11-4	60x30
Weight Limit xx Tons	R12-1	24x30
Axle Weight Limit xx Tons/Lbs	R12-2	24x30
No Trucks Over xx Tons/Lbs Empty Weight	R12-3	24x36
Weight Limit xx Tons per Axle xxTons Gross	R12-4	36x24
Load Zoned Bridge	R12aT	Varies x 36
Truck Route	R14-1	24x18
Grade Crossing (Crossbuck)	R15-1	48x9
Number of Tracks (Plaque)	R15-2P	27x18

CONSTRUCTION WORK SIGNS		
Right Angle Turn	CW1-1	36x36
Horizontal Curve	CW1-2	36x36
Reverse Right Angle Turns	CW1-3	36x36
Reverse Horizontal Curves	CW1-4	36x36
Reverse Curve (2 Lanes)	CW1-4b	36x36
Reverse Curve (More Than 2 Lanes)	CW1-4c	36x36
One-Direction Large Arrow	CW1-6	48x24
Upward Sloping Arrow	CW1-6aT	36x36
Chevron	CW1-8	18x24
Stop Ahead	CW3-1	36x36
Signal Ahead	CW3-3	36x36
Be Prepared to Stop	CW3-4	36x36
Road Narrows	CW5-1	36x36
Narrow Bridge	CW5-2	36x36
Two-Way Traffic Flow	CW6-3	36x36
Two-Way Traffic	CW6-4	12x18
Bump	CW8-1	36x36
Dip	CW8-2	36x36
Soft Shoulder	CW8-4	36x36
Truck Crossing	CW8-6	36x36
Rough Road	CW8-8	36x36
Uneven Lanes	CW8-11	36x36
Left Lane Ends	CW9-1(1)	36x36
Right Lane Ends	CW9-1(2)	36x36
Double Arrow	CW12-1	30x30
Advisory Speed (plaque)	CW13-1P	24x24
XX Feet (plaque)	CW16-2P	24x18
Ahead (Plaque)	CW16-3	24x12
Road Work Ahead	CW20-1	36x36
Detour Ahead	CW20-2	36x36
Road Closed Ahead	CW20-3	36x36
One Lane Road	CW20-4	36x36
Left Lane Closed	CW20-5(1)	36x36
Right Lane Closed	CW20-5(2)	36x36
Flagger (Symbol)	CW20-7	36x36
Narrow Lanes Ahead	CW20-8T	36x36
Shoulder Work Ahead	CW21-5	36x36
Utility Work Ahead	CW21-7	36x36
Double Reverse Curve (1 Lane)	CW24-1	36x36
Double Reverse Curve (2 Lanes)	CW24-1a	36x36
Double Reverse Curve (3 Lanes)	CW24-1b	36x36
End Road Work	G20-2	36x18
Detour With Arrows	M4-9	30x24
End Detour	M4-8a	24x18
Pedestrian Detour	M4-9b	30x24
Detour	M4-10	48x18

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

GENERAL NOTES AND GROUND SIGN MOUNTING

NOT TO SCALE

APPROVED BY
ENGINEER

DIRECTOR
PUBLIC WORKS AND ENGINEERING

EFF. DATE JAN 01 2012

DWG NO. D1509-05

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9000
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SIGNING DETAIL SHEET 6 OF 7

WBS NO. M-410006-0002-4	
DRAWING SCALE	
NTS	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 141 OF 175	

No.	Date	Revisions	Appr.

\\hrghua\data\85130030\cad\dwgs\c\signing detail sheet 6.dwg Plotted May 22, 2026 at 9:24 AM by Perez, Abel

WARNING SIGNS		
Right Angle Turn Curve	W1-1	30x30
Right Angle Turn With Speed Limit	W1-1a	36x36
Horizontal Curve	W1-2	30x30
Horizontal Curve With Speed Limit	W1-2a	36x36
Reverse Right Angle Turn	W1-3	30x30
Reverese Horizontal Curve	W1-4	30x30
Winding Road	W1-5	30x30
One Direction Large Arrow	W1-6	48x24
Two Direction Large Arrow	W1-7	48x24
Chevron Alignment	W1-8	18x24
Hairpin Curve	W1-11	30x30
Truck Rollover	W1-13	36x36
Cross Road	W2-1	30x30
Side Street T-Intersection (Symbol)	W2-2	30x30
T-Intersection (Symbol)	W2-4	30x30
Y-Intersection (Symbol)	W2-5	30x30
Roundabout (Symbol)	W2-6	30x30
Stop Ahead	W3-1	30x30
Signal Ahead	W3-3	30x30
Reduced Speed Limit Ahead	W3-5	36x36
Merge	W4-1	36x36
Lane Ends	W4-2	36x36
Added Lane	W4-3	36x36
Cross Traffic Does Not Stop (Plaque)	W4-4P	24x12
Road Narrows	W5-1	36x36
Narrow Bridge	W5-2	36x36
Divided Highway	W6-1	36x36
Divided Highway Ends	W6-2	36x36
Two Way Traffic (Symbol)	W6-3	36x36
Bump	W8-1	30x30
Dip	W8-2	30x30
Pavement Ends	W8-3	36x36
Soft Shoulder	W8-4	36x36
Truck Crossing	W8-6	36x36
Loose Gravel	W8-7	36x36
Rough Road	W8-8	36x36
Uneven Lanes	W8-11	36x36
Watch for ICE on Bridge	W8-13T	36x36
Shoulder Drop-Off (Symbol)	W8-17	30x30
Shoulder Drop-Off (Plaque)	W8-17P	24x18

WARNING SIGNS		
Flood Gauge	W8-19	12x72
No Shoulder	W8-23	36x36
Shoulder Ends	W8-25	36x36
Left Lane Ends	W9-1(1)	36x36
Right Lane Ends	W9-1(2)	36x36
Lane Ends Merge Left	W9-2(1)	36x36
Lane Ends Merge Right	W9-2(2)	36x36
Grade Crossing Advance Warning	W10-1	30Dia
No Train Horn	W10-9	36x36
No Train Horn (Plaque)	W10-9P	30x24
Bicycle	W11-1	30x30
Pedestrian	W11-2	36x36
Emergency Vehicle	W11-8	30x30
Handicapped	W11-9	30x30
Truck	W11-10	30x30
Emergency Signal Ahead (Plaque)	W11-12P	36x30
Bicycle/Pedestrian	W11-15	30x30
Trail Crossing (Plaque)	W11-15P	24x18
Double Arrow	W12-1	30x30
Low Clearance With Arrows	W12-2	36x36
Low Clearance	W12-2a	78x24
Loaded Zoned Bridge	W12-5T	36x36
Advisory Speed (Plaque)	W13-1P	18x18
No Outlet	W14-2	24x24
No Outlet With Arrow	W14-2a	36x6
Share the Road (Plaque)	W16-1P	18x24
xx Feet (Plaque)	W16-2P	24x18
Next xx Feet (Plaque)	W16-4P	30x24
Supplemental Left Arrow (Plaque)	W16-5P(1)	24x18
Supplemental Right Arrow (Plaque)	W16-5P(2)	24x18
Diagonal Arrow (Plaque)	W16-7P	24x12
Ahead (Plaque)	W16-9P	24x12
When Flashing (Plaque)	W16-13P	24x18
Roundabout (Plaque)	W16-17	24x12
Speed Hump	W17-1	30x30
Type 3 Object Marker (Left)	OM3-L	12x36
Type 3 Object Marker (Right)	OM3-R	12x36
Type 3 Object Marker (Center)	OM3-C	12x36
Type 4 Object Marker	OM4-1	18x18

BICYCLE SIGNS		
Bike Route	D11-1	24x18
Bike Route to Downtown	D11-1c	24x18
END	M4-6	12x6
BEGIN	M4-14	12x6
Bicycle Route (Left Arrow)	M6-1(1)	12x9
Bicycle Route (Right Arrow)	M6-1(2)	12x9
Bicycle Route (Thru Arrow)	M6-3	12x9
Bicycle Route (Left-Right Arrow)	M6-4	12x9
Bicycle Route (Thru-Right Arrow)	M6-6	12x9

SCHOOL SIGNS		
School	S1-1 (FYG)	36x36
x:xx to x:xx AM and PM (Plaque)	S4-1P	24x10
School (Plaque)	S4-3P (FYG)	24x8
When Flashing (Plaque)	S4-4P	24x10
Reduced School Speed Limit Ahead	S4-5a (FYG)	36x36
School Speed Limit xx When Flashing	S5-1 (FYG)	24x48
End School Zone	S5-2	24x30
End School Zone (Plaque)	S5-2aTP	24x10
Cell Phone Use Prohibited	S7-1T	24x18
Turn Arrow (Plaque)	SW16-5P (FYG)	24x12
Advance Turn Arrow (Plaque)	SW16-6P (FYG)	24x12
Diagonal Arrow (Plaque)	SW16-7P (FYG)	24x12
Ahead (Plaque)	S16-9P (FYG)	24x12
FYG - Fluorescent Yellow-Green Background Color		

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

GENERAL NOTES AND GROUND SIGN MOUNTING

(NOT TO SCALE)

APPROVED BY
CITY ENGINEER

APPROVED BY
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF. DATE MAY-01-2012

DWG. NO. 01509-06

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

SIGNING DETAIL SHEET 7 OF 7

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

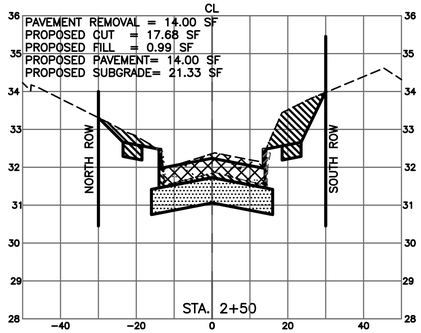
CITY OF HOUSTON PM

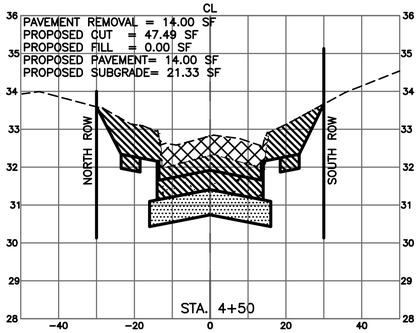
MIGUEL RODRIGUEZ, EIT

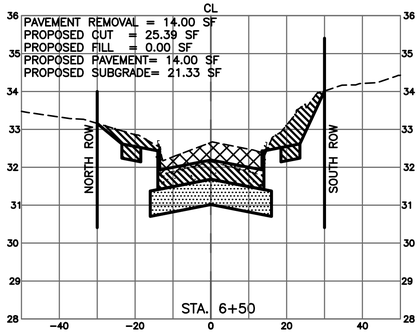
SHEET NO. 142 OF 175

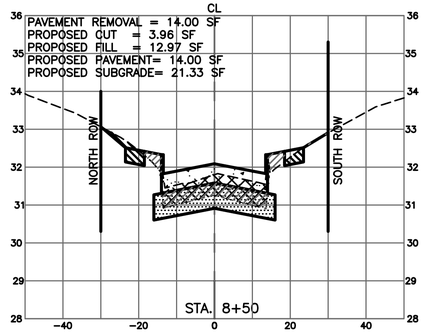
No.	Date	Revisions	Appr.

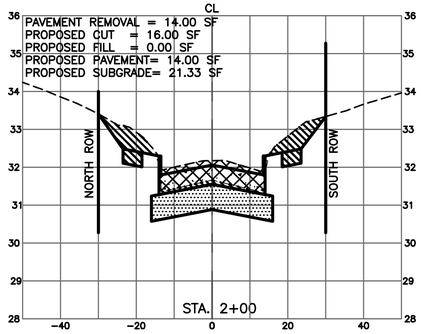
\\hrghus\data\85130030\cad\dwga\c\signing detail sheet 7.dwg Plotted May 22, 2026 at 9:01 AM by Perez, Abel

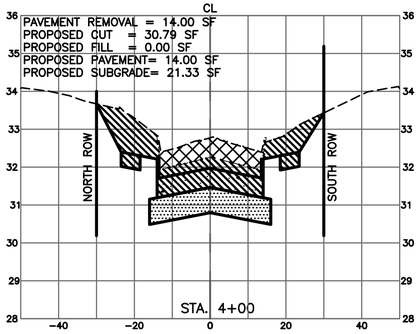


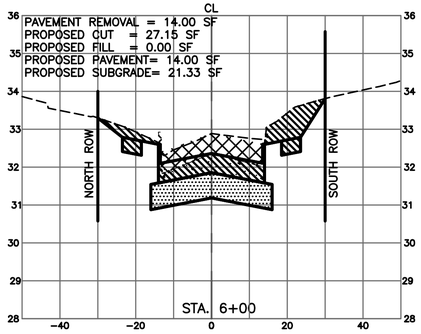


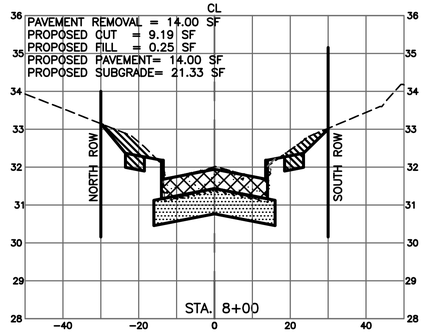


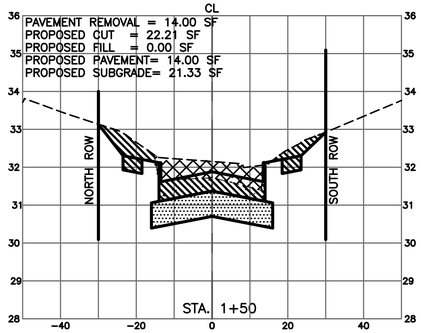


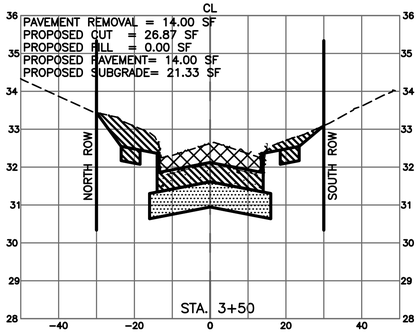


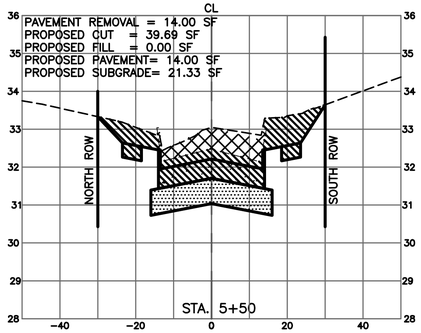


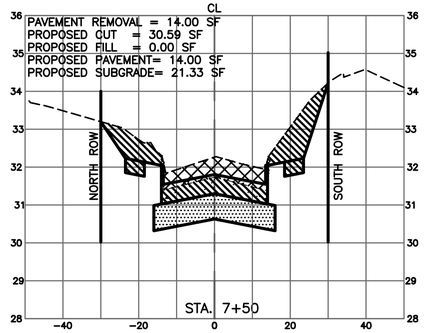


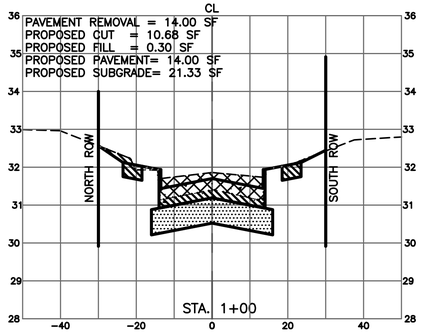


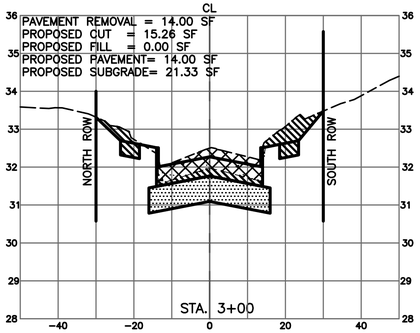


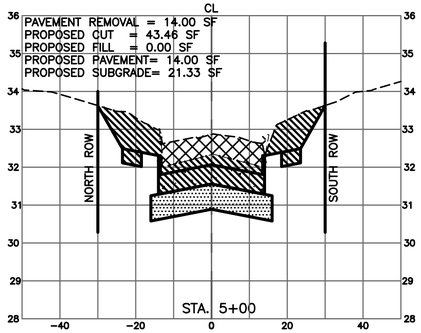


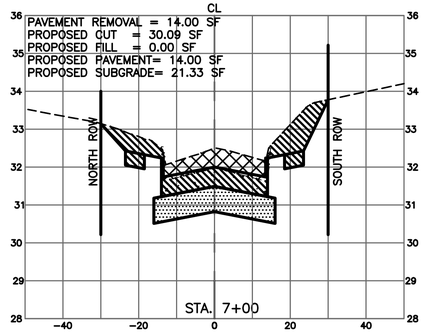












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON

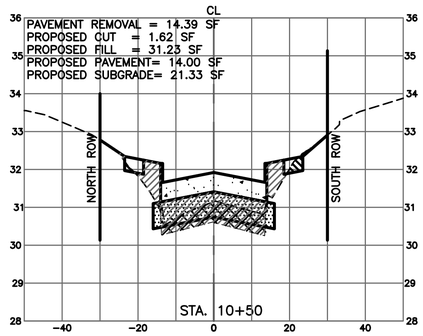
HOUSTON PUBLIC WORKS

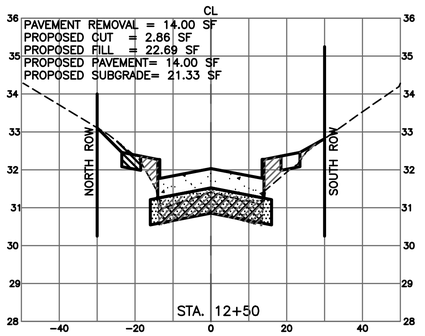
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

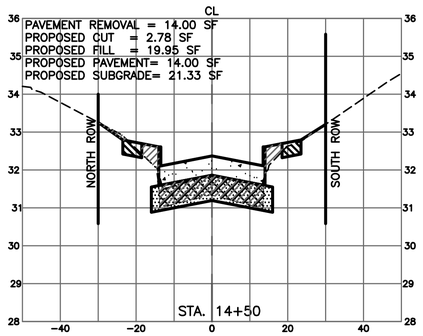
CROSS SECTIONS EMPRESS DRIVE SHEET 1 OF 2

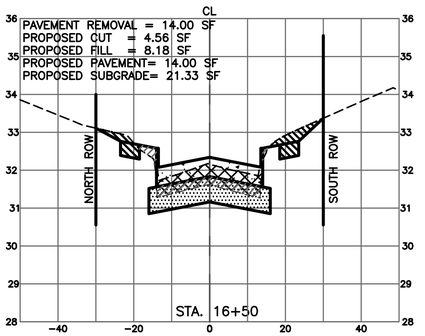
WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 143 OF 175

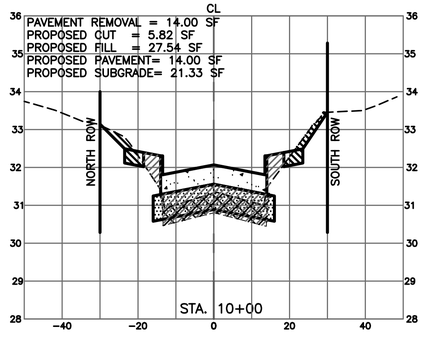
\\hrghus\data\85130030\cad\dwgs\c\cross sec empress 1.dwg Plotted May 22, 2026 at 8:32 AM by Perez, Abel

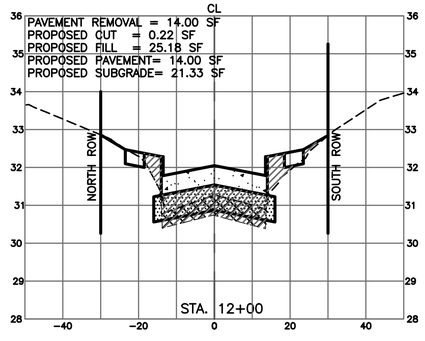


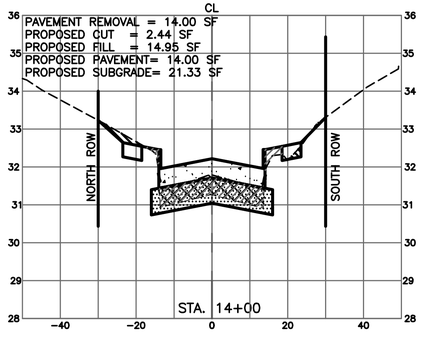


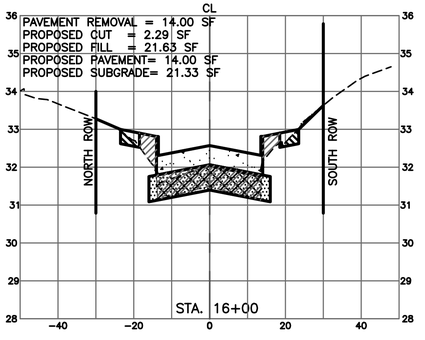


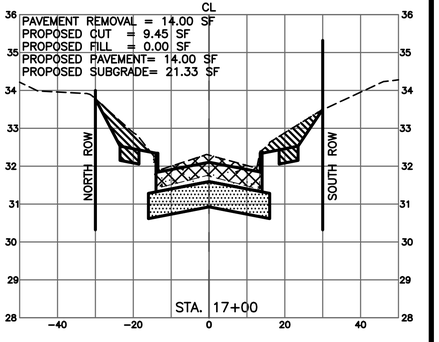


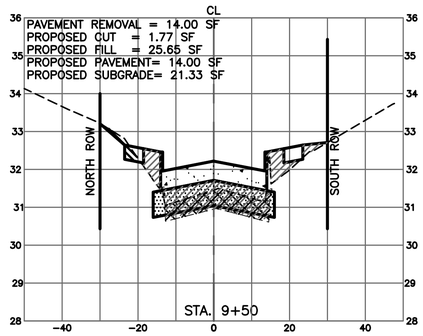


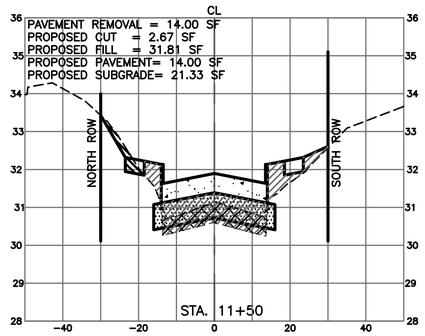


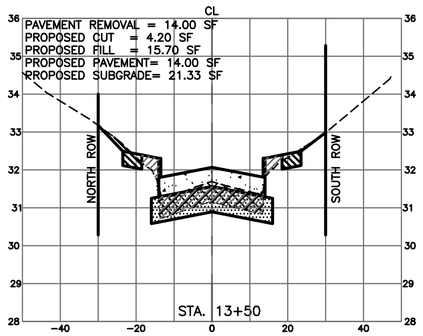


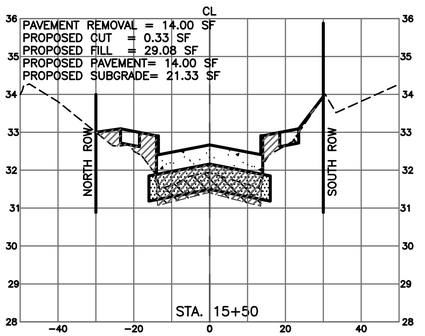


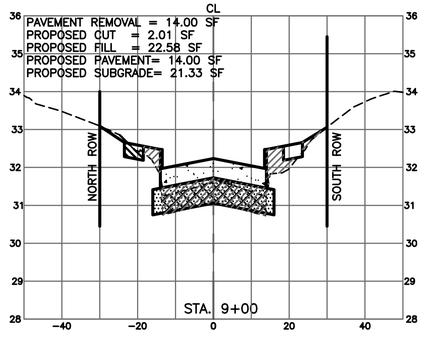


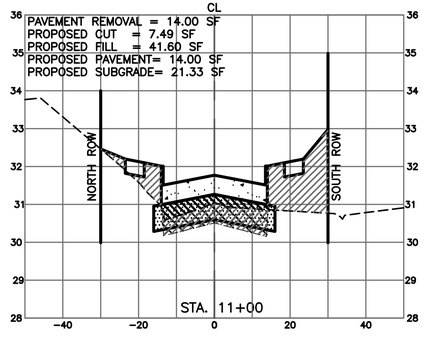


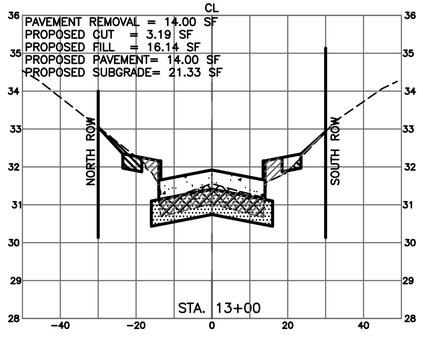


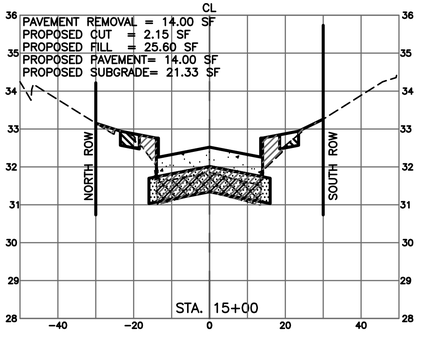












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS EMPRESS DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 144 OF 175

