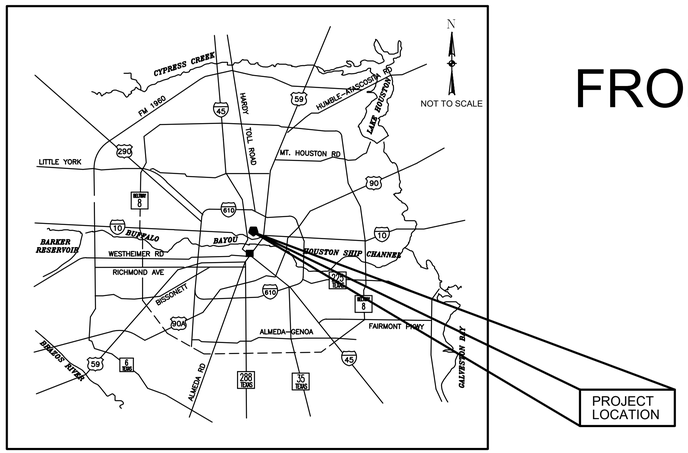
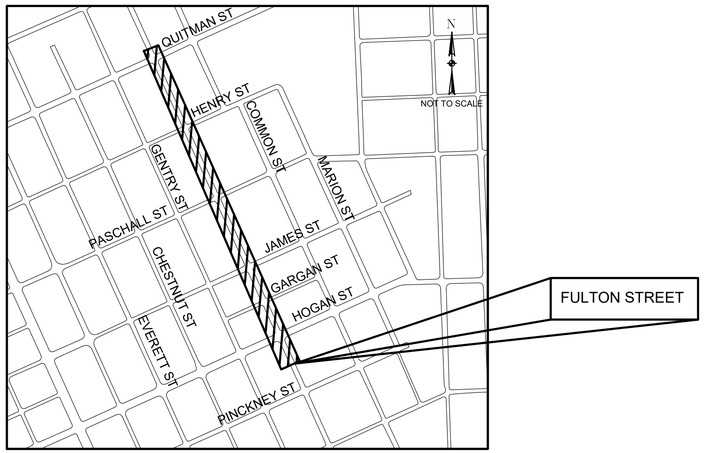
CITY OF HOUSTON

HOUSTON PUBLIC WORKS
ENGINEERING AND CONSTRUCTION DIVISION
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS
FROM QUITMAN STREET TO HOGAN STREET

WBS NO. N-000818-0001-4



LOCATION MAP



VICINITY MAP
KEY MAP NO. 493H AND 493D
GIMS MAP NO. 5458A AND 5458C

TDLR EABPR _____

MAYOR
JOHN WHITMIRE

CONTROLLER
CHRIS HOLLINS

DISTRICT COUNCIL MEMBERS

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

COUNCIL MEMBERS AT LARGE

JULIAN RAMIREZ, POSITION 1
WILLIE DAVIS, POSITION 2
TWILA CARTER, POSITION 3
ALEJANDRA SALINAS, POSITION 4
SALLIE ALCORN, POSITION 5

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD,
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% SUBMITTAL

SURVEYED BY: AMANI ENGINEERING, INC.
FB NO. P-6164

_____
PARKS-FORESTRY DEPT.

_____
METRO

_____
HOUSTON WATER

_____
TRANSPORTATION & DRAINAGE OPERATIONS

_____ _____
CAPITAL PROJECTS SURVEY

FOR CITY OF HOUSTON USE ONLY

_____
CITY ENGINEER DATE

_____
DIRECTOR OF DATE
HOUSTON PUBLIC WORKS

SHEET NO 1 OF 152 SHEETS

10/13/2026 C:\PWWORKING\HATCH-DPD-SOUTH_CENTRAL_US\DMS91314\01 COVER.DWG

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5	GENERAL NOTES
6	CONSTRUCTION NOTES
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FB NUMBER: P-6164

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SHEET INDEX

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 2 OF 223	

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ABBREVIATIONS:

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

ABBREVIATIONS:

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

ABBREVIATIONS:

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

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

ABBREVIATIONS

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 3 OF 223	

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EXISTING PLAN VIEW

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

PROPOSED PLAN VIEW

- WATER METER
- WATER VALVE (GATE)
- WATER VALVE (BUTTERFLY)
- FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE
- 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
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- LOT LINES
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- EDGE OF CONCRETE
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- CONCRETE WALK
- EDGE OF ASPHALT
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- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON-POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE
- MATCH LINE

EXISTING PLAN VIEW

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

EXISTING PROFILE VIEW

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

PROPOSED PLAN VIEW

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

PROPOSED PROFILE VIEW

- 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
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- WATER LINE MANHOLE
- SANITARY SEWER MANHOLE & CLEANOUT
- STORM SEWER MANHOLE
- STORM SEWER INLET

MISC STANDARD ELEMENTS

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

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
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HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SYMBOLS

WBS NUMBER	
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DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 4 OF 223	

PRIVATE UTILITY NOTES:

AT&T TEXAS/ SWBT FACILITIES:

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

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

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

WARNING: OVERHEAD ELECTRICAL LINES:

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

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

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 LOCATION OF ANY CENTERPOINT ENERGY UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. THEY AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.

ALL PROPOSED FACILITIES SHALL MAINTAIN 12 CLEAR FROM ALL EXISTING UTILITIES.

STANDARD NOTES FOR CONSTRUCTION DRAWINGS (HCFCD):

1. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM ENGINEER, IF NECESSARY. OBTAIN PERMIT (CERTIFICATION) FROM HARRIS COUNTY ENGINEER TO ENTER HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY.
2. NOTIFY THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT IN WRITING AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. SUBMIT THE HCFCD 48 HOUR PRE-CONSTRUCTION NOTIFICATION FORM, A COPY OF THE APPROVED CONSTRUCTION DRAWINGS, AND A COPY OF THE CORPS OF ENGINEERS INDIVIDUAL SECTION 404 PERMIT, IF APPLICABLE, TO HCFCD, 9900 NORTHWEST FREEWAY, HOUSTON, TEXAS 77092, ATTN: PROPERTY MANAGEMENT DEPT. BY HAND DELIVERY, OR FAX TO 713-684-4129 (FAX NUMBER).
3. ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT REQUESTING INSPECTION OF ITEMS CONSTRUCTED IN HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY. PRIOR TO REQUESTING INSPECTION, THE DRAINAGE RIGHT-OF-WAY AND/OR EASEMENTS SHALL BE STAKED AND FLAGGED.
4. PROTECT, MAINTAIN, AND RESTORE EXISTING BACKSLOPE DRAINAGE SYSTEMS.
5. BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.
6. ESTABLISH TURF GRASS ON ALL DISTURBED AREAS WITHIN THE CHANNEL OR DETENTION RIGHT-OF-WAY, EXCEPT THE CHANNEL BOTTOM AND WHERE STRUCTURAL EROSION MEASURES ARE USED. MINIMUM ACCEPTANCE CRITERIA ARE 75% COVERAGE OF LIVE BERMUDA GRASS AND NO EROSION OR RILLS DEEPER THAN 4".
7. BACKFILL IN ACCORDANCE WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02315 – EXCAVATING AND BACKFILLING, OR EQUIVALENT.
8. EXCAVATE CHANNEL FLOWLINE TO DESIGN ELEVATION AS SHOWN ON PLANS AND DOWNSTREAM, AS NECESSARY, TO ENSURE NO WATER REMAINS IN THE FACILITY (STORM SEWER, LATERAL CHANNEL, OR DRY BOTTOM DETENTION BASIN) DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL, SO THE FACILITY WILL FUNCTION AS INTENDED. FOR WET BOTTOM DETENTION BASINS, ENSURE NO WATER IS ABOVE THE DESIGN LEVEL IN THE WET BOTTOM DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL.
9. MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.
10. REMOVE ALL EXCAVATED MATERIAL FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT OR DRAINAGE RIGHT-OF-WAY. NO FILL IS TO BE PLACED WITHIN A DESIGNATED FLOOD PLAIN AREA WITHOUT FIRST OBTAINING A FILL PERMIT FROM THE APPROPRIATE JURISDICTIONAL AUTHORITY.

GENERAL NOTES – METRO:

1. CONTRACTOR SHALL NOTIFY METRO AT 713-615-6195 TWO WEEKS PRIOR TO DISTURBING EXISTING BUS STOPS.
1. CONTRACTOR SHALL COORDINATE WITH METRO TO REMOVE EXISTING AMENITIES.
2. BUS STOPS SHALL CONSTRUCTED PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL AND MEET CURRENT ADA REQUIREMENTS

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.

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

GENERAL NOTES

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 5 OF 223	

PLOTTED: 10/2/2026 4:56 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\05 GENERAL NOTES.dwg

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/2/2026 4:56 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\05 GENERAL NOTES.dwg

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.

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 CONTMINATION 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.

STORM SEWER 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 SEWER 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 ½"-13 UNC STAINLESS STEEL BOLTS. THE HEAVY DUTY FRAME MH COVER SHALL BE SOLID (NO AIR HOLES). SAID FRAME SHALL BE BOTH EMBEDDED INTO THE MH'S TOP ALSO SECURELY ANCHORED TO THE UNDERLYING MH STRUCTURE WITH EITHER SECURELY ATTACHED EMBEDDED ANCHOR BOLTS OR THE CONCRETE MH'S EXPOSED REBARS WELDED TO THE FRAME OR OTHER EQUALLY SECURED METHODS TO PREVENT MH COVER/FRAME BLOW-OFFS/EJECTIONS.

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GENERAL NOTES – INSIDE CITY LIMITS:

1. UNLESS OTHERWISE NOTED AND APPROVED ON DRAWINGS, CONSTRUCT CIVIL INFRASTRUCTURE IN ACCORDANCE WITH THE EFFECTIVE EDITION OF THE HOUSTON PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, AND SUPPLEMENTS, ADDENDA AND AMENDMENTS THERETO. THE LATEST EDITION OF THE ABOVE PUBLICATIONS CAN BE FOUND AT: HTTP://WWW.HOUSTONPERMITTINGCENTER.ORG/OFFICE-CITY-ENGINEER/DESIGN-AND-CONSTRUCTION-STANDARDS.
2. THE DESIGN MUST BE CONSISTENT WITH THE EFFECTIVE EDITION OF HOUSTON PUBLIC WORKS INFRASTRUCTURE DESIGN MANUAL AND TCEQ (TEXAS COMMISSION ON ENVIRONMENTAL QUALITY) REQUIREMENTS.
3. THE GEOTECHNICAL INVESTIGATION FOR THIS PROJECT WAS CONDUCTED IN ACCORDANCE WITH CHAPTER 11 OF THE LATEST EDITION OF THE PUBLICATION INFRASTRUCTURE DESIGN MANUAL, PUBLISHED BY HOUSTON PUBLIC WORKS. SOILS REPORT WAS PREPARED BY [GEOTECHNICAL ENGINEERING FIRM] REPORT NO. [NO. OF REPORT], DATED [DATE OF REPORT].
4. UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/811 OR 800-344-8377 AND LONE STAR NOTIFICATION CENTER AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION. UTILITIES MARKED WITHIN THE PUBLIC RIGHT OF WAY OR IN EASEMENTS SHALL COMPLY WITH TAC TITLE 16, PART 1, CHAPTER 18, RULE §18.6 AND THE AMERICAN PUBLIC WORKS ADMINISTRATION (APWA) UNIFORM COLOR CODE.
5. 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 EFFECTIVE EDITION OF HOUSTON PUBLIC WORKS, STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC, REFERENCED ABOVE AND SUPPLEMENTS, ADDENDA AND AMENDMENTS THERETO, AT NO ADDITIONAL COST TO THE CITY OF HOUSTON.
6. CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, HOUSTON PUBLIC WORKS @ 832-394-9098 OR VIA FAX AT 832-395-4424 FOR INSPECTION AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER AND TO THE SATISFACTION OF THE OWNING AUTHORITY.
8. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
9. CONTRACTOR SHALL COMPLY WITH LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.
10. CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS AND RECORD AS-BUILT CONDITIONS DURING CONSTRUCTION. THESE AS-BUILT DRAWINGS WILL BE SUBMITTED TO THE DESIGN CONSULTANT WHO WILL MAKE THE CHANGES ON THE ORIGINAL TRACINGS, LABEL EACH SHEET IN THE SET AS "RECORD DRAWINGS", AND RETURN IT TO THE OFFICE OF THE CITY ENGINEER.

STREET & BRIDGE CONSTRUCTION NOTES:

1. FILL AREAS ON PLANS SHALL BE FILLED IN LAYERS NOT EXCEEDING 8" IN DEPTH AND EACH COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF WATER LINE AND FILL AREA SHALL BE SEEDED AND FERTILIZED WITHIN 10 WORKING DAYS.
2. UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURBED INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
3. CONTRACTOR SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE 1 CURB INLETS.
4. EXISTING PAVEMENTS, CURBS, DRIVEWAYS, AND SIDEWALKS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF HOUSTON STANDARDS, WITH LATEST ADDENDA AND AMENDMENTS THERETO.
5. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.
6. EXPOSED 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS 24" LONG 24" C-C DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL.
7. WHEELCHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE SIDEWALKS EXIST AND THE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
8. PRIOR TO STREET CONSTRUCTION, THE CONTRACTOR SHALL CONTACT HOUSTON PUBLIC WORKS AT (PHONE) 832-394-9578 AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.
9. DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATIONS BY THE PAVING CONTRACTOR. HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET.

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

DRAINAGE AND SANITARY CONSTRUCTION NOTES

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 6 OF 223	

FCM Engineers, PC

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS
FROM QUITMAN STREET TO HOGAN STREET
WBS NO. N-000818-0001-3
90% QUANTITY TAKEOFF
DATE: 03/2026

Item No.	Spec Sec	Item Description	Unit Measure	Unit Quantity	Fulton St 1+00 to 5+00	Fulton St 5+00 to 9+00	Fulton St 9+00 to 13+50	Fulton St 13+50 to 17+00	Fulton St 17+00 to 21+00	Fulton St 21+00 to End	Hogan St STA. 1+00 to 5+00	Gargan St STA. 1+50 to 4+50	James St STA. 1+50 to 4+50	Pacshall St. STA. 4+50 to 7+50	Henrt St. STA. 2+00 to 4+50	Quitman St. STA. 1+50 to 5+00	Sheet 71	Sheet 72	Sheet 92	Sheet 93
GENERAL ITEMS																				
1	01502	Mobilization	LS	1																
2	01582	Build Houston Forward Project Identification Sign	EA	2																
3	01554	Installation or Replacement of Permanent Signs (signs, poles, anchors and hardware provided by city)	LS	1																
4	01555	Flagmen (Uniform Peace Officer)	HR	3,850																
5	01555	Traffic Control and Regulation	LS	1																
6	01555	Install Low Profile Concrete Barriers	LF	900																
7	01555	Relocate Low Profile Concrete Barriers	LF	900																
8	01555	Remove Low Profile Concrete Barriers	LF	900																
8a	01555	Install Low Profile Plastic Barriers/Drums	LF	800																
8b	01555	Relocate Low Profile Plastic Barriers/Drums	LF	800																
8c	01555	Remove Low Profile Plastic Barriers/Drums	LF	800																
9	01562	Tree and Plant Protection	LS	1																
10	01570	Inlet Protection Barrier	LF	624															378	324
11	01575	Stabilized Construction Exit	SY	334																
12	01740	Site Restoration	LF	2,466																
13	02233	Clearing and Grubbing	LS	1																
14	02921	Hydromulch	AC	2																
15	02922	Sodding	SY	1,114	129.5	277.3	318.9	291.7	96.2											
WATER ITEMS																				
16	02520	Remove and salvage existing fire hydrant	EA	2			1		1											
17	02260	Trench safety system for trench excavations	LF	802	98	323	137	56	151	37										
18	02520	Proposed Fire Hydrant	EA	4	1		1	1	1											
19	02501	6-inch diamter Ductile Iron water line with Restrained Joint	LF	77		72			5											
20	02513	6" Wet Connection	EA	4		4														
21	02513	8" Wet Connection	EA	4		2	2													
22	02501	8-inch diamter Ductile Iron water line with Restrained Joint	LF	205		126	79													
23	02501	12-inch diamter Ductile Iron water line with Restrained Joint	LF	592	98	197	58	56	146	37										
24	02513	12" Wet Connection	EA	29	6	4	6	4	5	4										
WASTEWATER ITEMS																				
25	02221	Remove and Dispose of Sanitary Sewer (10") and Smaller	LF	84				44	40											
26	02221	Remove and Dispose of Sanitary Sewer Manhole	EA	16	1	1	10		1	3										
27	02531	Prop. 8" Sanitary Sewer	LF	959		214	342	332	71											
28	02082	4' Dia Sanitary Sewer Manhole, 8' depth and less	EA	8		2	2	3	1											
29	02082	Extra Depth 4' Dia Sanitary Sewer MH	VF	17		5	4	4	4											
30	02534	Sanitary sewer Service connections	EA	20																
30	02260	Trench Safety System for Sanitary Sewer Excavations	LF	959		214	342	332	71											
31	02086	Adjust sanitary sewer MH to new grade	EA	15	6	2	1	1	2	3										
PAVING ITEMS																				
32	02221	Remove & Dispose of Existing Storm Sewers (15" RCP)	LF	596	106	275	68		147											
33	02221	Remove & Dispose of Existing Storm Sewers (18" RCP)	LF	76		76														
34	02221	Remove & Dispose of Existing Storm Sewers (21" RCP)	LF	235		235														
35	02221	Remove & Dispose of Existing Storm Sewers (24" RCP)	LF	420		40	380													
36	02221	Remove & Dispose of Existing Storm Sewers (30" RCP)	LF	87			67		20											
37	02221	Remove & Dispose of Existing Storm Sewer Inlets	EA	27	4	10	4	0	7	2		0								
38	02221	Remove & Dispose of Existing Storm Sewer Manholes	EA	7	2	3	1	0	1	0		0								
39	02631	24" RCP (ASTM C76, Class III) (Rubber Gasketed)	LF	1,166	364	65.9	0.0	44.0	71.2	153.2		137.8	112.6	95.7	122.1	0.0				
40	02631	36" RCP (ASTM C76, Class III) (Rubber Gasketed)	LF	230	0	230.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
41	02631	42" RCP (ASTM C76, Class III) (Rubber Gasketed)	LF	420	0	0.0	0.0	0.0	320.0	100.0		0.0	0.0	0.0	0.0	0.0				
42	02631	48" RCP (ASTM C76, Class III) (Rubber Gasketed)	LF	92	0	0.0	0.0	0.0	53.7	0.0		0.0	0.0	38.3	0.0	0.0				

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SUMMARY OF QUANTITIES
1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 7 OF 223	

PLOTTED: 10/2/2026 4:56 PM
PLOT STYLE: COH CIP.CTB
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FCM Engineers, PC

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS
FROM QUITMAN STREET TO HOGAN STREET
WBS NO. N-000818-0001-3
90% QUANTITY TAKEOFF
DATE: 03/2026

Item No.	Spec Sec	Item Description	Unit Measure	Unit Quantity	Fulton St 1+00 to 5+00	Fulton St 5+00 to 9+00	Fulton St 9+00 to 13+50	Fulton St 13+50 to 17+00	Fulton St 17+00 to 21+00	Fulton St 21+00 to End	Hogan St STA. 1+00 to 5+00	Gargan St STA. 1+50 to 4+50	James St STA. 1+50 to 4+50	Pacshall St. STA. 4+50 to 7+50	Henrt St. STA. 2+00 to 4+50	Quitman St. STA. 1+50 to 5+00	Sheet 71	Sheet 72	Sheet 92	Sheet 93
43	02631	54" RCP (ASTM C76, Class III) (Rubber Gasketed)	EA	853	0	75.0	450.0	328.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0				
44	02081	Proposed Type C MH 5-foot dia (42-inch Dia Pipe or smaller)	EA	25	2	2.0			4.0	2.0		4.0	4.0	2.0	1.0	4.0				
45	02081	Proposed Type C MH 7-foot dia (48-inch to 72-inch Dia Pipe)	EA	6		1.0	1.0	2.0						1.0	1.0					
46	02633	Precast Type "B-B" Inlet	EA	38	4	6.0	0.0	4.0	3.0	4.0		3.0	4.0	4.0	4.0	2.0				
47	02633	Precast Type C inlet	EA	3	0	0.0	0.0	0.0	0.0	0.0		1.0	0.0	0.0	0.0	2.0				
48	02633	Precast Type A inlet	EA	2	0	0.0	0.0	0.0	0.0	0.0		2.0	0.0	0.0	0.0	0.0				
49	02260	Trench Protection for Storm Sewers	LF	2,761																
50	02221	Remove and Dispose of Existing Concrete Pavement with or Without Asphalt Overlay	SY	8,787	966	1730.5	1790.0	1211.0	1753.0	1336.0										
51	02221	Remove and Dispose of Existing Driveways	SY	843	287	88.0	141.0	175.0	152.0											
52	02221	Remove/Dispose Concrete Sidewalk	SY	1,897	288.44	337.8	439.6	311.1	362.2	158.2										
53	02221	Remove/Dispose Concrete Curb	LF	2,520	311	311.0	674.0	343.0	430.0	451.0										
54	02221	Remove and salvage existing Bus stop pad and benches	SY	17	5	5.0			7.0											
55	02221	Remove and Relocate existing Fence	LF	1,574	283	170.0	471.0	550.0	100.0											
56	02221	Remove, salvage and relocate existing flasing beacon sign post	EA	3				1.0	2.0											
57	02221	Remove and Salvage existing Traffic sign	EA	37	2	11.0	8.0	4.0	11.0	1.0										
58	02221	Remove existing Traffic signal	EA	5	5															
59	02714	Flexible Base Course/Temp Driveways Residential	EA	35																
60	02714	Flexible Base Course/Temp Driveways Commercial	EA	8																
61	02315	Roadway Excavation With or Without Subgrade	CY	5,133	564.6044	1019.5	1050.1	717.7	1021.7	759.3										
62	02336	Lime Stabilized Subgrade, 8-inch thick	SY	9,871	1085.778	1960.5	2019.3	1380.1	1964.8	1460.2										
63	02336	6% Lime Treor Stabilized Subgrade (Dry Weight)	TON	166	18.2411	32.9	33.9	23.2	33.0	24.5										
64	02751	11-inch Reinforced Concrete Pavement	SY	5,666	292	1011.5	1362.0	1211.0	1337.0	452.0										
65	02751	11-inch High early strength Reinforced Concrete Pavement	SY	3,121	674	719.0	428.0	0.0	416.0	884.0										
66	02960	Mill and Overlay existing asphalt to match existing pavement	SY	3,143	1099	592.6	577.0	0.0	265.0	609.0										
67	02754	Reinforced Concrete Driveways (7")	SF	9,491	1060.86	823.3	2264.5	2897.6	1815.1	0.0	380.0	249.9	0.0	0.0	0.0	0.0				
68	02775	6" Thick Reinforced Concrete Sidewalk	SF	25,833	2429.27	3680.0	4253.7	2714.9	7893.6	2227.3	1089.7	365.5	424.3	448.9	306.1	0.0				
69	02771	6" Reinforced Concrete Curb	LF	4,494	500	735.0	974.2	972.5	907.1	404.8	0.0	0.0	0.0	0.0	0.0	0.0				
70	02771	6" Reinforced Concrete Curb and gutter	LF	932	0	0.0	0.0	0.0	0.0	0.0	480.0	0.0	0.0	362.0	90.0	0.0				
71	02771	Proposed Curb ramps	SF	727	43.85	245.8	126.5	0.0	106.2	162.0	42.6	0.0	0.0	0.0	0.0	0.0				
72	02751	Proposed 9" concrete bus stop pad and landing	SY	370	64.7	59.7	116.2	0.0	106.9	0.0	23.0	0.0	0.0	0.0	0.0	0.0				
73	02752	Board Expansion Joints with Load Transfer Device	LF	1,260																
74	02752	Horizontal Dowels, All lengths	EA	1,260																
75	01554	TrafficSigns	EA	48													22.0	26.0		
76	01554	Traffic Sign - Plaque	EA	22													7.0	15.0		
77	01554	Street Narrie Signs	EA	18													10.0	8.0		
78	01554	Relocate Traffic Signs	EA	7													4.0	3.0		
79	02767	Thermoplastic Pavement Marking 12-inch Wide White (SLD)	LF	1,718																
80	02767	Thermoplastic Pavement Marking 24-inch Wide White (SLD)	LF	1,485																
81	02767	Thermoplastic Pavement Marking Symbol Arrow	EA	4																
82	02582	Metal light pole	EA	8		2.0	2.0	2.0	2.0											

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SUMMARY OF QUANTITIES
2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 8 OF 223

PLOTTED: 10/2/2026 4:56 PM
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SUMMARY OF TRAFFIC SIGNAL ITEMS

SPEC NO.	ITEM DESCRIPTION	UNIT	QUITMAN ST	HOGAN ST	TOTAL
02582	4 INCH POLE, ALL STYLES, WITH FOUNDATION	EA	4	4	8
02582	25-FOOT GALVANIZED MAST ARM POLE WITH FOUNDATION	EA	2	4	6
02582	30-FOOT GALVANIZED MAST ARM POLE WITH FOUNDATION	EA	1	0	1
02582	40-FOOT GALVANIZED MAST ARM POLE WITH FOUNDATION	EA	1	0	1
02590	TRAFFIC SIGNAL POLE LUMINAIRE	EA	4	4	8
02893	ELECTRICAL SERVICE POLE ASSEMBLY	EA	4	4	8
02893	OVERHEAD STREET NAME SIGNS	EA	4	4	8
02893	SIGN, LEFT TURN YIELD ON GREEN BALL (R10-12)	EA	4	4	8
02893	TRAFFIC SIGN (OTHER)	EA	2	0	2
16710	TYPE A PULL BOX WITH GRAVEL AND GROUND ROD	EA	17	17	34
16710	TYPE B PULL BOX WITH GRAVEL AND GROUND ROD	EA	4	4	8
16710	TYPE C PULL BOX WITH GRAVEL AND GROUND ROD	EA	1	1	2
16711	1-INCH PVC SCH.80 UNDERGROUND, EARTH	LF	565	320	885
16711	2-INCH PVC SCH.80 UNDERGROUND, EARTH	LF	1685	1985	3670
16711	1-INCH PVC SCH.80 UNDERGROUND, BORE	LF	300	235	535
16711	3-INCH PVC SCH.80 UNDERGROUND, EARTH	LF	70	100	170
16711	4-INCH PVC SCH.80 UNDERGROUND, EARTH	LF	75	135	210
16711	4-INCH PVC SCH.80 UNDERGROUND, BORE	LF	450	325	775
16713	VEHICLE PRE-FORMED LOOP DETECTOR, 6-FOOT BY 6-FOOT	EA	26	28	54
16715	3-SECTION VEHICLE SIGNAL HEAD ASSEMBLY	EA	10	8	18
16716	LED PEDESTRIAN SIGNAL HEAD ASSEMBLY (SYMBOLIC)	EA	8	8	16
16716	PEDESTRIAN PUSHBUTTON ASSEMBLY, LEFT, RIGHT, OR BOTH ARROWS	EA	8	8	16
16719	COUNTDOWN PEDESTRIAN SIGNAL MODULE	EA	8	8	16
16720	3/C-#14 AWG SOLID CABLE	LF	890	1300	2190
16720	5/C-#14 AWG SOLID CABLE	LF	920	1300	2220
16720	7/C-#14 AWG SOLID CABLE	LF	1085	1120	2205
16724	EMERGENCY VEHICLE PREEMPTION	EA	4	4	8
16730	ITS CONTROLLER CABINET ASSEMBLY (MODEL 340) INCLUDING FOUNDATION AND APRON	EA	1	1	2
16731	MODEL 2070 CONTROLLER UNIT	EA	1	1	2
16732	UNINTERRUPTIBLE POWER SUPPLY	EA	1	1	2
16733	HARDENED ETHERNET SWITCH	EA	1	1	2
16739	BLUETOOTH EQUIPMENT	EA	1	1	2
16740	QTY ONE (1) 12 SM FIBER OPTIC CABLE	LF	615	645	1260
16750	ACCESSIBLE PEDESTRIAN PUSH BUTTON STATION	EA	1	1	2

NO.	DATE	REVISION	APP.

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

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

MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND ARE NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC SIGNAL
QUANTITY TAKE-OFFS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 9 OF 223	

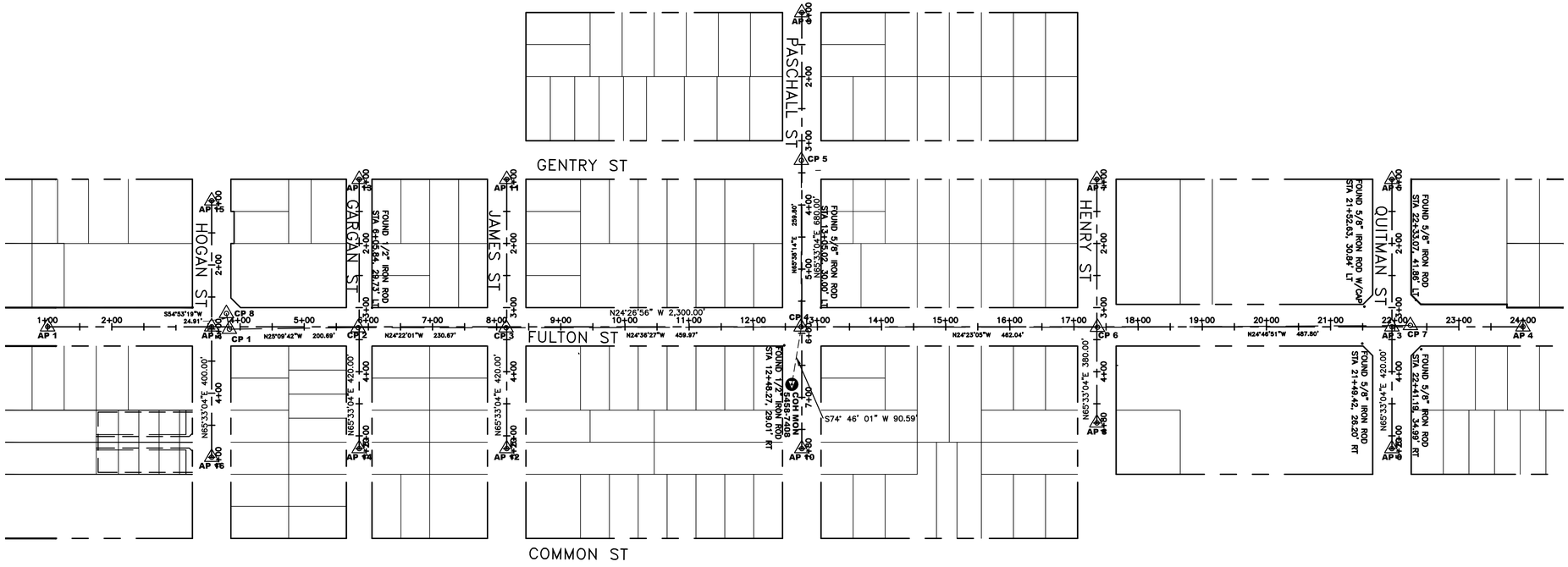
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GRAPHIC SCALE

0 100 200

SCALE IN FEET
FULL SIZE: H. 1"=100'

No.	DATE	REVISION	APP.



NOTE:

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989533.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED NOVEMBER 2019.

ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) GEOID 18 AND HAVE BEEN TRANSFERRED FROM THE PROJECT BENCHMARK TO CONTROL POINTS VIA DIFFERENTIAL LEVELING.

PROJECT BENCHMARK:

CITY OF HOUSTON BRASS DISK 5458-7408 BRASS DISK LOCATED ON THE SOUTH SIDE ON PASCHALL ST. APPROXIMATELY 100' EAST OF THE INTERSECTION OF PASCHALL ST. AND FULTON ST.
ELEV.= 47.22' GEOID 18

KEY MAP: 493D, 493H

AMANI ENGINEERING, INC.
8303 SOUTHWEST FREEWAY, SUITE 600
HOUSTON, TEXAS 77074
TEL: (713) 270-5700
TEXAS REGISTERED ENGINEERING FIRM NO. F-4528
TEXAS REGISTERED SURVEYING FIRM NO. 100282-00

SURVEYED BY: AMANI
FB NO. P-6164

STATE OF TEXAS REGISTERED WILLIAM H. REINER III 4044 PROFESSIONAL LAND SURVEYOR
07-11-2022

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FY17 FULTON ST. RECONSTRUCTION FROM QUITMAN ST. TO HOLTMAN ST.

SURVEY CONTROL MAP
SHEET 1 OF 3

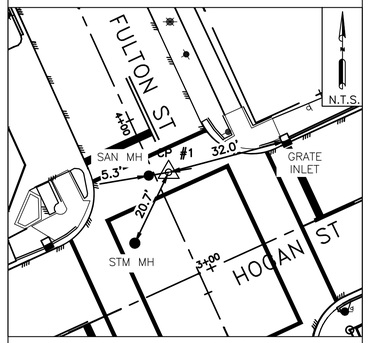
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-001-4	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 10 OF 223	

FILE NAME:
PLOTTED ON:

0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

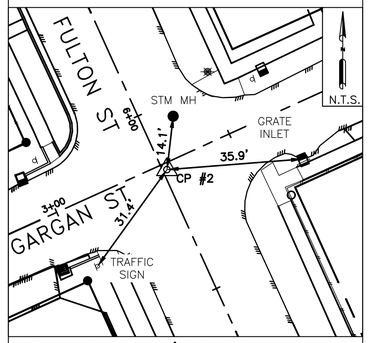
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CP-1 -- MAG NAIL



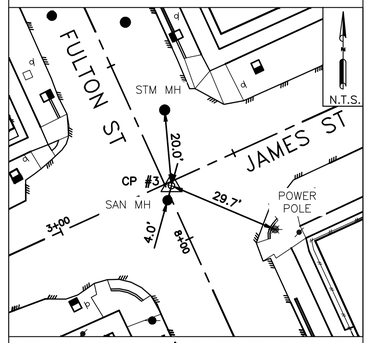
STA. 3+83.32, 3.68' RT,
FULTON BASELINE

CP-2 -- MAG NAIL



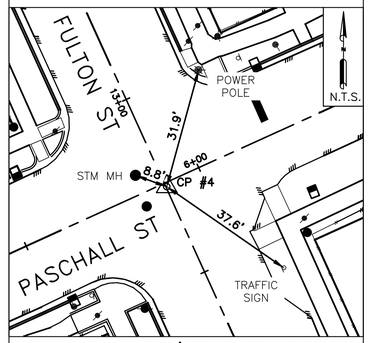
STA. 5+84.00, 1.18' RT, FULTON BASELINE
STA. 3+31.18, 1.70' RT, GARGAN BASELINE

CP-3 -- MAG NAIL



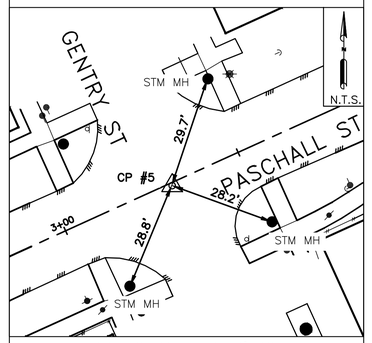
STA. 8+14.67, 1.51' RT, FULTON BASELINE
STA. 3+31.51, 1.03' RT JAMES BASELINE

CP-4 -- MAG NAIL



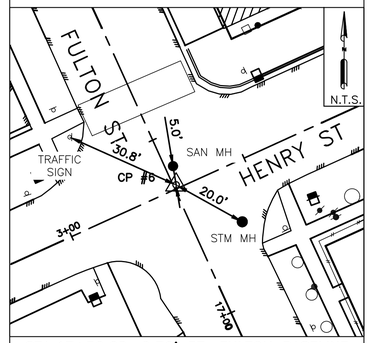
STA. 12+74.64, 0.24' RT, FULTON BASELINE
STA. 5+90.24, 1.06' RT PASCHALL BASELINE

CP-5 -- MAG NAIL



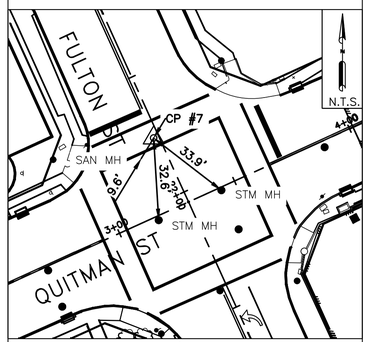
STA. 3+30.44, 0.67' RT,
PASCHALL ST BASELINE

CP-6 -- MAG NAIL



STA.17+36.68, 0.76' RT, FULTON BASELINE
STA.3+30.76, 0.98' LT, HENRY BASELINE

CP-7 -- X-CUT



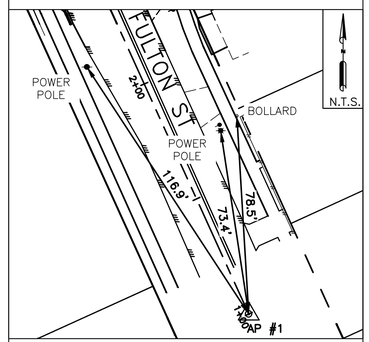
STA. 22+24.47, 2.06' LT, FULTON BASELINE
STA. 3+27.94, 28.77' LT, QUITMAN BASELINE

CP-8 -- MAG NAIL



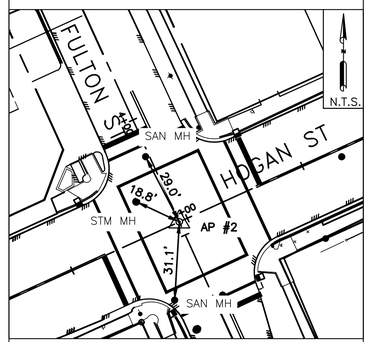
STA. 3+78.70, 20.80' LT, FULTON BASELINE
STA. 2+75.70, 23.01' LT, HOGAN BASELINE

AP-1 -- MAG NAIL



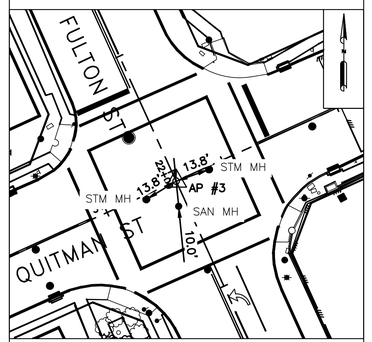
STA. 1+00.00,
FULTON ST BASELINE

AP-2 -- MAG NAIL



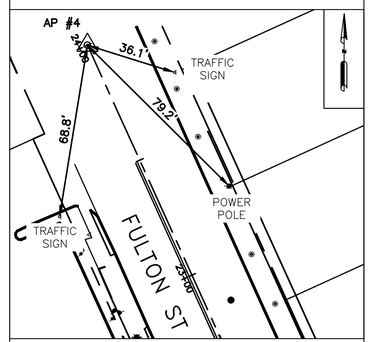
STA. 3+55.70, FULTON ST BASELINE
STA. 2+96.50, HOGAN BASELINE

AP-3 -- X-CUT



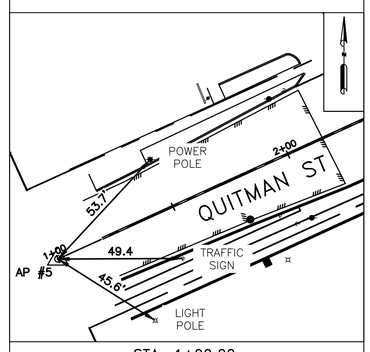
STA. 21+95.70, FULTON BASELINE
STA 3+30.00, QUITMAN BASELINE

AP-4 -- X-CUT



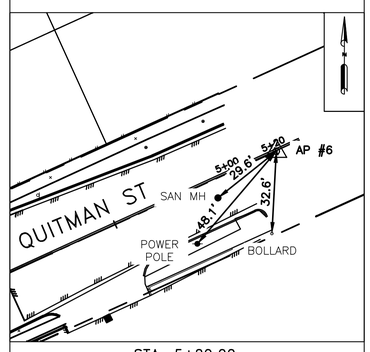
STA. 24+00.00,
FULTON ST BASELINE

AP-5 -- MAG NAIL



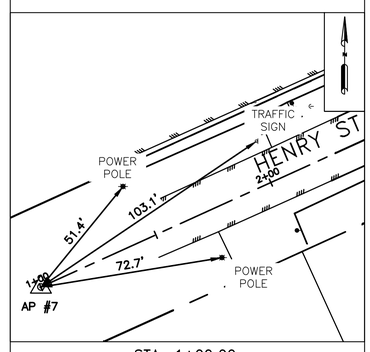
STA. 1+00.00,
QUITMAN ST BASELINE

AP-6 -- MAG NAIL



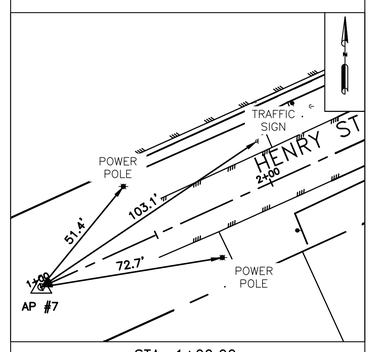
STA. 5+20.00,
QUITMAN ST BASELINE

AP-7 -- MAG NAIL



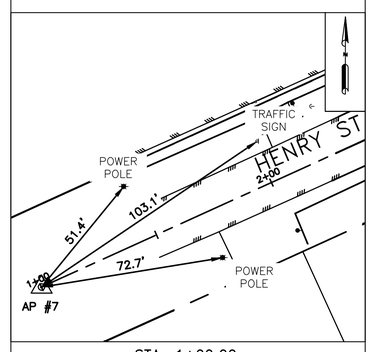
STA. 1+00.00,
HENRY ST BASELINE

AP-8 -- MAG NAIL



STA. 1+00.00,
HENRY ST BASELINE

AP-9 -- MAG NAIL



STA. 1+00.00,
HENRY ST BASELINE

No.	DATE	REVISION	APP.

KEY MAP: 493D, 493H

AMANI ENGINEERING, INC.
8303 SOUTHWEST FREEWAY, SUITE 600
HOUSTON, TEXAS 77074
TEL: (713) 270-5700
TEXAS REGISTERED ENGINEERING FIRM NO. F-4528
TEXAS REGISTERED SURVEYING FIRM NO. 100282-00

SURVEYED BY: AMANI
FB NO. P-6164

STATE OF TEXAS REGISTERED WILLIAM H. REIMER III 4044 PROFESSIONAL LAND SURVEYOR
07-11-2022

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FY17 FULTON ST. RECONSTRUCTION FROM QUITMAN ST. TO HOLTMAN ST.

SURVEY CONTROL MAP SHEET 2 OF 3

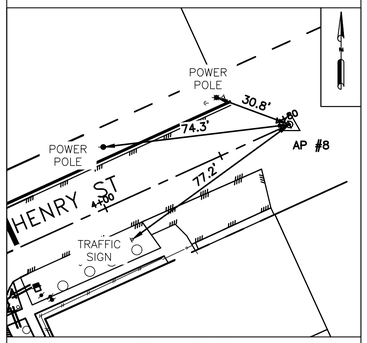
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 11 OF 223	

FILE NAME:
PLOTTED ON:

P:\Cad\2019\19037 - Hatch-Fulton\CAD_DWG\Survey Control Drawings\Swing Ties.dwg

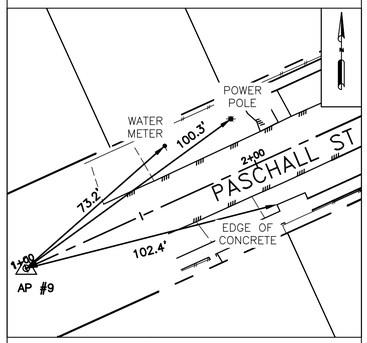
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

AP–10 -- MAG NAIL



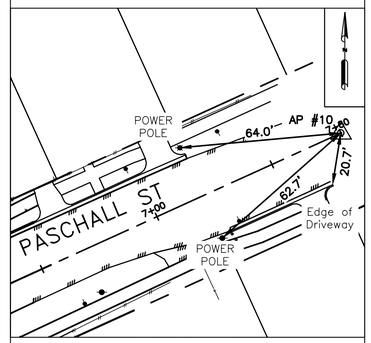
STA. 4+80.00,
HENRY ST BASELINE

AP–11 -- MAG NAIL



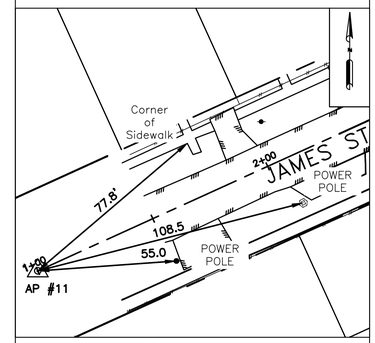
STA. 1+00.00,
PASCHALL ST BASELINE

AP–12 -- MAG NAIL



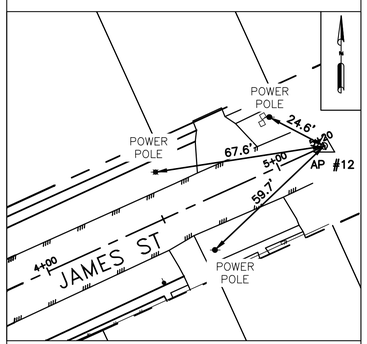
STA. 7+80.00,
PASCHALL ST BASELINE

AP–13 -- MAG NAIL



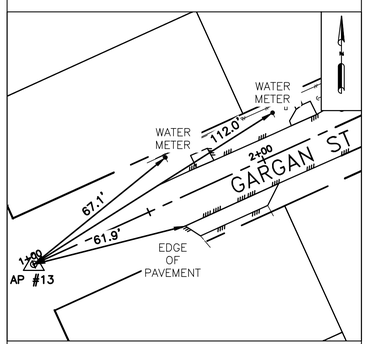
STA. 1+00.00,
JAMES ST BASELINE

AP–14 -- MAG NAIL



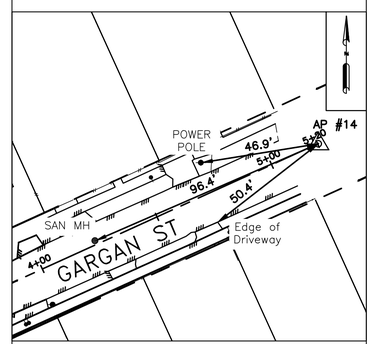
STA. 5+20.00,
JAMES ST BASELINE

AP–15 -- MAG NAIL



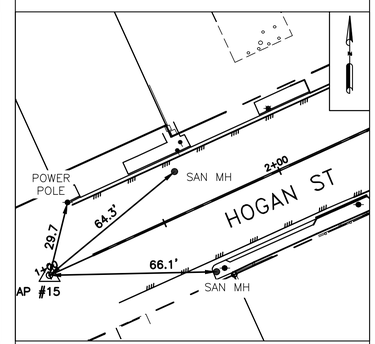
STA. 1+00.00,
GARGAN BASELINE

AP–16 -- MAG NAIL



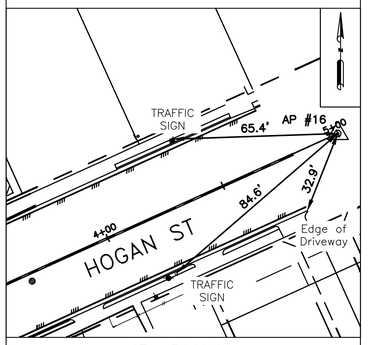
STA. 5+20.00,
GARGAN BASELINE

AP–17 -- MAG NAIL



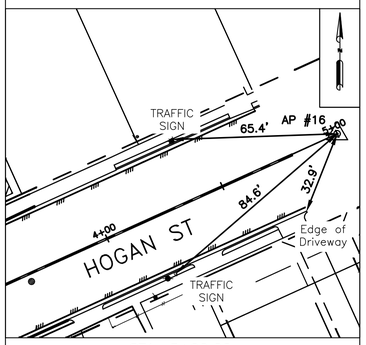
STA. 1+00.00,
HOGAN ST BASELINE

AP–18 -- MAG NAIL



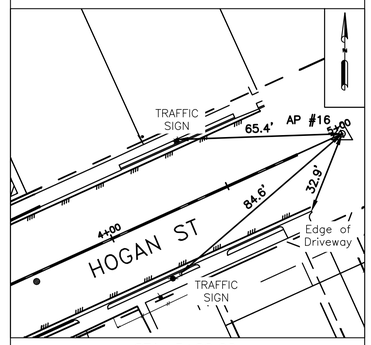
STA. 5+00.00,
HOGAN ST BASELINE

AP–19 -- MAG NAIL



STA. 5+00.00,
HOGAN ST BASELINE

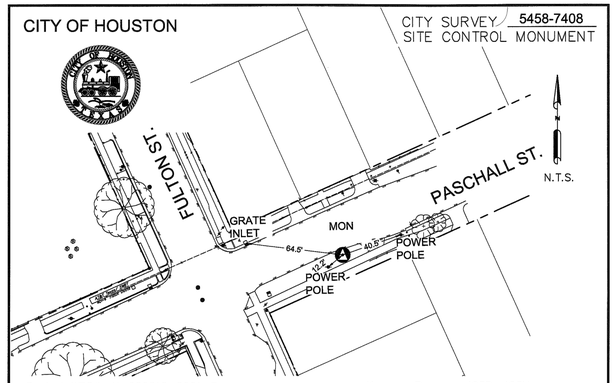
AP–20 -- MAG NAIL



STA. 5+00.00,
HOGAN ST BASELINE

CITY OF HOUSTON

CITY SURVEY 5458-7408
SITE CONTROL MONUMENT



Project WBS# N-000818-0001-3
Texas Coordinate System of 1983,
South Central Zone, U. S. Survey Feet
X= 3,123,431.24
Y= 13,849,098.55

Lat.= N 29° 46' 47.6373"
Lon.= W 95° 21' 30.9477"

Keymap Page: 493D, 493H
Orthometric Elevation = 47.22
Ellipsoid Height= -42.49
Geoid: GEOID 18
Datum Source & Adjustment:
2-HR STATIC GPS OBSERVATION
MADE ON MONUMENT ON 12/11/2019

Reference Frame Used: NAD_83(2011)(EPOCH: 2010.0000)
Vertical Adjustment used: NAVD 88 GEOID 18
General Location: LOCATED ON THE SOUTH SIDE ON PASCHALL ST. APPROXIMATELY 100' EAST OF THE INTERSECTION OF PASCHALL ST AND FULTON ST.

Date Set: 12/11/2019 Type of Mark: COH BRASS DISK

3 Nearest project control points (bearings and distances stated below):

1. CP #4, S 74° 46' 01" W, 90.59'
2. CP #5, S 67° 59' 38" W, 349.54'
3. CP #3, S 13° 15' 20" E, 454.09'

NOTE:
1. Bearings are grid bearings.
2. Scale Factor (S.F)= 0.99989533.

Surface= Grid / S.F.

Surveyed By: Amani Engineering, Inc.
8303 Southwest Freeway Suite # 600
Houston, TX 77074
Tel. (713)270-5700 & TBPELS# 10028200

STATE OF TEXAS REGISTERED CHRISTINA I. WEAVER 6753 PROFESSIONAL LAND SURVEYOR 12.5.20

P:\Cadd\2019\19037 - Hatch-Fulton\Monuments\5458-7408.dwg

CONTROL POINTS & TEMPORARY BENCHMARKS (GRID COORDINATES)

CP	(GRID) Northing	(GRID) Easting	Elevation	Description	Station	Remarks
1	13,848,264.87	3,123,715.83	46.61	MAG NAIL	STA. 3+83.32, 3.68' RT	FULTON ST
2	13,848,446.50	3,123,630.51	47.23	MAG NAIL	SAT. 5+84.00, 1.18' RT	FULTON ST
3	13,848,656.60	3,123,535.35	47.59	MAG NAIL	STA. 8+14.67, 1.51' RT	FULTON ST
4	13,849,074.75	3,123,343.84	48.34	MAG NAIL	STA. 12+74.64, 0.24' RT	FULTON ST
5	13,848,967.59	3,123,107.20	48.63	MAG NAIL	STA. 3+30.44, 0.67' RT	PASCHALL ST
6	13,849,495.53	3,123,153.10	48.55	MAG NAIL	STA. 17+36.68, 0.76' RT	FULTON ST
7	13,849,938.37	3,122,948.66	46.54	X-CUT	STA. 22+24.47, 2.06' LT	FULTON ST
8	13,848,250.54	3,123,695.45	46.19	MAG NAIL	STA. 3+78.70, 20.80' LT	FULTON ST

ADDITIONAL CONTROL POINTS (GRID COORDINATES)

AP	(GRID) Northing	(GRID) Easting	Description	Station	Remarks
1	13,848,005.46	3,123,829.73	MAG NAIL	STA. 1+00.00	FULTON ST
2	13,848,238.20	3,123,723.91	MAG NAIL	STA. 3+55.70	FULTON ST
3	13,849,913.03	3,122,962.45	X-CUT	STA. 21+95.70	FULTON ST
4	13,850,099.00	3,122,877.90	X-CUT	STA. 24+00.00	FULTON ST
5	13,849,817.85	3,122,753.09	MAG NAIL	STA. 1+00.00	QUITMAN ST
6	13,849,991.66	3,123,135.39	MAG NAIL	STA. 5+20.00	QUITMAN ST
7	13,849,399.14	3,122,943.46	MAG NAIL	STA. 1+00.00	HENRY ST
8	13,849,556.40	3,123,289.35	MAG NAIL	STA. 4+80.00	HENRY ST
9	13,848,872.84	3,122,897.16	MAG NAIL	STA. 1+00.00	PASCHALL ST
10	13,849,154.25	3,123,516.12	MAG NAIL	STA. 7+80.00	PASCHALL ST
11	13,848,561.73	3,123,324.19	MAG NAIL	STA. 1+00.00	JAMES ST
12	13,848,735.54	3,123,706.49	MAG NAIL	STA. 5+20.00	JAMES ST
13	13,848,352.37	3,123,419.37	MAG NAIL	STA. 1+00.00	GARGAN ST
14	13,848,526.19	3,123,801.67	MAG NAIL	STA. 5+20.00	GARGAN ST
15	13,848,156.88	3,123,545.05	MAG NAIL	STA. 1+00.00	HOGAN ST
16	13,848,322.42	3,123,909.14	MAG NAIL	STA. 5+00.00	HOGAN ST

KEY MAP: 493D, 493H

AMANI ENGINEERING, INC.
8303 SOUTHWEST FREEWAY, SUITE 600
HOUSTON, TEXAS 77074
TEL: (713) 270-5700
TEXAS REGISTERED ENGINEERING FIRM NO. F-4528
TEXAS REGISTERED SURVEYING FIRM NO. 100282-00

SURVEYED BY: AMANI
FB NO. P-6164

STATE OF TEXAS REGISTERED WILLIAM H. REIMER III 4044 PROFESSIONAL LAND SURVEYOR 07-11-2022

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FY17 FULTON ST. RECONSTRUCTION FROM QUITMAN ST. TO HOLTMAN ST.

SURVEY CONTROL MAP
SHEET 3 OF 3

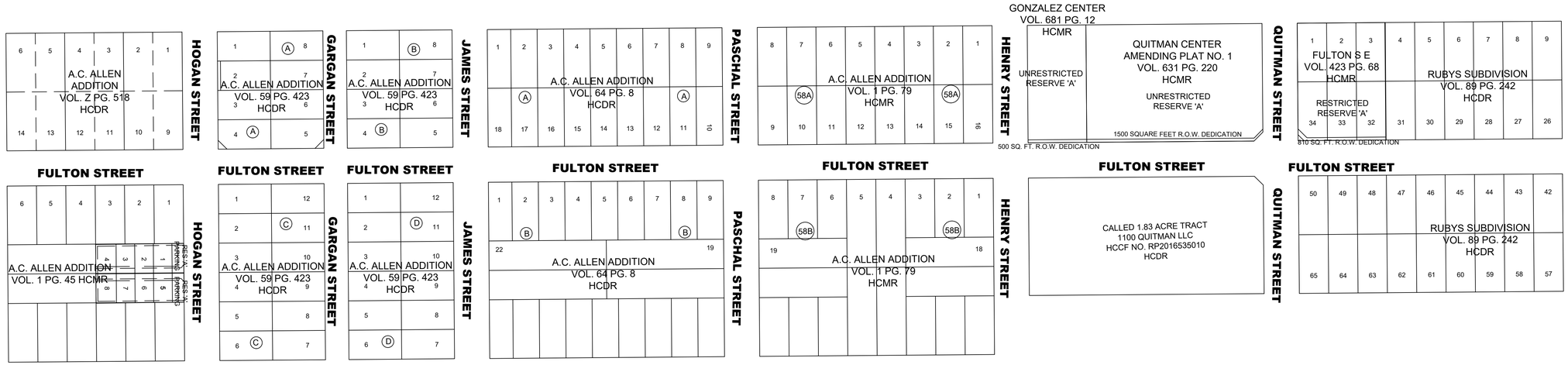
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 12 OF 223	

No.	DATE	REVISION	APP.

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

FILE NAME:
PLOTTED ON:

P:\Cadd\2019\19037 - Hatch-Fulton\CAD_DWG\Survey Control Drawings\Swing Ties.dwg



GRAPHIC SCALE
0 100 200
(IN FEET)
FULL SIZE: H. 1"=100'
HALF SIZE: H. 1"=200'

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

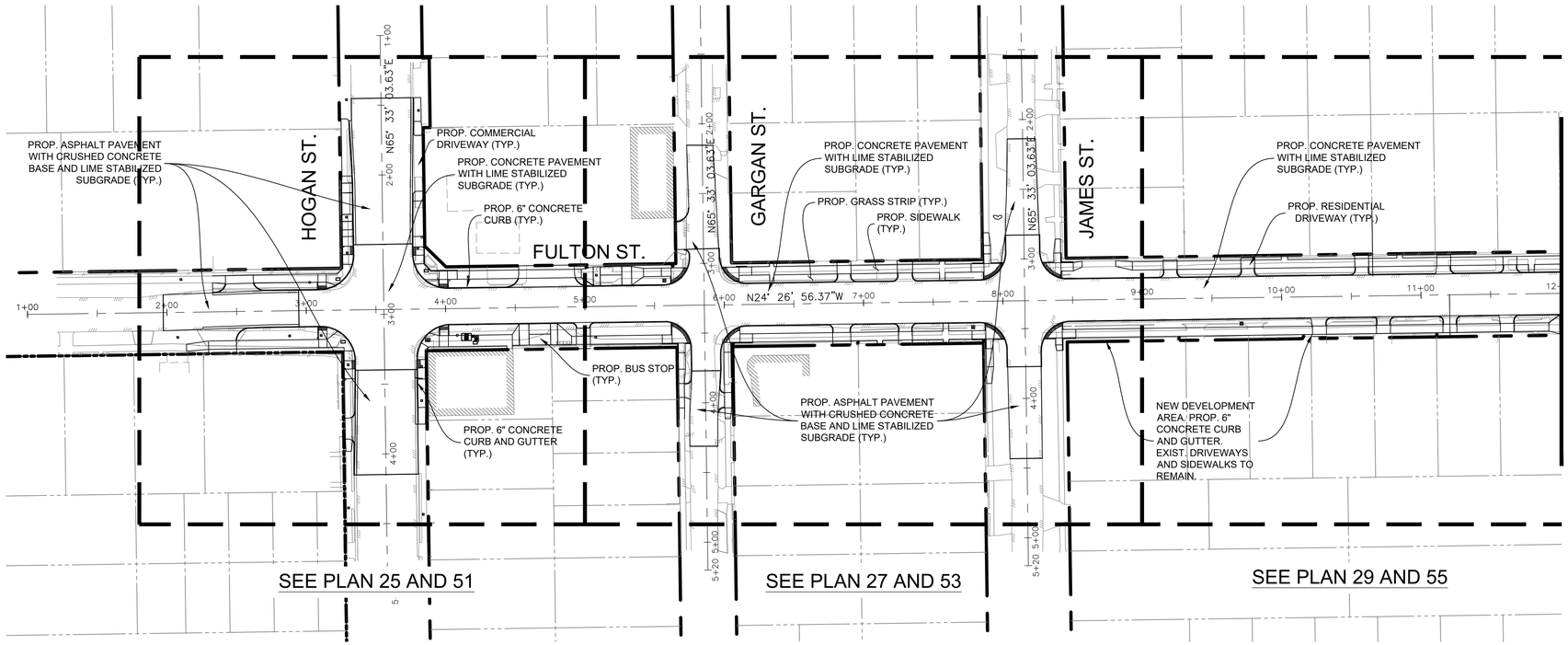
PARCEL INDEX MAP

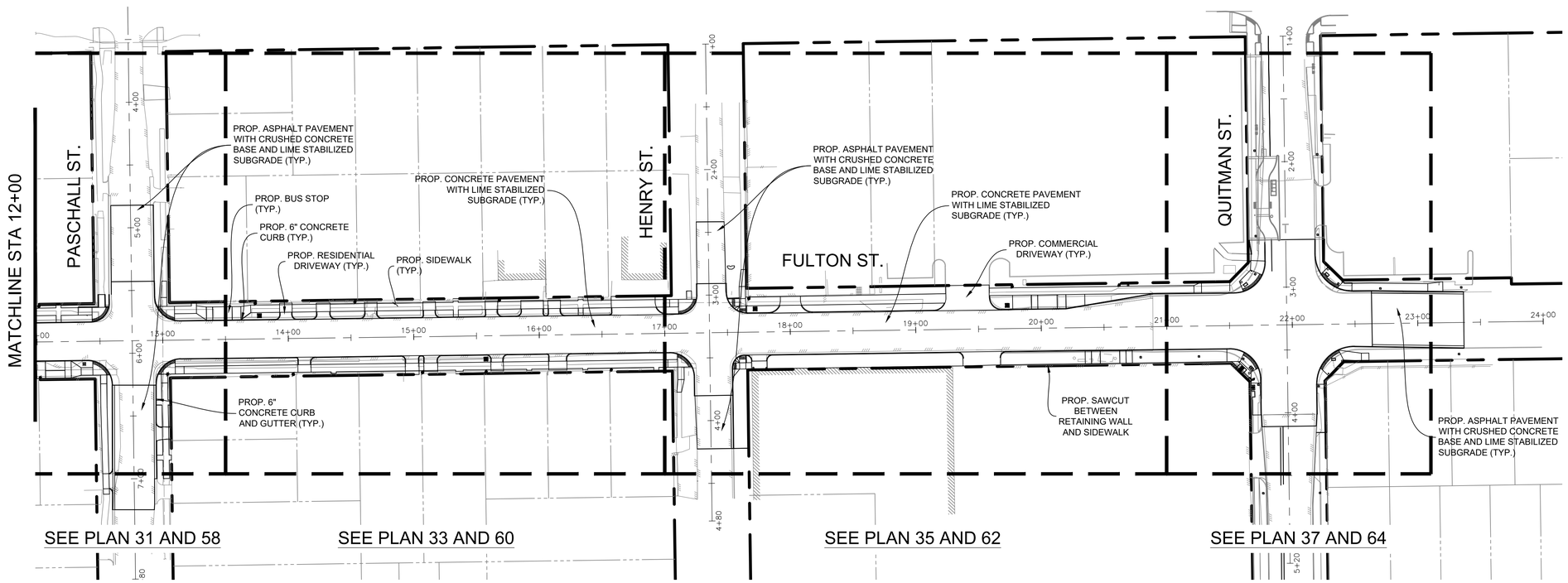
WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 13 OF 223

PLOTTED: 10/2/2026 4:57 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\13 PARCEL INDEX PLAN.dwg

GRAPHIC SCALE
0 50 100
(IN FEET)
FULL SIZE: H. 1"=50'
HALF SIZE: H. 1"=100'

NO.	DATE	REVISION	APP.





HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

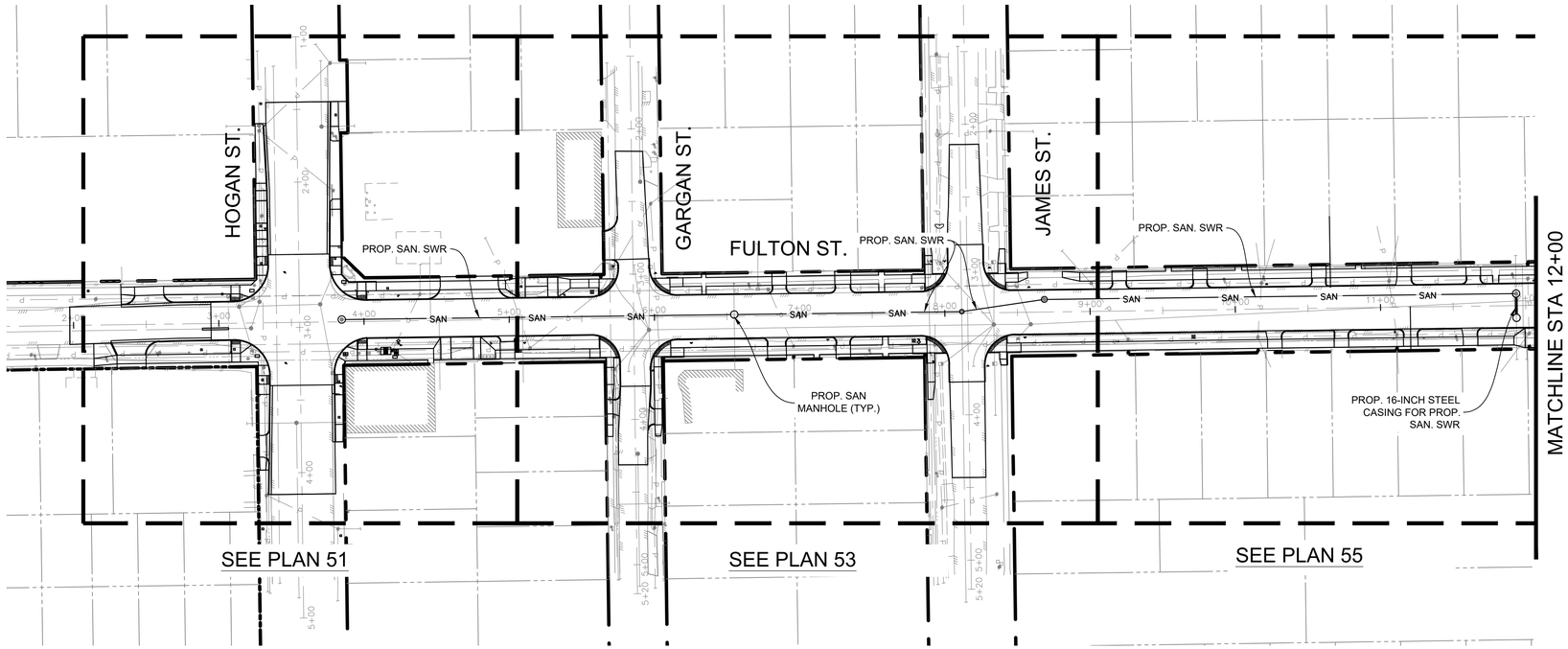
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

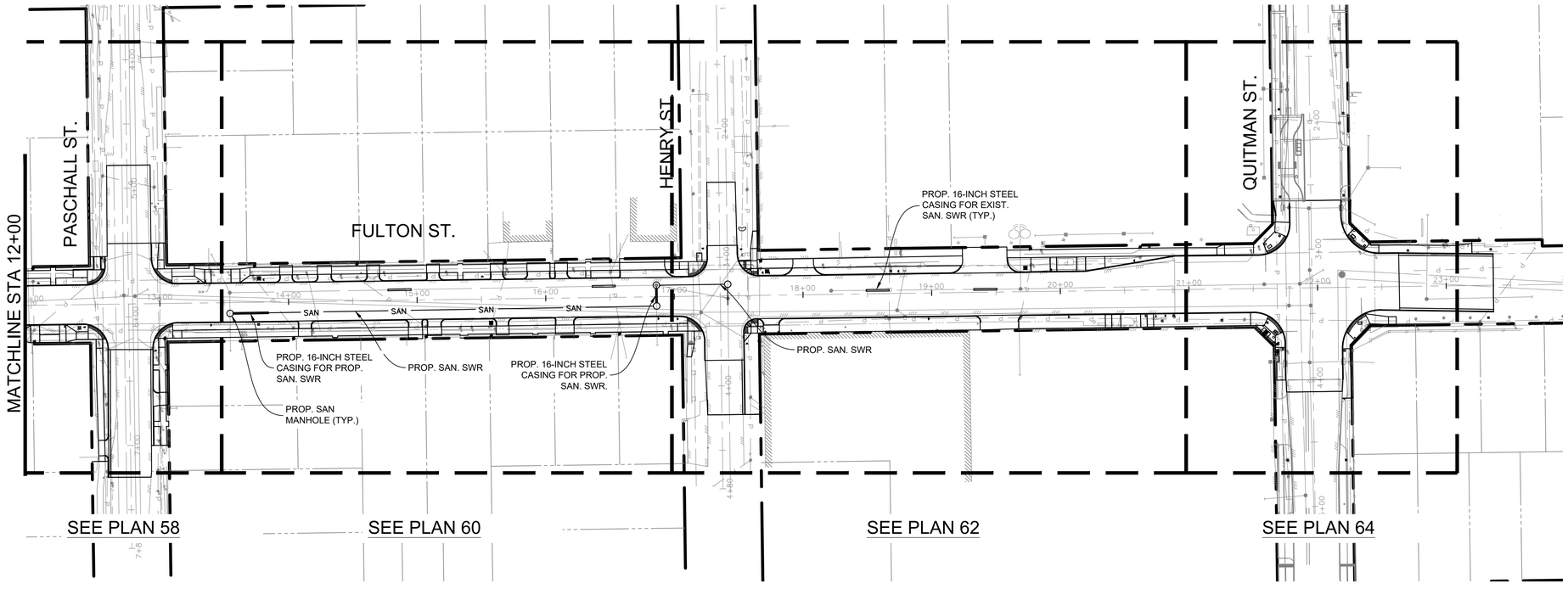
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

OVERALL PAVING PLAN

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1'=50'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 14 OF 223	

PLOTTED: 10/13/2026 11:44 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913134\14 OVERALL PAVING PLAN.dwg





GRAPHIC SCALE
0 50 100
(IN FEET)
FULL SIZE: H. 1"=50'
HALF SIZE: H. 1"=100'

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

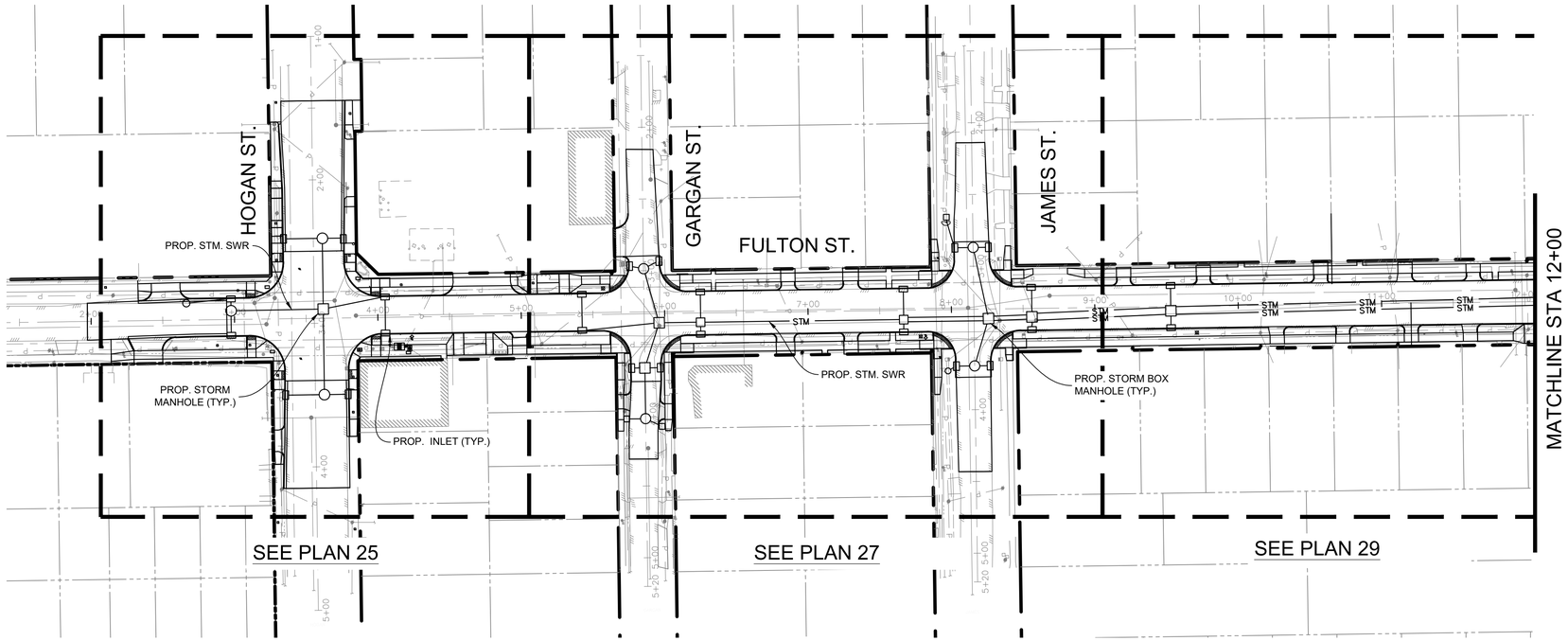
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

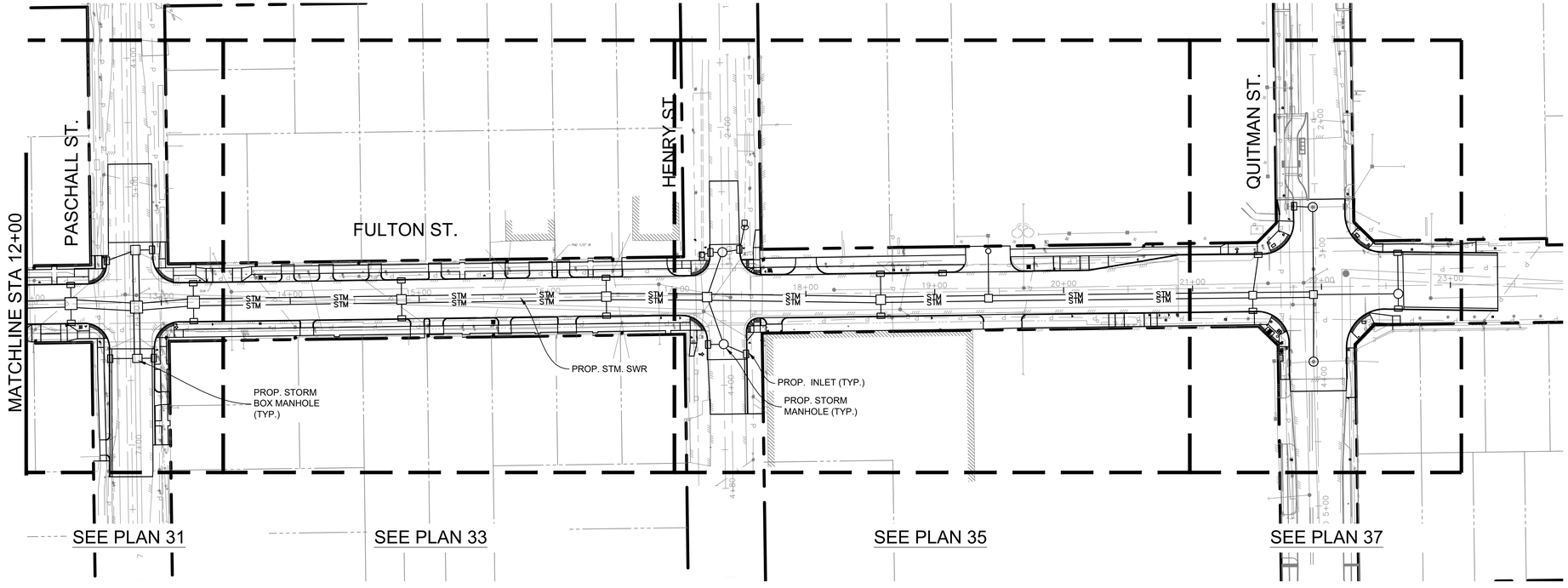
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

OVERALL SANITARY SEWER LAYOUT

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1'=50'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 15 OF 223	

PLOTTED: 10/2/2026 5:00 PM
PLOT STYLE: COH CIP.CTB
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GRAPHIC SCALE
0 50 100
(IN FEET)
FULL SIZE: H. 1"=50'
HALF SIZE: H. 1"=100'

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6164

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

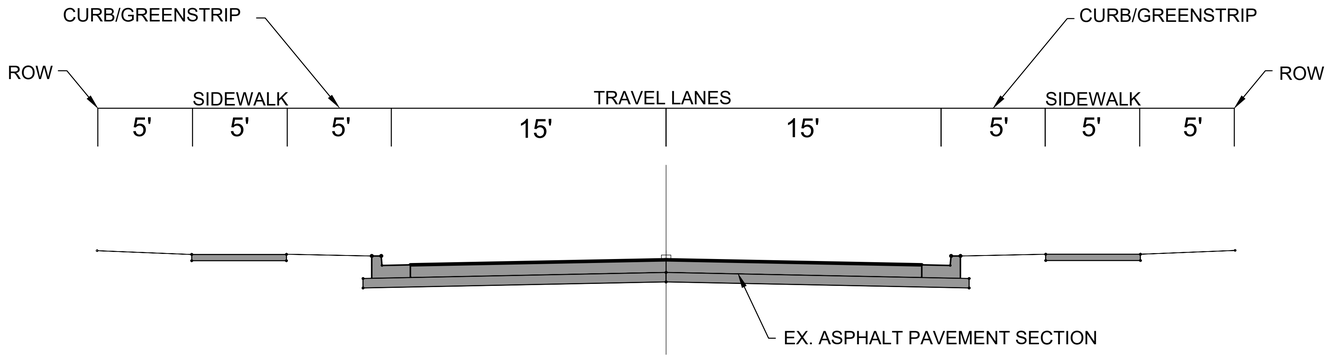
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

OVERALL STORM SEWER LAYOUT

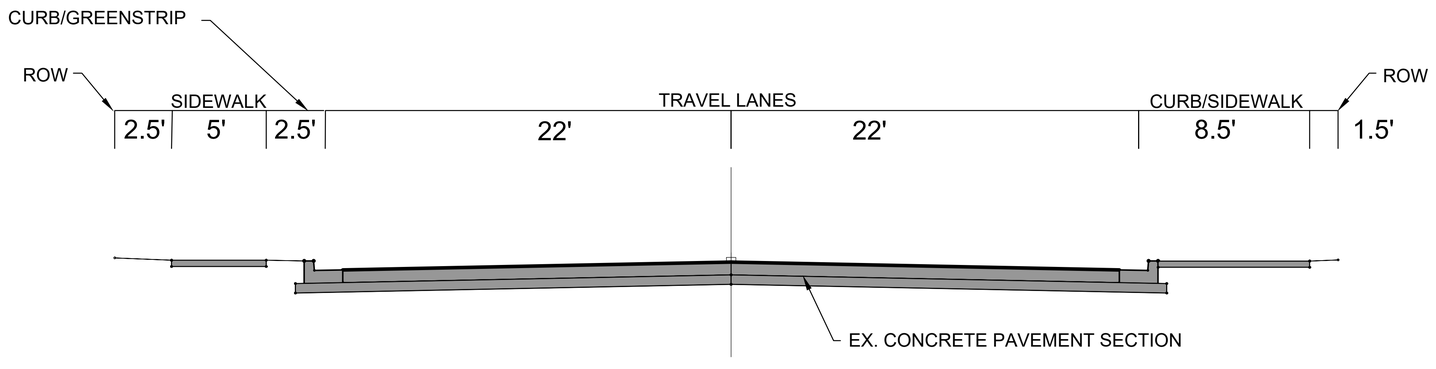
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N-000818-0001-4
DRAWING SCALE
1'=50'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 15A OF 223

PLOTTED: 10/13/2026 2:26 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913134\15A OVERALL SEWER PLAN.dwg

EXISTING SECTION - STA 2+66 TO STA 20+89



EXISTING SECTION - STA 20+89 TO STA 22+88



NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

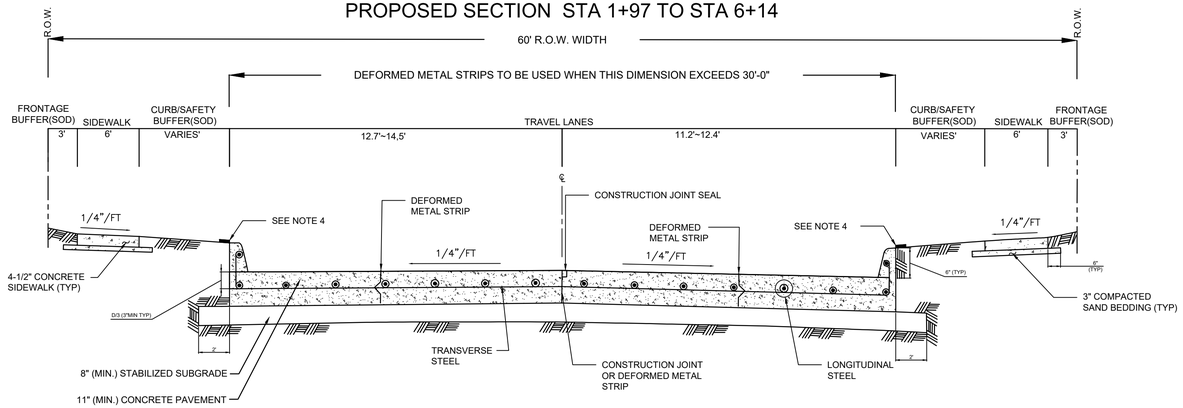
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

EXISTING
TYPICAL SECTIONS

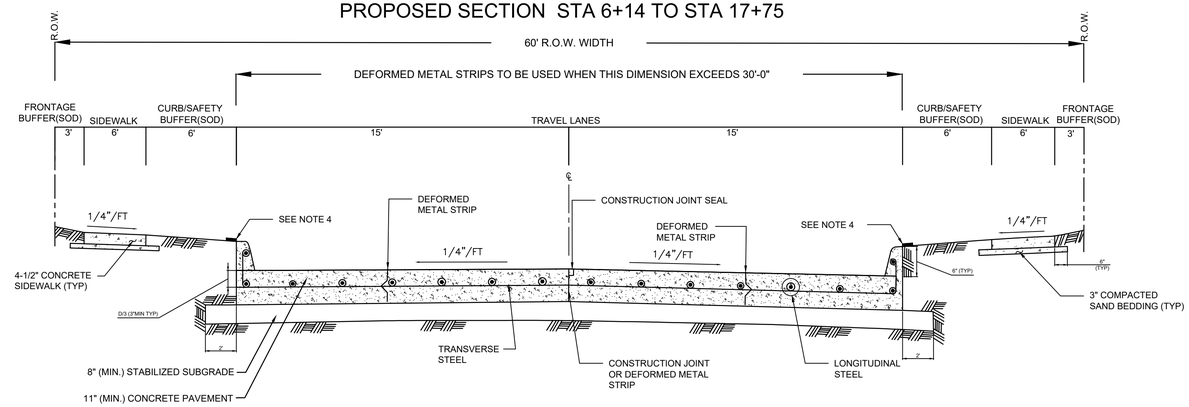
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N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 16 OF 223	

PLOTTED: 10/2/2026 6:01 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913141\16 EXISTING AND PROPOSED TYPICAL SECTIONS.dwg

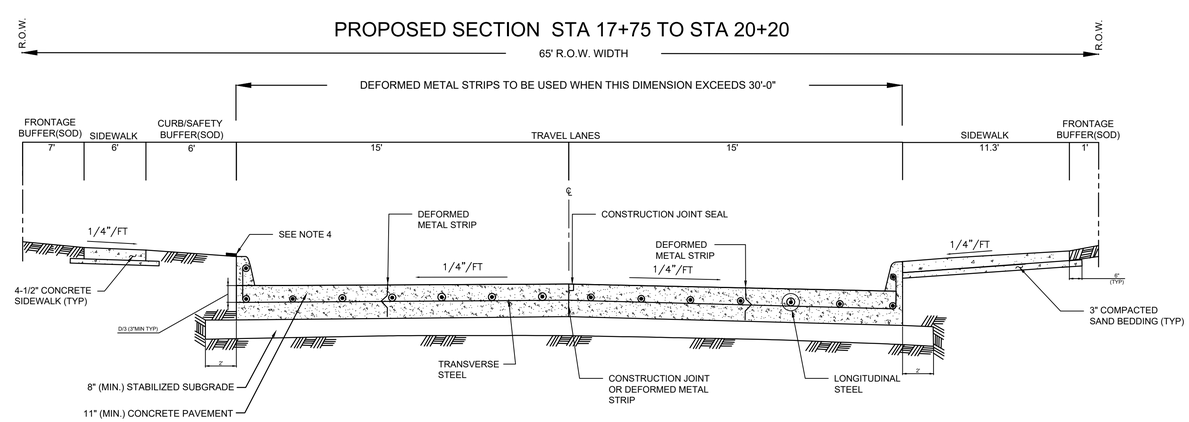
PROPOSED SECTION STA 1+97 TO STA 6+14



PROPOSED SECTION STA 6+14 TO STA 17+75



PROPOSED SECTION STA 17+75 TO STA 20+20



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

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.

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PROPOSED TYPICAL SECTIONS

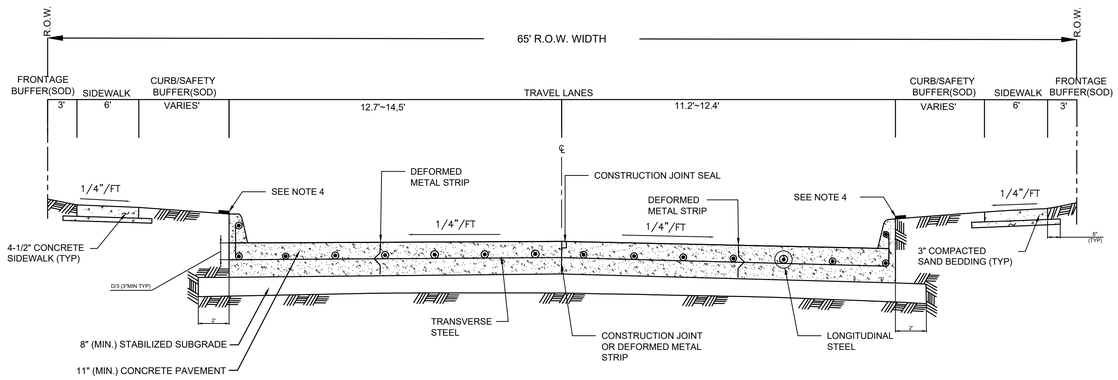
WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 17 OF 223	

PLOTTED: 10/2/2026 6:02 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\16 EXISTING AND PROPOSED TYPICAL SECTIONS.dwg

PLOTTED: 10/2/2026 6:02 PM
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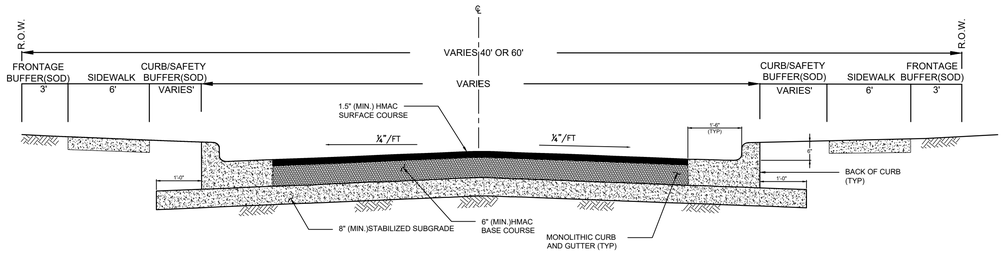
NO.	DATE	REVISION	APP.

PROPOSED SECTION STA 20+20 TO STA 23+37



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.