\\hrghus\data\85130030\cad\dwgs\c\cross sec empress 1.dwg Plotted May 22, 2026 at 9:08 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	10.68	10.68	0.30	0.00	14.00	14.00	21.33	-	-	-	-	-
EMPRESS DRIVE	150.00	22.21	22.21	0.00	0.00	14.00	14.00	21.33	30.45	0.28	25.93	25.93	39.50
	200.00	16.00	16.00	0.00	0.00	14.00	14.00	21.33	35.38	0.00	25.93	25.93	39.50
	250.00	17.68	17.68	0.99	0.00	14.00	14.00	21.33	31.19	0.92	25.93	25.93	39.50
	300.00	15.26	15.26	0.00	0.00	14.00	14.00	21.33	30.50	0.92	25.93	25.93	39.50
	350.00	26.87	26.87	0.00	0.00	14.00	14.00	21.33	39.01	0.00	25.93	25.93	39.50
	400.00	30.79	30.79	0.00	0.00	14.00	14.00	21.33	53.39	0.00	25.93	25.93	39.50
	450.00	47.49	47.49	0.00	0.00	14.00	14.00	21.33	72.48	0.00	25.93	25.93	39.50
	500.00	43.46	43.46	0.00	0.00	14.00	14.00	21.33	84.21	0.00	25.93	25.93	39.50
	550.00	39.69	39.69	0.00	0.00	14.00	14.00	21.33	76.99	0.00	25.93	25.93	39.50
	600.00	27.15	27.15	0.00	0.00	14.00	14.00	21.33	61.89	0.00	25.93	25.93	39.50
	650.00	25.39	25.39	0.00	0.00	14.00	14.00	21.33	48.65	0.00	25.93	25.93	39.50
	700.00	30.09	30.09	0.00	0.00	14.00	14.00	21.33	51.37	0.00	25.93	25.93	39.50
	750.00	30.59	30.59	0.00	0.00	14.00	14.00	21.33	56.19	0.00	25.93	25.93	39.50
	800.00	9.19	9.19	0.00	0.00	14.00	14.00	21.33	36.83	0.00	25.93	25.93	39.50
	850.00	3.96	3.96	12.97	0.00	14.00	14.00	21.33	12.18	12.01	25.93	25.93	39.50
	900.00	2.01	2.01	22.58	0.00	14.00	14.00	21.33	5.53	32.92	25.93	25.93	39.50
	950.00	1.77	1.77	25.65	0.00	14.00	14.00	21.33	3.50	44.66	25.93	25.93	39.50
	1000.00	5.82	5.82	27.54	0.00	14.00	14.00	21.33	7.03	49.25	25.93	25.93	39.50
	1050.00	1.62	1.62	31.23	0.00	14.00	14.00	21.33	6.89	54.42	25.93	25.93	39.50
	1100.00	7.49	7.49	41.60	0.00	14.00	14.00	21.33	8.44	67.44	25.93	25.93	39.50
	1150.00	2.67	2.67	31.81	0.00	14.00	14.00	21.33	9.41	67.97	25.93	25.93	39.50
	1200.00	0.22	0.22	25.18	0.00	14.00	14.00	21.33	2.68	52.77	25.93	25.93	39.50
	1250.00	2.86	2.86	22.69	0.00	14.00	14.00	21.33	2.85	44.32	25.93	25.93	39.50
	1300.00	3.19	3.19	16.14	0.00	14.00	14.00	21.33	5.60	35.95	25.93	25.93	39.50
	1350.00	4.20	4.20	15.70	0.00	14.00	14.00	21.33	6.84	29.48	25.93	25.93	39.50
	1400.00	2.44	2.44	14.95	0.00	14.00	14.00	21.33	6.15	28.38	25.93	25.93	39.50
	1450.00	2.78	2.78	19.95	0.00	14.00	14.00	21.33	4.83	32.31	25.93	25.93	39.50
	1500.00	2.15	2.15	25.60	0.00	14.00	14.00	21.33	4.56	42.18	25.93	25.93	39.50
	1550.00	0.33	0.33	29.08	0.00	14.00	14.00	21.33	2.30	50.63	25.93	25.93	39.50
	1600.00	2.29	2.29	21.63	0.00	14.00	14.00	21.33	2.43	46.95	25.93	25.93	39.50
	1650.00	4.56	4.56	8.18	0.00	14.00	14.00	21.33	6.34	27.60	25.93	25.93	39.50
	1700.00	9.45	9.45	0.00	0.00	14.00	14.00	21.33	12.97	7.57	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9906
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) EMPRESS DRIVE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

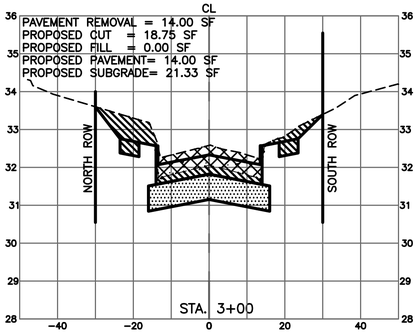
NTS

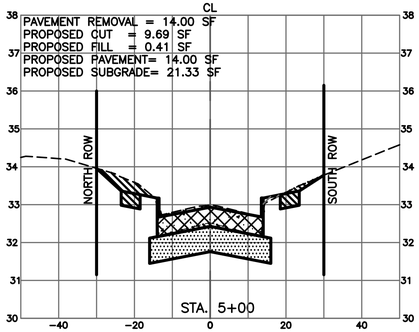
CITY OF HOUSTON PM

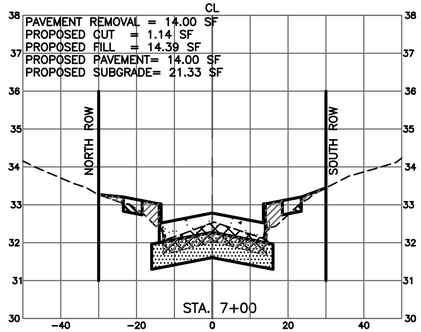
MIGUEL RODRIGUEZ, EIT

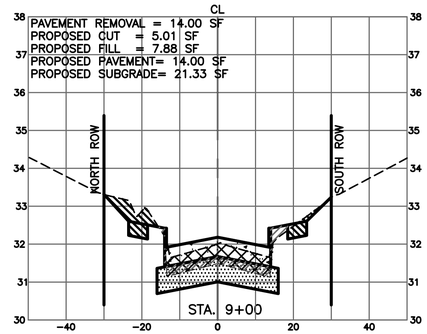
Revisions: No. | Date | App.

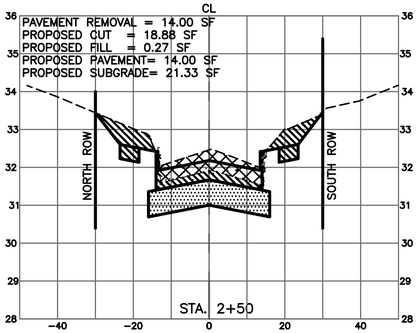
\\hrghua\data\85130030\cad\dwga\c\cross sec x tables.dwg Plotted May 22, 2026 at 9:06 AM by Perez, Abel

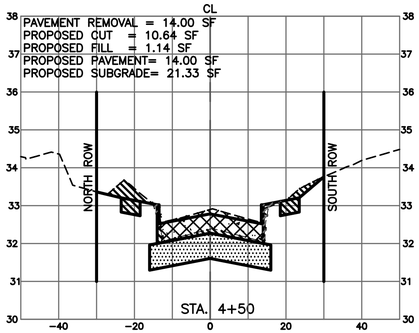


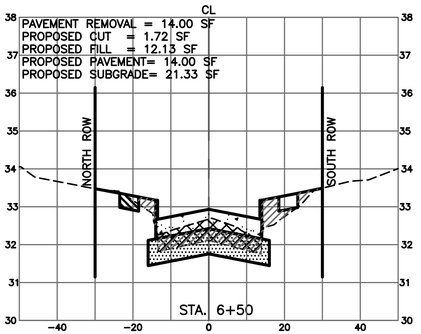


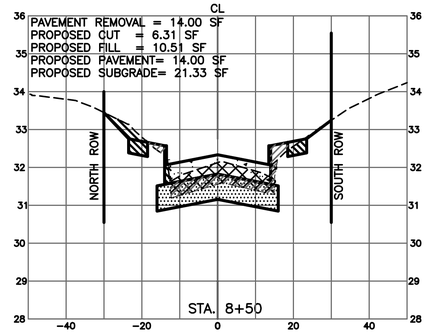


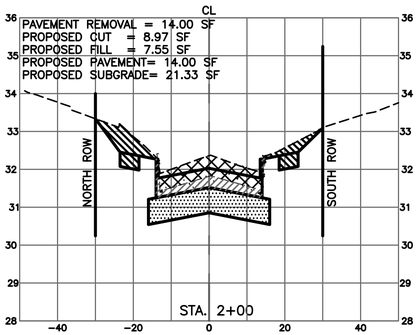


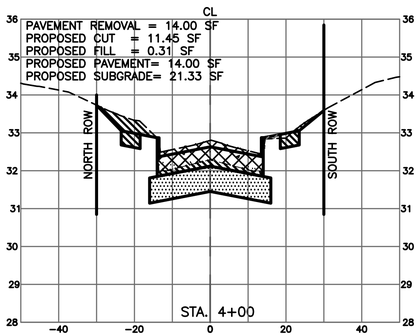


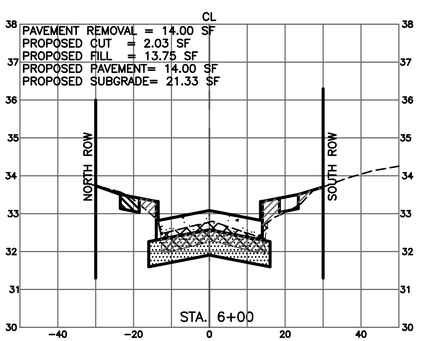


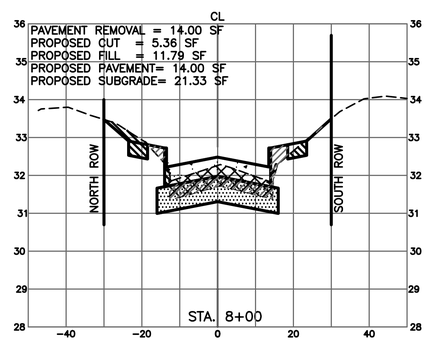


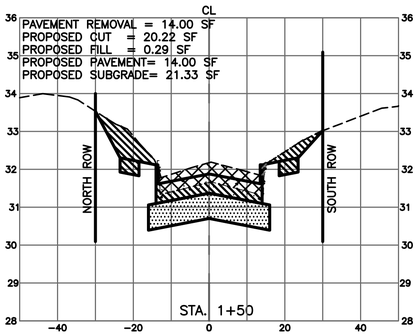


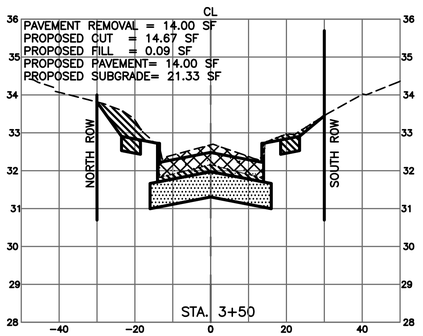


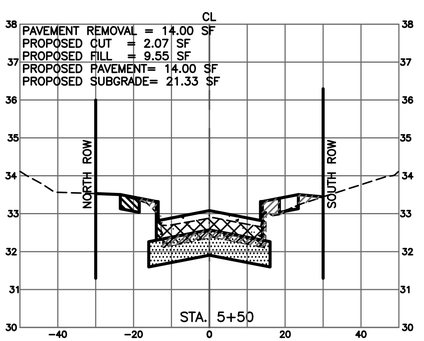


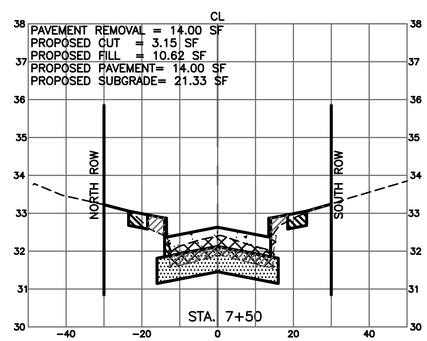












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

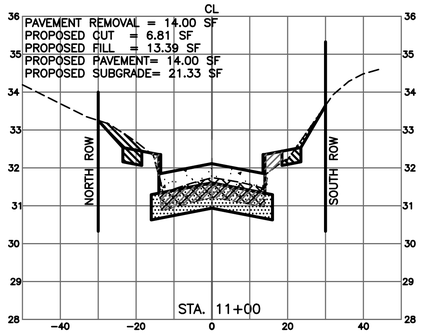
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

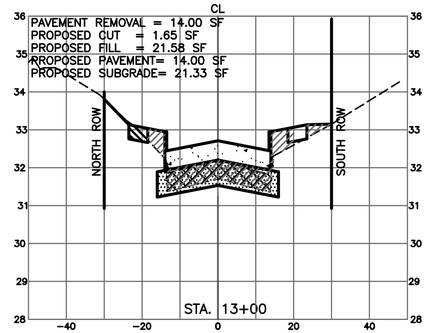
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

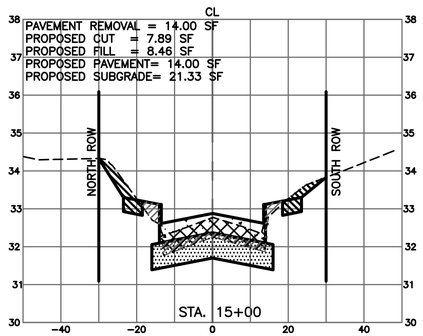
CROSS SECTIONS PRINCESS DRIVE SHEET 1 OF 2

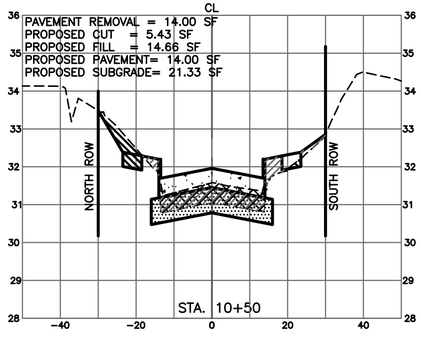
WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 146 OF 175	

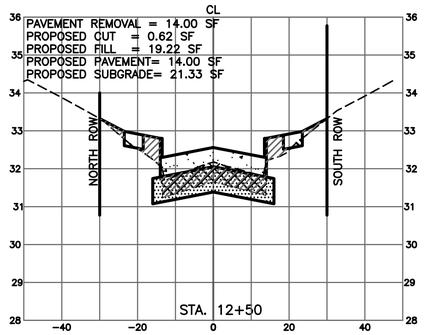
\\hrghua\data\8513030\cad\dwgs\c\cross sec princess.dwg Plotted May 22, 2026 at 8:43 AM by Perez, Abel

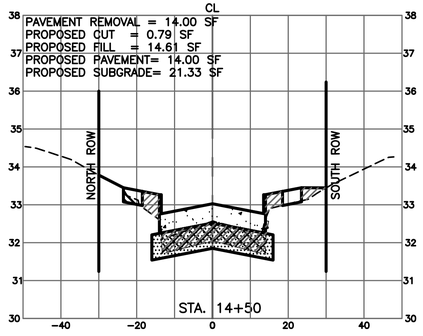


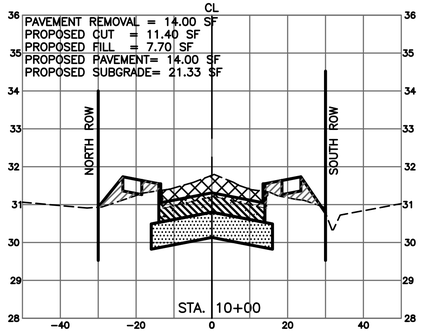


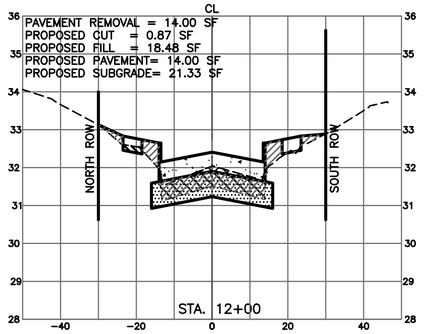


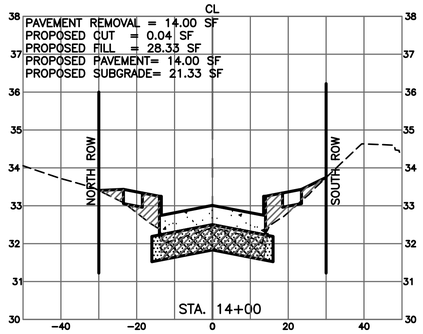


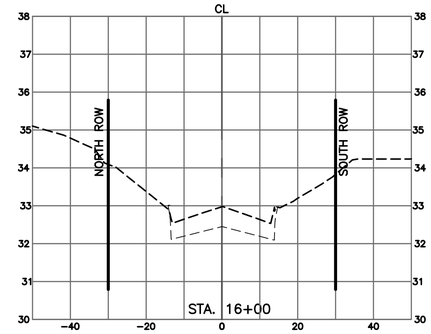


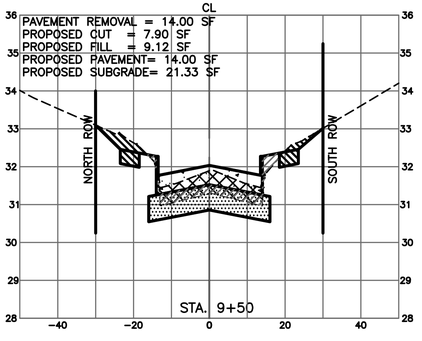


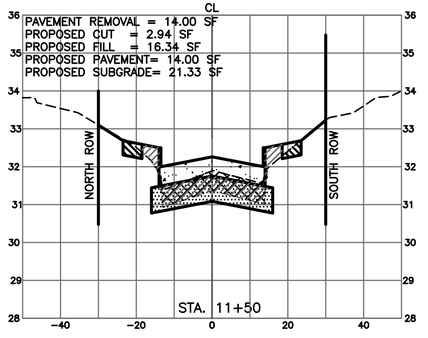


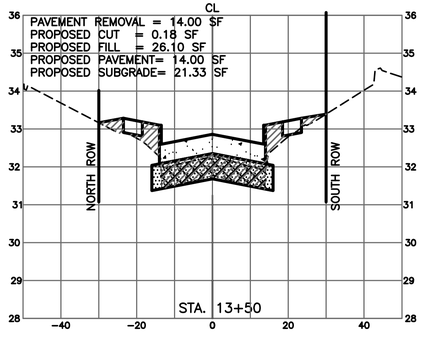


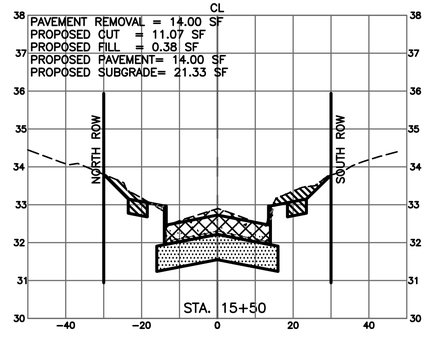












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9000
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS PRINCESS DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 147 OF 175

\\hrghus\data\85130030\cad\dwgs\c\cross sec princess.dwg Plotted May 22, 2026 at 8:31 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	0.00	0.00	0.00	0.00	14.00	14.00	21.33	-	-	-	-	-
PRNCESS DRIVE	150.00	20.22	20.22	0.29	0.00	14.00	14.00	21.33	18.72	0.27	25.93	25.93	39.50
	200.00	8.97	8.97	7.55	0.00	14.00	14.00	21.33	27.03	7.26	25.93	25.93	39.50
	250.00	18.88	18.88	0.27	0.00	14.00	14.00	21.33	25.79	7.24	25.93	25.93	39.50
	300.00	18.75	18.75	0.00	0.00	14.00	14.00	21.33	34.84	0.25	25.93	25.93	39.50
	350.00	14.67	14.67	0.09	0.00	14.00	14.00	21.33	30.94	0.08	25.93	25.93	39.50
	400.00	11.45	11.45	0.31	0.00	14.00	14.00	21.33	24.19	0.37	25.93	25.93	39.50
	450.00	10.64	10.64	1.14	0.00	14.00	14.00	21.33	20.45	1.34	25.93	25.93	39.50
	500.00	9.69	9.69	0.41	0.00	14.00	14.00	21.33	18.82	1.44	25.93	25.93	39.50
	550.00	2.07	2.07	9.55	0.00	14.00	14.00	21.33	10.89	9.22	25.93	25.93	39.50
	600.00	2.03	2.03	13.75	0.00	14.00	14.00	21.33	3.80	21.57	25.93	25.93	39.50
	650.00	1.72	1.72	12.13	0.00	14.00	14.00	21.33	3.47	23.96	25.93	25.93	39.50
	700.00	1.14	1.14	14.39	0.00	14.00	14.00	21.33	2.65	24.56	25.93	25.93	39.50
	750.00	3.15	3.15	10.62	0.00	14.00	14.00	21.33	3.97	23.16	25.93	25.93	39.50
	800.00	5.36	5.36	11.79	0.00	14.00	14.00	21.33	7.88	20.75	25.93	25.93	39.50
	850.00	6.31	6.31	10.51	0.00	14.00	14.00	21.33	10.81	20.65	25.93	25.93	39.50
	900.00	5.01	5.01	7.88	0.00	14.00	14.00	21.33	10.48	17.03	25.93	25.93	39.50
	950.00	7.90	7.90	9.12	0.00	14.00	14.00	21.33	11.95	15.74	25.93	25.93	39.50
	1000.00	11.40	11.40	7.70	0.00	14.00	14.00	21.33	17.87	15.57	25.93	25.93	39.50
	1050.00	5.43	5.43	14.66	0.00	14.00	14.00	21.33	15.58	20.70	25.93	25.93	39.50
	1100.00	6.81	6.81	13.39	0.00	14.00	14.00	21.33	11.33	25.97	25.93	25.93	39.50
	1150.00	2.94	2.94	16.34	0.00	14.00	14.00	21.33	9.03	27.53	25.93	25.93	39.50
	1200.00	0.87	0.87	18.48	0.00	14.00	14.00	21.33	3.53	32.24	25.93	25.93	39.50
	1250.00	0.62	0.62	19.22	0.00	14.00	14.00	21.33	1.38	34.91	25.93	25.93	39.50
	1300.00	1.65	1.65	21.58	0.00	14.00	14.00	21.33	2.10	37.78	25.93	25.93	39.50
	1350.00	0.18	0.18	26.10	0.00	14.00	14.00	21.33	1.69	44.15	25.93	25.93	39.50
	1400.00	0.04	0.04	28.33	0.00	14.00	14.00	21.33	0.20	50.40	25.93	25.93	39.50
	1450.00	0.79	0.79	14.61	0.00	14.00	14.00	21.33	0.77	39.76	25.93	25.93	39.50
	1500.00	7.89	7.89	8.46	0.00	14.00	14.00	21.33	8.04	21.36	25.93	25.93	39.50
	1550.00	11.07	11.07	0.38	0.00	14.00	14.00	21.33	17.56	8.19	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

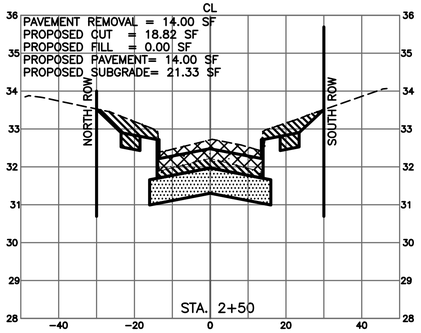
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

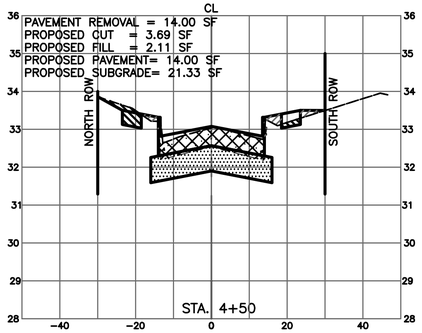
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
PRINCESS DRIVE CROSS SECTION CALCULATION TABLE

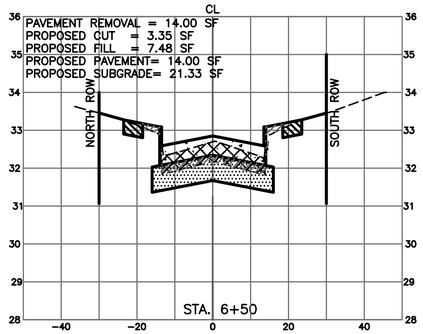
WBS NO. M-410006-0002-4
DRAWING SCALE
NTS
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 148 OF 175

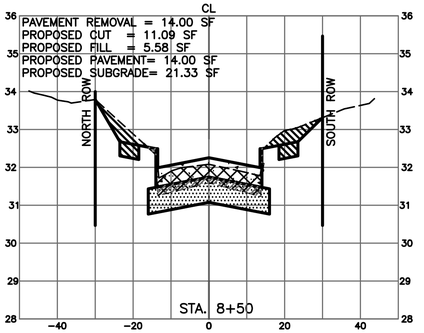
App.
Revisions
Date
No.