HMAC PAVEMENT - CROSS ROADS

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON

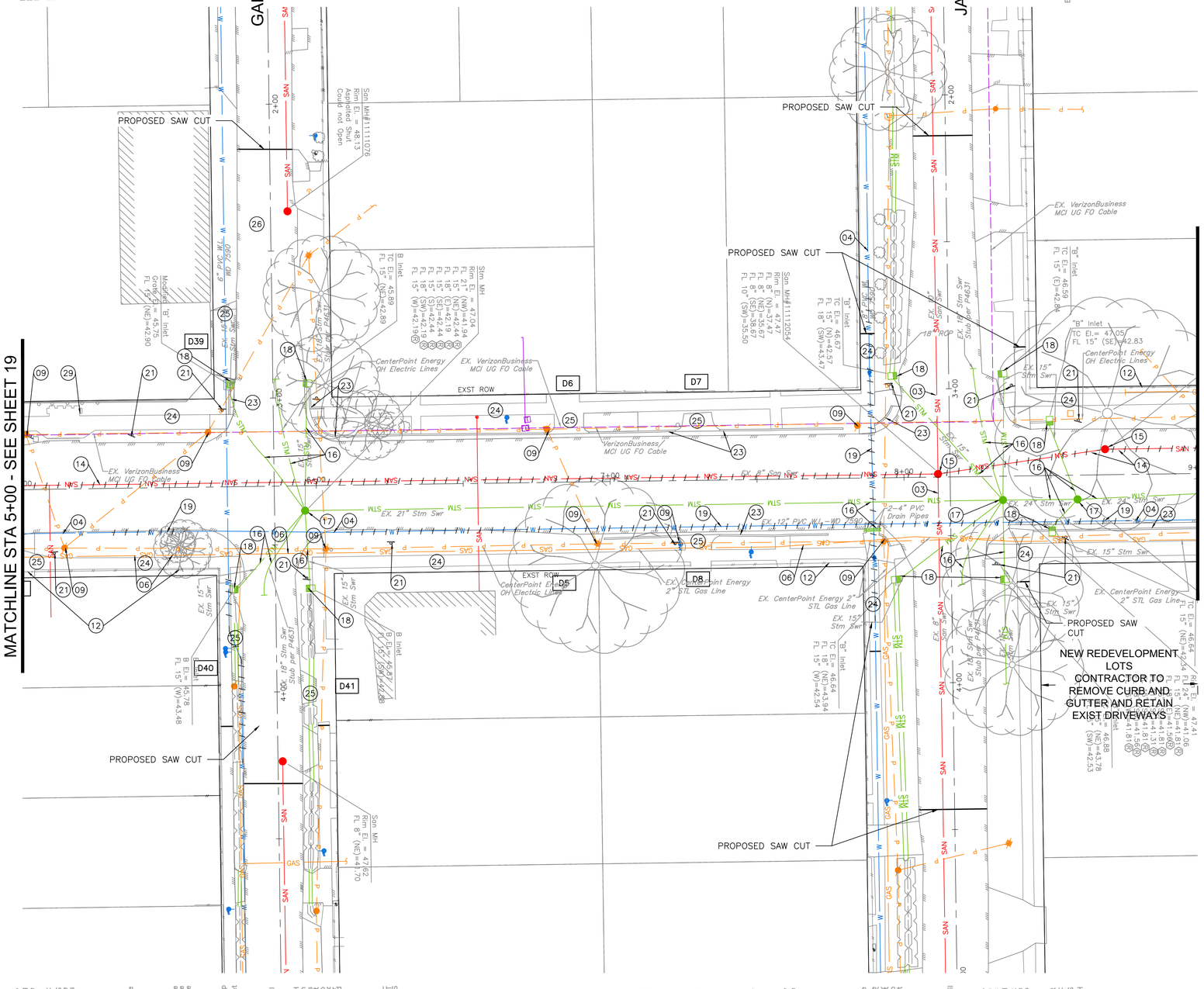
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PROPOSED TYPICAL SECTIONS

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 18 OF 223	


HOGAN ST.
FULTON ST.
PROPOSED SAW CUT
EXST ROW
D37
D38
D2
D1
D3
EX. 15" Stm Swr
EX. 18" Stm Swr
EX. 21" Stm Swr (22" per M4631)
EX. 8" San Swr
EX. 12" PVC W.L.-WD 7590
EX. VerizonBusiness MCI UG FO Cable
CenterPoint Energy OH Electric Lines
EX. CenterPoint Energy 2" STL Gas Line
"B" Inlet TC El.= 46.56 FL 15" (E)=42.79 FL 15" (SW)=42.79
"B" Inlet TC El.= 46.70 FL 15" (E)=43.10
"B" Inlet TC El.= 46.48 FL 18" (S)=41.63
Grate Inlet TC El.= 46.70 FL 15" (SW)=43.19
Stm MH Rim El.= 46.73 FL 15" (NE)=40.83 FL 15" (SE)=40.89 FL 15" (W)=40.88
Stm MH Rim El.= 46.53 FL 8" (NW)=41.95
San MH#111112059
San MH#111110691
San MH#111110690
San MH#111110691
San MH#111110691
San MH#111110691



LEGEND:

– / / / / / / – REMOVE AND DISPOSE OF WATER MAIN OR SANITARY SEWER MAIN

NOTE:

- REFER TO DRAINAGE AND PAVEMENT PLAN
- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

KEY NOTE:

(01) EXISTING STORM SEWER TO REMAIN IN PLACE
(02) EXISTING INLET TO REMAIN IN PLACE
(03) EXISTING SANITARY SEWER TO REMAIN IN PLACE
(04) EXISTING WATER MAIN TO REMAIN IN PLACE
(05) EXISTING FIRE HYDRANT TO REMAIN IN PLACE
(06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317
(07) EXISTING TRAFFIC SIGN TO REMAIN IN PLACE
(08) PROCEED WITH CAUTION – WORK IN THE VICINITY OF GAS MAIN
(09) EXISTING POWER POLES/STREET LIGHTS AND/OR GUY WIRE
(10) SEE SIGNALIZATION PLANS
(12) EXISTING FENCE TO BE REMOVED AND RELOCATED AT RIGHT–OF–WAY LINE
(13) REMOVE, SALVAGE AND RELOCATE EXISTING FLASHING BEACON SIGN POST
(14) REMOVE AND DISPOSE EXISTING SANITARY SEWER
(15) REMOVE AND DISPOSE EXISTING SANITARY MANHOLE
(16) REMOVE AND DISPOSE EXISTING STORM SEWER
(17) REMOVE AND DISPOSE EXISTING STORM SEWER MANHOLE
(18) REMOVE AND DISPOSE EXISTING INLET/CATCH BASIN
(19) REMOVE AND DISPOSE EXISTING WATER LINE
(20) REMOVE AND SALVAGE EXISTING FIRE HYDRANT
(21) REMOVE AND SALVAGE EXISTING TRAFFIC SIGN
(22) REMOVE AND DISPOSE OF EXISTING BOLLARD
(23) REMOVE AND DISPOSE EXISTING CONCRETE CURB OR CURB AND GUTTER
(24) REMOVE AND DISPOSE EXISTING SIDEWALK AND/OR WHEELCHAIR RAMP
(25) REMOVE AND DISPOSE EXISTING DRIVEWAY. SAW CUT AT R/W LINE, UNLESS NOTED OTHERWISE
(26) REMOVE AND DISPOSE OF EXISTING PAVEMENT
(27) RETAIN EXISTING CONCRETE PLANTER
(28) RETAIN EXISTING PRIVATE SIGN.
(29) REMOVE EXISTING BUS STOP PAD AND BENCHES. COORDINATE WITH METRO FOR SALVAGE OR DISPOSAL

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMAN ENGINEERING, INC.
FB NUMBER: P-6357

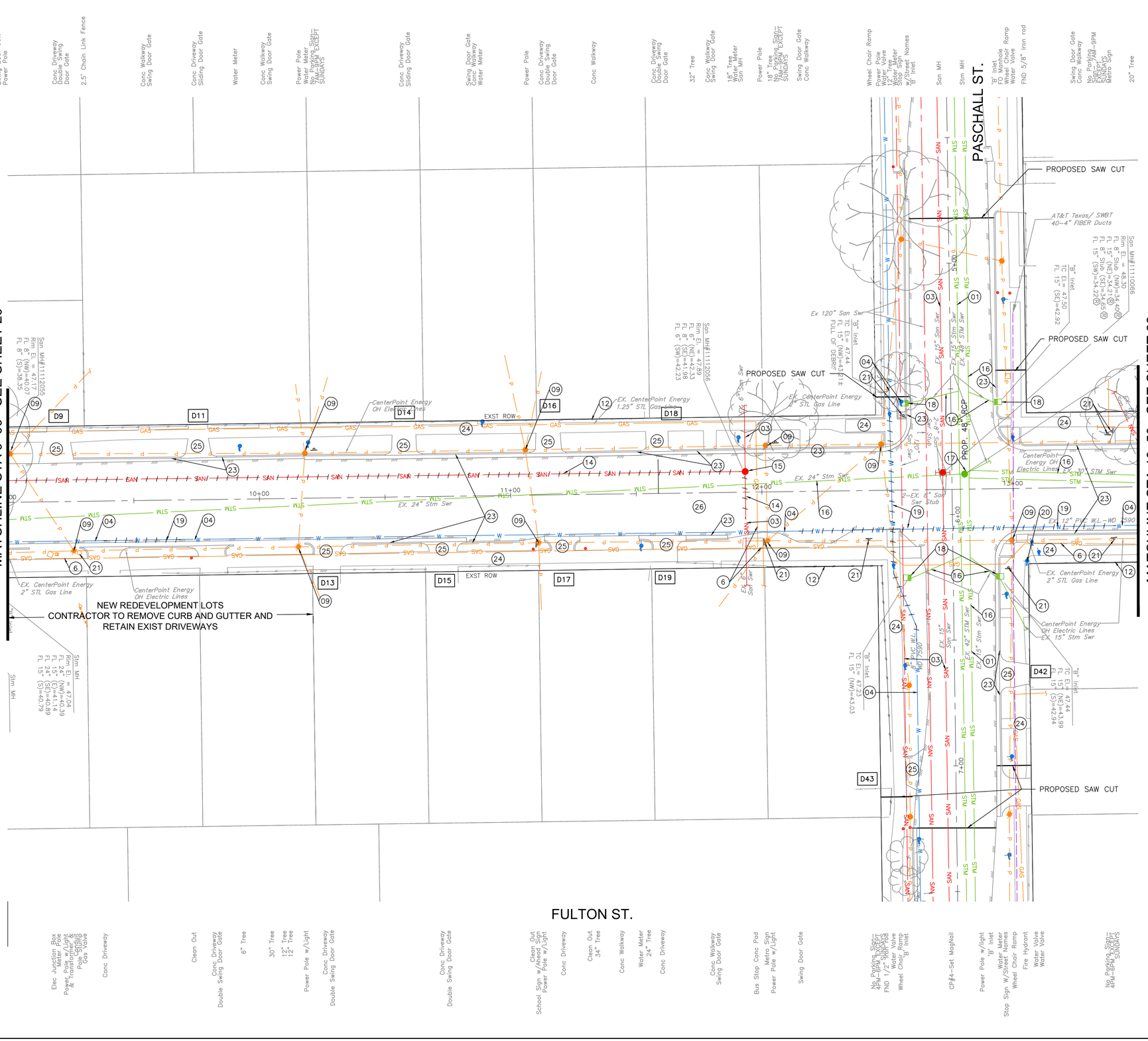
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DEMO PLAN
STA. 5+00 TO 9+00

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 20 OF 223	

PLOTTED: 10/13/2026 11:49 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\19 DEMO PLAN.DWG



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

LEGEND:

– / / / / / / – REMOVE AND DISPOSE OF WATER MAIN OR SANITARY SEWER MAIN

NOTE:

- REFER TO DRAINAGE AND PAVEMENT PLAN
- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANSREFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

KEY NOTE:

01 EXISTING STORM SEWER TO REMAIN IN PLACE

02 EXISTING INLET TO REMAIN IN PLACE

03 EXISTING SANITARY SEWER TO REMAIN IN PLACE

04 EXISTING WATER MAIN TO REMAIN IN PLACE

05 EXISTING FIRE HYDRANT TO REMAIN IN PLACE

06 CRITICAL LOCATION. SEE COH SPEC SECTION 02317

07 EXISTING TRAFFIC SIGN TO REMAIN IN PLACE

08 PROCEED WITH CAUTION – WORK IN THE VICINITY OF GAS MAIN

09 EXISTING POWER POLES/STREET LIGHTS AND/OR GUY WIR

10 SEE SIGNALIZATION PLANS

12 EXISTING FENCE TO BE REMOVED AND RELOCATED AT RIGHT-OF-WAY LINE

13 REMOVE, SALVAGE AND RELOCATE EXISTING FLASHING BEACON SIGN POST

14 REMOVE AND DISPOSE EXISTING SANITARY SEWER

15 REMOVE AND DISPOSE EXISTING SANITARY MANHOLE

16 REMOVE AND DISPOSE EXISTING STORM SEWER

17 REMOVE AND DISPOSE EXISTING STORM SEWER MANHOLE

18 REMOVE AND DISPOSE EXISTING INLET/CATCH BASIN

19 REMOVE AND DISPOSE EXISTING WATER LINE

20 REMOVE AND SALVAGE EXISTING FIRE HYDRANT

21 REMOVE AND SALVAGE EXISTING TRAFFIC SIGN

22 REMOVE AND DISPOSE OF EXISTING BOLLARD

23 REMOVE AND DISPOSE EXISTING CONCRETE CURB OR CURB AND GUTTER

24 REMOVE AND DISPOSE EXISTING SIDEWALK AND/OR WHEELCHAIR RAMP

25 REMOVE AND DISPOSE EXISTING DRIVEWAY. SAW CUT AT R/W LINE, UNLESS NOTED OTHERWISE

26 REMOVE AND DISPOSE OF EXISTING PAVEMENT

27 RETAIN CONCRETE PLANTER

28 RETAIN EXISTING PRIVATE SIGN.

29 REMOVE EXISTING BUS STOP PAD AND BENCHES. COORDINATE WITH METRO FOR SALVAGE OR DISPOSAL

NO.	DATE	REVISION	APP.

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

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Date

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

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

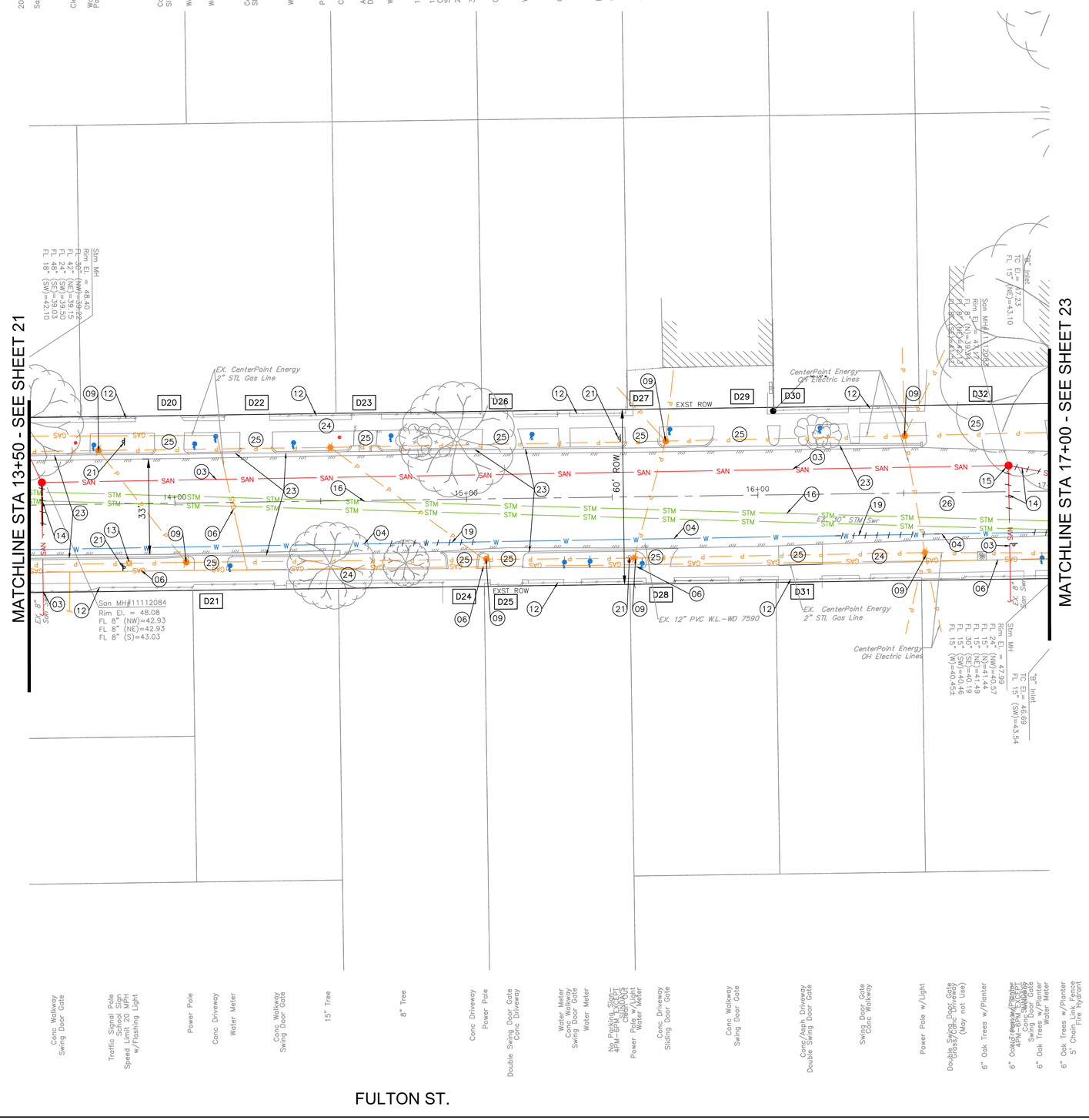
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DEMO PLAN
STA. 9+00 TO 13+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 21 OF 223	

PLOTTED: 10/13/2026 11:49 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\19 DEMO PLAN.DWG



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

LEGEND:

– / / / / / / – REMOVE AND DISPOSE OF WATER MAIN OR SANITARY SEWER MAIN

NOTE:

- REFER TO DRAINAGE AND PAVEMENT PLAN
- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

NOTE:

(01) EXISTING STORM SEWER TO REMAIN IN PLACE

(02) EXISTING INLET TO REMAIN IN PLACE

(03) EXISTING SANITARY SEWER TO REMAIN IN PLACE

(04) EXISTING WATER MAIN TO REMAIN IN PLACE

(05) EXISTING FIRE HYDRANT TO REMAIN IN PLACE

(06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317

(07) EXISTING TRAFFIC SIGN TO REMAIN IN PLACE

(08) PROCEED WITH CAUTION – WORK IN THE VICINITY OF GAS MAIN

(09) EXISTING POWER POLES/STREET LIGHTS AND/OR GUY WIRE

(10) SEE SIGNALIZATION PLANS

(12) EXISTING FENCE TO BE REMOVED AND RELOCATED AT RIGHT-OF-WAY LINE

(13) REMOVE, SALVAGE AND RELOCATE EXISTING FLASHING BEACON SIGN POST

(14) REMOVE AND DISPOSE EXISTING SANITARY SEWER

(15) REMOVE AND DISPOSE EXISTING SANITARY MANHOLE

(16) REMOVE AND DISPOSE EXISTING STORM SEWER

(17) REMOVE AND DISPOSE EXISTING STORM SEWER MANHOLE

(18) REMOVE AND DISPOSE EXISTING INLET/CATCH BASIN

(19) REMOVE AND DISPOSE EXISTING WATER LINE

(20) REMOVE AND SALVAGE EXISTING FIRE HYDRANT

(21) REMOVE AND SALVAGE EXISTING TRAFFIC SIGN

(22) REMOVE AND DISPOSE OF EXISTING BOLLARD

(23) REMOVE AND DISPOSE EXISTING CONCRETE CURB OR CURB AND GUTTER

(24) REMOVE AND DISPOSE EXISTING SIDEWALK AND/OR WHEELCHAIR RAMP

(25) REMOVE AND DISPOSE EXISTING DRIVEWAY. SAW CUT AT R/W LINE, UNLESS NOTED OTHERWISE

(26) REMOVE AND DISPOSE OF EXISTING PAVEMENT

(27) RETAIN EXISTING CONCRETE PLANTER

(28) RETAIN EXISTING PRIVATE SIGN.

(29) REMOVE EXISTING BUS STOP PAD AND BENCHES. COORDINATE WITH METRO FOR SALVAGE OR DISPOSAL

NO.	DATE	REVISION	APP.

NOTICE:
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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Date

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

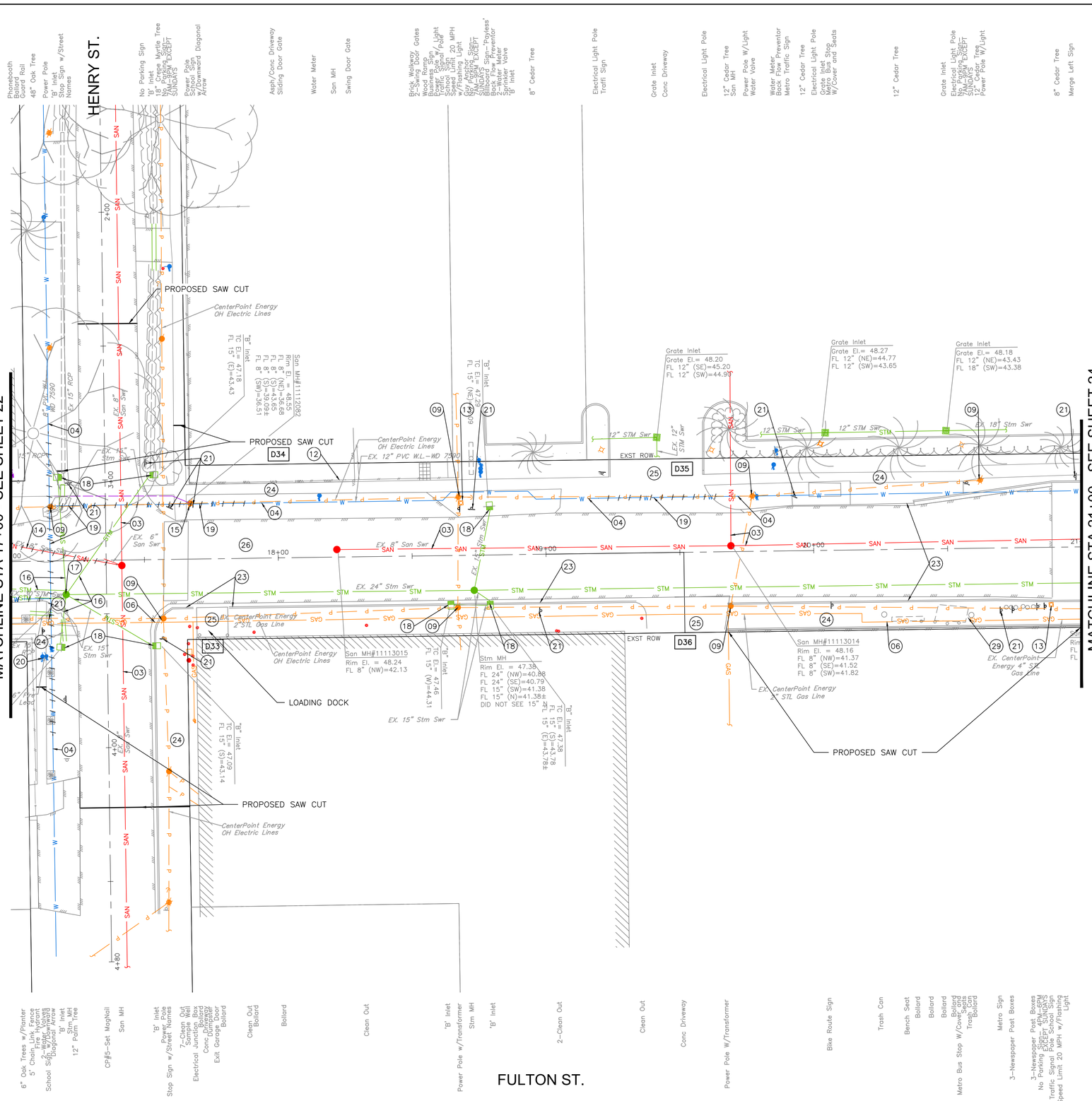
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DEMO PLAN
STA. 13+50 TO 17+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 22 OF 223	

PLOTTED: 10/13/2026 11:49 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\19 DEMO PLAN.DWG



PLOT STYLE: COH CIP.CTB PLOTTED: 10/13/2026 11:49 AM

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\19 DEMO PLAN.DWG

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

LEGEND:

– / / / / / / – REMOVE AND DISPOSE OF WATER MAIN OR SANITARY SEWER MAIN

NOTE:

- REFER TO DRAINAGE AND PAVEMENT PLAN
- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

KEY NOTE:

(01) EXISTING STORM SEWER TO REMAIN IN PLACE
(02) EXISTING INLET TO REMAIN IN PLACE
(03) EXISTING SANITARY SEWER TO REMAIN IN PLACE
(04) EXISTING WATER MAIN TO REMAIN IN PLACE
(05) EXISTING FIRE HYDRANT TO REMAIN IN PLACE
(06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317
(07) EXISTING TRAFFIC SIGN TO REMAIN IN PLACE
(08) PROCEED WITH CAUTION – WORK IN THE VICINITY OF GAS MAIN
(09) EXISTING POWER POLES/STREET LIGHTS AND/OR GUY WIRE
(10) SEE SIGNALIZATION PLANS
(12) EXISTING FENCE TO BE REMOVED AND RELOCATED AT RIGHT–OF–WAY LINE
(13) REMOVE, SALVAGE AND RELOCATE EXISTING FLASHING BEACON SIGN POST
(14) REMOVE AND DISPOSE EXISTING SANITARY SEWER
(15) REMOVE AND DISPOSE EXISTING SANITARY MANHOLE
(16) REMOVE AND DISPOSE EXISTING STORM SEWER
(17) REMOVE AND DISPOSE EXISTING STORM SEWER MANHOLE
(18) REMOVE AND DISPOSE EXISTING INLET/CATCH BASIN
(19) REMOVE AND DISPOSE EXISTING WATER LINE
(20) REMOVE AND SALVAGE EXISTING FIRE HYDRANT
(21) REMOVE AND SALVAGE EXISTING TRAFFIC SIGN
(22) REMOVE AND DISPOSE OF EXISTING BOLLARD
(23) REMOVE AND DISPOSE EXISTING CONCRETE CURB OR CURB AND GUTTER
(24) REMOVE AND DISPOSE EXISTING SIDEWALK AND/OR WHEELCHAIR RAMP
(25) REMOVE AND DISPOSE EXISTING DRIVEWAY. SAW CUT AT R/W LINE, UNLESS NOTED OTHERWISE
(26) REMOVE AND DISPOSE OF EXISTING PAVEMENT
(27) RETAIN EXISTING CONCRETE PLANTER
(28) RETAIN EXISTING PRIVATE SIGN.
(29) REMOVE EXISTING BUS STOP PAD AND BENCHES. COORDINATE WITH METRO FOR SALVAGE OR DISPOSAL

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

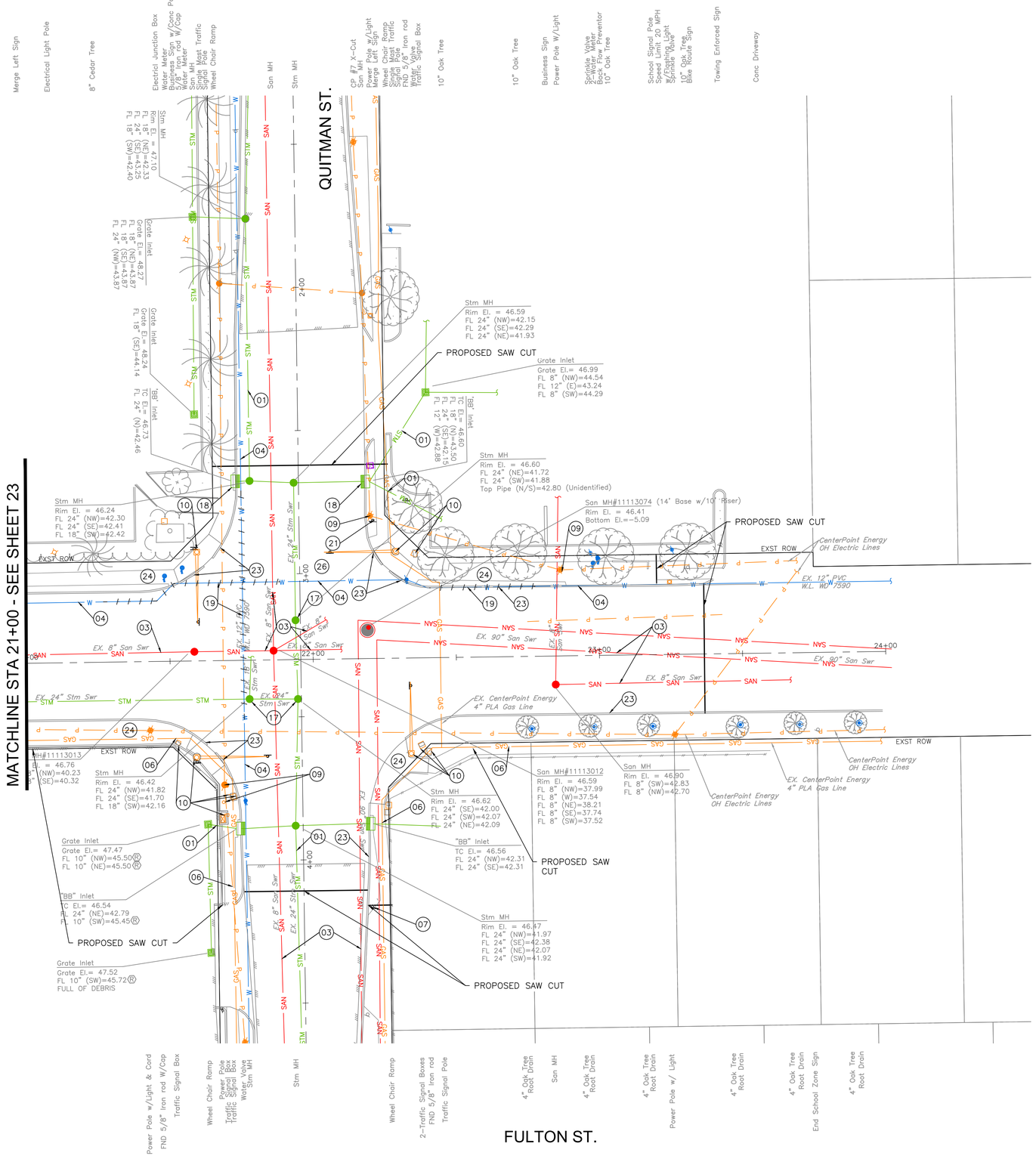
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DEMO PLAN
STA. 17+00 TO 21+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 23 OF 223	



LEGEND:

– / / / / / / – REMOVE AND DISPOSE OF WATER MAIN OR SANITARY SEWER MAIN

NOTE:

- REFER TO DRAINAGE AND PAVEMENT PLAN
- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

KEY NOTE:

(01) EXISTING STORM SEWER TO REMAIN IN PLACE

(02) EXISTING INLET TO REMAIN IN PLACE

(03) EXISTING SANITARY SEWER TO REMAIN IN PLACE

(04) EXISTING WATER MAIN TO REMAIN IN PLACE

(05) EXISTING FIRE HYDRANT TO REMAIN IN PLACE

(06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317

(07) EXISTING TRAFFIC SIGN TO REMAIN IN PLACE

(08) PROCEED WITH CAUTION – WORK IN THE VICINITY OF GAS MAIN

(09) EXISTING POWER POLES/STREET LIGHTS AND/OR GUY WIRE

(10) SEE SIGNALIZATION PLANS

(12) EXISTING FENCE TO BE REMOVED AND RELOCATED AT RIGHT–OF–WAY LINE

(13) REMOVE, SALVAGE AND RELOCATE EXISTING FLASHING BEACON SIGN POST

(14) REMOVE AND DISPOSE EXISTING SANITARY SEWER

(15) REMOVE AND DISPOSE EXISTING SANITARY MANHOLE

(16) REMOVE AND DISPOSE EXISTING STORM SEWER

(17) REMOVE AND DISPOSE EXISTING STORM SEWER MANHOLE

(18) REMOVE AND DISPOSE EXISTING INLET/CATCH BASIN

(19) REMOVE AND DISPOSE EXISTING WATER LINE

(20) REMOVE AND SALVAGE EXISTING FIRE HYDRANT

(21) REMOVE AND SALVAGE EXISTING TRAFFIC SIGN

(22) REMOVE AND DISPOSE OF EXISTING BOLLARD

(23) REMOVE AND DISPOSE EXISTING CONCRETE CURB OR CURB AND GUTTER

(24) REMOVE AND DISPOSE EXISTING SIDEWALK AND/OR WHEELCHAIR RAMP

(25) REMOVE AND DISPOSE EXISTING DRIVEWAY. SAW CUT AT R/W LINE, UNLESS NOTED OTHERWISE

(26) REMOVE AND DISPOSE OF EXISTING PAVEMENT

(27) RETAIN EXISTING CONCRETE PLANTER

(28) RETAIN EXISTING PRIVATE SIGN.

(29) REMOVE EXISTING BUS STOP PAD AND BENCHES. COORDINATE WITH METRO FOR SALVAGE OR DISPOSAL

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

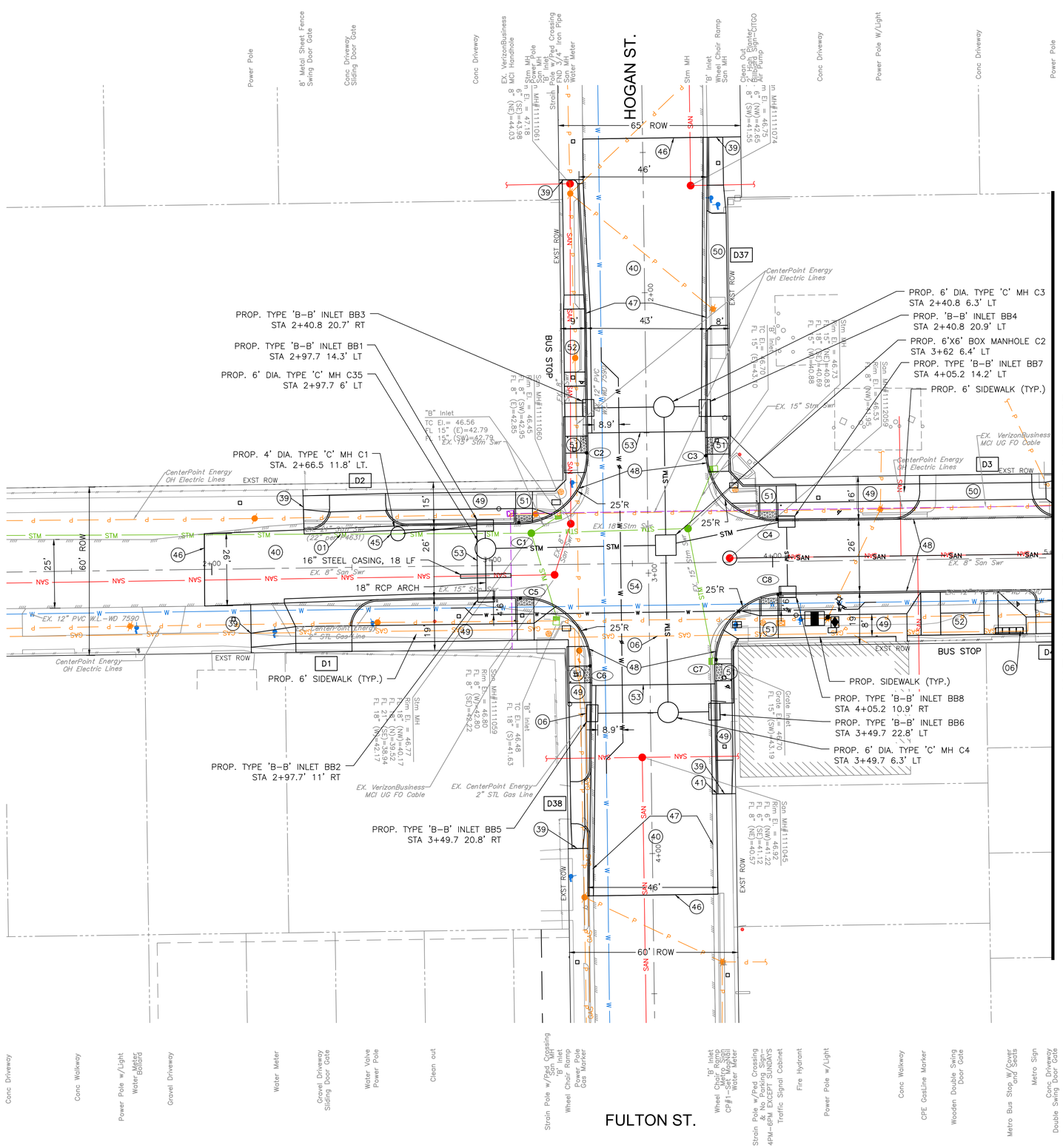
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DEMO PLAN
STA. 21+00 TO END

WBS NUMBER	N–000818–0001–4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	24 OF 223

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/13/2026 11:49 AM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\19 DEMO PLAN.DWG



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NOTE:

- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- ALL PROPOSED STORM SEWER PIPE SHALL BE 24" RCP UNLESS OTHERWISE NOTED
- REFER TO SIGNING AND PAVEMENT MARKING PLANS
- PROPOSED DRIVEWAY CURB RADIUS SHALL NOT ENCROACH INTO THE NEIGHBOR'S PROPERTY. THERE SHALL BE NO ENCROACHMENTS INTO THE NEIGHBOR'S PROPERTY

KEY NOTE:

- DXX SEE SHEET 49 FOR DRIVEWAY DATA
- CXX SEE SHEET 50 FOR POINT TABLE DATA
- (01) EXISTING STORM SEWER TO REMAIN IN PLACE
- (02) EXISTING INLET TO REMAIN IN PLACE
- (06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317
- (30) ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE
- (35) EXISTING WATER MAIN TO REMAIN IN PLACE
- (36) EXISTING CENTERPOINT GAS APPURTENANCES TO BE ADJUSTED TO FINISHED GRADE BY CENTERPOINT
- (37) EXISTING TELEPHONE/COMMUNICATION MANHOLE/MANHOLE TOP TO BE ADJUSTED TO FINISHED GRADE BY UTILITY OWNER
- (38) MATCH EXISTING CURB GUTTER
- (39) MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS
- (40) PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION
- (41) END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS
- (44) CONNECT PROPOSED STORM SEWER TO EXISTING MANHOLE OR JUNCTION BOX
- (45) CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH GROUT NON-SHRINK
- (46) MATCH EXISTING PAVEMENT
- (47) PROPOSED 6" CONCRETE CURB AND GUTTER
- (48) PROPOSED 6" CONCRETE CURB
- (49) PROPOSED CONCRETE SIDEWALK, 4-1/2" THICK (SAFETY BUFFER AND FRONTAGE BUFFER TO BE GRASSED/ SODDED WHERE APPLICABE)
- (50) PROPOSED CONCRETE DRIVEWAY, 7" THICK. SEE DRIVEWAY TABLE
- (51) PROPOSED CURB RAMP
- (52) PROPOSED 9" CONCRETE BUS STOP PAD AND LANDING
- (53) CONCRETE AND ASPHALT PAVEMENT TRANSITION
- (54) PROPOSED CONCRETE PAVEMENT WITH LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

NO.	DATE	REVISION	APP.

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

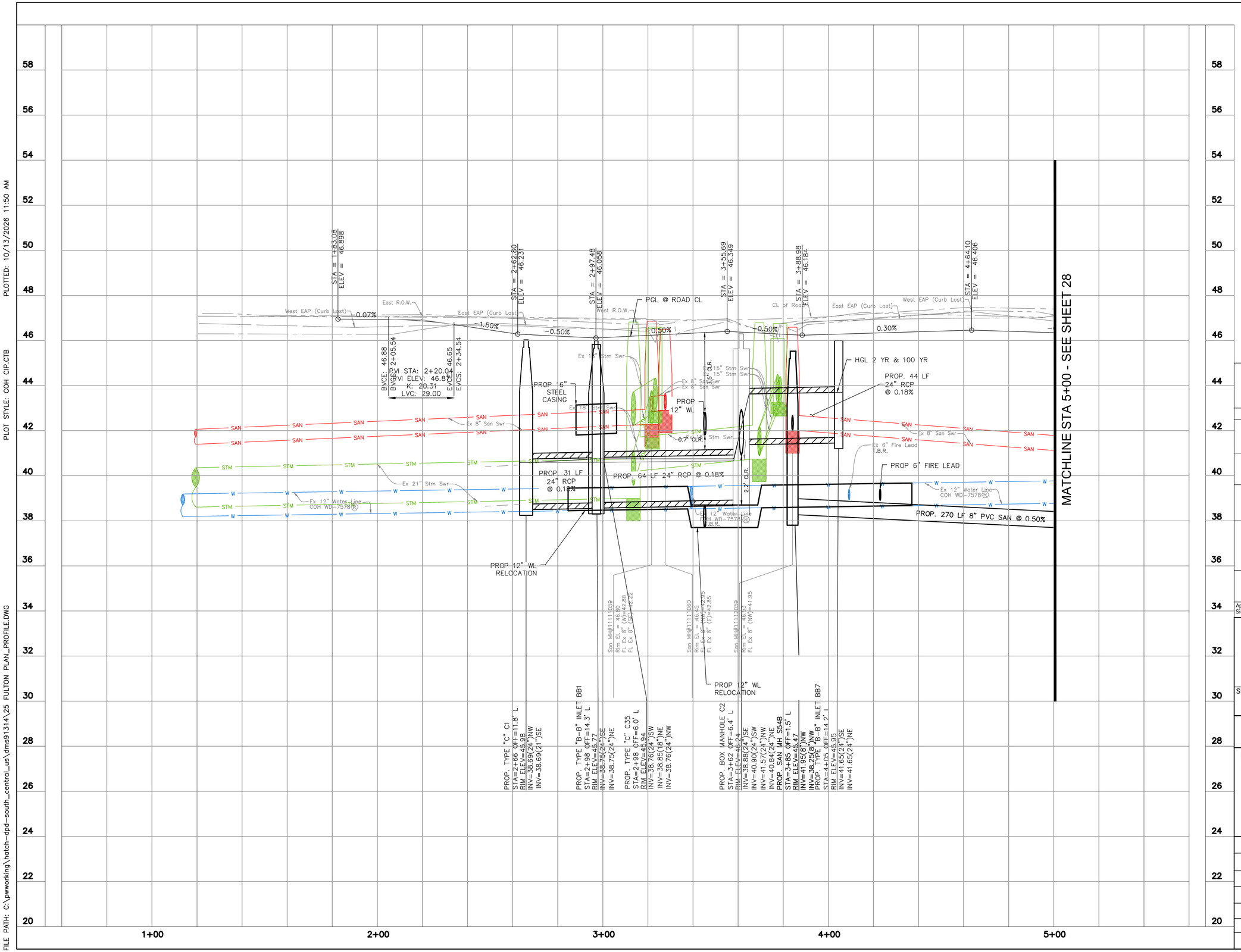
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE AND PAVING PLAN STA. 1+00 TO 5+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 25 OF 223	

PLOTTED: 10/13/2026 11:50 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

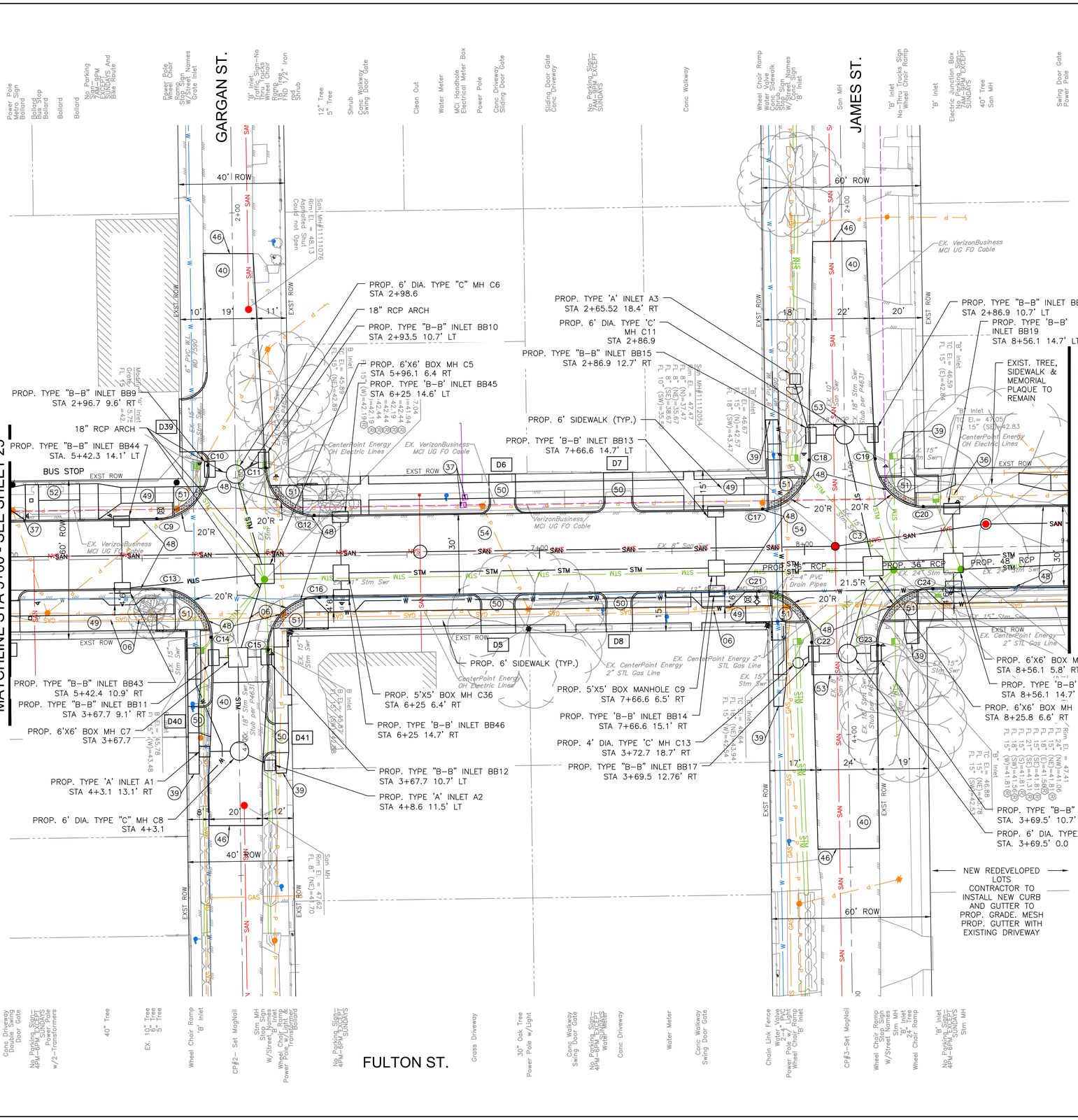
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE PROFILE
STA. 1+00 TO 5+00

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	26 OF 223

PLOTTED: 10/13/2026 11:50 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG



NOTE:

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KEY NOTE:

- DXX SEE SHEET 49 FOR DRIVEWAY DATA
- CXX SEE SHEET 50 FOR POINT TABLE DATA
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- (02) EXISTING INLET TO REMAIN IN PLACE
- (06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317
- (30) ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE
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- (38) MATCH EXISTING CURB GUTTER
- (39) MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS
- (40) PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION
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GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE AND PAVING PLAN STA. 5+00 TO 9+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 27 OF 223	

PLOTTED: 10/13/2026 11:50 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:50 AM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms911314\25 FULTON PLAN_PROFILE.DWG

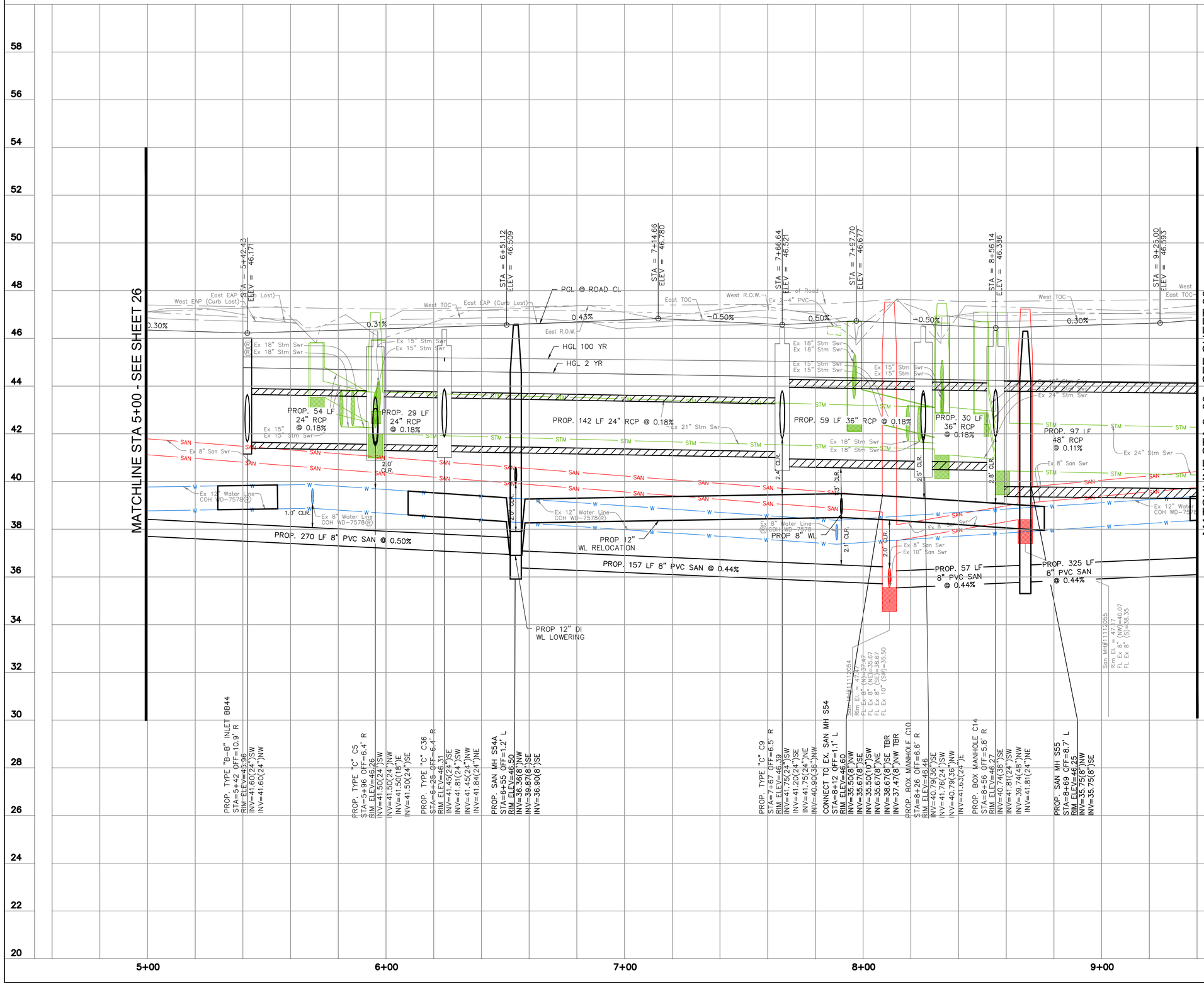
GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

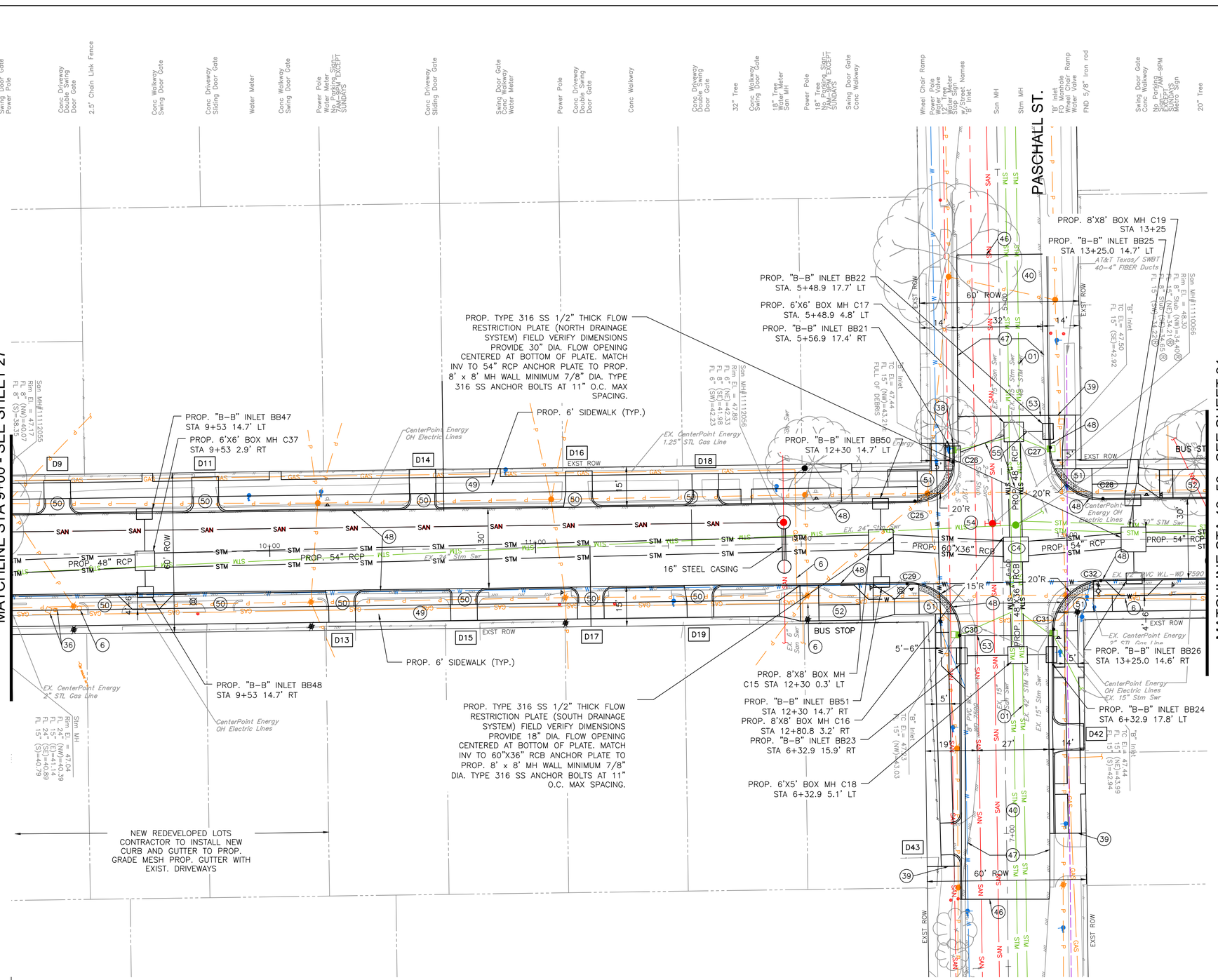
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON STREET

DRAINAGE PROFILE

STA. 5+00 TO 9+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 28 OF 223	



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NOTE:

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KEY NOTE:

- DXX SEE SHEET 49 FOR DRIVEWAY DATA
- CXX SEE SHEET 50 FOR POINT TABLE DATA
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- (02) EXISTING INLET TO REMAIN IN PLACE
- (06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317
- (30) ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE
- (35) EXISTING WATER MAIN TO REMAIN IN PLACE
- (36) EXISTING CENTERPOINT GAS APPURTENANCES TO BE ADJUSTED TO FINISHED GRADE BY CENTERPOINT
- (37) EXISTING TELEPHONE/COMMUNICATION MANHOLE/MANHOLE TOP TO BE ADJUSTED TO FINISHED GRADE BY UTILITY OWNER
- (38) MATCH EXISTING CURB GUTTER
- (39) MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS
- (40) PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION
- (41) END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS
- (44) CONNECT PROPOSED STORM SEWER TO EXISTING MANHOLE OR JUNCTION BOX
- (45) CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH GROUT NON-SHRINK
- (46) MATCH EXISTING PAVEMENT
- (47) PROPOSED 6" CONCRETE CURB AND GUTTER
- (48) PROPOSED 6" CONCRETE CURB
- (49) PROPOSED CONCRETE SIDEWALK, 4-1/2" THICK (SAFETY BUFFER AND FRONTAGE BUFFER TO BE GRASSED/ SODDED WHERE APPLICABE)
- (50) PROPOSED CONCRETE DRIVEWAY, 7" THICK. SEE DRIVEWAY TABLE
- (51) PROPOSED CURB RAMP
- (52) PROPOSED 9" CONCRETE BUS STOP PAD AND LANDING
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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

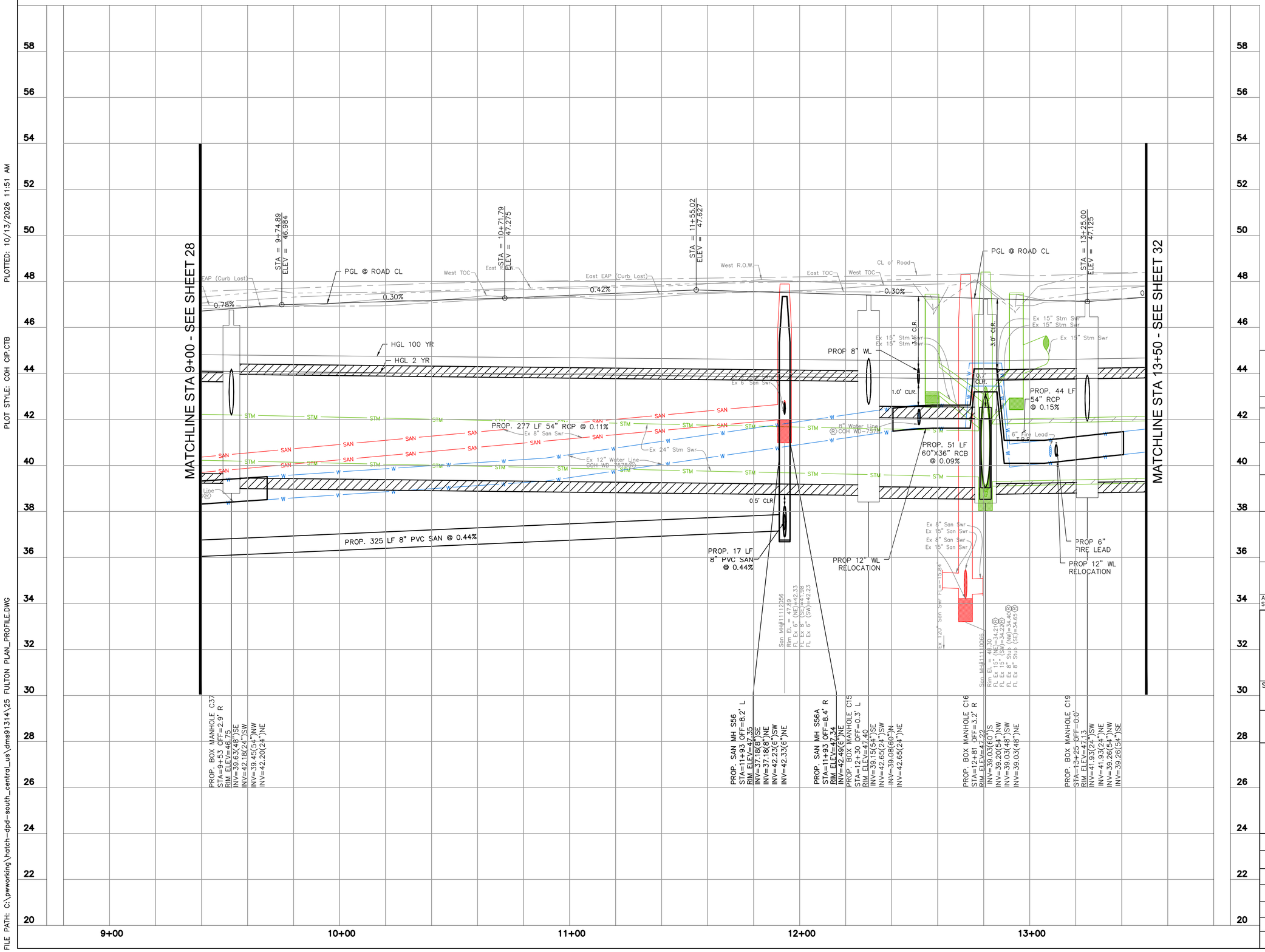
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE AND PAVING PLAN STA. 9+00 TO 13+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 29 OF 223	

NO.	DATE	REVISION	APP.

PLOTTED: 10/13/2026 11:50 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913114\25 FULTON PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:51 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

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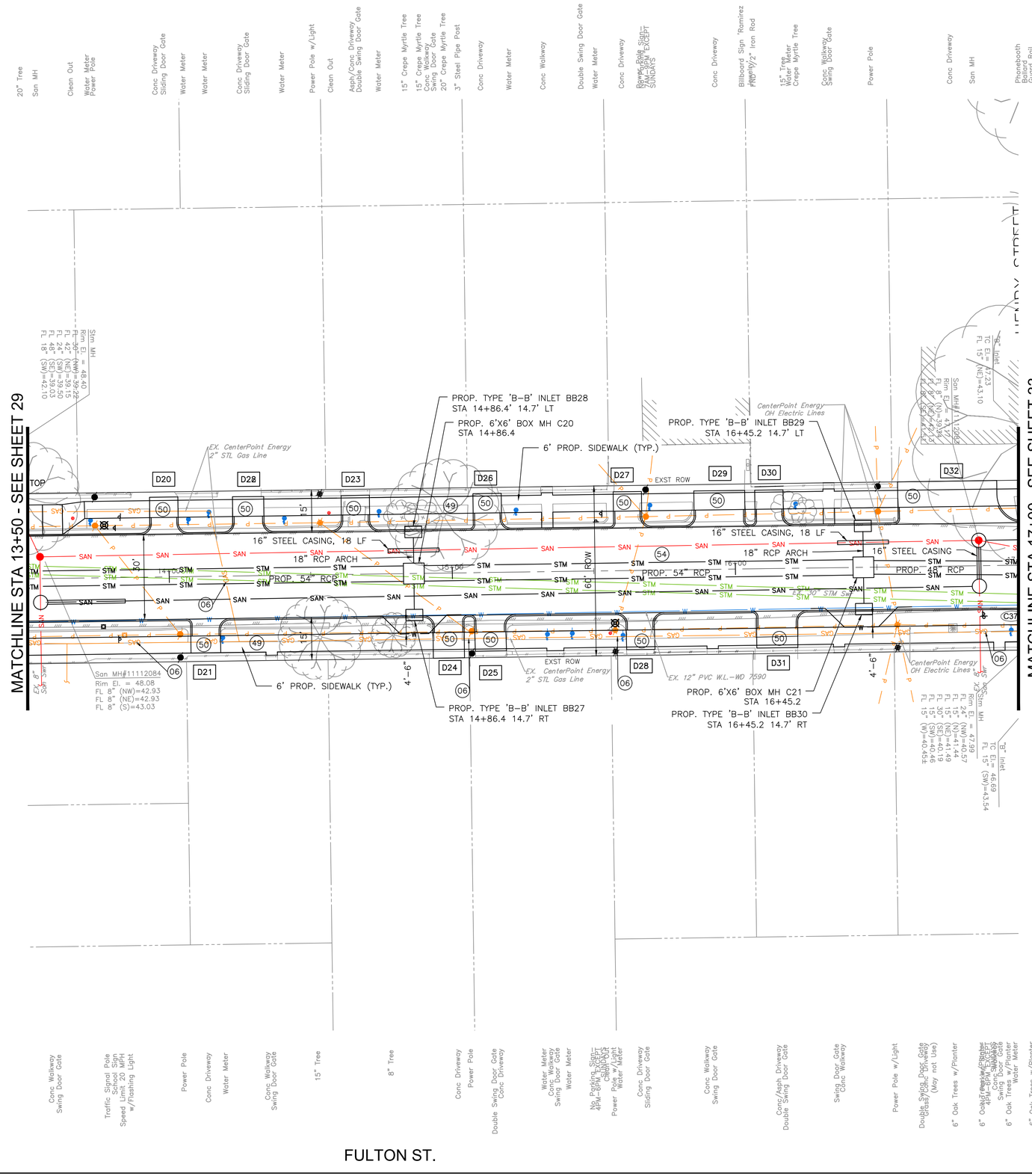
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HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE PROFILE
STA. 9+00 TO 13+50

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	30 OF 223



GRAPHIC SCALE
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(IN FEET)
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TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
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FB NUMBER: P-6357

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HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE AND PAVING PLAN STA. 13+50 TO 17+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 31 OF 223	

PLOT STYLE: COH CIP.CTB PLOTTED: 10/13/2026 11:51 AM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG

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(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

MATCHLINE STA 13+50 - SEE SHEET 30

MATCHLINE STA 17+00 - SEE SHEET 34

STA = 13+80.24
ELEV = 47.512

STA = 14+54.73
ELEV = 47.736

STA = 14+96.24
ELEV = 47.610

STA = 15+67.30
ELEV = 47.820

STA = 16+58.84
ELEV = 47.779

West EAP (Curb Lost)
East TOC
West TOC
East EAP (Curb Lost)
PGL @ ROAD CL
0.30%
-0.30%
0.30%
-0.70%
-0.70%
HGL 100 YR
HGL 2 YR
PROP. 161 LF 54" RCP @ 0.15%
PROP. 159 LF 54" RCP @ 0.15%
PROP. 78 LF 48" RCP @ 0.15%
Ex 8" San Swr
Ex 12" Water Line COH WD-7578 (R)
30" Stm Swr
Ex 30" Stm Swr
1.1' CLR.
1.2' CLR.
1.8' CLR.
2.0' CLR.
PROP 12" WL RELOCATION
PROP. 332 LF 8" PVC SAN @ 0.44%
28 LF OF 16" STEEL CASING
PROP. 16 LF 8" PVC SAN @ 0.44%
AT&T Hand Hole MH# 068
Ex Water COH WD

PROP. SAN MH S84A
STA=13+54' OFF=8.4' R
RIM ELEV=46.71
INV=38.06(15")NW
INV=43.19(8")NW
INV=38.39(8")NW

PROP. BOX MANHOLE C20
STA=14+86 OFF=0.0' L
RIM ELEV=47.58
INV=39.51(54")SE
INV=44.10(18")SW
INV=39.51(54")NW
INV=43.01(24")NE

PROP. BOX MANHOLE C21
STA=16+45 OFF=0.0'
RIM ELEV=47.34
INV=43.55(18")SW
INV=39.74(54")SE
INV=42.76(24")NE
INV=39.74(48")NW

PROP. SAN MH S83
STA=16+86 OFF=9.0' L
RIM ELEV=47.28
INV=41.51(8")SE
INV=36.86(8")NW
INV=36.86(8")NE

PROP. SAN MH S83A
STA=16+86 OFF=7.2' R
RIM ELEV=47.32
INV=36.94(8")SW
INV=36.94(8")SE
INV=42.50(8")NE

Ex MH#1112284
Rim El. = 48.08
FL Ex 8" (NW)=42.83
FL Ex 8" (SW)=43.03
FL Ex 8" (S)=43.03

Ex MH#1112283
Rim El. = 47.83
FL Ex 8" (N)=39.34
FL Ex 8" (NE)=42.13
FL Ex 8" (SE)=41.51

58 56 54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20

13+00 14+00 15+00 16+00 17+00

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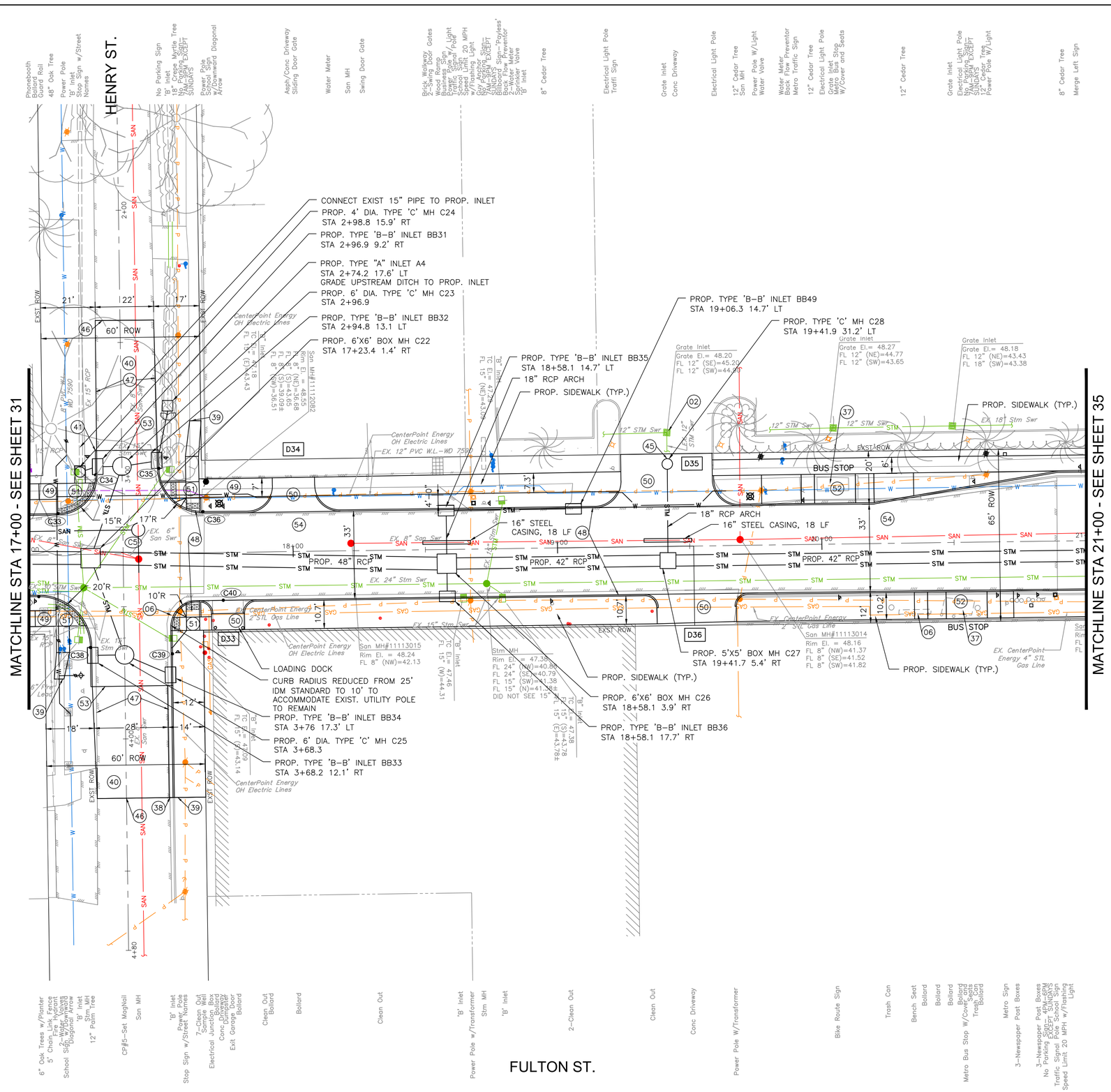
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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE PROFILE
STA. 13+50 TO 17+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 32 OF 223	



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NOTE:

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HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE AND PAVING PLAN
STA. 17+00 TO 21+00

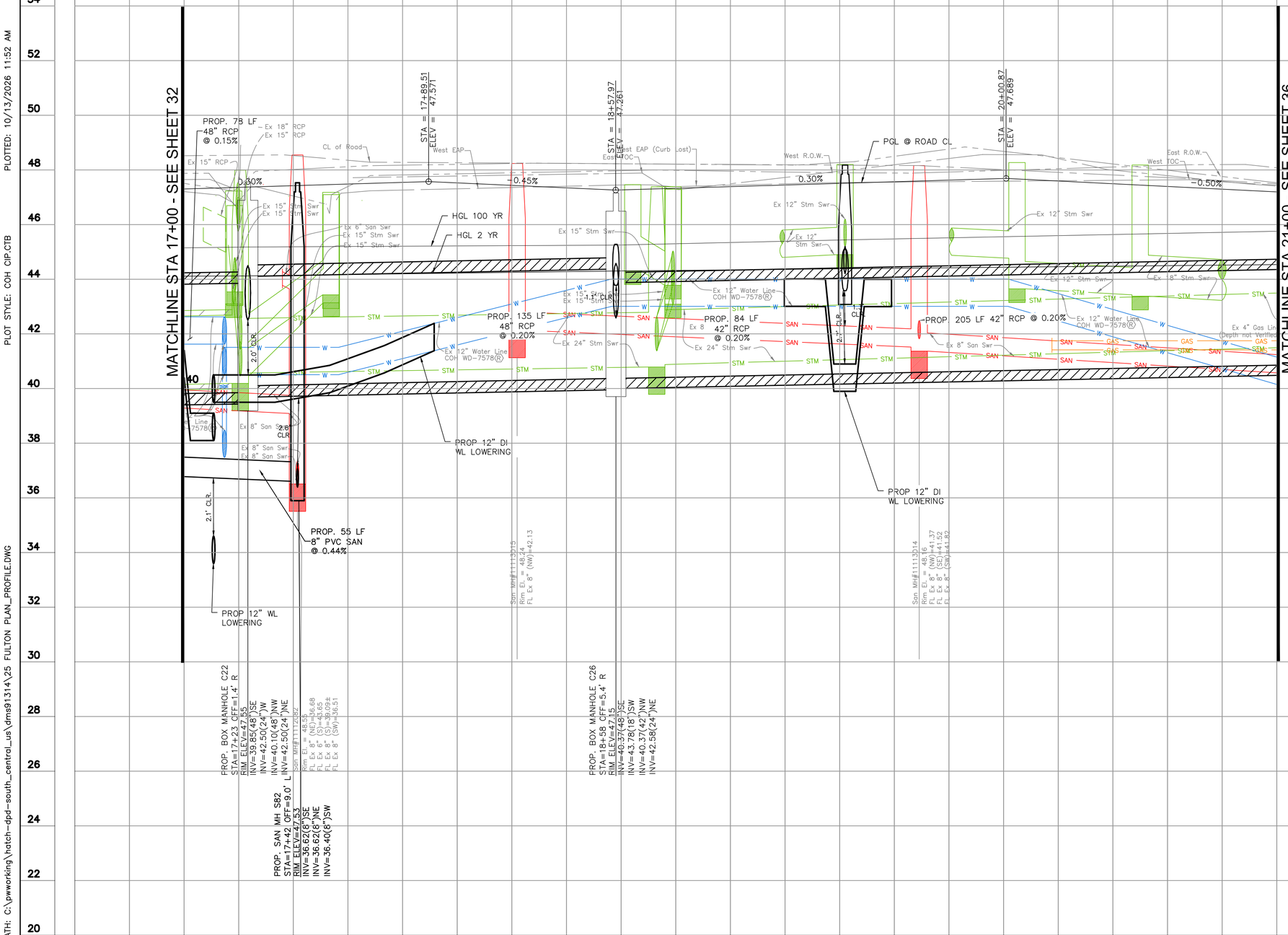
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N-000818-0001-4	
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1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 33 OF 223	

PLOTTED: 10/13/2026 11:51 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:52 AM

PLOT STYLE: COH CIP.CTB

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GRAPHIC SCALE

0 20 40

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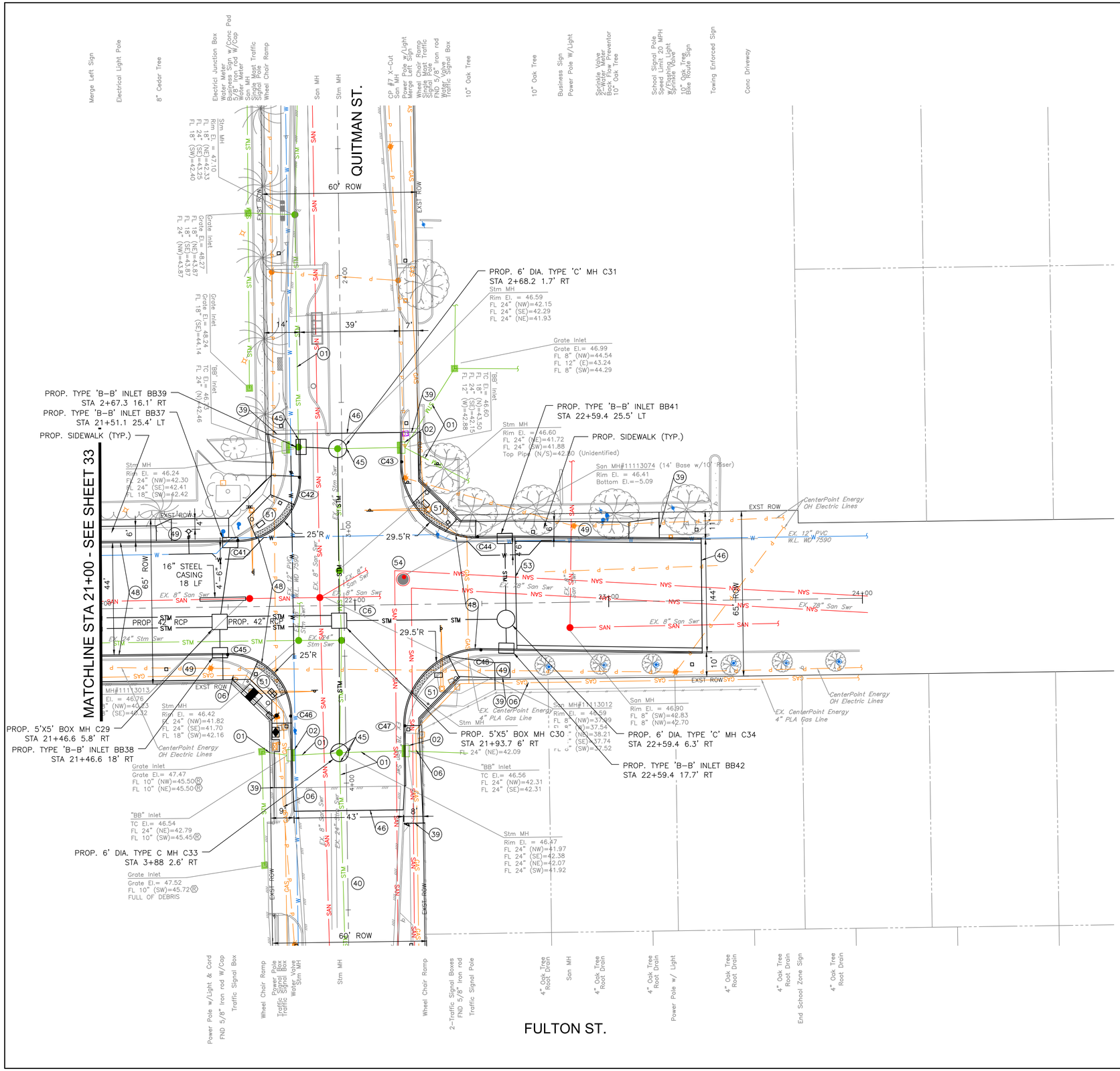
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FULTON STREET
DRAINAGE PROFILE
STA. 17+00 TO 21+00

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FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE AND PAVING PLAN STA. 21+00 TO END

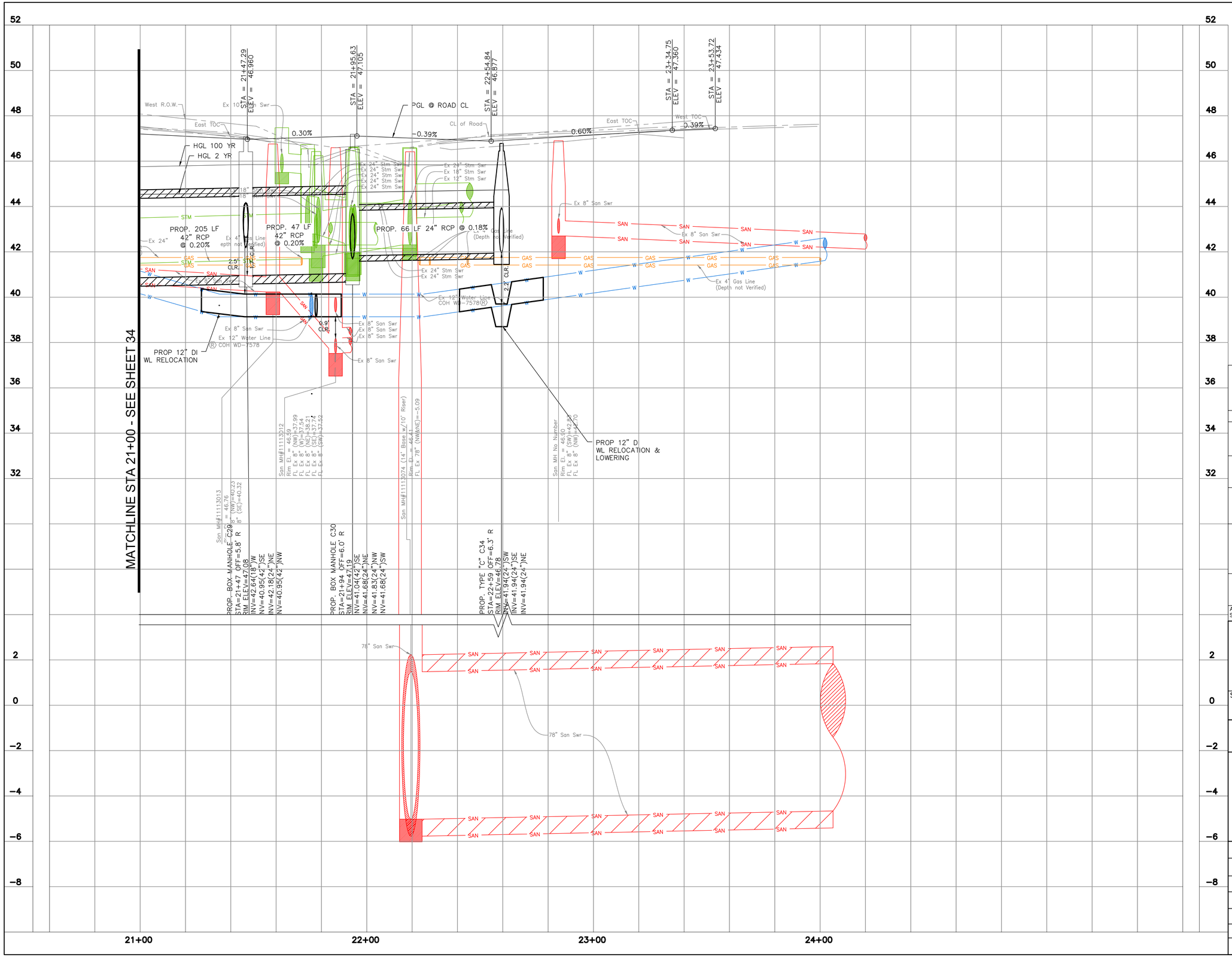
WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 35 OF 223	

PLOTTED: 10/13/2026 11:52 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:52 AM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\25 FULTON PLAN_PROFILE.DWG



GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

NOTICE:

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

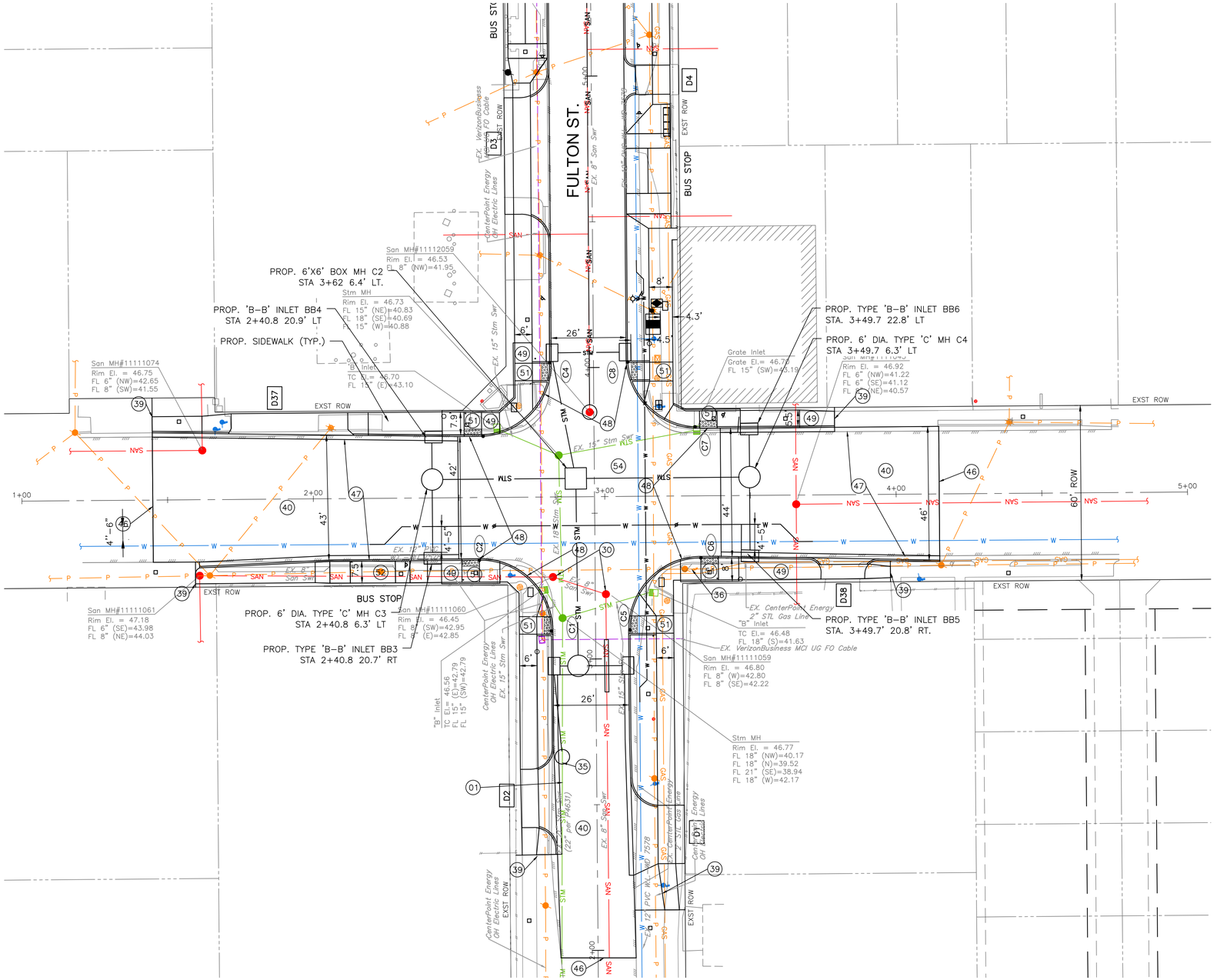
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
FULTON STREET
DRAINAGE PROFILE
STA. 21+00 TO END

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 36 OF 223	

SEE SHEET 25 FOR FULTON STREET PLAN



NOTE:

- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION
- PLANS ALL PROPOSED STORM SEWER PIPE SHALL BE 24" RCP UNLESS OTHERWISE NOTED
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

KEY NOTE:

- DXX SEE SHEET 49 FOR DRIVEWAY DATA
- 01 EXISTING STORM SEWER TO REMAIN IN PLACE
- 02 EXISTING INLET TO REMAIN IN PLACE
- 06 CRITICAL LOCATION. SEE COH SPEC SECTION 02317
- 30 ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE
- 35 EXISTING WATER MAIN TO REMAIN IN PLACE
- 36 EXISTING CENTERPOINT GAS APPURTENANCES TO BE ADJUSTED TO FINISHED GRADE BY CENTERPOINT
- 37 EXISTING TELEPHONE/COMMUNICATION MANHOLE/MANHOLE TOP TO BE ADJUSTED TO FINISHED GRADE BY UTILITY OWNER
- 38 MATCH EXISTING CURB GUTTER
- 39 MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS
- 40 PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION
- 41 END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS
- 44 CONNECT PROPOSED STORM SEWER TO EXISTING MANHOLE OR JUNCTION BOX
- 45 CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH GROUT NON-SHRINK
- 46 MATCH EXISTING PAVEMENT
- 47 PROPOSED 6" CONCRETE CURB AND GUTTER
- 48 PROPOSED 6" CONCRETE CURB
- 49 PROPOSED CONCRETE SIDEWALK, 4-1/2" THICK (SAFETY BUFFER AND FRONTAGE BUFFER TO BE GRASSED/ SODDED WHERE APPLICABLE)
- 50 PROPOSED CONCRETE DRIVEWAY, 7" THICK. SEE DRIVEWAY TABLE
- 51 PROPOSED CURB RAMP
- 52 PROPOSED 9" CONCRETE BUS STOP PAD AND LANDING
- 53 CONCRETE AND ASPHALT PAVEMENT TRANSITION
- 54 PROPOSED CONCRETE PAVEMENT WITH LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

NOTICE:
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VERIFICATION OF PRIVATE UTILITY LINES

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
HOGAN STREET DRAINAGE PLAN
STA. 1+00 TO 5+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 37 OF 223	

PLOTTED: 10/13/2026 11:55 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:56 AM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

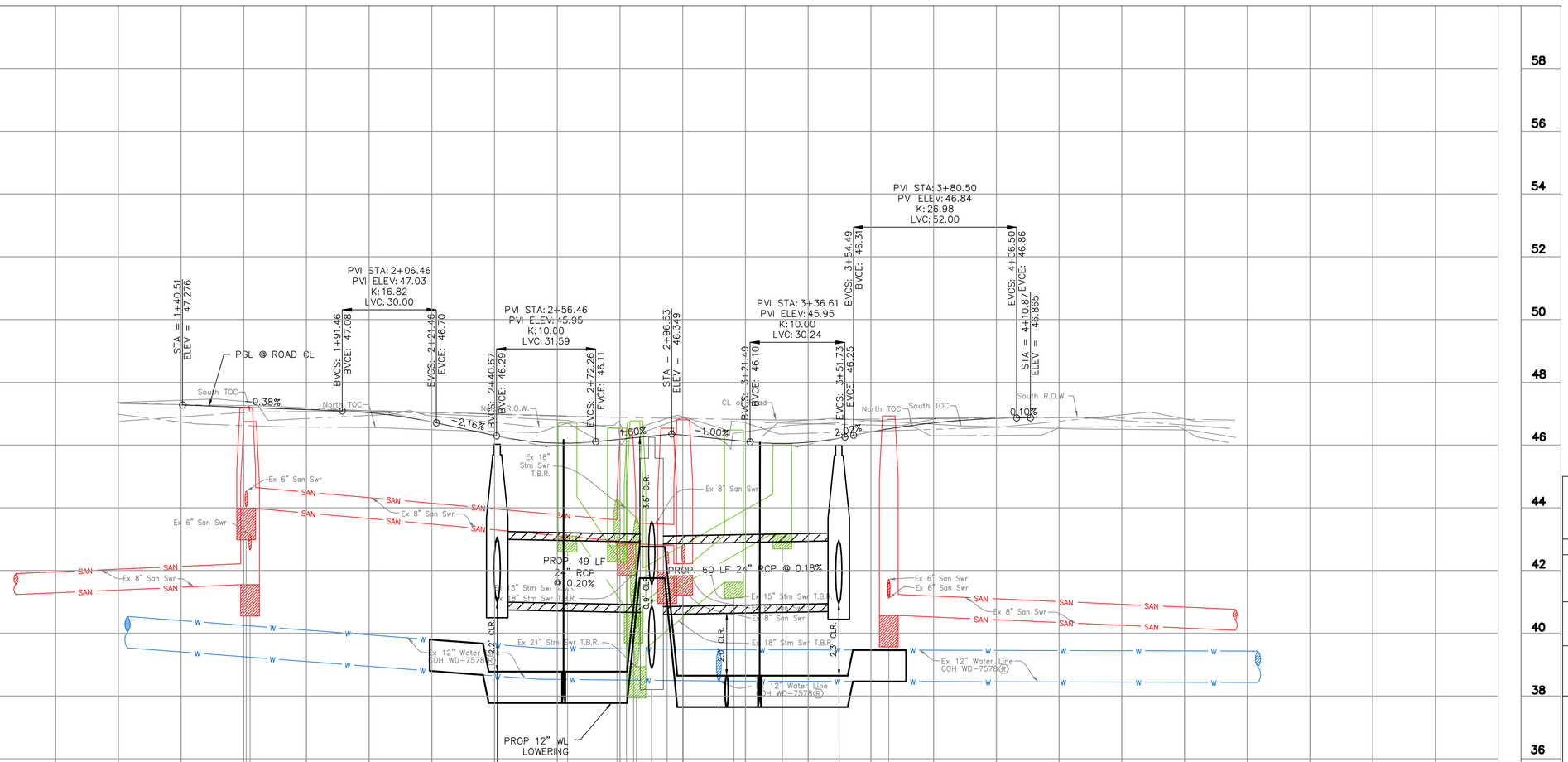
GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



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SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON

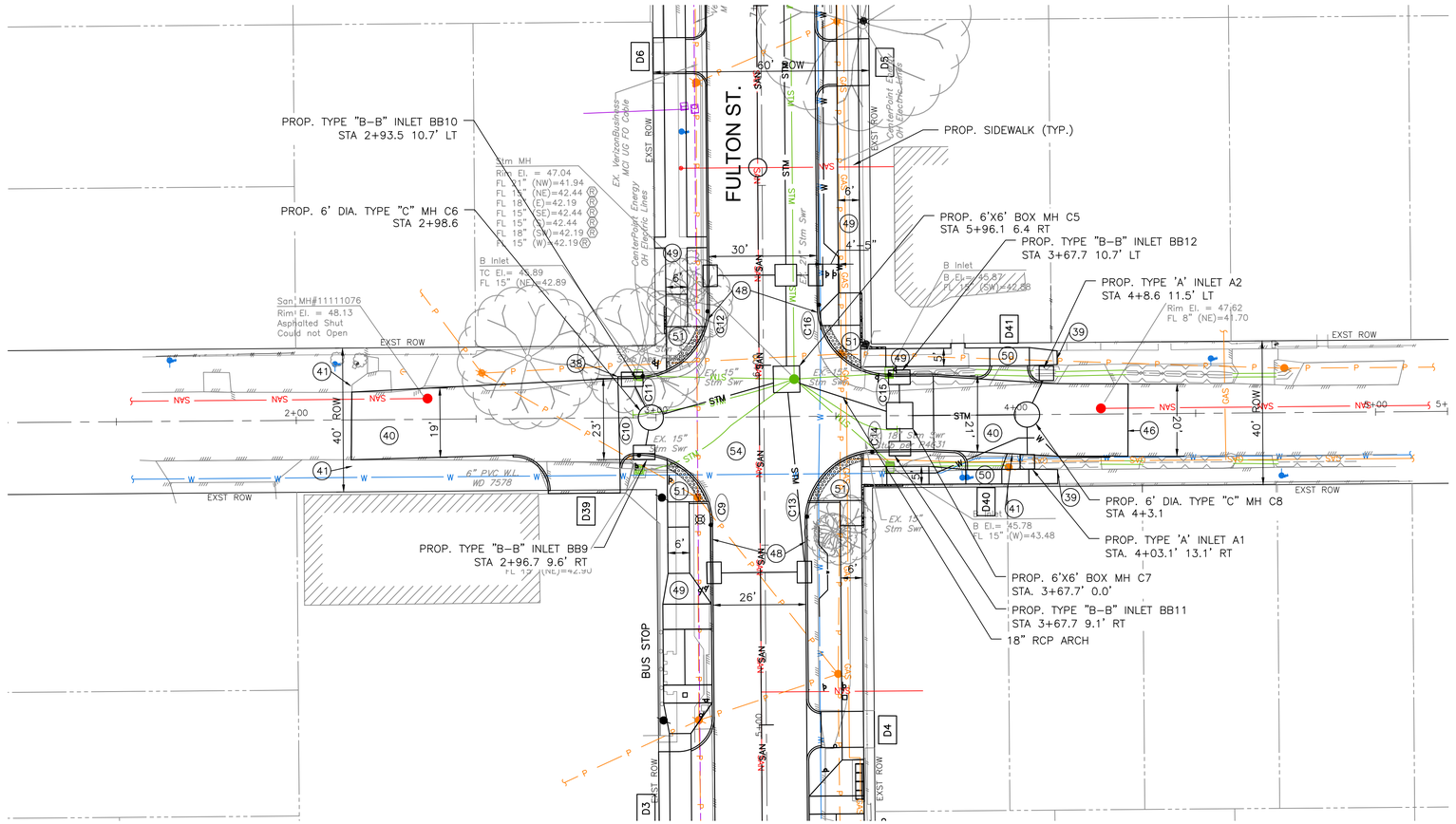
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

HOGAN STREET
DRAINAGE PROFILE
STA. 1+00 TO 5+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 38 OF 223	

SEE SHEET 27 FOR FULTON STREET PLAN



GARGAN ST.