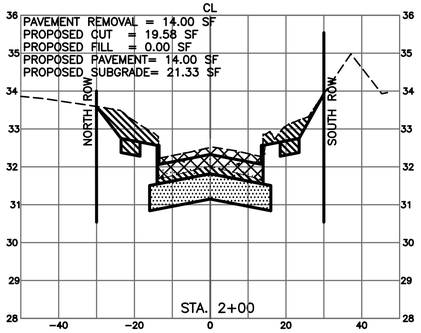
\\hrghua\data\85130030\cad\dwga\c\cross sec x tables.dwg Plotted May 22, 2026 at 8:42 AM by Perez, Abel

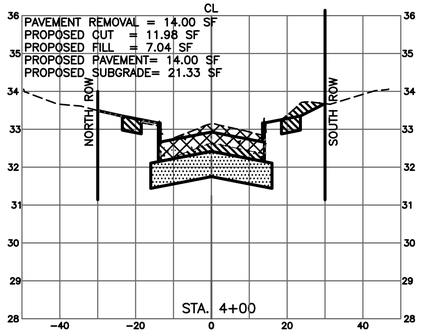


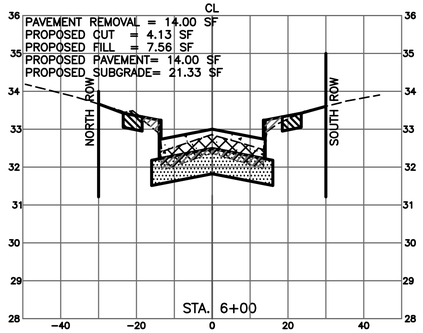


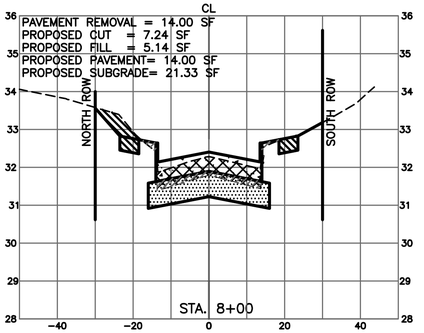


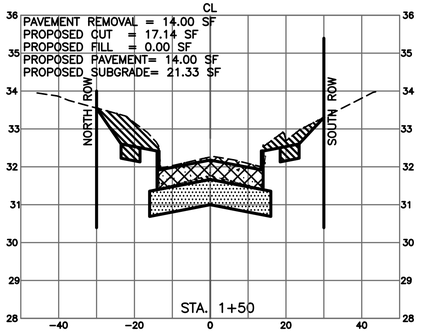


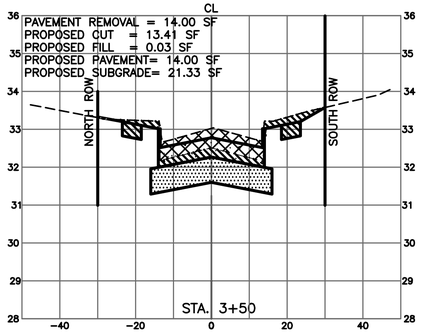


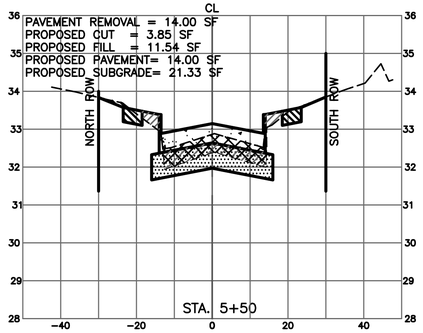


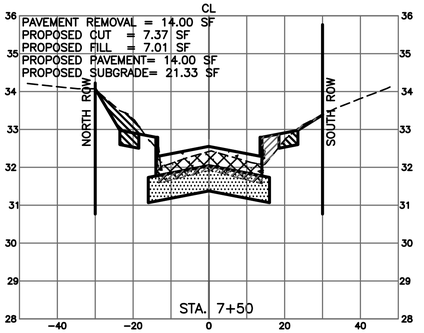


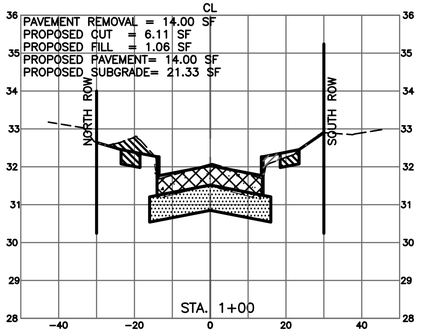


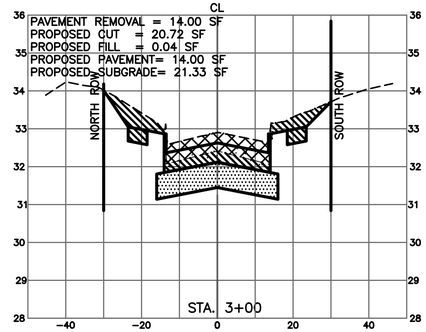


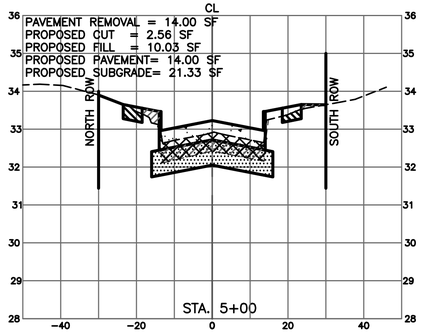


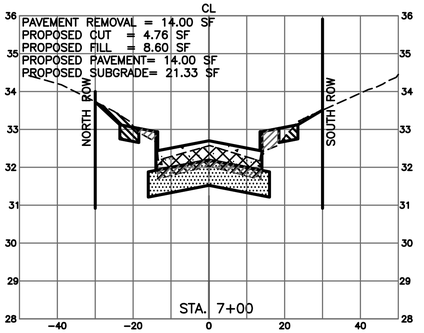












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9000
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON

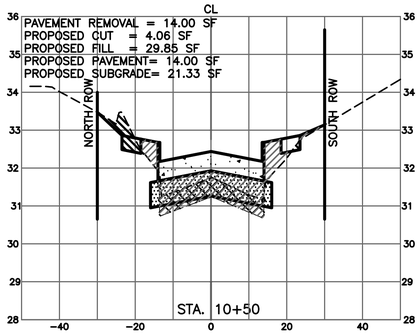
HOUSTON PUBLIC WORKS

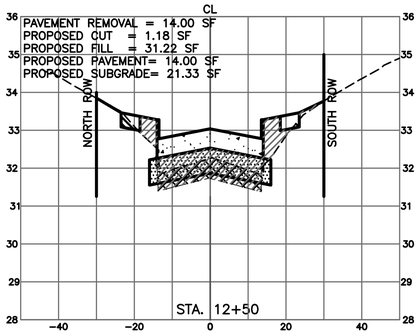
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

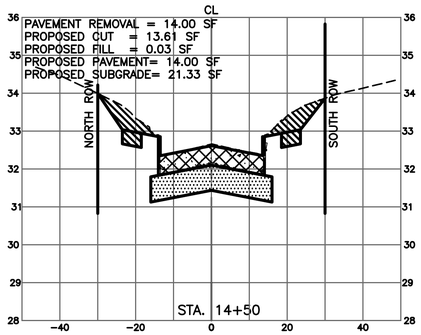
CROSS SECTIONS OUTLOOK DRIVE SHEET 1 OF 2

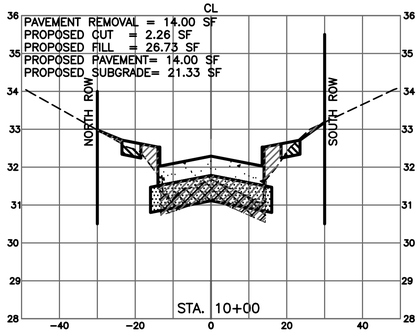
WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 149 OF 175	

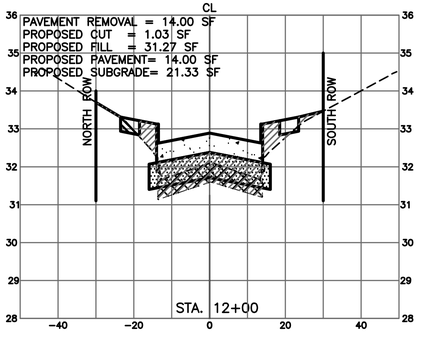
\\hrghus\data\85130030\cad\drga\c\cross sec outlook.dwg Plotted May 22, 2026 at 8:50 AM by Perez, Abel

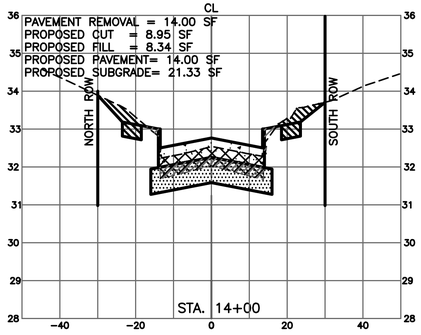


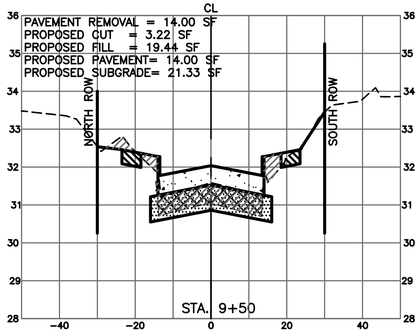


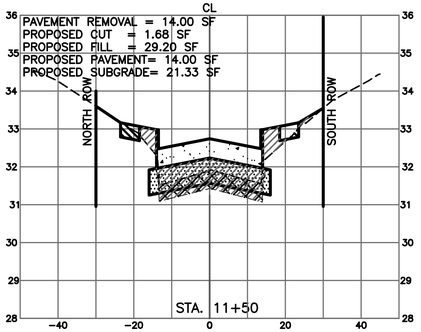


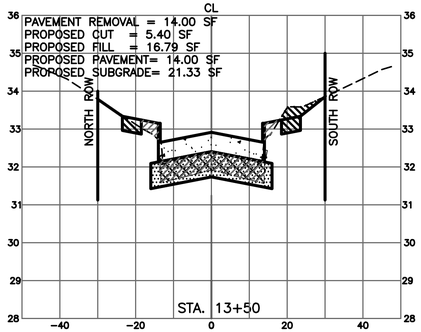


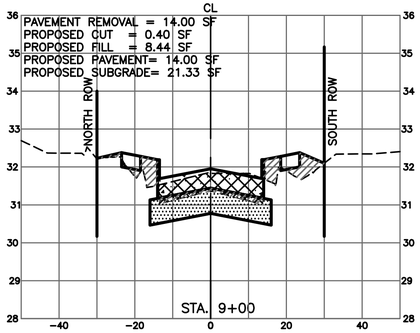


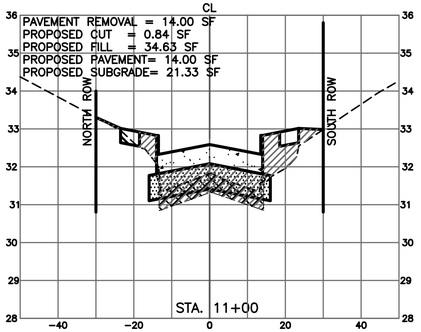


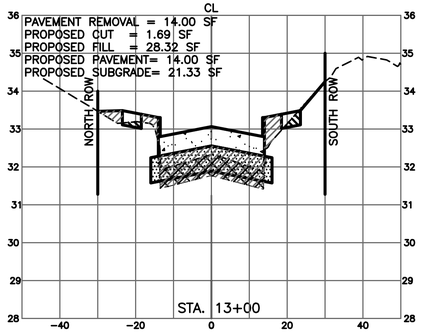


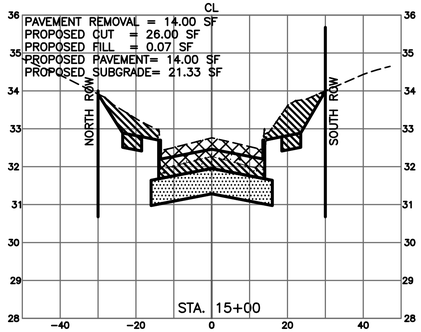












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9098
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
CROSS SECTIONS OUTLOOK DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE
H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

SHEET NO. 150 OF 175

\\hrghua\data\85130030\cad\dwgs\c\cross sec outlook.dwg Plotted May 22, 2026 at 8:35 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	6.11	6.11	1.06	0.00	14.00	14.00	21.33	-	-	-	-	-
OUTLOOK DRIVE	150.00	17.14	17.14	0.00	0.00	14.00	14.00	21.33	21.53	0.98	25.93	25.93	39.50
	200.00	19.58	19.58	0.00	0.00	14.00	14.00	21.33	34.00	0.00	25.93	25.93	39.50
	250.00	18.82	18.82	0.00	0.00	14.00	14.00	21.33	35.56	0.00	25.93	25.93	39.50
	300.00	20.72	20.72	0.04	0.00	14.00	14.00	21.33	36.61	0.04	25.93	25.93	39.50
	350.00	13.41	13.41	0.03	0.00	14.00	14.00	21.33	31.60	0.06	25.93	25.93	39.50
	400.00	11.98	11.98	7.04	0.00	14.00	14.00	21.33	23.51	6.55	25.93	25.93	39.50
	450.00	3.69	3.69	2.11	0.00	14.00	14.00	21.33	14.51	8.47	25.93	25.93	39.50
	500.00	2.56	2.56	10.03	0.00	14.00	14.00	21.33	5.79	11.24	25.93	25.93	39.50
	550.00	3.85	3.85	11.54	0.00	14.00	14.00	21.33	5.94	19.97	25.93	25.93	39.50
	600.00	4.13	4.13	7.56	0.00	14.00	14.00	21.33	7.39	17.69	25.93	25.93	39.50
	650.00	3.35	7.37	7.48	0.00	14.00	14.00	21.33	10.65	13.93	25.93	25.93	39.50
	700.00	4.76	7.24	8.60	0.00	14.00	14.00	21.33	13.53	14.89	25.93	25.93	39.50
	750.00	7.37	7.37	7.01	0.00	14.00	14.00	21.33	13.53	14.45	25.93	25.93	39.50
	800.00	7.24	7.24	5.14	0.00	14.00	14.00	21.33	13.53	11.25	25.93	25.93	39.50
	850.00	11.09	11.09	5.58	0.00	14.00	14.00	21.33	16.97	9.93	25.93	25.93	39.50
	900.00	0.40	0.40	8.44	0.00	14.00	14.00	21.33	10.64	12.98	25.93	25.93	39.50
	950.00	3.22	3.22	19.44	0.00	14.00	14.00	21.33	3.35	25.81	25.93	25.93	39.50
	1000.00	2.26	2.26	26.73	0.00	14.00	14.00	21.33	5.07	42.75	25.93	25.93	39.50
	1050.00	4.06	4.06	29.85	0.00	14.00	14.00	21.33	5.85	52.39	25.93	25.93	39.50
	1100.00	0.84	0.84	34.63	0.00	14.00	14.00	21.33	4.54	59.70	25.93	25.93	39.50
	1150.00	1.68	1.68	29.20	0.00	14.00	14.00	21.33	2.33	59.10	25.93	25.93	39.50
	1200.00	1.03	1.03	31.27	0.00	14.00	14.00	21.33	2.51	55.99	25.93	25.93	39.50
	1250.00	1.18	1.18	31.22	0.00	14.00	14.00	21.33	2.05	57.86	25.93	25.93	39.50
	1300.00	1.69	1.69	28.32	0.00	14.00	14.00	21.33	2.66	55.13	25.93	25.93	39.50
	1350.00	5.40	5.40	16.79	0.00	14.00	14.00	21.33	6.56	41.77	25.93	25.93	39.50
	1400.00	8.95	8.95	8.34	0.00	14.00	14.00	21.33	13.29	23.27	25.93	25.93	39.50
	1450.00	13.61	13.61	0.03	0.00	14.00	14.00	21.33	20.89	7.75	25.93	25.93	39.50
	1500.00	26.00	26.00	0.07	0.00	14.00	14.00	21.33	36.68	0.09	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) OUTLOOK DRIVE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

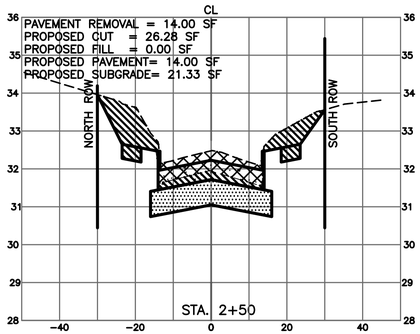
CITY OF HOUSTON PM

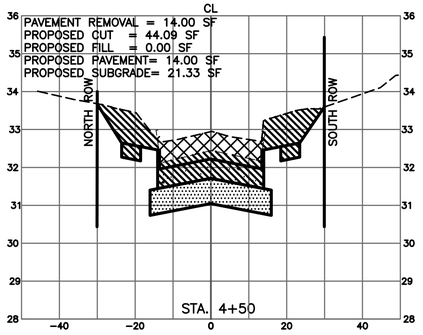
MIGUEL RODRIGUEZ, EIT

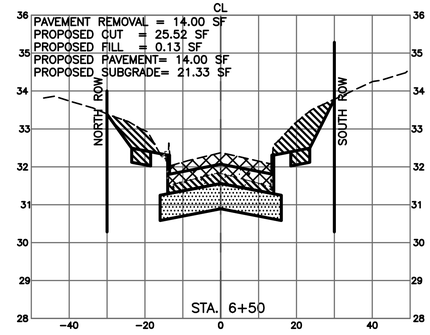
SHEET NO. 151 OF 175

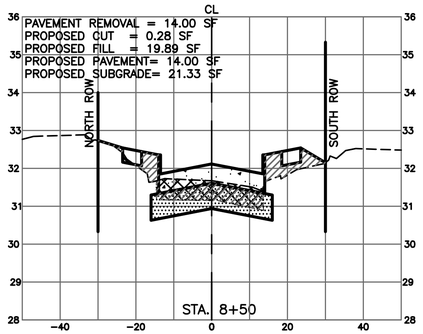
Revisions: No. | Date | App.

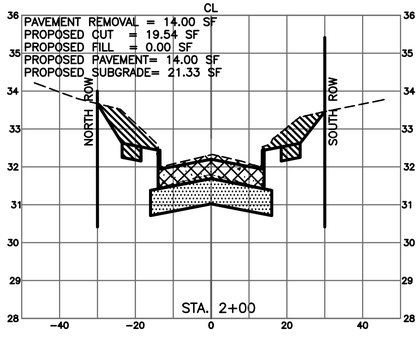
\\hrghus\data\85130030\cad\dwgs\c\cross sec x tables.dwg Plotted May 22, 2026 at 8:34 AM by Perez, Abel

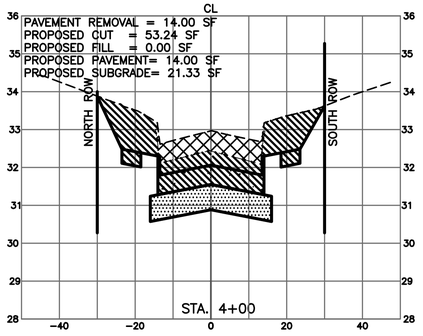


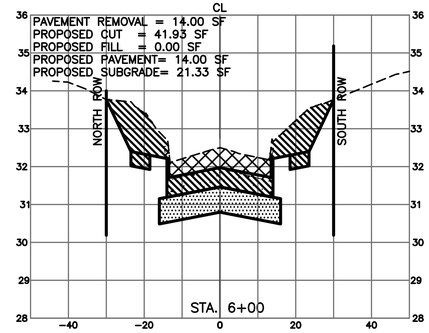


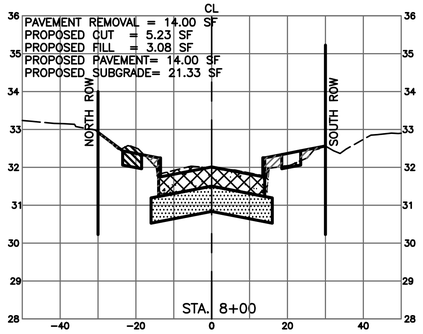


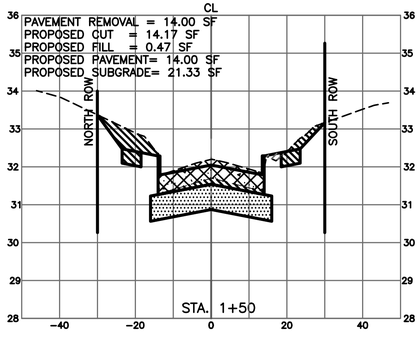


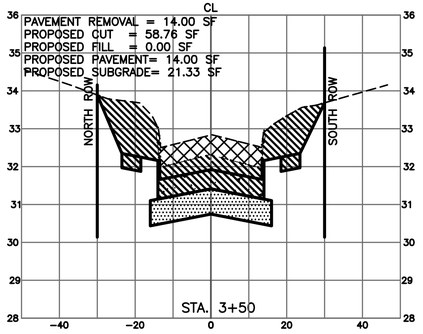


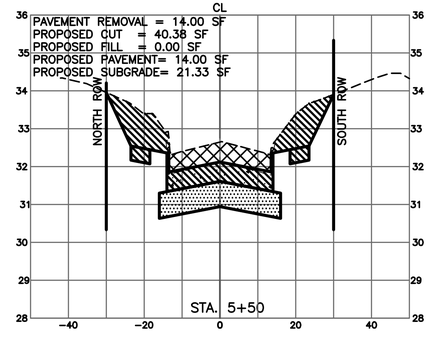


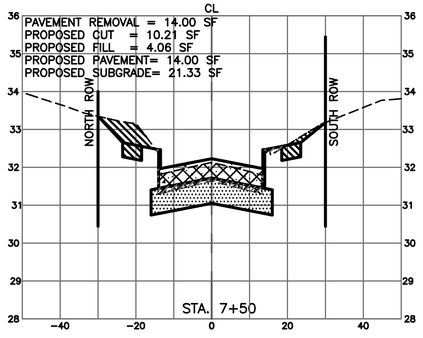


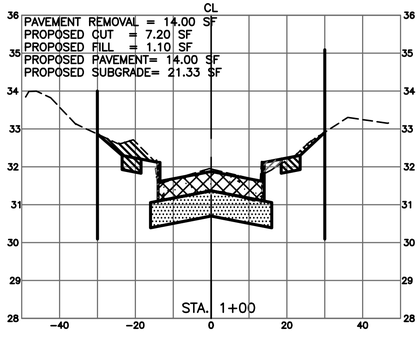


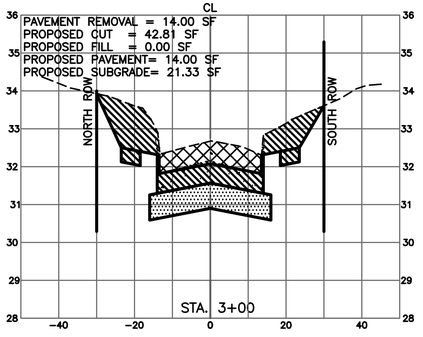


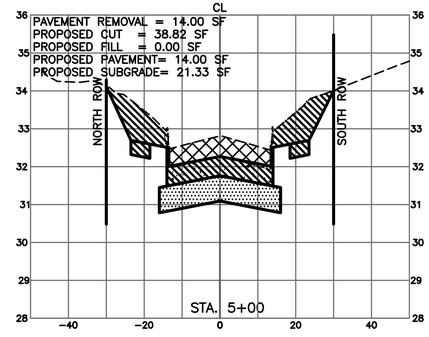


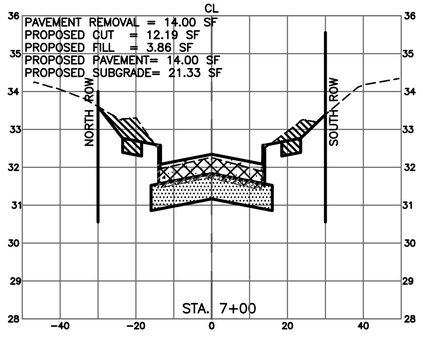












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.5006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