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NOTE:

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- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
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KEY NOTE:

DXX SEE SHEET 49 FOR DRIVEWAY DATA

(01) EXISTING STORM SEWER TO REMAIN IN PLACE

(02) EXISTING INLET TO REMAIN IN PLACE

(06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317

(30) ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE

(35) EXISTING WATER MAIN TO REMAIN IN PLACE

(36) EXISTING CENTERPOINT GAS APPURTENANCES TO BE ADJUSTED TO FINISHED GRADE BY CENTERPOINT

(37) EXISTING TELEPHONE/COMMUNICATION MANHOLE/MANHOLE TOP TO BE ADJUSTED TO FINISHED GRADE BY UTILITY OWNER

(38) MATCH EXISTING CURB GUTTER

(39) MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS

(40) PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

(41) END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS

(44) CONNECT PROPOSED STORM SEWER TO EXISTING MANHOLE OR JUNCTION BOX

(45) CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH GROUT NON–SHRINK

(46) MATCH EXISTING PAVEMENT

(47) PROPOSED 6" CONCRETE CURB AND GUTTER

(48) PROPOSED 6" CONCRETE CURB

(49) PROPOSED CONCRETE SIDEWALK, 4–1/2" THICK (SAFETY BUFFER AND FRONTAGE BUFFER TO BE GRASSED/ SODDED WHERE APPLICABLE)

(50) PROPOSED CONCRETE DRIVEWAY, 7" THICK. SEE DRIVEWAY TABLE

(51) PROPOSED CURB RAMP

(52) PROPOSED 9" CONCRETE BUS STOP PAD AND LANDING

(53) CONCRETE AND ASPHALT PAVEMENT TRANSITION

(54) PROPOSED CONCRETE PAVEMENT WITH LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
GARGAN STREET DRAINAGE PLAN
STA. 1+50 TO 4+50

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 39 OF 223	

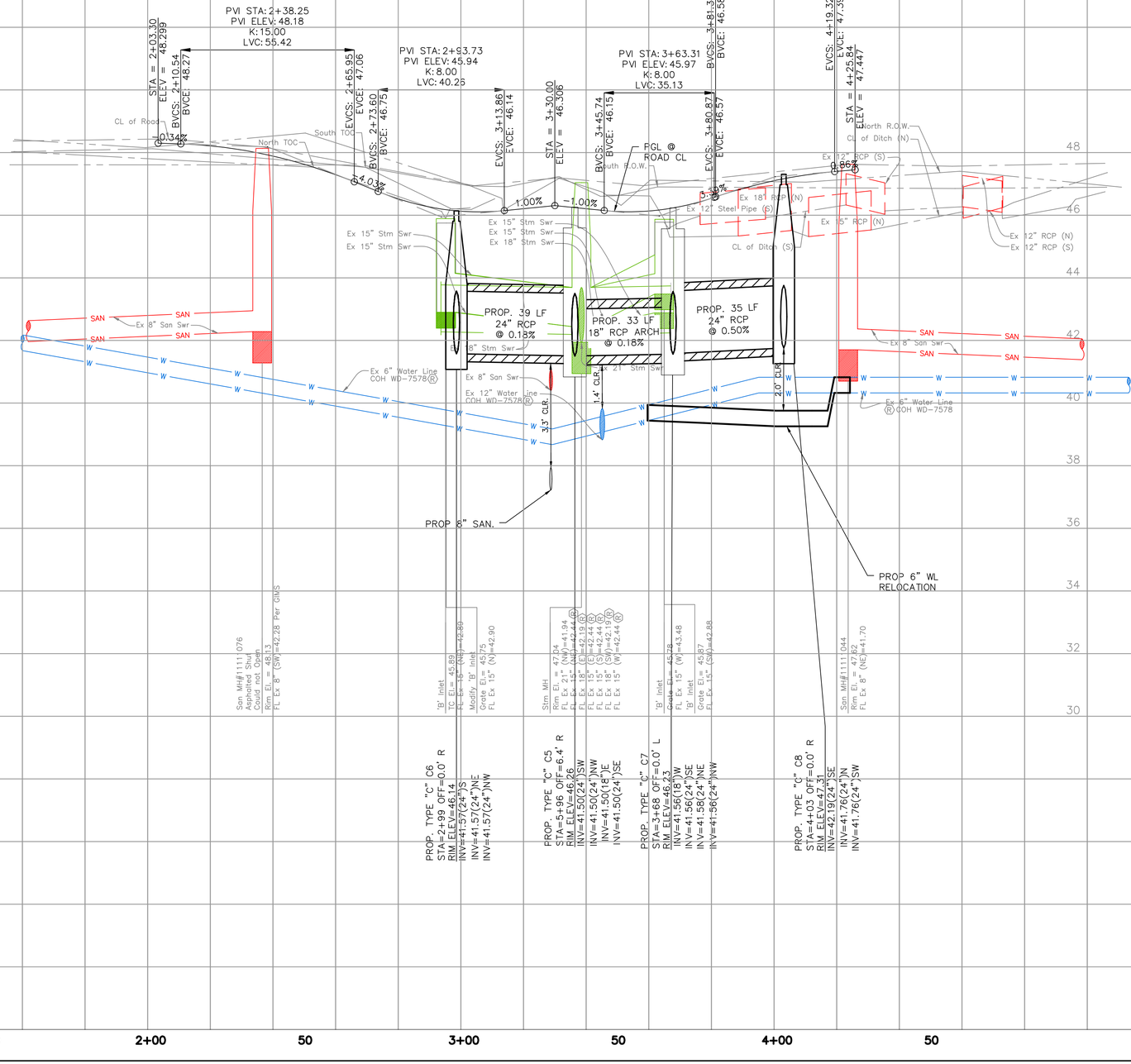
NO.	DATE	REVISION	APP.

PLOTTED: 10/13/2026 11:56 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch–dpd–south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:56 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

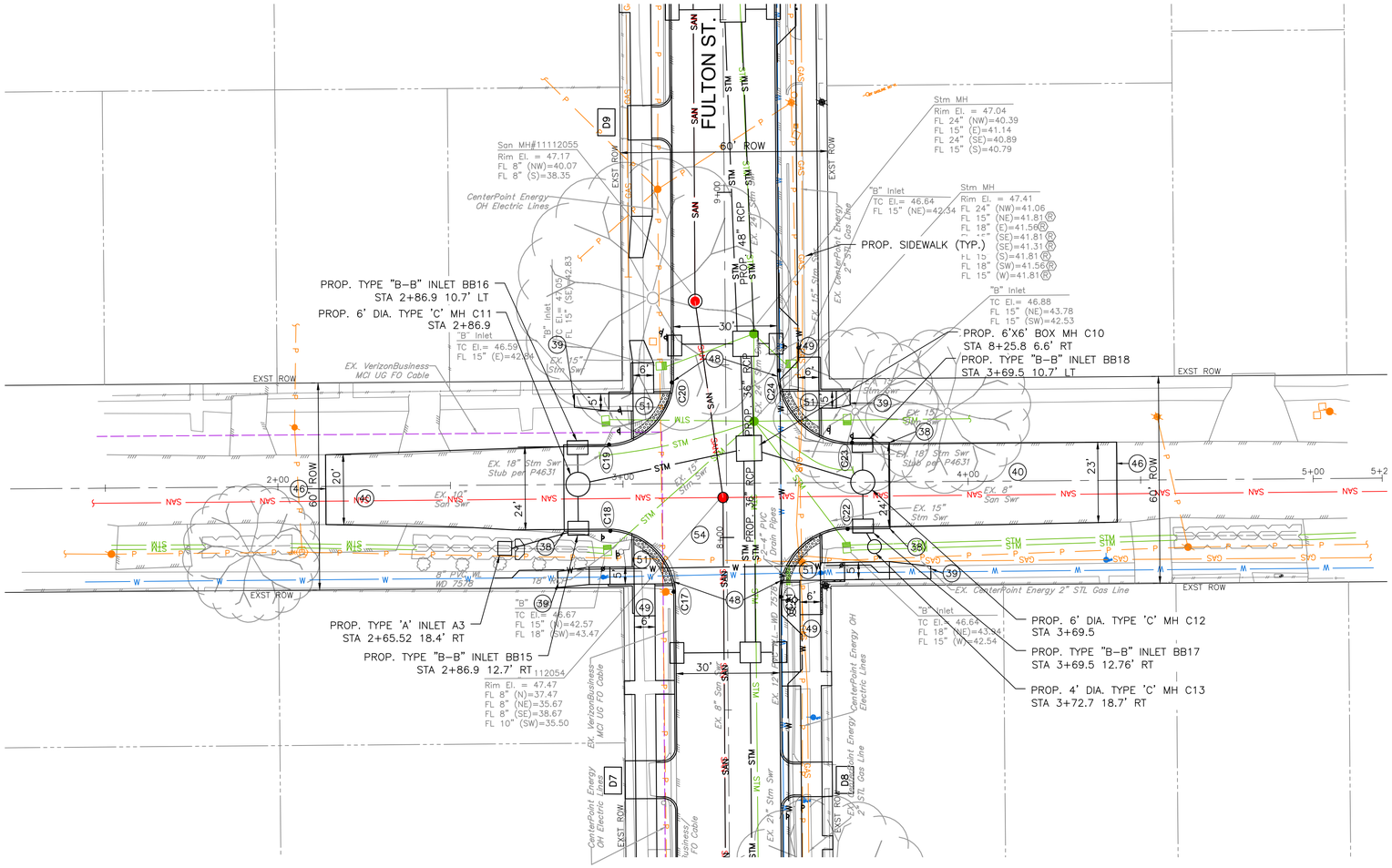
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
GARGAN STREET
DRAINAGE PROFILE
STA. 1+50 TO 4+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 40 OF 223	

PLOT STYLE: COH CIP.CTB PLOTTED: 10/13/2026 11:56 AM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG


SEE SHEET 27 FOR FULTON STREET PLAN
FULTON ST.
60' ROW
EXST ROW
JAMES ST.
San MH#11112055
Rim El. = 47.17
FL 8" (NW)=40.07
FL 8" (S)=38.35
CenterPoint Energy OH Electric Lines
EX. VerizonBusiness MCI UG FO Cable
PROP. TYPE "B–B" INLET BB16
STA 2+86.9 10.7' LT
PROP. 6' DIA. TYPE 'C' MH C11
STA 2+86.9
PROP. SIDEWALK (TYP.)
Stm MH
Rim El. = 47.04
FL 24" (NW)=40.39
FL 15" (E)=41.14
FL 24" (SE)=40.89
FL 15" (S)=40.79
Stm MH
Rim El. = 47.41
FL 24" (NW)=41.06
FL 15" (NE)=41.81
FL 18" (E)=41.56
FL 15" (SE)=41.81
FL 15" (SE)=41.31
FL 15" (S)=41.81
FL 18" (SW)=41.56
FL 15" (W)=41.81
PROP. 6'X6' BOX MH C10
STA 8+25.8 6.6' RT
PROP. TYPE "B–B" INLET BB18
STA 3+69.5 10.7' LT
PROP. TYPE 'A' INLET A3
STA 2+65.52 18.4' RT
PROP. TYPE "B–B" INLET BB15
STA 2+86.9 12.7' RT
PROP. 6' DIA. TYPE 'C' MH C12
STA 3+69.5
PROP. TYPE "B–B" INLET BB17
STA 3+69.5 12.76' RT
PROP. 4' DIA. TYPE 'C' MH C13
STA 3+72.7 18.7' RT
EX. 18" Stm Swr Stub per P4631
EX. 10" San Swr
EX. 15" Stm Swr
EX. 8" San Swr
EX. 24" Stm Swr
EX. 8" San Swr
EX. 2½" Stm Swr
EX. CenterPoint Energy 2" STL Gas Line
EX. 12" Stm Swr
EX. 8" San Swr
EX. 8" PVC WL WO 7578
EX. 18" WL
EX. 8" WL
EX. 6" WL
EX. 12" WL
EX. 8" PVC Drain Pipe
2'-4" PVC Drain Pipe
"B" Inlet
TC El.= 46.59
FL 15" (E)=42.24
FL 15" (SE)=42.83
TC El.= 47.05
"B" Inlet
TC El.= 46.64
FL 15" (NE)=42.34
"B" Inlet
TC El.= 46.88
FL 15" (NE)=43.78
FL 15" (SW)=42.53
"B" Inlet
TC El.= 46.67
FL 15" (N)=42.57
FL 18" (SW)=43.47
"B" Inlet
TC El.= 46.66
FL 18" (NE)=43.94
FL 15" (W)=42.54
112054
Rim El. = 47.47
FL 8" (N)=37.47
FL 8" (NE)=35.67
FL 8" (SE)=38.67
FL 10" (SW)=35.50
EX. VerizonBusiness MCI UG FO Cable
CenterPoint Energy OH Electric Lines
CenterPoint Energy Electric Lines
EX. CenterPoint Energy 2" STL Gas Line
EX. CenterPoint Energy OH
EX. CenterPoint Energy 2" STL Gas Line
EX. 12" Stm Swr
EX. 8" San Swr
EX. 24" Stm Swr
EX. 2½" Stm Swr
EX. 15" Stm Swr
EX. 18" Stm Swr Stub per P4631
EX. 8" San Swr
EX. 15" Stm Swr
EX. 10" San Swr
EX. 8" PVC WL WO 7578
EX. 18" WL
EX. 8" WL
EX. 6" WL
EX. 12" WL
EX. 8" PVC Drain Pipe
2'-4" PVC Drain Pipe
EX. 15" Stm Swr
EX. 8" San Swr
EX. 8" San Swr
EX. 15" Stm Swr
EX. 24" Stm Swr
EX. 8" San Swr
EX. 2½" Stm Swr
EX. CenterPoint Energy 2" STL Gas Line
EX. 12" Stm Swr
EX. 8" San Swr
EX. 24" Stm

PLOTTED: 10/13/2026 11:57 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

PVI STA: 2+24.37
PVI ELEV: 48.25
K: 20.00
LVC: 41.23
STA = 1+99.65
ELEV = 48.317
BVCS: 2+03.76
BVCE: 48.47
EVCS: 2+44.99
EVCE: 47.60
PVI STA: 2+86.14
PVI ELEV: 46.31
K: 10.00
LVC: 41.44
BVCS: 2+65.42
BVCE: 46.96
EVCS: 3+06.86
EVCE: 46.52
STA = 3+30.00
ELEV = 46.748
PVI STA: 3+78.20
PVI ELEV: 46.27
K: 10.00
LVC: 43.28
BVCS: 3+56.56
BVCE: 46.48
EVCS: 3+99.84
EVCE: 46.99
PVI STA: 4+27.13
PVI ELEV: 47.89
K: 20.00
LVC: 52.69
BVCS: 4+00.79
BVCE: 47.02
EVCS: 4+53.48
EVCE: 48.08
STA = 4+60.65
ELEV = 48.127
PGL @ ROAD CL
CL of Road
-1.08%
3.14%
1.00%
-1.00%
3.51%
0.69%
North R.O.W.
South R.O.W.
North TOC
North R.O.W.
2-4" PVC
18" RCP
CL of Ditch (S)
CL of Ditch (S)
STM
WLS
Ex 15" RCP
Ex 18" RCP
Ex 18" RCP T.B.R.
Ex 18" Stm Swr T.B.R.
PROP. 51 LF 24" RCP @ 0.20%
PROP. 34 LF 24" RCP @ 0.18%
Ex 8" Water Line COH WD-7578
PROP 8" WL RELOCATION
Ex 8" Water Line COH WD-7578
Ex 12" Water Line T.B.R. COH WD-7578
Ex 8" San Swr
10" San Swr
PROP 8" SAN.
SAN
W
T.B.R.
Ex 18" Stm Swr
Ex 15" Stm Swr
Ex 8" San Swr
Ex 15" Stm Swr T.B.R.
Ex 21" Stm Swr T.B.R.
Ex 24" Stm Swr T.B.R.
2.7' CLR.
1.5' CLR.
2.0' CLR.
3.6' CLR.
2.4' CLR.
"tg" Inlet
TC El= 46.69
FL Ex 15" (E)= 42.84
"tg" Inlet
TC El= 46.67
FL Ex 15" (N)= 42.57
FLEx 15" (SW)=43.47
"tg" Inlet
TC El= 47.05
FL Ex 15" (SE)=42.83
FL Ex 15" (W)=42.66
Rim El= 47.17
FL Ex 8" (NW)=40.07
FL Ex 8" (S)=38.35
San MH#11113054
Rim El= 47.47
FL 8" (N)=37.47
FL 8" (NE)=38.67
FL 8" (SE)=38.67
FL Ex 10" (SW)=35.50
St. MH
Rim El= 47.41
FL Ex 24" (NW)=41.06
FL Ex 15" (NE)=41.81
FL Ex 15" (SE)=41.93
FL Ex 15" (SW)=41.31
FL Ex 18" (S)=41.15
FL Ex 15" (W)=41.81
Stm MH
Rim El= 47.04
FL Ex 24" (NW)=40.39
FL Ex 18" (E)=41.14
FL Ex 24" (SE)=40.89
FL Ex x 15" (S)=40.87
"tg" Inlet
TC El= 46.64
FL Ex 15" (NE)=42.34
"tg" Inlet
TC El= 46.64
FL Ex 15" (W)=43.94
FL Ex 15" (W)=42.54
"tg" Inlet
TC El= 46.88
FL Ex 15" (NE)=43.78
FL Ex 15" (W)=42.53
PROP. TYPE "C" C11
STA=2+87 OFF=0.0'
RIM ELEV=46.52
INV=41.86(24")SE
INV=41.86(24")NE
INV=41.86(24")NW
INV=41.99(24")NW
PROP. BOX MANHOLE C10
STA=8+26 OFF=6.6' R
RIM ELEV=46.46
INV=40.79(36")SE
INV=41.76(24")SW
INV=40.79(36")NW
INV=41.63(24")E
PROP. TYPE "C" C12
STA=3+69 OFF=0.0'
RIM ELEV=46.44
INV=41.69(24")SE
INV=41.69(24")W
INV=41.69(24")NW
1+00
50
2+00
50
3+00
50
4+00
50
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

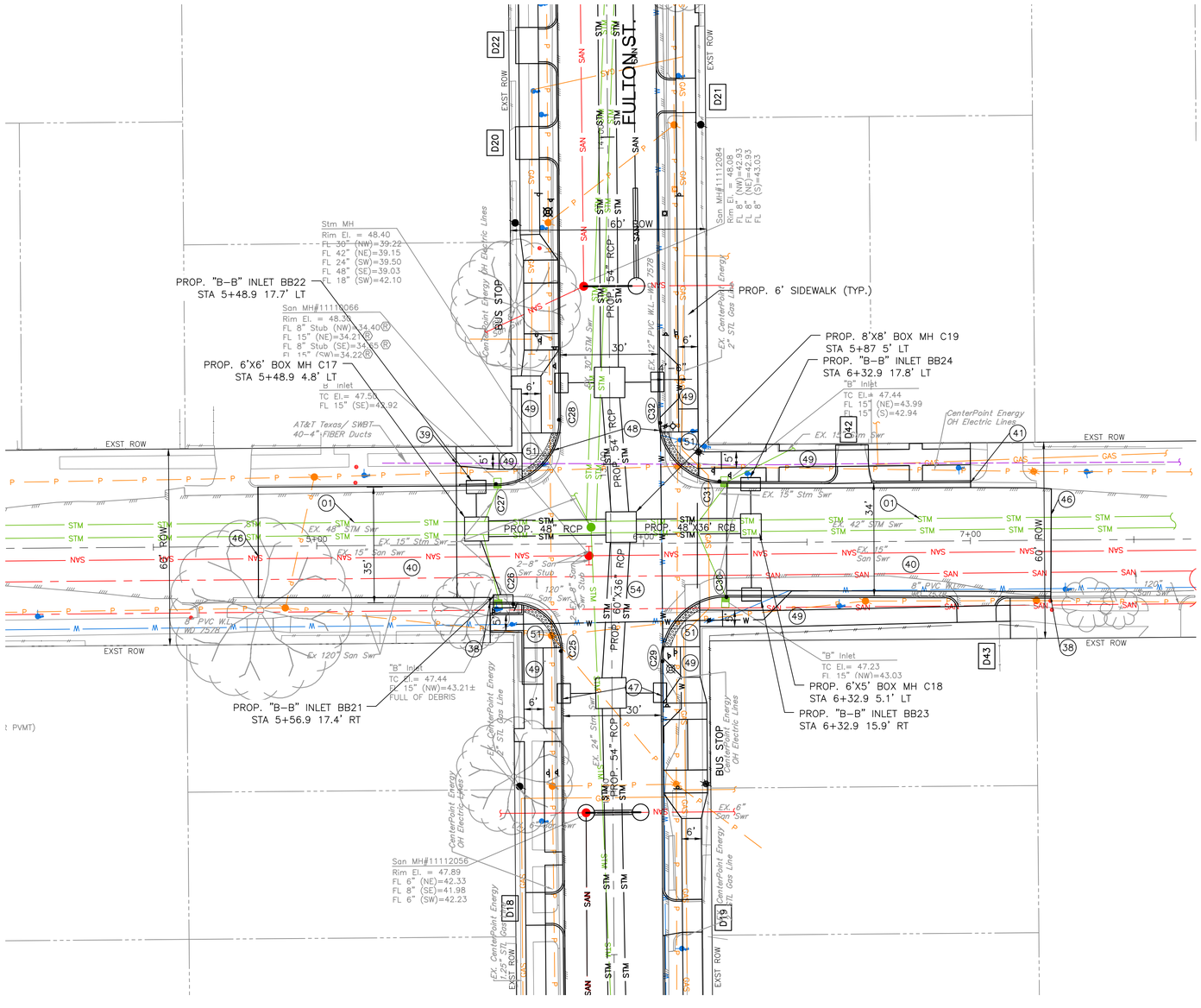
100% PROGRESS

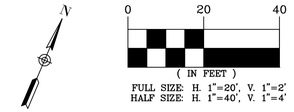
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
JAMES STREET
DRAINAGE PROFILE
STA. 1+50 TO 4+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 42 OF 223	

SEE SHEET 29 FOR FULTON STREET PLAN





NOTE:

- REFER TO SANITARY AND WATER PLAN
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION PLANS
- ALL PROPOSED STORM SEWER PIPE SHALL BE 24" RCP UNLESS OTHERWISE NOTED
- REFER TO SIGNING AND PAVEMENT MARKING PLANS

KEY NOTE:

- DXX SEE SHEET 49 FOR DRIVEWAY DATA
- (01) EXISTING STORM SEWER TO REMAIN IN PLACE
- (02) EXISTING INLET TO REMAIN IN PLACE
- (06) CRITICAL LOCATION. SEE COH SPEC SECTION 02317
- (30) ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE
- (35) EXISTING WATER MAIN TO REMAIN IN PLACE
- (36) EXISTING CENTERPOINT GAS APPURTENANCES TO BE ADJUSTED TO FINISHED GRADE BY CENTERPOINT
- (37) EXISTING TELEPHONE/COMMUNICATION MANHOLE/MANHOLE TOP TO BE ADJUSTED TO FINISHED GRADE BY UTILITY OWNER
- (38) MATCH EXISTING CURB GUTTER
- (39) MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS
- (40) PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION
- (41) END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS
- (44) CONNECT PROPOSED STORM SEWER TO EXISTING MANHOLE OR JUNCTION BOX
- (45) CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH NON–SHRINK GROUT
- (46) MATCH EXISTING PAVEMENT
- (47) PROPOSED 6" CONCRETE CURB AND GUTTER
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- (49) PROPOSED CONCRETE SIDEWALK, 4–1/2" THICK (SAFETY BUFFER AND FRONTAGE BUFFER TO BE GRASSED/ SODDED WHERE APPLICABLE)
- (50) PROPOSED CONCRETE DRIVEWAY, 7" THICK. SEE DRIVEWAY TABLE
- (51) PROPOSED CURB RAMP
- (52) PROPOSED 9" CONCRETE BUS STOP PAD AND LANDING
- (53) CONCRETE AND ASPHALT PAVEMENT TRANSITION
- (54) PROPOSED CONCRETE PAVEMENT WITH LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
PASCHALL STREET
DRAINAGE PLAN
STA. 4+50 TO 7+50

WBS NUMBER	N–000818–0001–4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	43 OF 223

NO.	DATE	REVISION	APP.

PLOTTED: 10/13/2026 11:57 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch–dpd–south_central_us\dms913134\37 SIDE ROADS PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:57 AM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

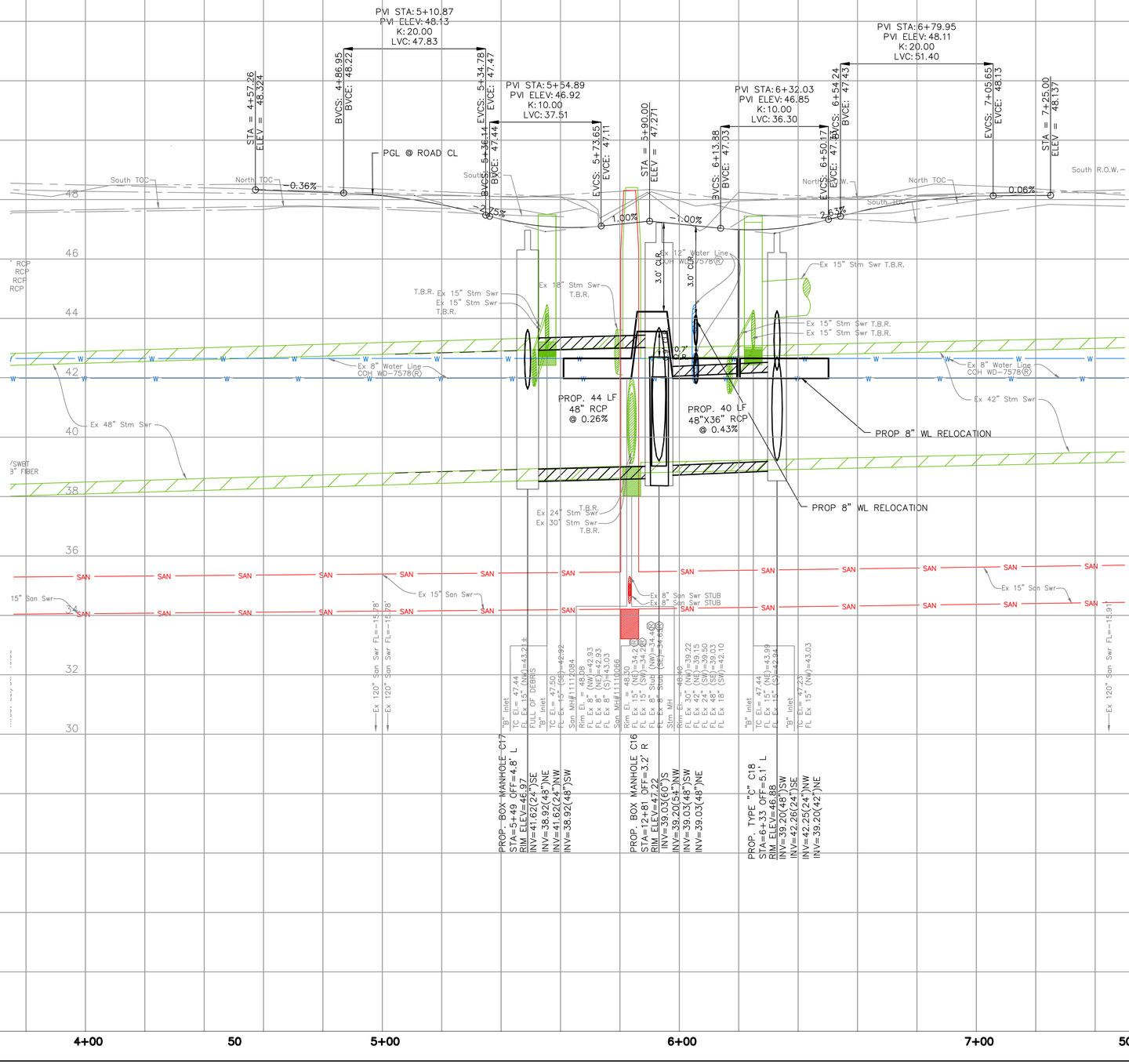
GRAPHIC SCALE

0 20 40

(IN FEET)

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HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



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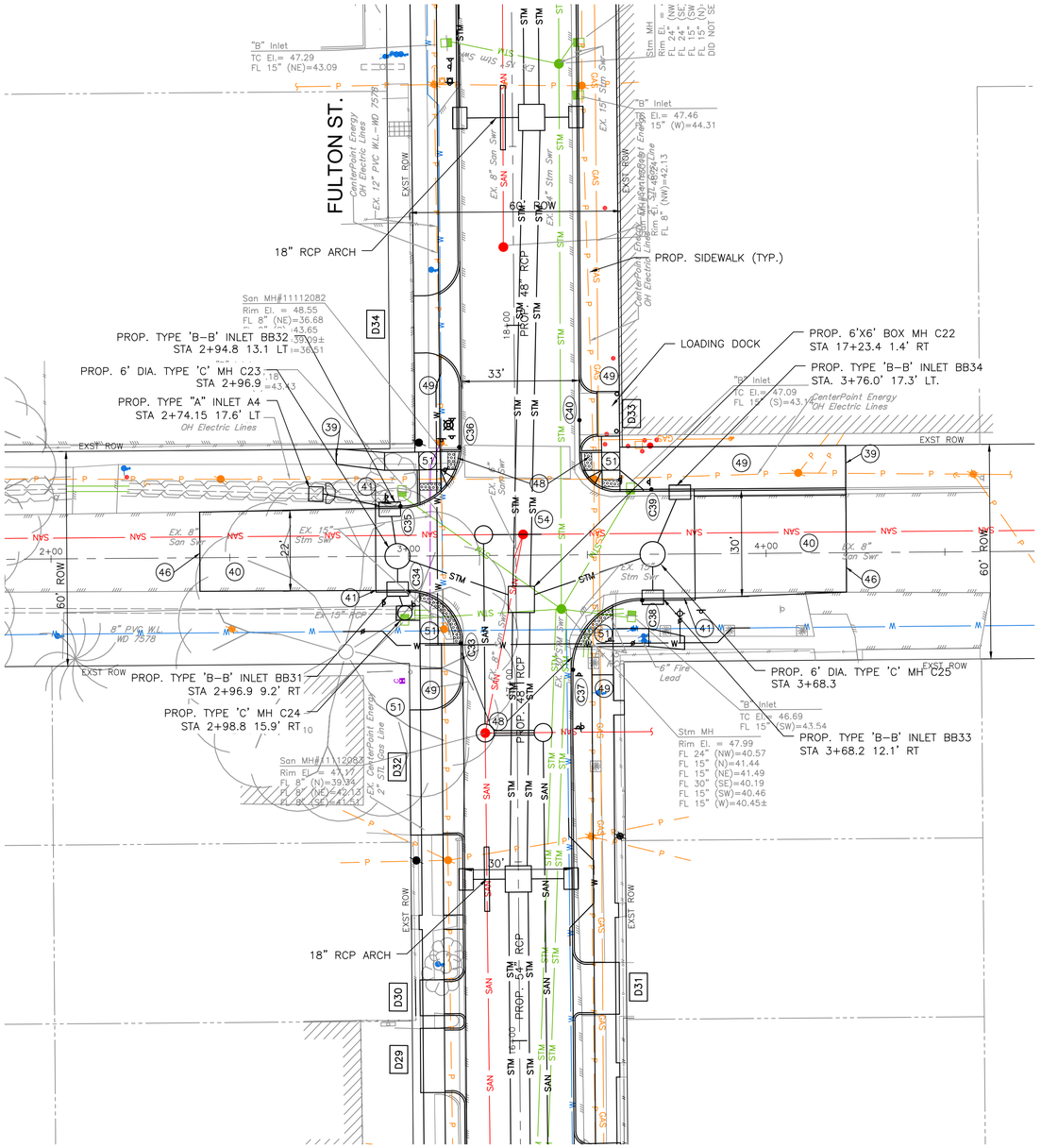
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

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PASCHALL STREET
DRAINAGE PROFILE
STA. 4+50 TO 7+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 44 OF 223	

PLOT STYLE: COH CIP.CTB PLOTTED: 10/13/2026 11:57 AM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG





GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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KEY NOTE:

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(02) EXISTING INLET TO REMAIN IN PLACE

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(38) MATCH EXISTING CURB GUTTER

(39) MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS

(40) PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

(41) END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS

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(45) CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH NON-SHRINK GROUT

(46) MATCH EXISTING PAVEMENT

(47) PROPOSED 6" CONCRETE CURB AND GUTTER

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(51) PROPOSED CURB RAMP

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HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

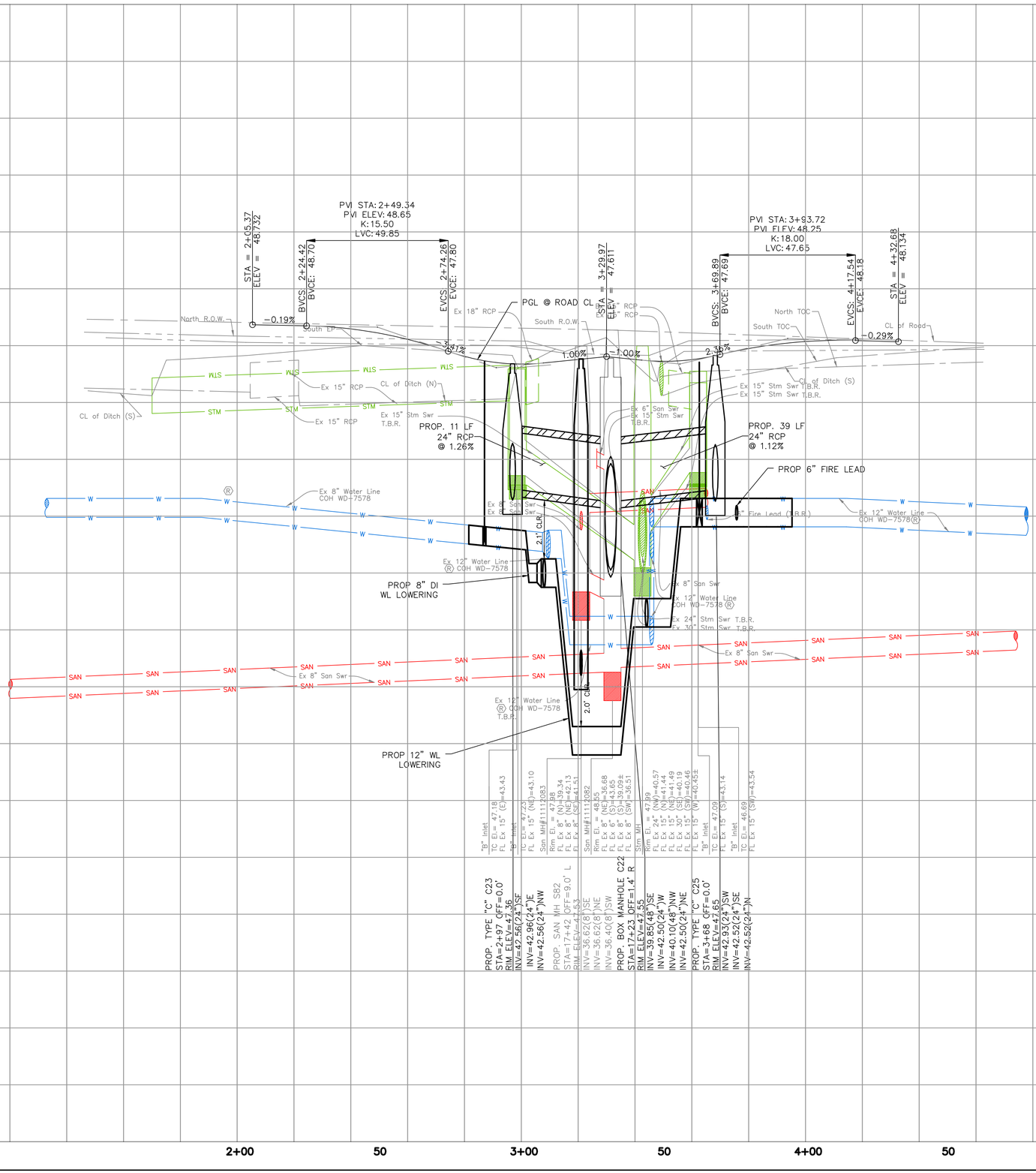
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
HENRY STREET
DRAINAGE PLAN
STA. 2+00 TO 4+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 45 OF 223	

PLOTTED: 10/13/2026 11:57 AM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG



GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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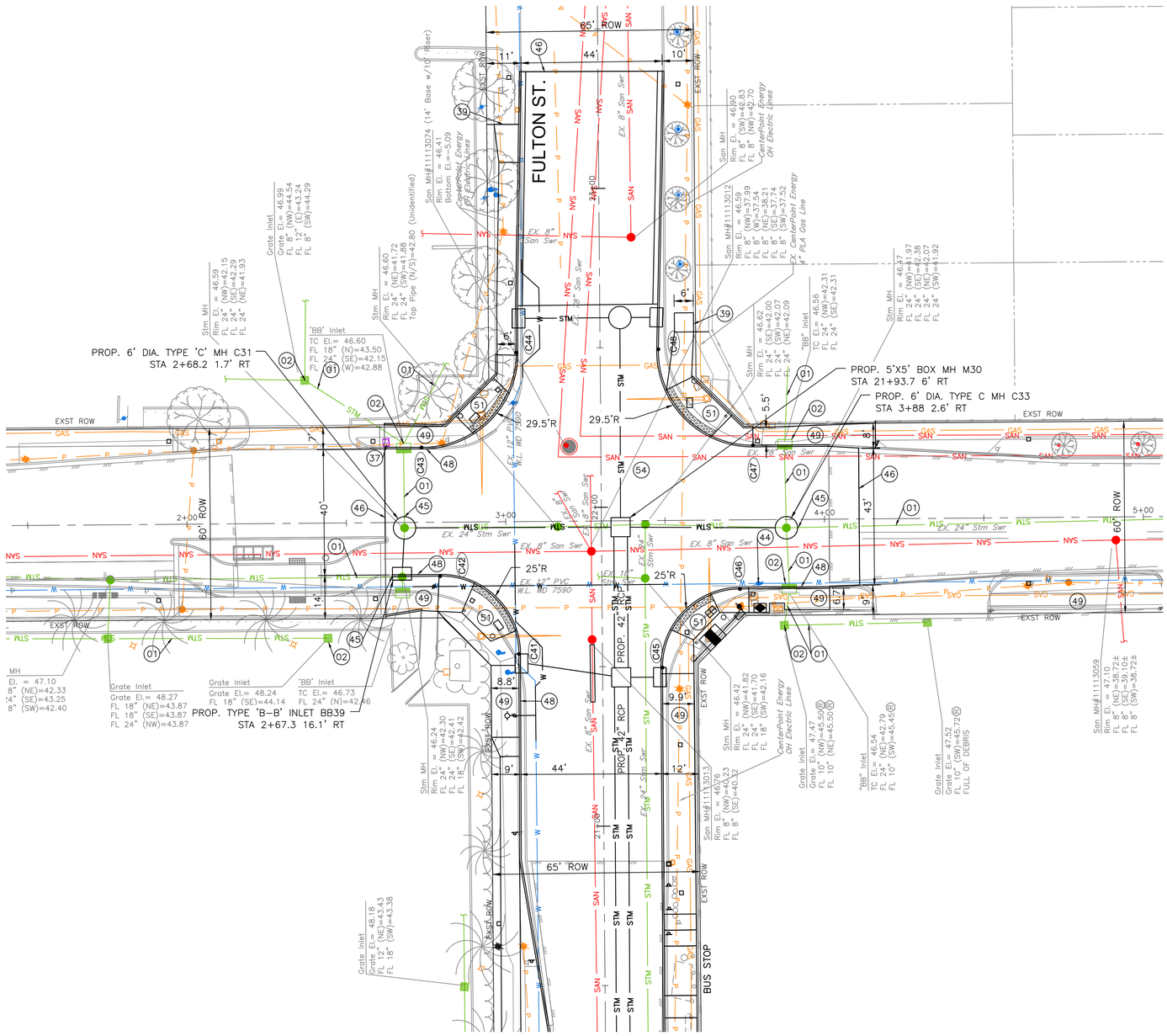
100% PROGRESS

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
HENRY STREET
DRAINAGE PROFILE
STA. 2+00 TO 4+50

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 46 OF 223	



SEE SHEET 35 FOR FULTON STREET PLAN

N

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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KEY NOTE:

DXX SEE SHEET 49 FOR DRIVEWAY DATA

01 EXISTING STORM SEWER TO REMAIN IN PLACE

02 EXISTING INLET TO REMAIN IN PLACE

06 CRITICAL LOCATION. SEE COH SPEC SECTION 02317

30 ADJUST EXISTING FRAME AND COVER TO MATCH NEW GRADE

35 EXISTING WATER MAIN TO REMAIN IN PLACE

36 EXISTING CENTERPOINT GAS APPURTENANCES TO BE ADJUSTED TO FINISHED GRADE BY CENTERPOINT

37 EXISTING TELEPHONE/COMMUNICATION MANHOLE/MANHOLE TOP TO BE ADJUSTED TO FINISHED GRADE BY UTILITY OWNER

38 MATCH EXISTING CURB GUTTER

39 MATCH EXISTING SIDEWALK IN LINES AND ELEVATIONS

40 PROPOSED ASPHALT PAVEMENT WITH CRUSHED CONCRETE BASE AND LIME STABILIZED SUBGRADE SEE TYPICAL PAVEMENT SECTION

41 END CONCRETE CURB NOSE DOWN TO MATCH EXISTING PAVEMENT ELEVATIONS

44 CONNECT PROPOSED STORM SEWER TO EXISTING MANHOLE OR JUNCTION BOX

45 CONNECT EXISTING STORM SEWER TO PROPOSED MANHOLE. PROVIDE WATERTIGHT CONNECTION WITH NON-SHRINK GROUT

46 MATCH EXISTING PAVEMENT

47 PROPOSED 6" CONCRETE CURB AND GUTTER

48 PROPOSED 6" CONCRETE CURB

49 PROPOSED CONCRETE SIDEWALK, 4-1/2" THICK (SAFETY BUFFER AND FRONTAGE BUFFER TO BE GRASSED/ SODDED WHERE APPLICABLE)

50 PROPOSED CONCRETE DRIVEWAY, 7" THICK. SEE DRIVEWAY TABLE

51 PROPOSED CURB RAMP

52 PROPOSED 9" CONCRETE BUS STOP PAD AND LANDING

53 CONCRETE AND ASPHALT PAVEMENT TRANSITION

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HOUSTON, TX 77024
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TX FIRM NUMBER: F-314

SURVEYED BY:
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FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
QUITMAN STREET DRAINAGE PLAN STA. 1+50 TO 5+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 47 OF 223	

PLOTTED: 10/13/2026 11:58 AM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913141\37 SIDE ROADS PLAN_PROFILE.DWG

PLOTTED: 10/13/2026 11:58 AM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_control_us\dms91314\37 SIDE ROADS PLAN_PROFILE.DWG

GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

STA = 1+50.00
ELEV = 47.746

PGL @ ROAD CL

North R.O.W.

South TOC
-0.83%

South R.O.W.

North TOC

PVI STA: 2+75.71
PVI ELEV: 46.70
K: 15.00
LVC: 27.52

BVCS: 2+61.90
BVCE: 46.82

EVCS: 2+89.52
EVCE: 46.84

1.01%

STA = 3+30.00
ELEV = 47.253

-1.01%

PVI STA: 3+97.72
PVI ELEV: 46.57
K: 15.00
LVC: 25.16

BVCS: 3+85.14
BVCE: 46.70

EVCS: 4+10.30
EVCE: 46.65

South TOC

0.67%

STA = 4+70.66
ELEV = 47.055

CL of Road

Ex 24" Stm Swr
Ex 8" Stm Swr
Ex 18" Stm Swr
Ex 12" Stm Swr
Ex 4" Gas Line (Depth not Verified)
Ex 12" Water Line COH WD-7578(R)
Ex 8" San Swr
Ex 24" Stm Swr T.B.R.
Unidentified Pipe & Size
Ex 10" Stm Swr
Ex 12" Water Line COH WD-7578(R)

PROP. 68 LF 24" RCP @ 0.18%

PROP. 52 LF 24" RCP @ 0.35%

1.4' CLR.

2.0' CLR.

PROP 12" WL LOWERING

Grate Inlet
Grate El.= 48.27
FL Ex 18" (NE)=43.87
FL Ex 18" (SE)=43.87
FL Ex 24" (NW)=43.87
Stm MH
Rim El. = 47.10
FL Ex 18" (NE)=42.33
FL Ex 24" (SE)=43.25
Ex 24" (SW)=42.40

Grate Inlet
Grate El.= 46.99
Grade El.= 46.99
FL Ex 12" (E)=43.24
FL Ex 8" (SW)=44.29

Grate Inlet
Grate El.= 48.24
FL Ex 18" (SE)=44.14
Stm MH
Rim El. = 46.26
FL Ex 24" (NW)=42.30
FL Ex 24" (SE)=42.41
FL Ex 18" (SW)=42.42

"BB" Inlet
TC El.= 46.73
FL Ex 24" (NW)=42.46

"BB" Inlet
TC El.= 46.60
FL Ex 18" (NE)=42.61
FL Ex 12" (E)=42.61
FL Ex 12" (W)=42.88
Stm MH
Rim El. = 46.89
FL Ex 24" (NW)=42.15
FL Ex 24" (SE)=42.29
FL Ex 24" (SW)=41.93
Stm MH
Rim El. = 46.80
FL Ex 24" (NE)=41.72
Ex 24" Proj. (Submerged)
Ex 24" Proj. (Submerged)
Swr MH#11113074 (14' Base w/10' Riser)
FL Ex 78" (NW&NE)=-5.09
Rim El. = 46.41
FL Ex 78" (NW&NE)=-5.09

PROP. TYPE "C" C31
STA=2+68 OFF=1.7' R
RIM ELEV=46.71
INV=41.81(24")NE
INV=41.81(24")NE
INV=42.15(24")NW

Swr MH#11113012
Rim El. = 46.59
FL Ex 8" (NW)=37.99
FL Ex 8" (SE)=37.54
FL Ex 8" (NE)=38.21
FL Ex 8" (SE)=37.74
Swr MH#11113013
Rim El. = 46.76
FL Ex 8" (NW)=40.23
FL Ex 8" (SE)=40.32
Stm MH
Rim El. = 46.42
FL Ex 24" (NW)=41.82
FL Ex 24" (SE)=41.70
FL Ex 18" (SW)=42.16
Stm MH
Rim El. = 46.82
FL Ex 24" (NW)=42.00
FL Ex 24" (SW)=42.07
FL Ex 24" (NE)=42.pp

PROP. BOX MANHOLE C30
STA=21+94 OFF=6.0' R
RIM ELEV=47.19
INV=41.04(42")SE
INV=41.68(24")NE
INV=41.83(24")NW
INV=41.68(24")SW

PROP. TYPE "C" C33
STA=3+88 OFF=2.6' R
RIM ELEV=46.58
INV=41.97(24")NE
INV=41.97(24")NW
INV=41.87(24")SW

Grate Inlet
Grate El.= 47.47
FL Ex 10" (NW)=45.20
FL Ex 10" (SW)=45.20
FL Ex 10" (NE)=45.20

"BB" Inlet
TC El.= 46.56
FL Ex 24" (NW)=42.31
FL Ex 24" (SE)=42.31
Stm MH
Rim El. = 46.47
FL Ex 24" (NW)=41.97
FL Ex 24" (SE)=42.38
FL Ex 24" (SW)=42.07
FL Ex 24" (NE)=41.92

"BB" Inlet
TC El.= 46.54
FL Ex 24" (NE)=42.79
FL Ex 10" (SW)=43.86

Grate Inlet
Grate El.= 47.52
FL Ex 10" (SW)=45.72
FULL OF DEBRIS

Swr MH#11113059
Rim El. = 47.10
FL Ex 8" (NW)=38.72
FL Ex 8" (SE)=39.10±
FL Ex 8" (NE)=38.72

2+00 50 3+00 50 4+00 50 5+00

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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

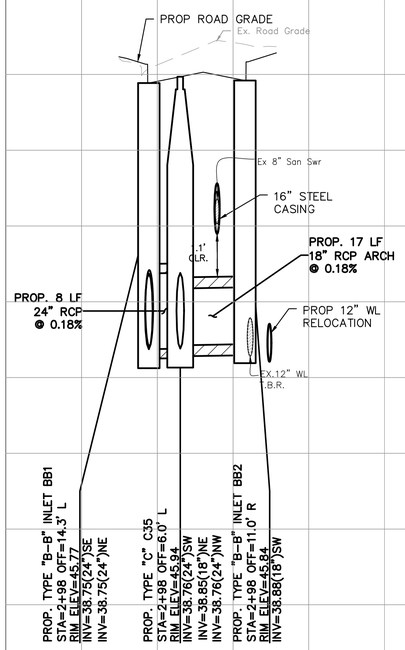
100% PROGRESS

CITY OF HOUSTON

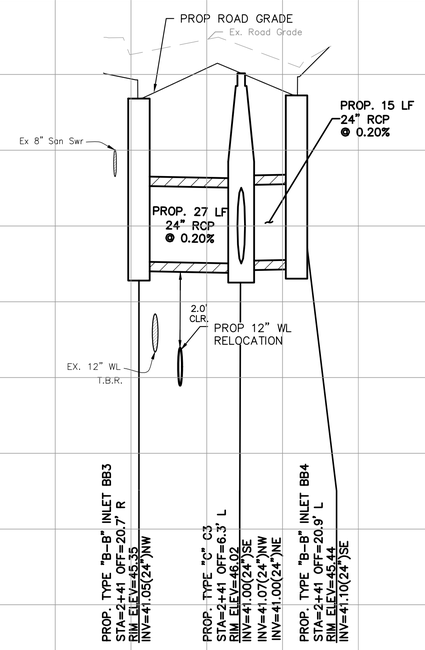
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
QUITMAN STREET DRAINAGE PROFILE STA. 4+50 TO 5+00

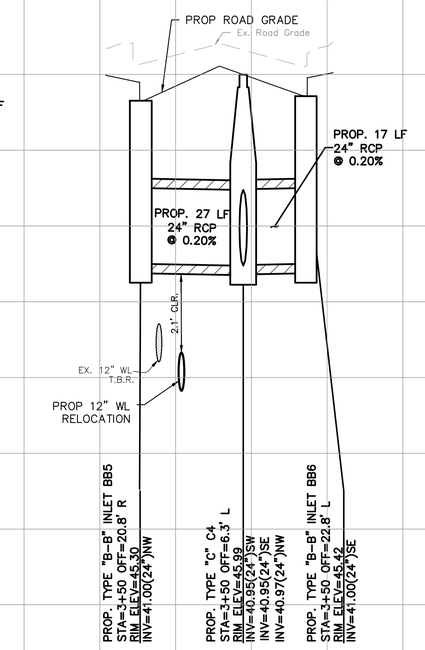
WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 48 OF 223	



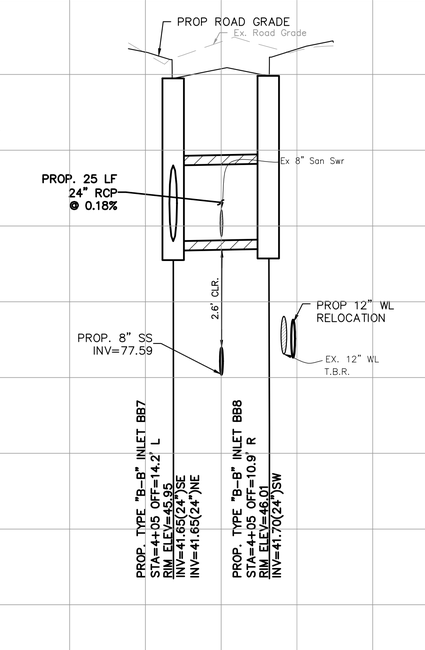
FULTON ST. - INLET BB1 TO C35 TO INLET BB2



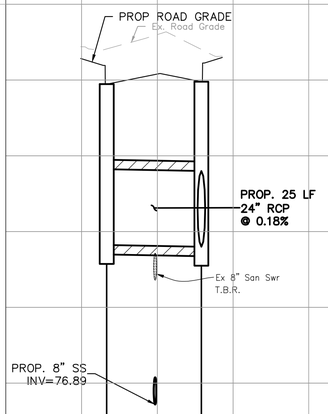
FULTON ST. - INLET BB3 TO C3 TO INLET BB4



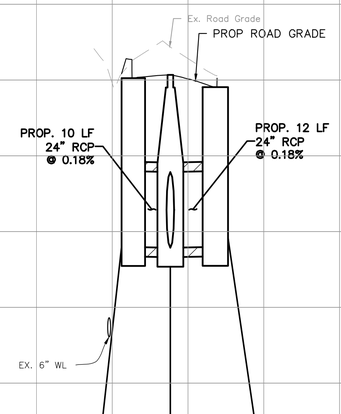
FULTON ST. - INLET BB5 TO C4 TO INLET BB6



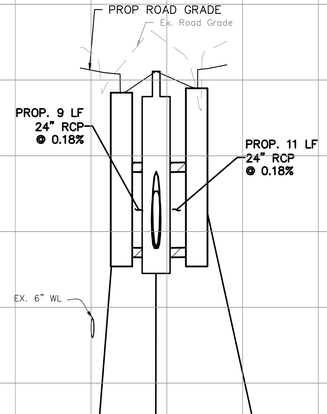
FULTON ST. - INLET BB7 TO INLET BB8



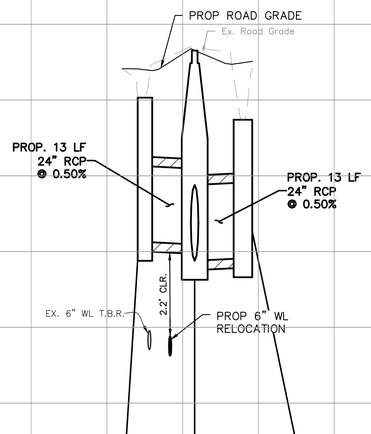
FULTON ST. - INLET BB43 TO INLET BB44



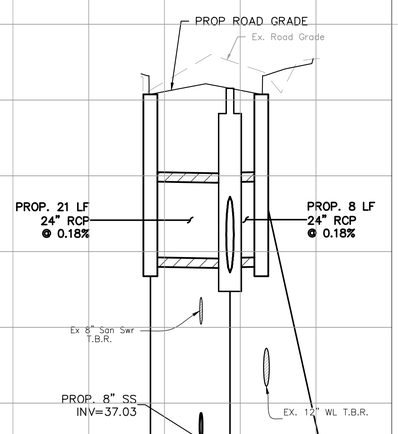
FULTON ST. - INLET BB9 TO C6 TO INLET BB10



FULTON ST. - INLET BB11 TO C7 TO INLET BB12



FULTON ST. - INLET A1 TO C8 TO INLET A2



FULTON ST. - INLET BB45 TO C36 TO INLET BB46

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	DESCRIPTION	APP.
	MM/DD/YY	BRIEF DESCRIPTION	XXX
	MM/DD/YY	BRIEF DESCRIPTION	XXX
	MM/DD/YY	BRIEF DESCRIPTION	XXX

REVISION

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

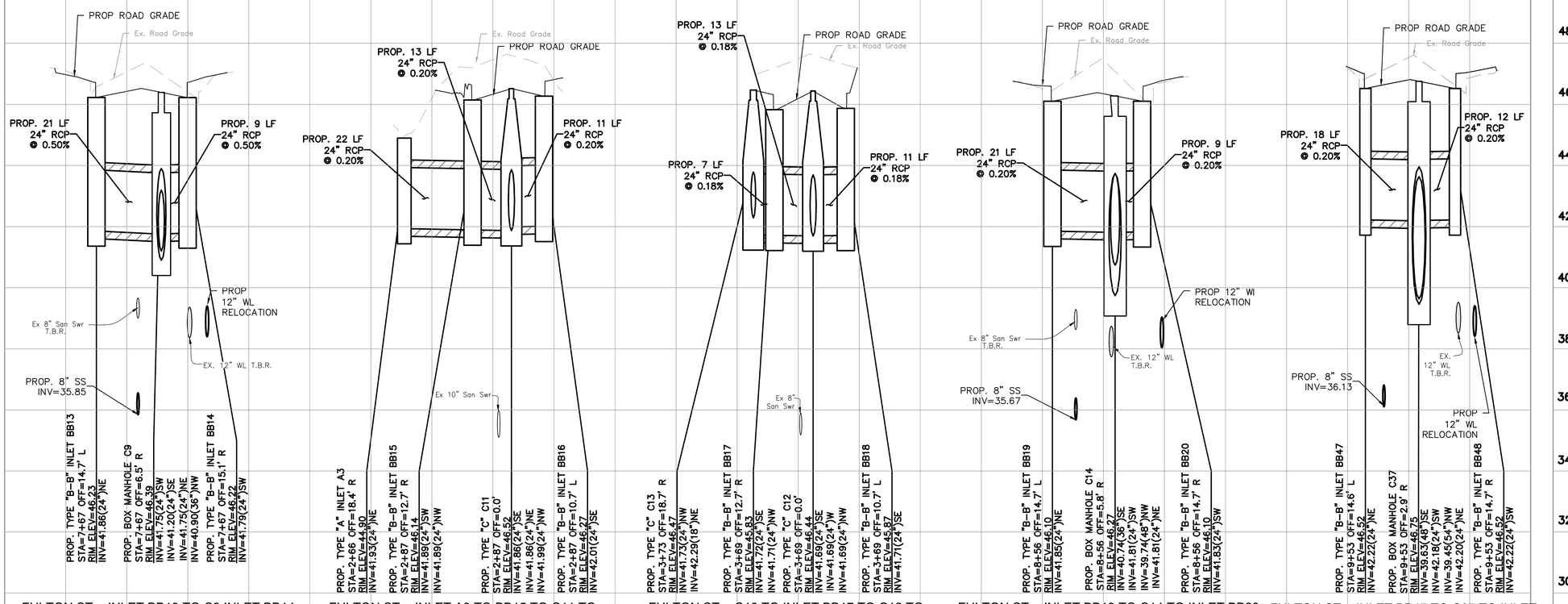
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM DRAIN PROFILES SHEET 1 OF 3

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 48A OF 223	

PLOTTED: 10/5/2026 5:17 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\48A-C STORM_DRAIN_PROFILE.DWG



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.
	MM/DD/YY	BRIEF DESCRIPTION	XXX
	MM/DD/YY	BRIEF DESCRIPTION	XXX
	MM/DD/YY	BRIEF DESCRIPTION	XXX

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750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
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FB NUMBER: P-6357

100% PROGRESS

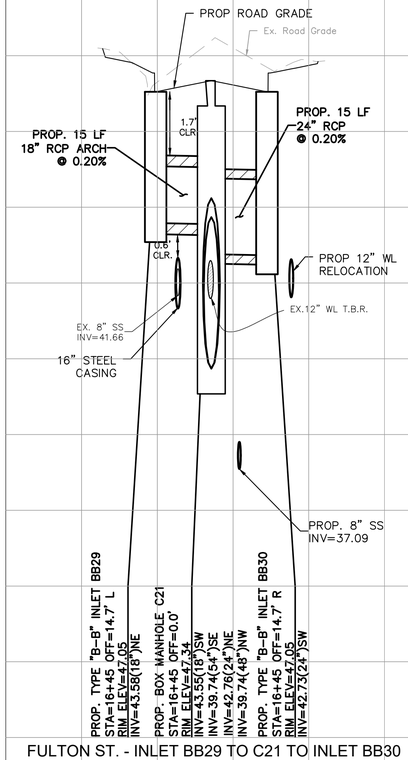
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

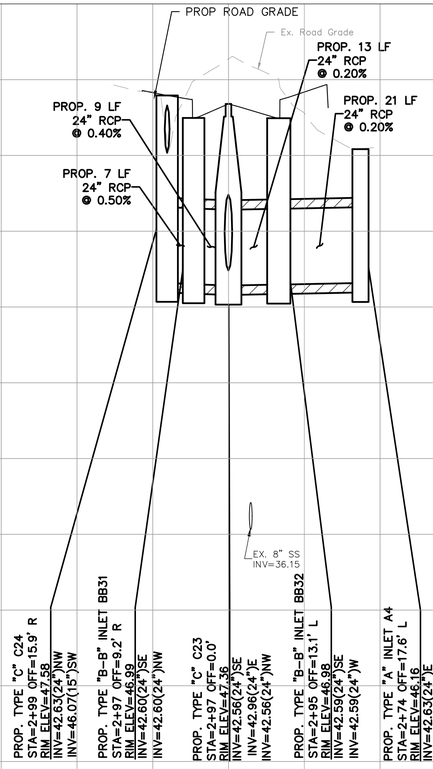
STORM DRAIN PROFILES SHEET 2 OF 3

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 48B OF 223	

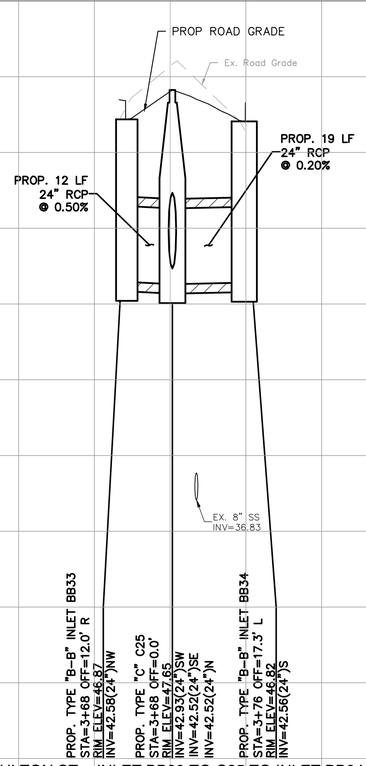
PLOTTED: 10/5/2026 5:19 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\48A-C STORM_DRAIN_PROFILE.DWG



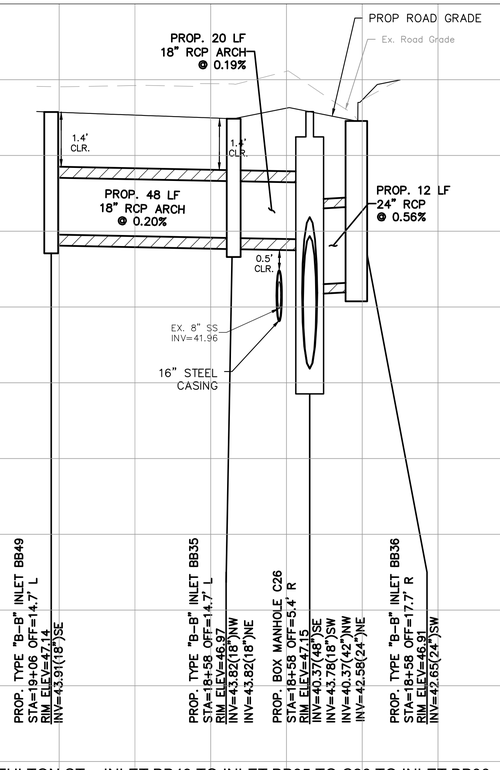
FULTON ST. - INLET BB29 TO C21 TO INLET BB30



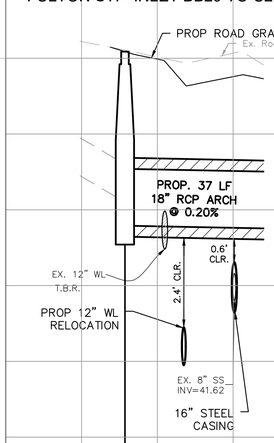
FULTON ST. - C24 TO INLET BB31 TO C23 INLET BB32 TO INLET A4



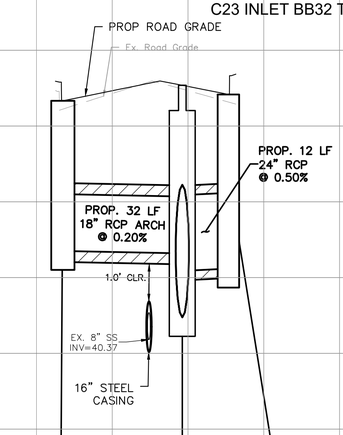
FULTON ST. - INLET BB33 TO C25 TO INLET BB34



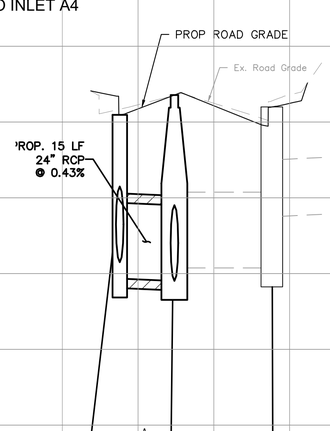
FULTON ST. - INLET BB49 TO INLET BB35 TO C26 TO INLET BB36



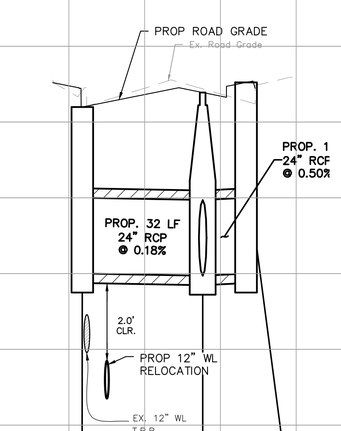
FULTON ST. - C28 TO C27



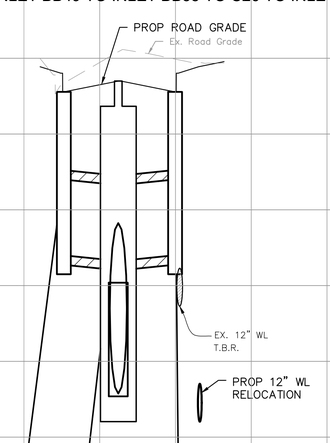
FULTON ST. - INLET 37 TO C29 TO INLET BB38



FULTON ST. - INLET BB39 TO C31



FULTON ST. - INLET BB40 TO C33



FULTON ST. - INLET BB41 TO C34 TO INLET BB42

GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION DESCRIPTION	APP.
	MM/DD/YY	BRIEF DESCRIPTION	XXX
	MM/DD/YY	BRIEF DESCRIPTION	XXX
	MM/DD/YY	BRIEF DESCRIPTION	XXX

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HATCH
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TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM DRAIN PROFILES SHEET 3 OF 3

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 48C OF 223	

PLOTTED: 10/5/2026 5:21 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913134\48A-C STORM_DRAIN_PROFILE.DWG

Fulton Street

Existing

Sheet No.	Driveway No.	CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope
	D1	2+38 RT.	ASPHALT	21	17	N/A	N/A	308	47.03	46.63	2.62%
	D2	2+52 LT.	CONCRETE	20	15	4	4	100	46.86	46.17	7.08%
19	D3	4+77 LT.	CONCRETE	37	14	N/A	N/A	578	46.98	46.7	1.88%
21	D4	4+99 RT.	CONCRETE	11	15	N/A	N/A	50	47.12	46.84	1.21%
21	D5	6+84 RT.	EARTH	10	12	N/A	N/A		47.1	46.66	7.73%
21	D6	6+86 LT.	CONCRETE	10	14	3	2	73	47.36	46.13	12.31%
21	D7	7+30 LT.	CONCRETE	9	13	2	4	69	47.28	46.35	8.66%
21	D8	7+30 RT.	CONCRETE	9	11	4	4	54	47.05	46.13	10.56%
23	D9	9+20 LT.	CONCRETE	10	15	N/A	N/A	103	47.18	46.72	9.13%
23	D11	9+76 LT.	CONCRETE	8	14	3	2	76	47.54	46.44	3.08%
23	D13	10+27 RT.	CONCRETE	10	14	3	3	80	47.56	46.85	5.30%
23	D14	10+58 LT.	CONCRETE	9	13	3	2	83	47.57	47	9.17%
23	D15	10+73 RT.	CONCRETE	11	12	3	2	50	47.65	47.23	2.73%
23	D16	11+15 LT.	CONCRETE	10	13	2	2	84	47.82	46.86	10.08%
23	D17	11+20 RT.	CONCRETE	9	14	4	3	67	47.76	47.22	9.86%
23	D18	11+59 LT.	CONCRETE	9	13	2	2	75	48.08	46.94	5.65%
23	D19	11+61 RT.	CONCRETE	9	13	3	3	74	47.87	47.33	2.04%
25	D20	13+98 LT.	CONCRETE	10	13	2	1	73	48.42	47.29	2.46%
25	D21	14+12 RT.	CONCRETE	11	12	2	1	58	48.19	47.29	8.88%
25	D22	14+28 LT.	CONCRETE	11	13	2	3	84	48.46	47.37	8.78%
25	D23	14+66 LT.	CONCRETE	8	13	2	2	60	48.37	47.3	6.35%
25	D24	14+98 RT.	CONCRETE	10	12	2	2	60	48.18	47.41	6.56%
25	D25	15+13 RT.	CONCRETE	11	12	2	2	67	48.34	47.38	9.22%
25	D26	15+12 LT.	CONCRETE	12	13	N/A	N/A	93	48.31	47.4	7.52%
25	D27	15+61 LT.	CONCRETE	12	13	3	3	86	48.32	47.24	3.63%
25	D28	15+65 RT.	CONCRETE	9	12	4	7	62	48.46	47.63	6.29%
25	D29	15+94 LT.	CONCRETE	18	13	6	3	140	48.33	47.15	8.54%
25	D30	16+13 LT.	CONCRETE	9	13	2	2	71	48.34	47.06	5.37%
25	D31	16+14 RT.	CONCRETE	15	13	N/A	N/A	103	48.05	47.55	3.70%
25	D32	16+78 LT.	CONCRETE	41	15	N/A	N/A	403	48	47.54	6.47%
27	D33	17+75 RT.	CONCRETE	12	12	N/A	N/A	129	47.9	47.23	6.43%
27	D34	17+99 LT.	ASPHALT	62	7	N/A	N/A	433	48.45	47.82	2.82%
27	D35	19+42 LT.	CONCRETE	35	20	N/A	N/A	573	48.29	47.87	2.22%
27	D36	19+51 RT.	CONCRETE	56	19	N/A	N/A	369	47.83	47.11	7.86%

Proposed

CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope	Elev. at S1	Sidewalk/ Bikepath Width	Elev. at S2	Slope at S3	Elev. at S3
2+38 RT.	CONCRETE	20	18	10	FLARE	391	47.02	46.34	5.3%	46.81	6	46.93	2.9%	47.02
2+52 LT.	CONCRETE	20	11.86	8	8	260	46.86	46.11	10.7%	46.7	6	46.82	-1.0%	46.86
4+73 LT.	CONCRETE	40	15.5	10	10	642	46.98	46.08	11.1%	46.8	6	46.92	2.0%	46.98
4+99 RT.	CONCRETE	10	15.8	4	4	190	47.12	46.08	9.0%	46.95	6	47.07	1.6%	47.12
6+84 RT.	CONCRETE	13	15	4	4	195	47.1	46.35	9.6%	46.93	6	47.05	1.8%	47.1
6+86 LT.	CONCRETE	10	14.8	4	4	149	47.35	46.36	12.4%	47.09	6	47.21	4.8%	47.35
7+30 LT.	CONCRETE	11	15	4	4	165	47.28	46.41	12.4%	47.15	6	47.27	0.5%	47.28
7+30 RT.	CONCRETE	10	15	4	4	151	47.04	46.6	7.6%	46.86	6	47.98	2.0%	47.04
9+20 LT.	CONCRETE	10	15	4	4	130	47.18	46.28	14.1%	47.11	6	47.23	4.8%	47.18
9+76 LT.	CONCRETE	10	15	4	4	132	47.54	46.69	13.0%	47.46	6	47.58	0.1%	46.54
10+27 RT.	CONCRETE	10	15	4	FLARE	140	47.26	46.84	5.1%	47.15	6	47.27	2.0%	47.26
10+57 LT.	CONCRETE	10	15	4	2	149	47.57	46.94	7.7%	47.39	6	47.51	2.0%	47.57
10+73 RT.	CONCRETE	10	15	4	2	118	47.65	46.98	8.9%	47.52	6	47.64	5.2%	47.65
11+17 LT.	CONCRETE	10	15	4	FLARE	139	47.82	47.16	8.0%	47.64	6	47.76	6.2%	47.82
11+20 RT.	CONCRETE	10	15	4	4	120	47.76	47.18	7.3%	47.63	6	47.75	4.7%	47.76
11+64 LT.	CONCRETE	10	15	4	4	120	48.11	47.3	11.3%	47.97	6	48.09	0.8%	48.11
11+61 RT.	CONCRETE	10	15	4	FLARE	123	47.82	47.31	6.5%	47.7	6	47.82	0.0%	47.82
13+98 LT.	CONCRETE	12	15	4	4	152	48.42	47.27	13.6%	48.08	6	48.2	3.5%	48.42
14+13 RT.	CONCRETE	10.5	15	4	2	123	48.19	47.31	12.4%	48.05	6	48.17	1.1%	48.19
14+28 LT.	CONCRETE	11	15	4	4	166	48.46	47.36	12.3%	48.1	6	48.22	3.4%	48.46
14+66 LT.	CONCRETE	9	15	4	4	151	48.28	47.38	11.7%	48.11	6	48.23	12.1%	48.28
14+98 RT.	CONCRETE	10	15	2	4	164	48.19	47.32	11.5%	48.01	6	48.13	2.0%	48.19
15+14 RT.	CONCRETE	10	15	4	2	147	48.34	47.36	11.8%	48.07	6	48.19	8.8%	48.34
15+13 LT.	CONCRETE	10	15	2	4	148	48.31	47.36	12.4%	48.1	6	48.22	4.2%	48.31
15+62 LT.	CONCRETE	10	15	2	4	147	48.22	47.5	9.5%	48.07	6	48.19	3.5%	48.22
15+65 RT.	CONCRETE	10	15	4	4	147	48.46	47.52	9.7%	48.1	6	48.22	10.6%	48.46
15+95 LT.	CONCRETE	18	15	4	2	268	48.22	47.35	12.0%	48.08	6	48.2	3.0%	48.22
16+12 LT.	CONCRETE	10	15	2	4	144	48.23	47.25	13.9%	48.08	6	48.2	4.0%	48.23
16+15 RT.	CONCRETE	14.5	15	4	2	187	48.05	47.23	10.6%	47.87	6	47.99	1.7%	48.01
16+65 LT.	CONCRETE	35	15	2	10	544	48.03	47.14	10.1%	47.74	6	47.86	5.8%	48.03
17+75 RT.	CONCRETE	12	16.5	5	5	149	47.91	47.39	8.5%	47.82	6	47.94	4.1%	47.91
18+00 LT.	CONCRETE	16	20	10	10	254	48.45	47.39	11.1%	48.06	7	48.2	3.5%	48.45
19+42 LT.	CONCRETE	35	20	10	10	737	48.29	47.27	6.2%	47.94	8	48.1	3.0%	48.29
19+51 RT.	CONCRETE	30	16.5	10	5	375	48.45	47.25	5.0%		11	47.8	2.0%	47.82

Hogan Street

Existing

Sheet No.	Driveway No.	CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope
25	D37	1+87 LT.	CONCRETE	30	6.9	N/A	N/A	207	46.47	5.9	46.88
25	D38	3+80 RT.	CONCRETE	13	7.2	2	1	28	46.82	46.06	6.95%

Proposed

CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope	Elev. at S1	Sidewalk/ Bikepath Width	Elev. at S2	Slope at S3	Elev. at S3
1+92 Lt.	CONCRETE	40	8.25	FLARE	FLARE	295	46.88	46.21	8.8		7.2	46.84	5.9	46.88
3+81 RT.	CONCRETE	15	7	5	5	115	46.82	46.19	12.2%	46.46	5	46.6	20.0%	46.82

Gargan Street

Existing

Sheet No.	Driveway No.	CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope
25	D39	2+80 RT.	CONCRETE	22	8	N/A	N/A	211	47.3	46.97	4.30%
25	D40	3+88 RT.	CONCRETE	16	8.5	N/A	N/A	67	46.85	46.81	1.55%
25	D41	4+00 LT.	CONCRETE	8	12	N/A	N/A	49	47.23	47.01	-1.73%

Proposed

CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope	Elev. at S1	Sidewalk/ Bikepath Width	Elev. at S2	Slope at S3	Elev. at S3
2+80 RT.	CONCRETE	20	10	4	10	233	47.36	46.52	8.2%		10	47.33	1.8%	47.36
3+91 RT.	CONCRETE	10	9	FLARE	4	91	46.84	46.54	4.2%	46.74	4	46.82	2.0%	46.84
3+98 LT.	CONCRETE	11	10.5	4	4	104	47.01	46.82	1.1%	46.87	5	46.97	2.5%	47.01

Paschall Street

Existing

Sheet No.	Driveway No.	CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope
25	D42	6+64 LT.	CONCRETE	10	12	4	3	65	48.01	47.08	2.37%
25	D43	7+02 RT.	CONCRETE	11	16			76	48.22	47.94	1.26%

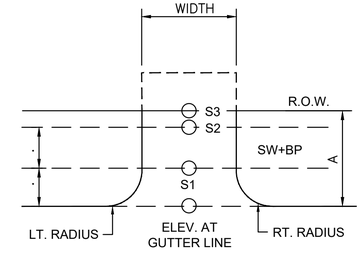
Proposed

CL Station	Driveway Material	Width	Length A	Lt. Radius	Rt. Radius	Area (sf)	Elev. at ROW	Elev. at Gutter Line	Slope	Elev. at S1	Sidewalk/ Bikepath Width	Elev. at S2	Slope at S3	Elev. at S3
5+64 LT.	CONCRETE	10	12	4	FLARE	119	48.01	47.17	12.8%	47.81	5	47.91	5.0%	48.01
7+02 RT.	CONCRETE	12	13	4	4	113	48.22	47.76	11.9%	48.11	5	48.21	0.1%	48.22

NOTE:

- PROPOSED DRIVEWAY CURB RADIUS SHALL NOT ENCROACH INTO THE NEIGHBOR'S PROPERTY. THERE SHALL BE NO ENCROACHMENTS INTO THE NEIGHBOR'S PROPERTY.

NO.	DATE	REVISION	APP.



DRIVEWAY DETAIL

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

DRIVEWAY SCHEDULE

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 49 OF 223	

PLOTTED: 10/5/2026 5:21 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\49 DRIVEWAY SCHEDULES AND POINT TABLES.dwg

POINT TABLE			
ID	**Station**	**Offset**	**Top of Curb Elevation**
C1	STA.3+09.70	15.16' LT.	46.32'
C2	STA.3+34.20	39.68' LT.	45.94'
C3	STA.3+77.21	38.09' LT.	46.03'
C4	STA.4+01.79	14.99' LT.	46.43'
C5	STA.3+09.89	11.84' RT.	46.39'
C6	STA.3+34.39	36.34' RT.	45.96'
C7	STA.3+79.39	34.71' RT.	46.10'
C8	STA.4+01.80	11.72' RT.	46.49'
C9	STA.5+55.73	15.02' LT.	46.48'
C10	STA.5+75.23	34.84' LT.	46.52'
C11	STA.5+97.24	33.62' LT.	46.34'
C12	STA.6+15.12	15.46' LT.	46.64'
C13	STA.5+57.83	11.73' RT.	46.53'
C14	STA.5+75.66	30.01' RT.	46.23'
C15	STA.5+97.20	34.99' RT.	46.30'
C16	STA.6+16.70	15.49' RT.	46.64'
C17	STA.7+84.38	15.54' LT.	46.85'
C18	STA.8+02.18	33.78' LT.	46.66'
C19	STA.8+27.18	33.93' LT.	46.88'
C20	STA.8+45.04	15.62' LT.	46.69'
C21	STA.7+82.70	15.5' RT.	46.84'
C22	STA.8+02.20	35' RT.	46.38'
C23	STA.8+27.20	36.47' RT.	46.41'
C24	STA.8+48.24	15.47' RT.	46.66'
C25	STA.12+42.97	15.55' LT.	47.60'
C26	STA.12+57.46	30.02' LT.	47.23'
C27	STA.12+94.22	35.03' LT.	47.03'
C28	STA.13+13.71	15.56' LT.	47.38'
C29	STA.12+39.59	15.5' RT.	47.56'
C30	STA.12+59.09	35.22' RT.	47.19'
C31	STA.12+94.49	33.38' RT.	47.07'
C32	STA.13+12.48	15.34' RT.	47.39'
C33	STA.17+11.21	15.57' LT.	47.79'
C34	STA.17+25.67	30.03' LT.	47.48'
C35	STA.17+49.68	32.14' LT.	47.52'
C36	STA.17+66.08	15.6' LT.	47.94'
C37	STA.17+03.57	15.73' RT.	47.75'
C38	STA.17+22.83	35.24' RT.	47.40'
C39	STA.17+53.83	28.62' RT.	47.54'
C40	STA.17+64.29	18.57' RT.	47.82'
C41	STA.21+54.20	26.22' LT.	47.15'
C42	STA.21+78.80	50.72' LT.	46.72'
C43	STA.22+19.20	56.26' LT.	46.44'
C44	STA.22+48.70	26.33' LT.	46.85'
C45	STA.21+49.58	18.8' RT.	47.30'
C46	STA.21+74.04	43.3' RT.	46.69'
C47	STA.22+19.07	47.76' RT.	46.57'

NO.	DATE	REVISION	APP.

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

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

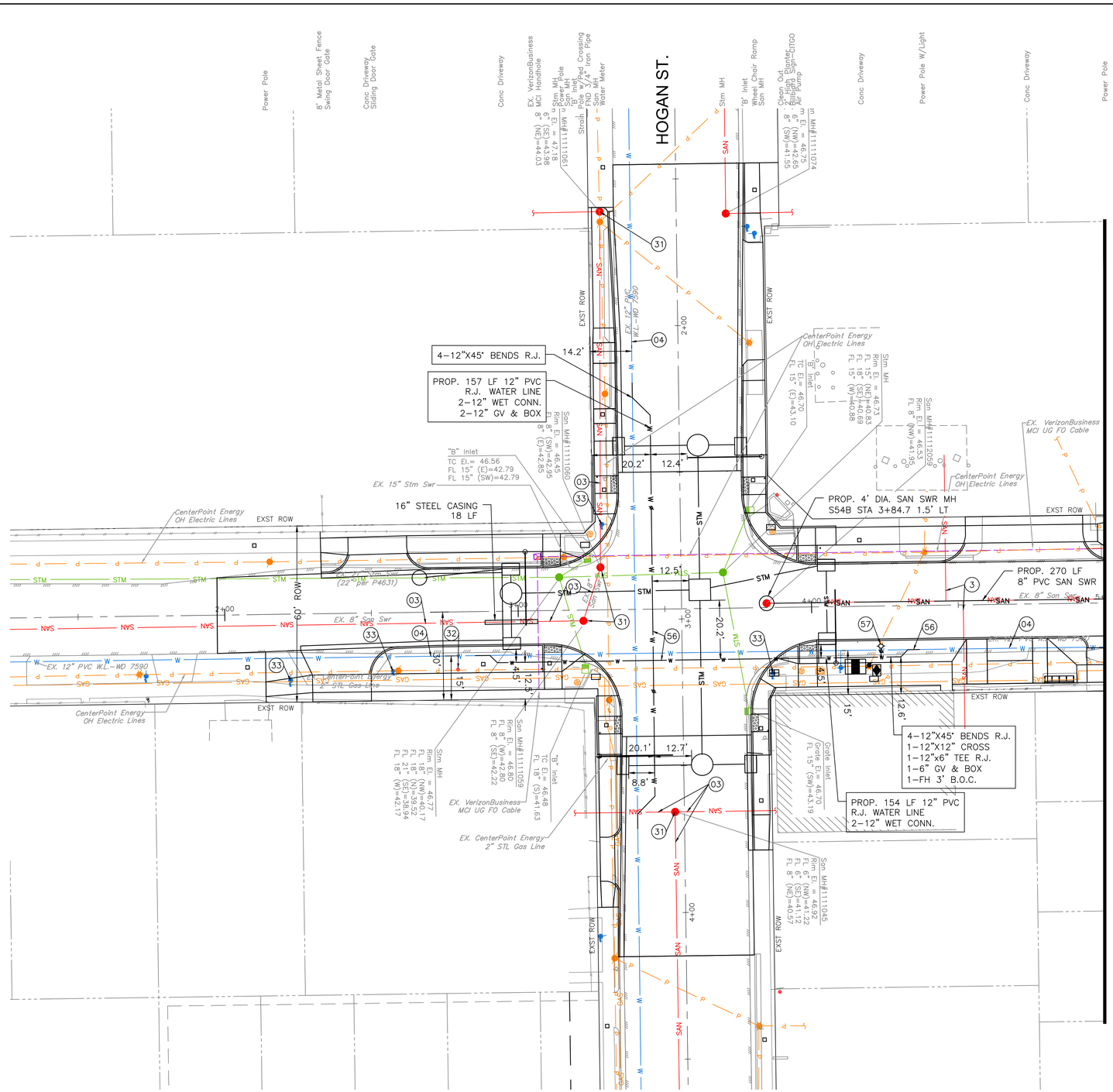
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

POINT TABLES

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 50 OF 223

PLOTTED: 10/5/2026 5:21 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913141\49 DRIVEWAY SCHEDULES AND POINT TABLES.dwg



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

NOTE:

- REFER TO DRAINAGE AND PAVING PLANS
- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION
- REFER TO SIGNING AND PAVEMENT MARKING PLANS
- WHERE PROPOSED DRAINAGE PIPE CONFLICTS WITH EXISTING SANITARY LATERAL PIPE, CONTRACTOR IS RESPONSIBLE FOR DISCONNECTION OF EXISTING SANITARY SEWER SERVICE AND RECONECTION OF NEW SANITARY SEWER SERVICE TO PROPOSED SANITARY SEWER PIPE. SEE DETAILS 02534-02 AND 02534-04.
- WHERE PROPOSED STEEL CASING IS TO BE INSTALLED, CASING TO BE BACKFILLED WITH CEMENT-STABILIZED SAND PER DETAIL 02317-01.
- RECONNECT ALL WATER SERVICES TO PROPOSED RELOCATED WATER MAIN

KEY NOTE:

(03) EXISTING SANITARY SEWER TO REMAIN IN PLACE

(04) EXISTING WATER MAIN TO REMAIN IN PLACE

(05) EXISTING FIRE HYDRANT TO REMAIN IN PLACE

(31) ADJUST EXISTING SANITARY MANHOLE RIM TO MATCH FINISHED GRADE

(32) ADJUST EXISTING CLEANOUT TOP TO MATCH FINISHED GRADE

(33) ADJUST EXISTING WATER METER TO MATCH FINISHED GRADE

(34) ADJUST EXISTING WATER VALVE ASSEMBLY (INCLUDING BOX IF PRESENT) TO MATCH FINISHED GRADE

(42) CONNECT EXISTING SANITARY SEWER TO PROPOSED MANHOLE WITH NEW SEWER STUB AND STANDARD RESILIENT CONNECTOR

(43) CONNECT PROPOSED SANITARY SEWER EXISTING MANHOLE WITH STANDARD RESILIENT CONNECTOR

(56) PROPOSED WATER MAIN RELOCATION

(57) PROPOSED FIRE HYDRANT

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PLAN STA. 1+00 TO 5+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 51 OF 223	

PLOTTED: 10/5/2026 6:07 PM
PLOT STYLE: COH CIP.CTB
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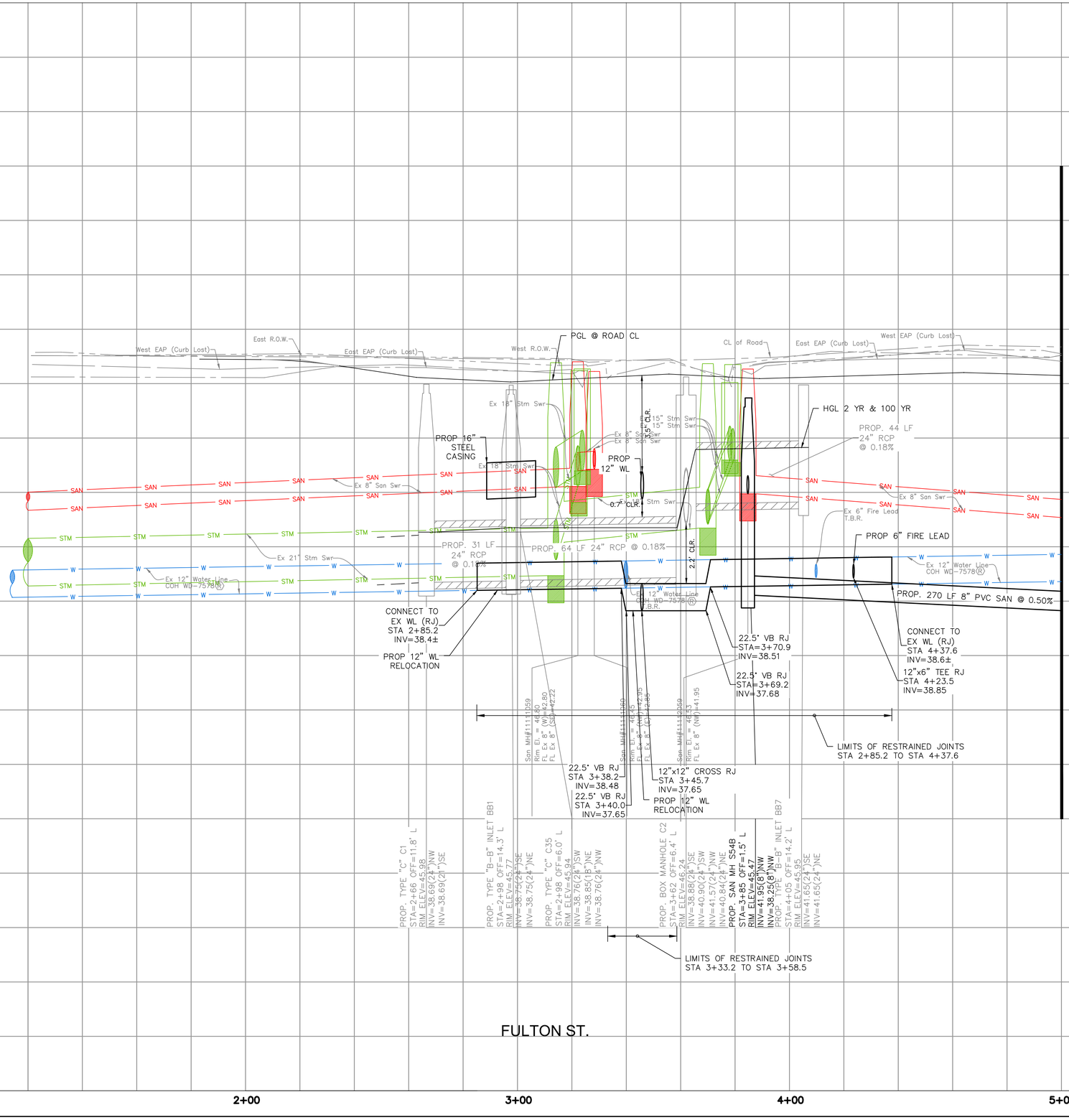
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GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE STA. 1+00 TO 5+00

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	52 OF 223

PLOTTED: 10/5/2026 6:07 PM

PLOT STYLE: COH CIP.CTB

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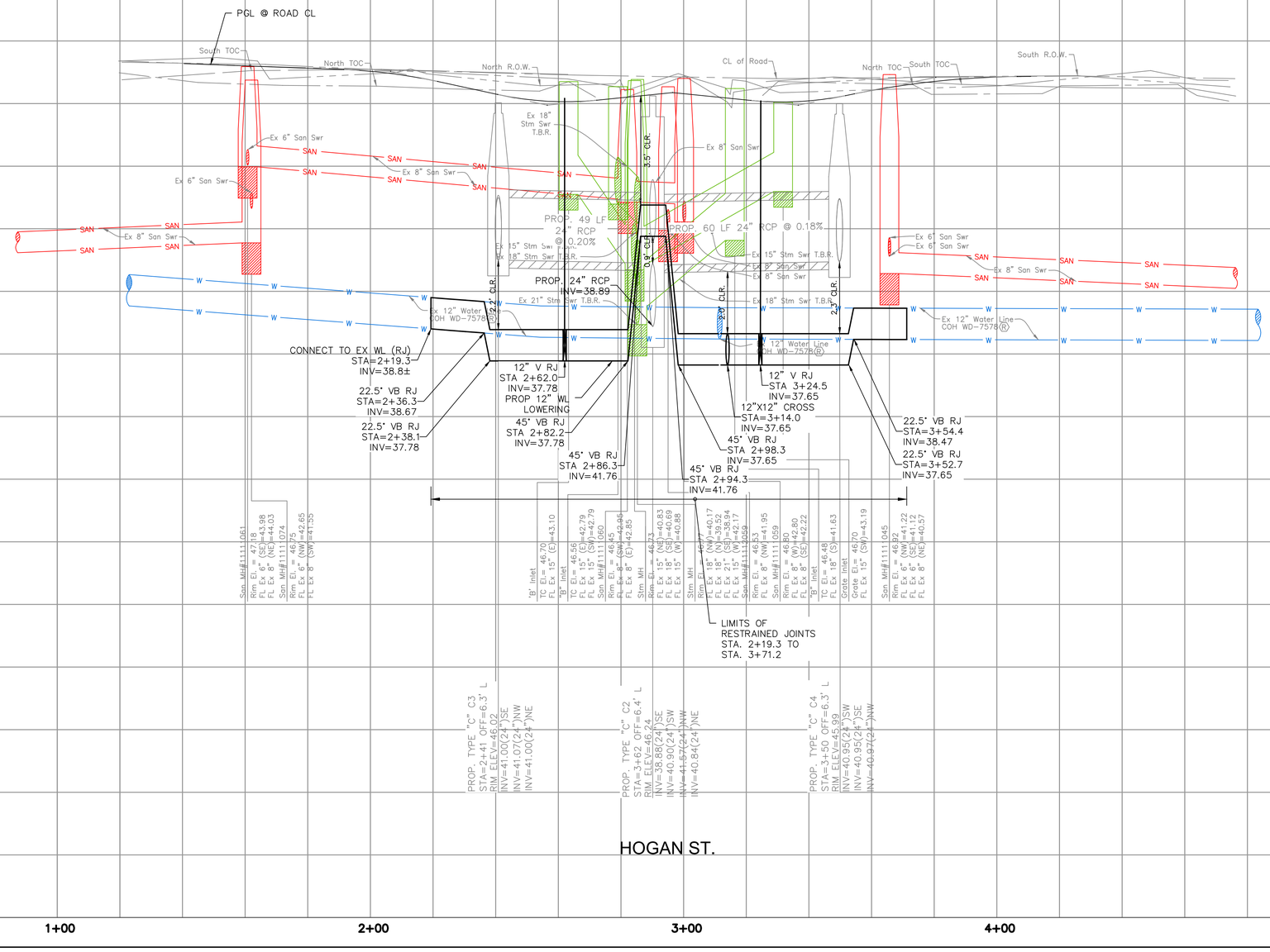
GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

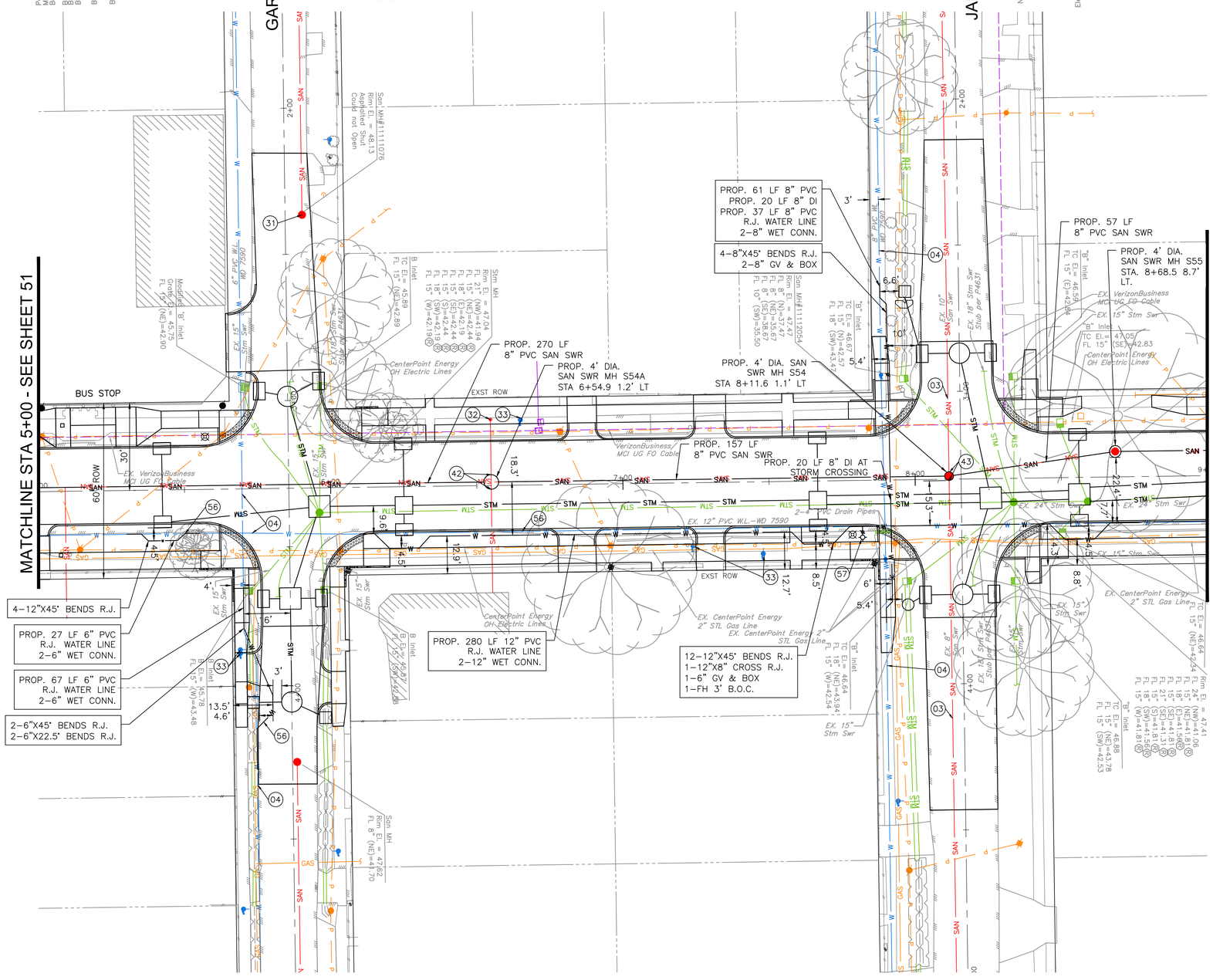
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE HOGAN STREET

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	53 OF 223



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

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(43) CONNECT PROPOSED SANITARY SEWER TO EXISTING MANHOLE WITH STANDARD RESILIENT CONNECTOR

(56) PROPOSED WATER MAIN RELOCATION

(57) PROPOSED FIRE HYDRANT

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PLAN STA. 5+00 TO 9+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 54 OF 223	

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 6:08 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\51 SANITARY SEWER AND WATER PLAN AND PROFILE.dwg

PLOTTED: 10/5/2026 6:08 PM

PLOT STYLE: COH CIP.CTB

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\51 SANITARY SEWER AND WATER PLAN AND PROFILE.dwg

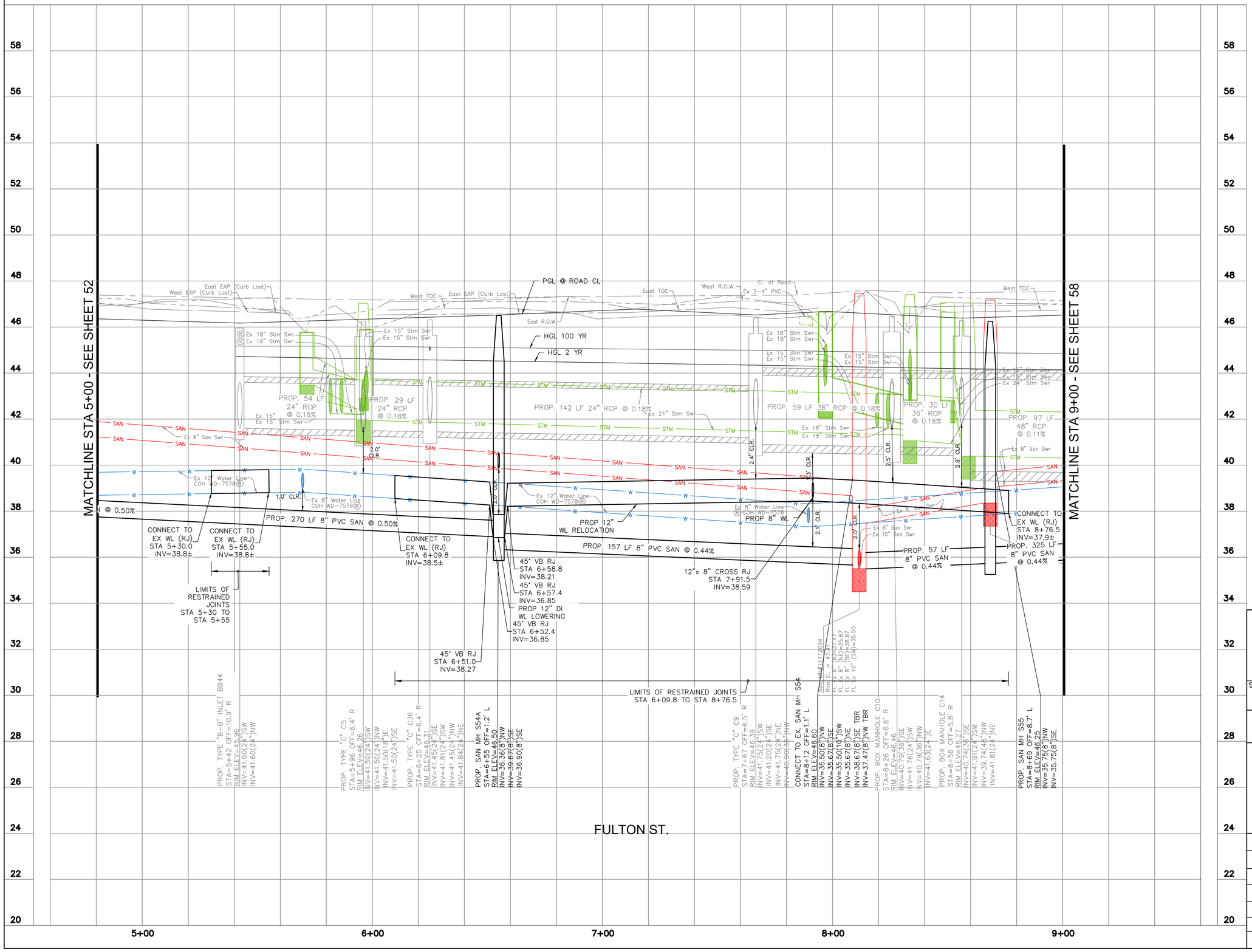
GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE STA. 5+00 TO 9+00

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	55 OF 223

PLOTTED: 10/5/2026 6:08 PM

PLOT STYLE: COH CIP.CTB

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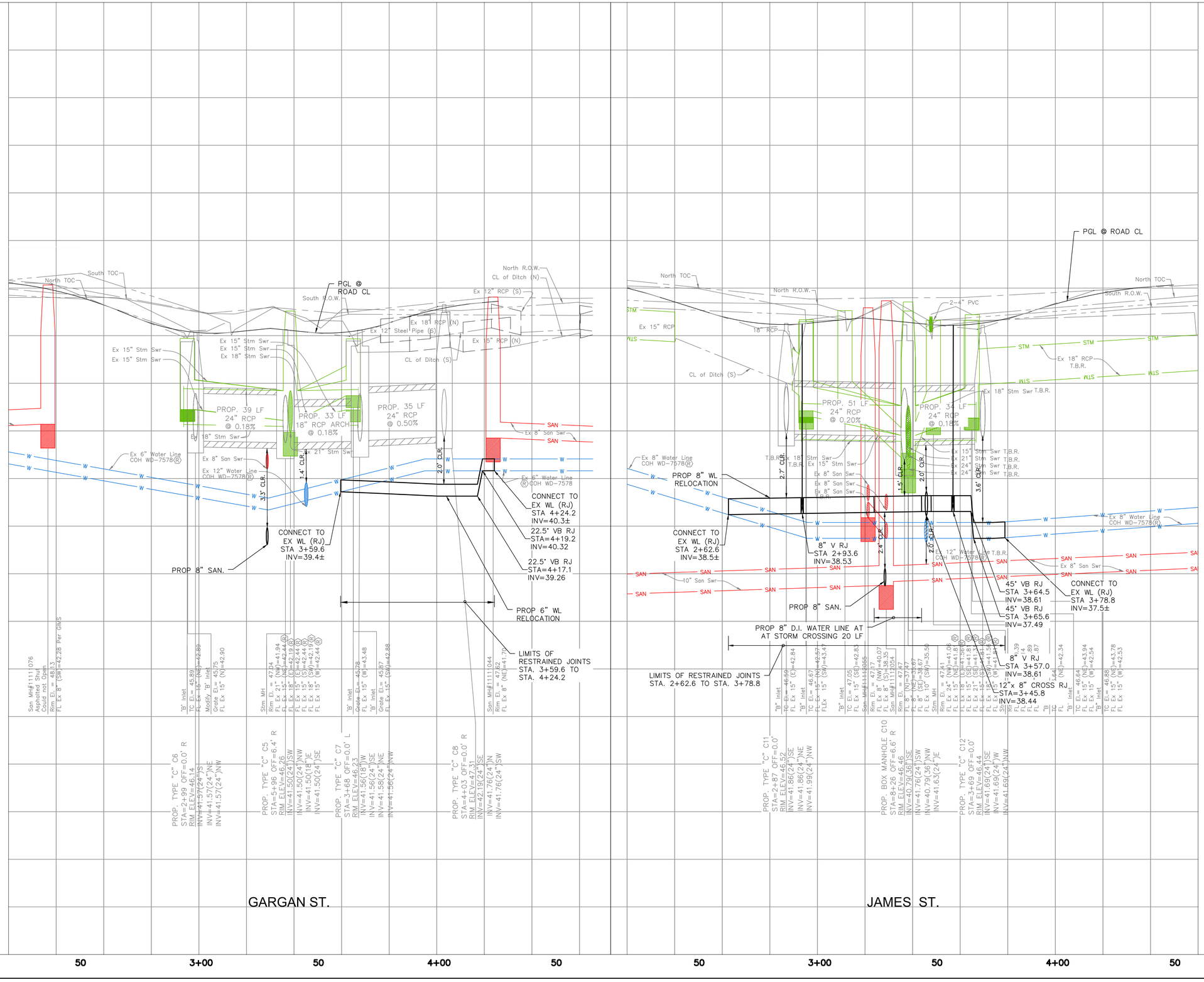
GRAPHIC SCALE

0 20 40

(IN FEET)

FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832-930-7670 TX FIRM NUMBER: F-314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P-6357	

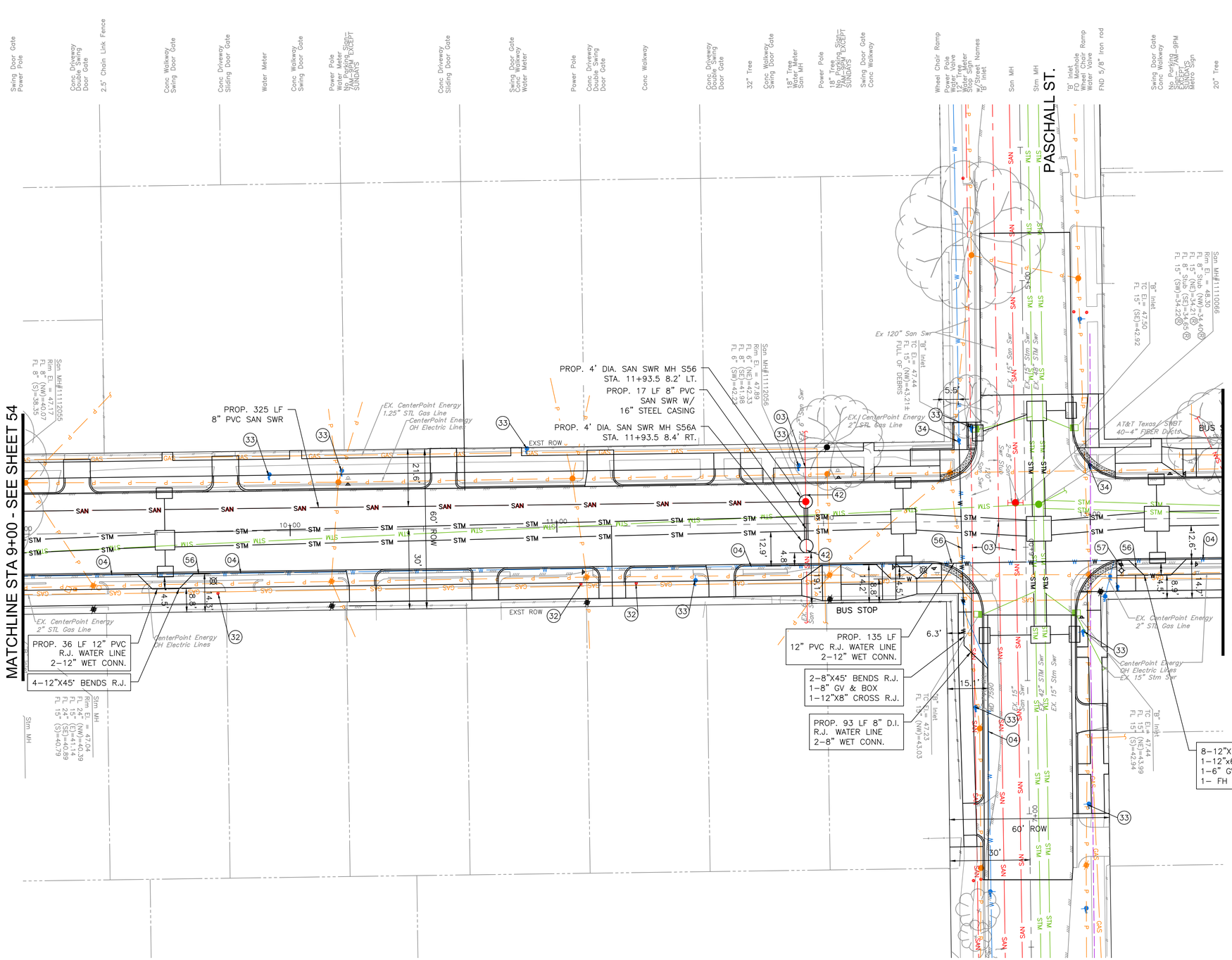
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE GARGAN ST. AND JAMES ST.

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	56 OF 223


MATCHLINE STA 9+00 - SEE SHEET 54
MATCHLINE STA 13+50 - SEE SHEET 60
PASCHALL ST.
FULTON ST.
PROP. 325 LF 8" PVC SAN SWR
PROP. 4' DIA. SAN SWR MH S56 STA. 11+93.5 8.2' LT.
PROP. 17 LF 8" PVC SAN SWR W/ 16" STEEL CASING
PROP. 4' DIA. SAN SWR MH S56A STA. 11+93.5 8.4' RT.
PROP. 36 LF 12" PVC R.J. WATER LINE 2-12" WET CONN.
4-12"X45° BENDS R.J.
PROP. 135 LF 12" PVC R.J. WATER LINE 2-12" WET CONN.
2-8"X45° BENDS R.J. 1-8" GV & BOX 1-12"X8" CROSS R.J.
PROP. 93 LF 8" D.I. R.J. WATER LINE 2-8" WET CONN.
8-12"X45° BENDS R.J. 1-12"x6" TEE R.J. 1-6" GV & BOX 1- FH 3' B.O.C.
BUS STOP
EXST ROW
60' ROW
30'
EX. CenterPoint Energy 1.25" STL Gas Line
EX. CenterPoint Energy 2" STL Gas Line
EX. CenterPoint Energy 2" STL Gas Line
EX. CenterPoint Energy 2" STL Gas Line
CenterPoint Energy OH Electric Lines
CenterPoint Energy OH Electric Lines
CenterPoint Energy OH Electric Lines
EX. 15" Stm Swr
Ex 120" San Swr
EX. 42" STM Swr
EX. 15" Stm Swr
EX. 8" San Swr
EX. 8" San Swr
EX. 8" San

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GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

MATCHLINE STA 9+00 - SEE SHEET 55

MATCHLINE STA 13+50 - SEE SHEET 61

PGL @ ROAD CL
West EAP (Curb Lost)
East TOC
West TOC
East R.O.W.
East EAP (Curb Lost)
West R.O.W.
East TOC
West TOC
CL of Road
PGL @ ROAD CL
HGL 100 YR
HGL 2 YR
Ex 8" San Swr
Ex 6" San Swr
Ex 24" Stm Swr
PROP. 277 LF 54" RCP @ 0.11%
Ex 8" San Swr
Ex 12" Water Line
COH WD-7578(R)
Ex 24" Stm Swr
Ex 12" Water Line
COH WD-7578(R)
CONNECT TO EX WL (RJ) STA 9+37.6 INV=38.3±
CONNECT TO EX WL (RJ) STA 9+68.5 INV=38.5±
PROP. 325 LF 8" PVC SAN @ 0.44%
LIMITS OF RESTRAINED JOINTS STA 9+37.6 TO STA 9+68.5
Ex 15" Stm Swr
Ex 15" Stm Swr
3.0" CLR.
PROP 8" WL
PROP. 8" WL
INV=43.56
1.0' CLR.
0.7' CLR.
Ex 15" Stm Swr
PROP. 44 LF 54" RCP @ 0.15%
8" Water Line
(R)COH WD-7578(R)
6" Fire Lead TBR
PROP. 51 LF 60"X36" RCB @ 0.09%
0.5' CLR
PROP. 17 LF 8" PVC SAN @ 0.44%
CONNECT TO EX WL (RJ) STA 12+40.6 INV=41.5±
12"x 8" CROSS RJ STA=12+51.8 INV=41.77
PROP 12" WL RELOCATION
45° VB RJ STA 12+74.1 INV=41.62
45° VB RJ STA 12+75.8 INV=43.20
45° VB RJ STA 12+88.9 INV=40.10
45° VB RJ STA 12+85.8 INV=43.20
CONNECT TO EX WL (RJ) STA 13+40.8 INV=40.5±
PROP 6" FIRE LEAD
PROP 12" WL RELOCATION
12"x6" TEE RJ STA 13+11.5 INV=40.40
LIMITS OF RESTRAINED JOINTS STA 12+40.6 TO STA 13+40.8
Ex 8" San Swr
Ex 15" San Swr
Ex 8" San Swr
Ex 120" San Swr
FULTON ST.

Ex 24" Stm Swr
Ex 12" Water Line
COH WD-7578(R)
Ex 8" San Swr
Ex 6" San Swr
Ex 15" Stm Swr
Ex 15" Stm Swr
Ex 15" Stm Swr
8" Water Line
(R)COH WD-7578(R)
Ex 24" Stm Swr
Ex 12" Water Line
COH WD-7578(R)
Ex 8" San Swr
Ex 15" San Swr
Ex 8" San Swr
Ex 120" San Swr

San MH#1111205S
Rim El. = 47.17
FL Ex 8" (NW)=40.07
FL Ex 8" (S)=38.35

San MH#1111205S
Rim El. = 47.49
FL Ex 8" (NE)=42.33
FL Ex 8" (SE)=41.98
FL Ex 6" (SW)=42.23

San MH#1111006S
Rim El. = 48.30
FL Ex 15" (NE)=34.21(R)
FL Ex 15" (SW)=34.22(R)
FL Ex 8" Stub (NW)=34.46(R)
FL Ex 8" Stub (S)=34.65(R)

PROP. BOX MANHOLE C37
STA=9+53 OFF=2.9' R
RIM ELEV=46.75
INV=39.63(48")SE
INV=42.18(24")SW
INV=39.45(54")NW
INV=42.20(24")NE

PROP. SAN MH S56
STA=11+93 OFF=8.2' L
RIM ELEV=47.35
INV=37.18(8")SE
INV=37.18(8")NE
INV=42.23(8")SW
INV=42.33(8")NE

PROP. SAN MH S56A
STA=11+93 OFF=8.4' R
RIM ELEV=47.34
INV=42.49(8")NE

PROP. BOX MANHOLE C15
STA=12+30 OFF=0.3' L
RIM ELEV=47.40
INV=39.15(54")SE
INV=42.65(24")SW
INV=39.08(60")N
INV=42.65(24")NE

PROP. BOX MANHOLE C16
STA=12+81 OFF=3.2' R
RIM ELEV=47.22
INV=39.03(60")S
INV=39.20(54")NW
INV=39.03(48")SW
INV=39.03(48")NE

PROP. BOX MANHOLE C19
STA=13+25 OFF=6.6'
RIM ELEV=47.13
INV=41.93(24")SW
INV=41.93(24")NE
INV=39.26(54")NW
INV=39.26(54")SE

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

20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE STA. 9+00 TO 13+50

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"=20'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 58 OF 223

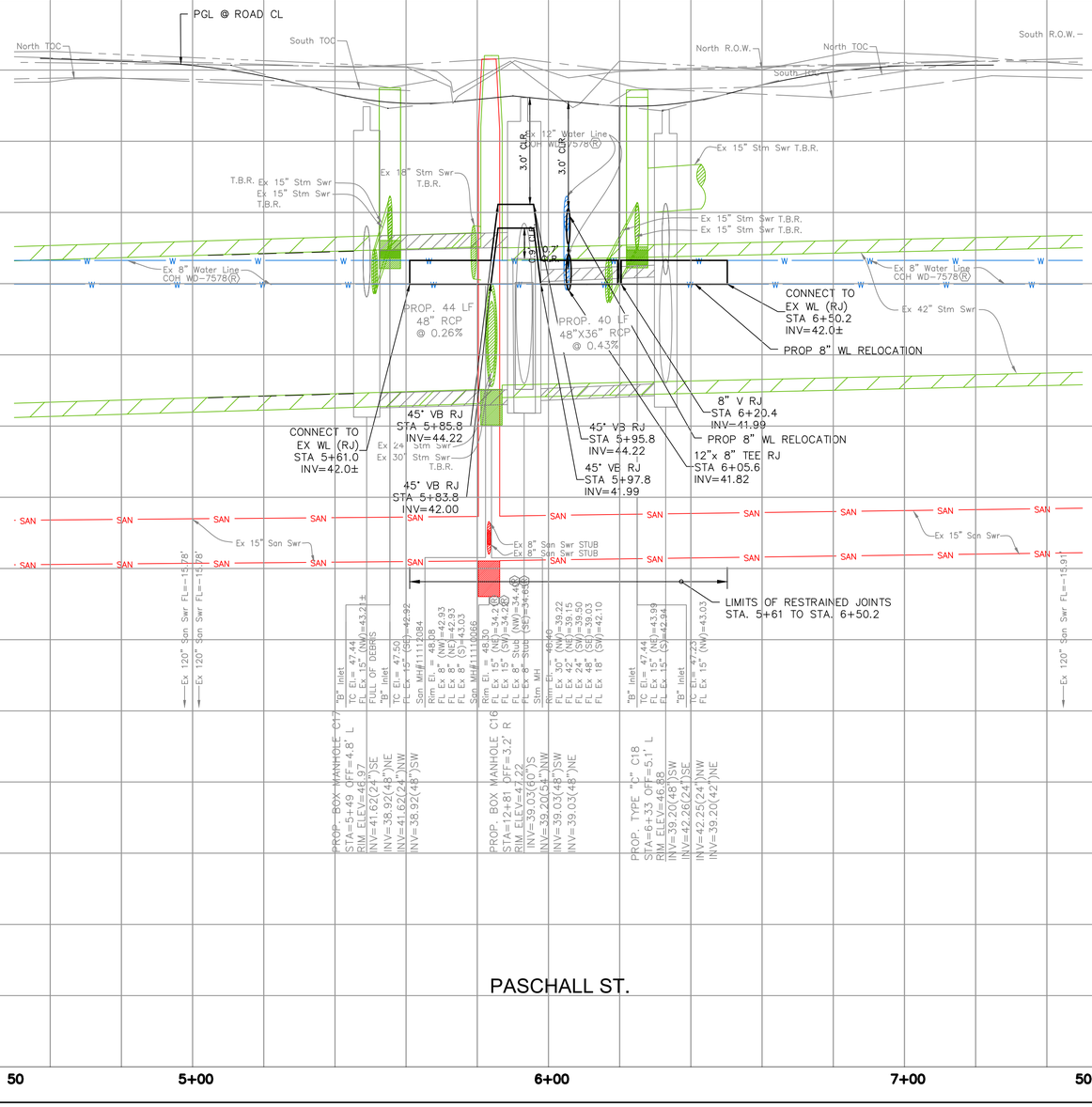
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GRAPHIC SCALE
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(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



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HOUSTON, TX 77024
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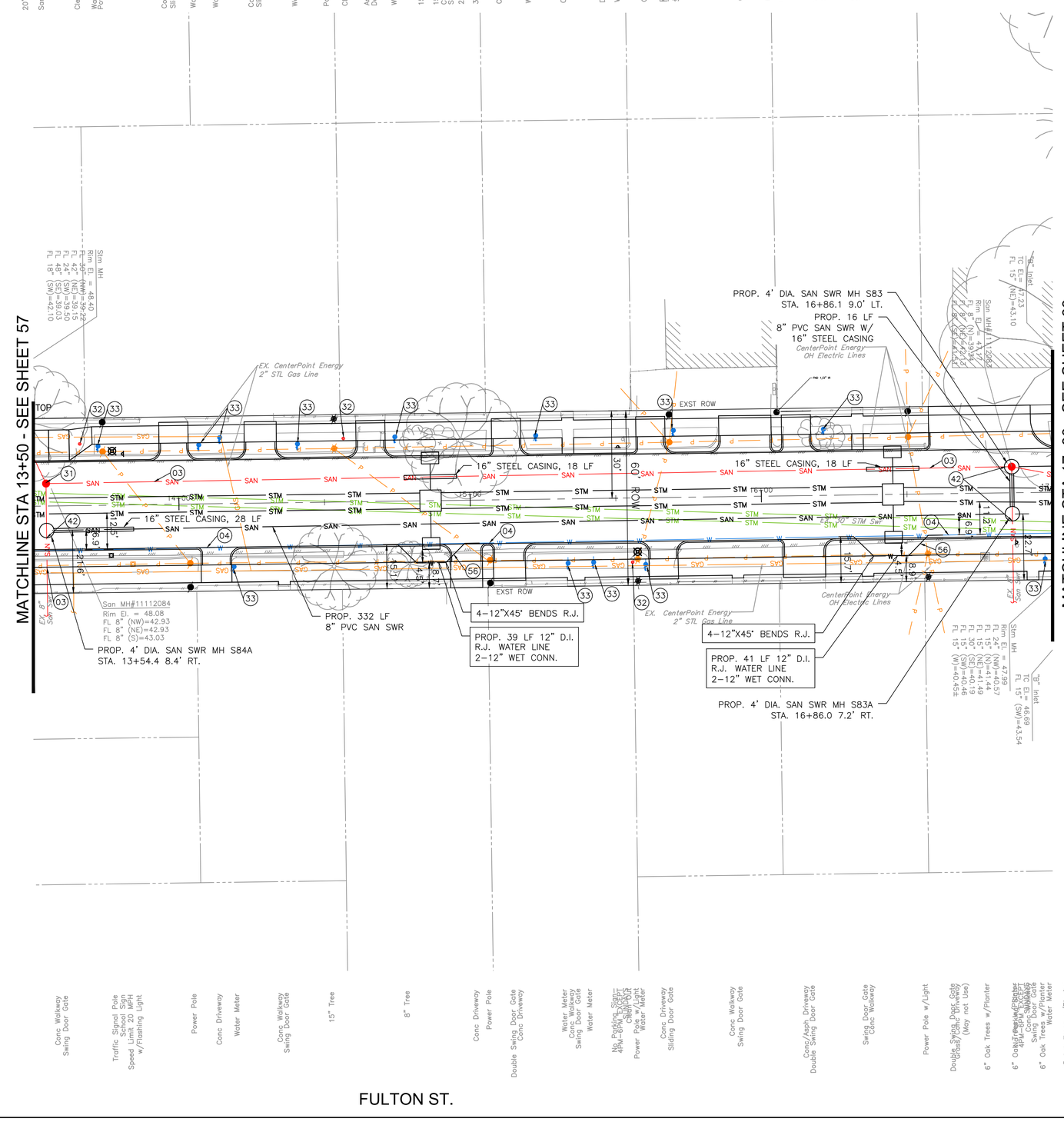
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PLAN PASCHALL STREET

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 59 OF 223	



GRAPHIC SCALE
0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NOTE:

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- REFER TO TREE PLANTING AND PROTECTION PLANS
- REFER TO ELECTRICAL PLANS AND TRAFFIC SIGNALIZATION
- REFER TO SIGNING AND PAVEMENT MARKING PLANS
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- WHERE PROPOSED STEEL CASING IS TO BE INSTALLED, CASING TO BE BACKFILLED WITH CEMENT-STABILIZED SAND PER DETAIL 02317-01.
- RECONNECT ALL WATER SERVICES TO PROPOSED RELOCATED WATER MAIN

KEY NOTE:

(03) EXISTING SANITARY SEWER TO REMAIN IN PLACE

(04) EXISTING WATER MAIN TO REMAIN IN PLACE

(05) EXISTING FIRE HYDRANT TO REMAIN IN PLACE

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(43) CONNECT PROPOSED SANITARY SEWER TO EXISTING MANHOLE WITH STANDARD RESILIENT CONNECTOR

(56) PROPOSED WATER MAIN RELOCATION

(57) PROPOSED FIRE HYDRANT

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PLAN STA. 13+50 TO 17+00

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	60 OF 223

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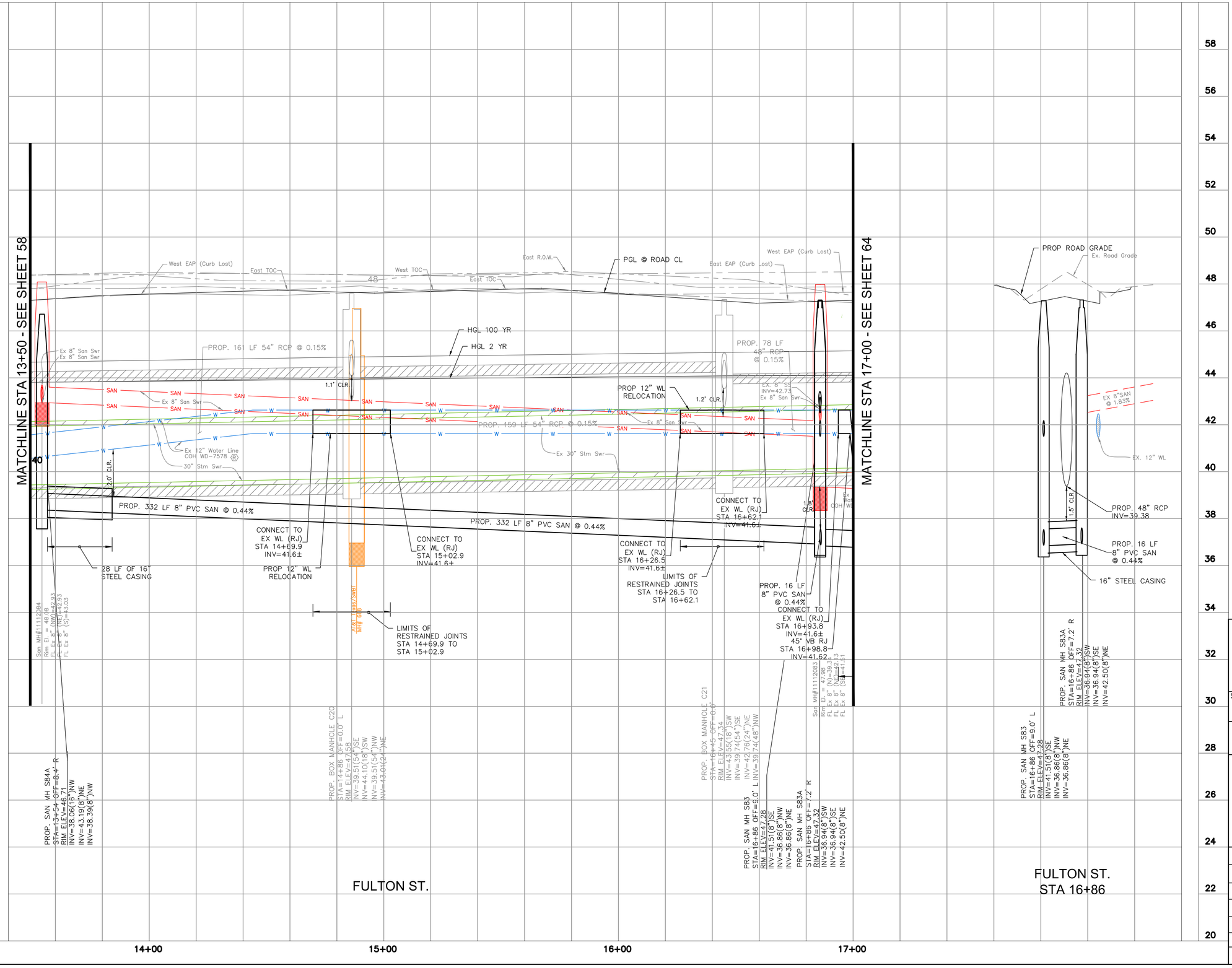
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(IN FEET)
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HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

NOTE:

- OUTSIDE DROP MANHOLE WILL CONNECT EXISTING 8" SANITARY SEWER FLOWS INTO SAN MH S83 AND S83A AS DETAILED IN COH STANDARD DETAIL 02082-02



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
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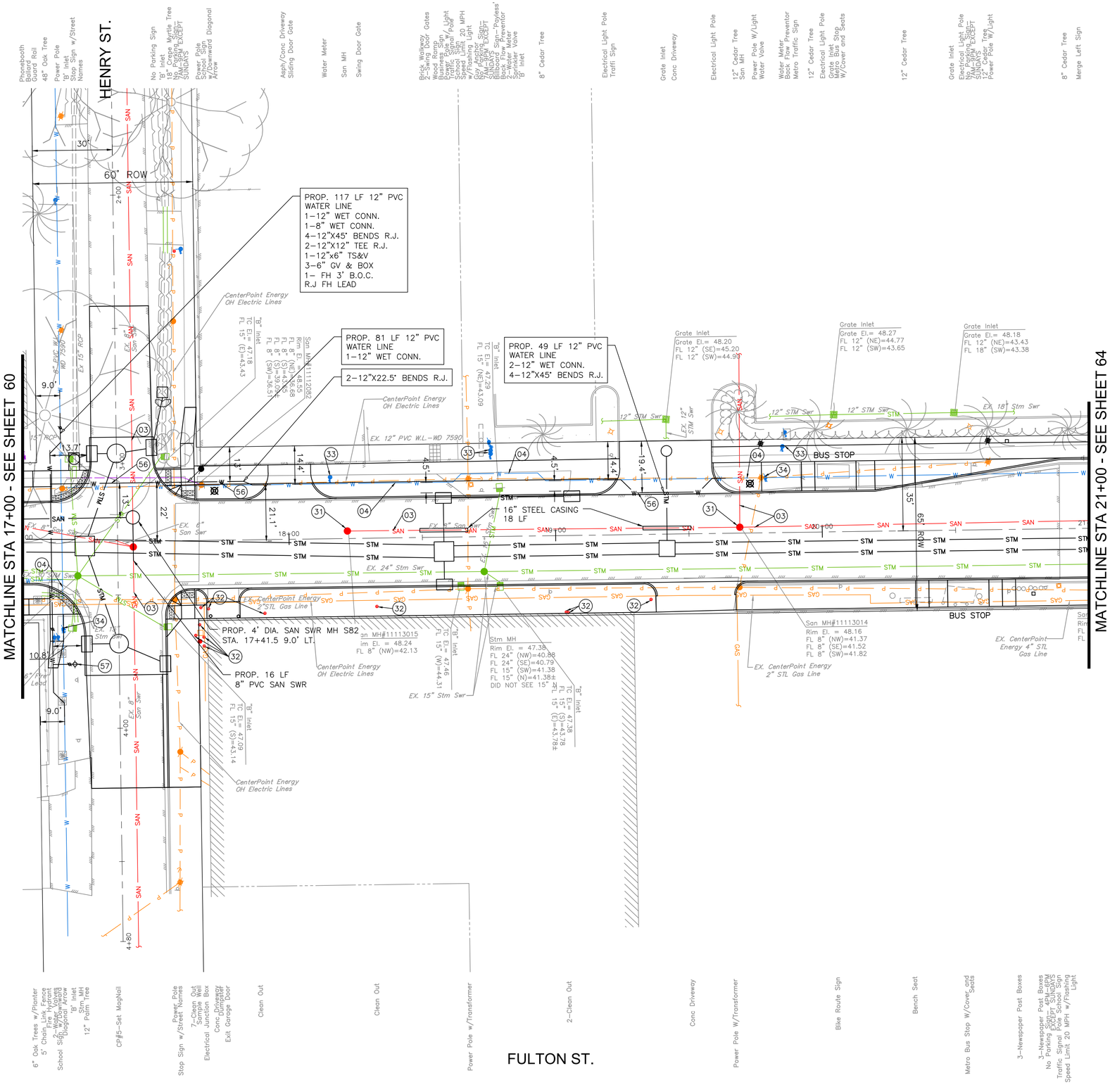
100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE STA. 13+50 TO 17+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 61 OF 223	



GRAPHIC SCALE
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KEY NOTE:

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(56) PROPOSED WATER MAIN RELOCATION

(57) PROPOSED FIRE HYDRANT

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

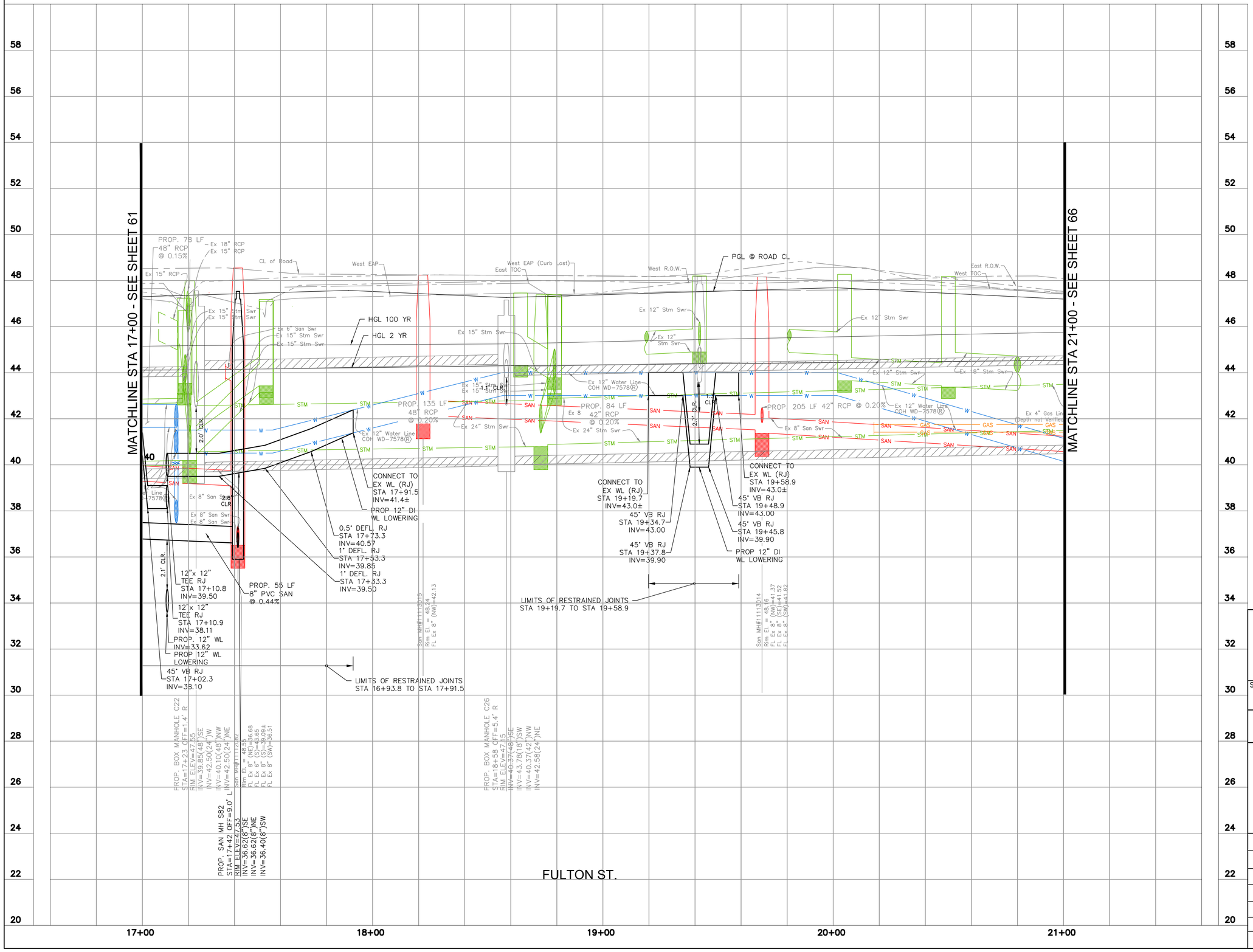
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PLAN STA. 17+00 TO 21+00

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N-000818-0001-4	
DRAWING SCALE	
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CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 62 OF 223	

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GRAPHIC SCALE
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(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE STA. 17+00 TO 21+00

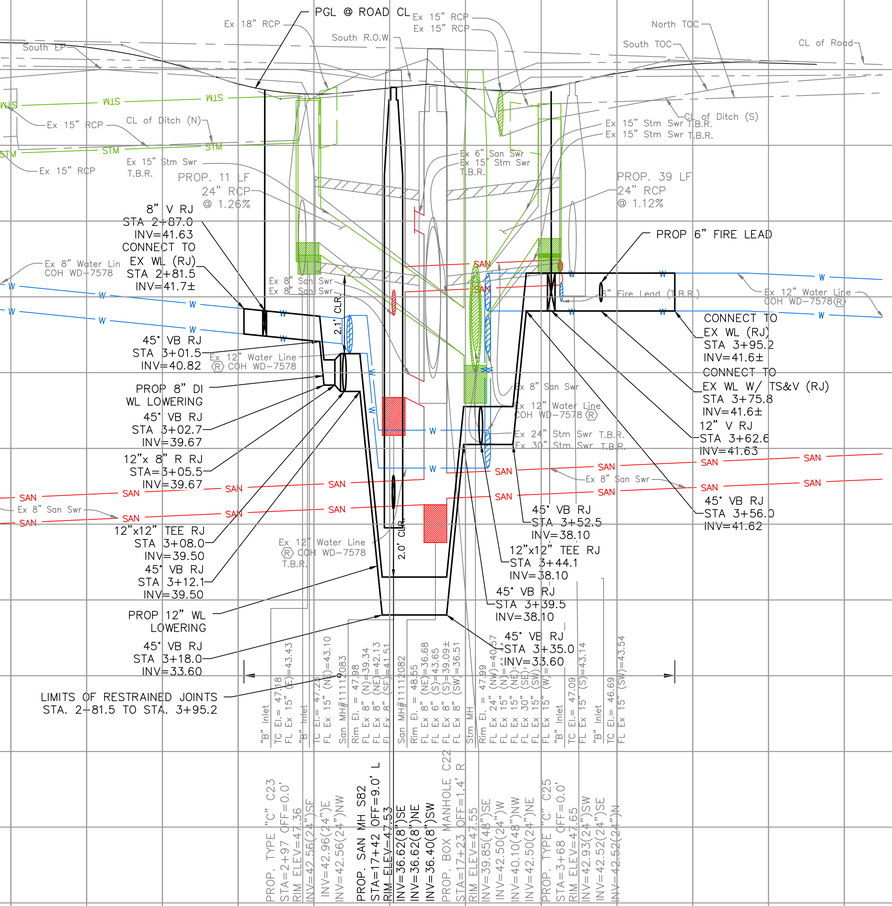
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CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 63 OF 223	

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NO.	DATE	REVISION	APP.



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

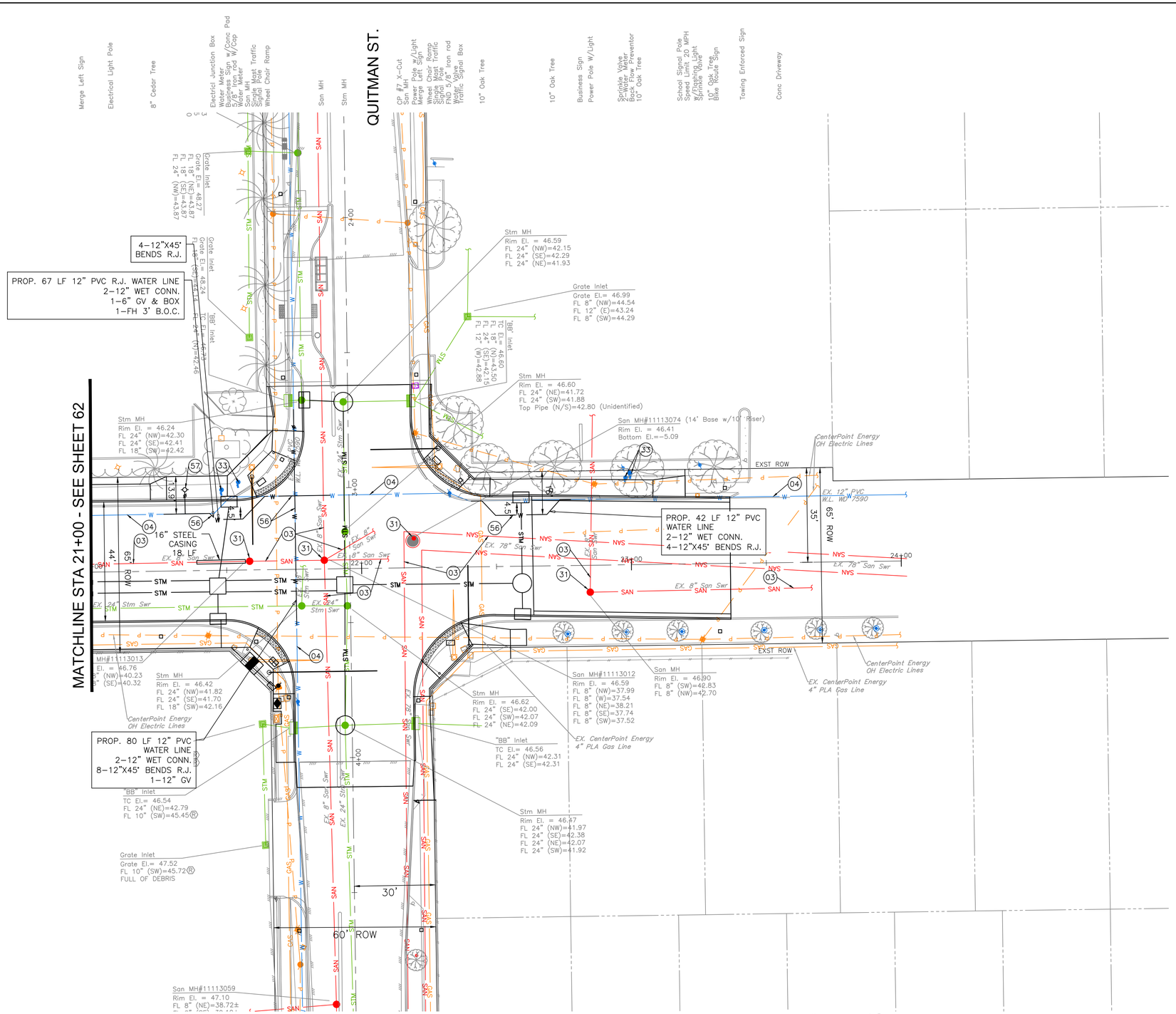
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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE HENRY STREET

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 64 OF 223	



GRAPHIC SCALE
0 20 40
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(56) PROPOSED WATER MAIN RELOCATION

(57) PROPOSED FIRE HYDRANT

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PLAN STA. 21+00 TO END

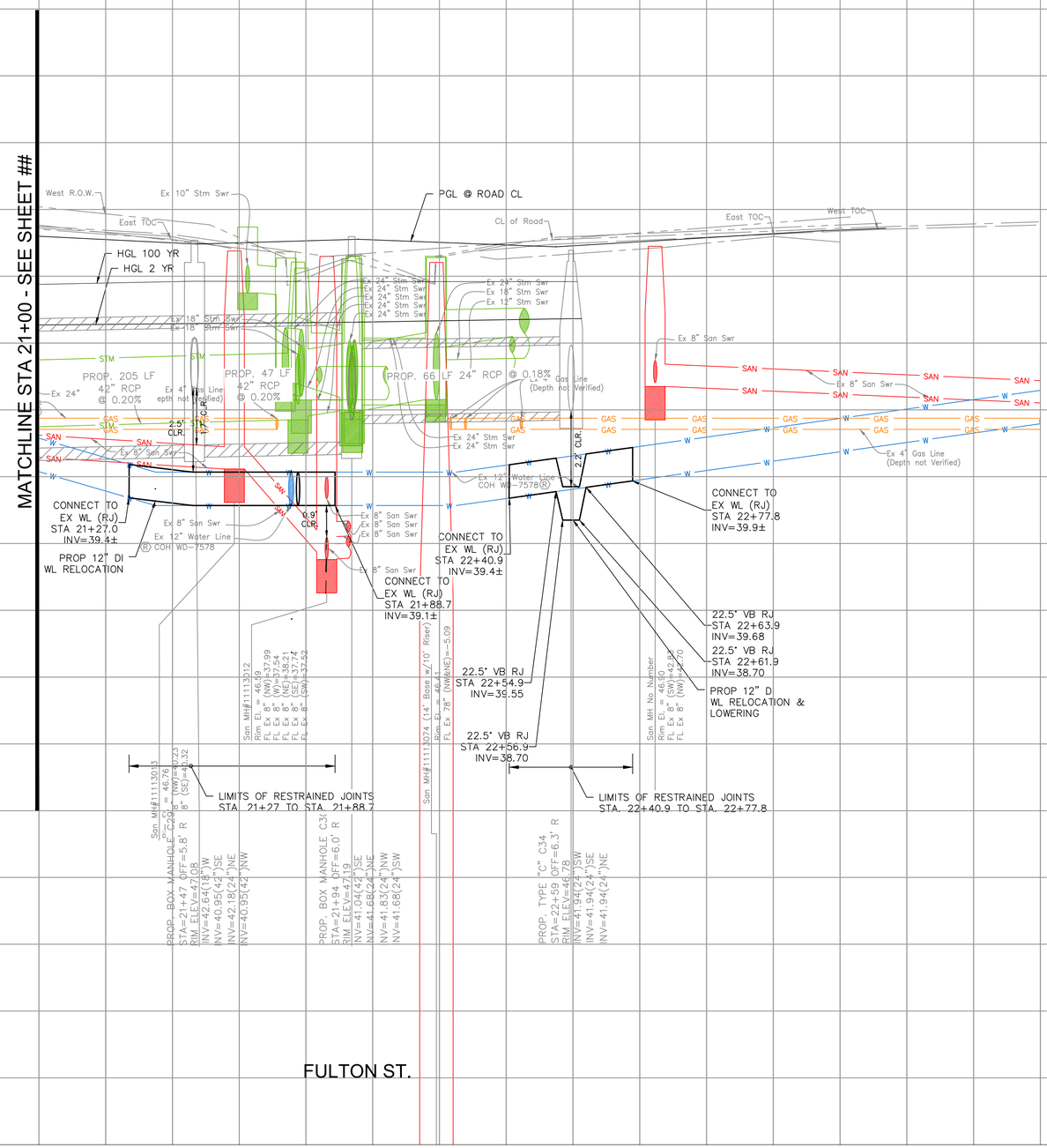
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DERRICK HOLMES, E.I.T.	
SHEET NO. 65 OF 223	

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PLOTTED: 10/13/2026 2:26 PM

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PLOT STYLE: COH CIP.CTB
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NO.	DATE	REVISION	APP.



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
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HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY AND WATER PROFILE STA. 21+00 TO END

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1"=20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	66 OF 223

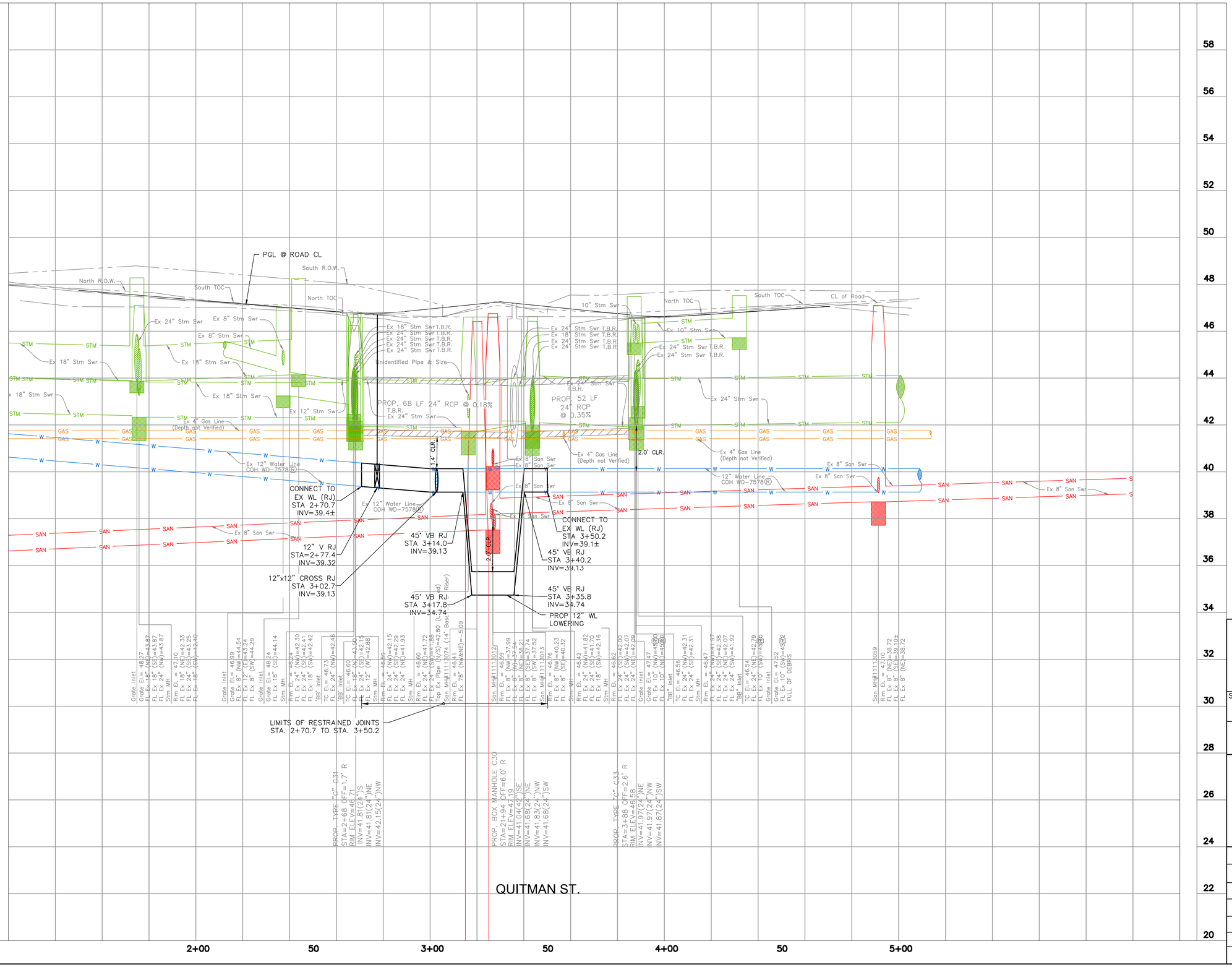
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PLOT STYLE: COH CIP.CTB

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0 20 40
(IN FEET)
FULL SIZE: H. 1"=20', V. 1"=2'
HALF SIZE: H. 1"=40', V. 1"=4'

NO.	DATE	REVISION	APP.



HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

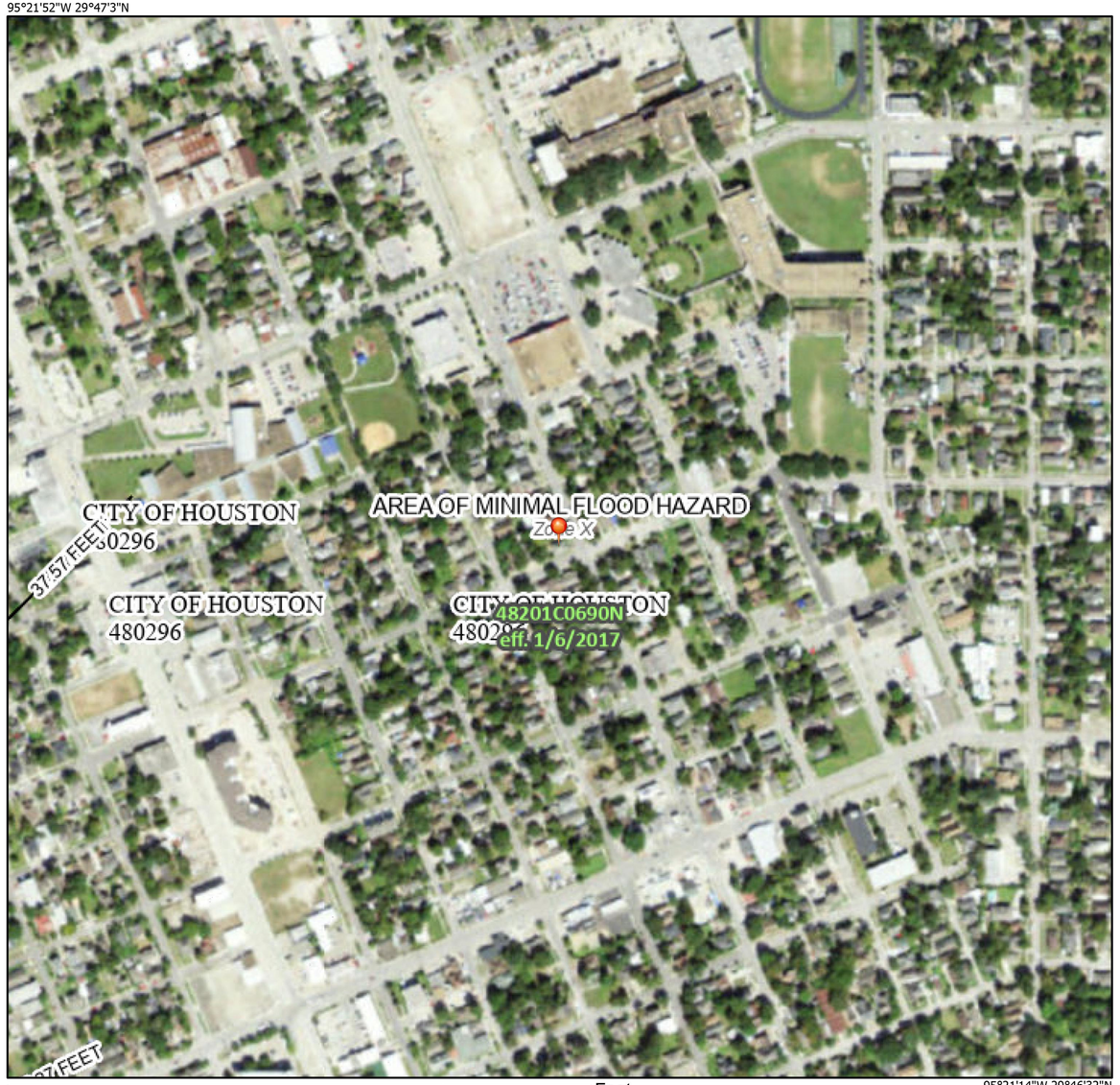
SANITARY AND WATER PROFILE QUITMAN ST.

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 67 OF 223	

National Flood Hazard Layer FIRMette

FEMA

95°21'52"W 29°47'3"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

95°21'14"W 29°46'32"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/11/2023 at 10:24 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

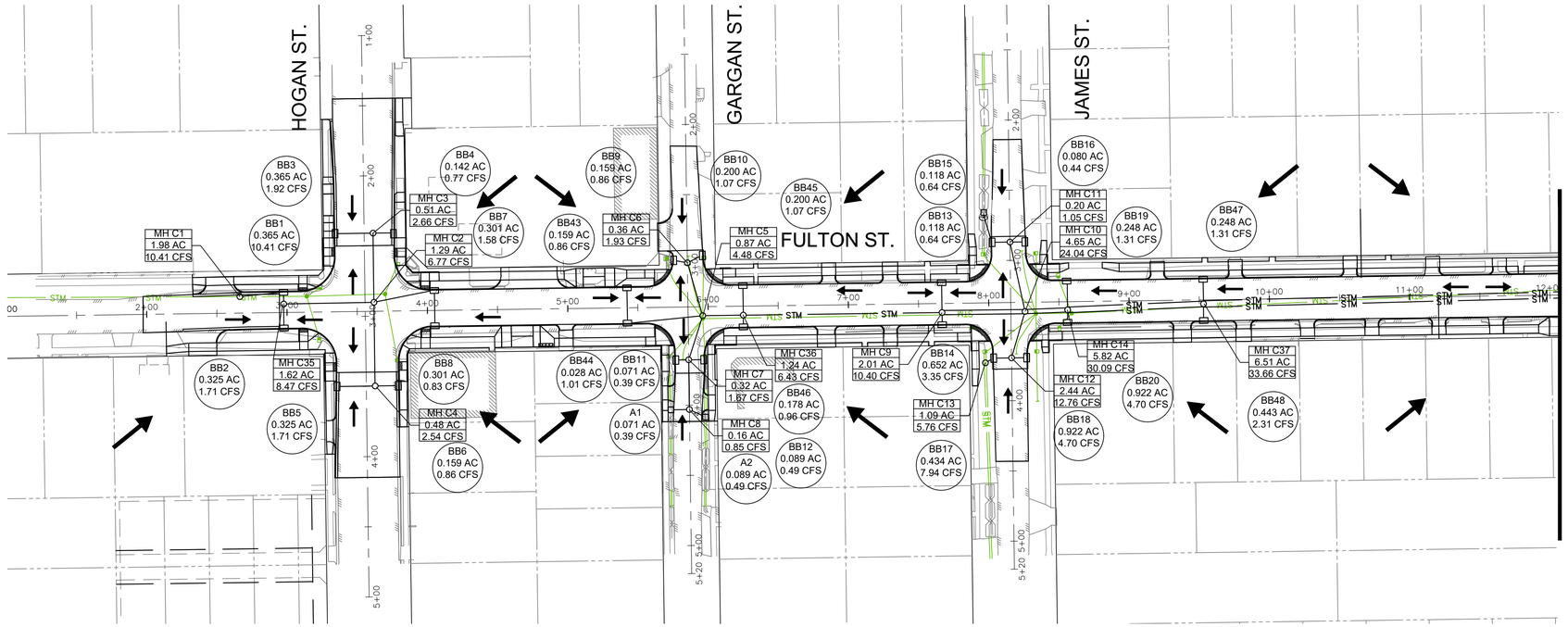
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FIRM MAP

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 68 OF 223	

PLOTTED: 10/2/2026 6:19 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\68 FIRM MAP.dwg



GRAPHIC SCALE
0 50 100
(IN FEET)
FULL SIZE: H. 1"=50'
HALF SIZE: H. 1"=100'

NO.	DATE	REVISION	APP.

LEGEND

- FLOW DIRECTION
- DRAINAGE AREA
- BB1 0.365 AC 10.41 CFS — DRAINAGE INLET DRAINAGE AREA ACCUM. FLOW
- MH C1 1.98 AC 10.41 CFS — DRAINAGE STRUCTURE ACCUM. DRAINAGE AREA ACCUM. FLOW

EJES INCORPORATED
6161 SAVOY DRIVE.
SUITE 830
HOUSTON, TEXAS 77036
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(F) 281-272-1619
FIRM REG. F-2488

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PROPOSED DRAINAGE MAP

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-00818-0001-4	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 69 OF 223	

PLOTTED: 10/2/2026 2:57 PM
PLOT STYLE: COH.ctb
FILE PATH: N:\2-Projects\273-02 Fulton\4-Drawings\4.2-Sheets\FULTON ST DRAINAGE MAP\59 DRAINAGE MAP.dwg

Location	U/S Node	D/S Node	Area	Runoff Coefficient, C	Sum of C * A	Intensity, I	Sum of Flows	Time of Conc	Length	Diameter	Slope	Manning's n	Design Velocity	Design Capacity	U/S Flowline	D/S Flowline	Actual Velocity	U/S HGL	D/S HGL	Hydraulic Grade	Critical Elevation U/S	Critical Elevation D/S
	100% Plans	100% Plans	(Acres)			(In/Hr)	(CFS)	(Min)	(FT)	(FT)	(%)		(FPS)	(CFS)	(FT)	(FT)	(FPS)	(FT)	(FT)	(%)	(FT)	(FT)
2+97.70	BB1	OUT	1.98	0.65	1.29	3.89	5.01	24.40	31.00	2.00	0.18	0.013	3.06	9.62	38.75	38.69	1.65	40.59	40.54	0.0490	47.14	
2+97.70	BB2	MH-C35	0.33	0.65	0.21	3.90	0.82	23.20	17.00	2.00	0.18	0.013	3.08	9.66	38.88	38.85	0.46	40.63	40.60	0.0050	46.75	47.00
HOGAN	BB3	MH-C3	0.37	0.65	0.24	3.89	0.92	23.37	27.00	2.00	0.20	0.013	3.22	10.12	41.05	41.00	0.29	43.05	43.00	0.0020	47.17	47.00
HOGAN	BB4	MH-C3	0.14	0.65	0.09	4.00	0.37	22.09	15.00	2.00	0.19	0.013	3.17	9.95	41.10	41.07	0.12	43.03	43.00	0.0000	46.82	47.00
HOGAN	BB5	MH-C4	0.33	0.65	0.21	3.90	0.82	23.20	27.00	2.00	0.20	0.013	3.22	10.12	41.32	41.27	0.29	43.00	42.95	0.0010	46.90	47.00
HOGAN	BB6	MH-C4	0.16	0.65	0.10	3.99	0.41	22.23	17.00	2.00	0.19	0.013	3.17	9.97	41.19	41.16	0.14	42.98	42.95	0.0000	46.64	47.00
4+05.20	BB7	MH-C2	0.30	0.65	0.20	3.88	0.76	22.50	44.00	2.00	0.18	0.013	3.05	9.59	41.65	41.57	0.24	43.65	43.57	0.0010	47.06	47.00
4+05.20	BB8	BB7	0.16	0.65	0.10	3.88	0.40	22.23	25.00	2.00	0.18	0.013	3.06	9.60	41.70	41.65	0.13	43.70	43.65	0.0000	47.36	47.06
3+62.00	MH-C2	MH-C35	1.29	0.65	0.84	3.88	3.26	23.97	64.00	2.00	0.18	0.013	3.07	9.63	38.88	38.76	1.08	40.70	40.60	0.0210	47.00	47.00
Hogan	MH-C3	MH-C2	0.51	0.65	0.33	3.88	1.28	23.60	49.00	2.00	0.20	0.013	3.24	10.17	41.00	40.90	0.41	43.00	42.90	0.0030	47.00	47.00
Hogan	MH-C4	MH-C2	0.48	0.65	0.31	3.88	1.22	23.44	60.00	2.00	0.18	0.013	3.06	9.60	40.95	40.84	0.39	42.95	42.84	0.0030	47.00	47.00
2+97.70	MH-C35	BB1	1.62	0.65	1.05	3.88	4.08	24.35	8.00	2.00	0.19	0.013	3.12	9.80	38.76	38.75	1.35	40.60	40.59	0.0320	47.00	47.14
2+66.00	OUT		1.98	0.65	1.29	3.89	5.01	24.40														
GARGAN	A1	MH-C8	0.07	0.65	0.05	4.08	0.19	21.27	13.00	2.00	0.51	0.013	5.13	16.12	42.44	42.37	1.26	44.85	44.85	0.0000	46.85	47.00
GARGAN	A2	MH-C8	0.09	0.65	0.06	4.06	0.24	21.53	13.00	2.00	0.49	0.013	5.05	15.87	42.43	42.37	0.07	44.91	44.85	0.0000	47.08	47.00
GARGAN	BB9	MH-C6	0.16	0.65	0.10	3.99	0.41	22.23	10.00	2.00	0.20	0.013	3.22	10.12	41.74	41.72	0.13	44.72	44.70	0.0000	46.05	47.00
GARGAN	BB10	MH-C6	0.20	0.65	0.13	3.96	0.52	22.53	12.00	2.00	0.20	0.013	3.22	10.12	41.74	41.72	0.16	44.72	44.70	0.0010	46.82	47.00
GARGAN	BB11	MH-C7	0.07	0.65	0.05	4.08	0.19	21.27	9.00	2.00	0.51	0.013	5.15	16.17	41.70	41.65	1.26	44.67	44.67	0.0000	46.85	47.00
GARGAN	BB12	MH-C7	0.09	0.65	0.06	4.06	0.24	21.53	11.00	2.00	0.19	0.013	3.15	9.88	41.70	41.68	0.07	44.69	44.67	0.0000	47.08	47.00
7+67.00	BB13	MH-C9	0.12	0.65	0.08	4.02	0.31	21.86	21.00	2.00	0.51	0.013	5.14	16.15	41.86	41.75	1.65	44.34	44.34	0.0000	47.29	47.00
7+67.00	BB14	MH-C9	0.65	0.65	0.42	3.81	1.61	24.27	9.00	2.00	0.48	0.013	4.98	15.64	41.79	41.75	0.51	44.38	44.34	0.0050	47.17	47.00
James	BB15	MH-C11	0.12	0.65	0.08	4.02	0.31	21.86	13.00	2.00	0.19	0.013	3.16	9.92	41.89	41.87	0.10	44.37	44.35	0.0000	46.95	47.00
James	BB16	MH-C11	0.08	0.65	0.05	4.07	0.21	21.41	11.00	2.00	0.19	0.013	3.15	9.88	42.01	41.99	0.07	44.37	44.35	0.0000	46.95	47.00
James	BB17	MH-C12	1.52	0.65	0.99	3.87	3.82	25.26	13.00	2.00	0.19	0.013	3.16	9.92	41.82	41.80	1.22	44.30	44.28	0.0280	46.74	47.00
James	BB18	MH-C12	0.92	0.65	0.60	3.76	2.25	24.86	11.00	2.00	0.19	0.013	3.15	9.88	41.82	41.80	0.72	44.30	44.28	0.0100	46.91	47.00
8+55.00	BB19	MH-C14	0.25	0.65	0.16	3.94	0.63	22.82	21.00	2.00	0.20	0.013	3.18	10.00	41.85	41.81	0.20	44.23	44.19	0.0010	47.49	47.00
8+55.00	BB20	MH-C14	0.92	0.65	0.60	3.76	2.25	24.86	9.00	2.00	0.20	0.013	3.22	10.12	41.83	41.81	0.72	44.21	44.19	0.0100	47.01	47.00
Paschell	BB21	MH-C17	0.36	0.65	0.23	3.89	0.92	23.36	24.00	2.00	0.49	0.013	5.05	15.86	41.74	41.62	2.63	43.27	43.27	0.0020	48.03	48.00
Paschell	BB22	MH-C17	0.21	0.65	0.14	3.95	0.55	22.62	13.00	2.00	0.49	0.013	5.05	15.87	41.69	41.62	1.34	43.27	43.27	0.0010	48.17	48.00
Paschell	BB23	MH-C18	0.32	0.65	0.21	3.90	0.82	23.19	21.00	2.00	0.50	0.013	5.09	16.00	42.36	42.26	0.28	44.12	44.02	0.0010	47.94	48.00
Paschell	BB24	MH-C18	0.19	0.65	0.12	3.97	0.49	22.46	13.00	2.00	0.19	0.013	3.16	9.92	42.28	42.26	0.17	44.04	44.02	0.0000	48.05	48.00
13+25.00	BB25	MH-C19	0.21	0.65	0.14	3.95	0.55	22.62	15.00	2.00	0.49	0.013	5.06	15.89	42.00	41.93	1.34	43.78	43.78	0.0010	48.36	48.00
13+25.00	BB26	MH-C19	0.19	0.65	0.12	3.97	0.49	22.46	15.00	2.00	0.49	0.013	5.02	15.78	42.00	41.93	0.16	43.85	43.78	0.0000	47.92	48.00
14+86.40	BB27	MH-C20	0.37	0.65	0.24	3.89	0.93	23.39	15.00	2.00	0.19	0.013	3.17	9.95	43.09	43.06	0.70	43.97	43.94	0.0020	48.43	48.00
14+86.40	BB28	MH-C20	0.59	0.65	0.38	3.82	1.47	24.12	15.00	*2.00*	0.20	0.013	3.02	8.45	43.55	43.52	2.46	44.01	43.94	0.0150	48.35	48.00
16+45.20	BB29	MH-C21	0.59	0.65	0.38	3.82	1.47	24.12	15.00	*2.00*	0.20	0.013	3.02	8.45	43.18	43.15	1.17	44.11	44.08	0.0150	48.25	48.00
16+45.20	BB30	MH-C21	0.37	0.65	0.24	3.89	0.93	23.39	15.00	2.00	0.19	0.013	3.17	9.95	42.76	42.73	0.41	44.11	44.08	0.0020	47.86	48.00
Henry	BB31	MH-C23	1.19	0.65	0.77	3.82	2.95	24.18	9.00	2.00	0.41	0.013	4.62	14.51	42.60	42.56	1.11	44.17	44.13	0.0170	47.94	48.00
Henry	BB32	MH-C23	0.42	0.65	0.27	3.87	1.06	23.59	13.00	2.00	0.21	0.013	3.28	10.31	42.59	42.56	0.40	44.16	44.13	0.0020	47.91	48.00
Henry	BB33	MH-C25	0.74	0.65	0.48	3.79	1.82	24.48	12.00	2.00	0.50	0.013	5.09	16.00	42.58	42.52	3.26	44.13	44.13	0.0060	48.00	48.00
Henry	BB34	MH-C25	0.61	0.65	0.40	3.82	1.50	24.15	19.00	2.00	0.20	0.013	3.22	10.12	42.56	42.52	0.56	44.17	44.13	0.0040	47.47	48.00
18+58.00	BB35	MH-C26	0.88	0.65	0.57	3.87	2.20	24.05	19.00	*2.00*	0.21	0.013	3.10	8.67	43.19	43.15	1.45	44.34	44.30	0.0340	48.24	48.00
18+58.00	BB36	MH-C26	0.48	0.65	0.31	3.85	1.19	23.78	14.00	2.00	0.49	0.013	5.06	15.88	42.65	42.58	2.35	44.30	44.30	0.0030	47.99	48.00
21+53.00	BB37	MH-C29	0.40	0.65	0.26	3.88	1.01	23.52	32.00	*2.00*	0.22	0.013	3.16	8.83	42.71	42.64	0.57	44.64	44.58	0.0070	47.49	48.00
21+53.00	BB38	MH-C29	0.24	0.65	0.16	3.94	0.61	22.77	12.00	2.00	0.51	0.013	5.13	16.13	42.24	42.18	2.36	44.58	44.58	0.0010	47.58	48.00
Quitman	BB39	MH-C31	0.94	0.65	0.61	3.93	13.41	24.64	15.00	2.00	0.40	0.013	4.55	14.31	41.87	41.81	4.27	44.65	44.64	0.3490	47.41	48.00
22+59.00	BB41	MH-C34	0.53	0.65	0.34	3.84	1.31	23.93	32.00	2.00	0.18	0.013	3.04	9.55	42.00	41.94	0.42	44.79	44.73	0.0030	46.84	48.00
22+59.00	BB42	MH-C34	0.24	0.65	0.16	3.94	0.61	22.77	11.00	2.00	0.52	0.013	5.18	16.28	42.00	41.94	2.36	44.73	44.73	0.0010	46.63	48.00
5+42.00	BB43	BB44	0.16	0.65	0.10	3.99	0.41	22.23	25.00	2.00	0.18	0.013	3.06	9.60	41.65	41.60	0.13	44.77	44.72	0.0000	47.00	47.00
5+42.00	BB44	MH-C5	0.19	0.65	0.12	4.00	0.49	22.49	54.00	2.00	0.18	0.013	3.05	9.59	41.60	41.50	0.16	44.72	44.62	0.0000	47.00	47.00

Note: Segments with the diameter shown in italics (BB28–MH–C20, BB29–MH–C21, BB35–MH–C26, BB37–MH–C29, BB49–BB35, MH–C7–MH–C5, MH–C28–MH–C27, PS7–MH–C28) are 24–inch equivalent arch pipes (18" rise x 28.5" span) rather than circular pipe. Segment MH–C15–JB–C16 is a 5' x 3' reinforced concrete box culvert, shown as 5'x3' in the Diameter column. Design velocity and design capacity for these segments are computed from the waterway area and hydraulic radius of the actual shape, as shown below; the value in the Diameter column is the nominal equivalent round size only.

NO.	DATE	REVISION	APP.

EJES INCORPORATED
6161 SAVOY DRIVE.
SUITE 830
HOUSTON, TEXAS 77036
(P) 281–272–1612
(F) 281–272–1619
FIRM REG. F–2488

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER COMPUTATIONS 2-YEAR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-00818-0001-4	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 70 OF 223	

PLOTTED: 10/2/2026 2:57 PM
PLOT STYLE: COH.ctb
FILE PATH: N:\2-Projects\273-02 Fulton\4-Drawings\4.2-Sheets\FULTON ST DRAINAGE MAP\59 DRAINAGE MAP.dwg

Location	U/S Node	D/S Node	Area	Runoff Coefficient, C	Sum of C * A	Intensity, I	Sum of Flows	Time of Conc	Length	Diameter	Slope	Manning's n	Design Velocity	Design Capacity	U/S Flowline	D/S Flowline	Actual Velocity	U/S HGL	D/S HGL	Hydraulic Grade	Critical Elevation U/S	Critical Elevation D/S
	100% Plans	100% Plans	(Acres)			(In/Hr)	(CFS)	(Min)	(FT)	(FT)	(%)		(FPS)	(CFS)	(FT)	(FT)	(FPS)	(FT)	(FT)	(%)	(FT)	(FT)
6+25.00	BB45	MH-C36	0.20	0.65	0.13	3.96	0.52	22.53	21.00	2.00	0.18	0.013	3.06	9.62	41.85	41.81	0.16	44.61	44.57	0.0010	47.00	47.00
6+25.00	BB46	MH-C36	0.18	0.65	0.12	3.98	0.46	22.38	8.00	2.00	0.19	0.013	3.12	9.80	41.85	41.84	0.15	44.58	44.57	0.0000	47.00	47.00
9+53.00	BB47	MH-C37	0.25	0.65	0.16	3.94	0.63	22.82	18.00	2.00	0.19	0.013	3.18	9.98	42.22	42.19	0.21	44.12	44.09	0.0010	47.00	47.00
9+53.00	BB48	MH-C37	0.44	0.65	0.29	3.86	1.11	23.66	12.00	2.00	0.20	0.013	3.22	10.12	42.22	42.20	0.36	44.11	44.09	0.0020	47.00	47.00
19+06.00	BB49	BB35	0.45	0.65	0.29	3.86	1.14	23.70	48.00	*2.00*	0.21	0.013	3.08	8.62	43.29	43.19	0.75	44.43	44.34	0.0090	48.66	48.24
12+30.00	BB50	MH-C15	0.36	0.65	0.23	3.89	0.92	23.36	15.00	2.00	0.98	0.013	7.13	22.40	42.80	42.65	2.63	43.80	43.80	0.0020	47.00	48.00
12+30.00	BB51	MH-C15	0.32	0.65	0.21	3.90	0.82	23.19	15.00	2.00	1.00	0.013	7.20	22.62	42.80	42.65	3.04	43.80	43.80	0.0010	47.00	48.00
5+96.00	MH-C5	MH-C36	0.87	0.65	0.57	3.82	2.15	23.05	29.00	2.00	0.18	0.013	3.05	9.58	41.50	41.45	0.68	44.62	44.57	0.0090	47.00	47.00
GARGAN	MH-C6	MH-C5	0.36	0.65	0.23	3.99	0.90	22.66	39.00	2.00	0.20	0.013	3.22	10.12	41.72	41.64	0.29	44.70	44.62	0.0020	47.00	47.00
GARGAN	MH-C7	MH-C5	0.32	0.65	0.21	3.87	0.79	21.92	33.00	*2.00*	0.20	0.013	3.02	8.45	42.15	42.09	0.45	44.67	44.62	0.0040	47.00	47.00
GARGAN	MH-C8	MH-C7	0.16	0.65	0.10	3.99	0.40	21.65	35.00	2.00	0.51	0.013	5.12	16.09	42.08	41.90	0.13	44.85	44.67	0.0000	47.00	47.00
7+67.00	MH-C9	MH-C10	2.01	0.65	1.31	3.82	5.00	24.32	59.00	3.00	0.18	0.013	4.00	28.27	40.90	40.79	0.71	44.34	44.24	0.0060	47.00	47.00
8+26.00	MH-C10	MH-C14	4.65	0.65	3.02	3.82	11.55	25.51	30.00	3.00	0.18	0.013	4.04	28.56	40.79	40.74	1.63	44.24	44.19	0.0300	47.00	47.00
James	MH-C11	MH-C10	0.20	0.65	0.13	3.99	0.51	22.02	51.00	2.00	0.20	0.013	3.20	10.07	41.87	41.76	0.16	44.35	44.24	0.0000	47.00	47.00
JAMES	MH-C12	MH-C10	2.44	0.65	1.59	3.87	6.14	25.34	34.00	2.00	0.20	0.013	3.24	10.19	41.80	41.73	1.96	44.28	44.24	0.0730	47.00	47.00
JAMES	MH-C13	BB17	1.09	0.65	0.71	3.99	2.77	25.22	7.00	2.00	0.20	0.013	3.22	10.12	41.83	41.82	0.88	44.31	44.30	0.0150	47.00	46.74
8+55.00	MH-C14	MH-C37	5.82	0.65	3.78	3.82	14.46	25.65	97.00	4.50	0.11	0.013	4.11	65.31	39.74	39.63	0.91	44.19	44.09	0.0050	47.00	47.00
12+39.52	MH-C15	JB-C16	7.20	0.65	4.68	3.82	17.87	27.56	40.00	5'x3'	0.11	0.013	3.71	55.70	39.08	39.03	1.19	43.80	43.75	0.0120	48.00	48.00
Paschell	JB-C16	MH-C17	19.47	0.65	12.66	3.82	*146.43*	28.73	44.00	4.00	0.26	0.013	*11.65*	146.40	39.03	38.92	*11.65*	43.75	43.27	1.0950	48.00	48.00
Paschell	MH-C17	OUT	20.05	0.65	13.03	3.82	*147.86*	28.79	43.00	4.00	0.30	0.013	*11.77*	147.91	38.92	38.79	*11.77*	43.27	42.79	1.1160	48.00	48.00
Paschell	MH-C18	JB-C16	0.51	0.65	0.33	3.99	82.72	23.32	40.00	4.00	0.43	0.013	7.45	93.64	39.20	39.03	6.58	43.79	43.75	0.3290	48.00	48.00
13+25.00	MH-C19	JB-C16	11.76	0.65	7.64	3.82	50.38	28.58	44.00	4.50	0.15	0.013	4.79	76.16	39.26	39.20	3.17	43.78	43.75	0.0650	48.00	48.00
14+86.40	MH-C20	MH-C19	11.36	0.65	7.38	3.82	49.38	28.06	161.00	4.50	0.15	0.013	4.79	76.24	39.51	39.26	3.10	43.94	43.78	0.0630	48.00	48.00
16+45.20	MH-C21	MH-C20	10.40	0.65	6.76	3.82	46.99	27.52	159.00	4.50	0.15	0.013	4.72	75.12	39.74	39.51	2.97	44.08	43.94	0.0570	48.00	48.00
17+23.36	MH-C22	MH-C21	9.44	0.65	6.14	3.82	44.61	27.25	78.00	4.00	0.15	0.013	4.43	55.63	39.85	39.74	3.55	44.12	44.08	0.0960	48.00	48.00
Henry	MH-C23	MH-C22	1.61	0.65	1.05	3.82	3.99	24.22	37.00	2.00	1.25	0.013	8.05	25.28	42.96	42.50	4.07	44.13	44.12	0.0310	48.00	48.00
Henry	MH-C24	BB31	0.59	0.65	0.38	3.87	1.49	24.14	7.00	2.00	0.50	0.013	5.09	16.00	42.64	42.60	3.01	44.17	44.17	0.0040	48.00	47.94
Henry	MH-C25	MH-C22	1.34	0.65	0.87	3.88	3.34	24.54	39.00	2.00	1.11	0.013	7.60	23.86	42.93	42.50	3.86	44.13	44.12	0.0220	48.00	48.00
18+58.00	MH-C26	MH-C22	6.49	0.65	4.22	3.82	37.28	26.83	135.00	4.00	0.20	0.013	5.10	64.12	40.37	40.10	2.97	44.30	44.12	0.0670	48.00	48.00
19+42.00	MH-C27	MH-C26	5.13	0.65	3.33	3.82	33.92	26.56	84.00	3.50	0.20	0.013	4.66	44.86	40.54	40.37	3.53	44.38	44.30	0.1130	48.00	48.00
19+42.00	MH-C28	MH-C27	0.45	0.65	0.29	3.88	1.14	23.72	37.00	*2.00*	0.22	0.013	3.14	8.78	43.48	43.40	0.86	44.46	44.38	0.0090	48.00	48.00
21+46.60	MH-C29	MH-C27	4.68	0.65	3.04	3.82	32.79	25.89	205.00	3.50	0.20	0.013	4.68	45.05	40.95	40.54	3.41	44.58	44.38	0.1050	48.00	48.00
21+94.00	MH-C30	MH-C29	4.04	0.65	2.63	3.82	31.20	25.73	47.00	3.50	0.20	0.013	4.68	44.99	41.04	40.95	3.24	44.62	44.58	0.0950	48.00	48.00
Quitman	MH-C31	MH-C30	2.16	0.65	1.40	3.87	16.46	25.46	68.00	2.50	0.18	0.013	3.54	17.37	41.81	41.68	3.35	44.64	44.62	0.1600	48.00	48.00
Quitman	MH-C33	MH-C30	1.11	0.65	0.72	3.87	12.92	24.14	52.00	2.00	0.37	0.013	4.35	13.67	41.87	41.68	4.11	44.64	44.62	0.3230	48.00	48.00
22+79.00	MH-C34	MH-C30	0.76	0.65	0.49	3.88	1.90	24.18	66.00	2.00	0.18	0.013	3.04	9.57	41.94	41.83	0.61	44.73	44.62	0.0070	48.00	48.00
6+25.00	MH-C36	MH-C9	1.24	0.65	0.81	3.82	3.09	23.25	142.00	2.00	0.18	0.013	3.05	9.59	41.45	41.20	0.98	44.57	44.34	0.0190	47.00	47.00
9+53.00	MH-C37	MH-C15	6.51	0.65	4.23	3.82	16.17	26.13	288.00	4.50	0.11	0.013	4.09	65.04	39.39	39.08	1.02	44.09	43.80	0.0070	47.00	48.00
James	PS1	MH-C13	1.09	0.65	0.71	3.74	2.64	25.15	20.00	1.25	1.00	0.013	5.26	6.46	42.29	42.09	4.09	44.34	44.31	0.1660	47.00	47.00
Quitman	PS2	MH-C31	1.23	0.65	0.80	3.72	2.97	25.37	28.00	2.00	1.21	0.013	7.94	24.93	42.15	41.81	3.76	44.65	44.64	0.0170	48.00	48.00
Quitman	PS3	BB39	0.67	0.65	0.44	3.81	12.68	24.32	92.00	2.00	0.35	0.013	4.25	13.34	42.72	42.40	4.04	44.73	44.70	0.3110	48.00	47.41
Quitman	PS4	MH-C33	0.56	0.65	0.36	3.83	1.38	24.02	23.00	2.00	0.74	0.013	6.19	19.46	42.31	42.14	3.03	44.79	44.79	0.0040	48.00	48.00
Quitman	PS5	MH-C33	0.56	0.65	0.36	3.88	1.39	24.02	28.00	2.00	0.93	0.013	6.94	21.82	42.40	42.14	2.89	44.79	44.79	0.0040	48.00	47.49
Henry	PS6	MH-C24	0.59	0.65	0.38	3.82	1.47	24.12	5.00	1.25	0.80	0.013	4.71	5.78	43.40	43.36	3.40	44.17	44.17	0.0520	47.00	48.00
19+41.00	PS7	MH-C28	0.45	0.65	0.29	3.86	1.14	23.70	5.00	*2.00*	1.00	0.013	6.75	18.89	44.86	44.81	0.64	46.36	46.31	0.0090	48.66	48.00
Paschell	OUT		20.05	0.65	13.03	3.82	152.36	28.79														

Note: Segments with the diameter shown in italics (BB28–MH–C20, BB29–MH–C21, BB35–MH–C26, BB37–MH–C29, BB49–BB35, MH–C7–MH–C5, MH–C28–MH–C27, PS7–MH–C28) are 24–inch equivalent arch pipes (18" rise x 28.5" span) rather than circular pipe. Segment MH–C15–JB–C16 is a 5' x 3' reinforced concrete box culvert, shown as 5'x3' in the Diameter column. Design velocity and design capacity for these segments are computed from the waterway area and hydraulic radius of the actual shape, as shown below; the value in the Diameter column is the nominal equivalent round size only.