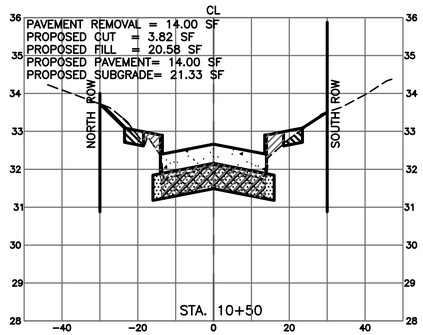
STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

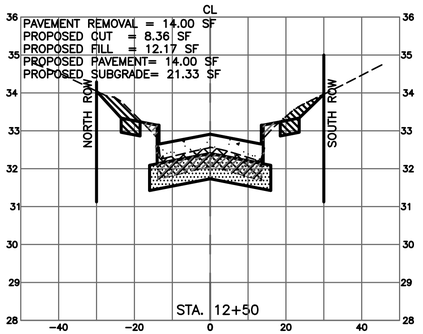
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

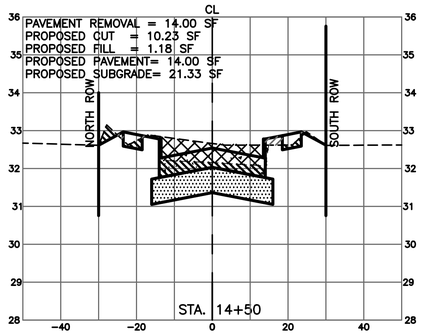
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
CROSS SECTIONS RAVENHEAD DRIVE
SHEET 1 OF 2

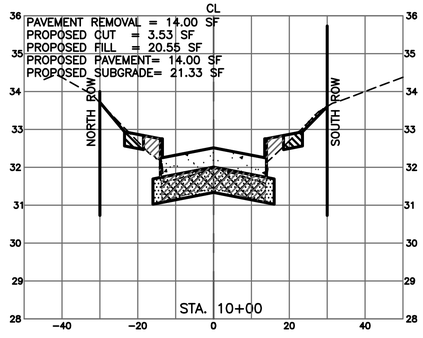
WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 152 OF 175	

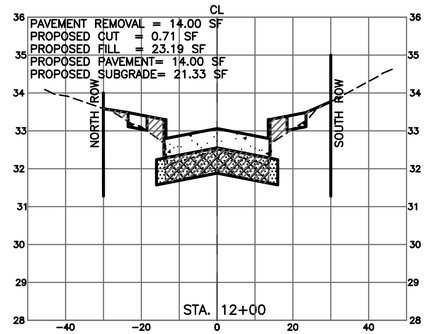
\\hrghus\data\85130030\cad\dwgs\c\cross sec ravenhead.dwg Plotted May 22, 2026 at 9:01 AM by Perez, Abel

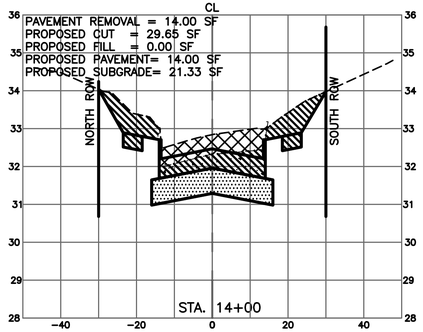


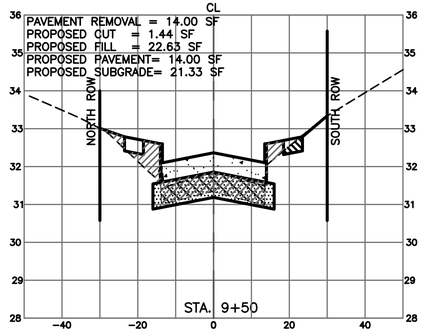


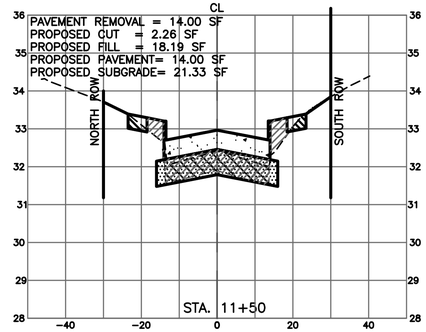


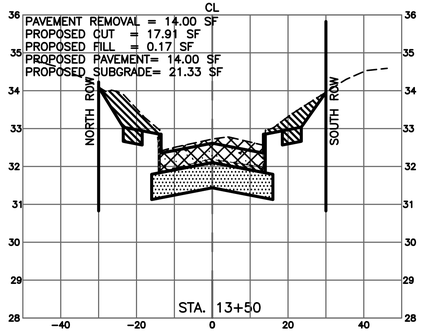


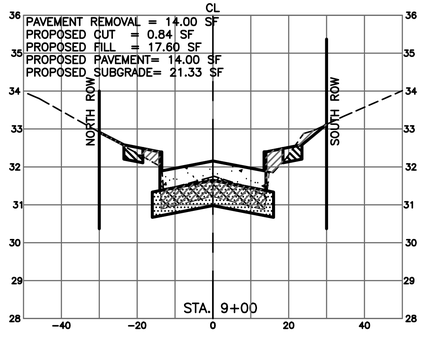


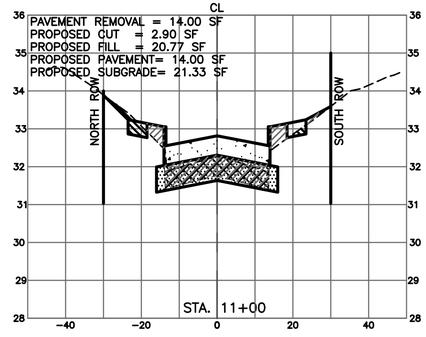


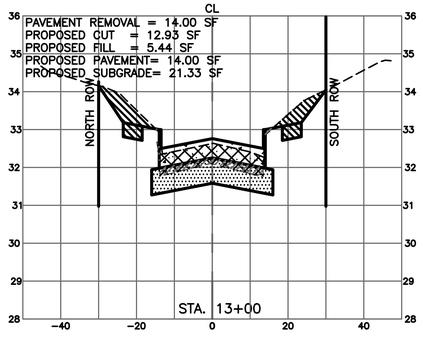












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS RAVENHEAD DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 153 OF 175

\\hrghus\data\85130030\cad\dwga\c\cross sec ravenhead.dwg Plotted May 22, 2026 at 8:57 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	7.20	7.20	1.10	0.00	14.00	14.00	21.33	-	-	-	-	-
RAVENHEAD DRIVE	150.00	14.17	14.17	0.47	0.00	14.00	14.00	21.33	19.79	1.45	25.93	25.93	39.50
	200.00	19.54	19.54	0.00	0.00	14.00	14.00	21.33	31.21	0.44	25.93	25.93	39.50
	250.00	26.28	26.28	0.00	0.00	14.00	14.00	21.33	42.43	0.00	25.93	25.93	39.50
	300.00	42.81	42.81	0.00	0.00	14.00	14.00	21.33	63.97	0.00	25.93	25.93	39.50
	350.00	58.76	58.76	0.00	0.00	14.00	14.00	21.33	94.05	0.00	25.93	25.93	39.50
	400.00	53.24	53.24	0.00	0.00	14.00	14.00	21.33	103.70	0.00	25.93	25.93	39.50
	450.00	44.09	44.09	0.00	0.00	14.00	14.00	21.33	90.12	0.00	25.93	25.93	39.50
	500.00	38.82	38.82	0.00	0.00	14.00	14.00	21.33	76.77	0.00	25.93	25.93	39.50
	550.00	40.38	40.38	0.00	0.00	14.00	14.00	21.33	73.33	0.00	25.93	25.93	39.50
	600.00	41.93	41.93	0.00	0.00	14.00	14.00	21.33	76.21	0.00	25.93	25.93	39.50
	650.00	25.52	25.52	0.13	0.00	14.00	14.00	21.33	62.45	0.12	25.93	25.93	39.50
	700.00	12.19	12.19	3.86	0.00	14.00	14.00	21.33	34.92	3.69	25.93	25.93	39.50
	750.00	10.21	10.21	4.06	0.00	14.00	14.00	21.33	20.74	7.33	25.93	25.93	39.50
	800.00	5.23	5.23	3.08	0.00	14.00	14.00	21.33	14.30	6.61	25.93	25.93	39.50
	850.00	0.28	0.28	19.89	0.00	14.00	14.00	21.33	5.10	21.27	25.93	25.93	39.50
	900.00	0.84	0.84	17.60	0.00	14.00	14.00	21.33	1.04	34.71	25.93	25.93	39.50
	950.00	1.44	1.44	22.63	0.00	14.00	14.00	21.33	2.11	37.25	25.93	25.93	39.50
	1000.00	3.53	3.53	20.55	0.00	14.00	14.00	21.33	4.60	39.98	25.93	25.93	39.50
	1050.00	3.82	3.82	20.58	0.00	14.00	14.00	21.33	6.81	38.08	25.93	25.93	39.50
	1100.00	2.90	2.90	20.77	0.00	14.00	14.00	21.33	6.22	38.29	25.93	25.93	39.50
	1150.00	2.26	2.26	18.19	0.00	14.00	14.00	21.33	4.78	36.07	25.93	25.93	39.50
	1200.00	0.71	0.71	23.19	0.00	14.00	14.00	21.33	2.75	38.31	25.93	25.93	39.50
	1250.00	8.36	8.36	12.17	0.00	14.00	14.00	21.33	8.40	32.74	25.93	25.93	39.50
	1300.00	12.93	12.93	5.44	0.00	14.00	14.00	21.33	19.71	16.31	25.93	25.93	39.50
	1350.00	17.91	17.91	0.17	0.00	14.00	14.00	21.33	28.56	5.19	25.93	25.93	39.50
	1400.00	29.65	29.65	0.00	0.00	14.00	14.00	21.33	44.04	0.16	25.93	25.93	39.50
	1450.00	10.23	10.23	1.18	0.00	14.00	14.00	21.33	36.93	1.09	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) RAVENHEAD DRIVE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

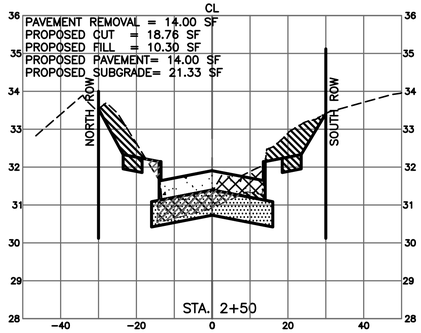
CITY OF HOUSTON PM

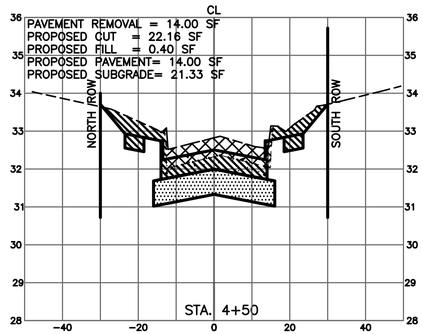
MIGUEL RODRIGUEZ, EIT

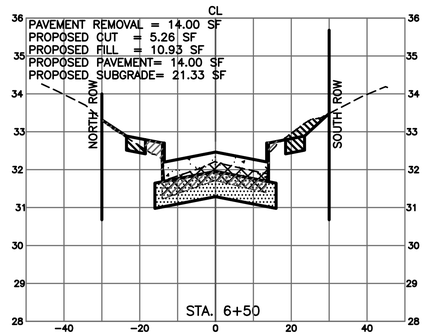
SHEET NO. 154 OF 175

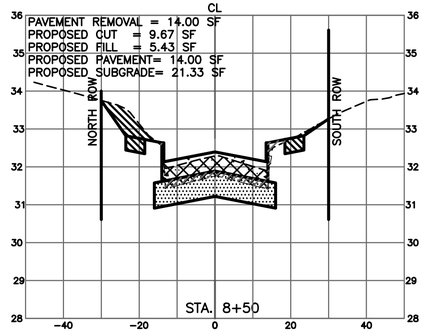
Revisions: App, Date, No.

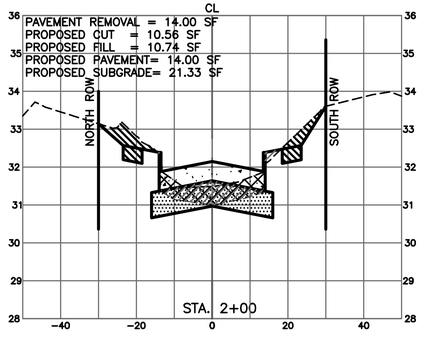
\\hrghus\data\85130030\cad\dwgs\c\cross sec x tables.dwg Plotted May 22, 2026 at 9:23 AM by Perez, Abel

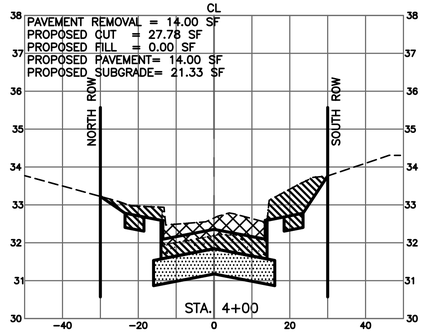


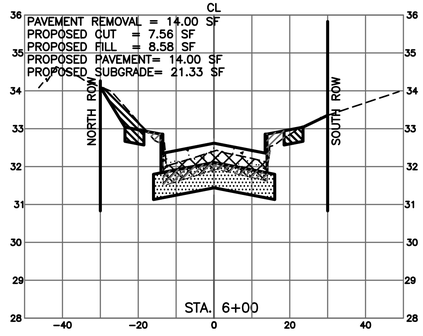


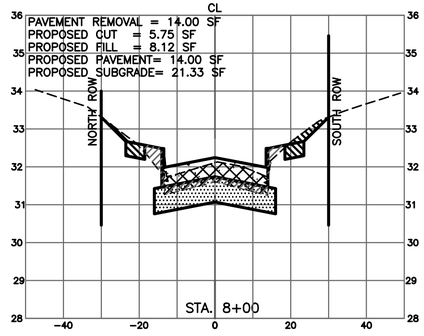


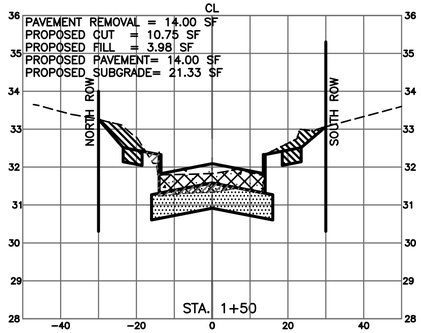


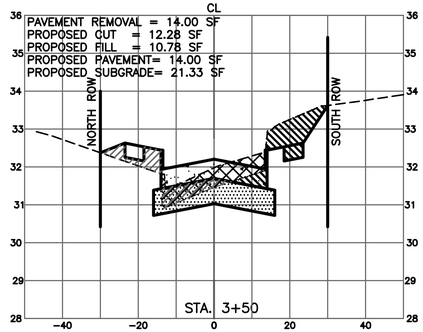


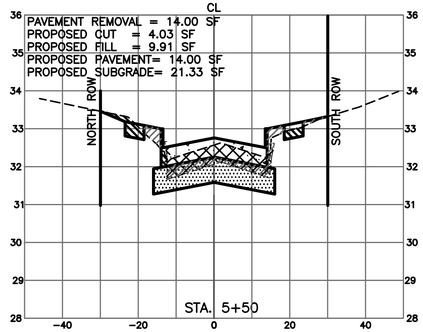


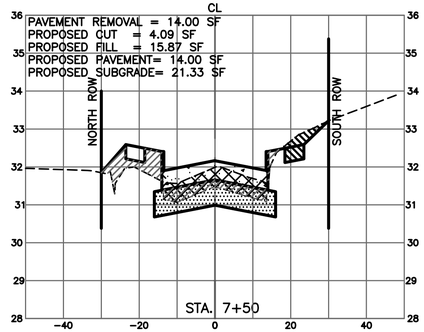


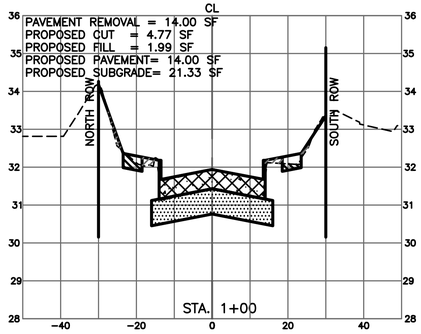


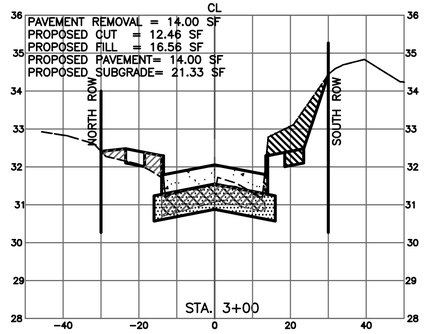


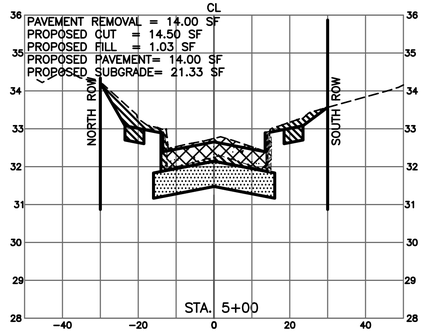


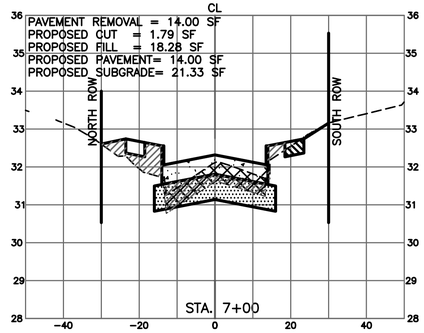












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- — — EXISTING GRADE
- ——— PROPOSED GRADE

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

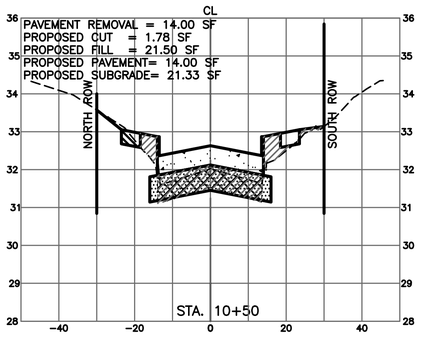
STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

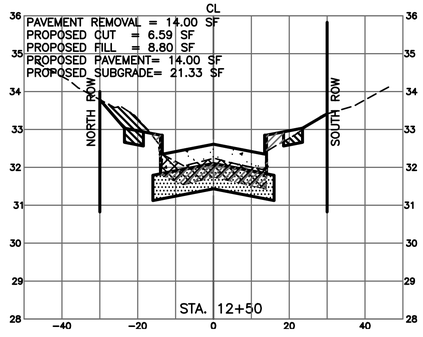
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

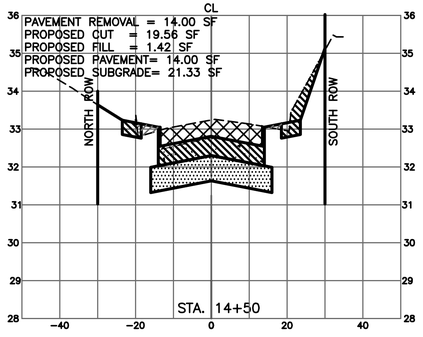
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
CROSS SECTIONS VICEROY DRIVE SHEET 1 OF 2

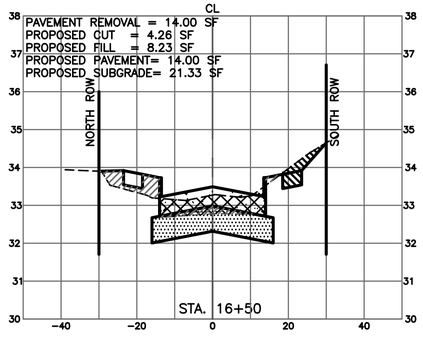
WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 155 OF 175

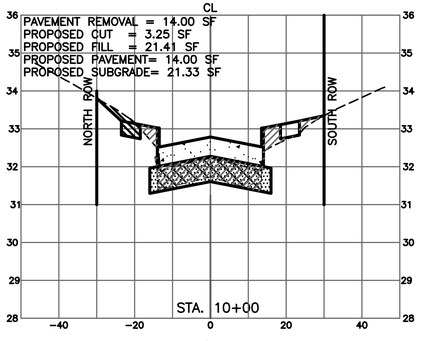
\\hrghus\data\85130030\cad\dwgs\c\cross sec viceroy.dwg Plotted May 22, 2026 at 8:39 AM by Perez, Abel

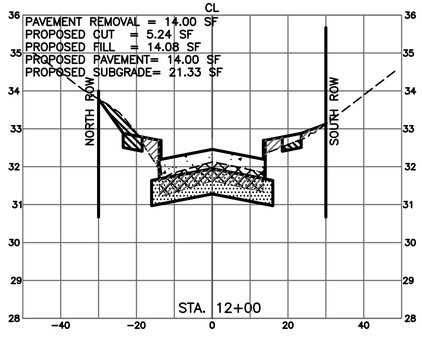


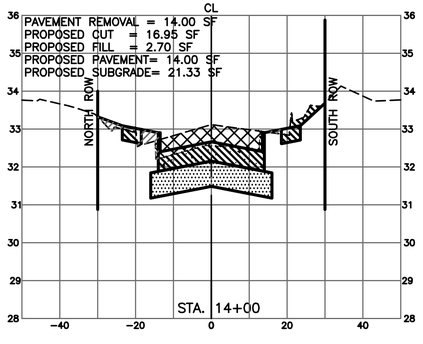


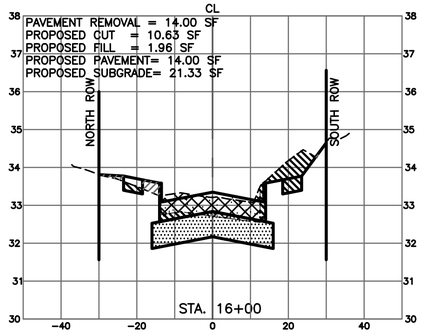


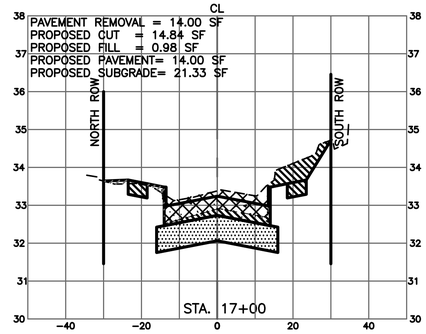


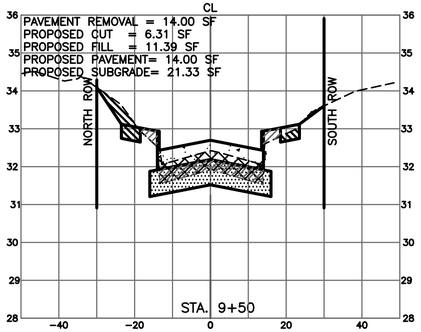


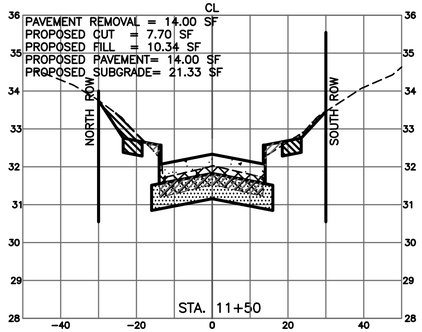


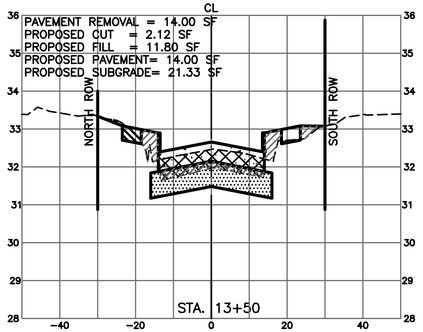


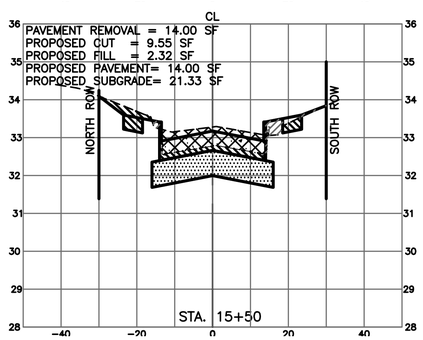


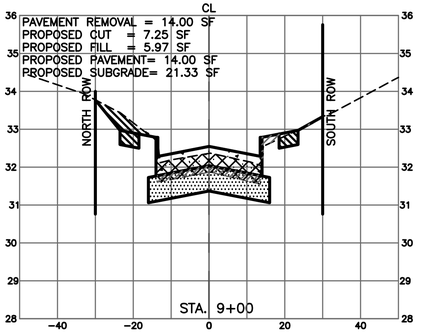


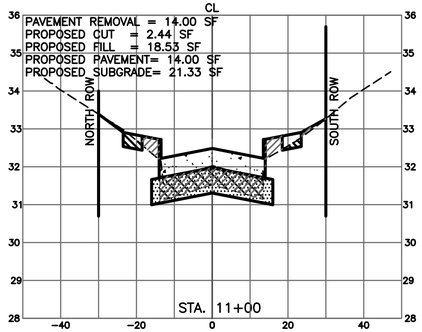


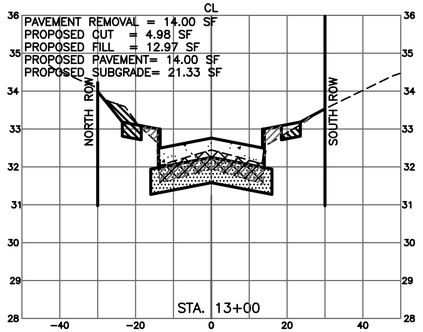


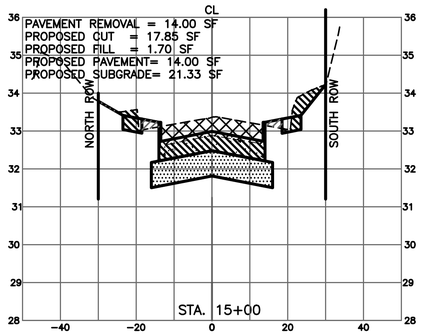












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS VICEROY DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 156 OF 175

\\hrghus\data\85130030\cad\dwgs\c\cross sec viceroy.dwg Plotted May 22, 2026 at 8:53 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	4.77	4.77	1.99	0.00	14.00	14.00	21.33	-	-	-	-	-
VICEROY DRIVE	150.00	10.75	10.75	3.98	0.00	14.00	14.00	21.33	14.37	5.53	25.93	25.93	39.50
	200.00	10.56	10.56	10.74	0.00	14.00	14.00	21.33	19.73	13.63	25.93	25.93	39.50
	250.00	18.76	18.76	10.30	0.00	14.00	14.00	21.33	27.15	19.48	25.93	25.93	39.50
	300.00	12.46	12.46	16.56	0.00	14.00	14.00	21.33	28.91	24.87	25.93	25.93	39.50
	350.00	12.28	12.28	10.78	0.00	14.00	14.00	21.33	22.91	25.31	25.93	25.93	39.50
	400.00	27.78	27.78	0.00	0.00	14.00	14.00	21.33	37.09	9.98	25.93	25.93	39.50
	450.00	22.16	22.16	0.40	0.00	14.00	14.00	21.33	46.24	0.37	25.93	25.93	39.50
	500.00	14.50	14.50	1.03	0.00	14.00	14.00	21.33	33.94	1.32	25.93	25.93	39.50
	550.00	4.03	4.03	9.91	0.00	14.00	14.00	21.33	17.16	10.13	25.93	25.93	39.50
	600.00	7.56	7.56	8.58	0.00	14.00	14.00	21.33	10.73	17.12	25.93	25.93	39.50
	650.00	5.26	5.26	10.93	0.00	14.00	14.00	21.33	11.87	18.06	25.93	25.93	39.50
	700.00	1.79	1.79	18.28	0.00	14.00	14.00	21.33	6.53	27.05	25.93	25.93	39.50
	750.00	4.09	4.09	15.87	0.00	14.00	14.00	21.33	5.44	31.62	25.93	25.93	39.50
	800.00	5.75	5.75	8.12	0.00	14.00	14.00	21.33	9.11	22.21	25.93	25.93	39.50
	850.00	9.67	9.67	5.43	0.00	14.00	14.00	21.33	14.28	12.55	25.93	25.93	39.50
	900.00	7.25	7.25	5.97	0.00	14.00	14.00	21.33	15.67	10.56	25.93	25.93	39.50
	950.00	6.31	6.31	11.39	0.00	14.00	14.00	21.33	12.56	16.07	25.93	25.93	39.50
	1000.00	3.25	3.25	21.41	0.00	14.00	14.00	21.33	8.85	30.37	25.93	25.93	39.50
	1050.00	1.78	1.78	21.50	0.00	14.00	14.00	21.33	4.66	39.73	25.93	25.93	39.50
	1100.00	2.44	2.44	18.53	0.00	14.00	14.00	21.33	3.91	37.06	25.93	25.93	39.50
	1150.00	7.70	7.70	10.34	0.00	14.00	14.00	21.33	9.39	26.73	25.93	25.93	39.50
	1200.00	5.24	5.24	14.08	0.00	14.00	14.00	21.33	11.98	22.61	25.93	25.93	39.50
	1250.00	6.59	6.59	8.80	0.00	14.00	14.00	21.33	10.95	21.19	25.93	25.93	39.50
	1300.00	4.98	4.98	12.97	0.00	14.00	14.00	21.33	10.71	20.16	25.93	25.93	39.50
	1350.00	2.12	2.12	11.80	0.00	14.00	14.00	21.33	6.57	22.94	25.93	25.93	39.50
	1400.00	16.95	16.95	2.70	0.00	14.00	14.00	21.33	17.66	13.43	25.93	25.93	39.50
	1450.00	19.56	19.56	1.42	0.00	14.00	14.00	21.33	33.81	3.81	25.93	25.93	39.50
	1500.00	17.85	17.85	1.70	0.00	14.00	14.00	21.33	34.64	2.89	25.93	25.93	39.50
	1550.00	9.55	9.55	2.32	0.00	14.00	14.00	21.33	25.37	3.72	25.93	25.93	39.50
	1600.00	10.63	10.63	1.96	0.00	14.00	14.00	21.33	18.69	3.96	25.93	25.93	39.50
	1650.00	4.26	4.26	8.23	0.00	14.00	14.00	21.33	13.79	9.44	25.93	25.93	39.50
	1700.00	14.84	14.84	0.98	0.00	14.00	14.00	21.33	17.69	8.53	25.93	25.93	39.50
	1720.00	0.00	0.00	0.00	0.00	14.00	14.00	21.33	5.50	0.36	10.37	10.37	15.80

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.6006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) VICEROY DRIVE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

CITY OF HOUSTON PM

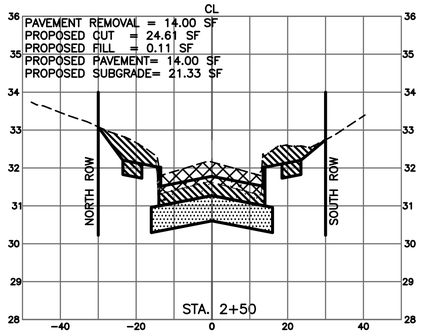
MIGUEL RODRIGUEZ, EIT

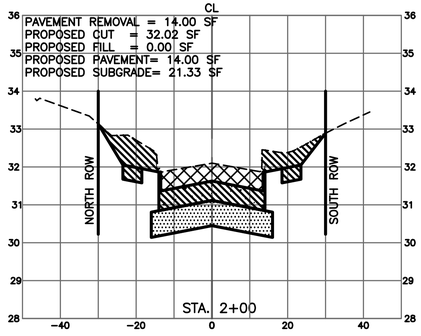
SHEET NO. 157 OF 175

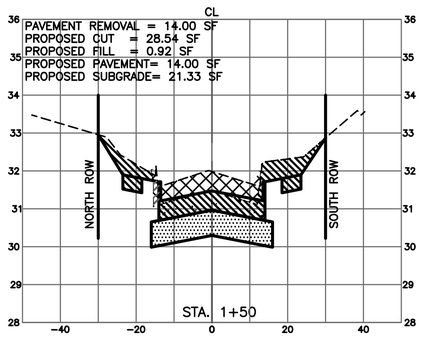
Revisions

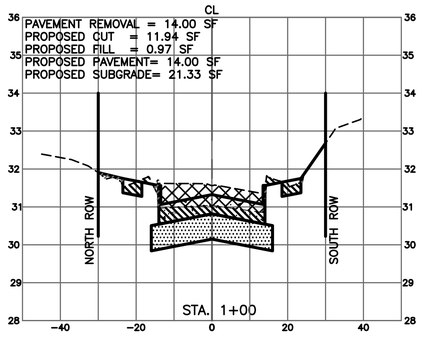
App. | No. | Date

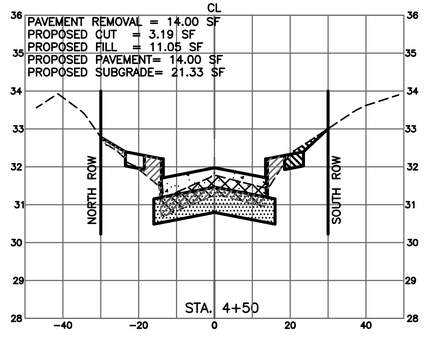
\\hrghus\data\85130030\cad\dwgs\c\cross sec x tables.dwg Plotted May 22, 2026 at 9:17 AM by Perez, Abel

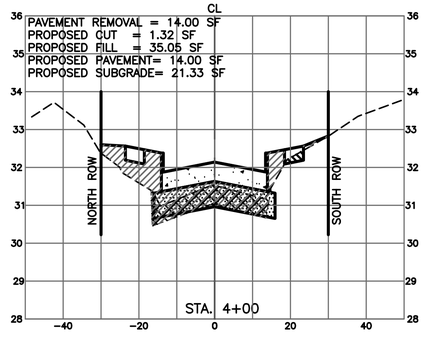


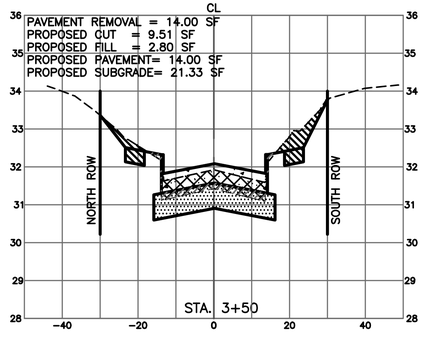


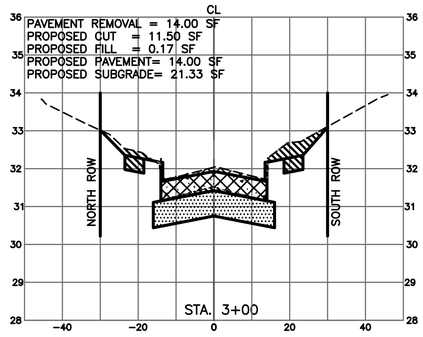


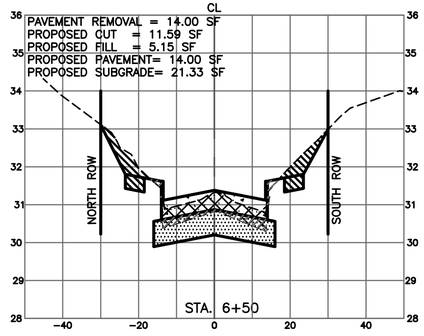


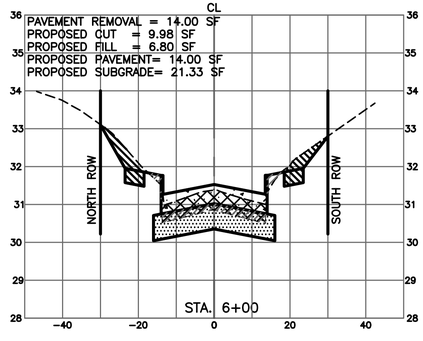


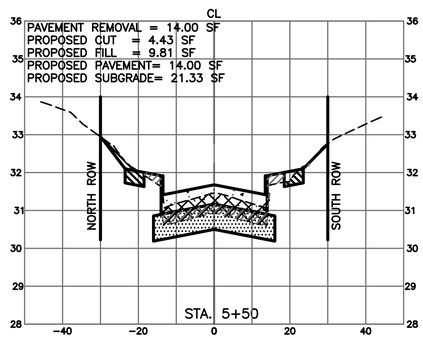


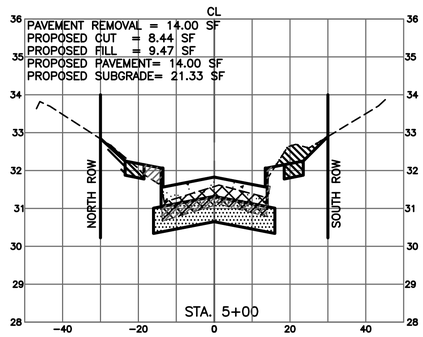


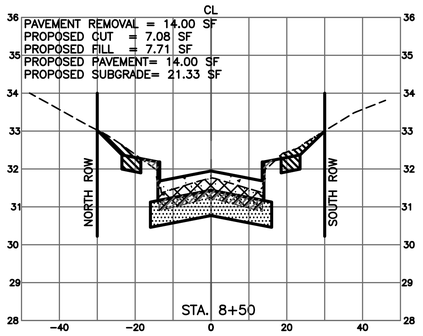


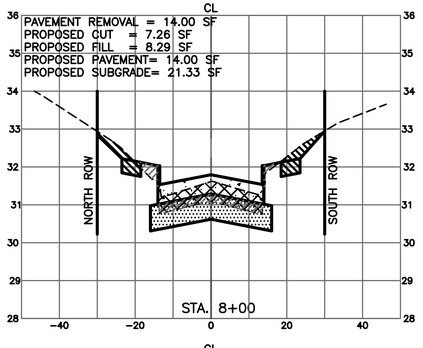


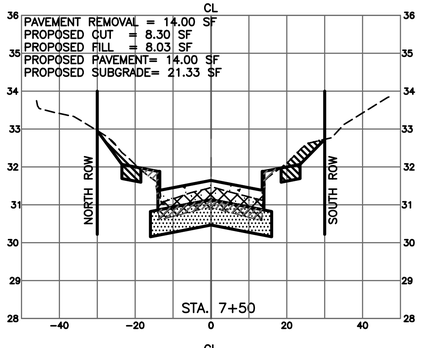


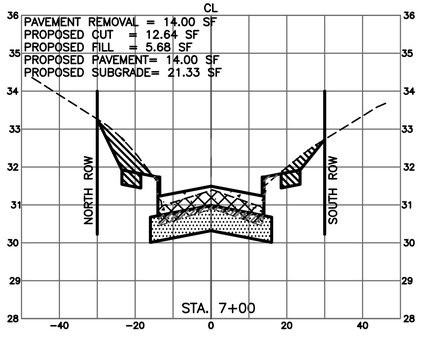












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

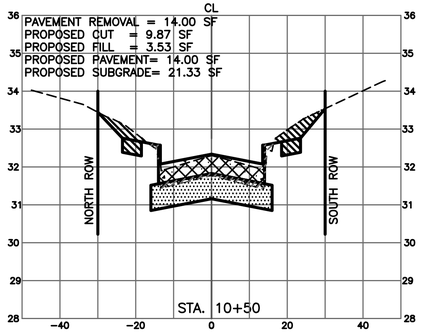
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

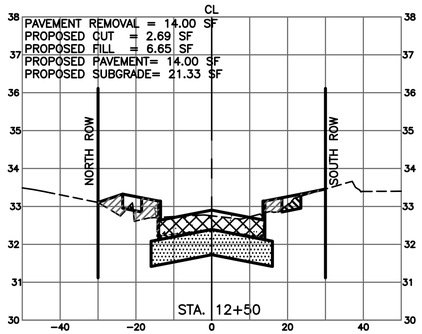
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

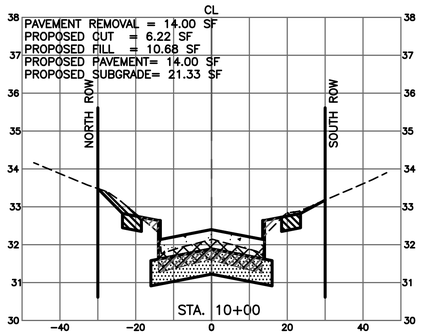
CROSS SECTIONS CORONATION DRIVE SHEET 1 OF 2

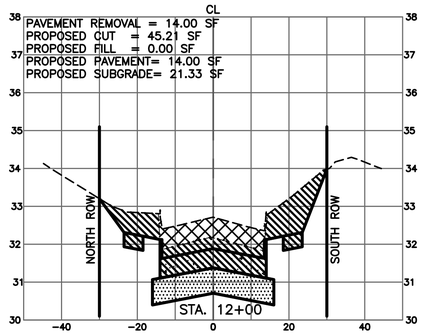
WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 158 OF 175

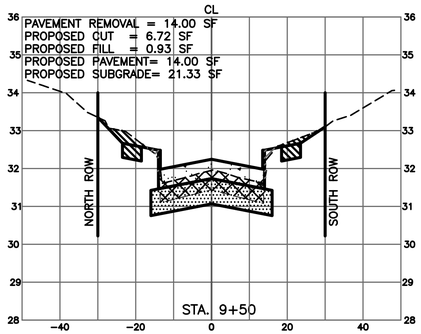
\\hrghus\data\85130030\cad\dwgs\c\cross sec coronation.dwg Plotted May 22, 2026 at 8:33 AM by Perez, Abel

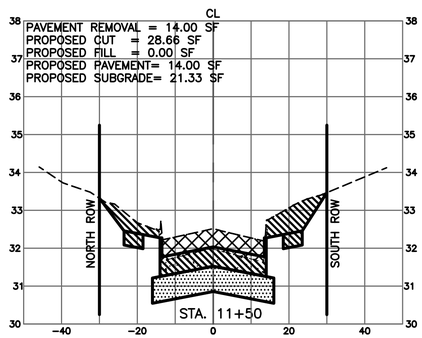


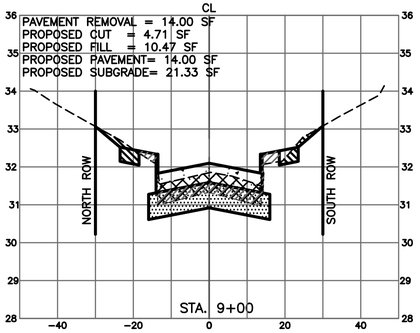


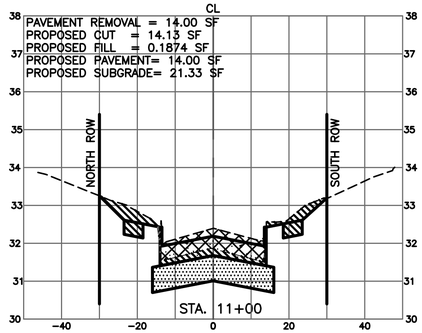












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
CROSS SECTIONS CORONATION DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE
H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

SHEET NO. 159 OF 175

\\hrghus\data\85130030\cad\dwga\c\cross sec coronation.dwg Plotted May 22, 2026 at 9:16 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	11.94	11.94	0.87	0.00	14.00	14.00	21.33	-	-	-	-	-
CORONATION DRIVE	150.00	28.54	28.54	0.92	0.00	14.00	14.00	21.33	37.48	1.66	25.93	25.93	39.50
	200.00	32.02	32.02	0.00	0.00	14.00	14.00	21.33	56.07	0.85	25.93	25.93	39.50
	250.00	24.61	24.61	0.11	0.00	14.00	14.00	21.33	52.44	0.10	25.93	25.93	39.50
	300.00	11.50	11.50	0.17	0.00	14.00	14.00	21.33	33.44	0.26	25.93	25.93	39.50
	350.00	9.51	9.51	2.80	0.00	14.00	14.00	21.33	19.45	2.75	25.93	25.93	39.50
	400.00	1.32	1.32	35.05	0.00	14.00	14.00	21.33	10.03	35.05	25.93	25.93	39.50
	450.00	3.19	3.19	11.05	0.00	14.00	14.00	21.33	4.18	42.69	25.93	25.93	39.50
	500.00	8.44	8.44	9.47	0.00	14.00	14.00	21.33	10.77	19.00	25.93	25.93	39.50
	550.00	4.43	4.43	9.81	0.00	14.00	14.00	21.33	11.92	17.85	25.93	25.93	39.50
	600.00	9.98	9.98	6.80	0.00	14.00	14.00	21.33	13.34	15.38	25.93	25.93	39.50
	650.00	11.59	11.59	5.15	0.00	14.00	14.00	21.33	19.97	11.06	25.93	25.93	39.50
	700.00	12.64	5.59	2.74	0.00	14.00	14.00	21.33	15.91	7.31	25.93	25.93	39.50
	750.00	8.30	8.30	8.03	0.00	14.00	14.00	21.33	12.86	9.97	25.93	25.93	39.50
	800.00	7.26	7.26	8.29	0.00	14.00	14.00	21.33	14.41	15.11	25.93	25.93	39.50
	850.00	7.08	7.08	7.71	0.00	14.00	14.00	21.33	13.28	14.81	25.93	25.93	39.50
	900.00	4.71	4.71	10.47	0.00	14.00	14.00	21.33	10.92	16.83	25.93	25.93	39.50
	950.00	6.72	6.72	0.93	0.00	14.00	14.00	21.33	10.58	10.56	25.93	25.93	39.50
	1000.00	6.22	6.22	10.68	0.00	14.00	14.00	21.33	11.98	10.75	25.93	25.93	39.50
	1050.00	9.87	9.87	3.53	0.00	14.00	14.00	21.33	14.90	13.16	25.93	25.93	39.50
	1100.00	14.13	14.13	0.18	0.00	14.00	14.00	21.33	22.22	3.44	25.93	25.93	39.50
	1150.00	28.66	28.66	0.00	0.00	14.00	14.00	21.33	39.62	0.17	25.93	25.93	39.50
	1200.00	45.21	45.21	0.00	0.00	14.00	14.00	21.33	68.40	0.00	25.93	25.93	39.50
	1250.00	2.69	2.69	6.65	0.00	14.00	14.00	21.33	44.35	6.16	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) CORONATION DRIVE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

CITY OF HOUSTON PM

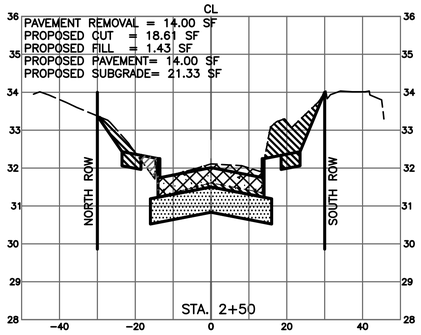
MIGUEL RODRIGUEZ, EIT

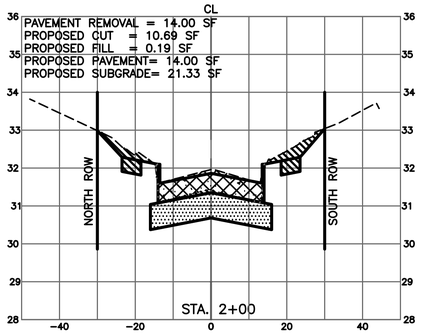
SHEET NO. 160 OF 175

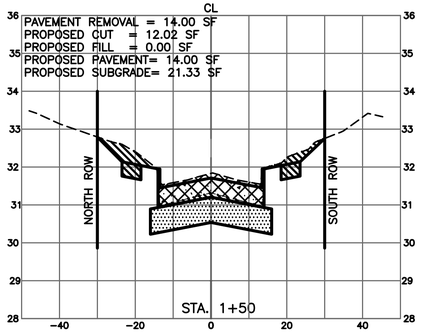
Revisions

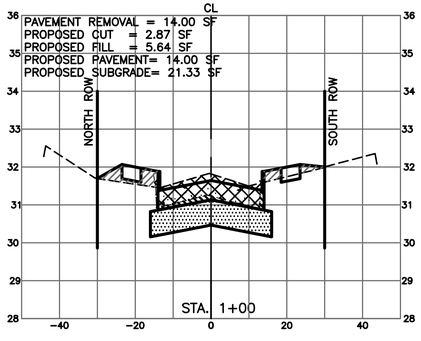
No.	Date	App.