NO.	DATE	REVISION	APP.

EJES INCORPORATED
6161 SAVOY DRIVE.
SUITE 830
HOUSTON, TEXAS 77036
(P) 281–272–1612
(F) 281–272–1619
FIRM REG. F–2488

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER COMPUTATIONS 2-YEAR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-00818-0001-4	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 71 OF 223	

PLOTTED: 10/2/2026 2:58 PM
PLOT STYLE: COH.ctb
FILE PATH: N:\2-Projects\273-02 Fulton\4-Drawings\4.2-Sheets\FULTON ST DRAINAGE MAP\59 DRAINAGE MAP.dwg

Location	U/S Node	D/S Node	Area	Runoff Coefficient, C	Sum of C * A	Intensity, I	Sum of Flows	Time of Conc	Length	Diameter	Slope	Manning's n	Design Velocity	Design Capacity	U/S Flowline	D/S Flowline	Actual Velocity	U/S HGL	D/S HGL	Hydraulic Grade	Critical Elevation U/S	Critical Elevation D/S
	100% Plans	100% Plans	(Acres)			(In/Hr)	(CFS)	(Min)	(FT)	(FT)	(%)		(FPS)	(CFS)	(FT)	(FT)	(FPS)	(FT)	(FT)	(%)	(FT)	(FT)
2+97.70	BB1	OUT	1.98	0.65	1.29	8.08	10.41	24.22	31.00	2.00	0.18	0.013	3.06	9.62	38.75	38.69	3.43	40.53	40.54	0.2100	47.14	
2+97.70	BB2	MH-C35	0.33	0.65	0.21	8.11	1.71	23.20	17.00	2.00	0.18	0.013	3.08	9.66	38.88	38.85	0.97	40.57	40.54	0.0210	46.75	47.00
HOGAN	BB3	MH-C3	0.37	0.65	0.24	8.08	1.92	23.37	27.00	2.00	0.20	0.013	3.22	10.12	41.05	41.00	0.61	43.04	42.99	0.0070	47.17	47.00
HOGAN	BB4	MH-C3	0.14	0.65	0.09	8.31	0.77	22.09	15.00	2.00	0.19	0.013	3.17	9.95	41.10	41.07	0.25	43.02	42.99	0.0010	46.82	47.00
HOGAN	BB5	MH-C4	0.33	0.65	0.21	8.11	1.71	23.20	27.00	2.00	0.20	0.013	3.22	10.12	41.32	41.27	0.61	42.99	42.94	0.0060	46.90	47.00
HOGAN	BB6	MH-C4	0.16	0.65	0.10	8.28	0.86	22.23	17.00	2.00	0.19	0.013	3.17	9.97	41.19	41.16	0.29	42.97	42.94	0.0010	46.64	47.00
4+05.20	BB7	MH-C2	0.30	0.65	0.20	8.06	1.58	22.44	44.00	2.00	0.18	0.013	3.05	9.59	41.65	41.57	0.50	43.65	43.57	0.0050	47.06	47.00
4+05.20	BB8	BB7	0.16	0.65	0.10	8.06	0.83	22.23	25.00	2.00	0.18	0.013	3.06	9.60	41.70	41.65	0.27	43.70	43.65	0.0010	47.36	47.06
3+62.00	MH-C2	MH-C35	1.29	0.65	0.84	8.06	6.77	23.86	64.00	2.00	0.18	0.013	3.07	9.63	38.88	38.76	2.29	40.61	40.54	0.0890	47.00	47.00
Hogan	MH-C3	MH-C2	0.51	0.65	0.33	8.06	2.66	23.56	49.00	2.00	0.20	0.013	3.24	10.17	41.00	40.90	0.85	42.99	42.90	0.0140	47.00	47.00
Hogan	MH-C4	MH-C2	0.48	0.65	0.31	8.06	2.54	23.39	60.00	2.00	0.18	0.013	3.06	9.60	40.95	40.84	0.81	42.94	42.84	0.0120	47.00	47.00
2+97.70	MH-C35	BB1	1.62	0.65	1.05	8.06	8.47	24.17	8.00	2.00	0.19	0.013	3.12	9.80	38.76	38.75	2.86	40.54	40.53	0.1390	47.00	47.14
2+66.00	OUT		1.98	0.65	1.29	8.08	10.41	24.22														
GARGAN	A1	MH-C8	0.07	0.65	0.05	8.46	0.39	21.27	13.00	2.00	0.51	0.013	5.13	16.12	42.44	42.37	2.33	45.23	45.23	0.0000	46.85	47.00
GARGAN	A2	MH-C8	0.09	0.65	0.06	8.41	0.49	21.53	13.00	2.00	0.49	0.013	5.05	15.87	42.43	42.37	2.25	45.23	45.23	0.0000	47.08	47.00
GARGAN	BB9	MH-C6	0.16	0.65	0.10	8.28	0.86	22.23	10.00	2.00	0.20	0.013	3.22	10.12	41.74	41.72	2.68	45.25	45.25	0.0010	46.05	47.00
GARGAN	BB10	MH-C6	0.20	0.65	0.13	8.23	1.07	22.53	12.00	2.00	0.20	0.013	3.22	10.12	41.74	41.72	2.81	45.25	45.25	0.0020	46.82	47.00
GARGAN	BB11	MH-C7	0.07	0.65	0.05	8.46	0.39	21.27	9.00	2.00	0.51	0.013	5.15	16.17	41.70	41.65	2.33	45.22	45.22	0.0000	46.85	47.00
GARGAN	BB12	MH-C7	0.09	0.65	0.06	8.41	0.49	21.53	11.00	2.00	0.19	0.013	3.15	9.88	41.70	41.68	2.25	45.22	45.22	0.0000	47.08	47.00
7+67.00	BB13	MH-C9	0.12	0.65	0.08	8.35	0.64	21.86	21.00	2.00	0.51	0.013	5.14	16.15	41.86	41.75	2.43	44.99	44.99	0.0010	47.29	47.00
7+67.00	BB14	MH-C9	0.65	0.65	0.42	7.93	3.35	24.27	9.00	2.00	0.48	0.013	4.98	15.64	41.79	41.75	3.86	45.00	44.99	0.0220	47.17	47.00
James	BB15	MH-C11	0.12	0.65	0.08	8.35	0.64	21.86	13.00	2.00	0.19	0.013	3.16	9.92	41.89	41.87	0.20	45.03	45.01	0.0010	46.95	47.00
James	BB16	MH-C11	0.08	0.65	0.05	8.43	0.44	21.41	11.00	2.00	0.19	0.013	3.15	9.88	42.01	41.99	0.14	45.03	45.01	0.0000	46.95	47.00
James	BB17	MH-C12	1.52	0.65	0.99	8.04	7.94	25.25	13.00	2.00	0.19	0.013	3.16	9.92	41.82	41.80	2.53	45.01	45.01	0.1220	46.74	47.00
James	BB18	MH-C12	0.92	0.65	0.60	7.84	4.70	24.86	11.00	2.00	0.19	0.013	3.15	9.88	41.82	41.80	1.50	45.02	45.01	0.0430	46.91	47.00
8+55.00	BB19	MH-C14	0.25	0.65	0.16	8.17	1.31	22.82	21.00	2.00	0.20	0.013	3.18	10.00	41.85	41.81	0.42	44.93	44.89	0.0030	47.49	47.00
8+55.00	BB20	MH-C14	0.92	0.65	0.60	7.84	4.70	24.86	9.00	2.00	0.20	0.013	3.22	10.12	41.83	41.81	1.50	44.90	44.89	0.0430	47.01	47.00
Paschell	BB21	MH-C17	0.36	0.65	0.23	8.08	1.90	23.36	24.00	2.00	0.49	0.013	5.05	15.86	41.74	41.62	3.30	43.67	43.67	0.0070	48.03	48.00
Paschell	BB22	MH-C17	0.21	0.65	0.14	8.21	1.14	22.62	13.00	2.00	0.49	0.013	5.05	15.87	41.69	41.62	2.83	43.67	43.67	0.0030	48.17	48.00
Paschell	BB23	MH-C18	0.32	0.65	0.21	8.11	1.70	23.19	21.00	2.00	0.50	0.013	5.09	16.00	42.36	42.26	3.19	44.82	44.82	0.0060	47.94	48.00
Paschell	BB24	MH-C18	0.19	0.65	0.12	8.24	1.02	22.46	13.00	2.00	0.19	0.013	3.16	9.92	42.28	42.26	0.32	44.84	44.82	0.0020	48.05	48.00
13+25.00	BB25	MH-C19	0.21	0.65	0.14	8.21	1.14	22.62	15.00	2.00	0.49	0.013	5.06	15.89	42.00	41.93	2.83	44.62	44.62	0.0030	48.36	48.00
13+25.00	BB26	MH-C19	0.19	0.65	0.12	8.24	1.02	22.46	15.00	2.00	0.49	0.013	5.02	15.78	42.00	41.93	0.32	44.69	44.62	0.0020	47.92	48.00
14+86.40	BB27	MH-C20	0.37	0.65	0.24	8.08	1.93	23.39	15.00	2.00	0.19	0.013	3.17	9.95	43.09	43.06	0.64	44.91	44.88	0.0070	48.43	48.00
14+86.40	BB28	MH-C20	0.59	0.65	0.38	7.95	3.07	24.12	15.00	*2.00*	0.20	0.013	3.02	8.45	43.55	43.52	1.80	44.90	44.88	0.0670	48.35	48.00
16+45.20	BB29	MH-C21	0.59	0.65	0.38	7.95	3.07	24.12	15.00	*2.00*	0.20	0.013	3.02	8.45	43.18	43.15	1.73	44.90	44.88	0.0670	48.25	48.00
16+45.20	BB30	MH-C21	0.37	0.65	0.24	8.08	1.93	23.39	15.00	2.00	0.19	0.013	3.17	9.95	42.76	42.73	0.62	44.91	44.88	0.0070	47.86	48.00
Henry	BB31	MH-C23	1.19	0.65	0.77	7.95	6.13	24.17	9.00	2.00	0.41	0.013	4.62	14.51	42.60	42.56	1.95	45.15	45.12	0.0730	47.94	48.00
Henry	BB32	MH-C23	0.42	0.65	0.27	8.04	2.20	23.59	13.00	2.00	0.21	0.013	3.28	10.31	42.59	42.56	0.70	45.15	45.12	0.0090	47.91	48.00
Henry	BB33	MH-C25	0.74	0.65	0.48	7.90	3.78	24.48	12.00	2.00	0.50	0.013	5.09	16.00	42.58	42.52	4.00	45.11	45.10	0.0280	48.00	48.00
Henry	BB34	MH-C25	0.61	0.65	0.40	7.95	3.13	24.15	19.00	2.00	0.20	0.013	3.22	10.12	42.56	42.52	1.00	45.14	45.10	0.0190	47.47	48.00
18+58.00	BB35	MH-C26	0.88	0.65	0.57	8.04	4.58	23.98	19.00	*2.00*	0.21	0.013	3.10	8.67	43.19	43.15	2.58	45.15	45.14	0.1490	48.24	48.00
18+58.00	BB36	MH-C26	0.48	0.65	0.31	8.01	2.48	23.78	14.00	2.00	0.49	0.013	5.06	15.88	42.65	42.58	3.56	45.14	45.14	0.0120	47.99	48.00
21+53.00	BB37	MH-C29	0.40	0.65	0.26	8.05	2.10	23.52	32.00	*2.00*	0.22	0.013	3.16	8.83	42.71	42.64	1.19	45.80	45.74	0.0310	47.49	48.00
21+53.00	BB38	MH-C29	0.24	0.65	0.16	8.18	1.27	22.77	12.00	2.00	0.51	0.013	5.13	16.13	42.24	42.18	2.95	45.74	45.74	0.0030	47.58	48.00
Quitman	BB39	MH-C31	0.94	0.65	0.61	8.16	15.99	24.65	15.00	2.00	0.40	0.013	4.55	14.31	41.87	41.81	5.09	46.03	45.95	0.4950	47.41	48.00
22+59.00	BB41	MH-C34	0.53	0.65	0.34	7.99	2.73	23.93	32.00	2.00	0.18	0.013	3.04	9.55	42.00	41.94	3.65	45.85	45.84	0.0140	46.84	48.00
22+59.00	BB42	MH-C34	0.24	0.65	0.16	8.18	1.27	22.77	11.00	2.00	0.52	0.013	5.18	16.28	42.00	41.94	2.95	45.84	45.84	0.0030	46.63	48.00
5+42.00	BB43	BB44	0.16	0.65	0.10	8.28	0.86	22.23	25.00	2.00	0.18	0.013	3.06	9.60	41.65	41.60	2.68	45.17	45.17	0.0010	47.00	47.00
5+42.00	BB44	MH-C5	0.19	0.65	0.12	8.31	1.01	22.33	54.00	2.00	0.18	0.013	3.05	9.59	41.60	41.50	2.64	45.17	45.17	0.0020	47.00	47.00

Note: Segments with the diameter shown in italics (BB28–MH–C20, BB29–MH–C21, BB35–MH–C26, BB37–MH–C29, BB49–BB35, MH–C7–MH–C5, MH–C28–MH–C27, PS7–MH–C28) are 24–inch equivalent arch pipes (18" rise x 28.5" span) rather than circular pipe. Segment MH–C15–JB–C16 is a 5' x 3' reinforced concrete box culvert, shown as 5'x3' in the Diameter column. Design velocity and design capacity for these segments are computed from the waterway area and hydraulic radius of the actual shape, as shown below; the value in the Diameter column is the nominal equivalent round size only.

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FIRM REG. F–2488

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER COMPUTATIONS 100-YEAR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-00818-0001-4	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 72 OF 223	

PLOTTED: 10/2/2026 2:58 PM
PLOT STYLE: COH.ctb
FILE PATH: N:\2–Projects\273–02 Fulton\4–Drawings\4.2–Sheets\FULTON ST DRAINAGE MAP\59 DRAINAGE MAP.dwg

Location	U/S Node	D/S Node	Area	Runoff Coefficient, C	Sum of C * A	Intensity, I	Sum of Flows	Time of Conc	Length	Diameter	Slope	Manning's n	Design Velocity	Design Capacity	U/S Flowline	D/S Flowline	Actual Velocity	U/S HGL	D/S HGL	Hydraulic Grade	Critical Elevation U/S	Critical Elevation D/S
	100% Plans	100% Plans	(Acres)			(In/Hr)	(CFS)	(Min)	(FT)	(FT)	(%)		(FPS)	(CFS)	(FT)	(FT)	(FPS)	(FT)	(FT)	(%)	(FT)	(FT)
6+25.00	BB46	MH-C36	0.18	0.65	0.12	8.25	0.96	22.38	8.00	2.00	0.19	0.013	3.12	9.80	41.85	41.84	2.70	45.13	45.13	0.0020	47.00	47.00
9+53.00	BB47	MH-C37	0.25	0.65	0.16	8.17	1.31	22.82	18.00	2.00	0.19	0.013	3.18	9.98	42.22	42.19	0.42	44.83	44.80	0.0030	47.00	47.00
9+53.00	BB48	MH-C37	0.44	0.65	0.29	8.03	2.31	23.66	12.00	2.00	0.20	0.013	3.22	10.12	42.22	42.20	0.74	44.82	44.80	0.0100	47.00	47.00
19+06.00	BB49	BB35	0.45	0.65	0.29	8.02	2.37	23.70	48.00	*2.00*	0.21	0.013	3.08	8.62	43.29	43.19	1.34	45.24	45.15	0.0400	48.66	48.24
12+30.00	BB50	MH-C15	0.36	0.65	0.23	8.08	1.90	23.36	15.00	2.00	0.98	0.013	7.13	22.40	42.80	42.65	3.30	44.57	44.57	0.0070	47.00	48.00
12+30.00	BB51	MH-C15	0.32	0.65	0.21	8.11	1.70	23.19	15.00	2.00	1.00	0.013	7.20	22.62	42.80	42.65	3.19	44.57	44.57	0.0060	47.00	48.00
5+96.00	MH-C5	MH-C36	0.87	0.65	0.57	7.95	4.48	22.84	29.00	2.00	0.18	0.013	3.05	9.58	41.50	41.45	1.42	45.17	45.13	0.0390	47.00	47.00
GARGAN	MH-C6	MH-C5	0.36	0.65	0.23	8.28	1.91	22.58	39.00	2.00	0.20	0.013	3.22	10.12	41.72	41.64	0.61	45.25	45.17	0.0070	47.00	47.00
GARGAN	MH-C7	MH-C5	0.32	0.65	0.21	8.04	1.67	21.80	33.00	*2.00*	0.20	0.013	3.02	8.45	42.15	42.09	0.94	45.22	45.17	0.0200	47.00	47.00
GARGAN	MH-C8	MH-C7	0.16	0.65	0.10	8.28	0.85	21.58	35.00	2.00	0.51	0.013	5.12	16.09	42.08	41.90	2.63	45.23	45.22	0.0010	47.00	47.00
7+67.00	MH-C9	MH-C10	2.01	0.65	1.31	7.95	10.40	24.30	59.00	3.00	0.18	0.013	4.00	28.27	40.90	40.79	1.47	44.99	44.90	0.0240	47.00	47.00
8+26.00	MH-C10	MH-C14	4.65	0.65	3.02	7.95	24.04	25.45	30.00	3.00	0.18	0.013	4.04	28.56	40.79	40.74	3.40	44.90	44.89	0.1290	47.00	47.00
James	MH-C11	MH-C10	0.20	0.65	0.13	8.28	1.05	21.99	51.00	2.00	0.20	0.013	3.20	10.07	41.87	41.76	0.33	45.01	44.90	0.0020	47.00	47.00
JAMES	MH-C12	MH-C10	2.44	0.65	1.59	8.04	12.76	25.31	34.00	2.00	0.20	0.013	3.24	10.19	41.80	41.73	4.06	45.01	44.90	0.3160	47.00	47.00
JAMES	MH-C13	BB17	1.09	0.65	0.71	8.28	5.76	25.21	7.00	2.00	0.20	0.013	3.22	10.12	41.83	41.82	1.83	45.02	45.01	0.0640	47.00	46.74
8+55.00	MH-C14	MH-C37	5.82	0.65	3.78	7.95	30.09	25.57	97.00	4.50	0.11	0.013	4.11	65.31	39.74	39.63	1.89	44.89	44.80	0.0230	47.00	47.00
12+39.52	MH-C15	JB-C16	7.20	0.65	4.68	7.95	37.19	27.13	40.00	5'x3'	0.11	0.013	3.71	55.70	39.08	39.03	2.48	44.57	44.54	0.0510	48.00	48.00
Paschell	JB-C16	MH-C17	19.47	0.65	12.66	7.95	*158.41*	28.49	44.00	4.00	0.26	0.013	*12.61*	158.46	39.03	38.92	*12.61*	44.54	43.67	1.9850	48.00	48.00
Paschell	MH-C17	OUT	20.05	0.65	13.03	7.95	*161.38*	28.54	43.00	4.00	0.30	0.013	*12.84*	161.35	38.92	38.79	*12.84*	43.67	42.79	2.0430	48.00	48.00
Paschell	MH-C18	JB-C16	0.51	0.65	0.33	8.28	84.13	23.30	40.00	3.50	0.43	0.013	6.82	65.59	39.20	39.03	8.74	44.82	44.54	0.6930	48.00	48.00
13+25.00	MH-C19	JB-C16	11.76	0.65	7.64	7.95	81.98	28.35	44.00	4.50	0.15	0.013	4.79	76.16	39.26	39.20	5.15	44.62	44.54	0.1720	48.00	48.00
14+86.40	MH-C20	MH-C19	11.36	0.65	7.38	7.95	79.89	27.86	161.00	4.50	0.15	0.013	4.79	76.24	39.51	39.26	5.02	44.88	44.62	0.1640	48.00	48.00
16+45.20	MH-C21	MH-C20	10.40	0.65	6.76	7.95	74.92	27.37	159.00	4.50	0.15	0.013	4.72	75.12	39.74	39.51	4.71	44.88	44.88	0.1440	48.00	48.00
17+23.36	MH-C22	MH-C21	9.44	0.65	6.14	7.95	69.95	27.14	78.00	4.00	0.15	0.013	4.43	55.63	39.85	39.74	5.57	45.07	44.88	0.2350	48.00	48.00
Henry	MH-C23	MH-C22	1.61	0.65	1.05	7.95	8.31	24.20	37.00	2.00	1.25	0.013	8.05	25.28	42.96	42.50	5.11	45.12	45.07	0.1340	48.00	48.00
Henry	MH-C24	BB31	0.59	0.65	0.38	8.04	3.10	24.14	7.00	2.00	0.50	0.013	5.09	16.00	42.64	42.60	3.79	45.15	45.15	0.0190	48.00	47.94
Henry	MH-C25	MH-C22	1.34	0.65	0.87	8.06	6.95	24.53	39.00	2.00	1.11	0.013	7.60	23.86	42.93	42.50	4.82	45.10	45.07	0.0940	48.00	48.00
18+58.00	MH-C26	MH-C22	6.49	0.65	4.22	7.95	54.71	26.75	135.00	4.00	0.20	0.013	5.10	64.12	40.37	40.10	4.35	45.14	45.07	0.1440	48.00	48.00
19+42.00	MH-C27	MH-C26	5.13	0.65	3.33	7.95	47.71	26.48	84.00	3.50	0.20	0.013	4.66	44.86	40.54	40.37	4.96	45.33	45.14	0.2230	48.00	48.00
19+42.00	MH-C28	MH-C27	0.45	0.65	0.29	8.06	2.37	23.72	37.00	*2.00*	0.22	0.013	3.14	8.78	43.48	43.40	1.34	45.40	45.33	0.0400	48.00	48.00
21+46.60	MH-C29	MH-C27	4.68	0.65	3.04	7.95	45.36	25.84	205.00	3.50	0.20	0.013	4.68	45.05	40.95	40.54	4.71	45.74	45.33	0.2020	48.00	48.00
21+94.00	MH-C30	MH-C29	4.04	0.65	2.63	7.95	42.06	25.69	47.00	3.50	0.20	0.013	4.68	44.99	41.04	40.95	4.37	45.75	45.74	0.1730	48.00	48.00
Quitman	MH-C31	MH-C30	2.16	0.65	1.40	8.04	22.33	25.44	68.00	2.50	0.18	0.013	3.54	17.37	41.81	41.68	4.55	45.95	45.75	0.2940	48.00	48.00
Quitman	MH-C33	MH-C30	1.11	0.65	0.72	8.04	15.92	24.12	52.00	2.00	0.37	0.013	4.35	13.67	41.87	41.68	5.07	46.01	45.75	0.4910	48.00	48.00
22+79.00	MH-C34	MH-C30	0.76	0.65	0.49	8.06	3.96	24.00	66.00	2.00	0.18	0.013	3.04	9.57	41.94	41.83	1.26	45.84	45.75	0.0300	48.00	48.00
6+25.00	MH-C36	MH-C9	1.24	0.65	0.81	7.95	6.43	23.00	142.00	2.00	0.18	0.013	3.05	9.59	41.45	41.20	2.05	45.13	44.99	0.0800	47.00	47.00
9+53.00	MH-C37	MH-C15	6.51	0.65	4.23	7.95	33.66	25.97	288.00	4.50	0.11	0.013	4.09	65.04	39.39	39.08	2.12	44.80	44.57	0.0290	47.00	48.00
James	PS1	MH-C13	1.09	0.65	0.71	7.79	5.50	25.15	20.00	1.25	1.00	0.013	5.26	6.46	42.29	42.09	5.49	45.16	45.02	0.7180	47.00	47.00
Quitman	PS2	MH-C31	1.23	0.65	0.80	7.76	6.19	25.37	28.00	2.00	1.21	0.013	7.94	24.93	42.15	41.81	4.65	45.97	45.95	0.0740	48.00	48.00
Quitman	PS3	BB39	0.67	0.65	0.44	7.92	14.47	24.32	92.00	2.00	0.35	0.013	4.25	13.34	42.72	42.40	4.60	46.40	46.03	0.4050	48.00	47.41
Quitman	PS4	MH-C33	0.56	0.65	0.36	7.97	2.88	24.02	23.00	2.00	0.74	0.013	6.19	19.45	42.31	42.14	3.70	46.01	46.01	0.0160	48.00	48.00
Quitman	PS5	MH-C33	0.56	0.65	0.36	8.06	2.90	24.02	28.00	2.00	0.93	0.013	6.94	21.82	42.40	42.14	3.58	46.01	46.01	0.0160	48.00	47.49
Henry	PS6	MH-C24	0.59	0.65	0.38	7.95	3.07	24.12	5.00	1.25	0.80	0.013	4.71	5.78	43.40	43.36	4.30	45.16	45.15	0.2230	47.00	48.00
19+41.00	PS7	MH-C28	0.45	0.65	0.29	8.02	2.37	23.70	5.00	*2.00*	1.00	0.013	6.75	18.89	44.86	44.81	3.04	45.41	45.40	0.0400	48.66	48.00
Paschell	OUT		20.05	0.65	13.03	7.95	206.20	28.54														

Note: Segments with the diameter shown in italics (BB28–MH–C20, BB29–MH–C21, BB35–MH–C26, BB37–MH–C29, BB49–BB35, MH–C7–MH–C5, MH–C28–MH–C27, PS7–MH–C28) are 24–inch equivalent arch pipes (18" rise x 28.5" span) rather than circular pipe. Segment MH–C15–JB–C16 is a 5' x 3' reinforced concrete box culvert, shown as 5'x3' in the Diameter column. Design velocity and design capacity for these segments are computed from the waterway area and hydraulic radius of the actual shape, as shown below; the value in the Diameter column is the nominal equivalent round size only.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER COMPUTATIONS 100-YEAR

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-00818-0001-4	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 73 OF 223	

PLOTTED: 10/2/2026 2:59 PM
PLOT STYLE: COH.ctb
FILE PATH: N:\2-Projects\273-02 Fulton\4-Drawings\4.2-Sheets\FULTON ST DRAINAGE MAP\59 DRAINAGE MAP.dwg

STORM SEWER CALCULATIONS
2-YEAR

Arch Pipe Geometry (24–inch equivalent, 18" x 28.5")	
Span (FT)	2.375
Rise (FT)	1.500
Waterway Area, A (SF)	2.7980
Ellipse shape factor, h	0.0510
Wetted Perimeter, P (FT)	6.1650
Hydraulic Radius, R = A/P (FT)	0.4540
Box Culvert Geometry (5' x 3')	
Span (FT)	5.000
Rise (FT)	3.000
Waterway Area, A (SF)	15.000
Wetted Perimeter, P (FT)	16.000
Hydraulic Radius, R = A/P (FT)	0.938
Restrictor Calculation Summary	
North restrictor, upstream of JB–C16:	
54–inch storm sewer with 30–inch restrictor plate	
Design WSEL = 43.75 ft	43.75 Ft
Restrictor discharge = 47.585 cfs	47.585 CFS
South restrictor, upstream of JB–C16:	
54–inch storm sewer with 18–inch restrictor plate	
Design WSEL = 43.75 ft	43.75 Ft
Restrictor discharge = 16.124 cfs	16.124 CFS
Downstream adjusted flow at JB–C16:	
Q = existing unrestricted 42–inch inflow from east MH–C18 + north restrictor flow + south restrictor flow	
Q = 82.719 + 47.585 + 16.124 = 146.428 cfs	146.428 CFS
Adjusted velocity in downstream 48–inch storm sewer:	
A = ?(4.0²)/4 = 12.566 sf	12.566 SF
V = Q/A = 146.428/12.566 = 11.65 fps	11.65 FPS
Adjusted flow downstream of MH–M17:	
Q = 146.428 + 1.428 = 147.856 cfs	147.856 CFS
V = 147.856/12.566 = 11.77 fps	11.77 FPS
Note: Storm sewer hydraulics were analyzed using HouStorm. HouStorm does not directly model inline restrictor plates; therefore, the flow and velocity values for the two 48–inch storm sewer segments downstream of JB–C16 were manually adjusted using the restrictor–controlled discharges shown above. All remaining hydraulic values are based on the HouStorm analysis.	

STORM SEWER CALCULATIONS
100-YEAR

Arch Pipe Geometry (24–inch equivalent, 18" x 28.5")	
Span (FT)	2.375
Rise (FT)	1.500
Waterway Area, A (SF)	2.7980
Ellipse shape factor, h	0.0510
Wetted Perimeter, P (FT)	6.1650
Hydraulic Radius, R = A/P (FT)	0.454
Box Culvert Geometry (5' x 3')	
Span (FT)	5.000
Rise (FT)	3.000
Waterway Area, A (SF)	15.000
Wetted Perimeter, P (FT)	16.000
Hydraulic Radius, R = A/P (FT)	0.938
Restrictor Calculation Summary	
North restrictor, upstream of JB–C16:	
54–inch storm sewer with 30–inch restrictor plate	
Design WSEL = 44.54 ft (100–yr HGL at JB–C16)	44.54 Ft
Restrictor discharge = 55.22 cfs	55.22 CFS
South restrictor, upstream of JB–C16:	
54–inch storm sewer with 18–inch restrictor plate	
Design WSEL = 44.54 ft (100–yr HGL at JB–C16)	44.54 Ft
Restrictor discharge = 19.02 cfs	19.02 CFS
Downstream adjusted flow at JB–C16:	
Q = existing unrestricted 42–inch inflow from east MH–C18 + north restrictor flow + south restrictor flow	
Q = 84.169 + 55.22 + 19.02 = 158.41 cfs	158.41 CFS
Adjusted velocity in downstream 48–inch storm sewer:	
A = ?(4.0²)/4 = 12.566 sf	12.566 SF
V = Q/A = 158.41/12.566 = 12.61 fps	12.64 FPS
Adjusted flow downstream of MH–M17:	
Q = 158.41 + 2.97 = 161.38 cfs	161.38 CFS
V = 161.38/12.566 = 12.84 fps	12.84 FPS
Note: Storm sewer hydraulics were analyzed using HouStorm. HouStorm does not directly model inline restrictor plates; therefore, the flow and velocity values for the two 48–inch storm sewer segments downstream of JB–C16 were manually adjusted using the restrictor–controlled discharges shown above. All remaining hydraulic values are based on the HouStorm analysis.	

NO.	DATE	REVISION	APP.

EJES INCORPORATED
6161 SAVOY DRIVE.
SUITE 830
HOUSTON, TEXAS 77036
(P) 281–272–1612
(F) 281–272–1619
FIRM REG. F–2488

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, MARK–UP, DRAFTING UNDER THE AUTHORITY OF TANITA GILBERT ALEXANDER LICENSE NO. 88719 DATED 10/2/2026. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER CALCULATIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-00818-0001-4	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 73A OF 223	

PLOTTED: 10/2/2026 2:59 PM
PLOT STYLE: COH.ctb
FILE PATH: N:\2–Projects\273–02 Fulton\4–Drawings\4.2–Sheets\FULTON ST DRAINAGE MAP\59 DRAINAGE MAP.dwg

NOTE:

ALL SIGNS ON EXIST. SIGNAL POLES TO BE REMOVED AND REPLACED ON PROP. SIGNAL POLES

GRAPHIC SCALE
0 40 80
(IN FEET)
FULL SIZE: H. 1"=40'
HALF SIZE: H. 1"=80'

NO.	DATE	REVISION	APP.

HOGAN ST. | GARGAN ST. | JAMES ST. | FULTON ST.

MATCHLINE STA. 12+00 - SEE SHEET 75

① METRO SIGN TO BE REINSTALLED
② D3-1 36X9
③ R7-2(5)R 12X18, R7-201P 12X6
④ METRO SIGN TO BE REMOVED AND REINSTALLED
⑤ R7-2(5)L 12X18, R7-201P 12X6
⑥ METRO SIGN TO BE REMOVED AND REINSTALLED
⑦ BIKE ROUTE D11-1 24X18, M6-3 12X9
⑧ METRO SIGN TO BE REINSTALLED
⑨ R7-2(5)DBL 12X18, R7-201P 12X6
⑩ FULTON ST 1800 GARGAN ST 1100 D3-1 36X9, STOP R1-1 36X36
⑪ NO THRU TRUCKS R5-2(2) 24X30
⑫ FULTON ST 1800 GARGAN ST 1100 D3-1 36X9, STOP R1-1 36X36
⑬ R7-2(5)DBL 12X18, R7-201P 12X6
⑭ R7-2(5)DBL 12X18, R7-201P 12X6
⑮ FULTON ST 1800 JAMES ST 1100 D3-1 36X9, STOP R1-1 36X36
⑯ NO THRU TRUCKS R5-2(2) 24X30
⑰ FULTON ST 2000 JAMES ST 1100 D3-1 36X9, STOP R1-1 36X36
⑱ R7-2(5)DBL 12X18, R7-201P 12X6
⑲ R7-2(5)DBL 12X18, R7-201P 12X6
⑳ R7-2(5)DBL 12X18, R7-201P 12X6
㉑ S1-1(FYG) 36X36, AHEAD S16-9P(FYG) 24X12

D3-1 R7-2(5)R R7-201P TO BE REMOVED AND REINSTALLED
R7-2(5)DBL R7-201P D11-1 M6-3 TO BE REMOVED
D3-1 R1-1 TO BE REMOVED
4" BLUE RAISED PAVEMENT MARKER (FIRE HYDRANT)
R5-2(2) TO BE REMOVED
R7-2(5)DBL R7-201P TO BE REMOVED
R7-2 (5) R7-201P TO BE REMOVED
S1-1(FYG) S16-9P(FYG) TO BE REMOVED
R7-2(5)L R7-201P TO BE REMOVED AND REINSTALLED
4" YELLOW REFLECTOR BUTTONS
METRO SIGN TO BE SALVAGED
HIGH VISIBILITY CROSSWALK
WS6 WS12 WS24 YDS YB
BUS STOP
D1 D2 D3 D37 D38 D39 D40 D41 D4 D5 D6 D7 D8 D9 D11 D13 D14 D15 D16 D17 D18 D19

NOTE:

(XX) SEE SHEET 75 FOR SUMMARY OF SMALL SIGNS

HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832-930-7670 TX FIRM NUMBER: F-314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P-6357	

CITY OF HOUSTON

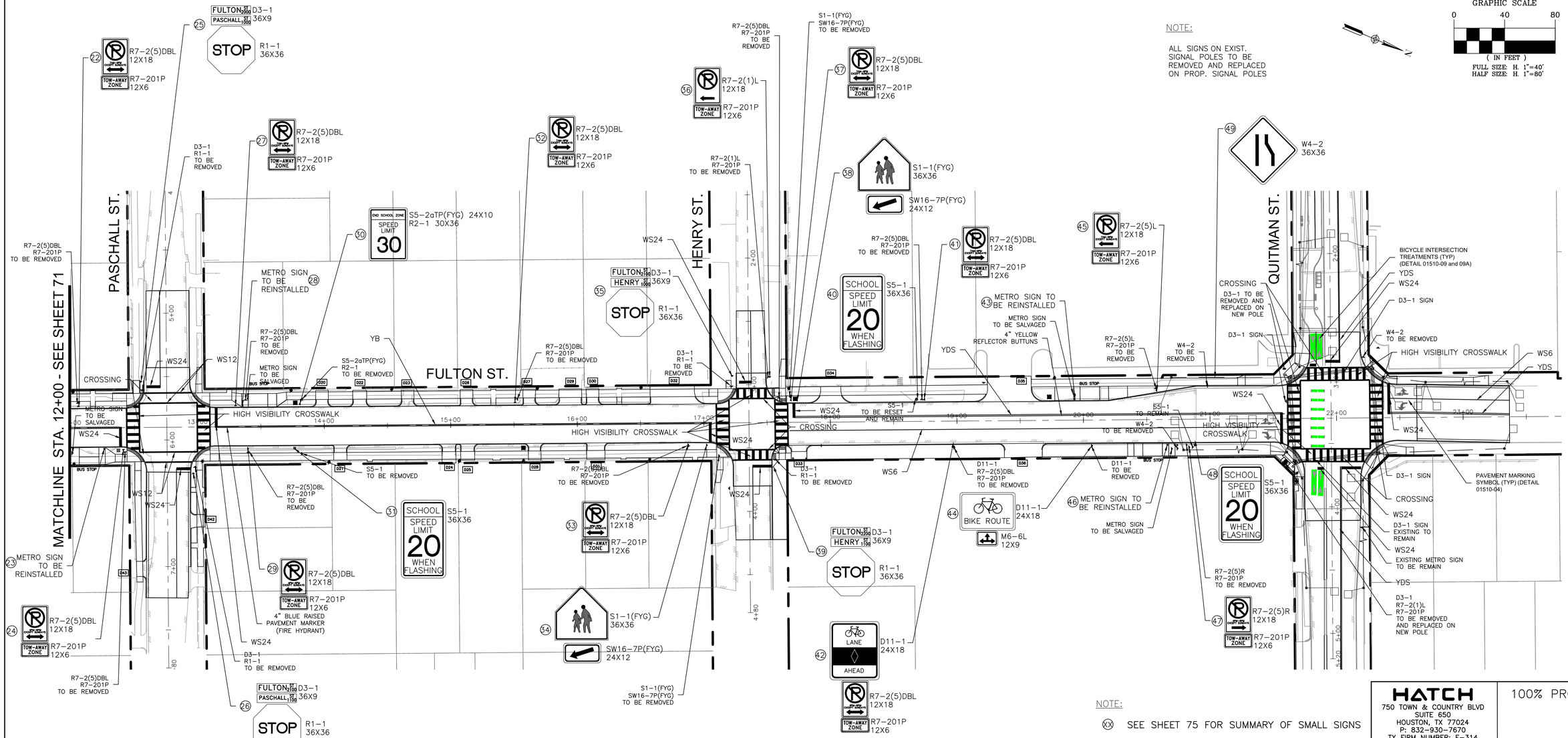
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SIGNAGE AND PAVEMENT MARKING PLAN 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1'=50'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 74 OF 223	

PLOTTED: 10/13/2026 12:00 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms913314\76 SIGNING_PAVEMENT MARKING.dwg



NOTE:

(XX) SEE SHEET 75 FOR SUMMARY OF SMALL SIGNS

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX. 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SIGNAGE AND PAVEMENT MARKING PLAN 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 75 OF 223	

PLOTTED: 10/13/2026 12:00 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\76 SIGNING_PAVEMENT MARKING.dwg

PLOT STYLE: COH CTB PLOTTED: 10/13/2026 12:00 PM

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 ⅝" 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

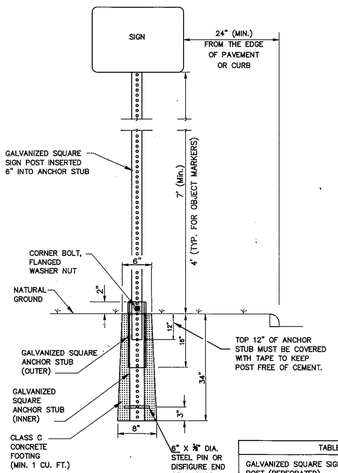
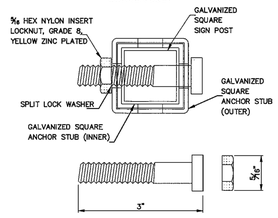
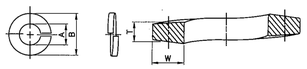


TABLE A	
GALVANIZED SQUARE SIGN POST (PERFORATED)	1-3/4" x 1-3/4" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED) (INNER)	2" x 2" x 36" (14 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED) (OUTER)	2¼" x 2¼" x 18" (14 GAUGE)

CORNER BOLT



⅝" 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
⅝"	0.322	0.314	0.583	0.078	0.125

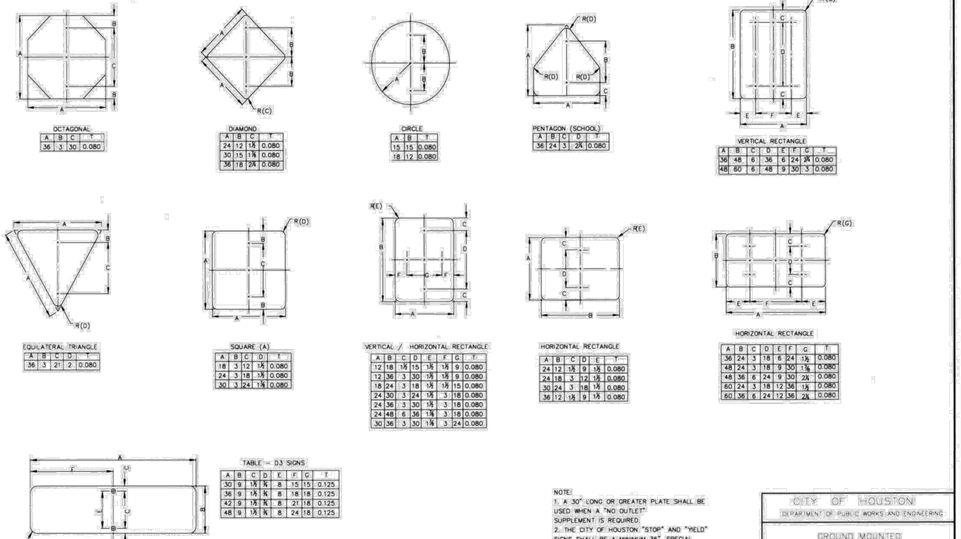
DIMENSIONS: ASME B18.21.1
MATERIAL: ALLOY STEEL PER ASME B18.211
FINISH: MECHANICAL ZINC PER ASME B695, CLASS 5, TYPE 2 (YELLOW)

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



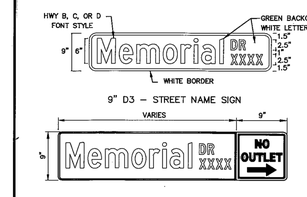
NOTE:
1. A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "NO OUTLET" SUPPLEMENT IS REQUIRED.
2. THE CITY OF HOUSTON "STOP" AND "YIELD" SIGNS SHALL BE A MINIMUM 36". SPECIAL PERMISSION FROM THE CITY TRAFFIC ENGINEER IS REQUIRED FOR LESS THAN 36" SIGNS.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

GROUND MOUNTED SIGN SIZES

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JAN-01-2012
DWG NO: 01509-03



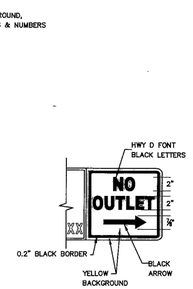
9" D3 – STREET NAME SIGN

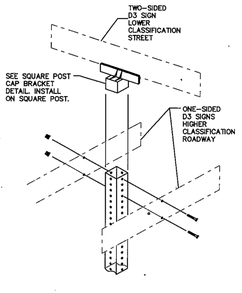
D3 W/ NO OUTLET SIGNAGE

D3 – STREET NAME SIGN

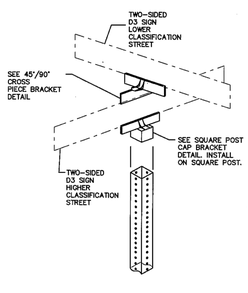
HEIGHT	SEE SIGN SIZES
LENGTH	30" MIN. * 48" MAX.** 1" INCREMENTS OF LENGTH
THICKNESS	0.125"
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209)
SIGN FACE MATERIALS	GREEN FILM OVER HIGH INTESITY GRADE VIP SHEETING
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK
COLOR	LETTERS -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.

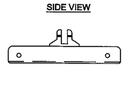




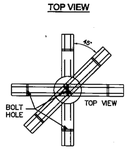
D3 SIGNS GREATER THAN 42" PLATES IN LENGTH

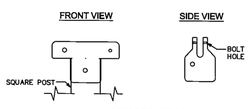


D3 SIGNS LESS THAN OR EQUAL TO 42" PLATES IN LENGTH



45°/90° CROSS PIECE SIGN BRACKET





SQUARE POST CAP BRACKET DETAILS

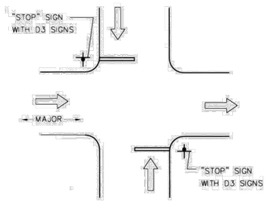
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STREET NAME SIGN AND SIGN MOUNTING

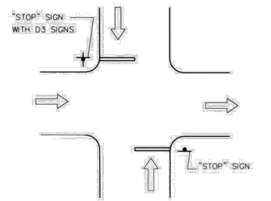
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: SEP-2016
DWG NO: 01509-02

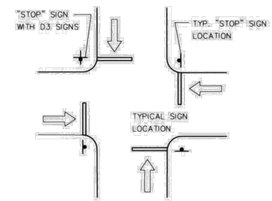
TYPICAL SIGN PLACEMENT



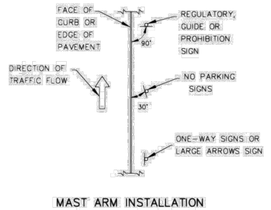
TWO-WAY STOP AND ONE-WAY OPERATION ON MAJOR/LOCAL INTERSECTION



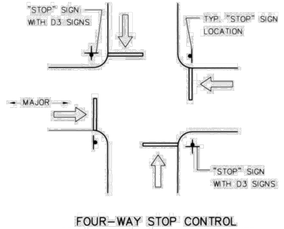
TWO-WAY STOP AND ONE-WAY OPERATION ON LOCAL/LOCAL INTERSECTION



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
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JAN-01-2012
DWG NO: 01509-04

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STANDARD SIGNING NOTES AND DETAILS

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 76 OF 223

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\23 SIGNING AND MARKING NOTES AND DETAILS.dwg

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE (COH)	SIGN TEXT	DIMENSIONS	SQUARE POST	SIGNAL MOUNT	ROUND POST (IF REQUIRED, NEEDED FROM CITY TRAFFIC ENGINEER)	NUMBER OF POSTS (1 OR 2)
74	1	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
74	2	D3-1	STREET NAME (1 LINE) (FULTON ST, 1900)	36X9	X			1
		D3-1	STREET NAME (1 LINE) (HOGAN ST, 1000)	36X9				
74	3	R7-2(5)R	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
74	4	D3-1	STREET NAME (1 LINE) (FULTON ST, 1900)	36X9	X			1
		D3-1	STREET NAME (1 LINE) (HOGAN ST, 1100)	36X9				
74	5	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
74	6	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
74	7	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
		D11-1	BIKE ROUTE	24X18				
		M6-3	BICYCLE ROUTE (THRU ARROW)	12X9				
74	8	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
74	9	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
74	10	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 1900)	36X9	X			1
		D3-1	STREET NAME (1 LINE) (GARGAN ST, 1100)	36X9				
74	11	R5-2 (2)	NO THRU TRUCKS (TEXT)	24X30	X			1
74	12	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 1900)	36X9	X			1
		D3-1	STREET NAME (1 LINE) (GARGAN ST, 1100)	36X9				
74	13	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6	X			1
74	14	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
74	15	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 1900)	36X9	X			1
		D3-1	STREET NAME (1 LINE) (JAMES ST, 1000)	36X9				
74	16	R5-2 (2)	NO THRU TRUCKS (TEXT)	24X30	X			1
74	17	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 2000)	36X9	X			1
		D3-1	STREET NAME (1 LINE) (JAMES ST, 1100)	36X9				
74	18	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
74	19	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
74	20	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
74	21	S1-1 (FYG)	SCHOOL	36X36	X			1
		S16-9P (FYG)	AHEAD (PLAQUE)	24X12				

HATCH
750 TOWN & COUNTRY BLVD
SUITE 900
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
HARRIS ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SUMMARY OF SMALL SIGNS
1 OF 2

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	N.T.S.
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	77 OF 223

NO.	DATE	REVISION	APP.

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE (COH)	SIGN TEXT	DIMENSIONS	SQUARE POST	SIGNAL MOUNT	ROUND POST (PERMISSION NEEDED FROM CITY TRAFFIC ENGINEER)	NUMBER OF POSTS (1 OR 2)
75	22	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	23	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
75	24	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	25	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 2000)	36X9				
		D3-1	STREET NAME (1 LINE) (PASCHALL ST, 1000)	36X9				
75	26	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 2100)	36X9				
		D3-1	STREET NAME (1 LINE) (PASCHALL ST, 1100)	36X9				
75	27	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	28	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
75	29	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	30	S5-2aTP (FYG)	END SCHOOL ZONE (PLAQUE)	24X10	X			1
		R2-1	SPEED LIMIT 30	30X36				
75	31	S5-1	SCHOOL SPEED LIMIT 20 WHEN FLASHING	36X36	X			1
75	32	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	33	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	34	S1-1 (FYG)	SCHOOL	36X36	X			1
		SW16-7P (FYG)	DIAGONAL ARROW (PLAQUE)	24X12				
75	35	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 2100)	36X9				
		D3-1	STREET NAME (1 LINE) (HENRY ST, 1000)	36X9				
75	36	R7-2(1)L	NO PARKING ARROW	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	37	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	38	S1-1 (FYG)	SCHOOL	36X36	X			1
		SW16-7P (FYG)	DIAGONAL ARROW (PLAQUE)	24X12				
75	39	R1-1	STOP	36X36	X			1
		D3-1	STREET NAME (1 LINE) (FULTON ST, 2200)	36X9				
		D3-1	STREET NAME (1 LINE) (HENRY ST, 1100)	36X9				
75	40	S5-1	SCHOOL SPEED LIMIT 20 WHEN FLASHING	36X36	X			1
75	41	R7-2(5)DBL	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	42	R7-2(5)DBL	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
		D11-1	BIKE LANE AHEAD	12X9				
75	43	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
75	44	D11-1	BIKE ROUTE	24X18	X			1
		M6-6L	THRU AND LEFT ARROW	12X9				
75	45	R7-2(5)L	NO PARKING 7AM-9PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	46	CUSTOM	METRO (SALVAGE AND REINSTALL)	N/A	X			1
75	47	R7-2(5)R	NO PARKING 4PM-6PM EXCEPT SUNDAYS	12X18	X			1
		R7-201P	TOW AWAY ZONE (PLAQUE)	12X6				
75	48	S5-1	SCHOOL SPEED LIMIT 20 WHEN FLASHING	36X36	X			1
75	49	W4-2	LANE ENDS	36X36	X			1

HATCH
750 TOWN & COUNTRY BLVD
SUITE 600
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
HAMILTON ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SUMMARY OF SMALL SIGNS
2 OF 2

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	N.T.S.
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T.
SHEET NO.	78 OF 223

NO.	DATE	REVISION	APP.

GENERAL PAVEMENT MARKING NOTES:

1. PRIOR TO START OF CONSTRUCTION, ALL EXISTING PAVEMENT MARKINGS WITHIN THE AREA OF CONSTRUCTION SHALL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING ALL EXISTING PAVEMENT MARKINGS AND LANE CONFIGURATIONS WILL BE DUPLICATED AGAIN. THIS REVIEW CAN BE DONE IN CONJUNCTION WITH SIGN INVENTORY. THE CONTRACTOR IS HELD ACCOUNTABLE FOR EXISTING AND TEMPORARY CONSTRUCTION PAVEMENT MARKINGS THROUGHOUT THE PROJECT AND AT THE PROJECT'S COMPLETION.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO CITY OF HOUSTON STANDARDS AND SPECIFICATIONS AND GENERAL GUIDELINES OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
4. THE DESIGN SPEED FOR THE ROAD IS: ____. THE POSTED SPEED LIMIT IS: ____.
5. ALL LANE DIMENSIONS ARE FROM CENTER OF LANE LINE, CENTER OF DOUBLE LANE LINE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT MARKINGS AND SYMBOLS.
7. THE FINAL LONGITUDINAL STRIPINGS SHALL BE 90 MIL (0.090") THICK HOT-SPRAYED THERMOPLASTIC PLACED OVER THE TEMPORARY STRIPING WITHIN 14 TO 30 CALENDAR DAYS AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE, OR AS DIRECTED BY THE CITY TRAFFIC ENGINEER. ALL OTHER PAVEMENT MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE WATER BASED PAINT.
8. ALL FINAL TRANSVERSE MARKINGS SHALL BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. ALL PAVEMENT ARROWS AND LEGENDS SHALL ALSO BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. PREFORMED THERMOPLASTIC APPLICATIONS MAY BE USED IF ONLY APPROVED BY THE CITY TRAFFIC ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS OF FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE IMPLEMENTED. IN TANGENT SECTIONS OF A ROAD WHERE THE PAVEMENT MARKING PATTERN DOES NOT CHANGE, CONTROL POINTS CAN BE SET AT 200 FEET SPACING. THE LAYOUT AND INSPECTION OF ALL PAVEMENT MARKINGS SHALL BE APPROVED BY CITY OF HOUSTON REPRESENTATIVE PRIOR TO THE APPLICATION OF MATERIALS.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET NO MORE THAN ONE FOOT CLEAR OF THE CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE CITY TRAFFIC ENGINEER.
11. ALL RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR FACE OF EACH MARKER IS FACING THE APPROACHING TRAFFIC FLOW AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.
12. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED IN ACCORDANCE TO CITY OF HOUSTON STANDARD SPECIFICATION 02762. APPLYING OVER EXISTING PAVEMENT MARKINGS DOES NOT CONSTITUTE AS APPROVED OBLITERATION METHOD.
13. THE ENGINEER OF RECORD SHALL BE REQUIRED TO PRODUCE AS-BUILT OF PAVEMENT MARKING PLANS WITHIN 30 DAYS AFTER COMPLETION OF PAVEMENT MARKING IMPLEMENTATION.
14. BLUE RPMS MAY BE PLACED ADJACENT TO FIRE HYDRANTS WITH THE APPROVAL OF THE CITY TRAFFIC ENGINEER.
15. FOR ALL CONSTRUCTION, ALL PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED AND SHALL BE PAID BY THE PROJECT OWNER/DEVELOPER.
16. FINAL INSPECTION AND ACCEPTANCE OF PAVEMENT MARKINGS SHALL BE PERFORMED BY TRAFFIC OPERATIONS DIVISION REPRESENTATIVE (713-803-3054).

Description and Application of Pavement Marking Lines

Line Series	Color	Description	Width Inches	Typical Applications
WB	White	Broken (10' stripe w/ 30' gap)	4"	- Lane lines between travel lanes in the same direction where changing of lanes is permitted.
WS	White	Solid	4" 6" 12" 24" 24" 12", 24"	- Edge lines to delineate the right edge of the roadway. - Left edge of bicycle lane and lane lines between travel lanes in the same direction where changing of lanes is discouraged. - Perpendicular crosswalk lines. - Stop bars at intersections (signalized and unsignalized). - Hatching at high visibility crosswalks. - Diagonal hatching used in gores between same direction of travel lanes.
WG	White	Guide (2' stripe w/6' gap)	6" 6"	- Guide lines through intersections. - Taper lines for turn lanes.
YS	Yellow	Solid	4" 12", 24"	- Edge lines to delineate the left edge of a divided roadway, a one-way road, or ramp. - Diagonal hatching used in gores between opposing direction of travel lanes.
YDS	Yellow	Double Solid	4" - (4") - 4" (gap)	- Centerline that separates opposing travel lanes and delineation of median islands.
YDB	Yellow	Double Broken	4" - (4") - 4" (gap)	- Defines the edges of center reversible lanes that are used as TWLTLs during intermittent periods.
YB	Yellow	Broken (10' stripe w/ 30' gap)	4"	- Separates travel lanes in opposite directions where passing is permitted in both directions of travel.
YSB	Yellow	Solid & Broken Broken (10' stripe w/ 30' gap)	4" - (4") - 4" (gap)	- Separates travel lanes in opposite directions where passing is permitted in one direction and prohibited in the opposite direction. - Used for edge of two-way left-turn lanes (TWLTL).

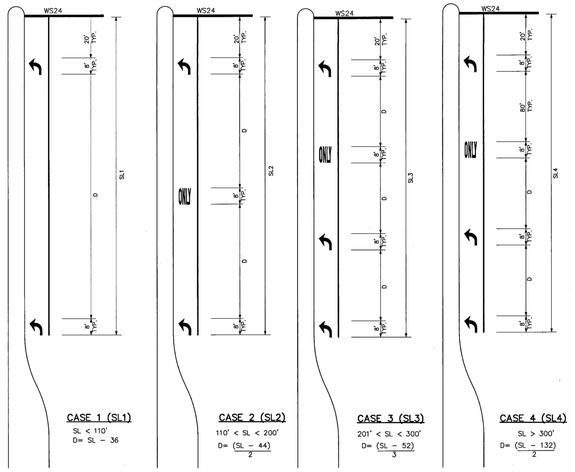
Description and Application of Reflective Raised Pavement Markers (RRPM)

RRPM Types	Color	COH Stand. Spec. Sec. 02764 Equivalent	Description
C	Clear	Type I-C	- Approach face that reflects white light, and the other side does not reflect.
R	Clear & Red	Type II-C-R	- Approach face that reflects white light, and the other side reflects red light.
A	Amber & Amber	Type II-A-A	- Approach face and the other side both reflect amber light.

Line Style Designation : YSB4 - A40/A40

- Color
- Pattern
- Width of stripe
- RPM spacing
- RPM type
- RPM spacing
- RPM Type

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
GENERAL NOTES AND LEGENDS
(NOT TO SCALE)
APPROVED BY: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012 | DWG NO: 01510-01



KEY (FOR TURN LANES ONLY):

SL = STORAGE LENGTH (FEET)

D = DISTANCE BETWEEN ARROWS AND/OR WORDS (FEET)

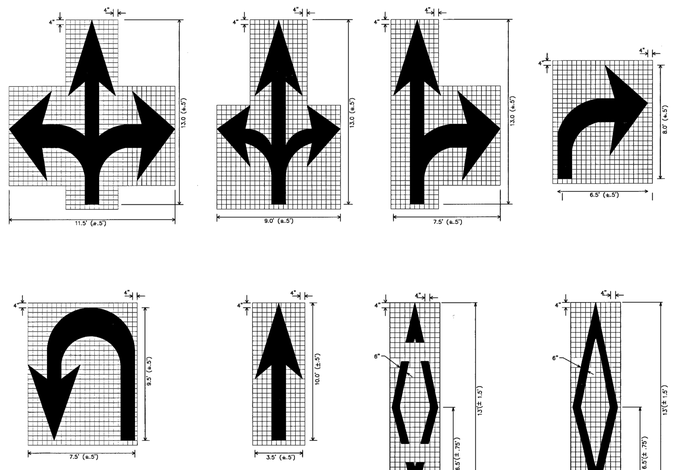
GENERAL NOTES:

1. ALL CASES AND DETAILS ALSO APPLY TO RIGHT-TURN LANES.
2. FOR DUAL-TURN LANES, DIMENSIONS SHALL BE THE SAME FOR EACH LANE.
3. SL DIMENSION IS FROM BACK OF STOP LINE TO END OF TURN LANE. NOTE: DO NOT INCLUDE TAPER LENGTH.
4. PAVEMENT ARROWS AND "ONLY" LEGEND MARKINGS ARE TYPICALLY USED AT ALL SIGNALIZED INTERSECTIONS AND AT ALL UNSIGNALIZED INTERSECTIONS THAT HAVE TURN LANES.
5. MINIMUM SL= 100'. SL MAY BE LESS THAN 100 FEET ONLY BY APPROVAL OF THE CITY TRAFFIC ENGINEER.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
LEFT/RIGHT-TURN "ONLY" AND ARROW SPACING
(NOT TO SCALE)
APPROVED BY: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012 | DWG NO: 01510-02



CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STANDARD PAVEMENT MARKING (WORDS)
(NOT TO SCALE)
APPROVED BY: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012 | DWG NO: 01510-03



NOTES FOR PAVEMENT MARKINGS "SYMBOLS" AND "ARROWS":

1. MINIMUM 8 FOOT WHITE MARKINGS SHALL BE USED, UNLESS OTHERWISE NOTED. IF MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD BE PLACED WITH FIRST WORD NEAREST THE DRIVER.
2. THESE DETAILS ARE STANDARD SIZE FOR NORMAL INSTALLATION; SIZES MAY BE REDUCED APPROXIMATELY ONE-THIRD DEPENDING ON CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR REDUCTION BELOW ONE-THIRD OF STANDARD SIZES.
3. THE LONGITUDINAL SPACE BETWEEN MARKINGS SHOULD BE 30 FEET.
4. MARKINGS CONSIDERED APPROPRIATE FOR USE WHEN WARRANTED INCLUDE THE FOLLOWING:
   A. REGULATORY
      STOP
      RIGHT (LEFT) TURN ONLY
      SYMBOL ARROWS
   B. WARNING
      STOP AHEAD
      SIGNAL AHEAD
      SCHOOL
      SCHOOL X-ING
      PED X-ING
      R X R (SEE SHEET 01510-08 DETAILS)
      OTHER WORDS OR SYMBOLS MAY BE NECESSARY UNDER CERTAIN CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR SPECIAL CONDITIONS.
5. UNCONTROLLED USE OF PAVEMENT MARKINGS CAN RESULT IN DRIVER CONFUSION. WORD AND SYMBOL MARKINGS SHOULD BE NO MORE THAN THREE LINES.
6. THE WORD "STOP" SHALL NOT BE USED ON THE PAVEMENT UNLESS ACCOMPANIED BY A STOP LINE AND STOP SIGN. THE WORD "STOP" SHALL NOT BE PLACED ON THE PAVEMENT IN ADVANCE TO A STOP LINE, UNLESS EVERY VEHICLE IS REQUIRED TO STOP AT ALL TIMES (ALL-WAY STOP).
7. PAVEMENT MARKINGS SHOULD GENERALLY BE NO MORE THAN ONE LANE IN WIDTH, WITH SCHOOL MESSAGES BEING THE EXCEPTION. FOR DETAILS OF SCHOOL AND SCHOOL CROSSING PAVEMENT MARKINGS, REFER TO PART VII OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
8. SPACING BETWEEN STANDARD SIZE LETTERS SHOULD BE 4 INCHES (MIN). THE WIDTH OF NON-STANDARD SIZE LETTERS MAY VARY (DEPENDING ON THE WIDTH OF THE TRAVEL LANES. APPROVAL BY CITY TRAFFIC ENGINEER. SPECIAL PERMISSION NEEDED FOR NON-STANDARD SIZE "LETTER" AND/OR "ARROWS".
9. LANE-USE ARROW MARKINGS MAY BE USED TO CONVEY EITHER GUIDANCE OR MANDATORY MESSAGES. SINGLE TURN ARROWS USED TO CONVEY A MANDATORY MOVEMENT MUST BE ACCOMPANIED STANDARD SIGNS AND THE PAVEMENT MARKING WORD "ONLY".
10. PAVEMENT MARKINGS ARE TO BE LOCATED AS SPECIFIED IN THE DESIGN PLANS.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STANDARD PAVEMENT MARKING - SYMBOLS
(NOT TO SCALE)
APPROVED BY: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012 | DWG NO: 01510-04

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STANDARD PAVEMENT MARKINGS NOTES AND DETAILS 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 79 OF 223	

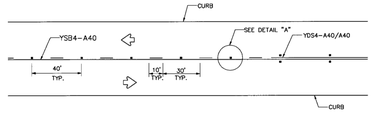
PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:26 PM

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\24 PAVEMENT MARKING DETAILS.dwg

PLOTTED: 10/5/2026 5:26 PM
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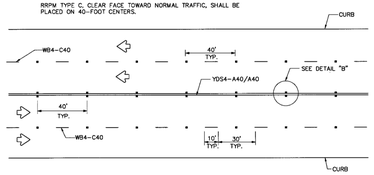
NO.	DATE	REVISION	APP.

CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE

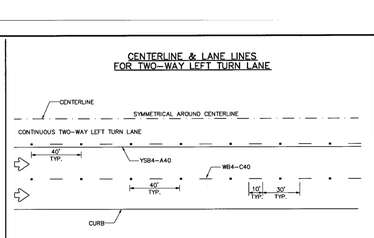


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY STREETS

RRPM TYPE C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE PLACED ON 40-FOOT CENTERS.

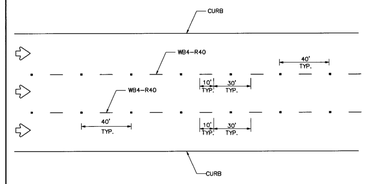


CENTERLINE & LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY MULTILANE STREET

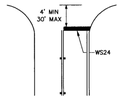
RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG-WAY TRAFFIC.



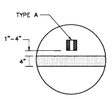
GENERAL NOTES:

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.

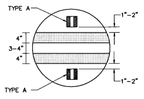
GUIDE FOR PLACEMENT OF STOP LINES & CENTERLINE



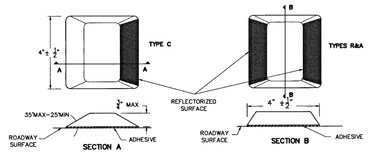
DETAIL "A"



DETAIL "B"

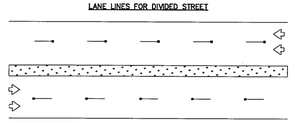


REFLECTIVE RAISED PAVEMENT MARKERS

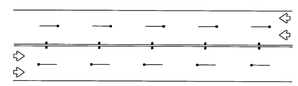


CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE	(NOT TO SCALE)
APPROVED BY: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01510-05

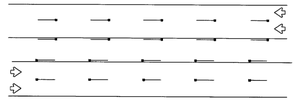
LANE LINES FOR DIVIDED STREET



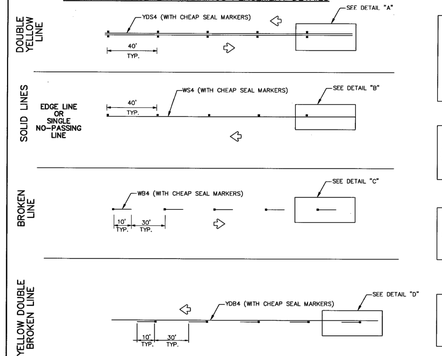
LANE & CENTER LINES FOR MULTILANE UNDIVIDED STREETS



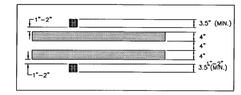
TWO-WAY LEFT TURN LANE



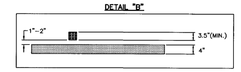
TEMPORARY PAVEMENT MARKINGS PLACEMENT DETAILS



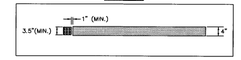
DETAIL "A"



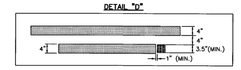
DETAIL "B"



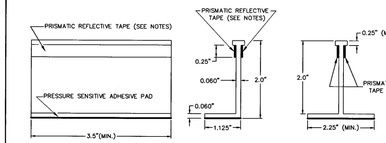
DETAIL "C"



DETAIL "D"



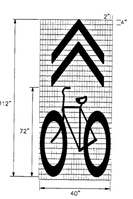
TEMPORARY CHIP SEAL MARKER DETAIL



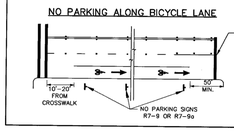
NOTES:

1. YELLOW MARKERS SHALL HAVE YELLOW BODIES AND YELLOW REFLECTIVE TAPE.
2. WHITE MARKERS SHALL HAVE WHITE BODIES AND WHITE REFLECTIVE TAPE.
3. ONE-WAY OR TWO-WAY REFLECTIVE SHALL BE USED AS NECESSARY FOR APPLICATION.
4. THE CLEAR PLASTIC COVER MAY VARY FROM ONE MANUFACTURER TO ANOTHER IF DEEMED NECESSARY BY SPECIFIC PROJECT.
5. ALL TEMPORARY PAVEMENT MARKERS SHALL BE PLACED WITH REFLECTIVE SIDE FACING ON COMING TRAFFIC.
6. ALL TEMPORARY STRIPING SHALL BE WATER BASED PAINT.

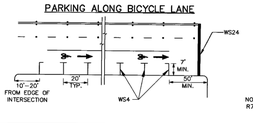
CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
REFLECTIVE CHIP SEAL MARKER USE FOR TEMPORARY MARKINGS	(NOT TO SCALE)
APPROVED BY: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01510-06



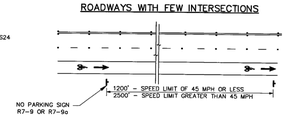
NO PARKING ALONG BICYCLE LANE

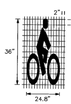


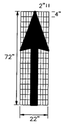
PARKING ALONG BICYCLE LANE

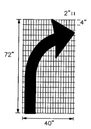


ROADWAYS WITH FEW INTERSECTIONS

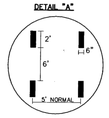








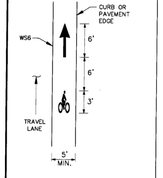
DETAIL "A"



NOTES:

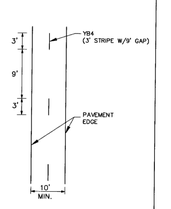
1. ALL PAVEMENT MARKINGS SHALL BE WHITE EXCEPT WHEN NOTED OTHERWISE ON PLANS.
2. PAVEMENT MARKINGS SHALL BE OF THE MATERIALS SPECIFIED AND SHALL BE IN CONFORMANCE WITH MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.
3. EXACT SIGN PLACEMENT AND DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.
4. ADDITIONAL REFERENCES: TMUTCD (TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL) GUIDE FOR THE DEVELOPMENT OF BICYCLES FACILITIES, AASHTO, 1991.
5. FOR PLACEMENT OF PAVEMENT ARROWS AND WORDS SEE TURN LANE LEFT/(RIGHT) SPACING WORKSHEET.
6. SHARED LANE MARKING SHALL BE IMPLEMENTED ONLY ON ROADWAY SEGMENT BUT NOT WITHIN THE FUNCTIONAL LIMITS OF AN INTERSECTION.

ADJACENT TO TRAVEL LANE

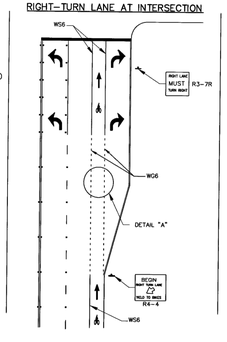


SHARED USE PATH

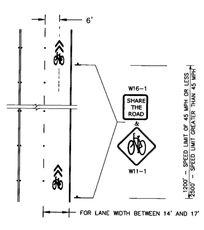
(SEPARATE FROM ROADWAY WITH NO MOTORIZED TRAFFIC)



RIGHT-TURN LANE AT INTERSECTION

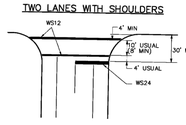


ROADWAY WITH SHARED LANE

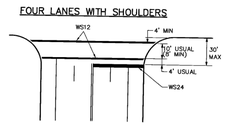


CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
BICYCLE LANE PAVEMENT MARKINGS	(NOT TO SCALE)
APPROVED BY: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01510-09

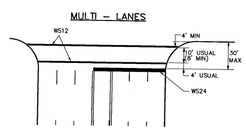
TWO LANES WITH SHOULDERS



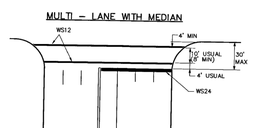
FOUR LANES WITH SHOULDERS



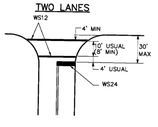
MULTI - LANES



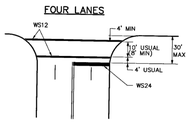
MULTI - LANE WITH MEDIAN



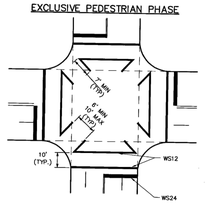
TWO LANES



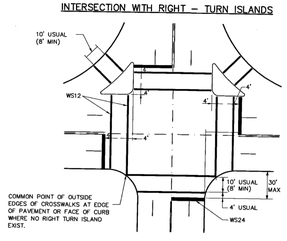
FOUR LANES



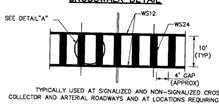
EXCLUSIVE PEDESTRIAN PHASE



INTERSECTION WITH RIGHT - TURN ISLANDS

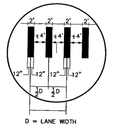


HIGH VISIBILITY CROSSWALK DETAIL



TYPICALLY USED AT SIGNALIZED AND NON-SIGNALIZED CROSSINGS ON COLLECTOR AND ARTERIAL ROADWAYS AND AT LOCATIONS REQUIRING EXTRA EMPHASIS.

DETAIL "A"



NOTES:

1. CROSSWALKS AND STOP LINES SHALL BE WHITE.
2. "D" IS EQUAL TO ONE HALF THE WIDTH OF TRAVEL LANE.

CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TYPICAL CROSSWALK DETAILS	(NOT TO SCALE)
APPROVED BY: CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

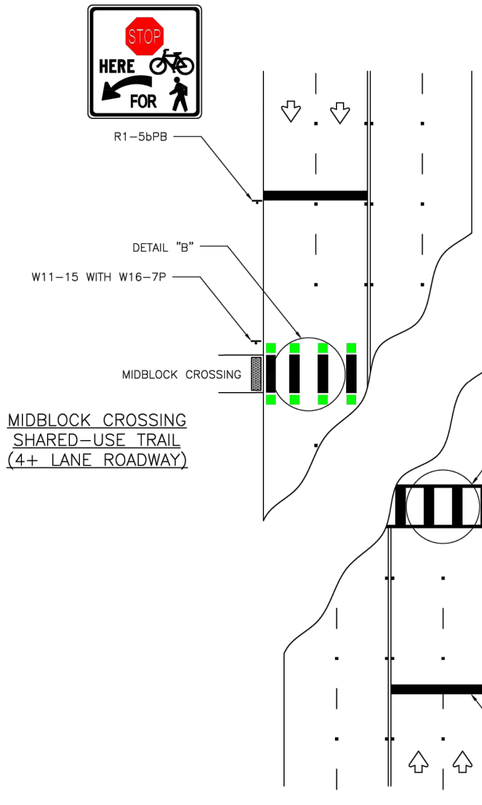
STANDARD PAVEMENT MARKINGS NOTES AND DETAILS 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 80 OF 223	

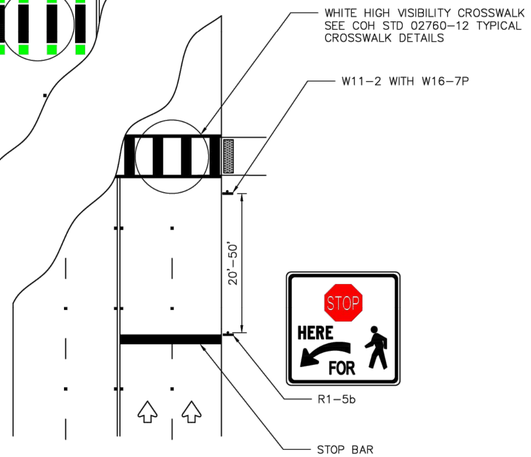
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USE OF TREATMENTS ON THIS SHEET MUST BE PRE-APPROVED BY THE CITY TRAFFIC ENGINEER

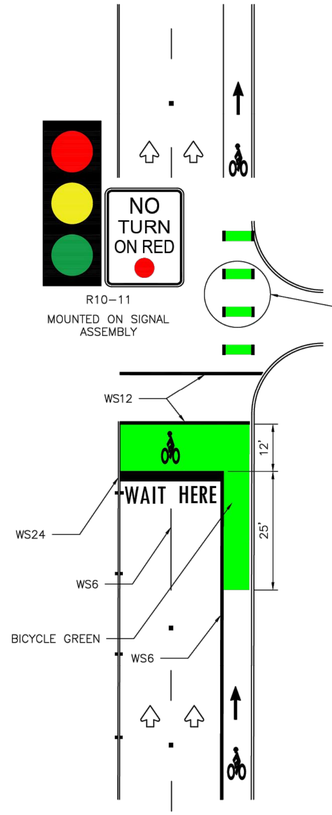
MIDBLOCK CROSSING SHARED-USE TRAIL (4+ LANE ROADWAY)



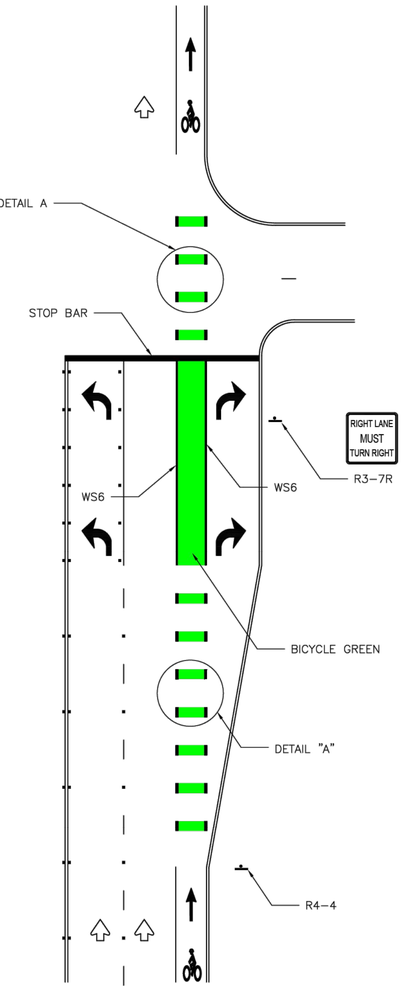
MIDBLOCK CROSSING PEDESTRIAN-ONLY (4+ LANE ROADWAY)



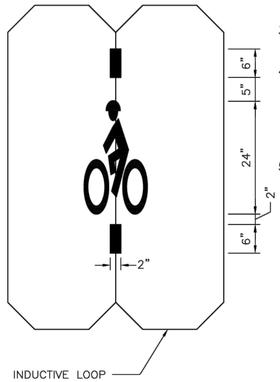
BIKE BOX



BIKE LANE AT INTERSECTION (RIGHT TURN LANE)



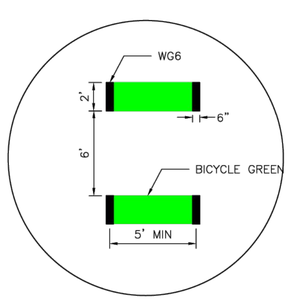
BICYCLE DETECTION MARKING



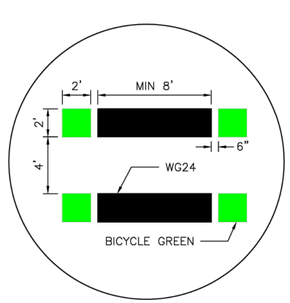
NOTE:

1. ALL PAVEMENT MARKINGS SHALL BE WHITE EXCEPT WHEN NOTED OTHERWISE ON PLANS.
2. PAVEMENT MARKINGS SHALL BE OF THE MATERIALS SPECIFIED AND SHALL BE IN CONFORMANCE WITH MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.
3. WHERE NOT SHOWN ON THIS SHEET, SIGN PLACEMENT AND DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.
4. ADDITIONAL REFERENCES (LATEST EDITION):
   - 4.1. TMUTCD (TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES)
   - 4.2. GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, AASHTO
   - 4.3. URBAN BIKEWAY DESIGN GUIDE, NACTO
5. FOR PLACEMENT OF PAVEMENT ARROWS AND WORDS SEE COH STD 02760-13 & 02760-14 LEFT-TURN LANE & RIGHT TURN LANE DESIGN.

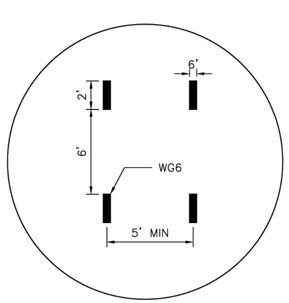
DETAIL "A"



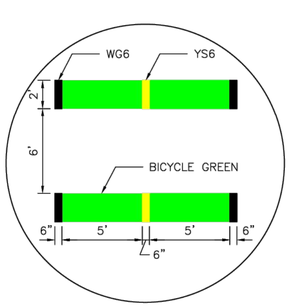
DETAIL "B"



DETAIL "C"



DETAIL "D"



APPROVED BY: DocuSigned by: Suhail Kanwar 3EF5B0C841F5478... CITY ENGINEER	APPROVED BY: DocuSigned by: THANG NGUYEN 95A29EFDA75B4CD... CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A83C41087283453... DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-10
HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832-930-7670 TX FIRM NUMBER: F-314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P-6357	

CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

BICYCLE INTERSECTION TREATMENTS

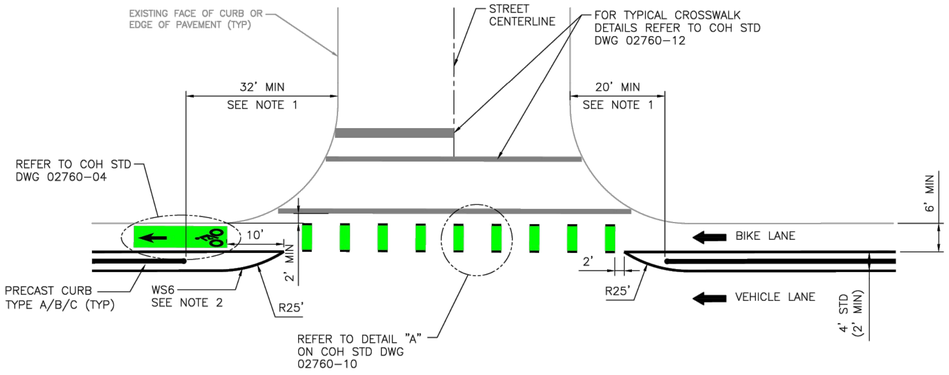
SHEET 01 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO: 80A OF 152	

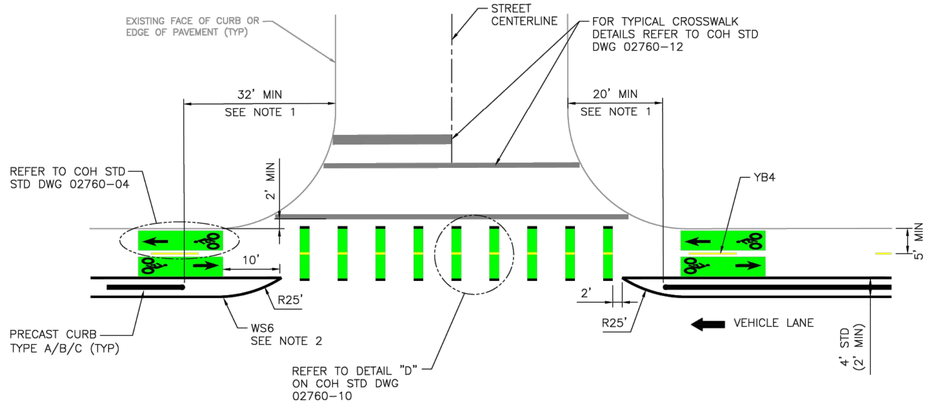
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR 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.

DocuSign Envelope ID: 9B122261-CF05-457B-9A65-2650F40B66D5

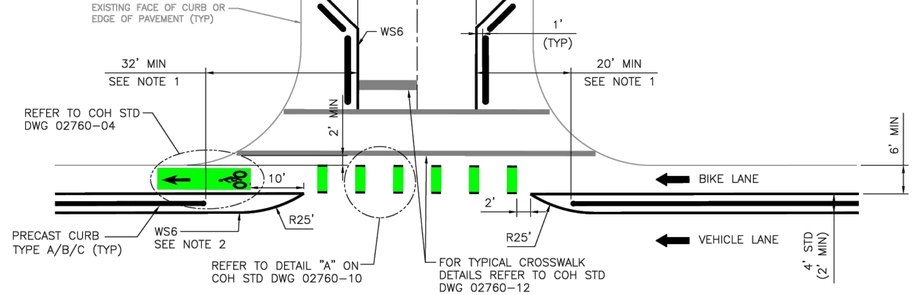
TYPICAL UNSIGNALIZED INTERSECTION AT BIKE LANE



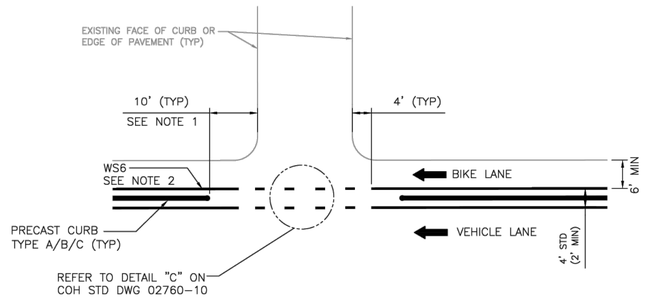
TYPICAL UNSIGNALIZED INTERSECTION AT BIDERECTIONAL BIKE LANE



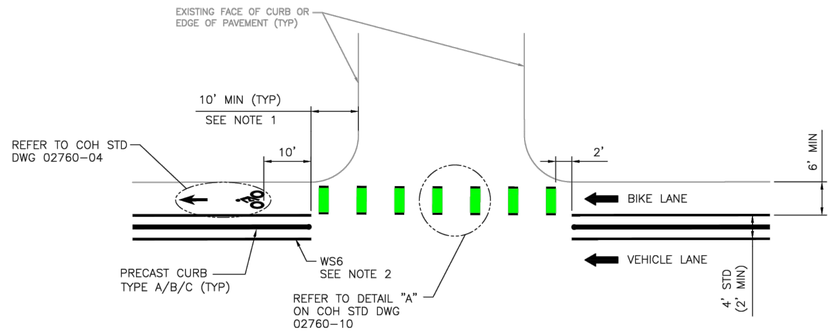
UNSIGNALIZED INTERSECTION AT BIKE LANE WITH CURB EXTENSIONS



MINOR DRIVEWAY AT BIKE LANE



MAJOR DRIVEWAY AT BIKE LANE



NOTES:

1. ACTUAL DELINEATOR OFFSET FROM DRIVEWAY SHALL BE DETERMINED BASED ON DESIGN AND CONTROL VEHICLE SWEPT PATH ANALYSIS.
2. DIAGONAL STRIPING WITHIN THE AREA BETWEEN THE BICYCLE LANE AND VEHICLE LANE ARE NOT SHOWN FOR CLARITY. REFER TO COH STD DWG 02760-09 FOR PAVEMENT MARKS WITHIN THAT AREA.
3. DIMENSION "A" VARIES ACCORDING TO ROADWAY CONTEXT.
4. AT BUS STOP LOCATIONS, DO NOT INSTALL CURB STOPS 100 FEET AHEAD OF BUS STOP TO ENSURE PULL OVER SPACE FOR THE BUS.