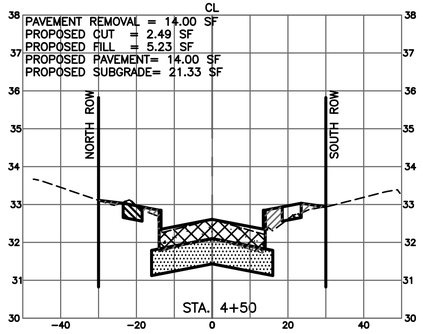
\\hrghus\data\85130030\cad\dwga\c\cross sec x tables.dwg Plotted May 22, 2026 at 9:00 AM by Perez, Abel

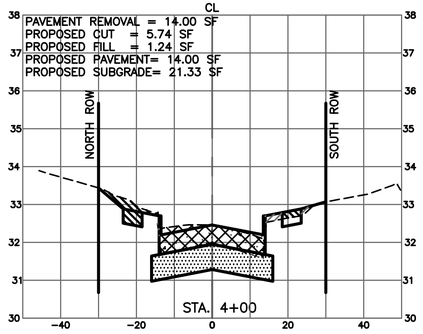


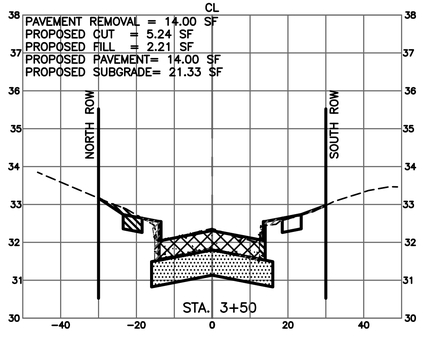


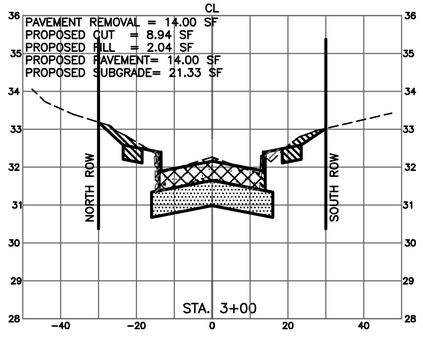


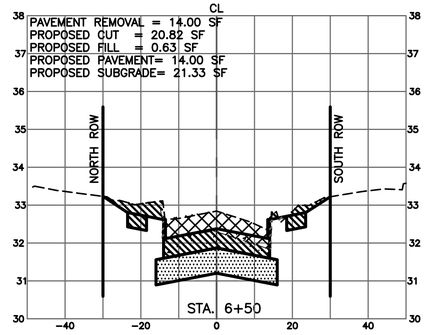


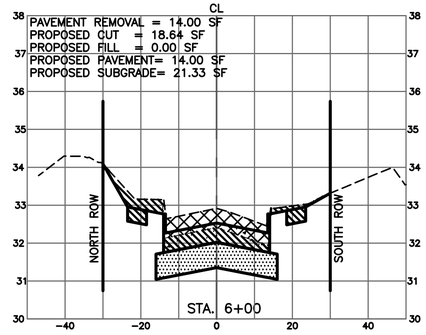


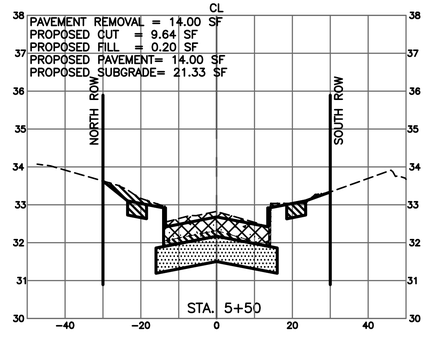


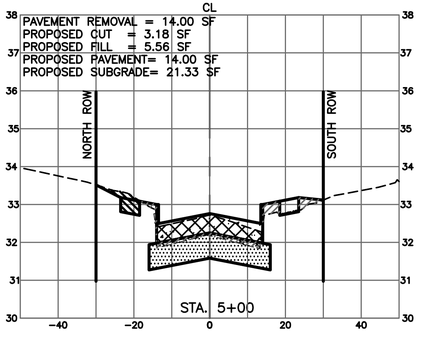


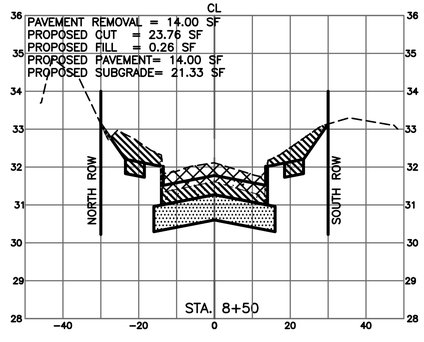


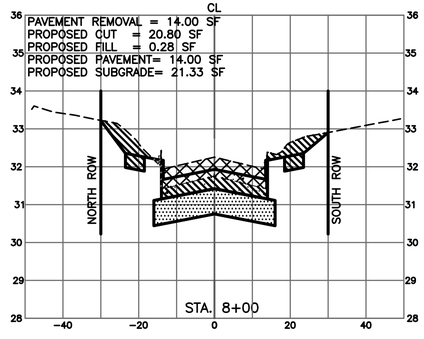


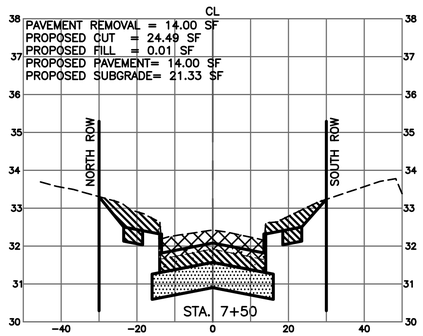


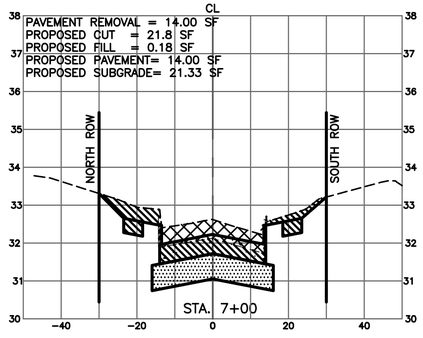












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON

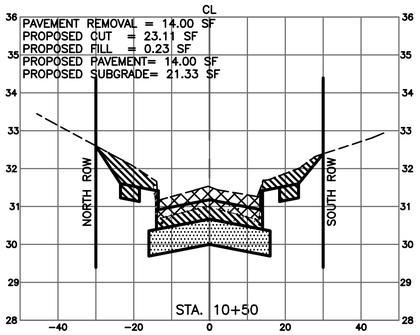
HOUSTON PUBLIC WORKS

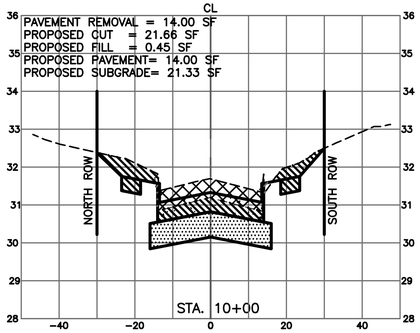
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

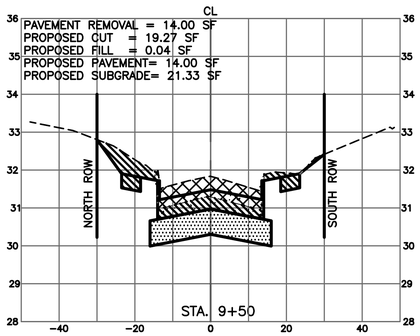
CROSS SECTIONS PARLIAMENT DRIVE SHEET 1 OF 2

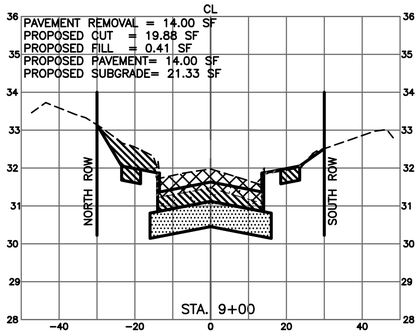
WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 161 OF 175	

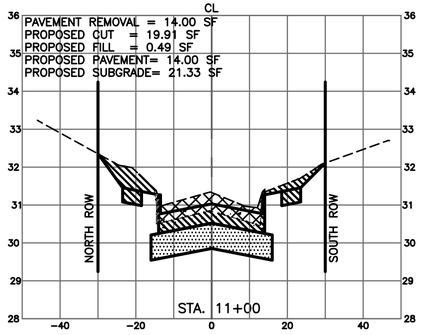
\\hrghus\data\85130030\cad\dwgs\c\cross sec parliament.dwg Plotted May 22, 2026 at 9:06 AM by Perez, Abel











LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
CROSS SECTIONS PARLIAMENT DRIVE SHEET 2 OF 2

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 162 OF 175	

\\hrghus\data\85130030\cad\dwga\c\cross sec parliament.dwg Plotted May 22, 2026 at 9:11 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	100.00	2.87	2.87	5.64	0.00	14.00	14.00	21.33	-	-	-	-	-
PARLIAMENT DRIVE	150.00	12.02	12.02	0.00	0.00	14.00	14.00	21.33	13.79	5.22	25.93	25.93	39.50
	200.00	10.69	10.69	0.19	0.00	14.00	14.00	21.33	21.03	0.18	25.93	25.93	39.50
	250.00	18.61	18.61	1.43	0.00	14.00	14.00	21.33	27.13	1.50	25.93	25.93	39.50
	300.00	8.94	8.94	2.04	0.00	14.00	14.00	21.33	25.51	3.21	25.93	25.93	39.50
	350.00	5.24	5.24	2.21	0.00	14.00	14.00	21.33	13.13	3.94	25.93	25.93	39.50
	400.00	5.74	5.74	1.24	0.00	14.00	14.00	21.33	10.17	3.19	25.93	25.93	39.50
	450.00	2.49	2.49	5.23	0.00	14.00	14.00	21.33	7.62	5.99	25.93	25.93	39.50
	500.00	3.18	3.18	5.56	0.00	14.00	14.00	21.33	5.25	9.99	25.93	25.93	39.50
	550.00	9.64	9.64	0.20	0.00	14.00	14.00	21.33	11.87	5.33	25.93	25.93	39.50
	600.00	18.24	18.24	0.00	0.00	14.00	14.00	21.33	25.81	0.19	25.93	25.93	39.50
	650.00	20.82	20.82	0.63	0.00	14.00	14.00	21.33	36.17	0.58	25.93	25.93	39.50
	700.00	21.80	21.80	0.18	0.00	14.00	14.00	21.33	39.46	0.75	25.93	25.93	39.50
	750.00	24.49	24.49	0.01	0.00	14.00	14.00	21.33	42.86	0.18	25.93	25.93	39.50
	800.00	20.80	20.80	0.28	0.00	14.00	14.00	21.33	41.94	0.27	25.93	25.93	39.50
	850.00	23.76	23.76	0.26	0.00	14.00	14.00	21.33	41.26	0.50	25.93	25.93	39.50
	900.00	19.88	19.88	0.41	0.00	14.00	14.00	21.33	40.41	0.62	25.93	25.93	39.50
	950.00	19.27	19.27	0.04	0.00	14.00	14.00	21.33	36.25	0.42	25.93	25.93	39.50
	1000.00	21.66	21.66	0.45	0.00	14.00	14.00	21.33	37.90	0.45	25.93	25.93	39.50
	1050.00	19.91	19.91	0.49	0.00	14.00	14.00	21.33	38.49	0.87	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) PARLIAMENT DRIVE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

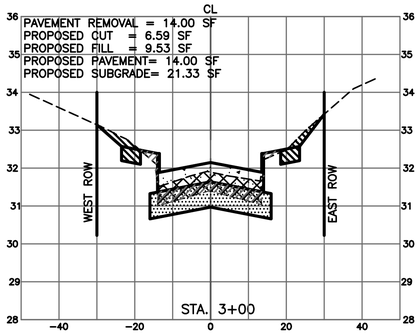
CITY OF HOUSTON PM

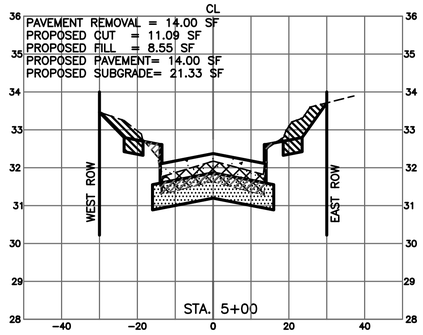
MIGUEL RODRIGUEZ, EIT

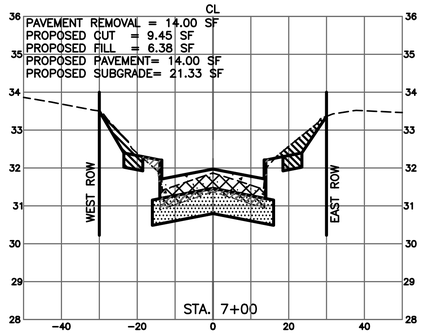
SHEET NO. 163 OF 175

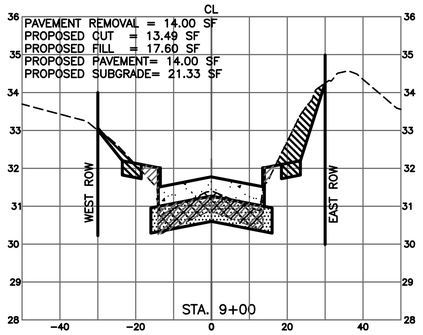
Rev. | Revisions | Date | App.

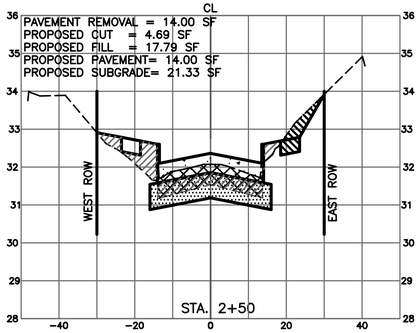
\\hrghua\data\85130030\cad\dwgs\c\cross sec x tables.dwg Plotted May 22, 2026 at 8:35 AM by Perez, Abel

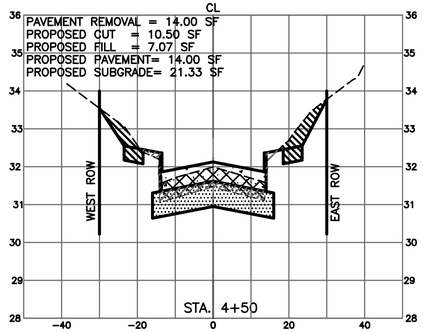


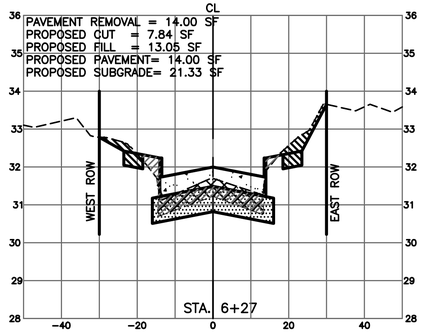


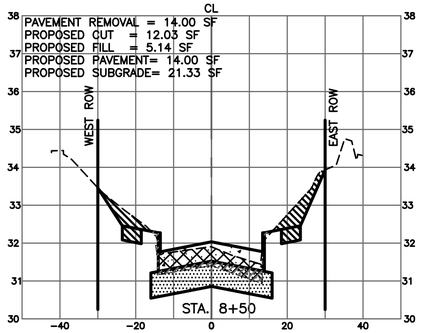


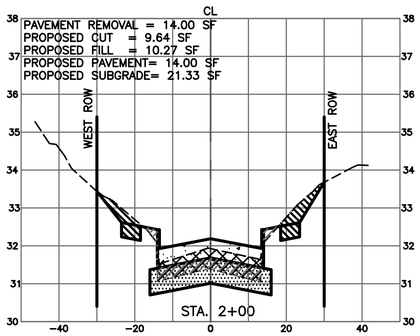


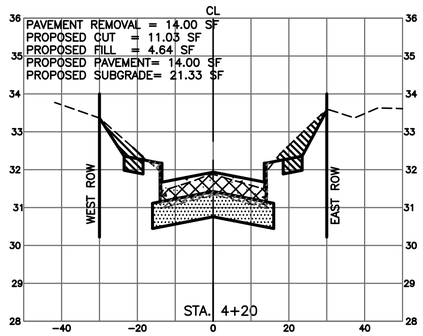


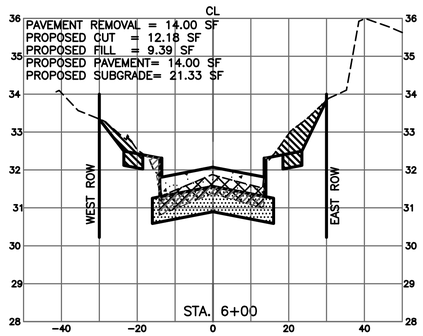


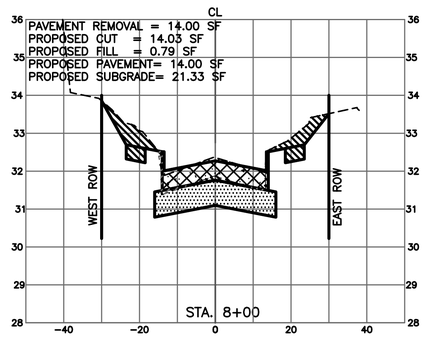


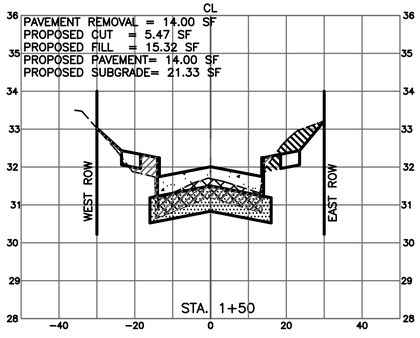


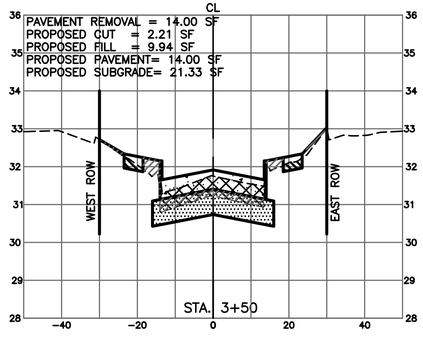


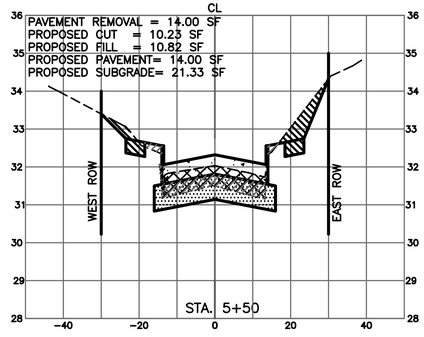


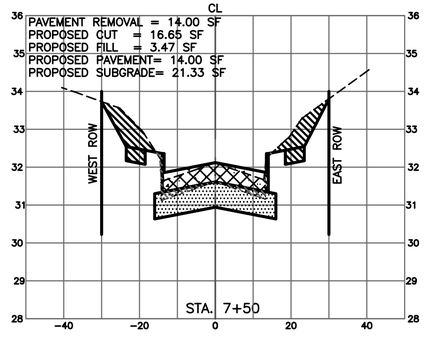












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS DARLENE LANE SHEET 1 OF 2

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

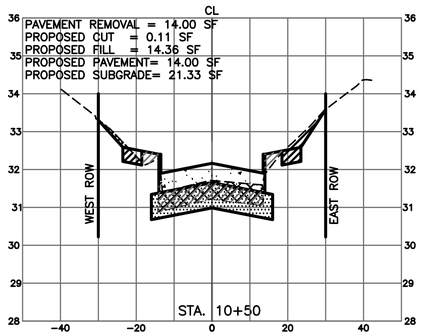
MIGUEL RODRIGUEZ, EIT

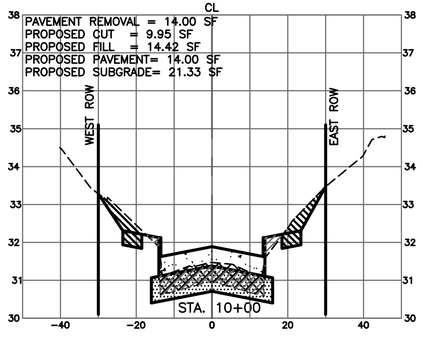
SHEET NO. 164 OF 175

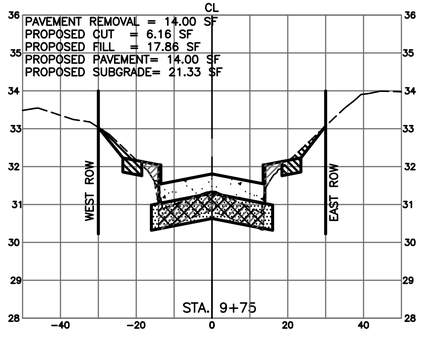
\\hrghus\data\85130030\cad\drga\c\cross sec darlene.dwg Plotted May 22, 2026 at 9:25 AM by Perez, Abel

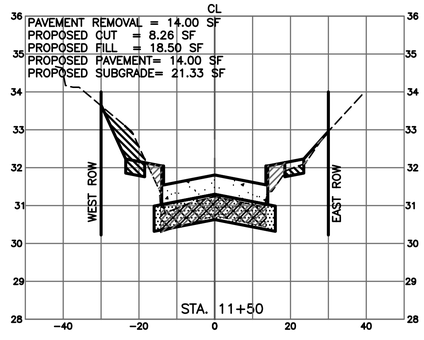
LEGEND

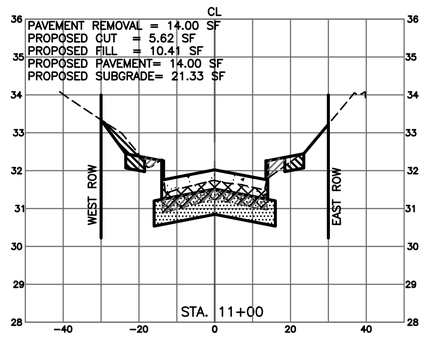
- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE











No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS DARLENE LANE SHEET 2 OF 2

WBS NO. M-410006-0002-4	
DRAWING SCALE	
H: 1"=20' (FULL) V: 1"=2' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 165 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\cross sec darlene.dwg Plotted May 22, 2026 at 8:33 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	150.00	5.47	5.47	15.32	0.00	14.00	14.00	21.33	-	-	-	-	-
DARLENE LANE	200.00	9.64	9.64	10.27	0.00	14.00	14.00	21.33	13.99	23.69	25.93	25.93	39.50
	250.00	4.69	4.69	17.79	0.00	14.00	14.00	21.33	13.27	25.98	25.93	25.93	39.50
	300.00	6.59	6.59	9.53	0.00	14.00	14.00	21.33	10.44	25.30	25.93	25.93	39.50
	350.00	2.21	2.21	9.94	0.00	14.00	14.00	21.33	8.15	18.03	25.93	25.93	39.50
	420.00	11.03	11.03	4.64	0.00	14.00	14.00	21.33	17.16	18.90	36.30	36.30	55.30
	450.00	10.50	10.50	7.07	0.00	14.00	14.00	21.33	11.96	6.51	15.56	15.56	23.70
	500.00	11.09	11.09	8.55	0.00	14.00	14.00	21.33	19.99	14.46	25.93	25.93	39.50
	550.00	10.23	10.23	10.82	0.00	14.00	14.00	21.33	19.74	17.94	25.93	25.93	39.50
	600.00	12.18	12.18	9.39	0.00	14.00	14.00	21.33	20.75	18.71	25.93	25.93	39.50
	627.00	7.84	7.84	13.03	0.00	14.00	14.00	21.33	10.01	11.21	14.00	14.00	21.33
	700.00	9.45	9.45	6.38	0.00	14.00	14.00	21.33	23.37	26.24	37.85	37.85	57.67
	750.00	16.65	16.65	3.47	0.00	14.00	14.00	21.33	24.17	9.12	25.93	25.93	39.50
	800.00	14.03	14.03	0.79	0.00	14.00	14.00	21.33	28.41	3.94	25.93	25.93	39.50
	850.00	12.03	12.03	5.14	0.00	14.00	14.00	21.33	24.13	5.49	25.93	25.93	39.50
	900.00	13.49	13.49	17.60	0.00	14.00	14.00	21.33	23.63	21.06	25.93	25.93	39.50
	975.00	6.16	6.16	17.86	0.00	14.00	14.00	21.33	27.29	49.25	38.89	38.89	59.25
	1000.00	9.95	9.95	14.42	0.00	14.00	14.00	21.33	7.46	14.94	12.96	12.96	19.75
	1050.00	0.11	0.11	14.36	0.00	14.00	14.00	21.33	9.31	26.65	25.93	25.93	39.50
	1100.00	5.56	5.56	10.41	0.00	14.00	14.00	21.33	5.25	22.94	25.93	25.93	39.50
	1150.00	8.26	8.26	18.50	0.00	14.00	14.00	21.33	12.80	26.77	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) DARLENE LANE CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

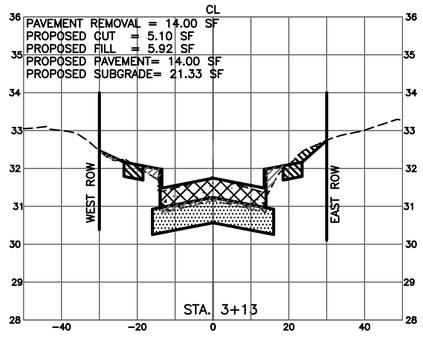
CITY OF HOUSTON PM

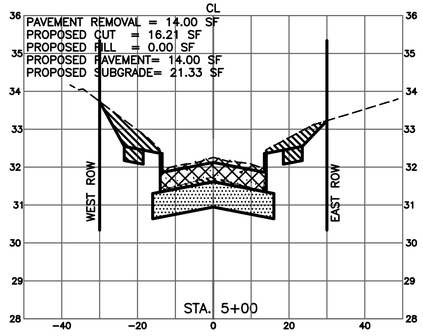
MIGUEL RODRIGUEZ, EIT

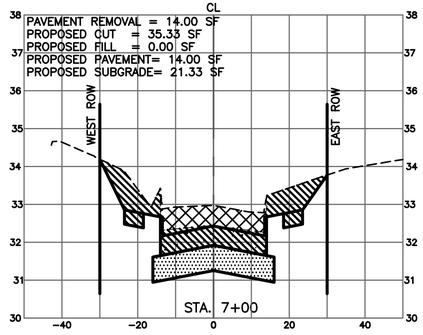
SHEET NO. 166 OF 175

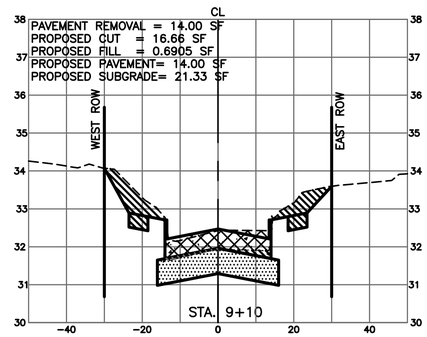
App
Revisions
Date
No

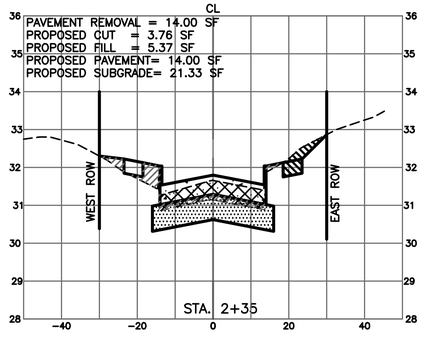
\\hrghus\data\85130030\cad\dwgs\c\cross sec x tables.dwg Plotted May 22, 2026 at 9:28 AM by Perez, Abel

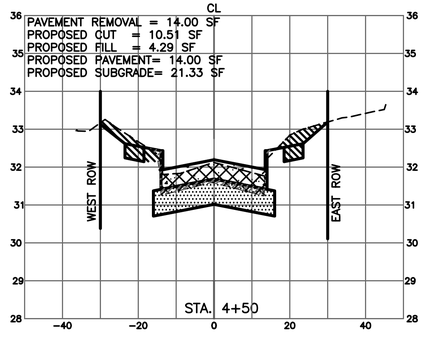


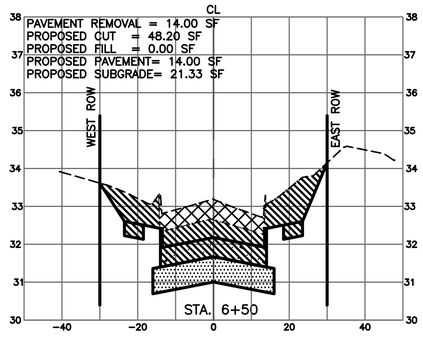


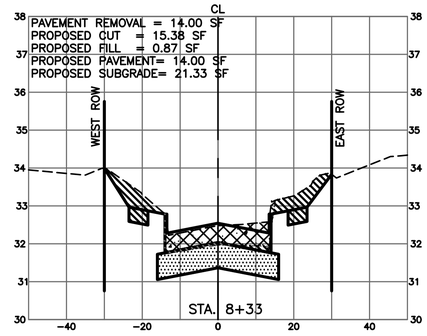


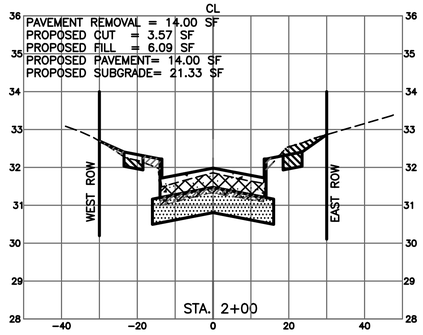


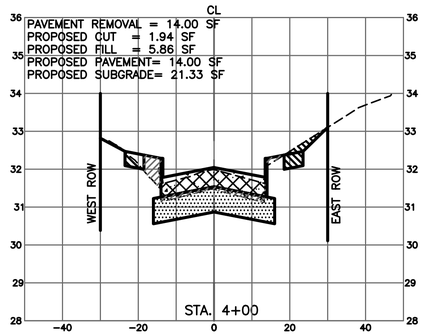


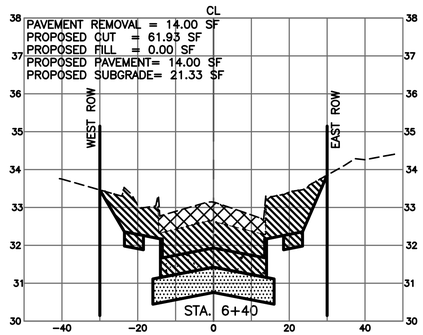


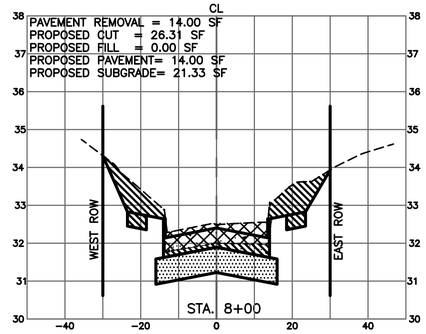


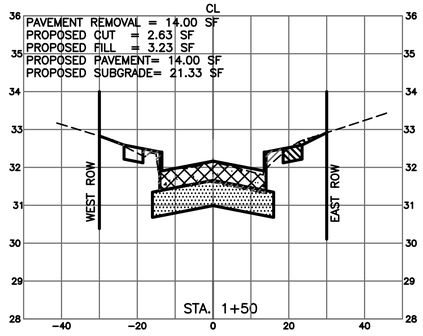


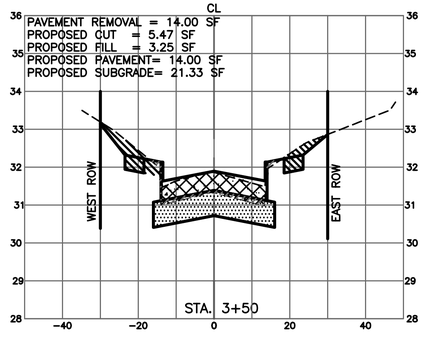


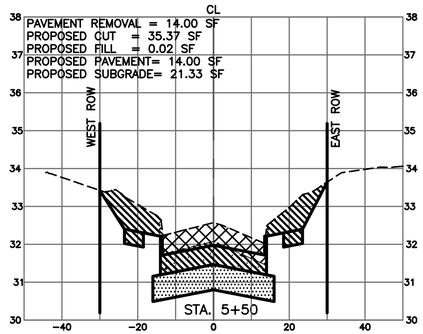


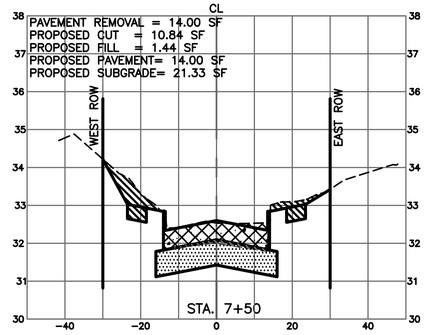












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

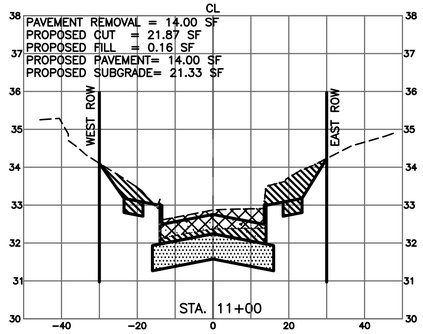
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

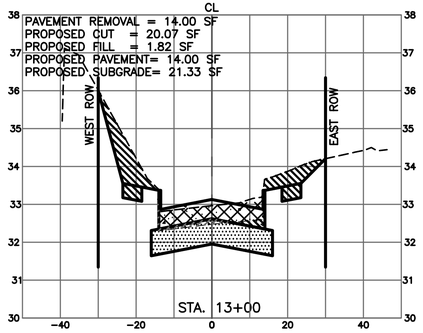
ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

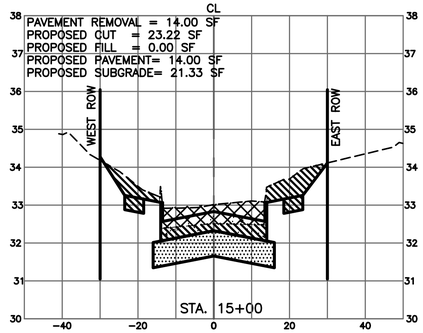
CROSS SECTIONS FREETON STREET SHEET 1 OF 3

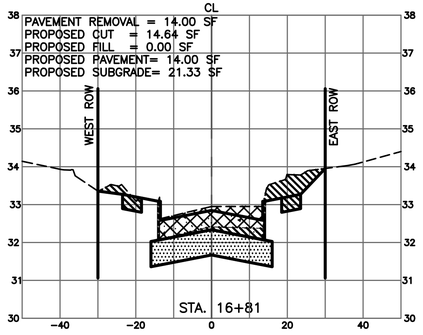
WBS NO. M-410006-0002-4
DRAWING SCALE
H: 1"=20' (FULL) V: 1"=2' (FULL)
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT
SHEET NO. 167 OF 175

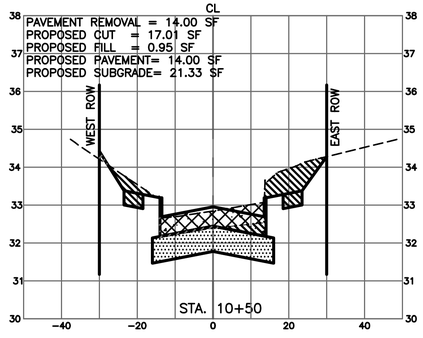
\\hrghus\data\85130030\cad\dwgs\c\cross sec freeton.dwg Plotted May 22, 2026 at 9:26 AM by Perez, Abel

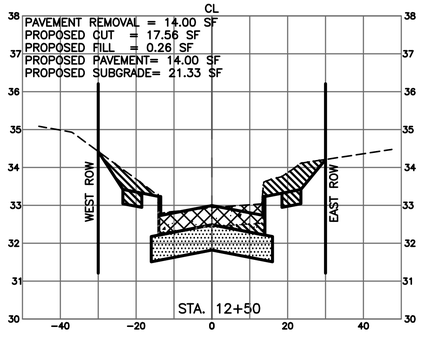


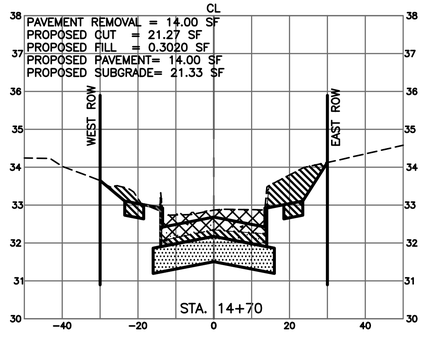


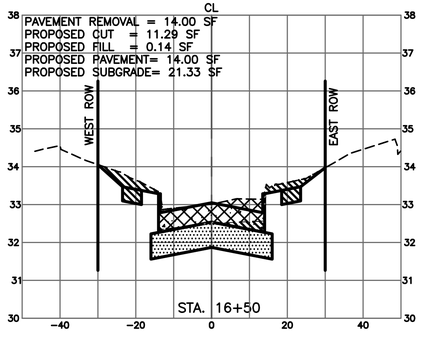


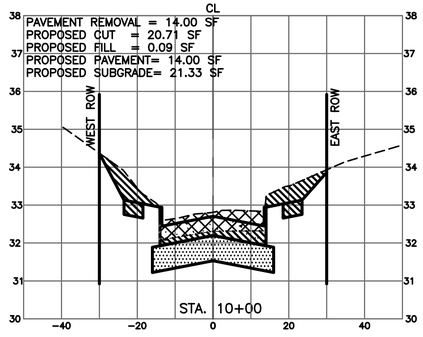


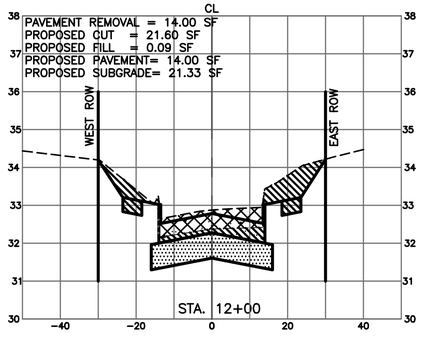


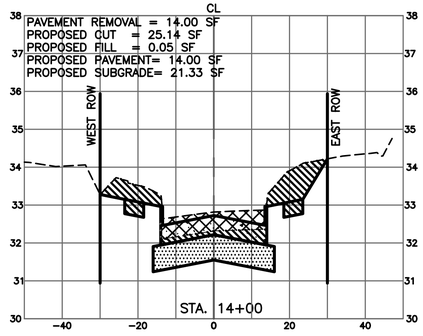


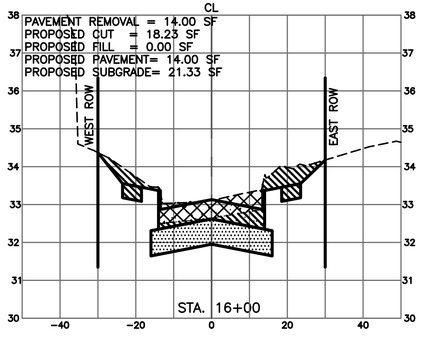


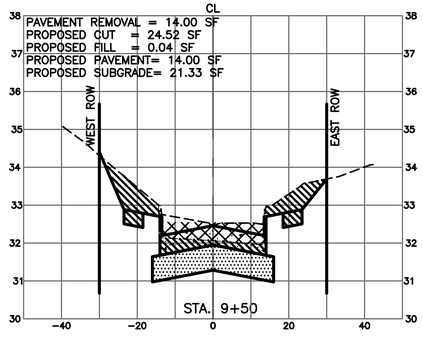


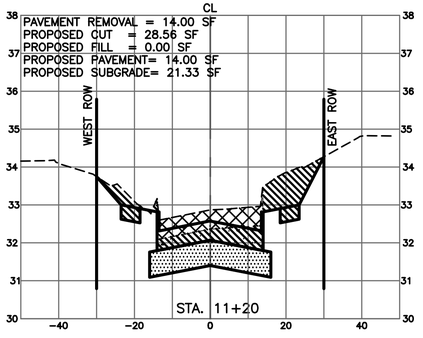


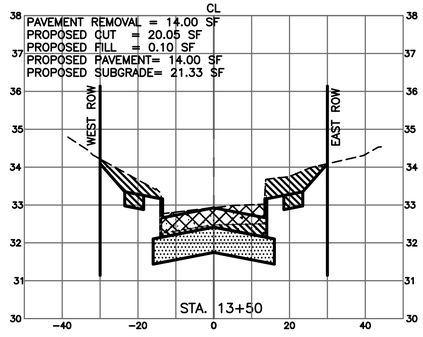


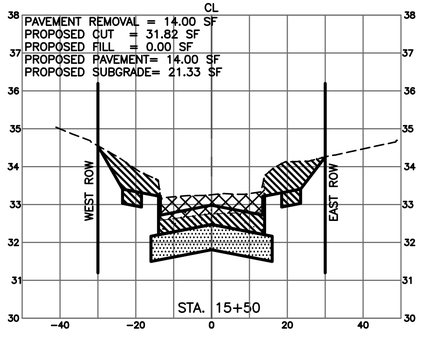












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.955.9006
FAX: 713.955.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)
CROSS SECTIONS FREETON STREET SHEET 2 OF 3

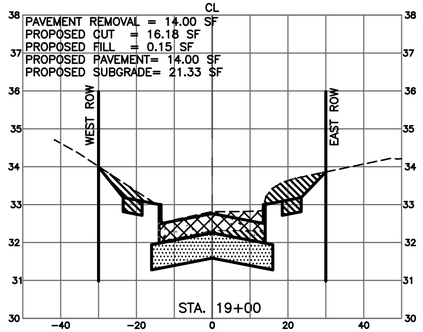
WBS NO. M-410006-0002-4

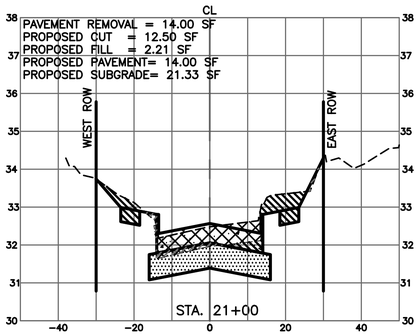
DRAWING SCALE
H: 1"=20' (FULL)
V: 1"=2' (FULL)

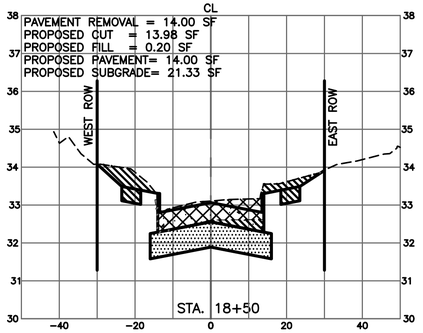
CITY OF HOUSTON PM
MIGUEL RODRIGUEZ, EIT

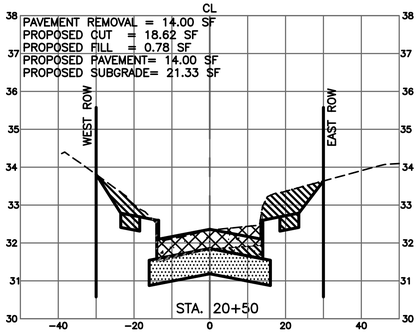
SHEET NO. 168 OF 175

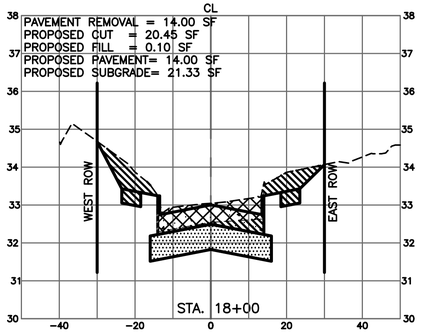
\\hrghus\data\85130030\cad\dwga\c\cross sec freeton.dwg Plotted May 22, 2026 at 9:07 AM by Perez, Abel

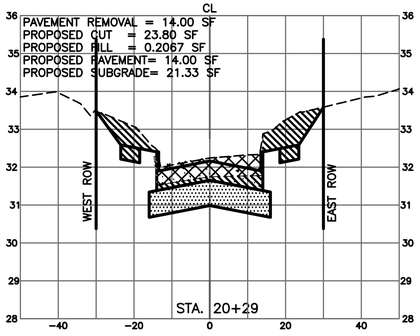


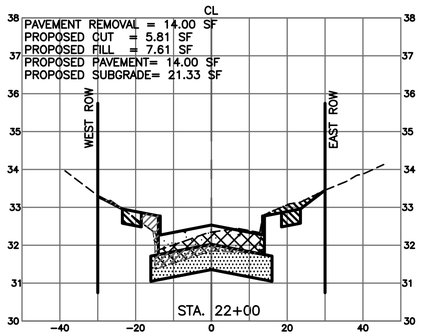


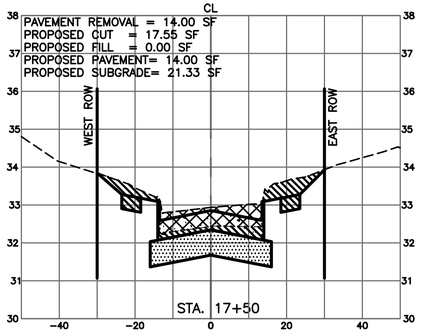


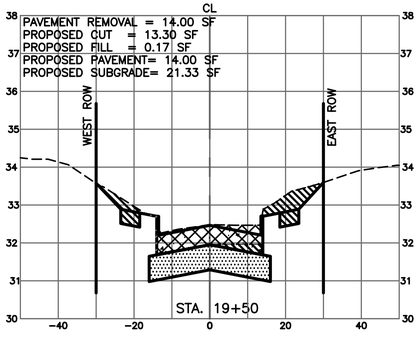


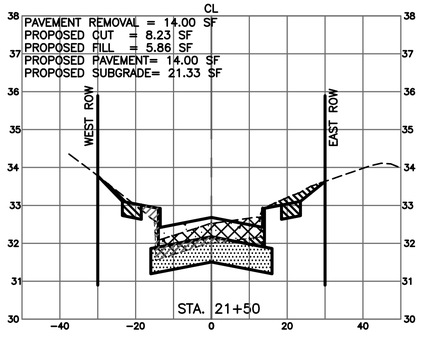












LEGEND

- PROPOSED CUT
- PROPOSED FILL
- PROPOSED PAVEMENT
- PROPOSED SUBGRADE
- EXISTING PAVEMENT REMOVAL
- EXISTING GRADE
- PROPOSED GRADE

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/22/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

CROSS SECTIONS FREETON STREET SHEET 3 OF 3

WBS NO. M-410006-0002-4

DRAWING SCALE

H: 1"=20' (FULL)
V: 1"=2' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 169 OF 175

\\hrghus\data\85130030\cad\dwgs\c\cross sec freeton.dwg Plotted May 22, 2026 at 9:24 AM by Perez, Abel

		CROSS-SECTION AREAS (SQ. FT.)							VOLUMETRIC QUANTITIES (CY)				
	Station (FT)	Cut (SF)	Net Cut (SF)	Fill (SF)	Utility Excavation in Cut Zone (SF)	Pavement Removal (SF)	Proposed Pavement (SF)	Proposed Subgrade (SF)	Volume of Cut (CY)	Volume of Fill (CY)	Volume of Pavement Removal (CY)	Volume of Proposed Pavement (CY)	Volume of Proposed Subgrade (CY)
Start	150.00	2.63	2.63	3.23	0.00	14.00	14.00	21.33	-	-	-	-	-
FREETON STREET	200.00	3.57	3.57	6.09	0.00	14.00	14.00	21.33	5.74	8.63	25.93	25.93	39.50
	235.00	3.76	3.76	5.37	0.00	14.00	14.00	21.33	4.75	7.43	18.15	18.15	27.65
	313.00	5.10	5.10	5.92	0.00	14.00	14.00	21.33	12.80	16.31	40.44	40.44	61.62
	350.00	5.47	5.47	0.54	0.00	14.00	14.00	21.33	7.24	4.43	19.19	19.19	29.23
	400.00	1.94	1.94	5.86	0.00	14.00	14.00	21.33	6.86	5.93	25.93	25.93	39.50
	450.00	10.51	10.51	4.29	0.00	14.00	14.00	21.33	11.53	9.40	25.93	25.93	39.50
	500.00	16.21	16.21	0.00	0.00	14.00	14.00	21.33	24.74	3.97	25.93	25.93	39.50
	550.00	35.37	35.37	0.02	0.00	14.00	14.00	21.33	47.76	0.02	25.93	25.93	39.50
	640.00	61.93	61.93	0.00	0.00	14.00	14.00	21.33	162.17	0.03	46.67	46.67	71.10
	650.00	48.20	48.20	0.00	0.00	14.00	14.00	21.33	20.39	0.00	5.19	5.19	7.90
	700.00	35.33	35.33	0.00	0.00	14.00	14.00	21.33	77.34	0.00	25.93	25.93	39.50
	750.00	10.84	10.84	1.44	0.00	14.00	14.00	21.33	42.75	1.33	25.93	25.93	39.50
	800.00	26.31	26.31	0.00	0.00	14.00	14.00	21.33	34.40	1.33	25.93	25.93	39.50
	833.00	15.38	15.38	0.87	0.00	14.00	14.00	21.33	25.48	0.53	17.11	17.11	26.07
	910.00	16.66	16.66	0.69	0.00	14.00	14.00	21.33	45.69	2.22	39.93	39.93	60.83
	950.00	24.52	24.52	0.04	0.00	14.00	14.00	21.33	30.50	0.54	20.74	20.74	31.60
	1000.00	20.71	20.71	0.09	0.00	14.00	14.00	21.33	41.88	0.12	25.93	25.93	39.50
	1050.00	17.01	17.01	0.95	0.00	14.00	14.00	21.33	34.93	0.96	25.93	25.93	39.50
	1100.00	21.87	21.87	0.16	0.00	14.00	14.00	21.33	36.00	1.03	25.93	25.93	39.50
	1120.00	28.56	28.56	0.00	0.00	14.00	14.00	21.33	18.68	0.06	10.37	10.37	15.80
	1200.00	21.60	21.60	0.09	0.00	14.00	14.00	21.33	74.31	0.13	41.48	41.48	63.20
	1250.00	17.56	17.56	26.00	0.00	14.00	14.00	21.33	36.26	24.16	25.93	25.93	39.50
	1300.00	20.07	20.07	1.82	0.00	14.00	14.00	21.33	34.84	25.76	25.93	25.93	39.50
	1350.00	20.05	20.05	0.10	0.00	14.00	14.00	21.33	37.15	1.78	25.93	25.93	39.50
	1400.00	25.14	25.14	0.05	0.00	14.00	14.00	21.33	41.84	0.14	25.93	25.93	39.50
	1470.00	21.27	21.27	0.30	0.00	14.00	14.00	21.33	60.16	0.45	36.30	36.30	55.30
	1500.00	23.22	23.22	0.00	0.00	14.00	14.00	21.33	24.72	0.17	15.56	15.56	23.70
	1550.00	31.82	31.82	0.00	0.00	14.00	14.00	21.33	50.96	0.00	25.93	25.93	39.50
	1600.00	18.23	18.23	0.00	0.00	14.00	14.00	21.33	46.34	0.00	25.93	25.93	39.50
	1650.00	11.29	11.29	0.14	0.00	14.00	14.00	21.33	27.33	0.13	25.93	25.93	39.50
	1680.00	14.64	14.64	0.00	0.00	14.00	14.00	21.33	14.41	0.08	15.56	15.56	23.70
	1750.00	17.55	17.55	0.00	0.00	14.00	14.00	21.33	41.73	0.00	36.30	36.30	55.30
	1800.00	20.45	20.45	0.10	0.00	14.00	14.00	21.33	35.19	0.09	25.93	25.93	39.50
	1850.00	13.98	13.98	0.20	0.00	14.00	14.00	21.33	31.88	0.28	25.93	25.93	39.50
	1900.00	16.18	16.18	0.15	0.00	14.00	14.00	21.33	27.93	0.32	25.93	25.93	39.50
	1950.00	13.30	13.30	0.17	0.00	14.00	14.00	21.33	27.30	0.30	25.93	25.93	39.50
	2029.00	23.80	23.80	0.20	0.00	14.00	14.00	21.33	54.28	0.54	40.96	40.96	62.41
	2050.00	18.62	18.62	0.78	0.00	14.00	14.00	21.33	16.50	0.38	10.89	10.89	16.59
	2100.00	12.50	12.50	2.21	0.00	14.00	14.00	21.33	28.81	2.77	25.93	25.93	39.50
	2150.00	8.23	8.23	5.86	0.00	14.00	14.00	21.33	19.19	7.47	25.93	25.93	39.50
	2200.00	5.81	5.81	7.61	0.00	14.00	14.00	21.33	13.00	12.47	25.93	25.93	39.50