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

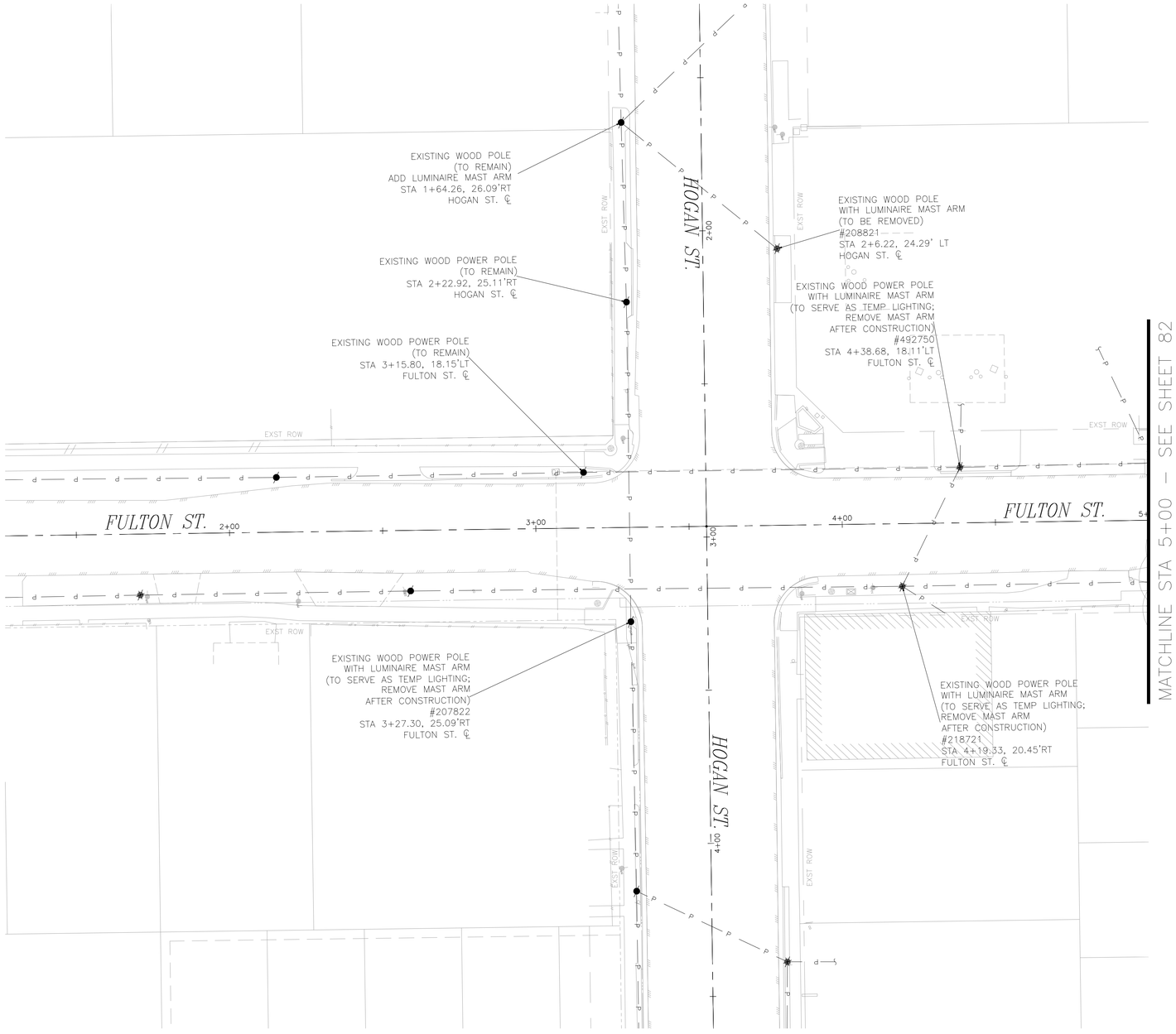
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DocuSigned by: Sukat Kanwar 9EF6B0C841F5478...	DocuSigned by: KHANG NGUYEN 95A23EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carl Haddock A9DC410B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02760-11
HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832-930-7670 TX FIRM NUMBER: F-314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P-6357	

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

BICYCLE INTERSECTION TREATMENTS

SHEET 02 OF 02

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO: 80B OF 152	



N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

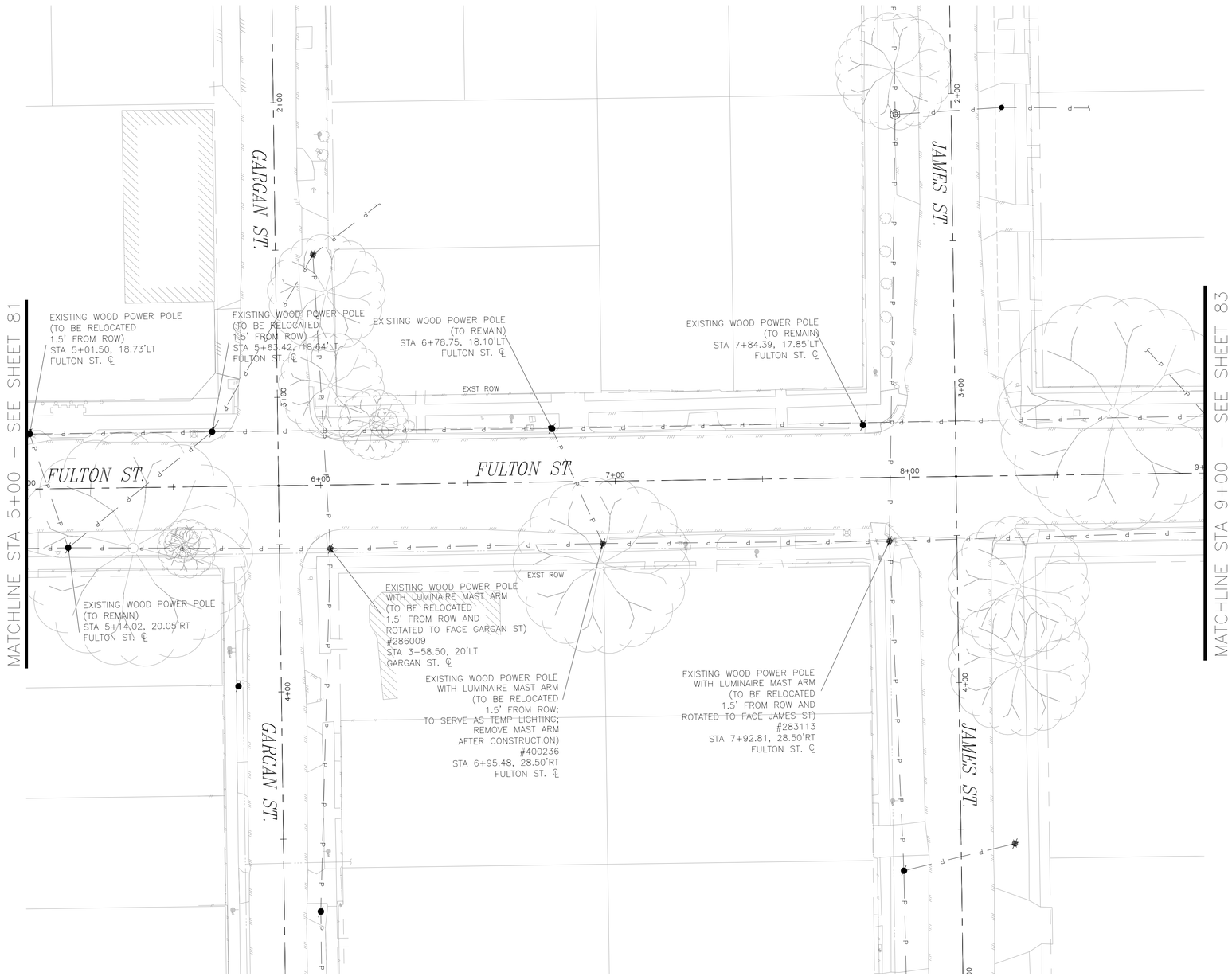
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
ELECTRICAL DEMOLITION PLAN
PLAN SHEET 1
STA. 1+00 TO 5+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 81 OF 223	

FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg PLOT STYLE: COH.ctb PLOTTED: 2/13/2020 3:25 PM



N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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TEXAS PE No: 152599

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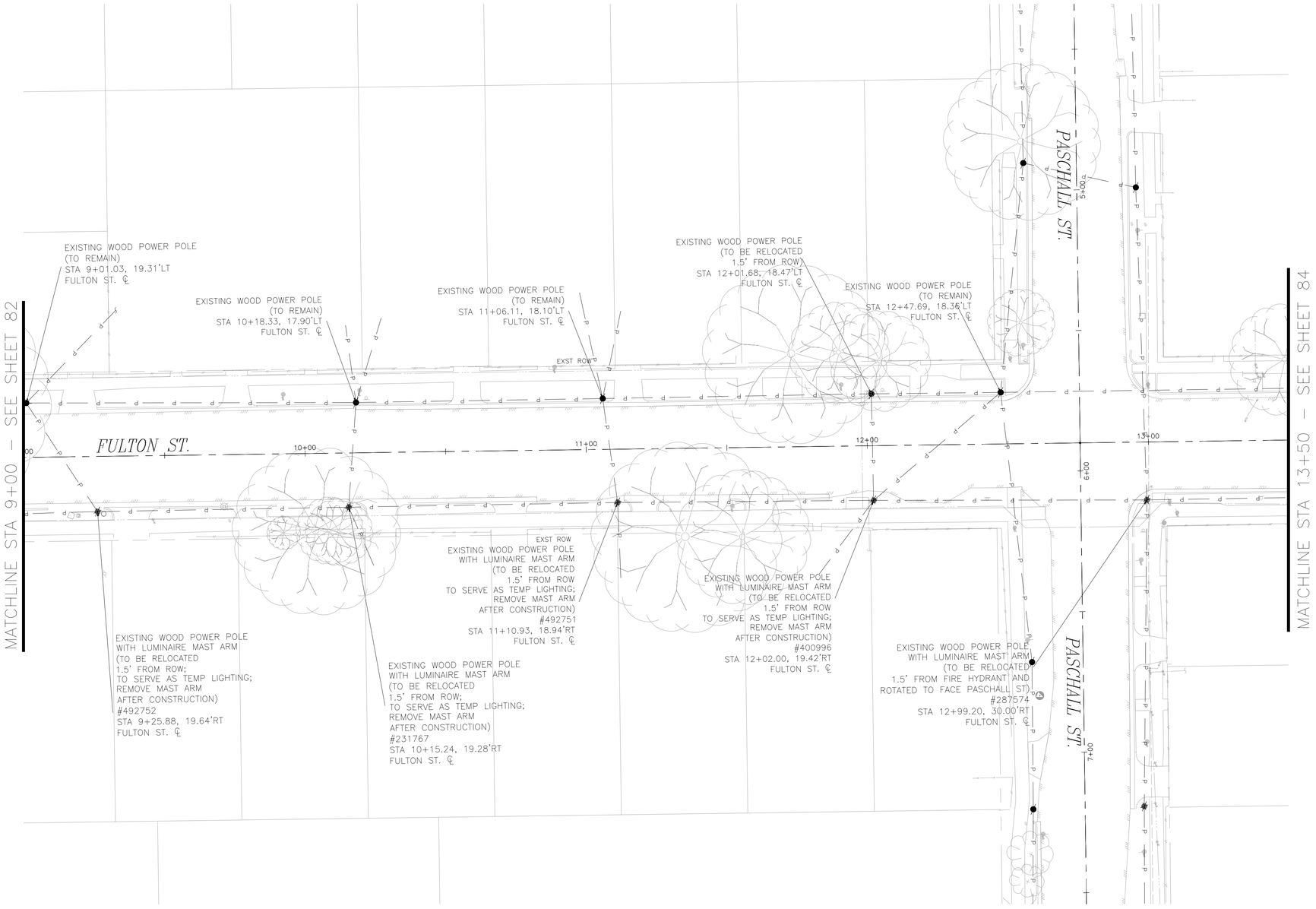
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
ELECTRICAL DEMOLITION PLAN
PLAN SHEET 2
STA. 5+00 TO 9+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 82 OF 223	

FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg PLOT STYLE: COH.ctb PLOTTED: 2/13/2020 3:25 PM



N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

ELECTRICAL DEMOLITION PLAN

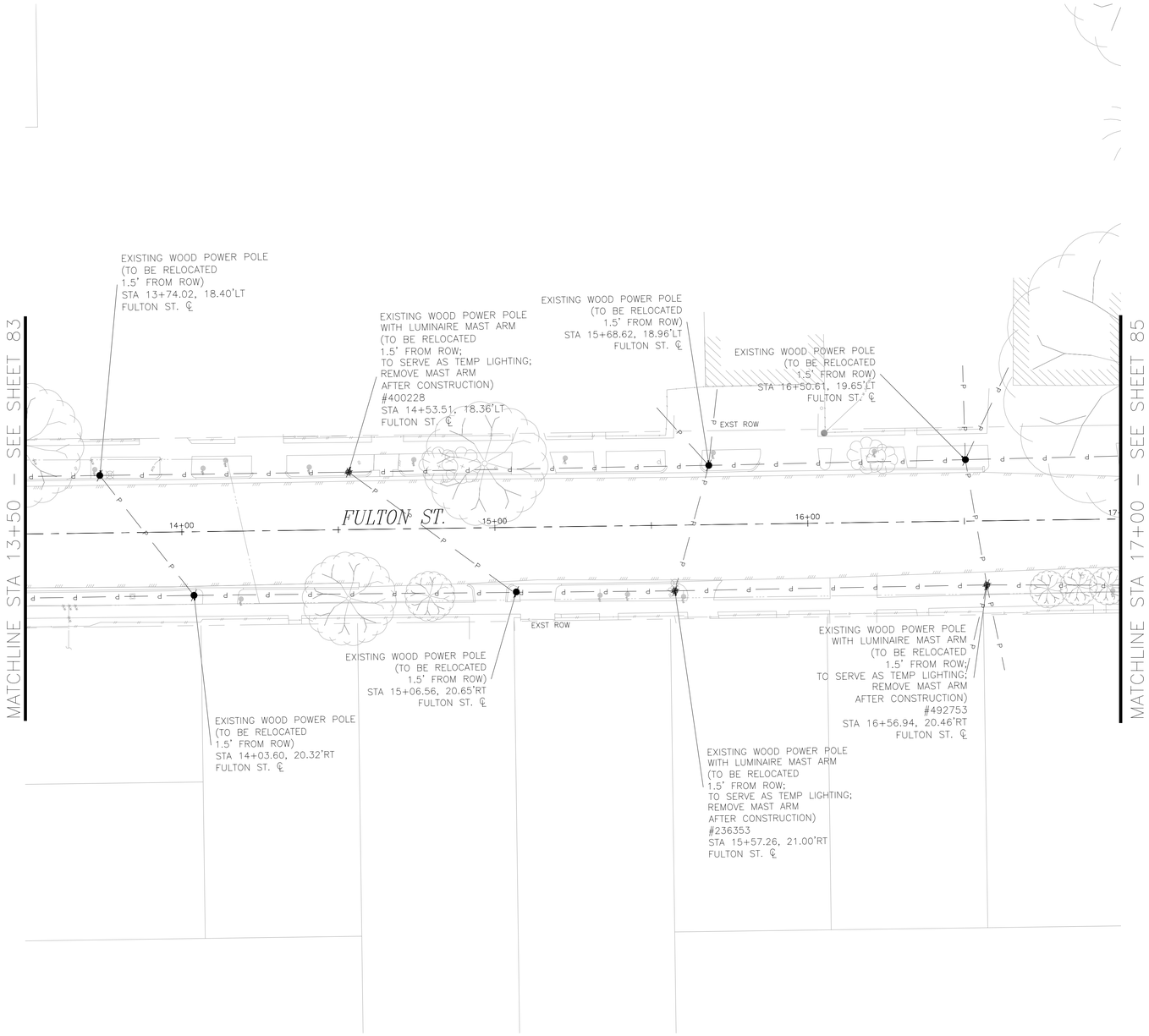
PLAN SHEET 3

STA. 9+00 TO 13+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 83 OF 223	

FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg PLOT STYLE: COH.ctb PLOTTED: 2/13/2020 3:25 PM

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N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

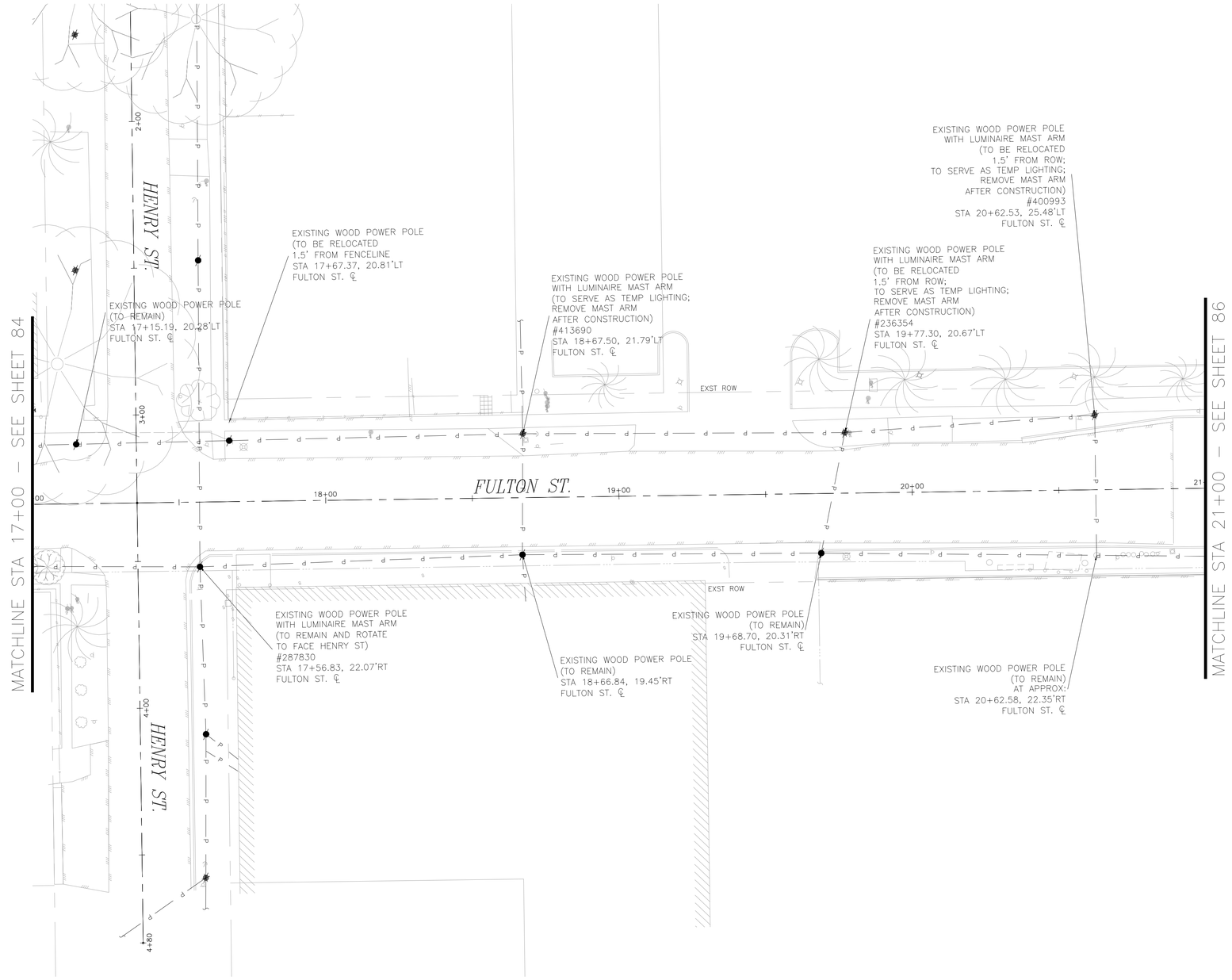
DATE: 10/1/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
ELECTRICAL DEMOLITION PLAN
PLAN SHEET 4
STA. 13+50 TO 17+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 84 OF 223	



N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

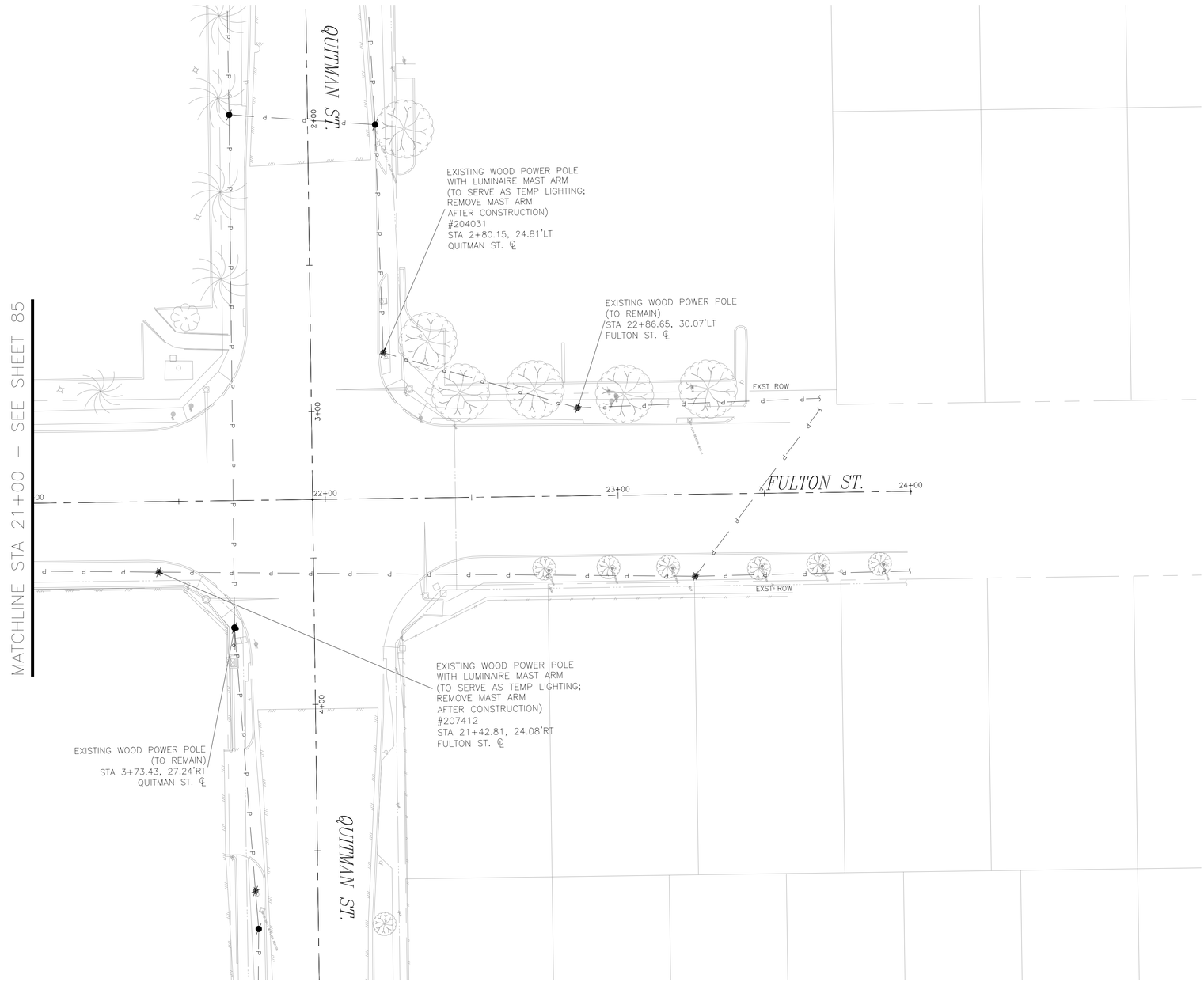
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
ELECTRICAL DEMOLITION PLAN
PLAN SHEET 5
STA. 17+00 TO 21+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 85 OF 223	

PLOTTED: 2/13/2020 3:25 PM
PLOT STYLE: COH.ctb
FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg

FILE PATH: P:\Projects\0106 - City Of Houston\15010 - Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg PLOT STYLE: COH.ctb PLOTTED: 2/13/2020 3:25 PM



N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

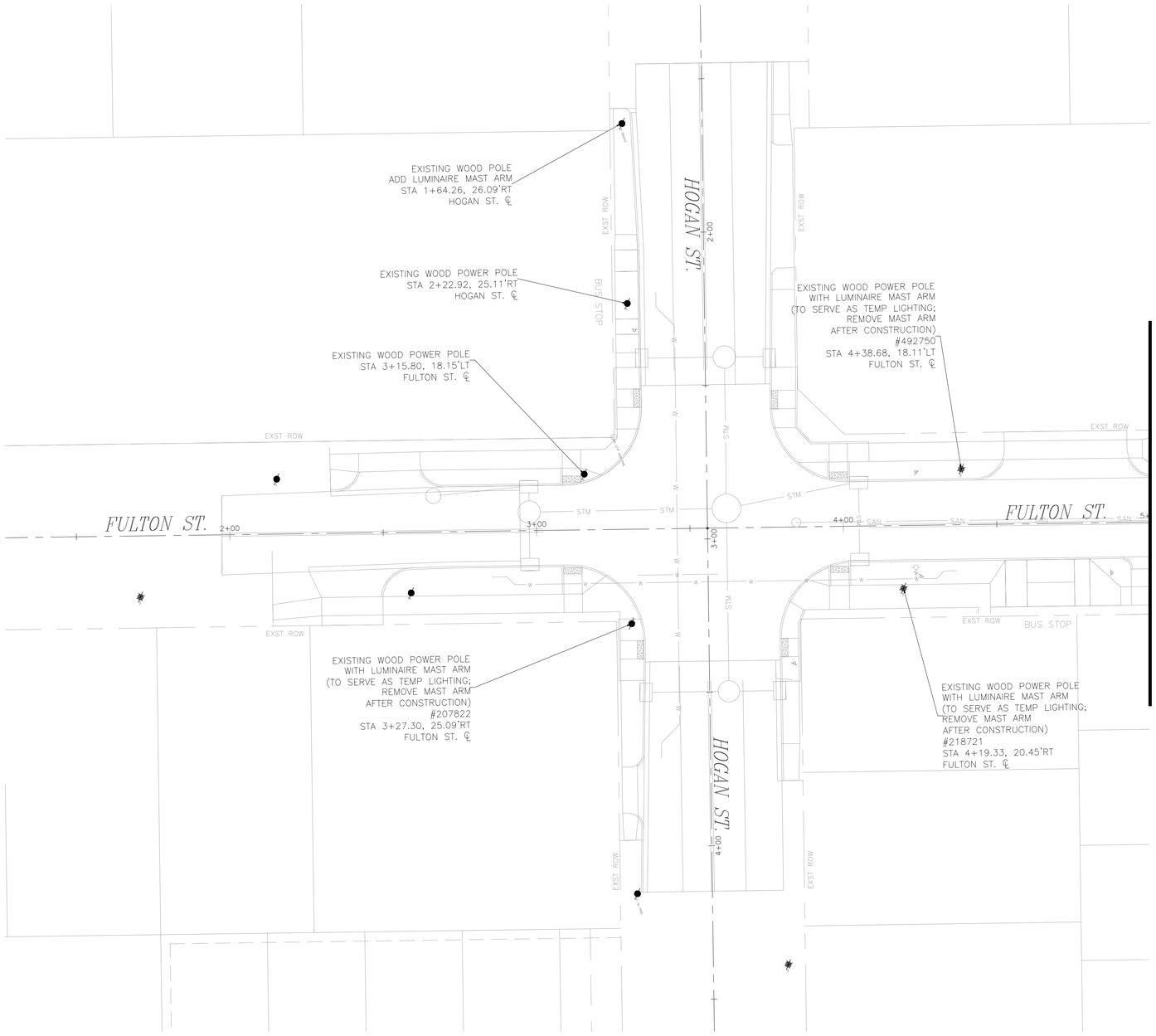
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

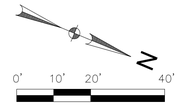
ELECTRICAL DEMOLITION PLAN

PLAN SHEET 6

STA. 21+00 TO END

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 86 OF 223	





NO.	DATE	REVISION	APP.

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TEXAS PE No: 152599

DATE: 10/1/2026

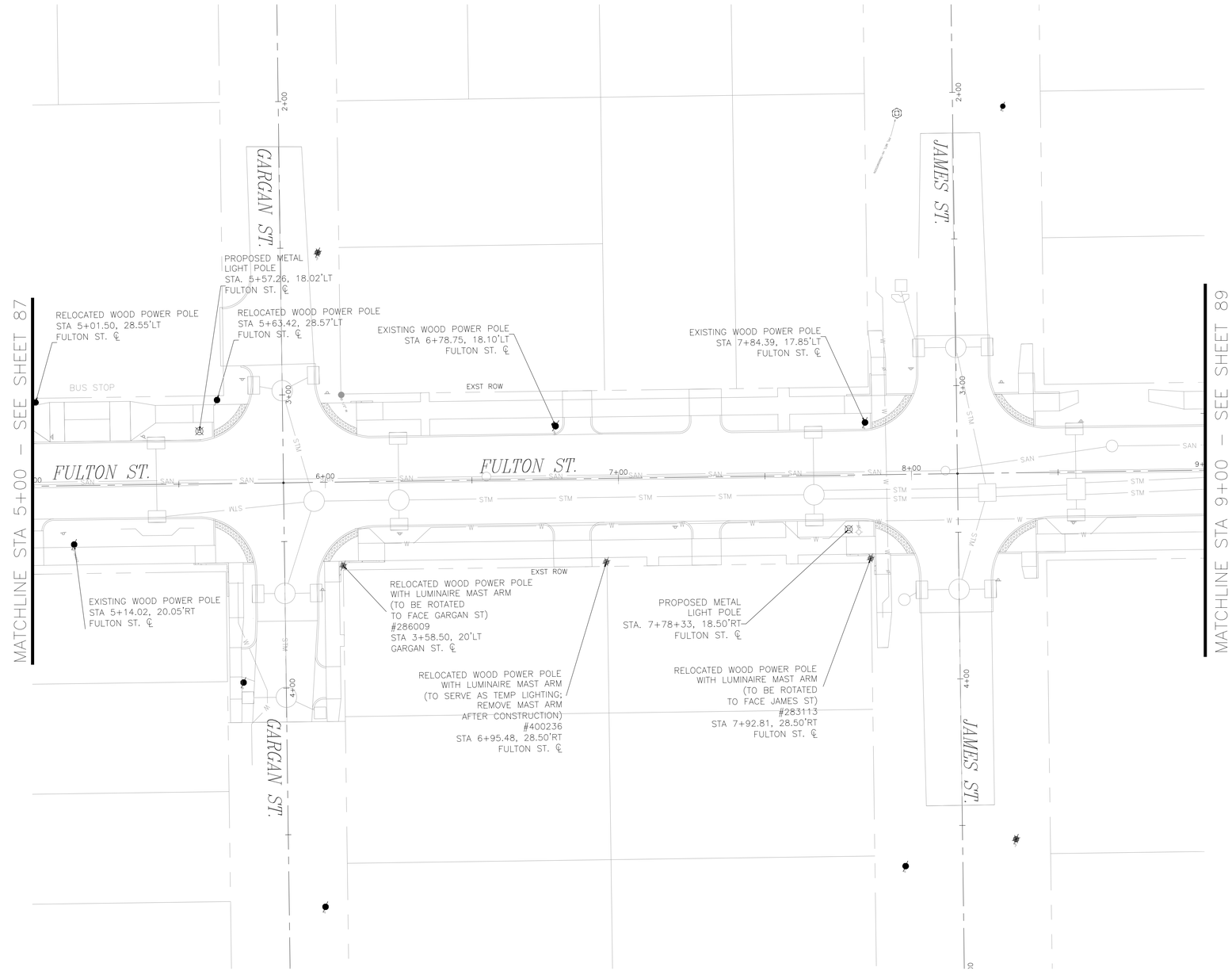
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
PROPOSED ELECTRICAL PLAN
PLAN SHEET 1
STA. 1+00 TO 5+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 87 OF 223	

FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg PLOT STYLE: COH.ctb PLOTTED: 2/13/2020 3:25 PM



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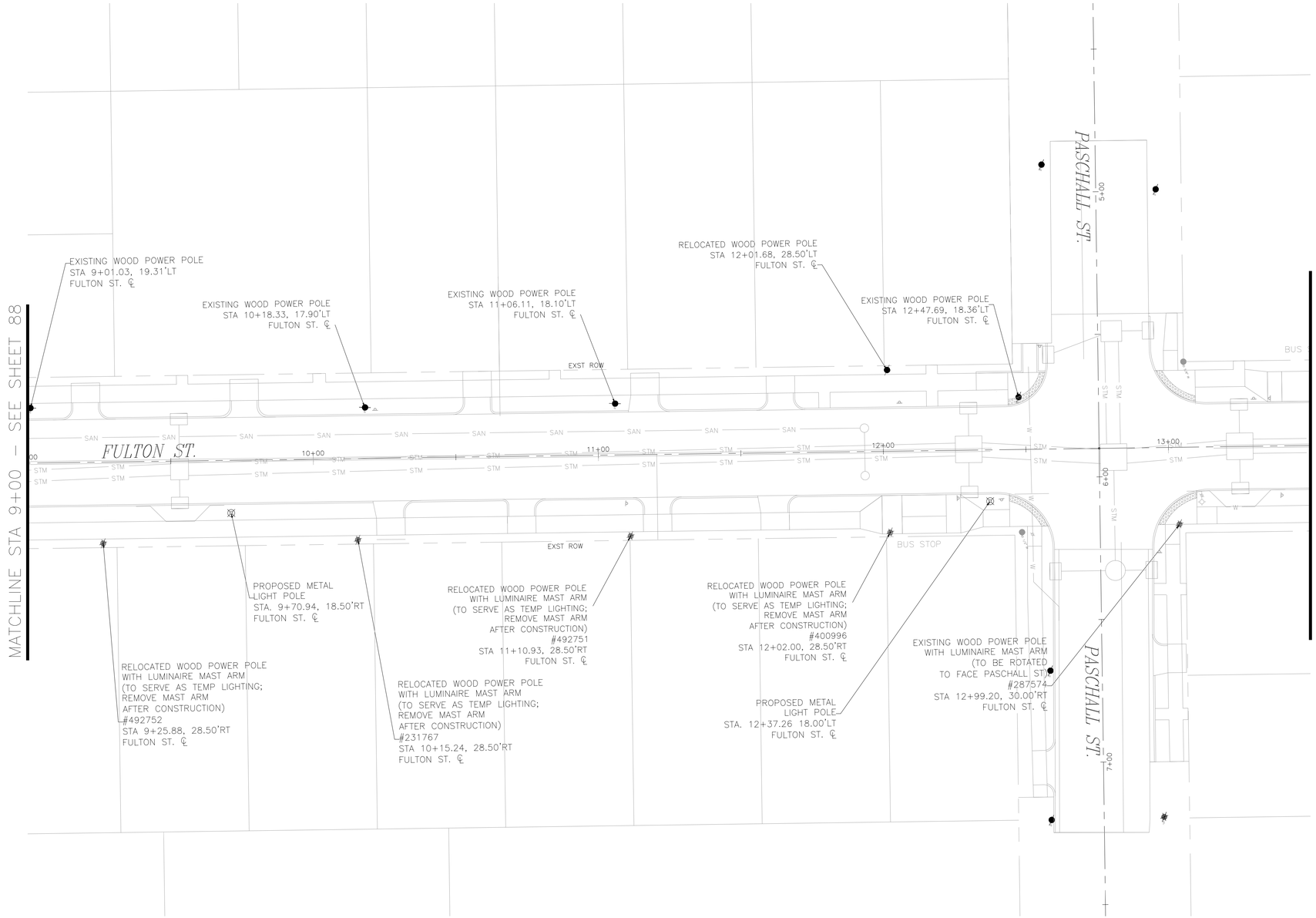
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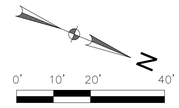
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
PROPOSED ELECTRICAL PLAN
PLAN SHEET 2
STA. 5+00 TO 9+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 88 OF 223	

FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg PLOT STYLE: COH.ctb PLOTTED: 2/13/2020 3:25 PM





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HOUSTON, TX 77024
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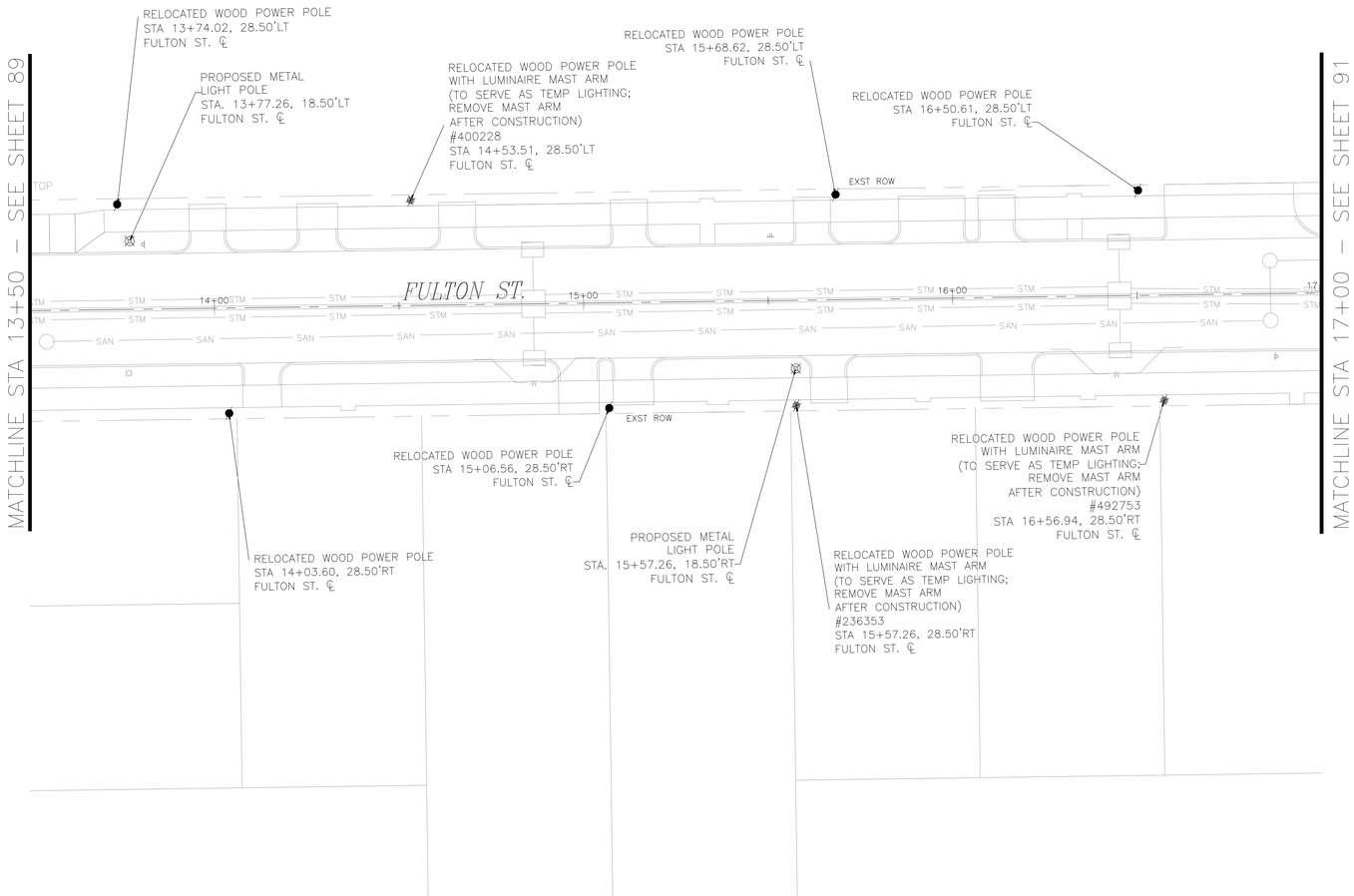
DATE: 10/1/2026

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HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
PROPOSED ELECTRICAL PLAN
PLAN SHEET 3
STA. 9+00 TO 13+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 89 OF 223	

PLOTTED: 2/13/2020 3:25 PM
PLOT STYLE: COH.ctb
FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.2 Electrical Drawings\COH CP Title Block.dwg



N

0' 10' 20' 40'

SCALE: 1"=20'

NO.	DATE	REVISION	APP.

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

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

MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND ARE NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

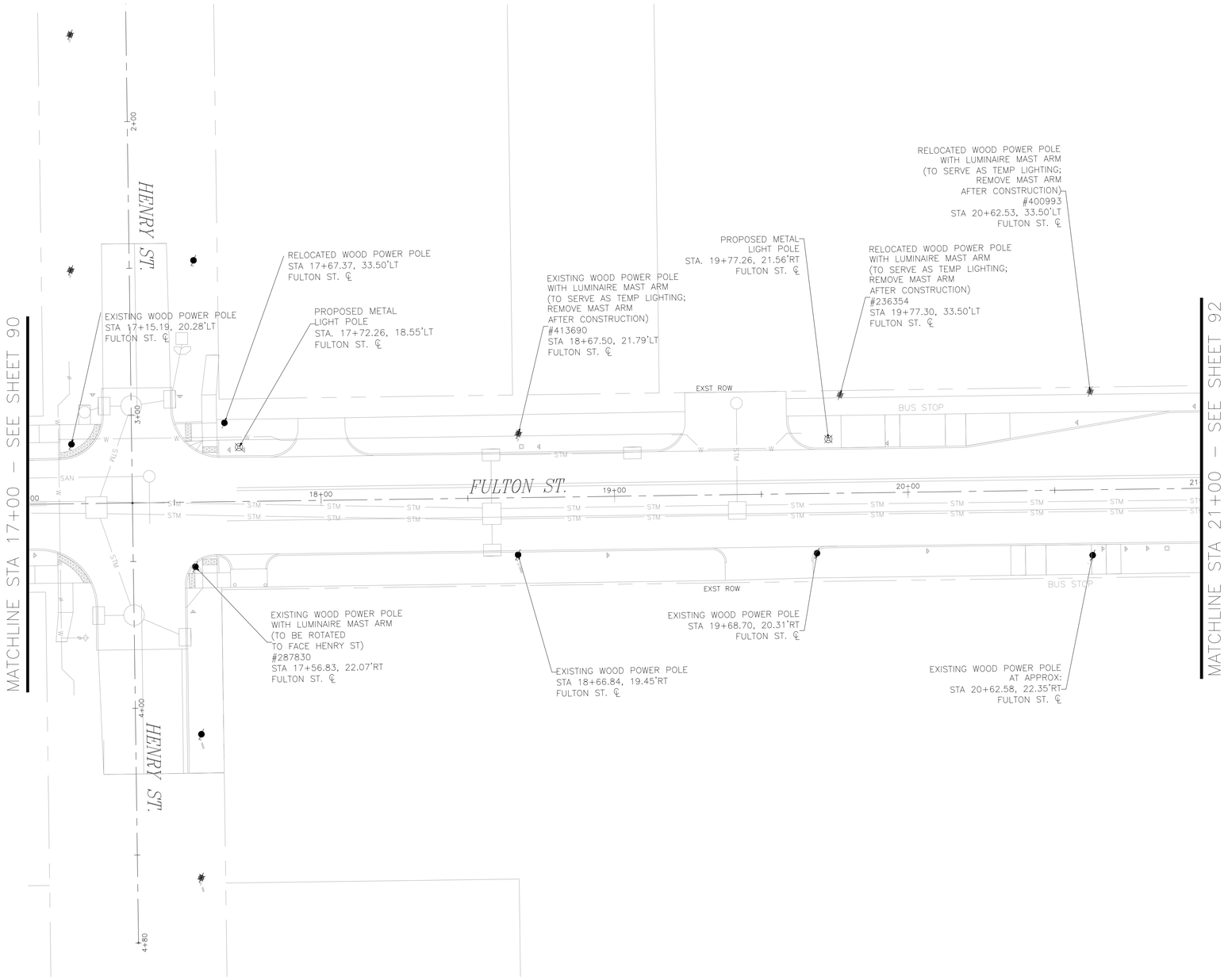
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
PROPOSED ELECTRICAL PLAN
PLAN SHEET 4
STA. 13+50 TO 17+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 90 OF 223	

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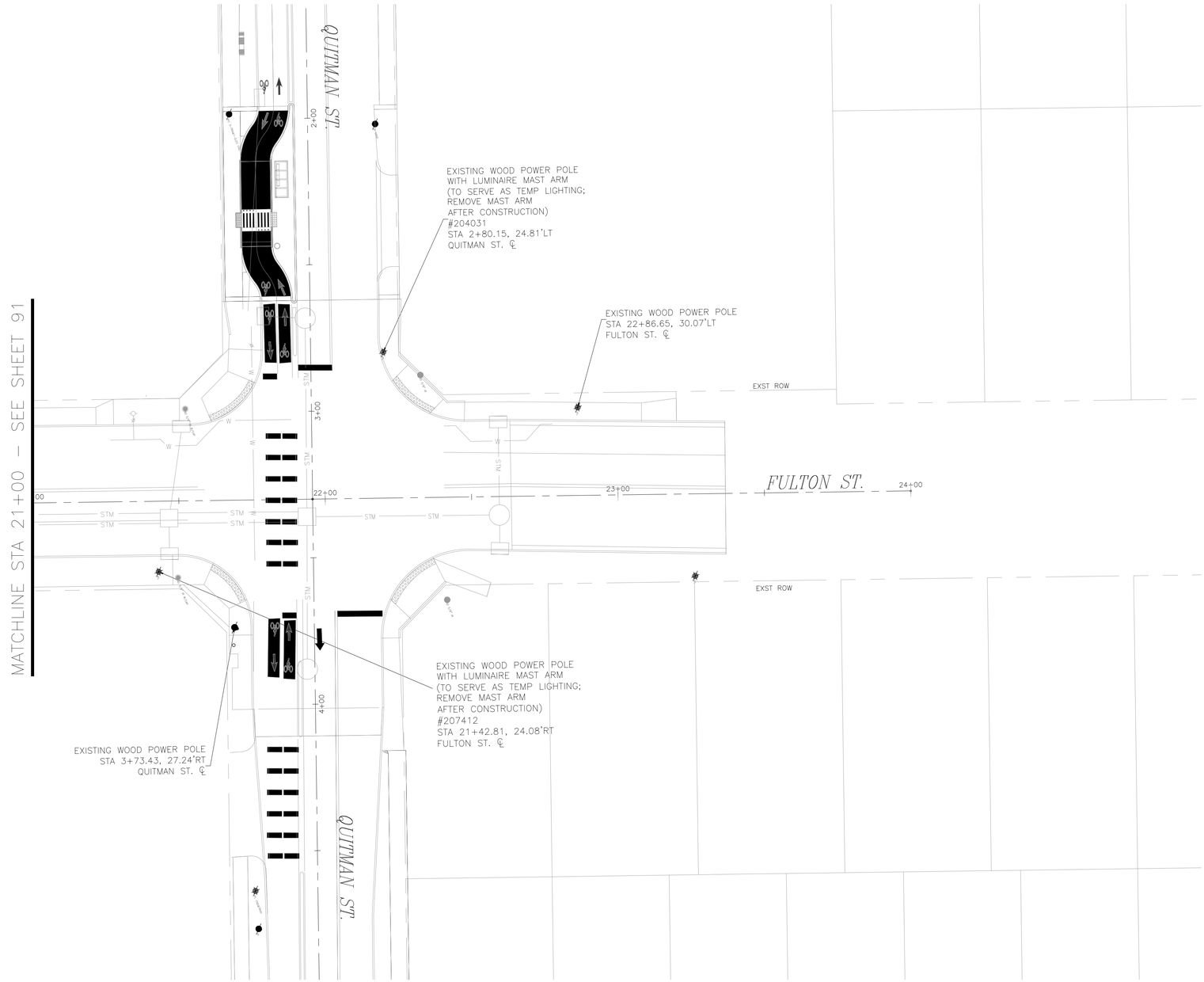
SURVEYED BY:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET
PROPOSED ELECTRICAL PLAN
PLAN SHEET 5
STA. 17+00 TO 21+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 91 OF 223	

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TEXAS PE No: 152599

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PROPOSED ELECTRICAL PLAN

PLAN SHEET 6

STA. 21+00 TO END

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
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TRAFFIC SIGNAL GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20. ONLY NEW CONDUIT AND CABLE SHALL BE INSTALLED.

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

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

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

24. A 5/8 IN. X 10 FT. GROUND ROD SHALL BE INSTALLED IN ALL PULL BOXES. A GROUND ROD CLAMP SHALL BE FURNISHED FOR GROUNDING THE GROUND WIRE.

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

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

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

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

29. THE HIGH VOLTAGE CABLES SHOULD BE SEPARATED FROM THE LOW VOLTAGE CABLES EXCEPT IN ENCLOSURES.

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

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

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

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

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

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

36. ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED.

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

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

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

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

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

PRIVATE UTILITY NOTES

CAUTION: SBC CABLES

1. THE LOCATION OF SBC FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

2. THE CONTRACTOR SHALL CALL 311 (PUBLIC UNDERGROUND UTILITY) OR 811 (PRIVATE UNDERGROUND UTILITY) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND UTILITY LINES FIELD LOCATED.

3. WHEN EXCAVATING WITHIN EIGHTEEN (18) INCHES OF THE INDICATED LOCATION OF SBC FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE SBC FACILITIES.

4. WHEN SBC FACILITIES ARE EXPOSED, THE CONTRACTOR SHALL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES, THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.

CAUTION: UNDERGROUND GAS FACILITIES

1. LOCATIONS OF CENTERPOINT ENERGY GAS MAIN LINES (TO INCLUDE UNIT GAS TRANSMISSION AND/OR INDUSTRIAL GAS SUPPLY CORPORATION WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT LONE STAR NOTIFICATION CENTER AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO MAIN AND SERVICE LINES FIELD LOCATED.

2. WHEN CENTERPOINT ENERGY GAS PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUESTS BEFORE EXCAVATION BEGINS.

3. WHEN EXCAVATING WITHIN EIGHTEEN (18) INCHES OF THE INDICATED LOCATION OF CENTERPOINT ENERGY GAS FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NONMECHANIZED EXCAVATION PROCEDURES.

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

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

WARNING: OVERHEAD ELECTRICAL FACILITIES

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) 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 ELECTRIC AT (713) 207-7777.

2. CONTRACTOR TO NOTIFY LONE STAR NOTIFICATION CENTER AT (713) 223-4567, 48 HOURS BEFORE STARTING WORK IN STREET RIGHT-OF-WAY OR EASEMENTS.

RESPONSIBILITIES:

1. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE FOLLOWING EQUIPMENT AND MATERIALS AS SPECIFIED IN THE PLANS: STEEL POLE ANCHOR BOLTS (WITH NUTS AND WASHERS), CONCRETE POLE FOUNDATIONS WITH REINFORCEMENT (WHERE SPECIFIED), TRAFFIC SIGNAL CONTROLLER CABINET(S) WITH CONTROLLER(S) AND ALL AUXILIARY EQUIPMENT, CONTROLLER CABINET CONCRETE FOUNDATION(S), CONCRETE PULL BOXES, ELECTRICAL CONDUIT, GROUND RODS AND CONNECTORS, BARE BOND WIRE AND ALL OTHER CONDUCTORS, POLES, MAST ARMS, TRAFFIC SIGNALS AND MOUNTING ASSEMBLIES, PEDESTRIAN SIGNALS AND MOUNTING ASSEMBLIES, PEDESTRIAN PUSH BUTTON STATIONS WITH SIGNS, LUMINARIES, PHOTOCELLS, ELECTRIC SERVICE PEDESTAL(S) AND CONCRETE FOUNDATION(S), VIDEO DETECTION SYSTEM EQUIPMENT, VEHICLE DETECTION LOOPS, AND ALL OTHER APPURTENANCES NECESSARY FOR THE OPERATION OF THE TRAFFIC SIGNAL INSTALLATION(S), EXCEPT AS MODIFIED IN THE PLANS. (MODIFY THE LIST OF MATERIALS AS APPROPRIATE)

2. THE CONTRACTOR SHALL DELIVER THE CONTROLLER CABINET(S) WITH THE CONTROLLER(S) AND AUXILIARY EQUIPMENT SPECIFIED IN THE PLANS TO THE CITY OF HOUSTON TRAFFIC OPERATIONS CENTER, 2200 PATTERSON STREET FOR TESTING, A MINIMUM OF THREE WEEKS PRIOR TO THE INSTALLATION(S) AT THE INTERSECTION(S). CONTACT THE TRAFFIC MAINTENANCE BRANCH AT LEAST 2 WORKING DAYS PRIOR TO THE DELIVERY OF THE CONTROLLER CABINET(S) TO THE CITY OF HOUSTON. THE CONTRACTOR SHALL PICK UP AND TRANSPORT THE CONTROLLER CABINET(S) FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS CENTER TO THE INTERSECTION(S) AFTER CITY OF HOUSTON STAFF HAS TESTED THE EQUIPMENT AND APPROVED IT FOR INSTALLATION.

3. THE CONTRACTOR SHALL INSTALL EACH TRAFFIC CONTROLLER CABINET ON ITS FOUNDATION AND ROUTE ALL OF THE CONDUCTORS INTO THE CONTROLLER CABINET. CONDUCTORS SHALL BE TERMINATED IN THE CABINET BY THE CONTRACTOR UNDER THE OBSERVATION OF AN APPROVED CITY OF HOUSTON REPRESENTATIVE.

4. THE CONTRACTOR SHALL CAREFULLY DISASSEMBLE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT THAT IS NOT TO REMAIN OR BE RELOCATED. ALL OF THE EQUIPMENT TO BE INSPECTED BY TRAFFIC OPERATIONS INSPECTOR TO IDENTIFY SALVAGE ITEMS. ITEMS TO BE SALVAGED SHALL BE RETURNED TO THE CITY OF HOUSTON TRAFFIC OPERATIONS CENTER, 2200 PATTERSON STREET OR UPPER BRAES, 1211 WEST HOUSTONCENTER BLVD., AND UNLOADED BY THE CONTRACTOR. CONTACT THE TRAFFIC MAINTENANCE BRANCH AT LEAST 2 WORKING DAYS PRIOR TO RETURNING THE EQUIPMENT. ALL NON-SALVAGE ITEMS TO BE DELIVERED BY THE CONTRACTOR TO AN APPROVED CITY OF HOUSTON RECYCLE FACILITY.

5. THE CONTRACTOR SHALL SALVAGE AND REPLANT ANY LANDSCAPING VEGETATION THAT MAY BE DAMAGED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM AN APPROVED CITY OF HOUSTON REPRESENTATIVE BEFORE ANY PLANTS ARE MOVED.

6. THE CONTRACTOR SHALL REPAIR/RESTORE ANY LANDSCAPE IRRIGATION COMPONENTS DAMAGED BY CONSTRUCTION ACTIVITY TO THEIR ORIGINAL CONDITION.

7. THE LOCATION OF PUBLIC AND PRIVATE UTILITIES IS SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES TO UTILITIES THAT ARE THE RESULT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND FACILITIES.

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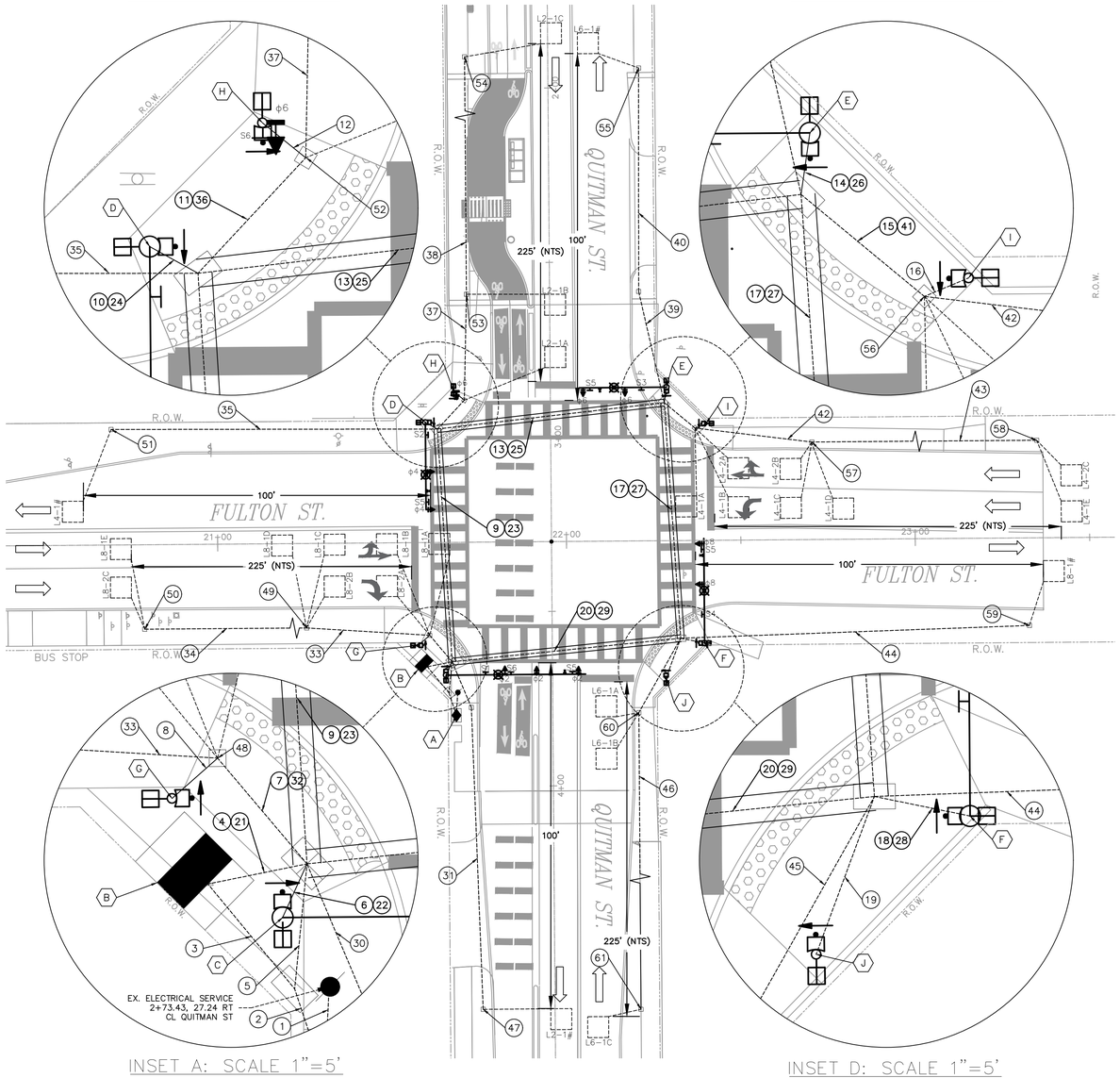
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC SIGNAL GENERAL NOTES AND RESPONSIBILITES

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DRAWING SCALE	
N.T.S	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 93 OF 223	

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PLOT STYLE: COH.ctb
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PROPOSED TRAFFIC SIGNAL PHASING			
ϕ1	ϕ2 ϕ2 PED, ϕ2B ϕ2	ϕ3	ϕ4 ϕ4 PED, ϕ4
ϕ5	ϕ6 ϕ6B ϕ6, ϕ6 PED	ϕ7	ϕ8 ϕ8, ϕ8 PED

0' 10' 20' 40'
SCALE: 1"=20'

POSTED SPEED LIMITS:
FULTON ST: 30 MPH
QUITMAN ST: 30 MPH

R10-12
24X30



S5

R10-10b
24X30



S6

S1=STREET NAME "FULTON ST", BLOCK NUMBERS 2300 AND 2200
S2=STREET NAME "QUITMAN ST", BLOCK NUMBERS 1000 AND 1100
S3=STREET NAME "FULTON ST", BLOCK NUMBERS 2200 AND 2300
S4=STREET NAME "QUITMAN ST", BLOCK NUMBERS 1100 AND 1000

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTAL POLE
- POLE W/MAST ARM
- TRAFFIC BICYCLE HEAD HEAD W/BACK PLATE
- VEHICLE SIGNAL HEAD W/ BACK PLATE
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PULL BOX – TYPE A
- PULL BOX – TYPE B
- PULL BOX – TYPE C
- PRE-FORMED LOOP DETECTOR
- CONDUIT TRENCH
- CONDUIT BORE
- VIDEO DETECTION CAMERA
- PRE-EMPT SENSOR
- LUMINAIRE
- CONTROLLER CABINET
- POLE IDENTIFICATION
- METERED POWER PEDESTAL
- PROPOSED RUN NUMBER
- MAST ARM SIGN

NO.	DATE	REVISION	APP.

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MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

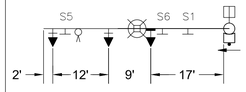
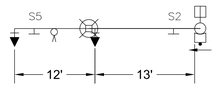
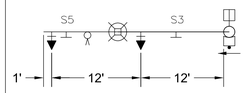
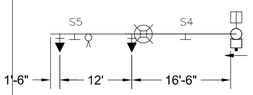
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON ST. AT QUITMAN ST.
PROPOSED TRAFFIC SIGNAL PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20' / 1"=5' (INSET)	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 94 OF 223	

FILE PATH: P:\Projects\0106 - City Of Houston\15010 - Fulton Street Lighting\4.0 CAD\4.5 Signal Drawings\02 Proposed Traffic Signal Plan FULTON ST AT QUITMAN ST.dwg PLOTTED: 10/2/2026 10:36 AM

PROPOSED TRAFFIC SIGNAL POLE SCHEDULE

POLE NUMBER	POLE TYPE	MAST ARM		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
(C) 	1	40'	15'	3 – ASTROBRAC' 1 – SIDE OF POLE	2–H3 1–B3 1–CDP	95 WATT LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3E(L)	SIGNS: S1 – STREET NAME S5 – R10–12 S6–R10–10b	AT APPROX: POLE C: 3+68.04, 30.53' RT QUITMAN ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(D) 	1	25'	15'	2 – ASTROBRAC' 1 – SIDE OF POLE	2–H3 1–CDP	95 WATT LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3E(L)	SIGNS: S2 – STREET NAME S5 – R10–12	AT APPROX: POLE D: 21+59.81, 34.44' LT FULTON ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(E) 	1	25'	15'	2 – ASTROBRAC' 1 – SIDE OF POLE	2–H3 1–CDP	95 WATT LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3E(L)	SIGNS: S3 – STREET NAME S5 – R10–12	AT APPROX: POLE E: 2+86.02, 33.29' LT QUITMAN ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(F) 	1	30'	15'	2 – ASTROBRAC' 1 – SIDE OF POLE	2–H3 1–CDP	95 WATT LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3E(L)	SIGNS: S4 – STREET NAME S5 – R10–12	AT APPROX: POLE F: 22+39.39, 29.43' RT FULTON ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(G) (I) (J) 	PED POLE 15'	–	–	1– SIDE OF POLE	1–CDP	–	POLARA NAVIGATOR R10–3E(R)	–	AT APPROX: POLE G: 21+57.30, 29.45' RT POLE I: 22+40.28, 33.50' LT POLE J: 22+28.28, 39.26' RT FULTON ST. CONST ℄	01554–08 02465–02 02582–01 02893–01
(H)  S5	PED POLE 15'	–	–	2– SIDE OF POLE	1–B3 1–CDP	–	POLARA NAVIGATOR R10–3E(R)	S6–R10–10b	AT APPROX: POLE H: 2+86.75, 27.74' RT QUITMAN ST. CONST ℄	01554–08 02465–02 02582–01 02893–01

NOTES:
1. ALL SIGNAL HEADS WILL BE 12" WITH LOUVERED BACK PLATES AND YELLOW HOUSING.

NO.	DATE	REVISION	APP.

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FB NUMBER: P–6357

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON ST. AT QUITMAN ST.
TRAFFIC SIGNAL SCHEDULE
(SHEET 1 OF 2)

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 95 OF 223

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TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A) ◆	METERED PEDESTAL SERVICE UL TYPE 3R	METERED PEDESTAL SERVICE WITH ONE 30 AMP AND ONE 60 AMP BREAKER AND PHOTOCELL	–	PROVIDE METER SOCKET WINDOW 4'H X 6'W	AT APPROX: 3+79.46, 27.62' RT (CENTER OF SERVICE) QUITMAN ST. CONST ℄	02893-02
(B) ◧	TYPE 340 ITS	2070L WITH GPS SERIAL COMMUNICATIONS MODULE	–	STANDARD SPECIFICATION 16730,16731 UNINTERRUPTIBLE POWER SUPPLY – STANDARD SPECIFICATION 16732 FIELD HARDENED ETHERNET SWITCH (SIX COPPER PORTS ONLY) – STANDARD SPECIFICATION 16733 GPS SERIAL COMMUNICATION MODULE – STANDARD SPECIFICATION 16785	AT APPROX: 21+58.89, 34.65'RT (CENTER OF CABINET) QUITMAN ST. CONST ℄	16730-03

STOP LINE AND LOOP DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION OF APPROACH EDGE FULTON ST	OFFSET
NORTHBOUND		
STOPLINE @ GUTTER	STA. 21+56.52	19.27' RT
STOPLINE @ CENTERLINE	STA. 21+56.52	4.70' RT
NORTHBOUND (THRU LANE)		
PHASE 8 CALL LOOP		
L8-2A SENSOR (6'X6')	STA. 21+51.52	CENTERED IN LANE
L8-2B SENSOR (6'X6')	STA. 21+36.50	CENTERED IN LANE
PHASE 8 PULSE LOOP		
L8-1E SENSOR (6'X6')	STA.19+36.52	CENTERED IN LANE
L8-2C SENSOR (6'X6')	STA.19+36.52	CENTERED IN LANE
PHASE 8 DOWNSTREAM LOOPS		
L8-1# (6'X6')	STA. 23+36.68	CENTERED IN LANE
NORTHBOUND (LEFT TURN/THRU LANE)		
PHASE 8 CALL LOOPS		
L8-1A (6'X6')	STA. 21+66.54	CENTERED IN LANE
L8-1B (6'X6')	STA. 21+51.52	CENTERED IN LANE
L8-1C (6'X6')	STA. 21+36.50	CENTERED IN LANE
L8-1D (6'X6')	STA. 21+21.48	CENTERED IN LANE
SOUTHBOUND		
STOPLINE @ GUTTER	STA. 22+41.41	26.73' LT
STOPLINE @ CENTERLINE	STA. 22+41.41	2.87' LT
SOUTHBOUND (THRU LANE)		
PHASE 4 CALL LOOP		
L4-2A SENSOR (6'X6')	STA. 22+49.41	CENTERED IN LANE
L4-2B SENSOR (6'X6')	STA. 22+64.42	CENTERED IN LANE
PHASE 4 PULSE LOOP		
L4-1E SENSOR (6'X6')	STA. 24+61.41	CENTERED IN LANE
L4-2C SENSOR (6'X6')	STA. 24+61.41	CENTERED IN LANE
PHASE 4 DOWNSTREAM LOOPS		
L4-1# (6'X6')	STA. 20+55.53	CENTERED IN LANE
SOUTHBOUND (LEFT TURN/THRU LANE)		
PHASE 4 CALL LOOPS		
L4-1A (6'X6')	STA. 22+34.40	CENTERED IN LANE
L4-1B (6'X6')	STA. 22+49.41	CENTERED IN LANE
L4-1C (6'X6')	STA. 22+64.42	CENTERED IN LANE
L4-1D (6'X6')	STA. 22+79.43	CENTERED IN LANE

STOP LINE AND LOOP DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION OF APPROACH EDGE QUITMAN ST	OFFSET
EASTBOUND		
STOPLINE @ GUTTER	STA. 2+85.21	4.33' RT
STOPLINE @ CENTERLINE	STA. 2+85.21	7.28' LT
EASTBOUND (THRU LANE)		
PHASE 2 PRESENCE LOOP		
L2-1A SENSOR (6'X6')	STA. 2+80.13	CENTERED IN LANE
L2-2B SENSOR (6'X6')	STA. 2+65.13	CENTERED IN LANE
PHASE 2 PULSE LOOP		
L2-1C SENSOR (6'X6')	STA. 0+64.12	CENTERED IN LANE
PHASE 6 DOWNSTREAM LOOPS		
L2-1# (6'X6')	STA. 4+63.86	CENTERED IN LANE
WESTBOUND		
STOPLINE @ GUTTER	STA. 3+69.25	23.35' RT
STOPLINE @ CENTERLINE	STA. 3+69.25	7.92' LT
WESTBOUND (THRU LANE)		
PHASE 6 PRESENCE LOOP		
L6-1A SENSOR (6'X6')	STA. 3+74.18	CENTERED IN LANE
L6-2B SENSOR (6'X6')	STA. 3+89.32	CENTERED IN LANE
PHASE 6 PULSE LOOP		
L6-1C SENSOR (6'X6')	STA. 5+90.26	CENTERED IN LANE
PHASE 6 DOWNSTREAM LOOPS		
L6-1# (6'X6')	STA. 1+90.26	CENTERED IN LANE

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SUITE 650
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P: 832-930-7670
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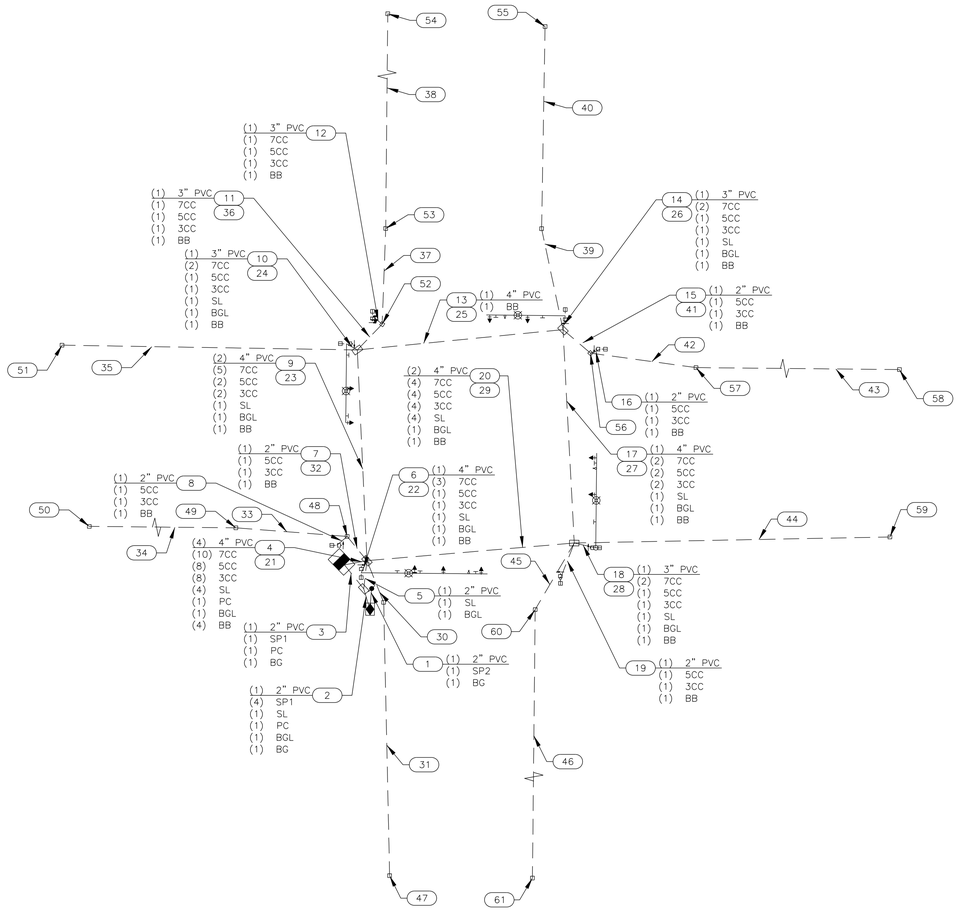
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FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON ST. AT QUITMAN ST.
TRAFFIC SIGNAL CONTROLLER
(SHEET 2 OF 2)

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
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DERRICK HOLMES, E.I.T.	
SHEET NO. 96 OF 223	

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HIGH VOLTAGE CIRCUIT

(X)Y"C =NUMBER, SIZE, AND TYPE OF CONDUIT
(X) =NUMBER OF CABLES (SIGNAL)
CC =#14 AWG SOLID CONDUCTOR CABLE
BB =BARE BOND #8 AWG SOLID
BG =BARE GROUND #8 AWG SOLID
BGL =BARE GROUND LIGHTING #12 AWG THHN
SP =SIGNAL POWER (SEE NOTES)
SL =STREET LIGHTING (2–#10 AWG THHN)
PC =PHOTO CELL (2–#10 AWG THHN)

NOTES:
SP1 SHALL CONSIST OF: 6–#4 AWG XHHW
2 – WHITE
1 – BLACK
1 – RED
2 – GREEN

SP2 SHALL CONSIST OF: 3–#4 AWG XHHW WIRE WITH GROUND

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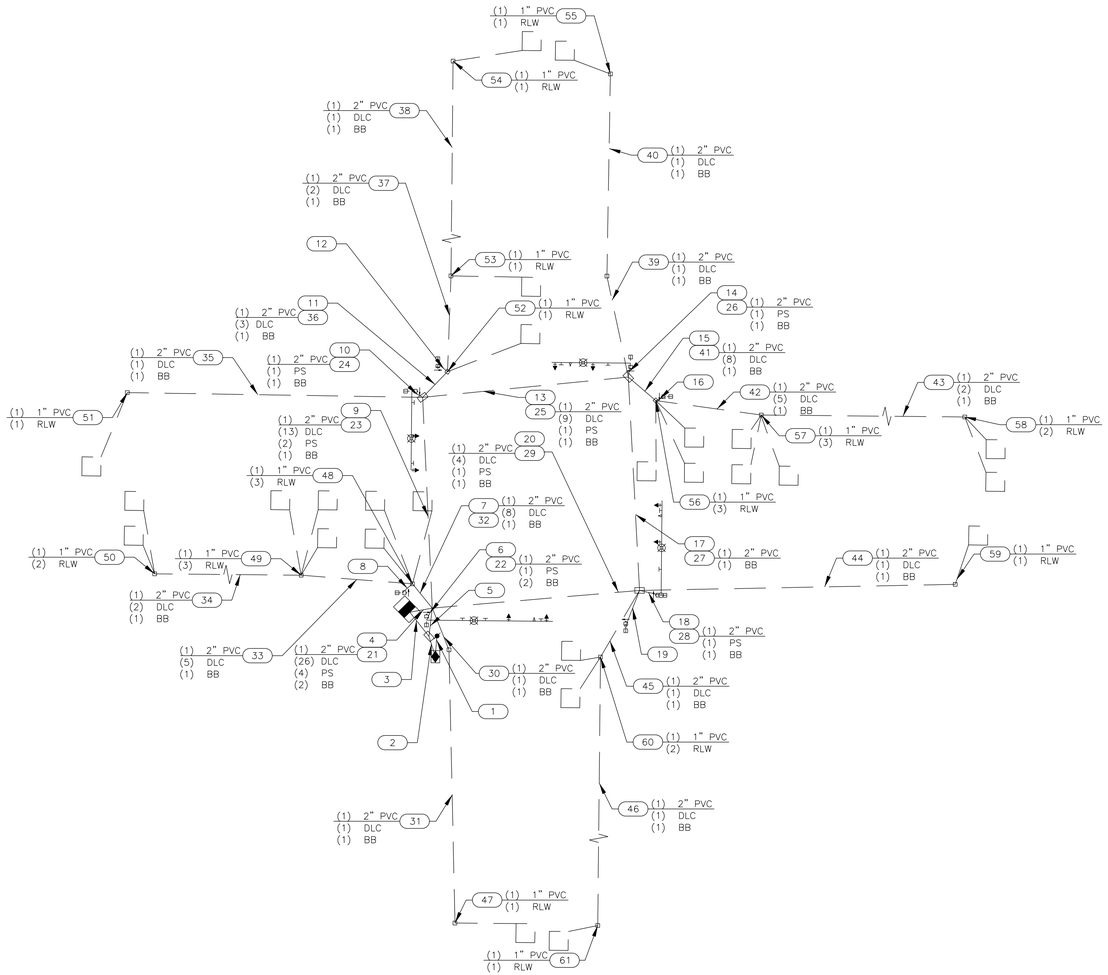
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FULTON ST. AT QUITMAN ST.
CABLE SCHEMATIC
(SHEET 1 OF 2)

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LOW VOLTAGE CIRCUIT

(X)Y"C =NUMBER, SIZE, AND TYPE OF CONDUIT
DLC =DETECTOR LEAD-IN CABLE, #14 AWG (I.M.S.A. 50-2-1984)
PS =PRE-EMPTION SENSOR, OPTICOM, #20 3CC SHIELDED CABLE (3M MODEL 138)
RLW =ROADWAY LOOP DETECTOR WIRE, #14 AWG (I.M.S.A. 50-5-1985)
BB =BARE BOND #8 AWG SOLID

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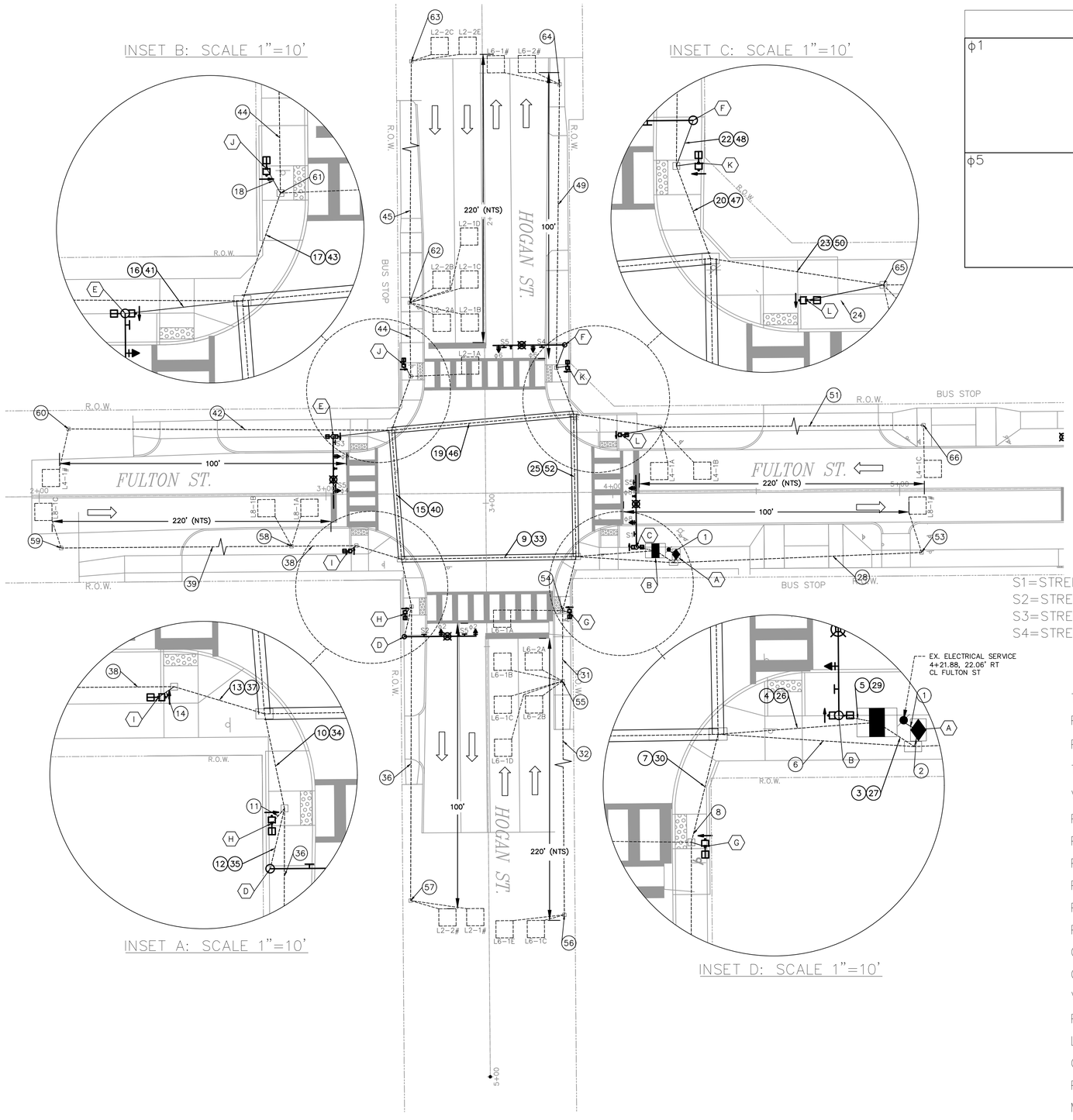
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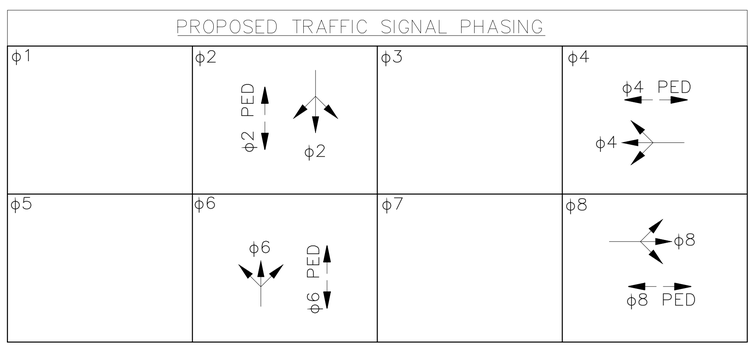
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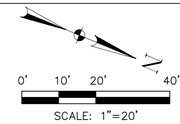
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MBROH ENGINEERING
TBPE FIRM NO. 9439

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 10/1/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

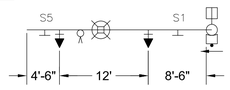
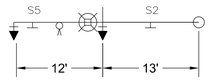
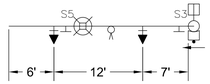
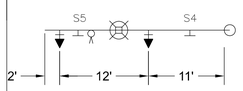
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON ST. AT HOGAN ST.
PROPOSED TRAFFIC SIGNAL PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N-000818-0001-4	
DRAWING SCALE	
1"=20' / 1"=10' (INSET)	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 99 OF 223	

PLOTTED: 10/2/2026 10:39 AM
FILE PATH: P:\Projects\0106 - City Of Houston\15010 - Fulton Street Lighting\4.0 CAD\4.5 Signal Drawings\07 Proposed Traffic Signal Plan\FULTON ST AT HOGAN ST.dwg

PROPOSED TRAFFIC SIGNAL POLE SCHEDULE

POLE NUMBER	POLE TYPE	MAST ARM		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
(C) 	1	25'	15'	2 – ASTROBRAC' 1 – SIDE OF POLE	2–H3 1–CDP	95 WATT LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3E(L)	SIGNS: S1 – STREET NAME S5 – R10–12	AT APPROX: POLE C: 4+08.08, 19.22' RT FULTON ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(D) 	1	25'	15'	2 – ASTROBRAC'	2–H3	95 WATT LED COBRA HEAD LUMINAIRE	–	SIGNS: S2 – STREET NAME S5 – R10–12	AT APPROX: POLE D: 3+46.32, 28.75' RT HOGAN ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(E) 	1	25'	15'	2 – ASTROBRAC' 1 – SIDE OF POLE	2–H3 1–CDP	95 WATT LED COBRA HEAD LUMINAIRE	POLARA NAVIGATOR R10–3E(L)	SIGNS: S3 – STREET NAME S5 – R10–12	AT APPROX: POLE E: 3+02.64, 20.16' LT FULTON ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(F) 	1	25'	15'	2 – ASTROBRAC'	2–H3	95 WATT LED COBRA HEAD LUMINAIRE	–	SIGNS: S4 – STREET NAME S5 – R10–12	AT APPROX: POLE F: 2+45.01, 27.97' LT HOGAN ST. CONST ℄	01554–08 01554–11 16742–01 02465–01 02582–01 02582–02 02582–03 02893–01
(G) (I) (J) (L) 	PED POLE 15'	–	–	1– SIDE OF POLE	1–CDP	–	POLARA NAVIGATOR R10–3E(R)	–	AT APPROX: POLE G: 3+38.42, 28.89' LT HOGAN ST. CONST ℄ POLE I: 3+07.72, 19.78' RT FULTON ST. CONST ℄ POLE J: 2+51.22, 28.22' RT HOGAN ST. CONST ℄ POLE L: 4+03.22, 19.99' LT FULTON ST. CONST ℄	01554–08 02465–01 02582–01 02893–01
(H) (K) 	PED POLE 15'	–	–	1– SIDE OF POLE	1–CDP	–	POLARA NAVIGATOR R10–3E(L)	–	AT APPROX: POLE H: 3+38.4, 28.40' RT HOGAN ST. CONST ℄ POLE K: 2+52.44, 28.87' LT FULTON ST. CONST ℄	01554–08 02465–01 02582–01 02893–01

NOTES:
1. ALL SIGNAL HEADS WILL BE 12" WITH LOUVERED BACK PLATES AND YELLOW HOUSING.

NO.	DATE	REVISION	APP.

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HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

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TEXAS PE No: 152599

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON STREET AT HOGAN STREET TRAFFIC SIGNAL POLE SCHEDULE (SHEET 1 OF 2)

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 100 OF 223	

PLOTTED: 2/13/2020 3:25 PM
PLOT STYLE: COH.ctb
FILE PATH: P:\Projects\0106 – City Of Houston\15010 – Fulton Street Lighting\4.0 CAD\4.5 Signal Drawings\COH CP Title Block.dwg

TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A) ◆	METERED PEDESTAL SERVICE UL TYPE 3R	METERED PEDESTAL SERVICE WITH ONE 30 AMP AND ONE 60 AMP BREAKER AND PHOTOCELL	–	PROVIDE METER SOCKET WINDOW 4'H X 6'W	AT APPROX: 21+58.89, 34.65' RT (CENTER OF SERVICE) FULTON ST. CONST ℄	02893–02
(B) ◧	TYPE 340 ITS	2070L WITH GPS SERIAL COMMUNICATIONS MODULE	–	STANDARD SPECIFICATION 16730,16731 UNINTERRUPTIBLE POWER SUPPLY – STANDARD SPECIFICATION 16732 FIELD HARDENED ETHERNET SWITCH (SIX COPPER PORTS ONLY) – STANDARD SPECIFICATION 16733 GPS SERIAL COMMUNICATION MODULE – STANDARD SPECIFICATION 16785	AT APPROX: 3+79.46, 27.62' RT (CENTER OF CABINET) QUITMAN ST. CONST ℄	16730–03

STOP LINE AND LOOP DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION OF APPROACH EDGE FULTON ST	OFFSET
NORTHBOUND		
STOPLINE @ GUTTER	STA. 3+02.69	9.84' RT
STOPLINE @ CENTERLINE	STA. 3+02.69	0.48' LT
NORTHBOUND (THRU LANE)		
PHASE 8 CALL LOOP		
L8–1A SENSOR (6'X6')	STA. 2+97.19	CENTERED IN LANE
L8–1B SENSOR (6'X6')	STA. 2+83.19	CENTERED IN LANE
PHASE 8 PULSE LOOP		
L8–1C SENSOR (6'X6')	STA. 0+82.64	CENTERED IN LANE
PHASE 8 DOWNSTREAM LOOPS		
L8–1# (6'X6')	STA. 5+09.21	CENTERED IN LANE
SOUTHBOUND		
STOPLINE @ GUTTER	STA. 4+08.25	14.49' LT
STOPLINE @ CENTERLINE	STA. 4+08.25	0.51' RT
SOUTHBOUND (THRU LANE)		
PHASE 4 CALL LOOP		
L4–1A SENSOR (6'X6')	STA. 4+13.26	CENTERED IN LANE
L4–2B SENSOR (6'X6')	STS. 4+28.26	CENTERED IN LANE
PHASE 8 PULSE LOOP		
L4–1C SENSOR (6'X6')	STA. 6+28.25	CENTERED IN LANE
PHASE 4 DOWNSTREAM LOOPS		
L4–1# (6'X6')	STA. 2+01.16	CENTERED IN LANE

STOP LINE AND LOOP DETECTOR LOCATIONS

ITEM BY DIRECTION	STATION OF APPROACH EDGE HOGAN ST	OFFSET
EASTBOUND		
STOPLINE @ GUTTER	STA. 2+44.96	19.51' RT
STOPLINE @ CENTERLINE	STA. 2+44.96	0.50' LT
EASTBOUND (THRU LANE)		
PHASE 2 CALL LOOP		
L2–2A SENSOR (6'X6')	STA. 2+39.96	CENTERED IN LANE
L2–2B SENSOR (6'X6')	STA. 2+24.96	CENTERED IN LANE
PHASE 2 PULSE LOOPS		
L2–1E (6'X6')	STA. 0+24.96	CENTERED IN LANE
L2–2C (6'X6')	STA. 0+24.96	CENTERED IN LANE
PHASE 2 DOWNSTREAM LOOPS		
L2–1# (6'X6')	STA. 4+41.30	CENTERED IN LANE
L2–2# (6'X6')	STA. 4+41.30	CENTERED IN LANE
EASTBOUND (LEFT TURN/THRU LANE)		
PHASE 2 PRESENCE LOOPS		
L2–1A (6'X6')	STA. 2+54.96	CENTERED IN LANE
L2–1B (6'X6')	STA. 2+39.96	CENTERED IN LANE
L2–1C (6'X6')	STA. 2+24.96	CENTERED IN LANE
L2–1D (6'X6')	STA. 2+09.96	CENTERED IN LANE
WESTBOUND		
STOPLINE @ GUTTER	STA. 3+46.30	21.69' LT
STOPLINE @ CENTERLINE	STA. 3+46.30	0.49' RT
WESTBOUND (THRU LANE)		
PHASE 6 CALL LOOP		
L6–2A SENSOR (6'X6')	STA. 3+52.31	CENTERED IN LANE
L6–2B SENSOR (6'X6')	STA. 3+67.30	CENTERED IN LANE
PHASE 6 PULSE LOOPS		
L6–1E (6'X6')	STA. 5+66.30	CENTERED IN LANE
L6–2C (6'X6')	STA. 5+66.30	CENTERED IN LANE
PHASE 6 DOWNSTREAM LOOPS		
L6–1# (6'X6')	STA. 1+43.95	CENTERED IN LANE
L6–2# (6'X6')	STA. 1+43.95	CENTERED IN LANE
WESTBOUND (LEFT TURN/THRU LANE)		
PHASE 6 PRESENCE LOOPS		
L6–1A (6'X6')	STA. 3+37.31	CENTERED IN LANE
L6–1B (6'X6')	STA. 3+52.31	CENTERED IN LANE
L6–1C (6'X6')	STA. 3+67.30	CENTERED IN LANE
L6–1D (6'X6')	STA. 3+82.30	CENTERED IN LANE

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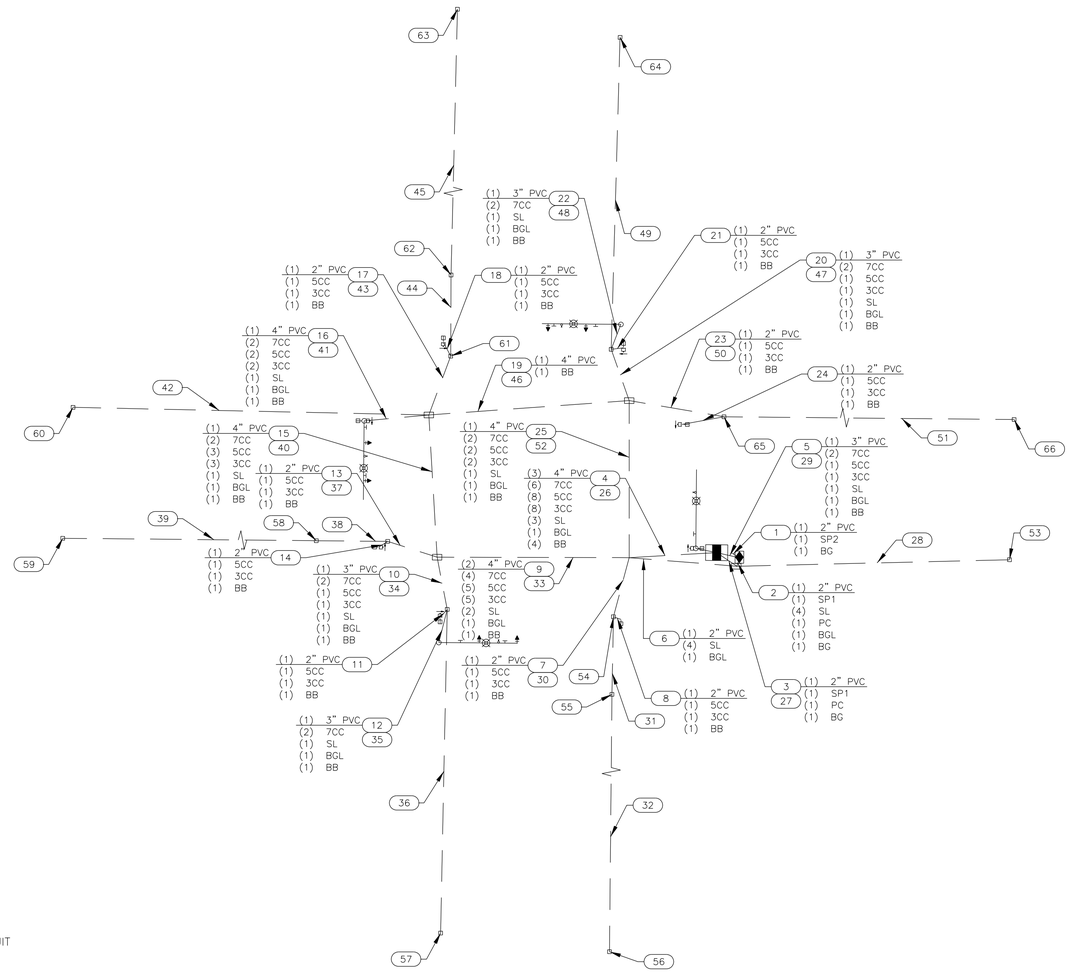
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FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

FULTON ST. AT HOGAN ST.
TRAFFIC SIGNAL CONTROLLER
(SHEET 2 OF 2)

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 101 OF 223	

PLOTTED: 2/13/2020 3:25 PM
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HIGH VOLTAGE CIRCUIT

(X)Y"C =NUMBER, SIZE, AND TYPE OF CONDUIT
(X) =NUMBER OF CABLES (SIGNAL)
CC =#14 AWG SOLID CONDUCTOR CABLE
BB =BARE BOND #8 AWG SOLID
BG =BARE GROUND #8 AWG SOLID
BGL =BARE GROUND LIGHTING #12 AWG THHN
SP =SIGNAL POWER (SEE NOTES)
SL =STREET LIGHTING (2-#10 AWG THHN)
PC =PHOTO CELL (2-#10 AWG THHN)

NOTES:
SP1 SHALL CONSIST OF: 6-#4 AWG XHHW
2 - WHITE
1 - BLACK
1 - RED
2 - GREEN

SP2 SHALL CONSIST OF: 3-#4 AWG XHHW WIRE WITH GROUND

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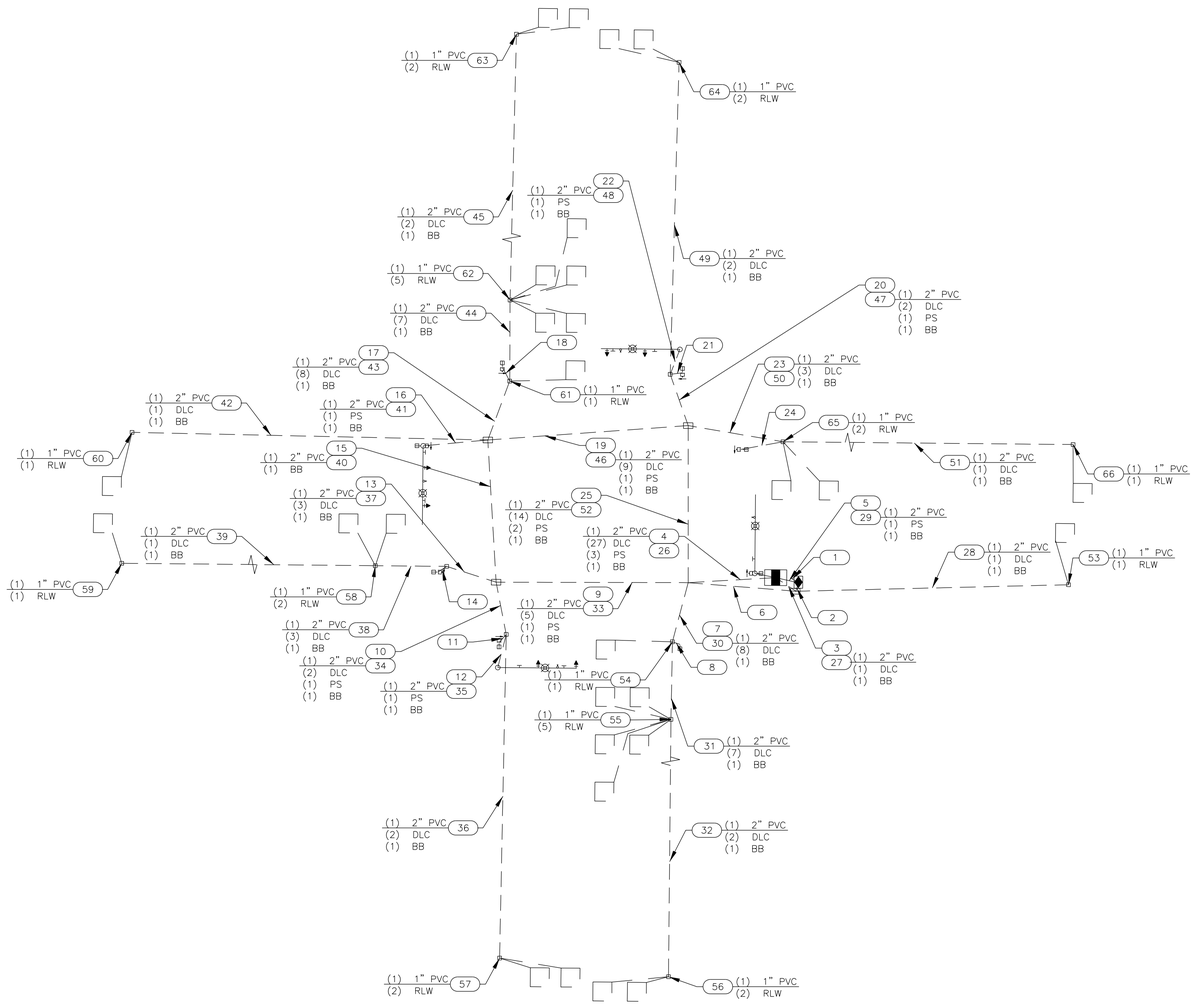
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FULTON ST. AT HOGAN ST.