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED
PROFESSIONAL ENGINEER
5/22/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2) FREETON STREET CROSS SECTION CALCULATION TABLE

WBS NO. M-410006-0002-4

DRAWING SCALE

NTS

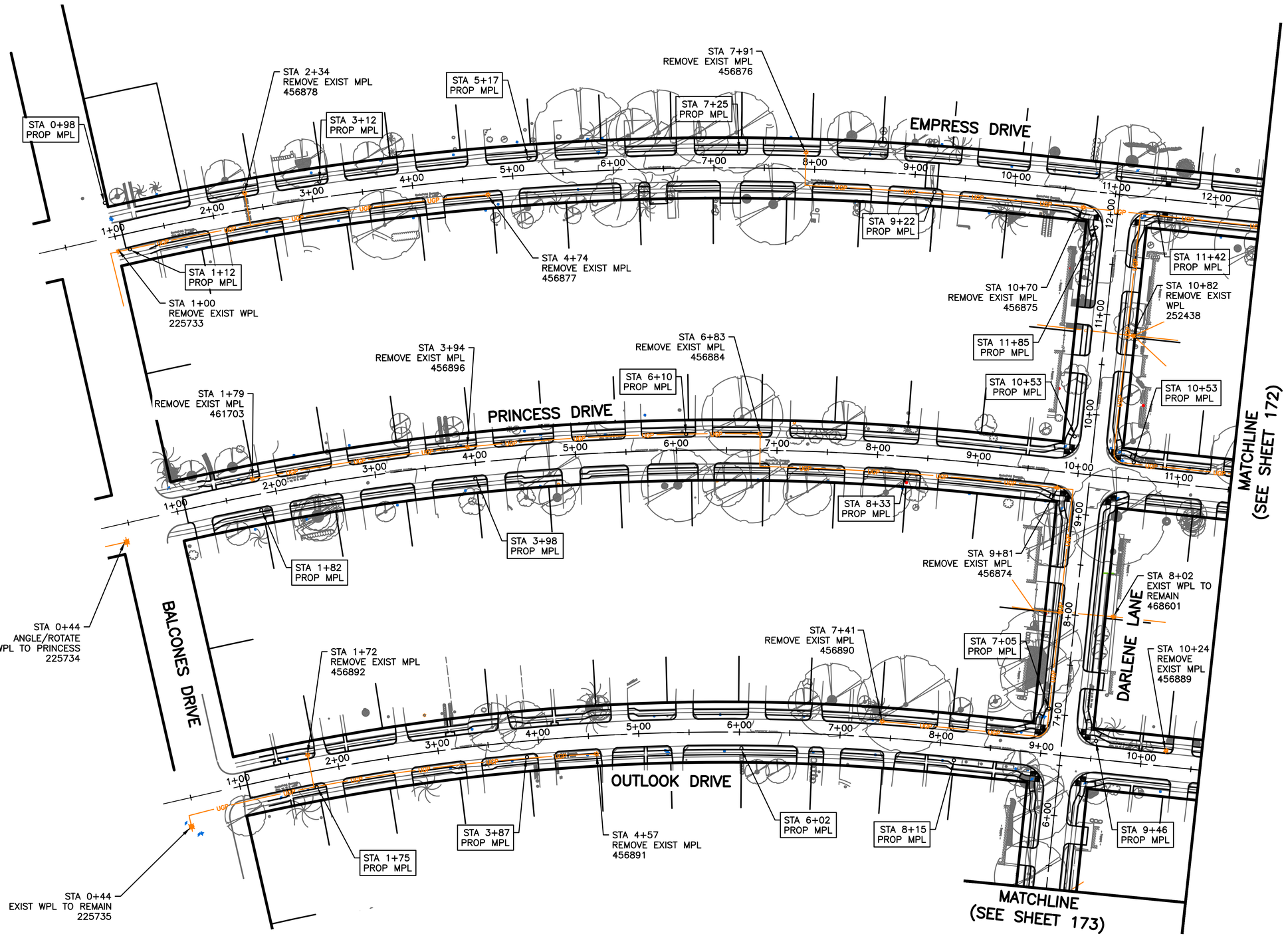
CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 170 OF 175

Revisions: No. | Date | App.

\\hrghus\data\851300301\cad\dwgs\c\cross sec x tables.dwg Plotted May 22, 2026 at 8:41 AM by Perez, Abel



N

0 50 100
SCALE IN FEET

LEGEND

- EXISTING STREET LIGHT CONDUIT
- EXISTING METAL POLE STREET LIGHT (MPL)
- EXISTING WOOD POLE STREET LIGHT (WPL)
- PROPOSED METAL POLE STREET LIGHT (MPL)
- PROPOSED WOOD POLE STREET LIGHT (WPL)

NOTE:
1. ALL MPLs TO BE 45W ON 30FT EMBEDDED POLES UNLESS NOTED.

No.	Date	Revisions	Appr.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.0996
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
5/27/2026

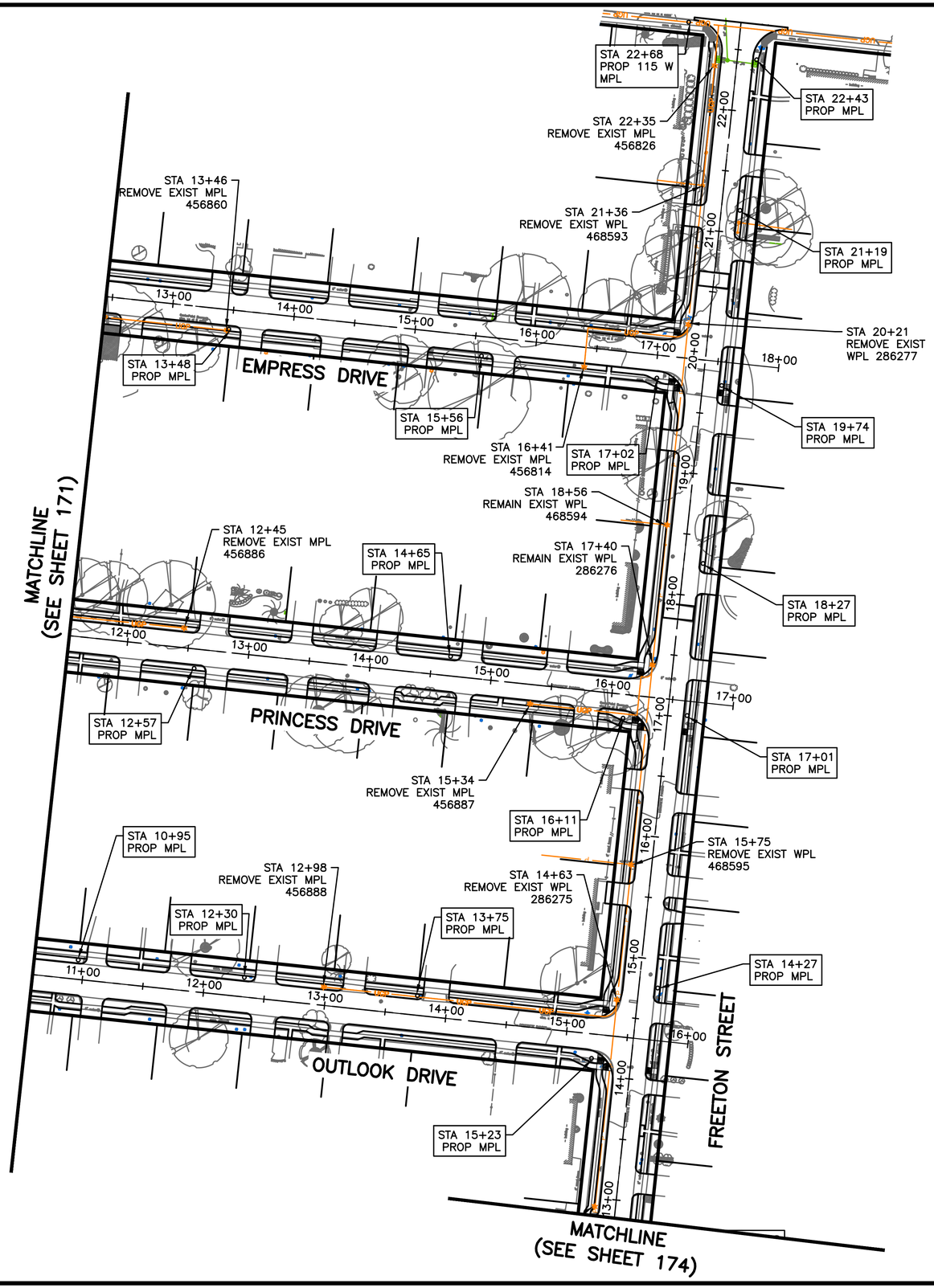
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STREET LIGHTING LAYOUT SHEET 1 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 171 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\street lighting layouts.dwg Plotted May 27, 2026 at 5:23 PM by Barco, Luis



N

0 50 100
SCALE IN FEET

LEGEND

- EXISTING STREET LIGHT CONDUIT
- EXISTING METAL POLE STREET LIGHT (MPL)
- EXISTING WOOD POLE STREET LIGHT (WPL)
- PROPOSED METAL POLE STREET LIGHT (MPL)
- PROPOSED WOOD POLE STREET LIGHT (WPL)

NOTE:
1. ALL MPLs TO BE 45W ON 30FT EMBEDDED POLES UNLESS NOTED.

No.	Date	Revisions	App'd

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9996
FAX: 713.985.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/27/2026

SURVEYED BY: KUO
FB NO. P-6076

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STREET LIGHTING LAYOUT SHEET 2 OF 5

WBS NO. M-410006-0002-4

DRAWING SCALE

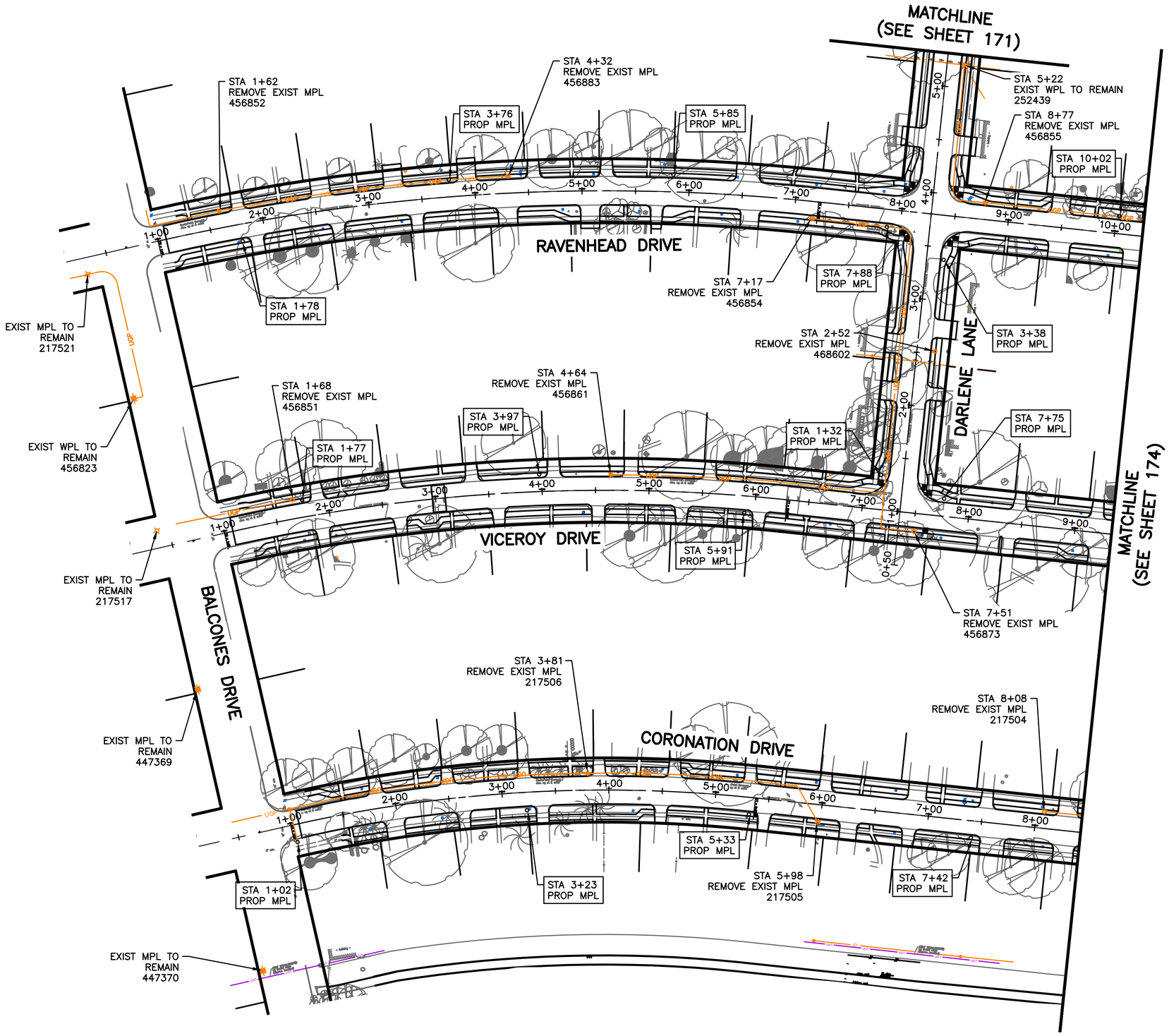
1"=50' (FULL)

CITY OF HOUSTON PM

MIGUEL RODRIGUEZ, EIT

SHEET NO. 172 OF 175

\\hrghus\data\85130030\cad\dwgs\c\street lighting layouts.dwg Plotted May 27, 2026 at 5:24 PM by Barco, Luis



0 50 100
SCALE IN FEET

LEGEND

- EXISTING STREET LIGHT CONDUIT
- EXISTING METAL POLE STREET LIGHT (MPL)
- EXISTING WOOD POLE STREET LIGHT (WPL)
- PROPOSED METAL POLE STREET LIGHT (MPL)
- PROPOSED WOOD POLE STREET LIGHT (WPL)

NOTE:
1. ALL MPLs TO BE 45W ON 30FT EMBEDDED POLES UNLESS NOTED.

No.	Date	Revisions	App.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9066
FAX: 713.965.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/27/2026

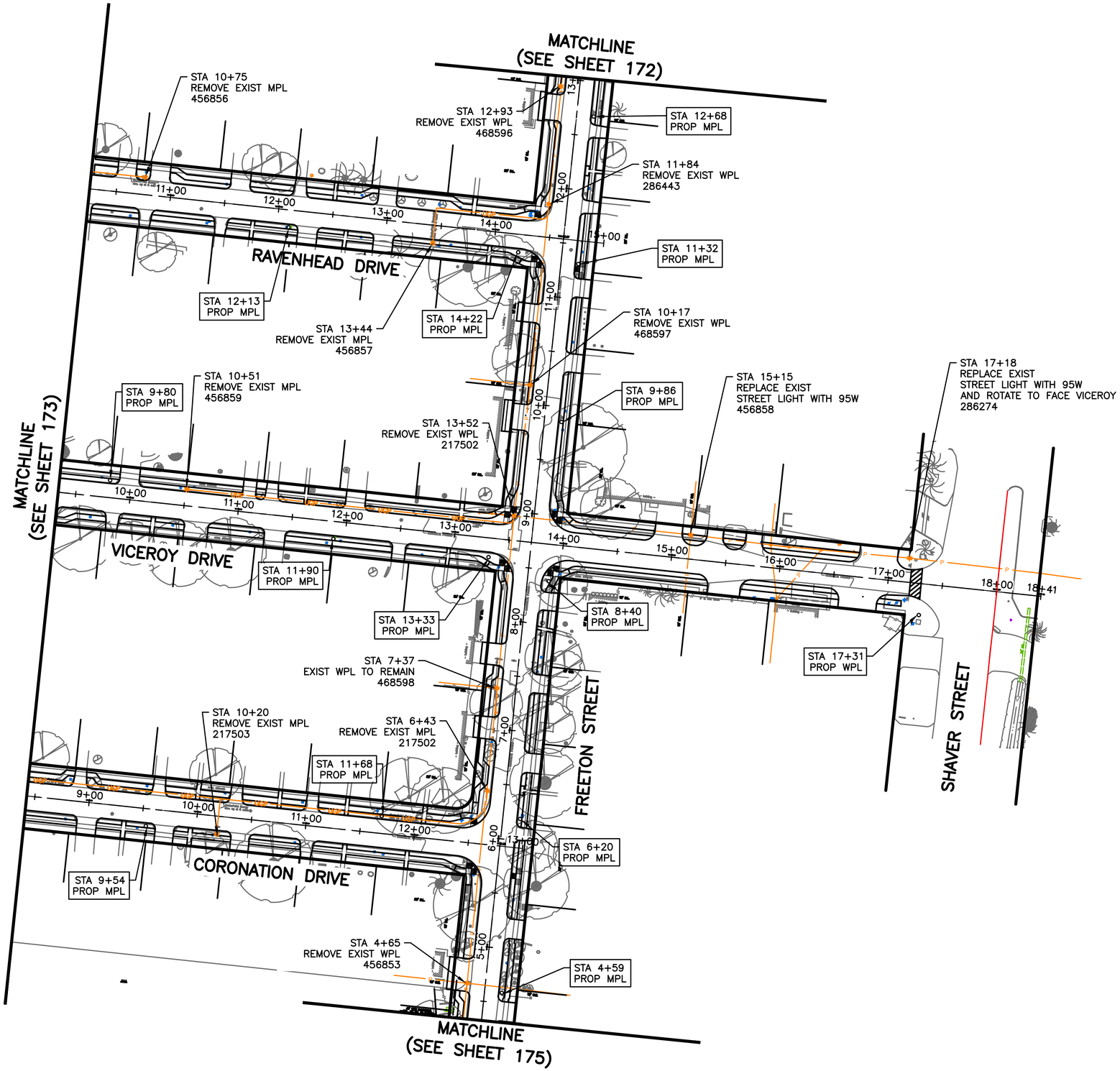
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STREET LIGHTING LAYOUT SHEET 3 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 173 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\street lighting layouts.dwg Plotted May 27, 2026 at 5:24 PM by Barco, Luis



0 50 100
SCALE IN FEET

LEGEND

- EXISTING STREET LIGHT CONDUIT
- EXISTING METAL POLE STREET LIGHT (MPL)
- EXISTING WOOD POLE STREET LIGHT (WPL)
- PROPOSED METAL POLE STREET LIGHT (MPL)
- PROPOSED WOOD POLE STREET LIGHT (WPL)

NOTE:
1. ALL MPLs TO BE 45W ON 30FT EMBEDDED POLES UNLESS NOTED.

No.	Date	Revisions	App'd

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.965.9006
FAX: 713.965.0044

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/27/2026

SURVEYED BY: KUO
FB NO. P-6076

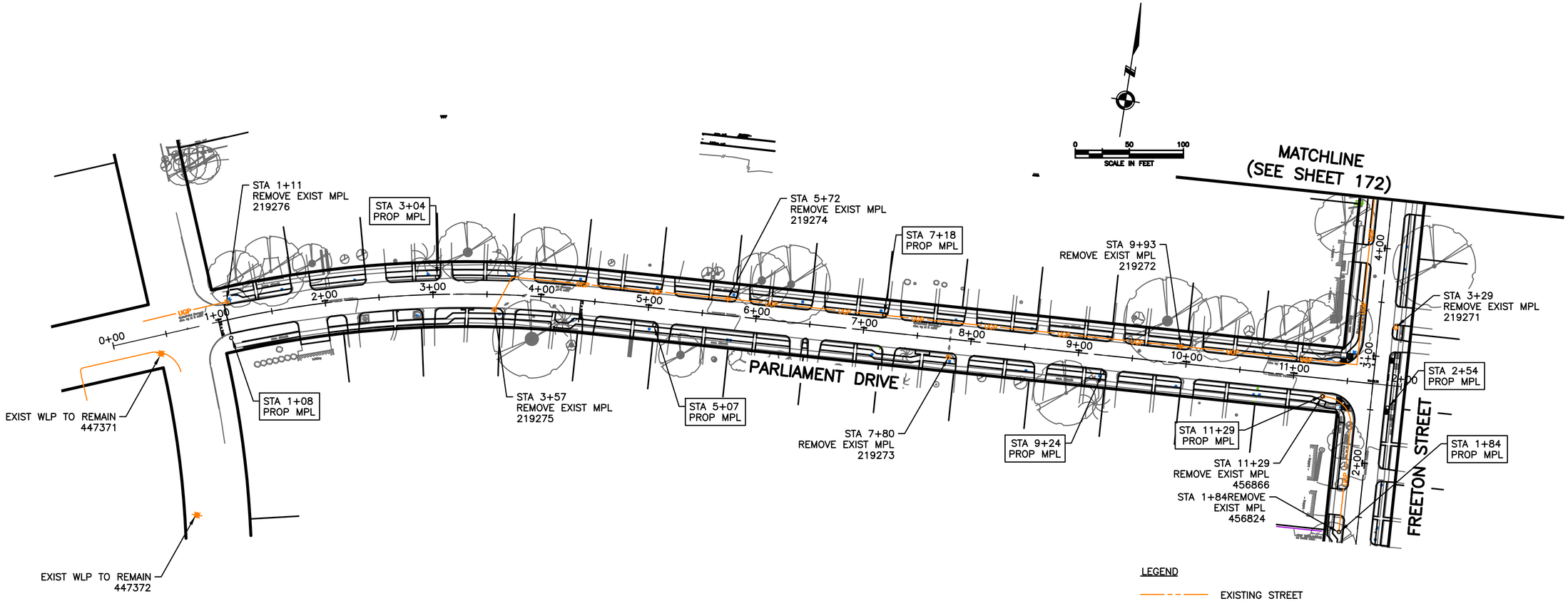
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STREET LIGHTING LAYOUT SHEET 4 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 174 OF 175	

\\hrghus\data\85130030\cad\dwgs\c\street lighting layouts.dwg Plotted May 27, 2026 at 5:23 PM by Barco, Luis



LEGEND

- EXISTING STREET LIGHT CONDUIT
- EXISTING METAL POLE STREET LIGHT (MPL)
- EXISTING WOOD POLE STREET LIGHT (WPL)
- PROPOSED METAL POLE STREET LIGHT (MPL)
- PROPOSED WOOD POLE STREET LIGHT (WPL)

NOTE:
1. ALL MPLs TO BE 45W ON 30FT EMBEDDED POLES UNLESS NOTED.

HRGreen
FIRM NO. F-11278
11011 RICHMOND AVENUE, SUITE 200
HOUSTON, TX 77042
PH: 713.985.9006
FAX: 713.985.0044

SURVEYED BY: KUO
FB NO. P-6076

STATE OF TEXAS
SCOTT L. CUNNINGHAM
125747
LICENSED PROFESSIONAL ENGINEER
5/27/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

ARLINGTON HEIGHTS DRAINAGE & PAVING (SUB-PROJECT 2)

STREET LIGHTING LAYOUT SHEET 5 OF 5

WBS NO. M-410006-0002-4	
DRAWING SCALE	
1"=50' (FULL)	
CITY OF HOUSTON PM	
MIGUEL RODRIGUEZ, EIT	
SHEET NO. 175 OF 175	

No.	Date	Revisions	Appr.

\\hrghus\data\85130030\cad\dwga\c\street lighting layouts.dwg Plotted May 27, 2026 at 5:32 PM by Barco, Luis