CABLE SCHEMATIC
(SHEET 1 OF 2)

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DRAWING SCALE	
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DERRICK HOLMES, E.I.T.	
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LOW VOLTAGE CIRCUIT

(X)Y"C =NUMBER, SIZE, AND TYPE OF CONDUIT
DLC =DETECTOR LEAD-IN CABLE, #14 AWG (I.M.S.A. 50-2-1984)
PS =PRE-EMPTION SENSOR, OPTICOM, #20 3CC SHIELDED CABLE (3M MODEL 138)
RLW =ROADWAY LOOP DETECTOR WIRE, #14 AWG (I.M.S.A. 50-5-1985)
BB =BARE BOND #8 AWG SOLID

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CABLE SCHEMATIC
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DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0D2F2CC55AF6

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
STOP	R1-1	36x36
YIELD	R1-2	36x36x36
ALL WAY PLAQUE	R1-3P	18x6
YIELD HERE TO PEDISTRIANS	R1-5a	36x48
EXCEPT RIGHT TURN (PLAQUE)	R1-10P(1)	24x18
EXCEPT BUSES (PLAQUE)	R1-10P(2)	24x18
SPEED LIMIT	R2-1	30x36
MINIMUM SPEED LIMIT (PLAQUE)	R2-4P	24x30
NO RIGHT TURNS	R3-1	36x36
NO LEFT TURNS	R3-2	36x36
NO U-TURNS	R3-4	36x36
LEFT/RIGHT TURN ONLY	R3-5	30x36
THRU ONLY	R3-5a	30x36
LEFT TURN/THRU	R3-6	30x36
LEFT/RIGHT LANE MUST TURN LEFT/RIGHT	R3-7	36x36
ADVANCE INTERSECTION LANE CONTROL (VARIES)	R3-8	VARIESx30
TWO-WAY LEFT TURN ONLY (OVERHEAD)	R3-9a	30x36
TWO-WAY LEFT TURN LANE (POST MOUNTED)	R3-9b	24x36
BEGIN	R3-9cP	30x12
END	R3-9dP	30x12
REVERSIBLE LANE CONTROL (SYMBOL)	R3-9e	108x48
REVERSIBLE LANE CONTROL (POST MOUNTED)	R3-9f	36x54
ADVANCE REVERSIBLE LANE CONTROL TRANSITION	R3-9g,9h	108x36
END REVERSIBLE LANE	R3-9i	108x48
BIKE LANE	R3-17	24x18
SLOWER TRAFFIC KEEP RIGHT	R4-3	24x30
BEGIN RIGHT TURN LANE YIELD TO BIKES	R4-4	36x30
KEEP RIGHT	R4-7	24x30
KEEP LEFT	R4-8	24x30
DO NOT DRIVE ON SHOULDER	R4-17	24x30
DO NOT PASS ON SHOULDER	R4-18	24x30
DO NOT ENTER	R5-1	36x36
WRONG WAY	R5-1a	42x30
NO TRUCKS (SYMBOL)	R5-2(1)	24x24
NO THRU TRUCKS (TEXT)	R5-2(2)	24x30
ONE WAY (LONG)	R6-1	54x18
ONE WAY	R6-2	30x36
ROUNDABOUT DIRECTIONAL (2 CHEVRONS)	R6-4	30x24
ROUNDABOUT CIRCULATION (PLAQUE)	R6-5P	30x30
BEGIN ONE WAY	R6-6	30x36
END ONE WAY	R6-7	30x36
PARKING RESTRICTION (ARROW)	R7-2(1)	12x18
PARKING RESTRICTION (TO CORNER)	R7-2(2)	12x18
PARKING RESTRICTION (BUS ZONE)	R7-2(3)	12x18

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
PARKING RESTRICTION (VALET ZONE)	R7-2(4)	12x18
PARKING RESTRICTION (PEAK PERIOD)	R7-2(5)	12x18
PARKING RESTRICTION (EMERGENCY VEH. ONLY)	R7-2(6)	12x18
PARKING RESTRICTION (TAXI ZONE)	R7-2(7)	12x18
PARKING RESTRICTION (NO STOPPING OR STANDING)	R7-2(8)	12x18
PARKING RESTRICTION (JITNEY STOP)	R7-2(9)	12x18
PARKING RESTRICTION (PED-CAB ZONE)	R7-2(10)	12x18
PARKING RESTRICTION (LIMO ZONE)	R7-2(11)	12x18
PARKING RESTRICTION (COMMERCIAL VEH. ZONE)	R7-2(12)	12x18
PARKING RESTRICTION (FED/CITY AUTHORIZED VEH. ONLY)	R7-2(13)	12x18
PARKING RESTRICTION (U.S. MARSHAL PARKING ONLY)	R7-2(14)	12x18
PARKING RESTRICTION (EMERGENCY)	R7-2(15)	12x18
PARKING TIME LIMIT (VARIES)	R7-108	12x18
HANDICAPPED PARKING	R7-8T	12x18
TOW AWAY ZONE (PLAQUE)	R7-201P	12x6
PARKING METER (COH)	R7-110	12x18
ON TRACKS (PLAQUE)	R8-3eP	24x18
CROSS ONLY AT CROSSWALKS (SYMBOL)	R9-2	12x18
NO PEDESTRIAN CROSSING (SYMBOL)	R9-3	18x18
NO PEDESTRIAN CROSSING	R9-3a	12x18
PEDESTRIAN CROSSING	R9-8	36x18
SIDEWALK CLOSED	R9-9	24x12
SIDEWALK CLOSED-USE OTHER SIDE	R9-10	24x12
SIDEWALK CLOSED CROSS HERE	R9-11a	24x12
PUSH BUTTON FOR PEDESTRIAN CROSSING	R10-3e	9x15
LEFT ON GREEN ARROW ONLY	R10-5	30x36
STOP HERE ON RED	R10-6	24x36
DO NOT BLOCK INTERSECTION	R10-7	24x30
LEFT/RIGHT TURN SIGNAL	R10-10	30x36
NO TURN ON ROAD (TEXT)	R10-11a	36x48
LEFT TURN YIELD ON GREEN	R10-12	30x36
CROSSWALK, STOP ON RED	R10-23	24x30
KEEP OFF MEDIAN	R11-1	24x30
ROAD CLOSED	R11-2	48x30
ROAD CLOSED LOCAL TRAFFIC ONLY	R11-3a	60x30
BRIDGE OUT LOCAL TRAFFIC ONLY	R11-3b	60x30
ROAD CLOSED TO THRU TRAFFIC	R11-4	60x30
WEIGHT LIMIT XX TONS	R12-1	24x30
AXLE WEIGHT LIMIT XX TONS/LBS	R12-2	24x30
NO TRUCKS OVER XX TONS/LBS EMPTY WEIGHT	R12-3	24x36
WEIGHT LIMIT XX TONS PER AXLE XX TONS GROSS	R12-4	36x24
LOAD ZONED BRIDGE	R12aT	VARIESx36
TRUCK ROUTE	R14-1	24x18
GRADE CROSSING (CROSSBUCK)	R15-1	48x9
NUMBER OF TRACKS (PLAQUE)	R15-2P	27x18

REGULATORY SIGNS		
SIGN	SIGN DESIGNATION	SIZE (IN.)
RIGHT ANGLE TURN	CW1-1	36X36
HORIZONTAL CURVE	CW1-2	36X36
REVERSE RIGHT ANGLE TURNS	CW1-3	36X36
REVERSE HORIZONTAL CURVES	CW1-4	36X36
REVERSE CURVE (2 LANES)	CW1-4b	36X36
REVERSE CURVE (MORE THAN 2 LANES)	CW1-4c	36X36
ONE-DIRECTION LARGE ARROW	CW1-6	48X24
UPWARD SLOPING ARROW	CW1-6aT	36X36
CHEVRON	CW1-8	18X24
STOP AHEAD	CW3-1	36X36
SIGNAL AHEAD	CW3-3	36X36
BE PREPARED TO STOP	CW3-4	36X36
ROAD NARROWS	CW5-1	36X36
NARROW BRIDGE	CW5-2	36X36
TWO-WAY TRAFFIC FLOW	CW6-3	36X36
TWO-WAY TRAFFIC	CW6-4	12X18
BUMP	CW8-1	36X36
DIP	CW8-2	36X36
SOFT SHOULDER	CW8-4	36X36
TRUCK CROSSING	CW8-6	36X36
ROUGH ROAD	CW8-8	36X36
UNEVEN LANES	CW8-11	36X36
LEFT LANE ENDS	CW9-1(1)	36X36
RIGHT LANE ENDS	CW9-1(2)	36X36
DOUBLE ARROW	CW12-1	30X30
ADVISORY SPEED (PLAQUE)	CW13-1P	24X24
XX FEET (PLAQUE)	CW16-2P	24X18
AHEAD (PLAQUE)	CW16-3	24X12
ROAD WORK AHEAD	CW20-1	36X36
DETOUR AHEAD	CW20-2	36X36
ROAD CLOSED AHEAD	CW20-3	36X36
ONE LANE ROAD	CW20-4	36X36
LEFT LANE CLOSED	CW20-5(1)	36X36
RIGHT LANE CLOSED	CW20-5(2)	36X36
FLAGGER (SYMBOL)	CW20-7	36X36
NARROW LANES AHEAD	CW20-8T	36X36
SHOULDER WORK AHEAD	CW21-5	36X36
UTILITY WORK AHEAD	CW21-7	36X36
DOUBLE REVERSE CURVE (1 LANE)	CW24-1	36X36
DOUBLE REVERSE CURVE (2 LANE)	CW24-1a	36X36
DOUBLE REVERSE CURVE (3 LANE)	CW24-1b	36X36
END ROAD WORK	G20-2	36X18
DETOUR WITH ARROWS	M4-9	30X24
END DETOUR	M4-8a	24X18
PEDESTRIAN DETOUR	M4-9b	30X24
DETOUR	M4-10	48X18

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DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023

DWG NO: 01554-08

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 09/11/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CITY OF HOUSTON SIGNS

SHEET 1 OF 2

WBS NUMBER
N-000818-0001-4

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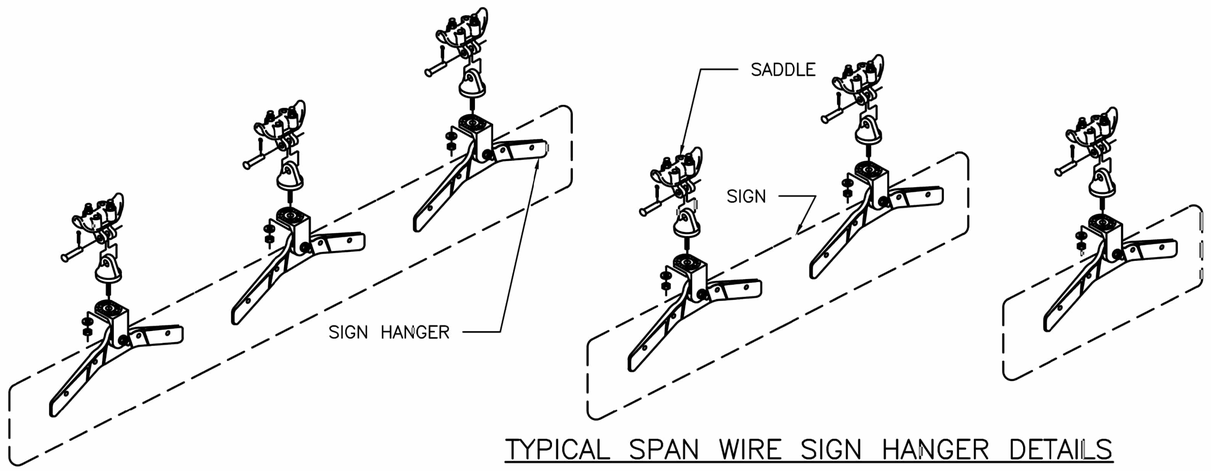
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.

SHEET NO. 104 OF 223

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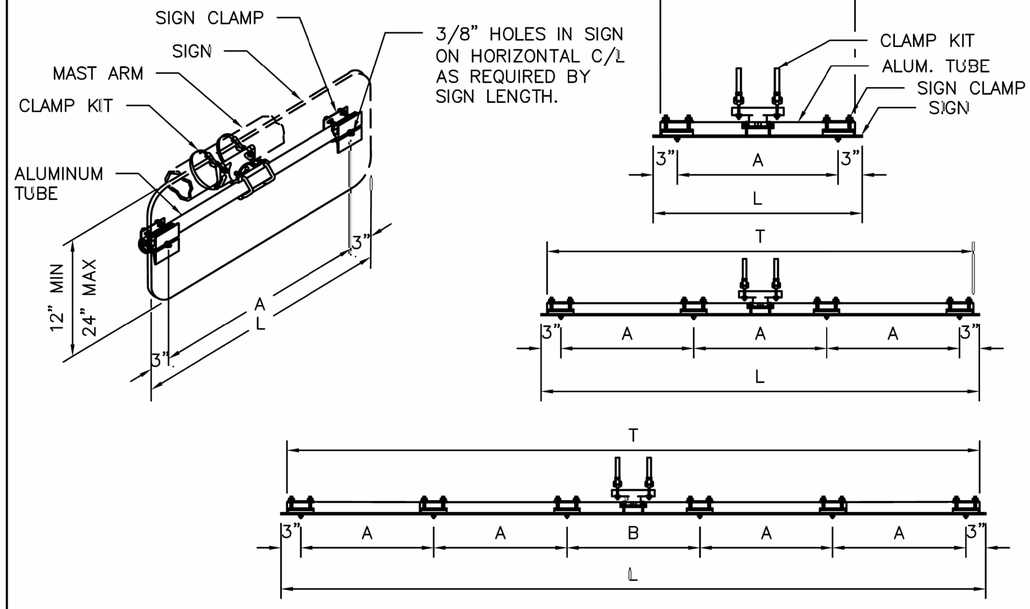


TYPICAL SPAN WIRE SIGN HANGER DETAILS



NOTES:

1. CONTRACTOR SHALL USE PELCO PARTS OR AN APPROVED EQUAL.
2. CONTRACTOR SHALL FURNISH ALL HARDWARE FOR A COMPLETE INSTALLATION.
3. THE 90 DEGREE SPAN WIRE CLAMPS (SADDLES) ARE ATTACHED TO TETHERS (SWAY CABLES).
4. CONTRACTOR SHALL FURNISH ONE (1) ADJUSTABLE FREE SWINGING SIGN HANGER PER STREET NAME SIGN SMALLER THAN 3'–0". SIGNS 3'–0" TO 6'–0" REQUIRE TWO (2) HANGERS. SIGNS LARGER THAN 6'–0" REQUIRE THREE (3) HANGERS.
5. SEE SIGN MOUNTING SERIES FOR STREET NAME SIGN DETAILS.



TYPICAL MAST ARM SIGN MOUNT DETAILS

SIGNS (1'–6" TO 3'–0" LONG)

SIGN LENGTH (L)	TUBE LENGTH (T)	A
1'–6"	16"	12"
2'–0"	22"	18"
2'–6"	28"	24"
3'–0"	34"	30"

MAXIMUM SIGN HEIGHT: 48"

SIGNS (3'–6" TO 8'–0" LONG)

SIGN LENGTH (L)	TUBE LENGTH (T)	A
3'–6"	40"	12"
4'–0"	46"	14"
4'–6"	52"	16"
5'–0"	58"	18"
5'–6"	64"	20"
6'–0"	70"	22"
6'–6"	76"	24"
7'–0"	82"	26"
7'–6"	88"	28"
8'–0"	94"	30"

MAXIMUM SIGN HEIGHT: 24"

SIGNS (8'–6" TO 10'–0" LONG)

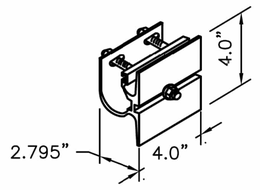
SIGN LENGTH (L)	TUBE LENGTH (T)	A	B
8'–6"	100"	19"	20"
9'–0"	106"	20"	22"
9'–6"	112"	21"	24"
10'–0"	118"	22"	26"

MAXIMUM SIGN HEIGHT: 16"

SIGN SQUARE FOOTAGE NOT TO EXCEED ROTATIONAL RESISTANCE CAPACITY DEFINED BY MOUNTING HARDWARE MANUFACTURER.



GUSSETED TUBE CROSS SECTION



SIGN CLAMP DETAIL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

OVERHEAD STREET NAME SIGN MOUNTING DETAILS

(SCALE: NOT TO SCALE)

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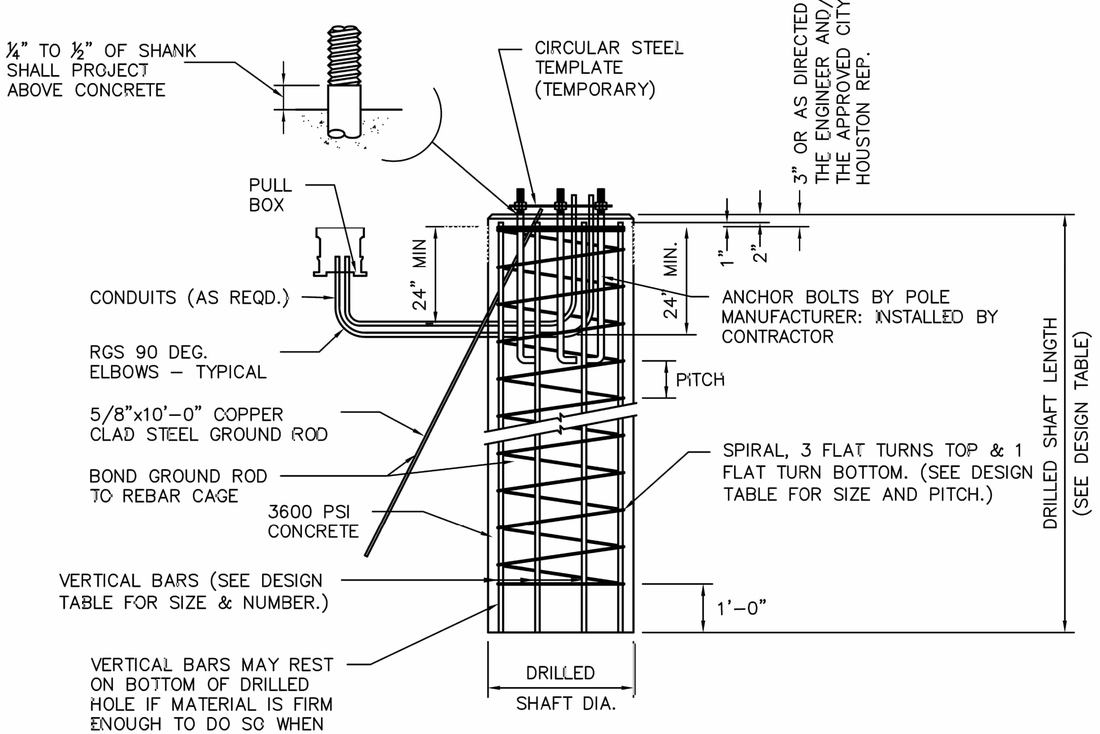
FOUDATION DESIGN TABLE									
POLE MARK	DRILLED SHAFT DIA.	REINFORCING STEEL		DRILLED SHAFT LENGTH FT.	BOLT CIRCLE DIA.	FOUNDATION DESIGN LOADS (1)			TYPICAL APPLICATION
		VERT. BARS	SPIRAL & PITCH			MOMENT K–FT.	SHEAR KIPS	TORQUE K–FT.	
HOU 1	30"	8–#9 BAR	#3 BAR @9"	14'–0"	18"	72.2	3.4	51.9	MAST ARM ASSEMBLY (25'–35') IN COHESIVE SOILS
HOU 2	30"	8–#9 BAR	#3 BAR @9"	18'–0"	18"	89.9	4.0	98.0	MAST ARM ASSEMBLY (40'–55') IN COHESIVE SOILS MAST ARM ASSEMBLY (25'–55') IN NON–COHESIVE SOILS

FOUNDATION DESIGN TABLE NOTES:

(1) FOUNDATION DESIGN LOADS ARE THE ALLOWABLE MOMENTS, SHEARS AND TORQUES AT THE TOP OF THE FOUNDATION.

(2) CONSTRUCT IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION SECTION 02465, "DRILLED SHAFT FOUNDATIONS".

(3) FOUNDATION DESIGN IS BASED UPON AN UNDRAINED SHEAR STRENGTH OF 1500 PSF FOR COHESIVE SOILS AND A TEXAS CONE PENETROMETER MINIMUM OF 10 BLOWS/FOOT IN NON–COHESIVE SOILS. WHERE COHESIVE AND NON–COHESIVE LAYERS EXIST WITHIN THE SPECIFIED SHAFT LENGTH, THE NON–COHESIVE SOILS SHALL GOVERN. LOWER SOIL PARAMETERS WILL REQUIRE A SPECIAL DESIGN.



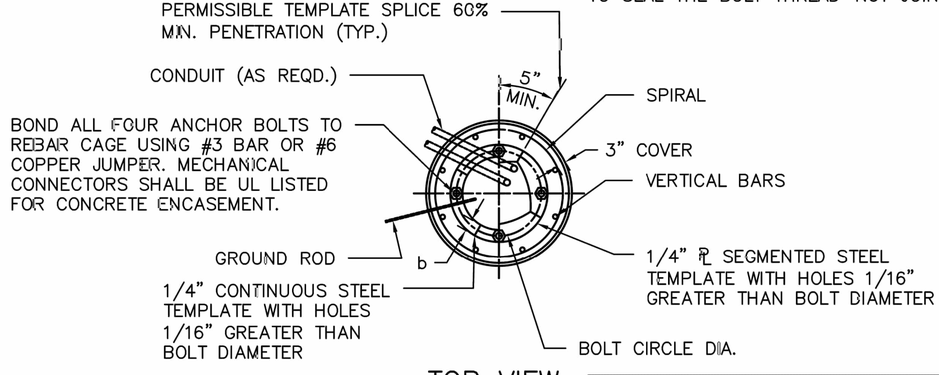
FOUNDATION DETAILS

GENERAL NOTES:

1. DESIGN IS FOR CITY OF HOUSTON STANDARD TRAFFIC SIGNAL MAST ARM SUPPORT STRUCTURES BY VALMONT INDUSTRIES, INC.
2. DESIGN CONFORMS TO 2001 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND INTERIM REVISIONS THERETO FOR A 90 MPH WIND ZONE WITH A 1.3 GUST FACTOR AND ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318–02).
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
4. CONCRETE SHALL BE 6 SACK, 3600 PSI.
5. ALL ANCHOR BOLTS SHALL BE GALVANIZED THE ENTIRE LENGTH OF BOLT. EXPOSED NUTS AND WASHERS SHALL ALSO BE GALVANIZED.

INSTALLATION PROCEDURE

THREADS OF ANCHOR BOLTS SHALL BE COATED WITH PIPE JOINT COMPOUND PRIOR TO INSTALLATION OF UPPER NUTS WHEN ERECTING POLE. AFTER POLE IS PLUMBED AND IN PERMANENT ALIGNMENT, THE EXPOSED THREADS OF PAINTED BOLTS SHALL BE CLEANED AND AN ADDITIONAL COATING OF ZINC–RICH PAINT APPLIED TO SEAL THE BOLT THREAD–NUT JOINT.



TOP VIEW

NOTE:

1. b = MINIMUM STEEL TEMPLATE WIDTH EQUAL TO TWO TIMES ANCHOR BOLT DIAMETER.
2. STEEL TEMPLATE MAY BE OF CONTINUOUS WIDTH OR SEGMENTED WIDTH.
3. SEE FOUNDATION DESIGN TABLE FOR BOLT CIRCLE DIAMETER.
4. BOLTS SHOULD BE CHECKED FOR PLUMB AFTER CONCRETE IS POURED AND BEFORE INITIAL SET.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

DRILLED SHAFT FOUNDATIONS

(SCALE: NOT TO SCALE)

APPROVED BY:

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DIRECTOR OF HPW

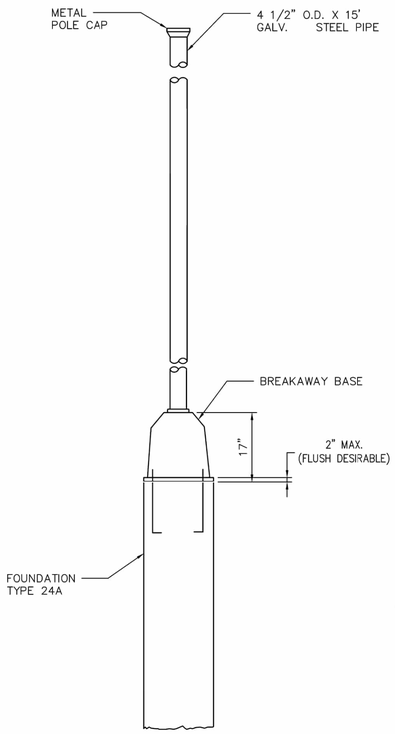
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CITY TRAFFIC ENGINEER

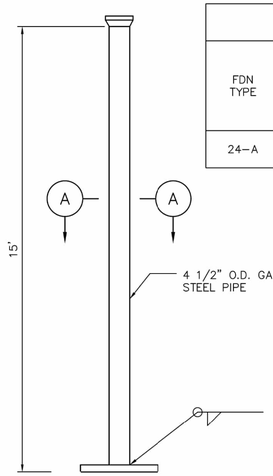
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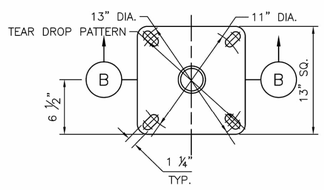
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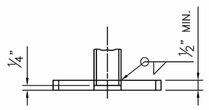




PEDESTAL POLE



SECTION A–A



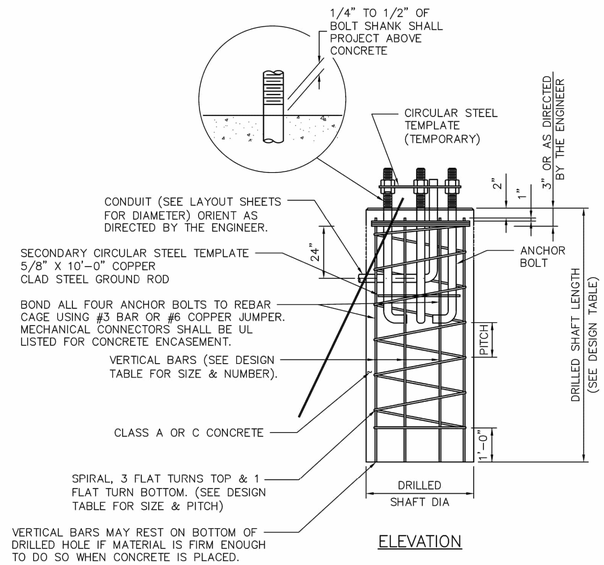
SECTION B–B

FOUNDATION DESIGN TABLE										
FDN TYPE	DRILLED SHAFT DIA.	REINFORCING STEEL		DRILLED SHAFT LENGTH FT	ANCHOR BOLT DESIGN (SEE NOTE 5)				FOUNDATION DESIGN LOAD (SEE NOTE 6)	
		VERT. BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER 10 BLOWS/ FT	ANCHOR BOLT DIA.	FY (KSI)	BOLT CIR. DIA.	ANCHOR TYPE	MOMENT K–FT	SHEAR KIPS
24–A	24"	4–#5 BARS	#2 BAR AT 12"	6	3/4"	36	*13"	1	10	1

* 10 1/2" B.C. FOR PUSH BUTTON POLE

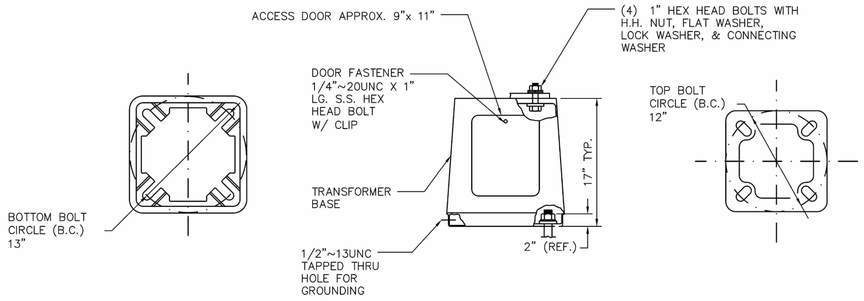
ANCHOR BOLT & TEMPLATE SIZES						
BOLT DIA. IN.	**BOLT LENGTH	TOP THREAD	BOTT. THREAD	BOLT CIRCLE	R_2	R_1
3/4"	1'–6"	3"	–	13"	7 1/8"	5 5/8"

** MIN DIMENSIONS GIVEN, LONGER BOLTS ARE ACCEPTABLE.



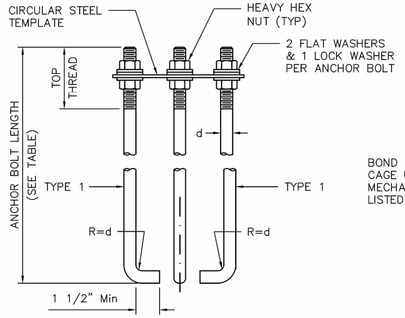
ELEVATION

FOUNDATION DETAILS

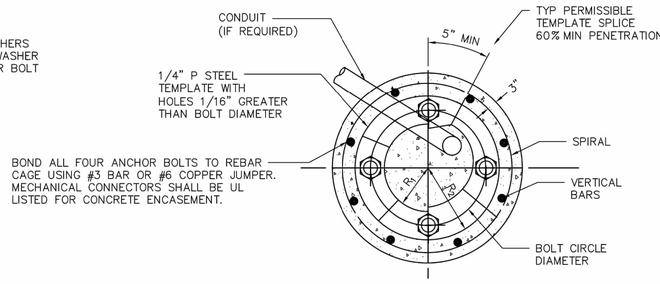


BOTTOM PLAN ELEVATION TOP PLAN

BREAKAWAY BASE DETAILS



HOOKED ANCHOR
(TYPE 1)



R_1 MAY EQUAL R_2 IF PLATE IS WELDED OF 3 OR MORE SEGMENTS.

TOP VIEW

GENERAL NOTES

1. DESIGN CONFORMS TO 1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS AND INTERIM REVISIONS THERETO.
2. CONCRETE SHALL BE CLASS A OR C.
3. THREADS FOR ANCHOR BOLTS AND NUTS SHALL BE ROLLED OR CUT THREADS OF UNIFIED NATIONAL COARSE THREAD SERIES EXCEPT FOR A193B7 BOLTS WHICH SHALL HAVE 8 PITCH THREAD SERIES. BOLTS AND NUTS SHALL HAVE CLASS 2A AND 2B FIT TOLERANCES. GALVANIZED NUTS SHALL BE TAPPED AFTER GALVANIZING.
4. ANCHOR BOLTS THAT ARE 1" IN DIAMETER OR LESS SHALL CONFORM TO ASTM A36. GALVANIZE ALL ANCHOR BOLTS UNLESS OTHERWISE NOTED. EXPOSED NUTS SHALL BE GALVANIZED OR COATED WITH ZINC–RICH PAINT. WASHERS SHALL BE GALVANIZED. TEMPLATES AND EMBEDDED NUTS NEED NOT BE GALVANIZED.
5. ANCHOR BOLT DESIGN DEVELOPS THE FOUNDATION CAPACITY GIVEN UNDER FOUNDATION DESIGN LOADS.
6. FOUNDATION DESIGN LOADS ARE THE ALLOWABLE MOMENTS AND SHEARS AT THE BASE OF THE STRUCTURE.
7. ANCHOR BOLT ASSEMBLY INSTALLATION PROCEDURE

7.1. THREADS OF ANCHOR BOLTS SHALL BE COATED WITH PIPE JOINT COMPOUND PRIOR TO INSTALLATION OF UPPER NUTS WHEN ERECTING POLE. AFTER POLE IS PLUMBED AND IN PERMANENT ALIGNMENT, THE EXPOSED THREADS OF PAINTED BOLTS SHALL BE CLEANED AND AN ADDITIONAL COATING OF ZINC–RICH PAINT APPLIED TO SEAL THE BOLT THREAD–NUT JOINT.

8. DETAILS DEPICTED ON THIS SHEET SHOW A TYPICAL PEDESTAL POLE ASSEMBLY WITH A DRILLED SHAFT FOUNDATION.
9. USE 24 IN. DRILLED SHAFT FOUNDATION AS SHOWN.
10. PROVIDE BREAKAWAY FUSE HOLDER WITH DOUBLE–POLE HOUSING. ENSURE FUSE HOLDER IS POLARIZED, WATER–RESISTANT, UL RECOGNIZED, AND RATED FOR 30A MAXIMUM CURRENT CAPACITY AT 600V OR LESS. PROVIDE BREAKAWAY FUSE HOLDER FROM MANUFACTURERS PRE–QUALIFIED BY TXDOT TRAFFIC OPERATIONS DIVISION. SEE https://www.txdot.gov/business/resources/materials/material–producer–list.html FOR LIST OF PRE–QUALIFIED MANUFACTURERS. CATEGORY IS "ROADWAY ILLUMINATION AND ELECTRICAL SUPPLIES." PROVIDE 10 AMP TIME DELAY FUSES.
11. POLE SHAFT SHALL BE ONE PIECE. ALUMINUM CONDUIT WILL NOT DEVELOP THE NECESSARY STRENGTH AND WILL NOT BE ALLOWED. IN HIGH WINDS, USE A POLE AND BASE COLLAR ASSEMBLY TO ADD STRENGTH AND PREVENT LOOSENING ON CONNECTION.
12. PER MANUFACTURER'S RECOMMENDATIONS, ENGAGE ALL THREADS ON THE PEDESTAL POLE BASE AND PIPE UNLESS THE PIPE IS FULLY SEATED INTO BASE.
13. PROVIDE NON–FUSED WATERTIGHT BREAKAWAY ELECTRICAL CONNECTORS FOR BREAKAWAY POLES (BUSSMANN HET, LITTELFUSE LET, FERRAZ–SHAWMUT FEBN, OR APPROVED EQUAL).
14. PROVIDE SIGNAL HEADS AND MOUNTING AS SHOWN ELSEWHERE ON THE PLANS.

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TEXAS PE No: 152599

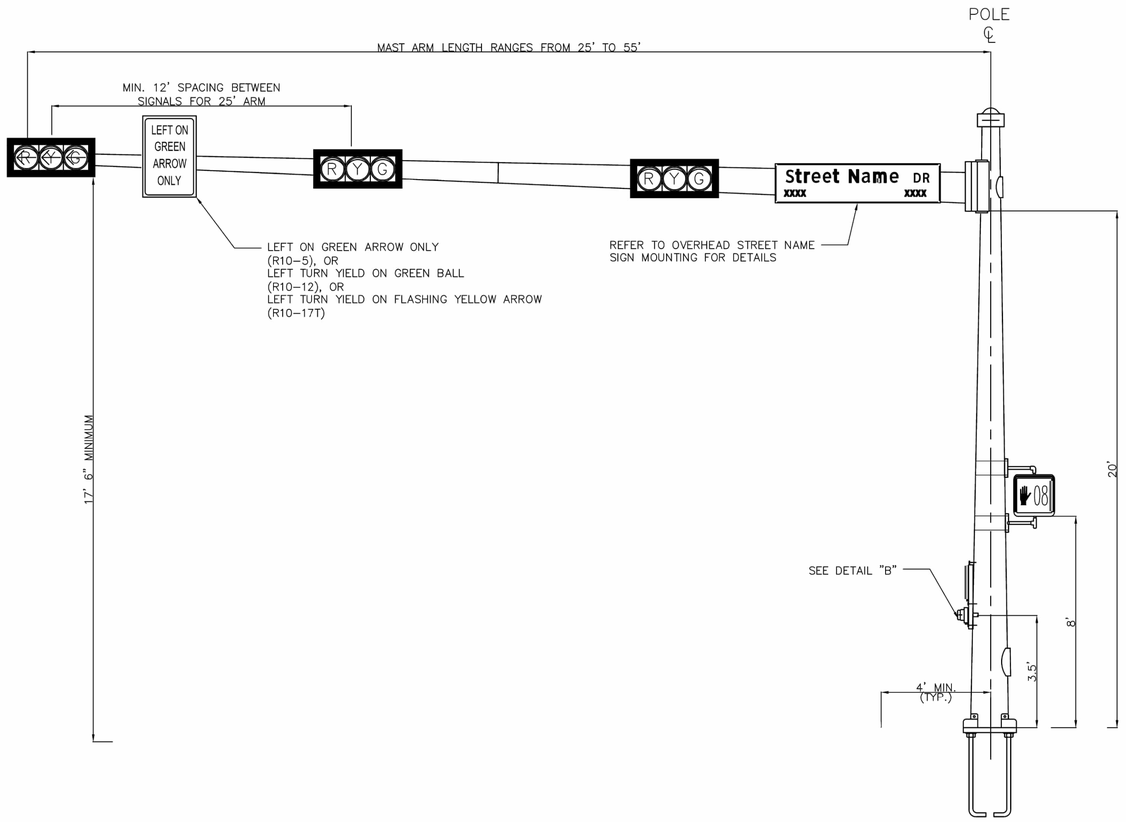
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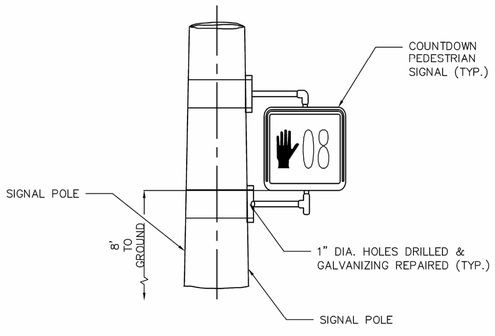
CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PEDESTAL/PUSHBUTTON POLE DRILLED SHAFT FOUNDATION

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 107 OF 223	

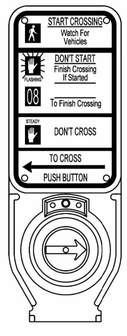
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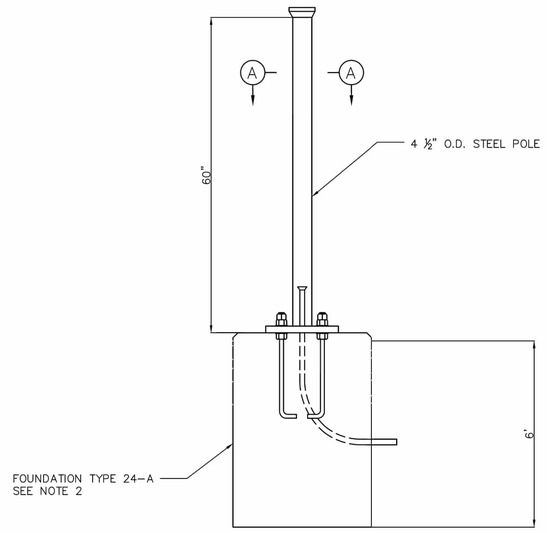
DETAIL "A"

TYPICAL PEDESTRIAN SIGNAL HEAD ON TRAFFIC POLE



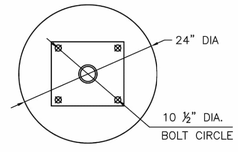
DETAIL "B"

2-WIRE POLARA NAVIGATOR PUSH BUTTON STATION WITH R10-3e SIGN

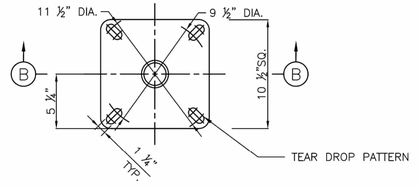


ELEVATION VIEW

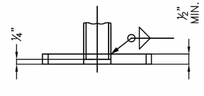
PEDESTRIAN PUSH BUTTON POLE



FOUNDATION PLAN



SECTION A-A



SECTION B-B

NOTE:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS STATED ON CITY OF HOUSTON STANDARD DETAIL 02465-02 "PEDESTAL/PUSH BUTTON POLE DRILLED SHAFT FOUNDATION".
2. REFER TO CITY OF HOUSTON STANDARD DETAIL 02465-02 "PEDESTAL/PUSHBTTON POLE DRILLED SHAFT FOUNDATION" FOR ANCHOR BOLT DETAILS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukail Kanwar 9CF8B0C841F5478...	DocuSigned by: KHANG NGUYEN 95A29EFFDA75864CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A80C4108726345 3...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02582-01

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-10912

MBROH ENGINEERING
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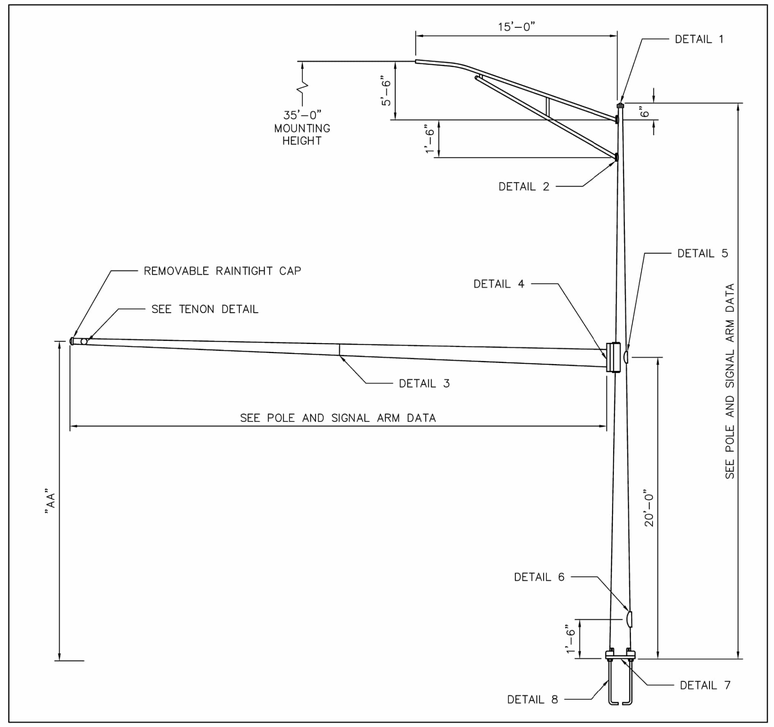
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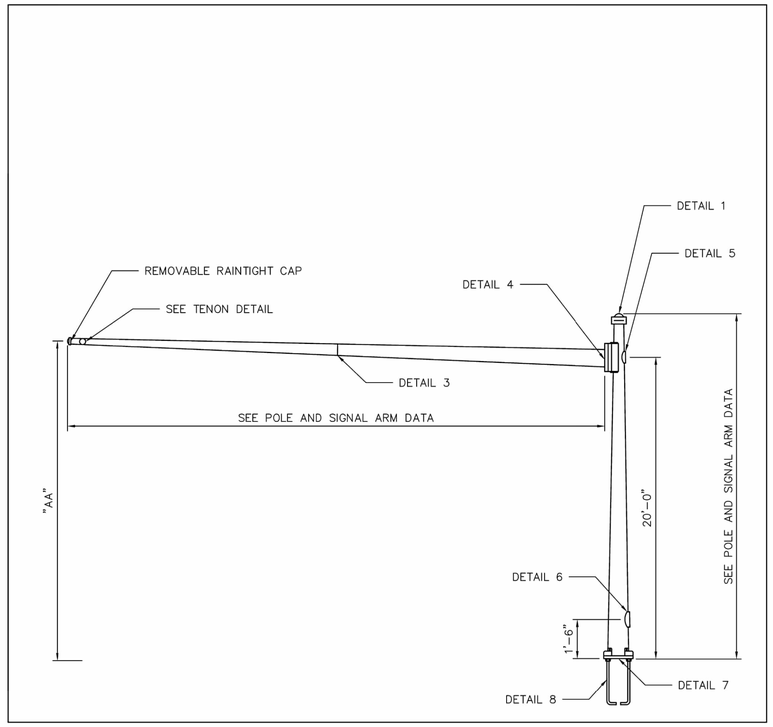
TYPICAL MAST ARM/POLE FIXTURE CONFIGURATION

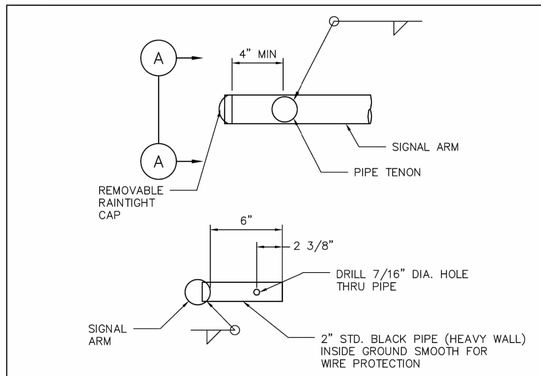
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DERRICK HOLMES, E.I.T.	
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SECTION A–A

TENON DETAIL

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. ARMS SHALL BE VISUALLY INSPECTED IN 5 TO 20 MPH WIND CONDITIONS AFTER SIGNAL HEAD INSTALLATION AND, IF VERTICAL MOVEMENTS WITH A TOTAL EXCURSION (MAXIMUM POSITIVE TO MAXIMUM NEGATIVE) OF MORE THAN APPROXIMATELY 8 INCHES ARE OBSERVED AT ARM TIP, DAMPING DEVICES OR OTHER MEANS SHALL BE FITTED TO THE ARM(S). THE NECESSARY DAMPING DEVICE(S) OR OTHER REMEDIAL MEASURES SHALL BE AS RECOMMENDED BY THE CONTRACTOR. EXCESSIVE VIBRATIONS SHALL NOT BE ALLOWED TO CONTINUE FOR MORE THAN 2 DAYS.

VIBRATION DISCLAIMER

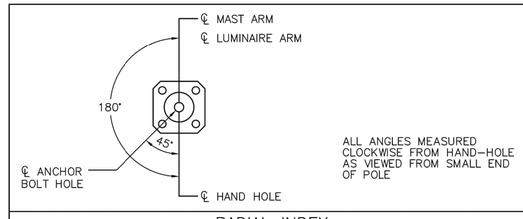
POLE AND MAST ARM DATA

DESIGNATION KEY			POLE TUBE						POLE BASE				ANCHOR BOLT				SIGNAL ARM TUBE				
POLE SERIES	POLE TYPE	SIGNAL ARM SPAN (FT)	BASE DIA. (IN)	TOP DIA. (IN) WITH LUM ARM	TOP DIA. (IN) WITHOUT LUM ARM	LENGTH (FT) WITH LUM ARM	LENGTH (FT) WITHOUT LUM ARM	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE / SLOT "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THICK (IN)	SPAN (FT)	TIP HEIGHT "AA" (FT)
HOU	1	25	13.00	8.80	10.00	30.00	21.50	3	19.00	18.00	2.25	2.50	2.25	89.00	7.00	9.00	8.00	3.50	7	25.00	20.2
		30															9.00	4.80	7	30.00	20.3
		35															10.00	5.10	7	35.00	20.3
HOU	2	40	13.00	8.80	10.00	30.00	21.50	0.375									10.50	4.90	7	40.00	20.3
		45															10.14	3.84	3	45.00	20.4
		50															11.00	4.00	3	50.00	20.4
		55															11.50	4.16	DET 3	55.00	20.5

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFT – 3 GAUGE	A595 GR.A	55	MAST ARM CONN. BOLTS	F3125 GR A325*	
POLE SHAFT – 0.375"	A572 GR.55	55	LUM. ARM CONN. BOLTS	SAE GR.5	36
MAST ARM SHAFT	A595 GR.A	55	ANCHOR BOLTS	F1554 GR.55	55
LUMINAIRE ARM SHAFT	2" SCH. 80 PIPE		GALVANIZING	A123 & A153	
ARM ATTACHMENT PLATE	A36	36			
BASEPLATE	A36	36			

*LUBRICATE IN FIELD IF NECESSARY IN LIEU OF THE REQUIREMENTS IN F3125 GR.A325.



RADIAL INDEX

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APPROVED BY: DocuSigned by: KHANG NGUYEN 95A29EFDA7584CD... CITY TRAFFIC ENGINEER

APPROVED BY: DocuSigned by: Carol Haddock A80CA10B72B3453... DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023

DWG NO: 02582–02

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
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TX FIRM NUMBER: F–10912

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KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 09/11/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TRAFFIC SIGNAL STRUCTURES

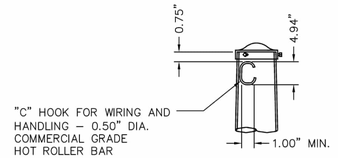
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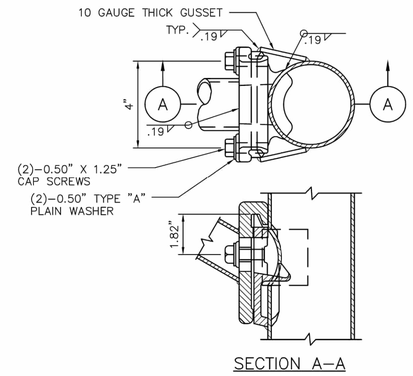
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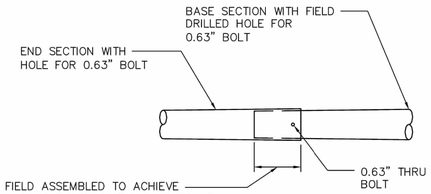
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DETAIL 1 — POLE TOP

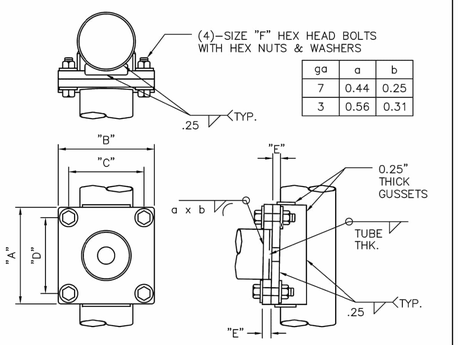


DETAIL 2 — LUMINAIRE ARM ATTACHMENT



ITEM	BASE SECTION		END SECTION	
	LENGTH	GAUGE	LENGTH	GAUGE
55.00'	26.42'	3	30.71'	7

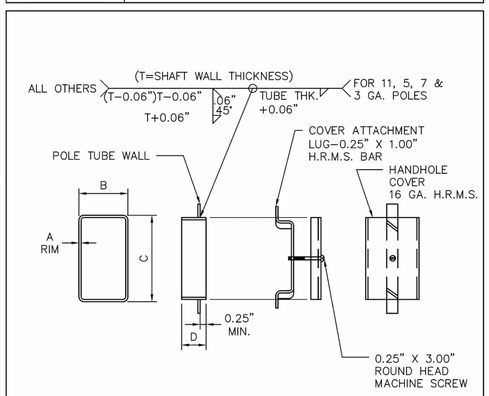
DETAIL 3 — SIGNAL ARM SLIP JOINT



ga	a	b
7	0.44	0.25
3	0.56	0.31

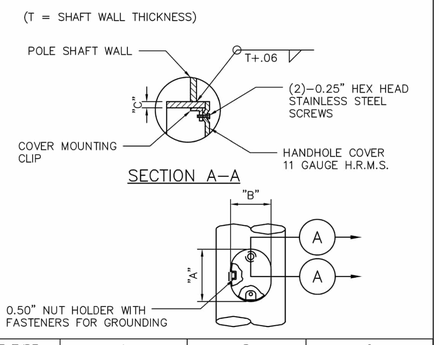
POLE TYPE	"A"	"B"	"C"	"D"	"E"	"F"
1	17.75"	17.75"	14.50"	14.50"	1.50"	1.25" X 4.50"
2	18.75"	18.75"	15.00"	15.00"	1.75"	1.50" X 5.25"

DETAIL 4 — SIGNAL ARM ATTACHMENT



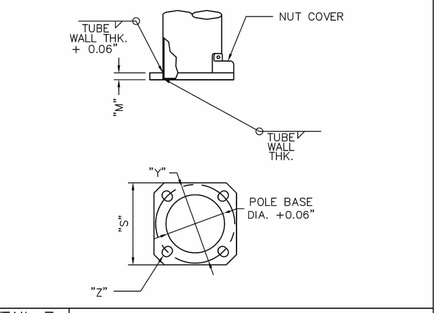
POLE TYPE	A	B	C	D
1	7 GA.	3.00"	5.00"	1.50"
2	0.50"	4.00"	6.00"	2.50"

DETAIL 5 — HANDHOLE

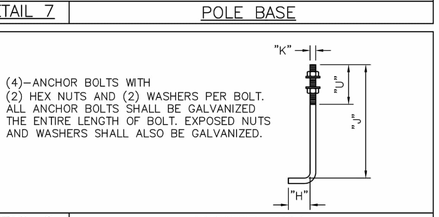


POLE TYPE	A	B	C
1	7.56"	5.19"	0.280"
2	7.31"	5.63"	0.432"

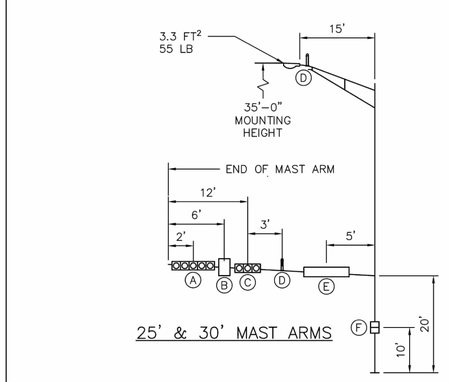
DETAIL 6 — HANDHOLE



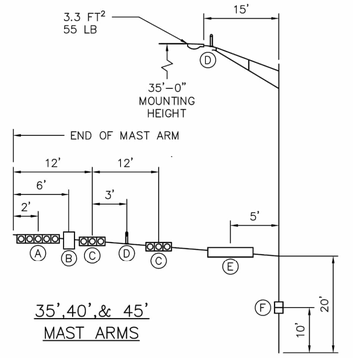
DETAIL 7 — POLE BASE



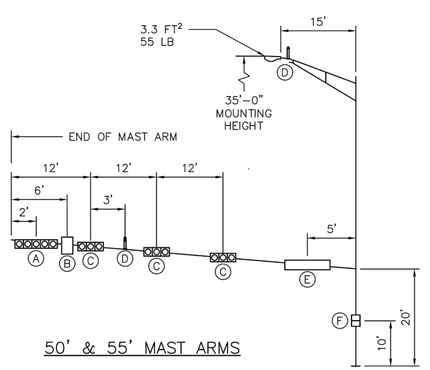
DETAIL 8 — ANCHOR BOLT



25' & 30' MAST ARMS



35',40',& 45' MAST ARMS



50' & 55' MAST ARMS

DESIGN NOTE:

DESIGNS ARE BASED ON THE LOADING CHART SHOWN ON THIS DRAWING AND ARE IN ACCORDANCE WITH MATERIALS AND ALLOWABLE STRESS REQUIREMENTS OF THE 1994 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" FOR A 90 MPH WIND ZONE WITH A 1.3 GUST FACTOR.

DEVICE	DESCRIPTION	PROJ. AREA (FT^2)	WEIGHT (LBS)
Ⓐ	12"–5 SEC. SIGNAL WITH BACKPLATES	13.33	96
Ⓑ	30" X 36" SIGNAL ARM MOUNTED SIGN	7.50	15
Ⓒ	12"–3 SEC. SIGNAL WITH BACKPLATES	8.67	53
Ⓓ	VIVDS CAMERA	1.00	15
Ⓔ	24" X 72" STREET NAME SIGN	12.00	30
Ⓕ	PEDESTRIAN SIGNAL	4.00	40

MAXIMUM LOADING INFORMATION

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DIRECTOR OF HOUSTON PUBLIC WORKS	
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TEXAS PE No: 152599

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TRAFFIC SIGNAL STRUCTURES

SHEET 02 OF 02

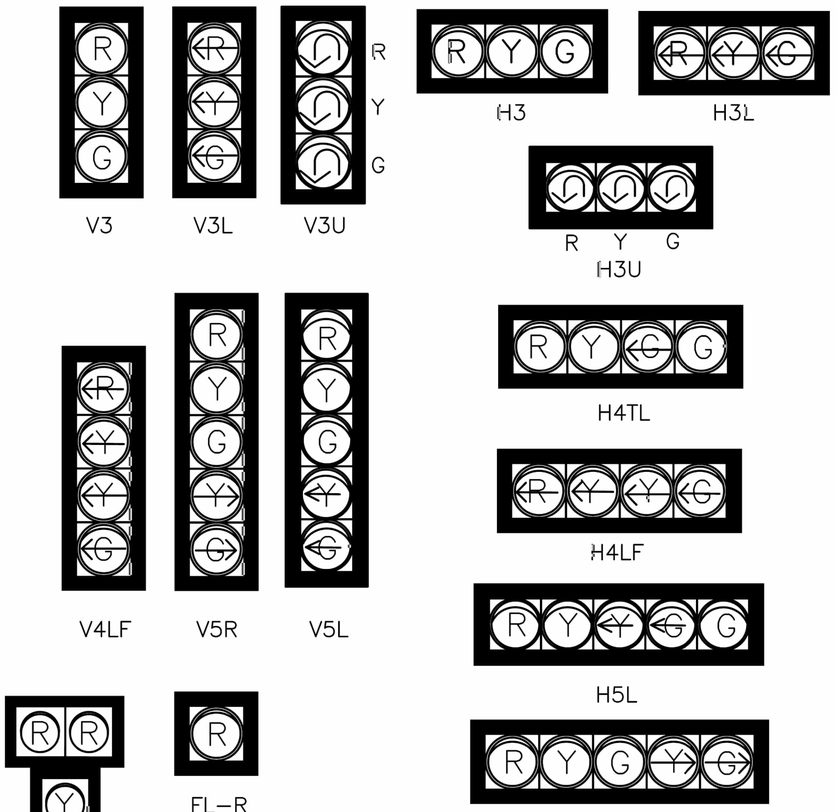
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NEW	EXISTING
TRAFFIC SIGNAL POLE	○
PEDESTAL POLE	○
POLE W/MAST ARM	○———
VEHICLE SIGNAL HEAD	↓
VEHICLE SIGNAL HEAD W/BACK PLATE	↓
PEDESTRIAN SIGNAL HEAD	⊟
PEDESTRIAN PUSH BUTTON	⊟
PULL BOX – TYPE A	◇
PULL BOX – TYPE B	▭
PULL BOX – TYPE C	⊞
PULL BOX – TYPE B W/EXTENSION	⊠
CONDUIT	———
VIDEO DETECTION CAMERA	▭
PRE–EMPT SENSOR	⚷
LUMINAIRE	⊗
LUMINAIRE W/PHOTO CELL	⊗
CONTROLLER CABINET	▮
METERED POWER PEDESTAL	◈
POLE MOUNTED METER	●▬
FIBER OPTIC CONDUIT	—FO—
MAST ARM SIGN	⊥

SIGNAL TYPES



NOTE:

ALL TRAFFIC SIGNAL HEAD TYPES HAVE 12–INCH LENSES.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

HARDWARE LEGENDS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...
CITY ENGINEER

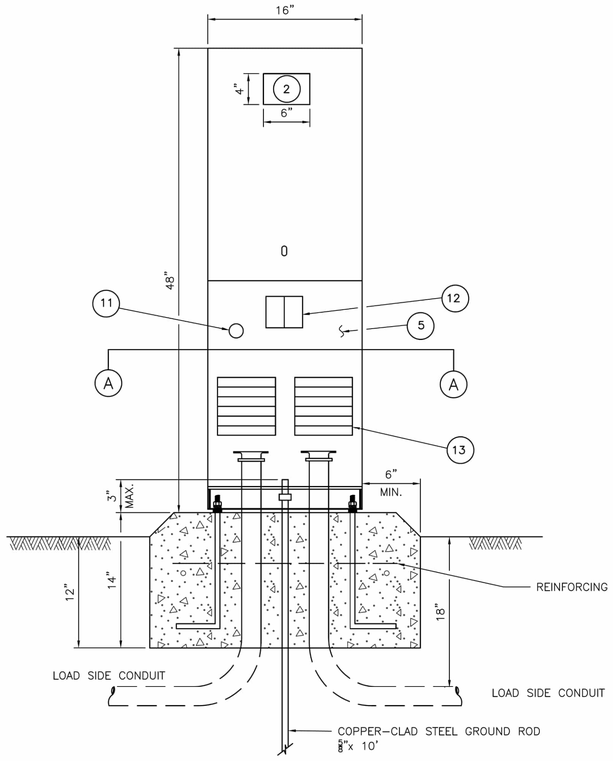
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DIRECTOR OF HPW

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

EFF DATE: NOV–27–2023

DWG NO: 02893–01

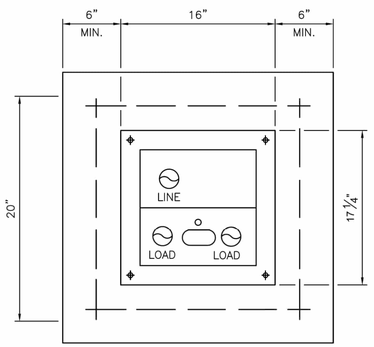
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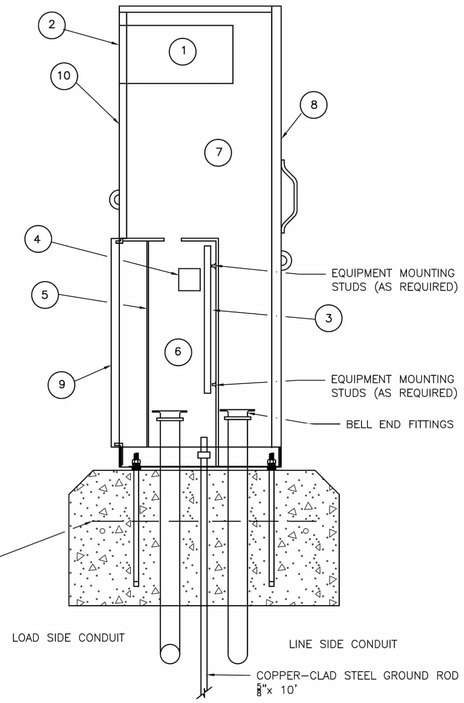
NOTE: ELLS IN FOUNDATION ARE RIGID METAL, SIZE CALLED FOR ON THE PLANS. EXTENSION CONDUITS FROM THESE ELLS MAY BE PVC, PROVIDED ENDS OF RIGID METAL CONDUITS ARE MORE THAN 2 IN. BELOW TOP OF CONCRETE FOUNDATION. WHERE EXTENSION CONDUITS ARE METAL, GROUNDING BUSHING MUST BE INSTALLED AND A BONDING JUMPER PROPERLY TERMINATED.

FRONT VIEW

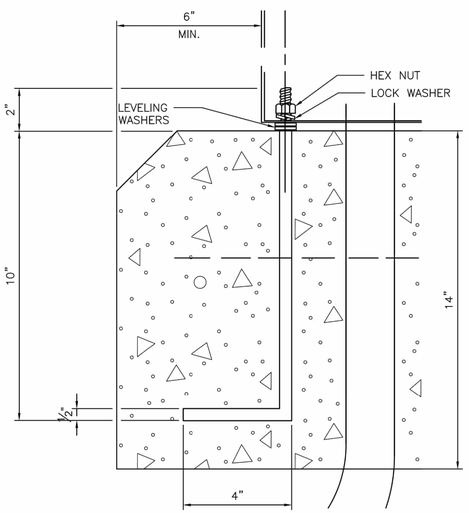
TY C SHOWN, TY A SIMILAR EXCEPT THAT TY A SHALL HAVE INDIVIDUAL CIRCUIT BREAKERS MOUNTED ON AN EQUIPMENT MOUNTING PANEL. CB HANDLES SHALL PROTRUDE THROUGH HINGED DEADFRONT TRIM.



SECTION A–A



SIDE VIEW



ANCHOR BOLT DETAIL

GENERAL NOTES:

1. THE PEDESTAL SERVICE SHALL BE UL TYPE 3R, AND SHALL BE CONSTRUCTED OF A MINIMUM OF 12 GAUGE STAINLESS STEEL OR ALUMINUM AS REQUIRED. STAINLESS STEEL SHALL NOT BE PAINTED. FOR ALUMINUM, THE FINISH SHALL BE AN ELECTROSTATIC APPLIED POLY–URETHANE BAKED ON POWDER, LIGHT GREEN IN COLOR, OR COLOR AS SHOWN ELSEWHERE AND AS APPROVED BY THE ENGINEER. THE FRONT OF THE INTERIOR DEAD FRONT TRIM SHALL BE PERMANENTLY LABELED, "DANGER HIGH VOLTAGE" WITH OSHA STYLE LABEL. THE EXTERIOR OF THE PEDESTAL SERVICE DOOR SHALL BE PERMANENTLY LABELED WITH A PLACARD AS TO ITS USE (I.E. ROADWAY LIGHTING, TRAFFIC SIGNALS, ETC.). PLACARD SHALL BE NEAT AND PROFESSIONAL IN APPEARANCE. LETTERING SHALL BE 1" MINIMUM HEIGHT.
2. UTILITY ACCESS DOOR SHALL HAVE STAINLESS STEEL PIANO HINGE AND PROVISIONS FOR PADLOCKING.
3. PEDESTAL DOOR SHALL HAVE STAINLESS STEEL PIANO HINGE AND STAINLESS STEEL LATCH WITH PROVISIONS FOR PADLOCKING.
4. METER ACCESS SHALL BE HINGED AND CAPABLE OF PADLOCKING.
5. ALL MOUNTING HARDWARE AND INSTALLATION DETAILS OF SERVICES SHALL BE IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL UTILITY COMPANY AND OBTAINING THEIR APPROVAL OF PEDESTAL DETAILS PRIOR TO MAKING SUBMITTAL TO THE CITY AND PRIOR TO CONSTRUCTING THE ELECTRICAL PEDESTAL SERVICE. ANY CHANGES REQUIRED BY THE UTILITY COMPANY SHALL BE NOTED ON THE SUBMITTALS.
6. METER SOCKET SHALL BE A MINIMUM OF 100 AMP RATING AND SHALL COMPLY WITH THE LOCAL UTILITY REQUIREMENTS.
7. PHOTOELECTRIC CONTROL SHALL MEET THE REQUIREMENTS AS SHOWN ON ED(5). SHIELD TO CONTROL STRAY LIGHT IS ALLOWABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER OPERATION OF THE PHOTO–ELECTRIC CONTROL. THE CONTRACTOR SHALL MOVE AND/OR ADJUST OR SHIELD THE PHOTOCELL FROM STRAY OR AMBIENT NIGHTTIME LIGHT OR SHALL MAKE ANY OTHER ADJUSTMENTS REQUIRED FOR PROPER OPERATION. THE PHOTOCELL SHALL FACE NORTH WHEN PRACTICABLE. UNLESS OTHERWISE SHOWN ON THE PLANS, THE PHOTOCELL SHALL TURN ON THE ILLUMINATION SYSTEM AT 1.0 +(–) 0.5 FOOTCANDLE AND TURN OFF THE ILLUMINATION SYSTEM AT TWO FOOTCANDLES HIGHER THAN TURN ON.
8. THE CONTROL STATION (H–O–A SWITCH) SHALL BE AS SHOWN ON TxDOT STANDARD ED(5) EXCEPT THAT H–O–A SWITCH OPERATING HANDLE SHALL PROTRUDE THROUGH HINGED DEADFRONT TRIM AND NEMA 1 ENCLOSURE WILL NOT BE REQUIRED.
9. CONCRETE FOR PEDESTAL SERVICE FOUNDATION SHALL BE CLASS A OR C , AND SHALL BE IN ACCORDANCE WITH TxDOT ITEM 420, "CONCRETE STRUCTURES", EXCEPT THAT CONCRETE WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL.
10. REINFORCING STEEL SHALL BE #4 REBAR IN ACCORDANCE WITH TxDOT ITEM 440, "REINFORCING STEEL".
11. ANCHOR BOLTS SHALL BE A36M55 IN ACCORDANCE WITH ITEM 449, "ANCHOR BOLTS". ANCHOR BOLTS SHALL BE ½ INCH X 12 INCHES X 4 INCHES (DIA. X LENGTH X HOOK LENGTH).
12. ALL CONDUIT AND CONDUCTORS ATTACHED TO THE PEDESTAL SERVICE AND WITHIN 12 INCHES OF THE PEDESTAL SERVICE WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE PEDESTAL SERVICE. ALL SERVICE CONDUIT AND CONDUCTORS FROM THE UTILITY COMPANY TRANSFORMER TO A POINT 12 INCHES FROM THE THE PEDESTAL SERVICE SHALL BE PAID FOR SEPARATELY. SERVICE CONDUIT SHALL BE THE SIZE AND TYPE AS SHOWN IN THE ELECTRICAL SERVICE DATA.
13. DIMENSIONS MAY VARY TO ACCOMODATE REQUIRED EQUIPMENT, UTILITY COMPANY REQUIREMENTS, OR MANUFACTURER'S STANDARD EQUIPMENT DIMENSIONS. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, SIX (6) COPIES OF BROCHURES AND/OR DRAWINGS OF THE PEDESTAL SERVICE TO BE SUPPLIED, INCLUDING ACTUAL DIMENSIONS, AND A PAINT COLOR SAMPLE.
14. A SEPARATE ENCLOSURE AS SHOWN ON TxDOT STANDARD ED(4) OR ED(5) FOR PHOTOCELL SHALL NOT BE USED FOR PEDESTAL SERVICES. PHOTOCELL SHALL BE INSTALLED AS SHOWN HERE.
15. THE PEDESTAL DOOR SHALL HAVE A MECHANICALLY ATTACHED DATA POCKET ON THE INSIDE. POCKET SHALL BE EITHER METAL OR THERMOPLASTIC AND SHALL MEASURE AT LEAST 12 INCHES BY 12 INCHES. THE CONTRACTOR SHALL PREPARE AND SUBMIT A SCHEMATIC DRAWING UNIQUE TO AN INDIVIDUAL SERVICE. THE APPROVED DRAWING SHALL BE LAMINATED AND PLACED IN THE DOCUMENT POCKET OF THE SERVICE AT THE TIME OF SHIPMENT TO THE JOB SITE. ALL APPLICABLE WIRING DIAGRAMS AND PLAN SHEET LAYOUTS FOR ALL EQUIPMENT AND BRANCH BREAKER CIRCUITS SUPPLIED BY THAT SERVICE SHALL ALSO BE LAMINATED AND PLACED IN THE DOCUMENT POCKET PRIOR TO SHIPPING.
16. GROUND ROD CLAMP TO BE UL LISTED FOR DIRECT BURIAL. ALL NON–CONDUCTIVE COATING TO BE REMOVED FROM GROUND ROD WIRE TO BE #6 AWG SOLID COPPER. METAL CONDUIT ELLS TO HAVE GROUNDING BUSHING AND BONDING JUMPERS CORRECTLY INSTALLED.
17. ALL CONDUITS ENTERING ENCLOSURES FROM UNDERGROUND MUST BE SEALED. SILICONE SHALL NOT BE ALLOWED.
18. ALL CONDUCTORS SHALL BE MEGGED AND PULL TESTED. TRAFFIC SIGNAL CABLE NOT TO BE MEGGED AFTER CONNECTION, AS ELECTRONICS WILL BE DAMAGED.
19. TOP OF CONCRETE FOUNDATION TO BE FINISHED IN A NEAT AND WORKMAN LIKE MANNER. IF LEVELING WASHERS ARE USED, NO MORE THAN ⅛ IN. HEIGHT SHALL BE USED AT ANY ONE CORNER. MAXIMUM DIP OR RISE IN FOUNDATION IS NOT TO EXCEED ⅛ IN PER FOOT. WHEN PROPERLY INSTALLED, TOP OF SERVICE ENCLOSURE SHALL READ LEVEL FRONT TO BACK AND SIDE TO SIDE WITHIN ¼ IN. ROCKING OR MOVEMENT OF THE SERVICE ENCLOSURE SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE STATE.
20. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE ALLOWED ON PS TYPE SERVICES.

LEGEND:

1. METER SOCKET, (WHEN REQUIRED)
2. METER SOCKET 4" x 6" PLEXIGLASS WINDOW INSTALLED IN THE LID.
3. EQUIPMENT MOUNTING PANEL
4. PHOTO ELECTRIC CONTROL WINDOW, (WHEN REQUIRED)
5. HINGED DEADFRONT TRIM
6. LOAD SIDE CONDUIT AREA
7. LINE SIDE CONDUIT AREA
8. UTILITY ACCESS DOOR, WITH HANDLE
9. PEDESTAL DOOR
10. HINGED METER ACCESS
11. CONTROL STATION (H–O–A SWITCH)
12. MAIN DISCONNECT
13. BRANCH CIRCUIT BREAKERS

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CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carol Haddock A90C410572634A3...
DIRECTOR OF HOUSTON PUBLIC WORKS

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SUITE 650
HOUSTON, TX 77024
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TEXAS PE No: 152599

DATE: 09/11/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

ELECTRICAL SERVICE SUPPORT PEDESTAL SERVICE TYPE PS

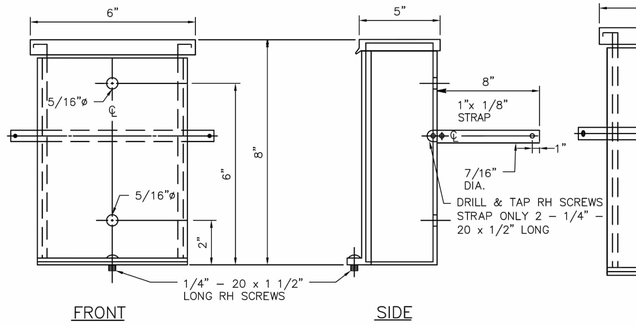
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SHEET NO. 112 OF 223	

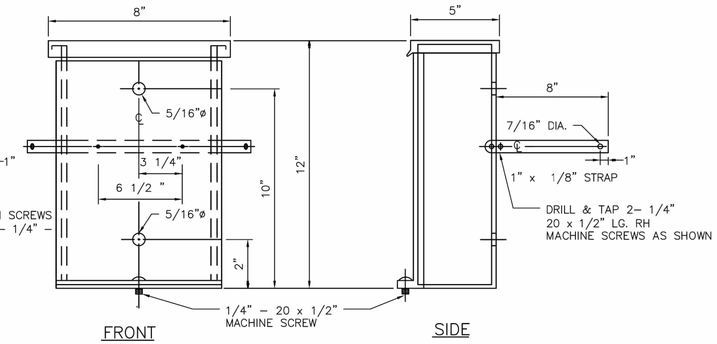
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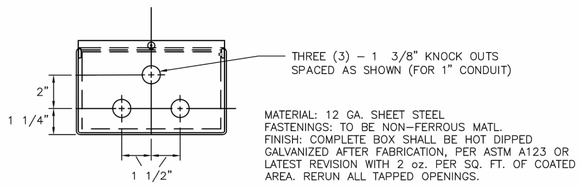
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NOTES:

CONTRACTOR SHALL TRIM TREES AND APPLY WOOD PRESERVATIVE AS DIRECTED BY ENGINEER AND/OR APPROVED CITY OF HOUSTON REPRESENTATIVE.

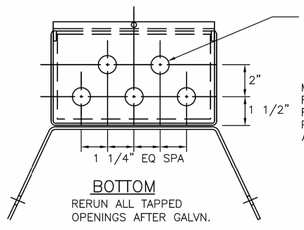






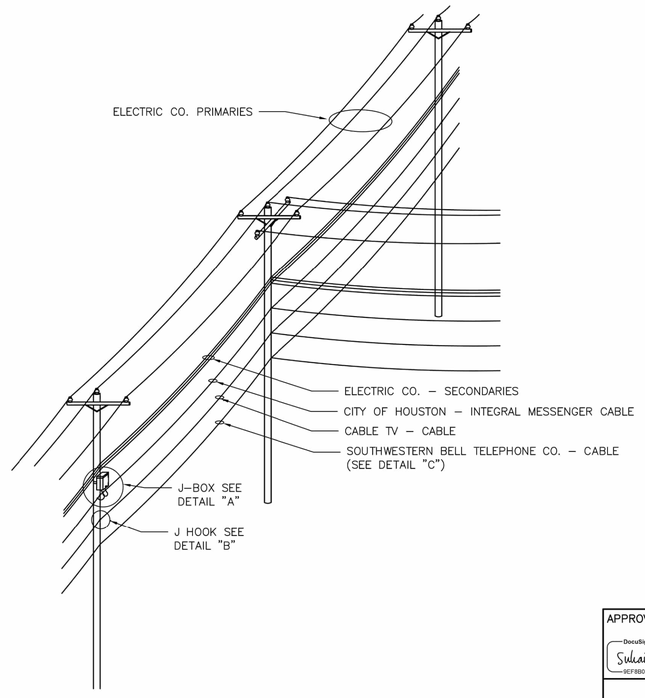
MATERIAL: 12 GA. SHEET STEEL
FASTENINGS: TO BE NON–FERROUS MATL.
FINISH: COMPLETE BOX SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION, PER ASTM A123 OR LATEST REVISION WITH 2 oz. PER SQ. FT. OF COATED AREA. RERUN ALL TAPPED OPENINGS.

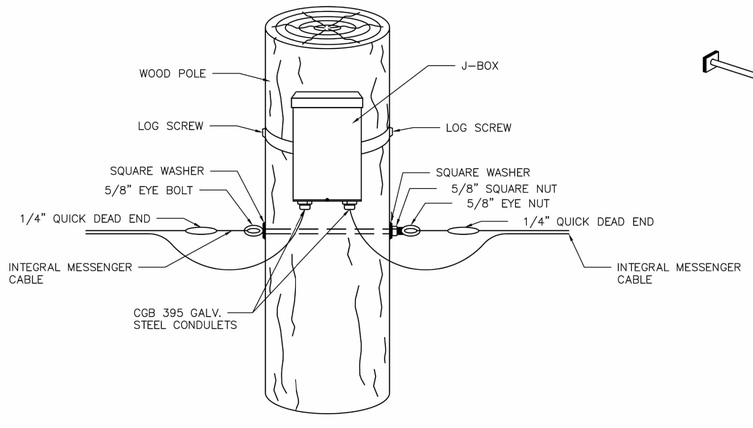
RAINTIGHT JUNCTION BOX
8" X 6" X 5" O.A. DIM.
3 – 1 /8" BOTTOM K.O.



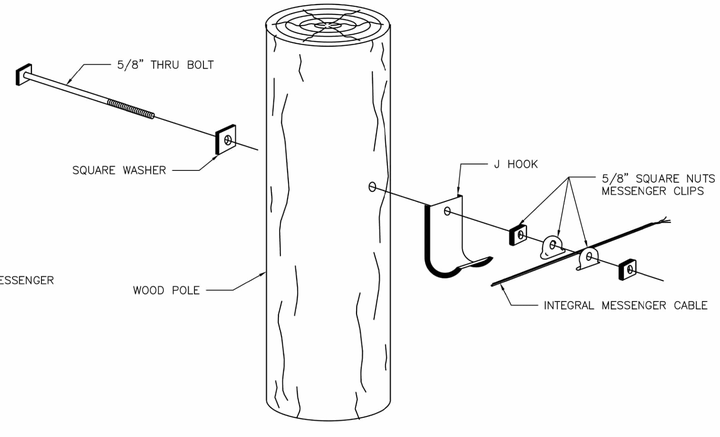
MATERIAL: 12 GA. SHEET STEEL
FASTENINGS: TO BE NON–FERROUS MATL.
FINISH: COMPLETE BOX SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION, PER ASTM A123 OR LATEST REVISION WITH 2 oz. PER SQ. FT. OF COATED AREA.

RAINTIGHT JUNCTION BOX
8" X 5" X 12" O.A. DIM.
5 – 1 3/8" BOTTOM K.O.

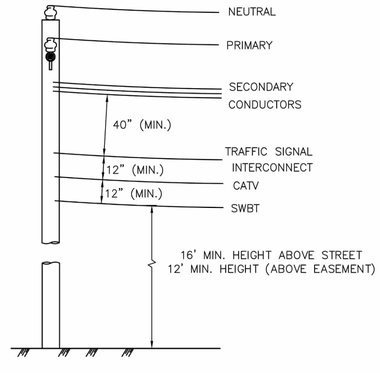




DETAIL A



DETAIL B



DETAIL C

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DocuSigned by: Sukai Kanwar 9EF880C641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A80CA10B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
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TEXAS PE No: 152599

DATE: 09/11/2026

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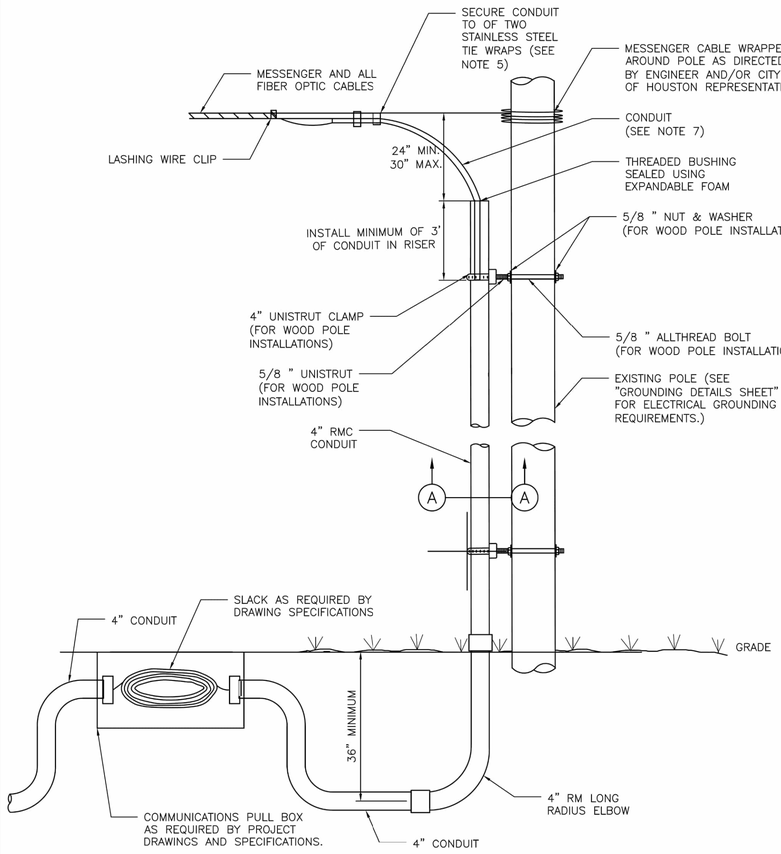
HARDWARE INTERCONNECT DETAILS

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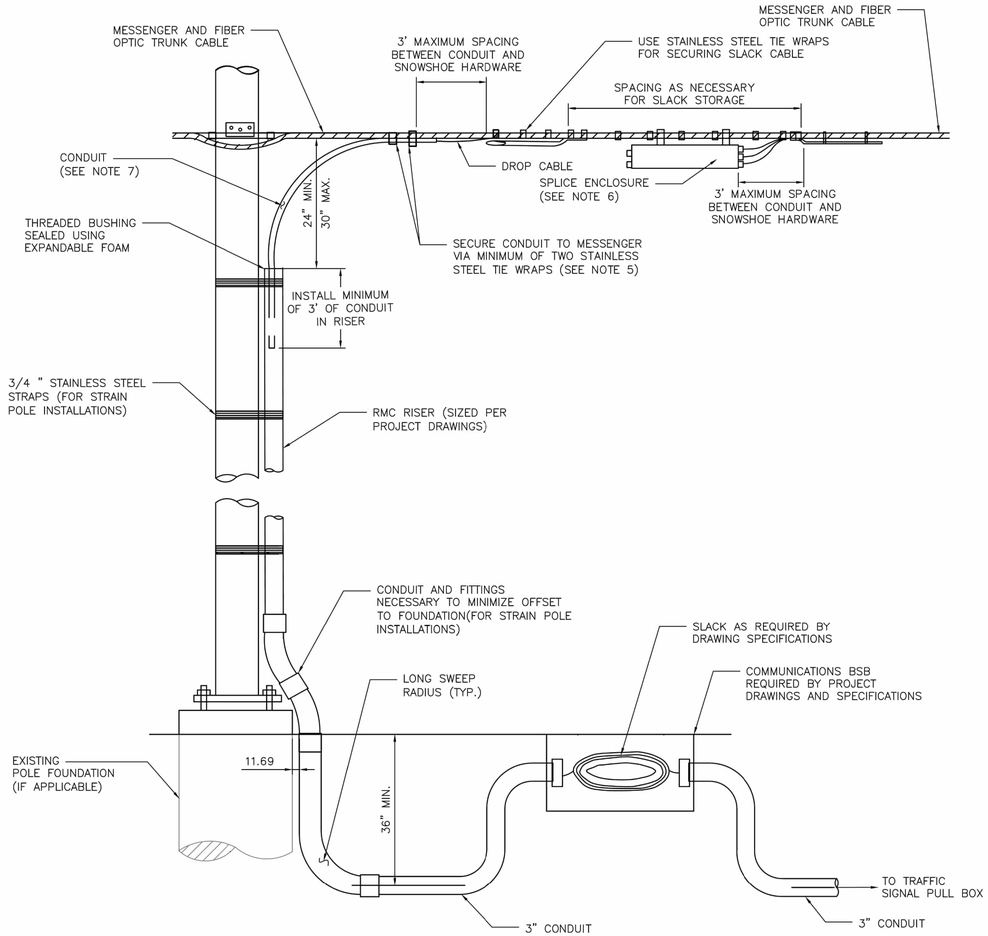
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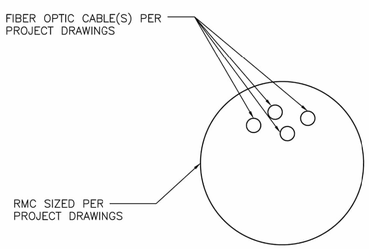
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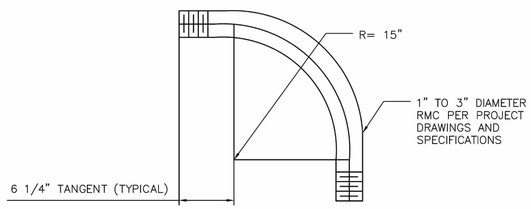
TYPICAL RIGID RISER ASSEMBLY
FOR TRUNK FIBER
AERIAL TO UNDERGROUND TRANSITIONS



TYPICAL RIGID RISER ASSEMBLY
FOR FIBER OPTIC DROP CABLE INSTALLATION



SECTION A–A



LONG RADIUS ELBOW DETAIL

NOTES:

1. THIS DETAIL SHALL BE UTILIZED WHERE APPLICABLE FOR ALL AERIAL SLACK STORAGE, AERIAL TO UNDERGROUND TRUNK CABLE TRANSITIONS, AND AERIAL SPLICING ACTIVITIES FOR TRUNK AND DROP CABLE INSTALLATIONS.
2. CABLE STORAGE AND MANAGEMENT WITHIN FIELD CABINETS SHALL BE PERFORMED BY SECURING FIBER OPTIC CABLE SLACK AND CONNECTORS IN THE TOP OF THE CABINETS.
3. MINIMUM BEND RADII FOR ALL CONDUIT AND CONDUIT FITTINGS SHALL CONFORM TO THE REQUIREMENTS ESTABLISHED IN THE "LONG RADIUS ELBOW DETAIL" DRAWING.
4. SLACK CABLE STORAGE REQUIREMENTS SHALL BE IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS. SNOWSHOE HARDWARE UTILIZED SHALL BE MOORE OPTIRACK PART# MFSR24–HCK OR APPROVED EQUAL.
5. ALL TRUNK CABLE NOT DESIGNATED FOR SLACK STORAGE OR SPLICING ACTIVITIES SHALL BE OVERLASHED TO THE MESSENGER CABLE. ALL OTHER CABLE SHALL BE ATTACHED AERIALLY USING STAINLESS STEEL TIE WRAPS (PANDUIT PART# MLT 4H–LP OR APPROVED EQUAL).
6. SPLICE ENCLOSURES USED SHALL BE PART# 3M 2178 LS, L, OR LL AS NECESSARY TO ACCOMMODATE CABLES TO BE SPLICED. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE SAME END AND SHALL BE SPLICED IN BUTT CONFIGURATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER AND/OR THE APPROVED CITY OF HOUSTON REPRESENTATIVE.
7. TWO CONDUITS MAY BE REQUIRED BY THE PROJECT DRAWINGS.
8. NO SPLICE CLOSURES OR SLACK STORAGE SHALL BE LOCATED OVER PUBLIC OR PRIVATE TRAVEL WAYS.
9. ALL REQUIRED HARDWARE AND CONDUIT SHALL BE GALVANIZED.

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DocuSigned by: Sukai Kanwar 9EF8B0C841F5478...	DocuSigned by: KHING NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A80CA10B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02893–05

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TEXAS PE No: 152599

DATE: 09/11/2026

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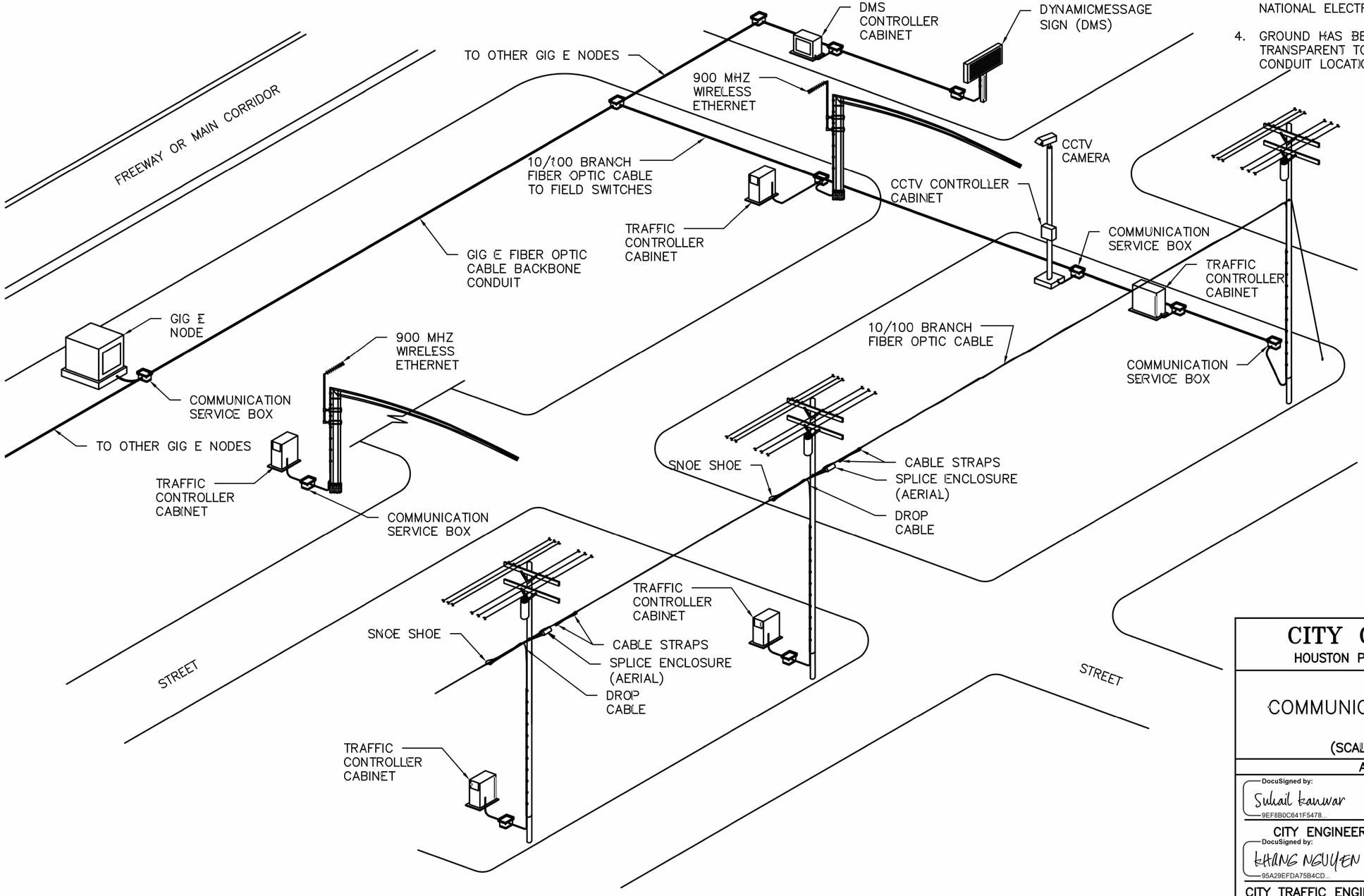
TRUNK FIBER AERIAL TO UNDERGROUND TRANSITIONS

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NOTES:

1. GIG E SYSTEM COMPONENT SCHEMATIC OVERVIEW.
2. ROAD REPRESENTATION IS NOT TO SCALE.
3. ALL ILLUSTRATED AERIAL CLEARANCES ARE PER NATIONAL ELECTRICAL CODE (N.E.C.)
4. GROUND HAS BEEN ILLUSTRATED AS TRANSPARENT TO VIEW SERVICE BOX & CONDUIT LOCATION.



CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

COMMUNICATIONS OVERVIEW

(SCALE: NOT TO SCALE)

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CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

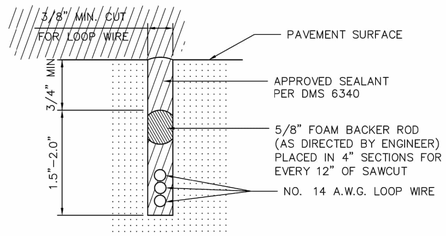
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DIRECTOR OF HPW

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DWG NO: 16700-01

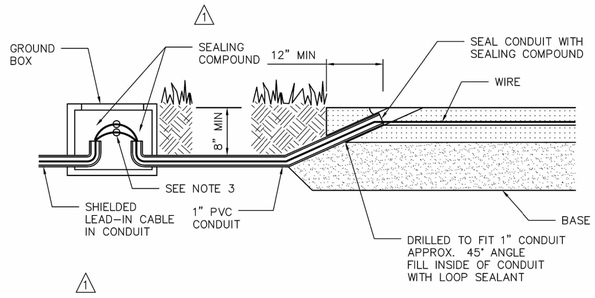
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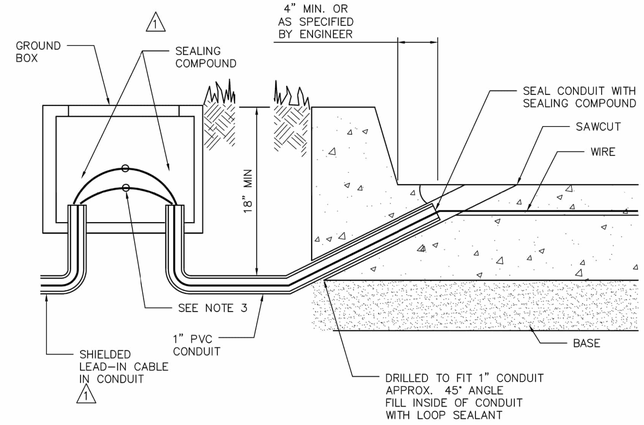


LOOP SAW CUT CROSS-SECTION

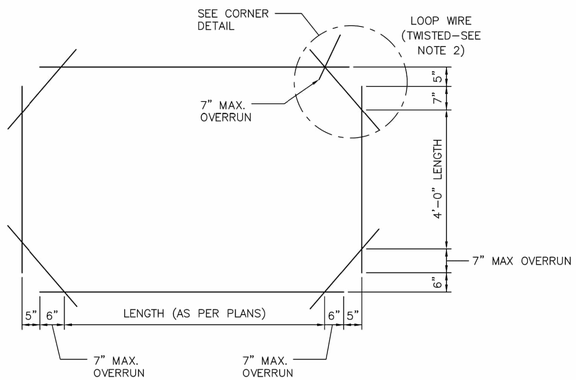
* SAWCUTS IN BRIDGE DECKS ARE TYPICALLY 1" DEPTH MAXIMUM
SAWCUTS IN BRIDGE DECKS AND ACROSS EXPANSION JOINTS
SHALL BE AS APPROVED BY ENGINEER



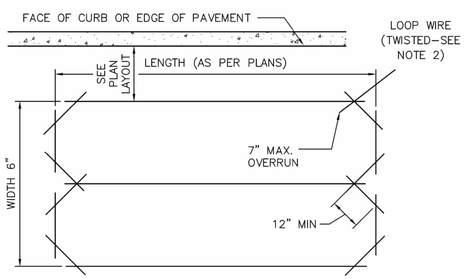
TYPICAL LEAD IN CONFIGURATION (WITHOUT CURBING)



TYPICAL LEAD IN CONFIGURATION (WITH CURBING)



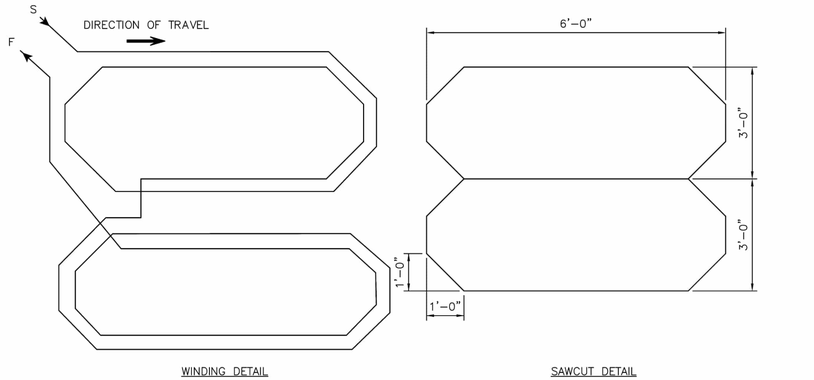
RECTANGULAR



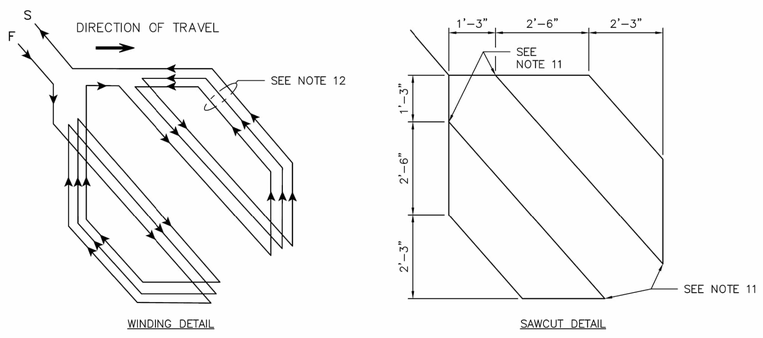
QUADRAPOLE

TYPICAL VEHICULAR LOOP DETECTOR LAYOUT

(AS SPECIFIED IN PLANS)



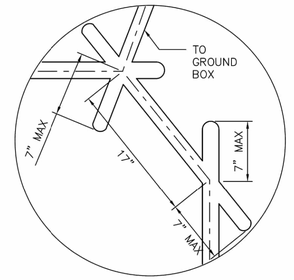
QUADRUPOLE (Q) TYPE LOOP DETECTOR CONFIGURATION



DIAGONAL SLASHED (D) TYPE LOOP DETECTOR CONFIGURATION

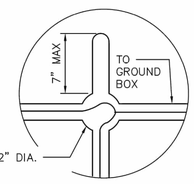
TYPICAL BICYCLE LOOP DETECTOR LAYOUT

(AS SPECIFIED IN PLANS. SEE PAVEMENT MARKINGS DETAILS FOR LOCATION RELATIVE TO BICYCLE SYMBOL)



RECTANGULAR & HEXIGON LOOP

SAWCUT CORNER DETAIL
7" OVERRUN BASED ON
24" DIAMETER SAW BLADE



RECTANGULAR & HEXIGON LOOP (ALT.)

DRILLED CORNER DETAIL

TYPICAL CORNER DETAILS

GENERAL NOTES:

1. THE PAVEMENT CUT IS TO BE MADE WITH A CONCRETE SAW TO NEAT LINES AND LOOSE MATERIAL REMOVED. THE CUT SHALL BE CLEAN AND DRY WHEN THE WIRE AND SEALING COMPOUND IS PLACED.
2. LOOP WIRE SHALL BE 14 AWG STRANDED TYPE XHHW. WIRE FROM THE LOOP TO THE GROUND BOX SHALL BE TWISTED A MINIMUM OF 5 TURNS PER FOOT. NO SPLICES SHALL BE PERMITTED IN THE LOOP OR IN THE RUN TO THE GROUND BOX.
3. THE HOME RUN CABLE FROM THE PULL BOX TO THE CONTROLLER SHALL BE IMSA 50-2 SHIELDED CABLE AND SHALL BE SOLDERED TO THE LOOP WIRE. THE SOLDER JOINTS SHALL BE SEALED WITH SCOTCHCAST OR OTHER METHOD ACCEPTABLE TO THE ENGINEER. THE SHIELD SHALL BE GROUNDED ONLY AT THE CONTROLLER END. LOOP HOME RUN CABLE SHALL BE TWO CONDUCTOR 14 AWG SHIELDED, TYPE XHHW.
4. ALL WIRE PLACED IN THE SAW CUT SHALL BE SEALED BY FULLY ENCAPSULATING IT IN A SEALANT ACCEPTABLE TO THE ENGINEER. SEALING COMPOUND SHALL BE IN ACCORDANCE WITH DMS 6340.
5. THE LOOP LOCATION, CONFIGURATION AND NUMBER OF TURNS SHALL BE AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RECOMMENDED NUMBER OF TURNS FOR LOOP DETECTORS

LOOPS PERIMETER SIZE (FT.)	NUMBER OF TURNS	APPROXIMATE LOOP SIZES INCLUDED
24' or Less	3 or 4	5' x 5', 6' x 6'
25' – 110'	2 or 3	6' x 10', 6' x 45'
110' or More	1 or 2	6' x 50' or Longer

6. A SEPARATE SAW CUT SHALL BE MADE FROM EACH LOOP TO THE EDGE OF PAVEMENT OR AS SPECIFIED BY THE ENGINEER.
7. SPLICES BETWEEN THE LOOP LEAD-IN CABLE AND LOOP DETECTOR SHALL BE MADE ONLY IN THE GROUND BOX NEAR THE LOOP IT IS SERVING.
8. CIRCULAR LOOPS MAY USE PREWOUND LOOPS ENCASED IN CONTINUOUS PVC TUBING. SAWCUT WIDTH MAY BE ADJUSTED TO ACCOMMODATE TUBING.
9. THE LEAD-IN WIRE IN THE CIRCULAR LOOP SHALL BE COILED AT THE 3 INCH DRILLED CORNER TO REDUCE BENDING STRESS.
10. LOOP DUCT MAY BE USED AS SPECIFIED BY ENGINEER. FOR ADDITIONAL INFORMATION REFER TO "TEXAS TRAFFIC SIGNAL DETECTOR" MANUAL, TTI REPORT 1163-1.
11. ROUND CORNERS OF ACUTE ANGLES TO PREVENT DAMAGE TO CONDUCTORS.
12. INSTALL 3 TURNS WHEN ONLY ONE TYPE D LOOP IS ON A SINGLE CHANNEL. INSTALL 5 TURNS WHEN ONE TYPE D IS CONNECTED W/3-6'X6' LOOPS ON. A SINGLE CHANNEL.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukail Kanwar 9EF8B0C841F5478...	DocuSigned by: KHING NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A93C410B7283453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 16727-01

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-10912

MBROH ENGINEERING
TBPE FIRM NO. 9439

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND ARE NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

KARI HUI-SHAN CAI, P.E.
TEXAS PE No: 152599

DATE: 09/11/2026

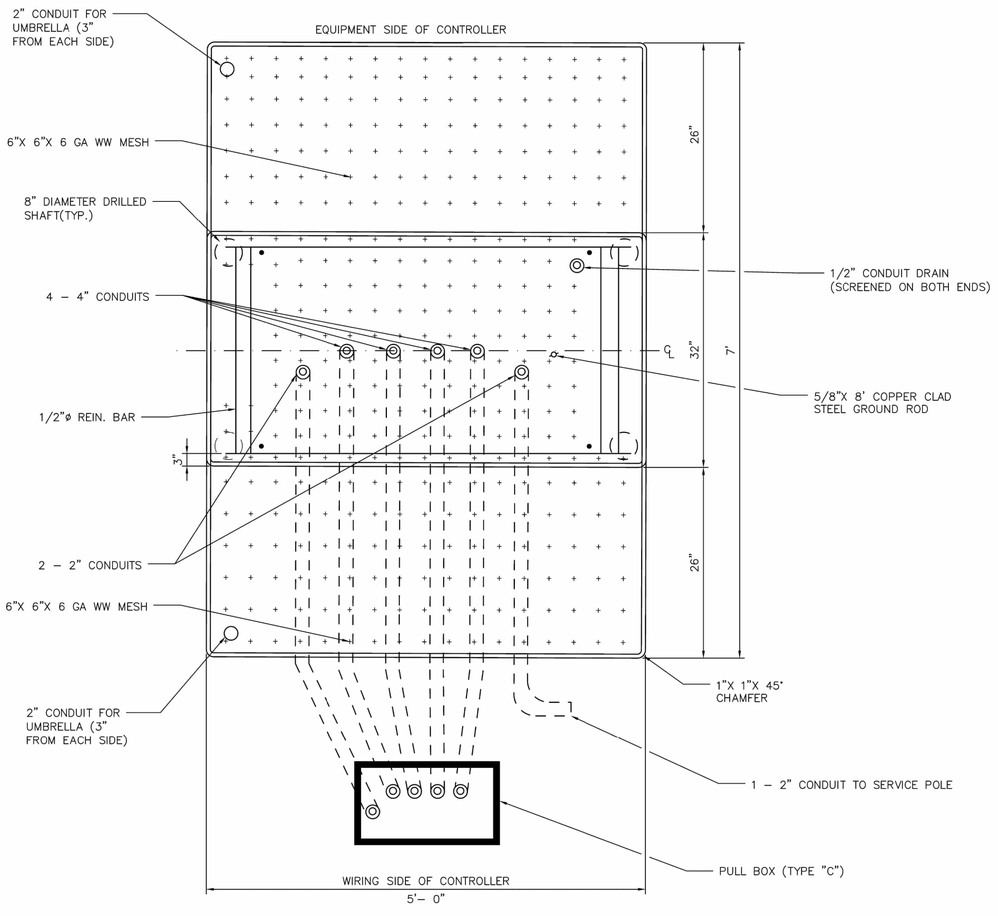
CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

LOOP DETECTOR INSTALLATION DETAILS

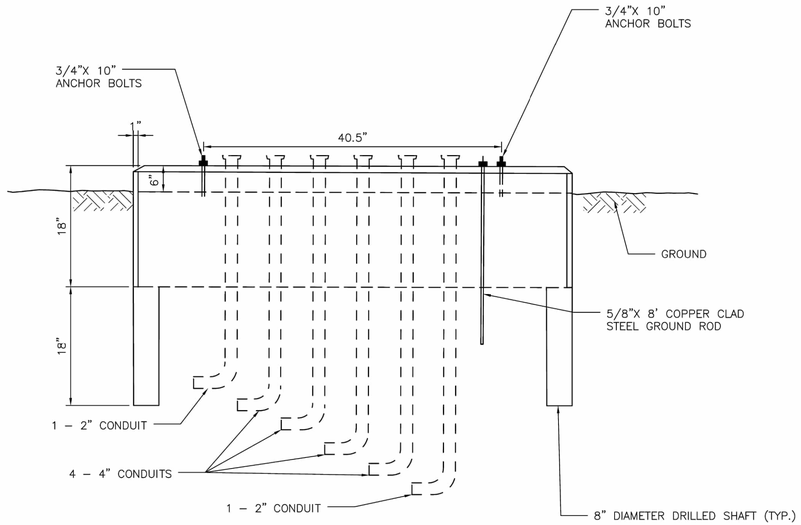
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DERRICK HOLMES, E.I.T.	
SHEET NO. 116 OF 223	

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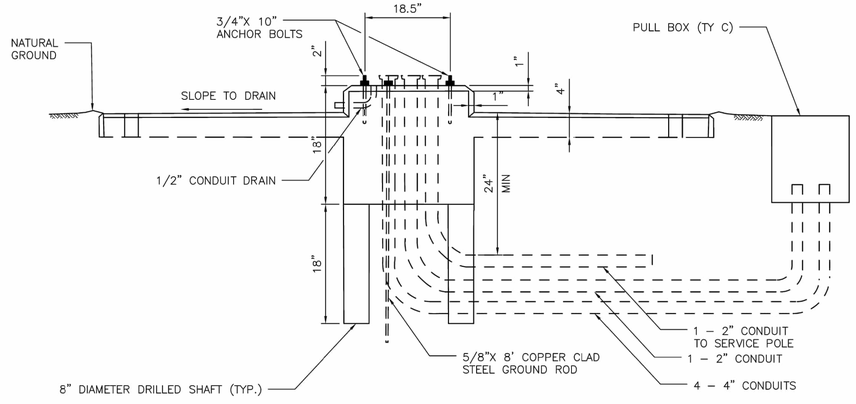
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MODEL ITS 340 AND ACT 350i DETAIL
TOP VIEW



MODEL ITS 340 AND 350i DETAIL
FRONT VIEW



MODEL ITS 340 AND 350i DETAIL
SIDE VIEW

NOTES:

1. ALL CONCRETE TO BE IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION SECTION 03310.
2. SET THE TOP OF THE STEP OF THE CONTROLLER FOUNDATION NO LOWER THAN THE LEVEL OF THE PAVEMENT SURFACE. ANY NECESSARY ADJUSTMENT SHALL BE APPROVED BY THE ENGINEER.
3. CENTER THE CABINET ON THE FOUNDATION.
4. THE FOUNDATION SHALL BE SUPPORTED BY UNDISTURBED SOIL OR BY SOIL THAT HAS BEEN COMPACTED TO 90% PROCTOR DENSITY IN 6" LIFTS.
5. ALL CONDUIT ELBOWS TO BE RGS.

APPROVED BY: DocuSigned by: Sukait Kanuar 9CF880C641F5478...	APPROVED BY: DocuSigned by: KHING NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Carol Haddock A93C410B7283453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 16730–03

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–10912

MBROH ENGINEERING
TBPE FIRM NO. 9439

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TEXAS PE No: 152599

DATE: 09/11/2026

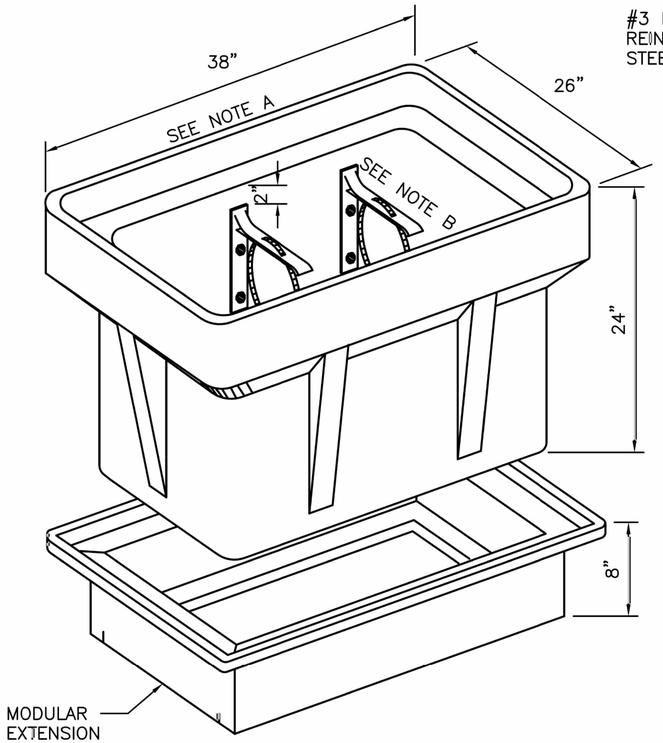
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HOUSTON PUBLIC WORKS STANDARD

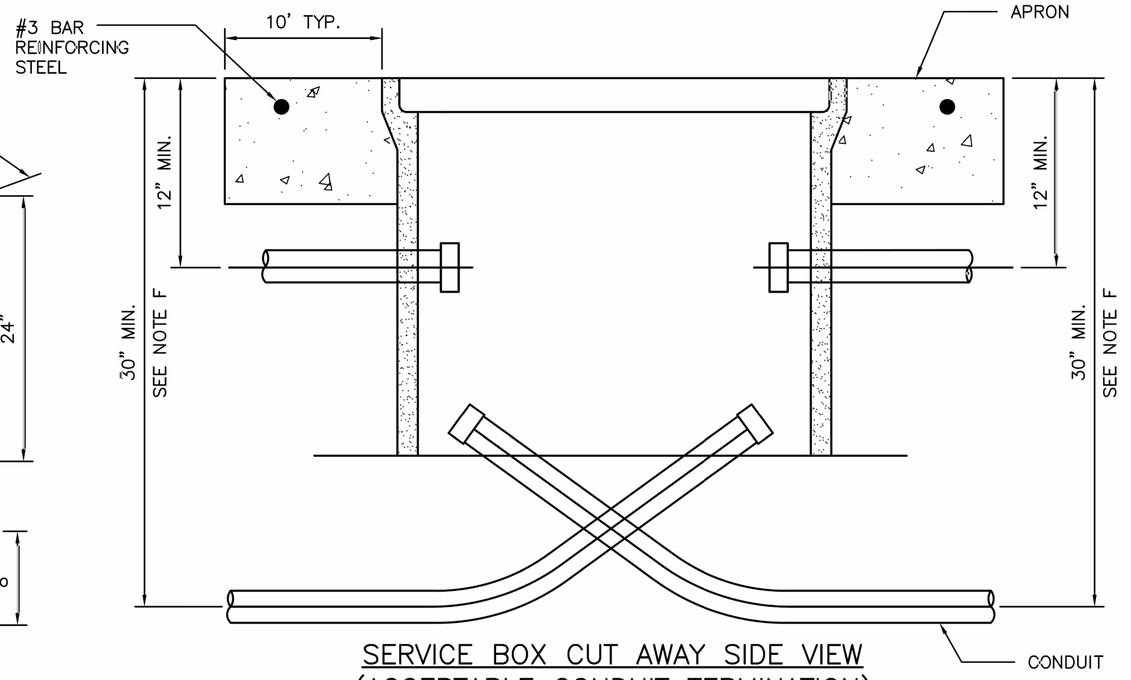
CONTROLLER FOUNDATIONS

SHEET 3 OF 3

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SERVICE BOX CUT AWAY SIDE VIEW
(ACCEPTABLE CONDUIT TERMINATION)

LEGEND

A. SPLICE CLOSURE BRACKET PROVIDES MINIMUM LID CLEARANCE OF 2" AND SUPPORTS FIBER OPTIC SPLICE CLOSURE(8" DIA. X 24" LONG AT 18 LBS).

B. NYLON TIES

C. HEAVY DUTY REMOVABLE LID WITH LOCKING PROVISIONS, PROVIDING 15,000 LB. OVER 10" SQUARE STATIC LOAD SUPPORT.

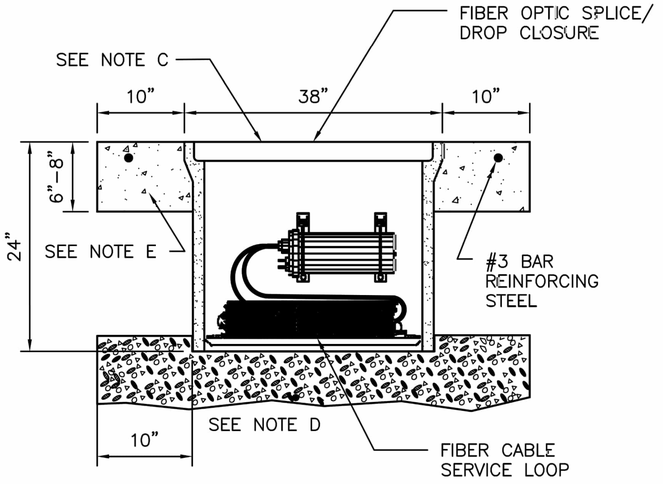
D. 6" TO 8" OF GROUND OR CRUSHED ROCK BED FOR DRAINAGE.

E. CONCRETE APRON; 3,000 PSI AS REQUIRED FOR THE LOCATION,(DRIVE, SIDEWALK, PARKING LOT OR AREAS OF LIGHT TRAFFIC).

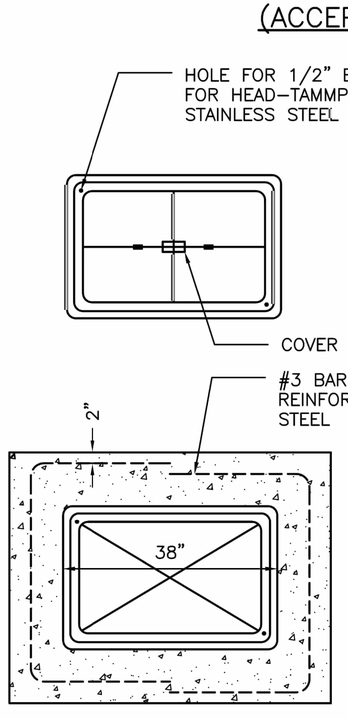
F. CONDUIT BURIAL DEPTH SHALL BE 30" MIN. OR 12" (+/−2") MEASURED TO THE CENTERLINE OF THE CONDUIT.

NOTE:

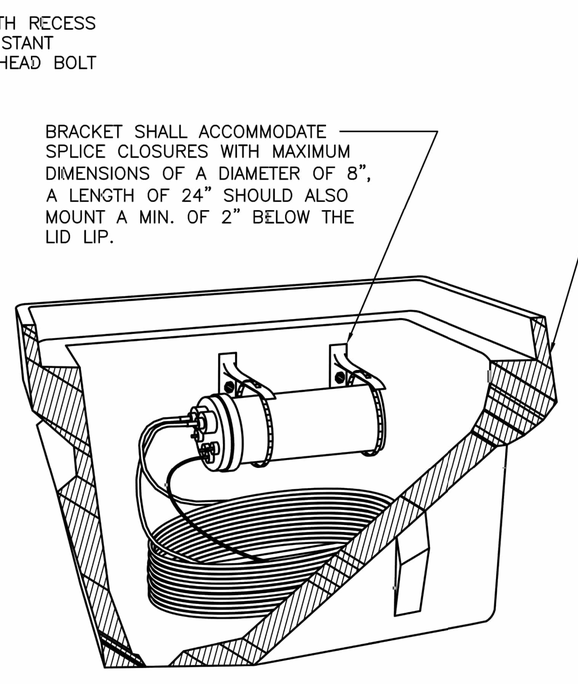
THE CROSS SECTION VIEW OF BOX IN ORDER TO VIEW DROP CLOSURE AND CABLE CONTAINED WITHIN.



CROSS SECTION VIEW
INSTALLED COMMUNICATION
SERVICE BOX DETAIL



TOP VIEW
COMMUNICATION SERVICE BOX DETAIL



CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

COMMUNICATIONS SERVICE BOX DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...
CITY ENGINEER

DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

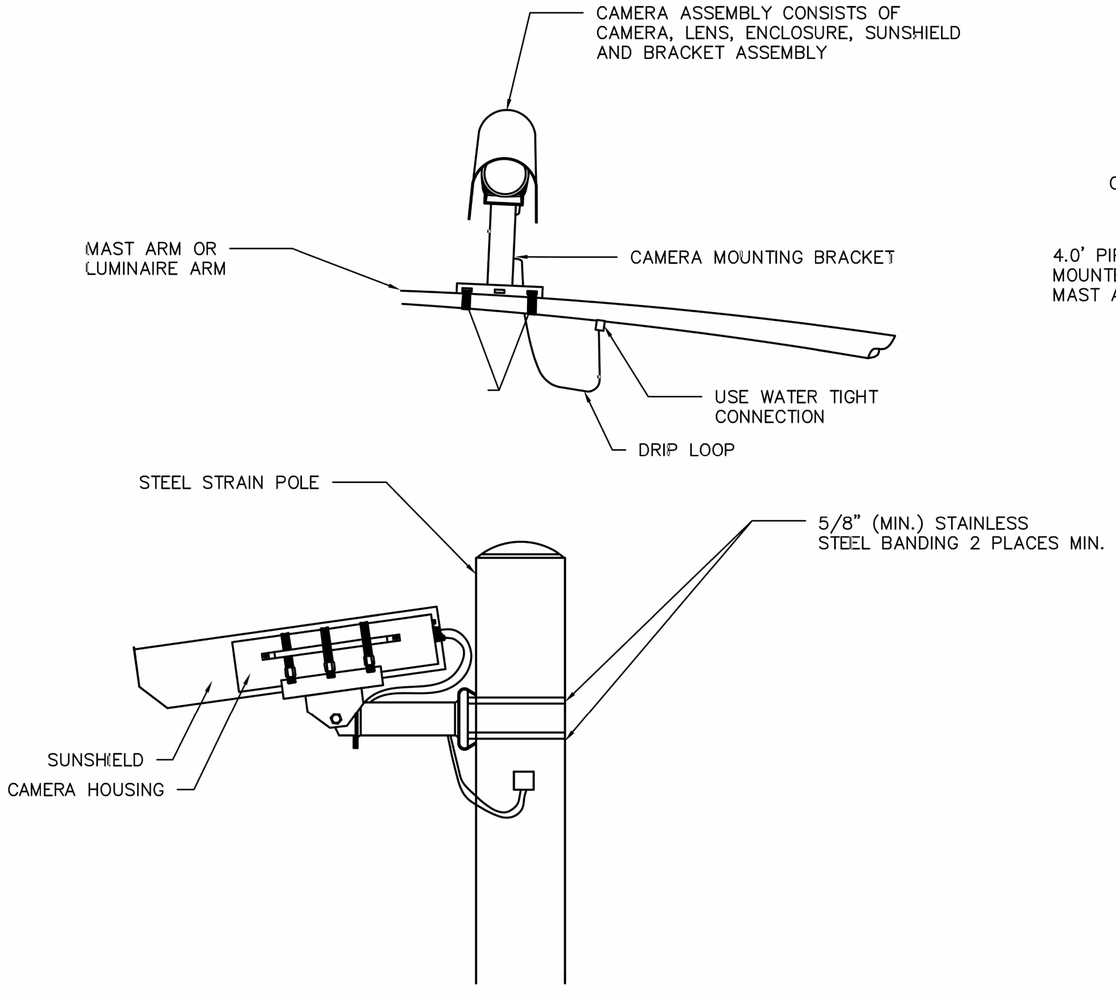
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DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 16737-01

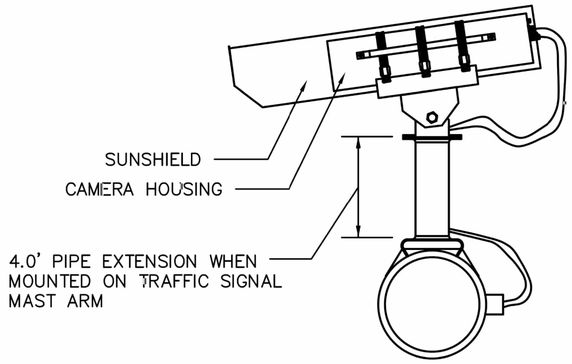
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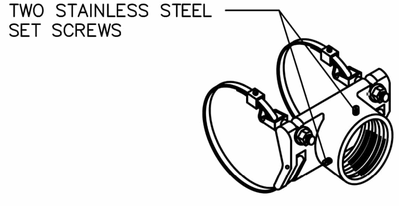
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POLE MOUNT



SIDE VIEW



BAND MOUNT BRACKET DETAIL

NOTES:

1. VIDEO DETECTION PROCESSOR UNIT SHALL BE INSTALLED INSIDE CONTROLLER CABINET.
2. VIDEO DETECTION CAMERA & BRACKET SHALL BE INSTALLED AS DETAILED OR AS DIRECTED BY THE VIDEO DETECTION SUPPLIER.
3. CAMERAS SHALL BE MOUNTED AS FAR OVER THE ROADWAY AS POSSIBLE.
4. 5/8" (MIN.) STAINLESS STEEL BANDING MATERIAL SHALL BE USED TO INSTALL CAMERA MOUNTS.
5. WHEN AIMING CAMERA, HORIZON SHALL NOT BE VISIBLE IN THE FIELD OF VIEW.
6. CAMERA ENCLOSURE ASSEMBLY SHALL BE ROTATABLE AFTER INSTALLATION TO PROVIDE PROPER ALIGNMENT.
7. ALL CABLE ENTRY AND EXIT POINTS IN THE MAST ARM AND/OR POLES SHALL BE WATER TIGHT.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

VIDEO CAMERA MOUNTING DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

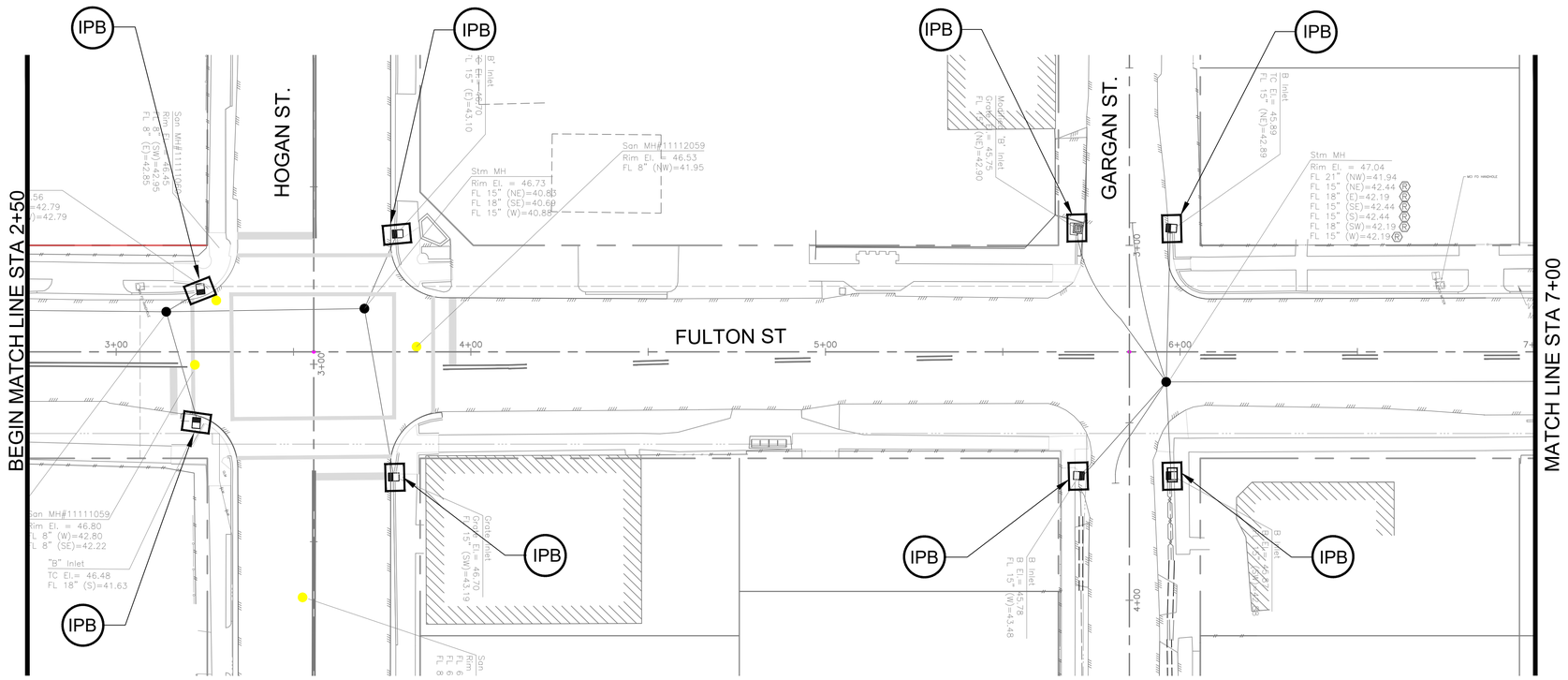
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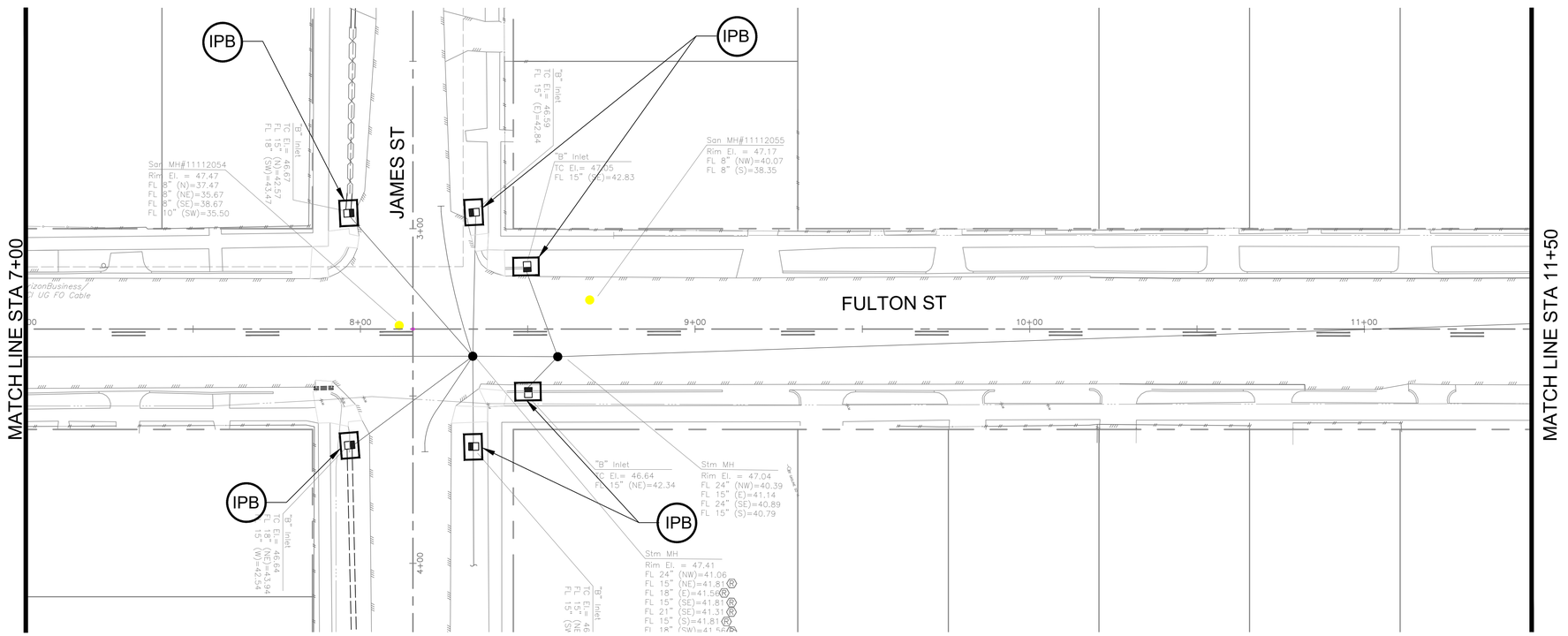
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DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023

DWG NO: 16742-01





NOTE:

STORM WATER POLLUTION PLAN SHALL CONFORM TO SPECIFICATIONS AND DRAWINGS.

ALL DISTURBED AREAS THAT ARE NOT PAVED OR COVERED BY STRUCTURE SHALL BE SODDED OR HYDROMULCH SEEDED.

CONTRACTOR'S LAY DOWN/STORAGE AREA SHALL HAVE A STABILIZED CONSTRUCTION EXIT.

LEGEND

IPB — INLET PROTECTION BARRIER

SC — STABILIZED CONSTRUCTION ACCESS

NO.	DATE	REVISION	APP.

NOTICE:

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

VERIFICATION OF PRIVATE UTILITY LINES

Date

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

Signature valid for six months.

Date

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

Signature valid for six months.

Date

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-10912

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6170

FCM Engineers, P.C.
TX FIRM No.: F-13481

DESIGN ENGINEER NAME
FCM ENGINEERS, P.C.
ADDRESS:
3300 S. GESSNER ROAD
SUITE 249
TEL.No.:713-706-4412
Fax No.:713-706-4410

INTERIM REVIEW ONLY
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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
09/6/2023

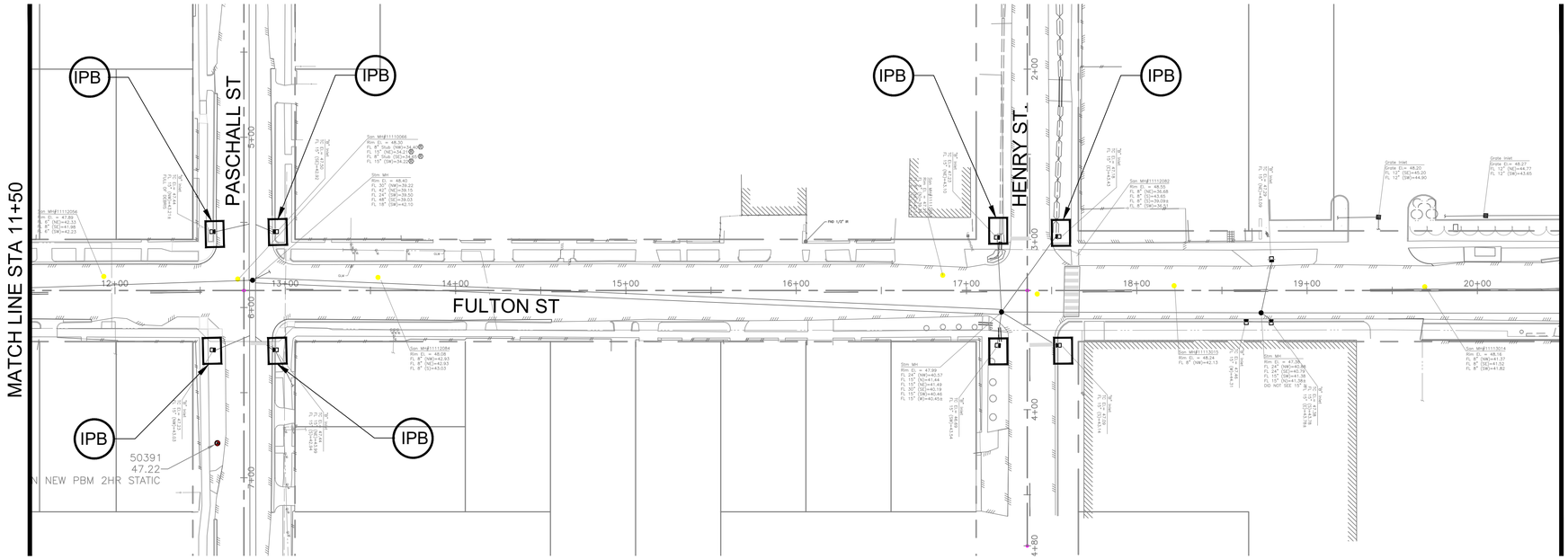
CITY OF HOUSTON
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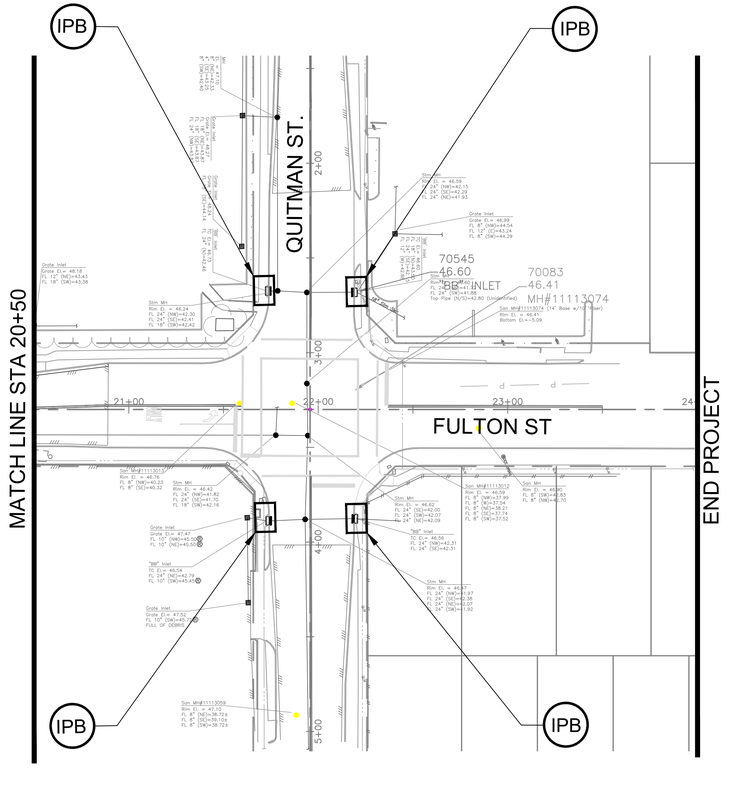
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORMWATER POLLUTION PREVENTION PLAN (SHEET 1 OF 2)

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 120 OF 223	

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SURVEYED BY:
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FB NUMBER: P-6170

FCM Engineers, P.C.
TX FIRM No.: F-13481

DESIGN ENGINEER NAME
FCM ENGINEERS, P.C.
ADDRESS:
3300 S. GESSNER ROAD
SUITE 249
TEL.No.:713-706-4412
Fax No.:713-706-4410

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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
09/6/2023

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORMWATER POLLUTION PREVENTION PLAN (SHEET 2 OF 2)

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 121 OF 223	

Y:\2017014 Fulton Street Reconstruction\CAD FILES\DESIGN FILES\Sw3p Design.dwg, 10/26/2023 11:03:08 AM

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

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

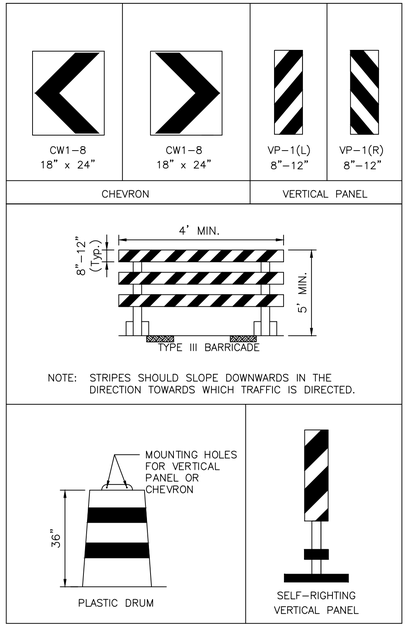
POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'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

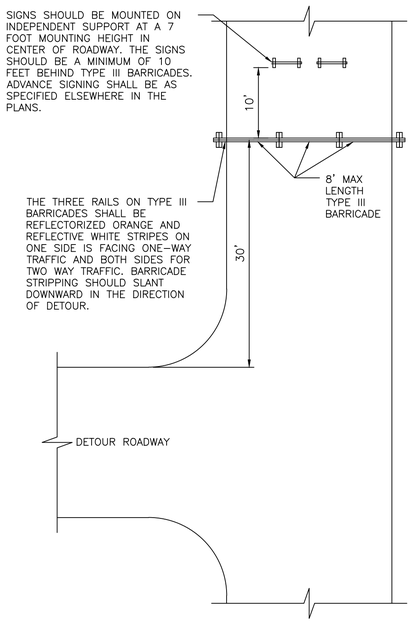
POSTED SPEED (MPH)	DISTANCE "D" (FEET)
30	200
35	250
40	305
45	360
50	425
55	495

METRO'S NOTES FOR WORK ADJACENT TO BUS STOPS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO ANY METRO FACILITIES DAMAGED DURING CONSTRUCTION. IF THE CONTRACTOR CANNOT IMMEDIATELY MAKE THE REPAIRS TO METRO'S SATISFACTION, METRO WILL MAKE THE REPAIRS AND BILL THE COST TO THE CONTRACTOR.
2. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY IN THE FIELD THAT THERE ARE NO CONFLICTS WITH OUR ELECTRICAL POWER, FIBER OPTICS, COMMUNICATION, SIGNALING, HIGH VOLTAGE CABLES OR ANY OTHER METRO INFRASTRUCTURE.
3. THE CONTRACTOR SHALL 'HAND EXCAVATE'IN THE VICINITY OF COMMUNICATION AND POWER LINES FEEDING THE METRO SYSTEM.
4. THE CONTRACTOR SHALL CONTACT THE DIRECTOR OF UNIVERSAL ACCESSIBILITY, TIM MILLS BY EMAIL AT TIM14@RIDEMETRO.ORG OR BY PHONE 713–739–6861 ONE WEEK PRIOR TO CONSTRUCTION. METRO MAY ASSIGN AN INSPECTOR TO ASSURE NO DAMAGES ARE MADE TO METRO'S FACILITIES. UNIVERSAL ACCESSIBILITY WILL COORDINATE ANY PERMANENT OR TEMPORARY IMPACT ON BUS STOPS, SHELTERS AND SIDEWALK TO MAINTAIN ACCESSIBILITY.
5. THE CONTRACTOR SHALL CONTACT METRO BUS OPERATIONS A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO CONSTRUCTION IMPACTING BUS STOPS AND BUS ROUTES. THE CONTACT INFORMATION IS CARL TAYLOR, CARL.TAYLOR@RIDEMETRO.ORG 713–615–7219 OR SHIRLEY MITCHELL, SHIRLEY.MITCHELL@RIDEMETRO.ORG 713–615–7212.
6. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY BUS STOP FACILITIES NEEDED, EXCEPT FOR BUS STOP SIGNS, AT NO COST TO METRO AND SHALL RESTORE ANY AFFECTED BUS STOPS PER COH IDM AND MEET CURRENT AMERICAN DISABILITY ACT (ADA) REQUIREMENTS AS REQUIRED BY LOCAL, STATE AND FEDERAL CODE AND REQUIREMENTS. NO BUS STOP SHALL BE PERMANENTLY REMOVED WITHOUT APPROVAL FROM METRO.
7. ALL PROP. TEMP BUS STOP LOCATIONS (CONTRACTOR TO INSTALL 8' LENGTH X 5' WIDTH 4.5" DEPTH CONC. SIDEWALK FOLLOWING CITY STD. DETAIL 02775–01



CHANNELIZATION AND BARRICADES



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

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

NEDU ENGINEERING SERVICES INC
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FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

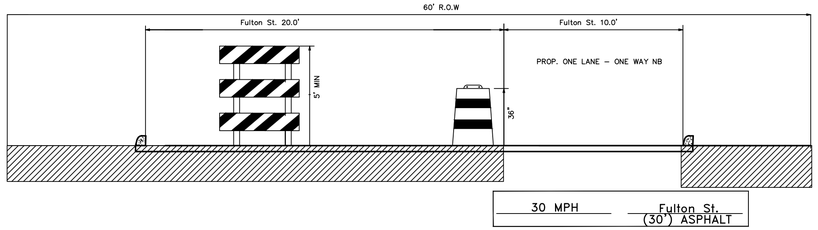
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

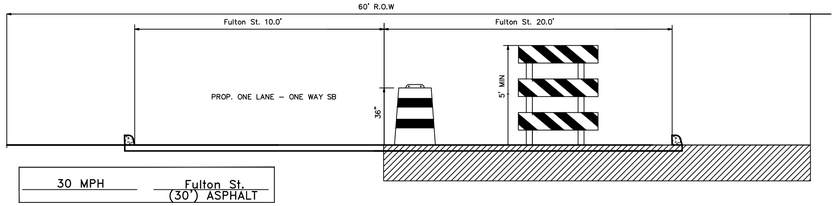
TRAFFIC CONTROL PLAN
GENERAL NOTES

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 122 OF 223

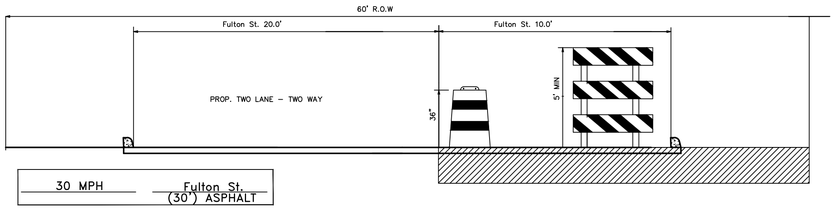
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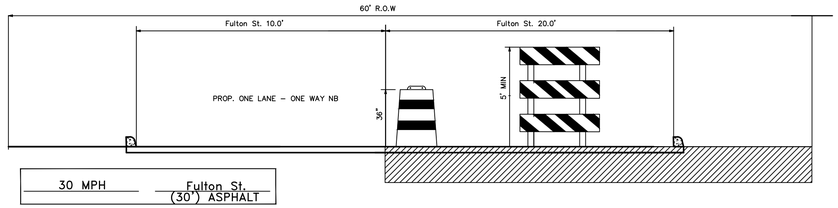
PHASE ONE – STEP 1,2,5,7,8 &15–18



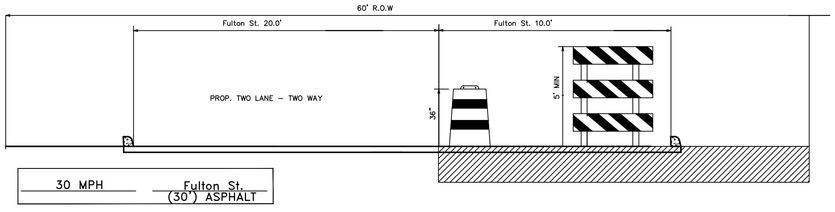
PHASE ONE – STEP 3,4,9,10 & 11–14



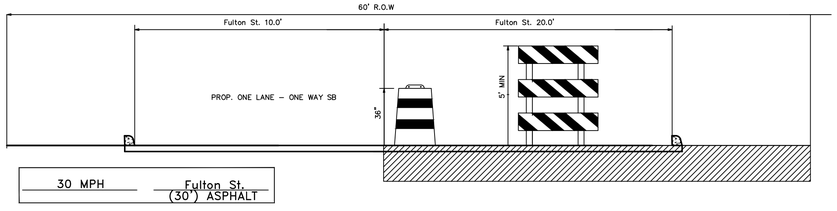
PHASE ONE – STEP 6



PHASE TWO – STEP 1,5,6,9&10



PHASE TWO– STEP 2,3,4,9



PHASE TWO – STEP 7,8

Length for Longitudinal Buffer	
Posted Speed (mph)	Length in Feet (B)
20	35
25	55
30	85
35	120
40	170

LEGEND (TYPICAL)

- PLASTIC DRUM
- OFF-DUTY UNIFORMED POLICE OFFICER OR FLAGGER
- TYPE III BARRICADE

TYPICAL SIGN SPACING AND TAPER LENGTHS.

Posted Speed (mph)	Sign Spacing "X"	Min. Desirable Taper Length "L" 10' Offset	11' Offset	12' Offset
30	120'	150'	165'	180'
35	160'	205'	225'	245'
40	240'	265'	295'	320'

* ENGINEER TO STRIKE THROUGH ALL SPEED LIMITS NOT APPLICABLE

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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10/05/2026

CITY OF HOUSTON

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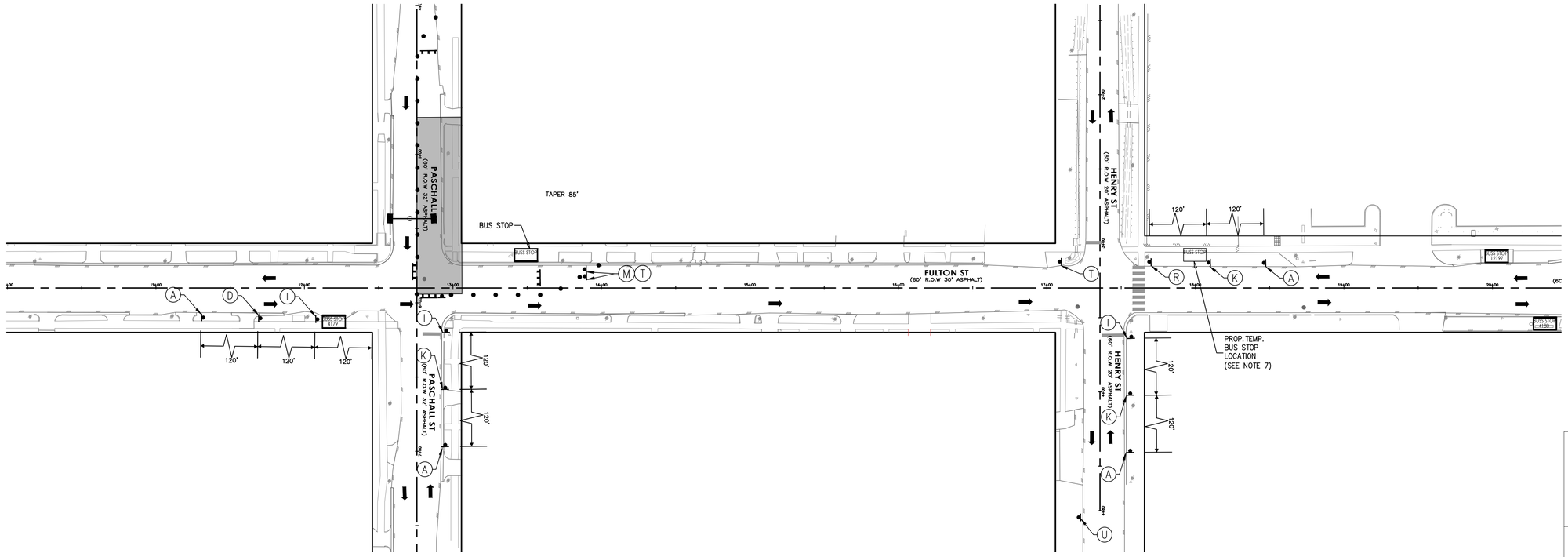
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

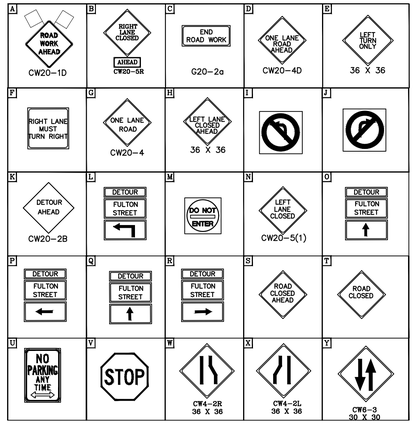
TRAFFIC CONTROL PLAN
CROSS SECTION

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 123 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 1Rev7 STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 12:46 PM

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LEGEND

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

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

NO.	DATE	REVISION	APP.

NOTES:

1. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

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CITY OF HOUSTON

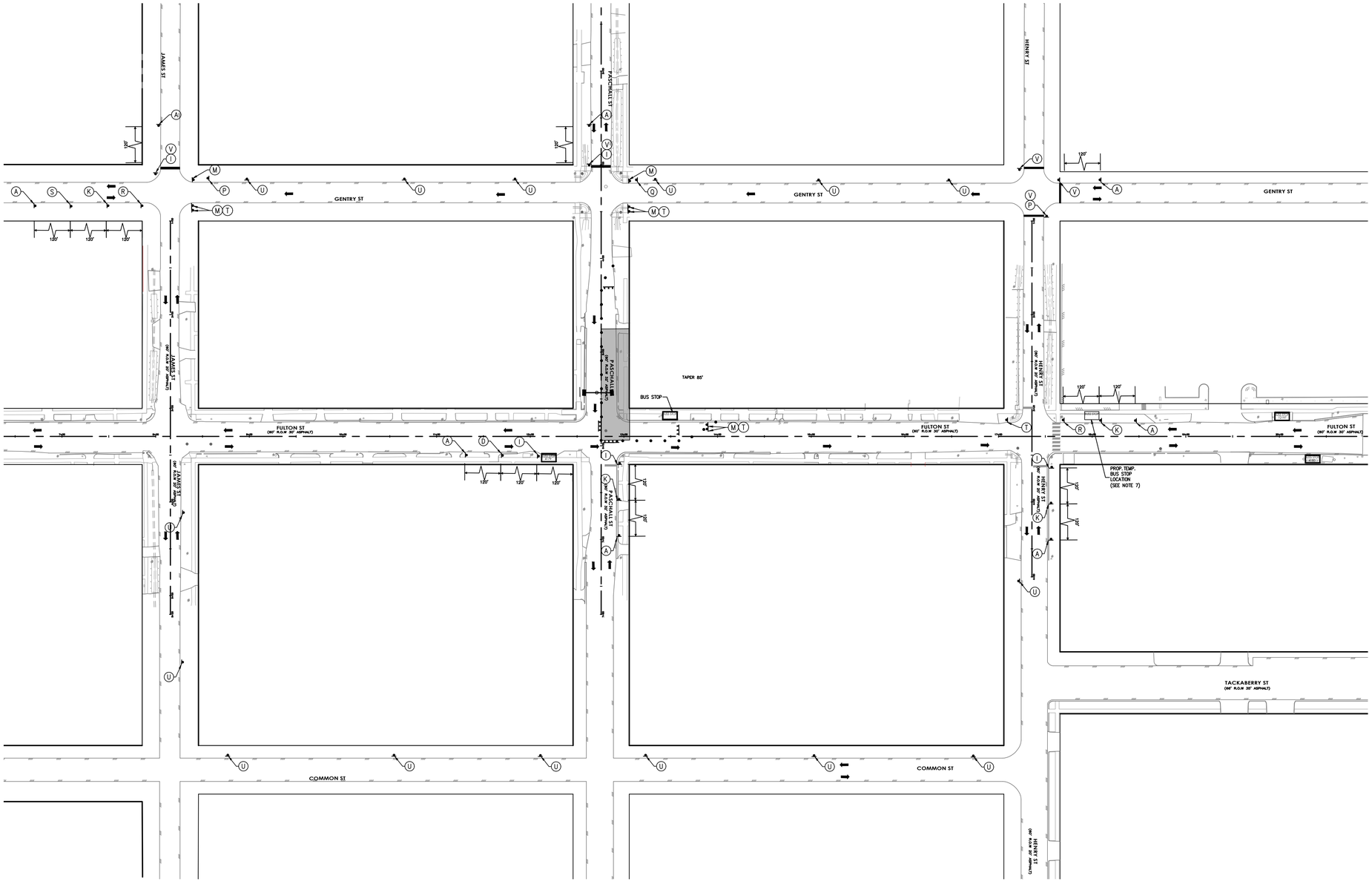
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 1

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 124 OF 223	



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

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HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
ENGINEERS, PROJECT MANAGERS, ESTIMATORS, INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
PROFESSIONAL ENGINEER

10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

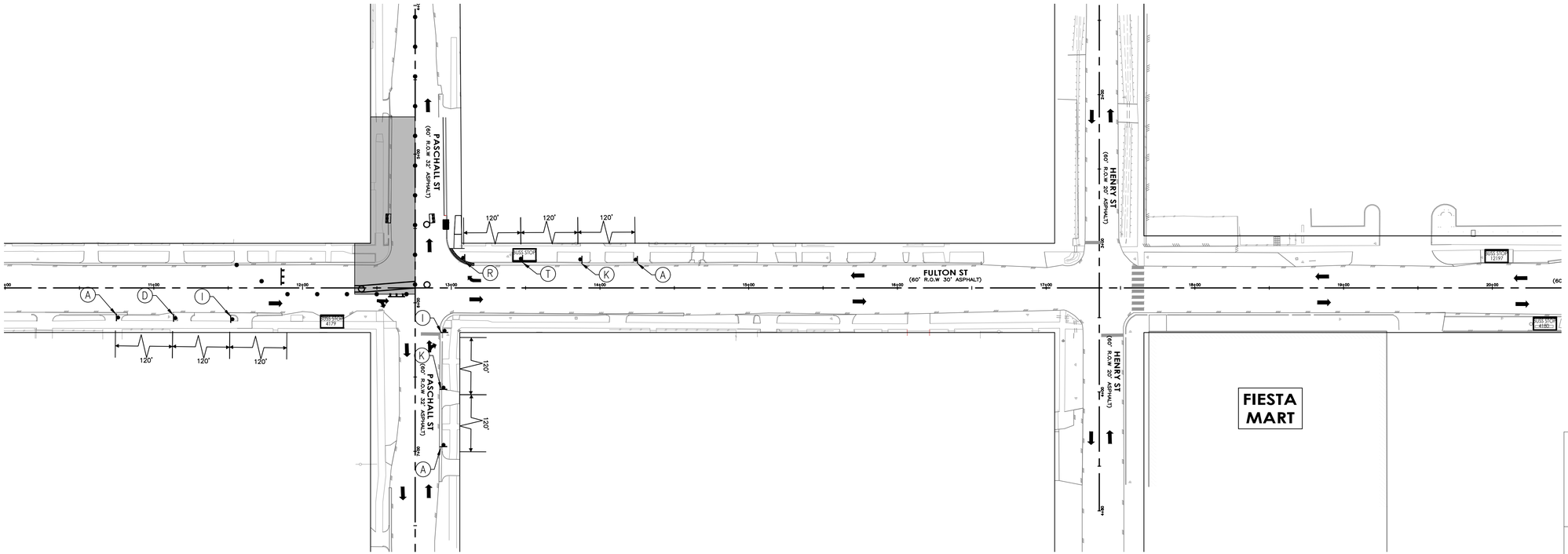
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

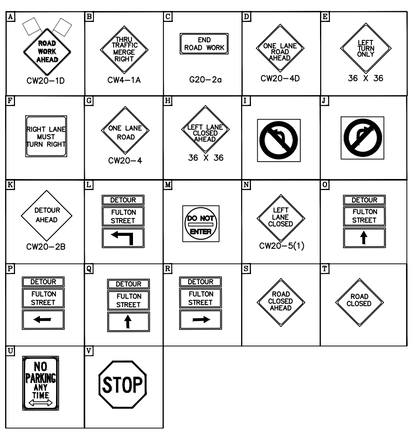
TRAFFIC CONTROL PLAN
PHASE 1 STEP 1-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 125 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 1\Dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 7:57 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

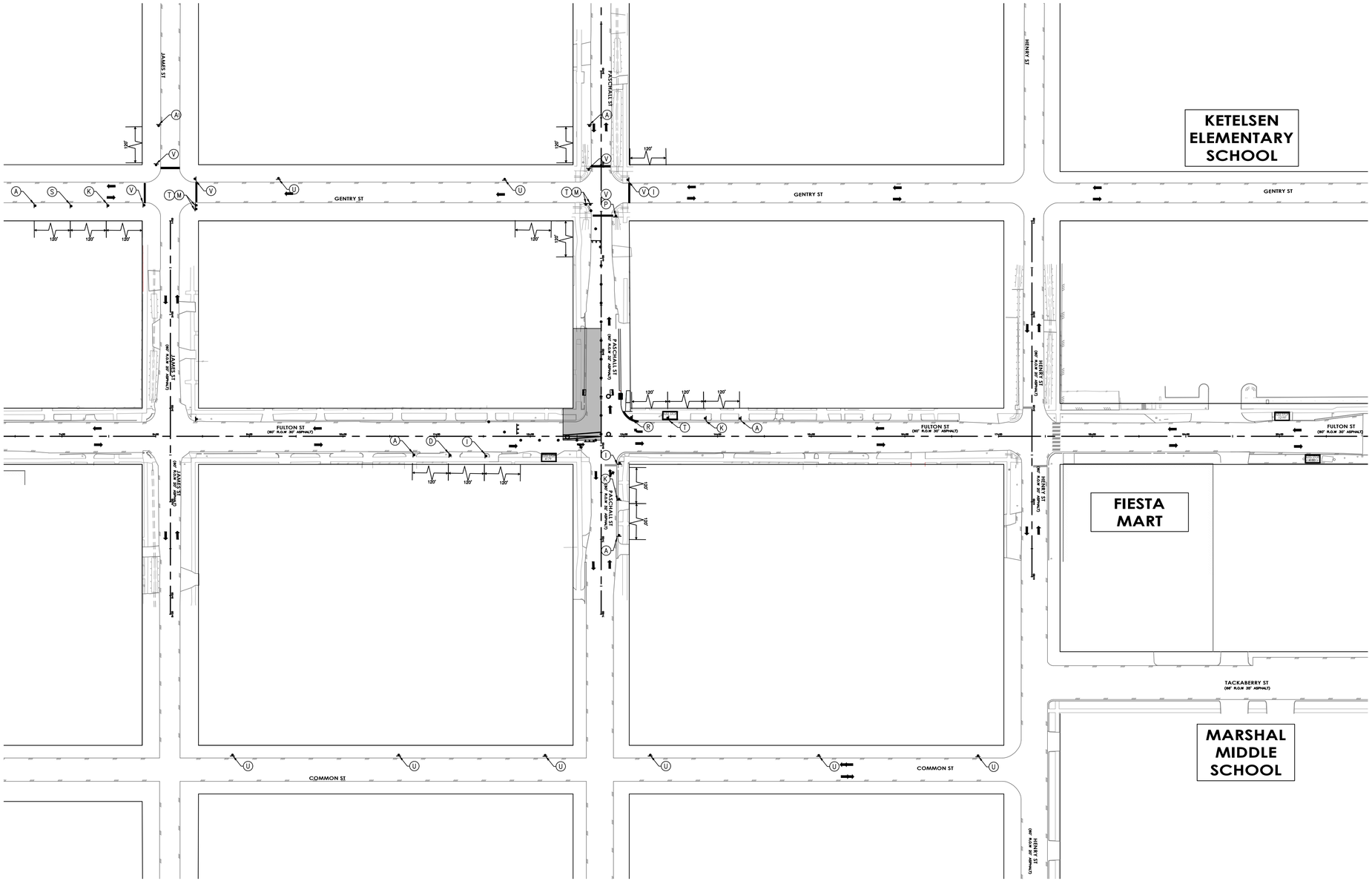
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 2

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 126 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainge Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 2.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 7:58 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

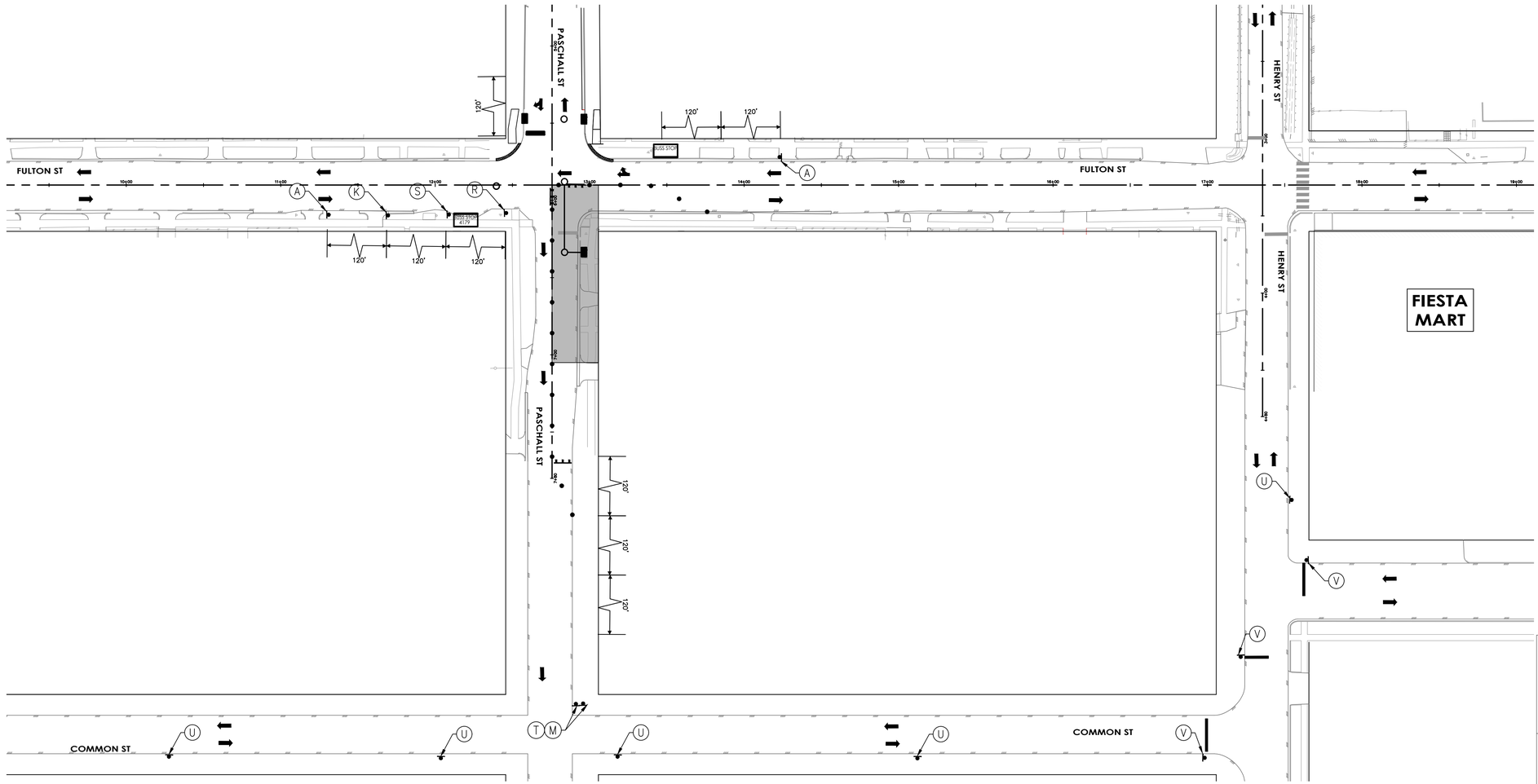
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 2-DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 127 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 2Rev7 STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 7:58 AM

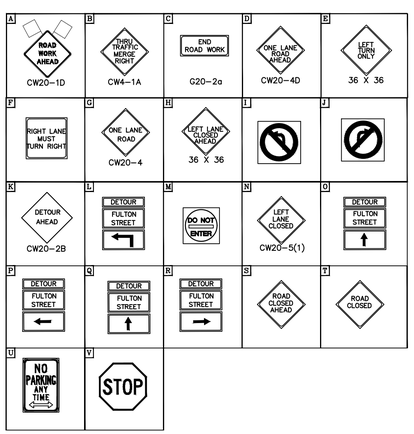


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

NEDU ENGINEERING SERVICES ,INC.
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FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
LICENSED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

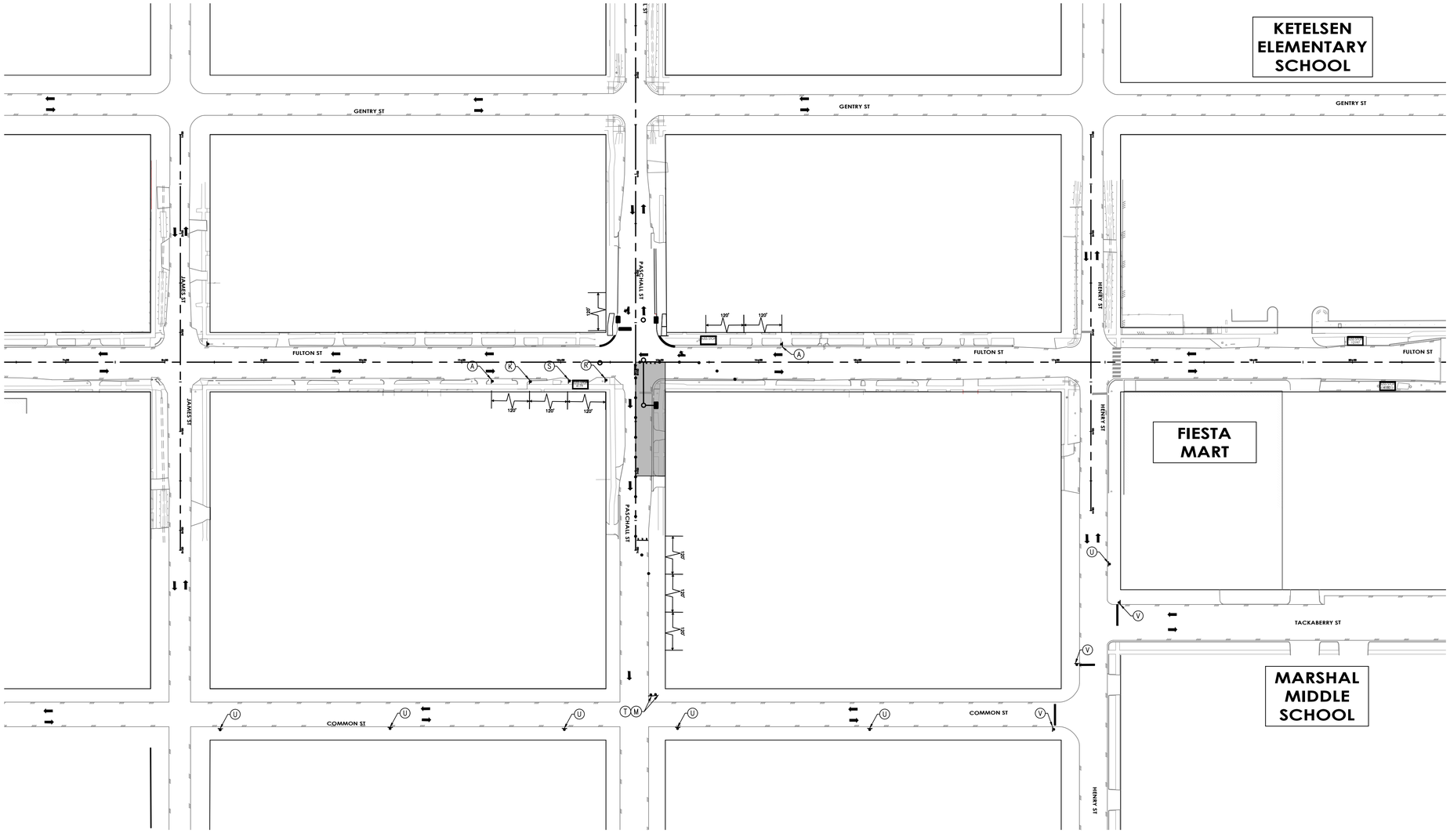
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN PHASE 1 STEP 3

SHEET 1 OF 2

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
1"= 40'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 128 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 3.dwg
STYLE: NEDU-STB-BW.stb
PLOTTED: 10/5/2026 8:00 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

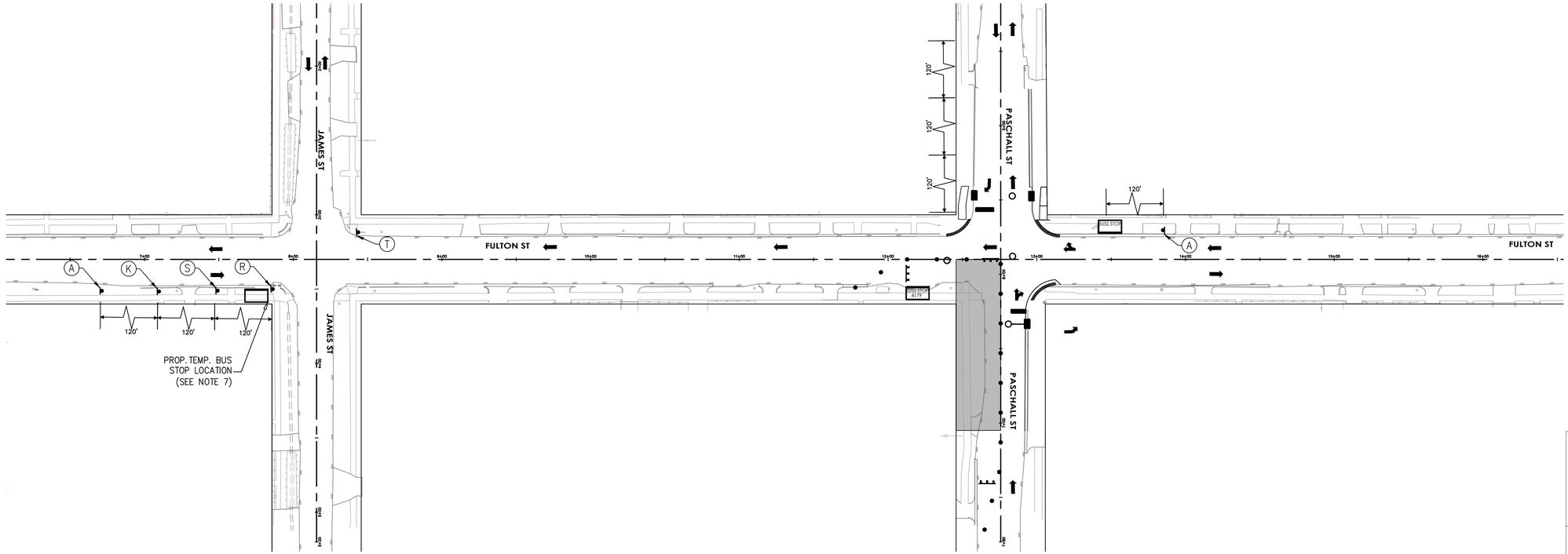
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

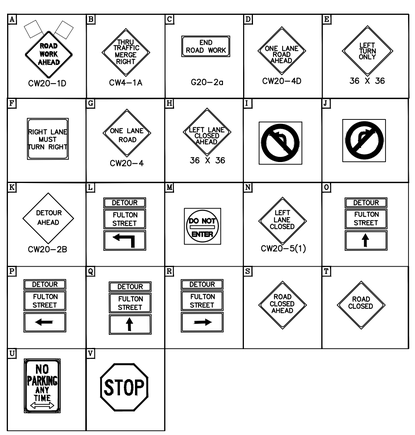
TRAFFIC CONTROL PLAN
PHASE 1 STEP 3-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 129 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 3Detour.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:00 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

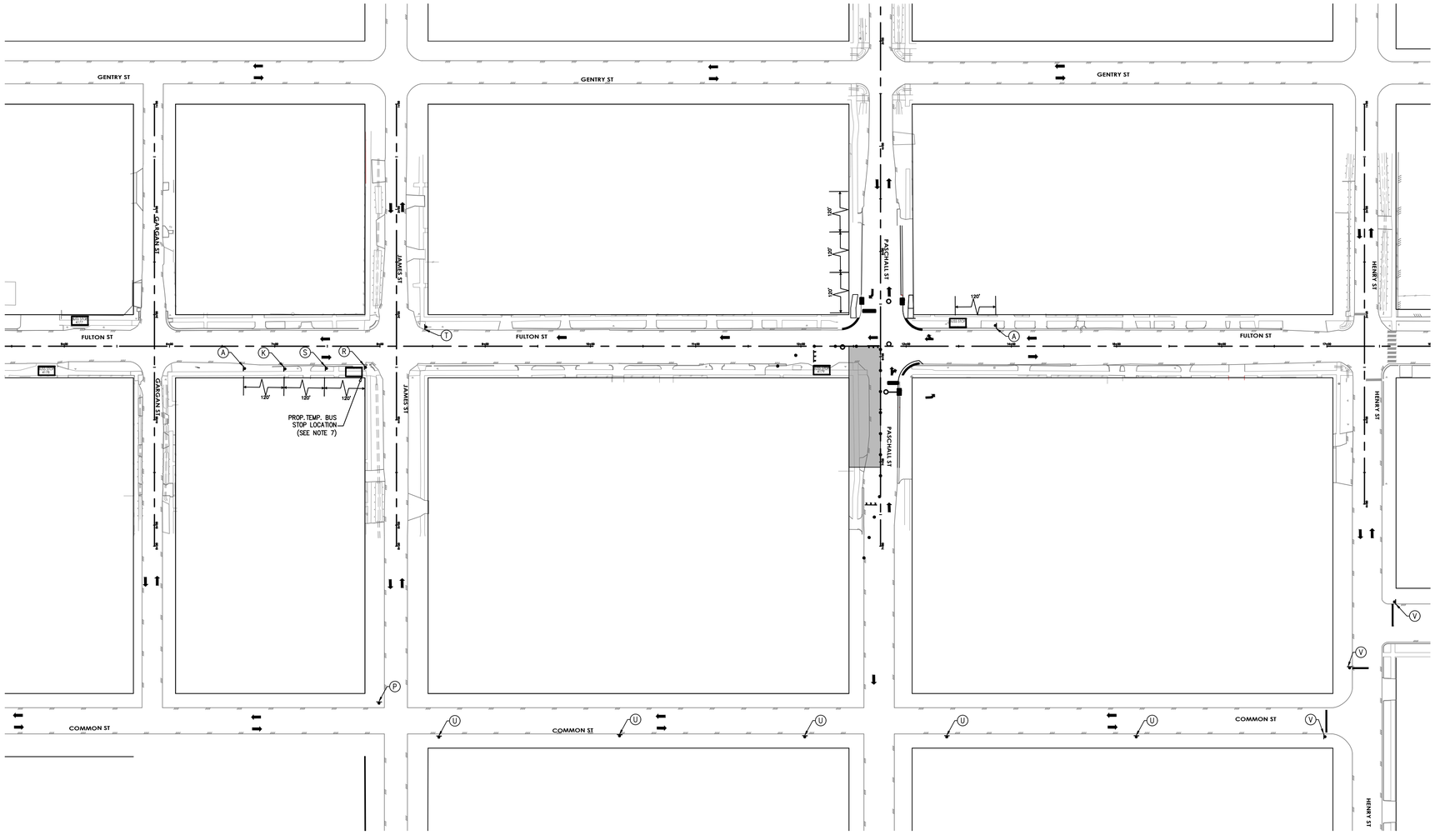
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 4

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 130 OF 223	

FILE PATH: Y:_PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase1- Step 4.dgn
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PLOTTED: 10/5/2026 8:02 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
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STATE OF TEXAS
NKEMDI I. OHALETE
79423
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PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

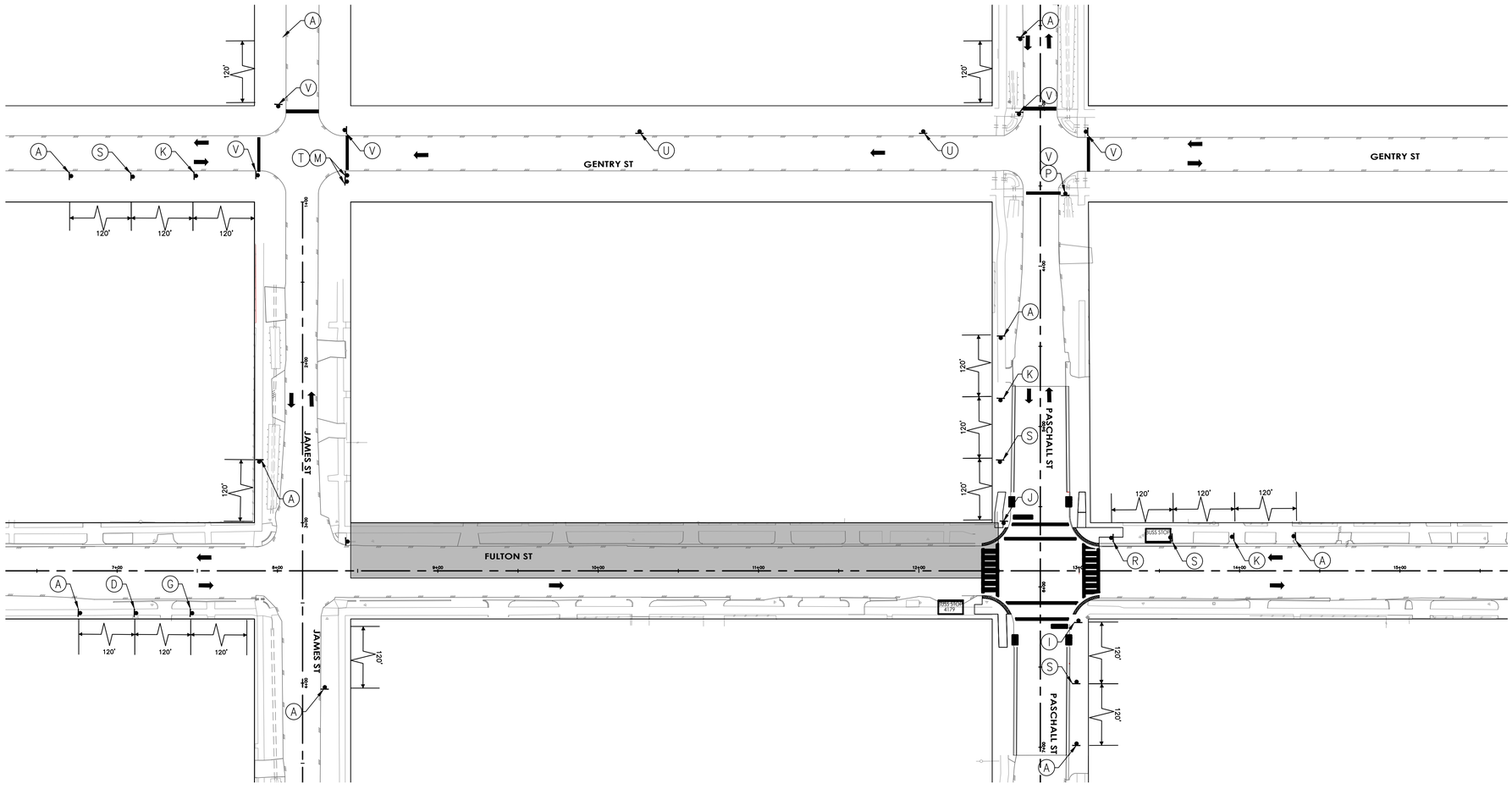
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

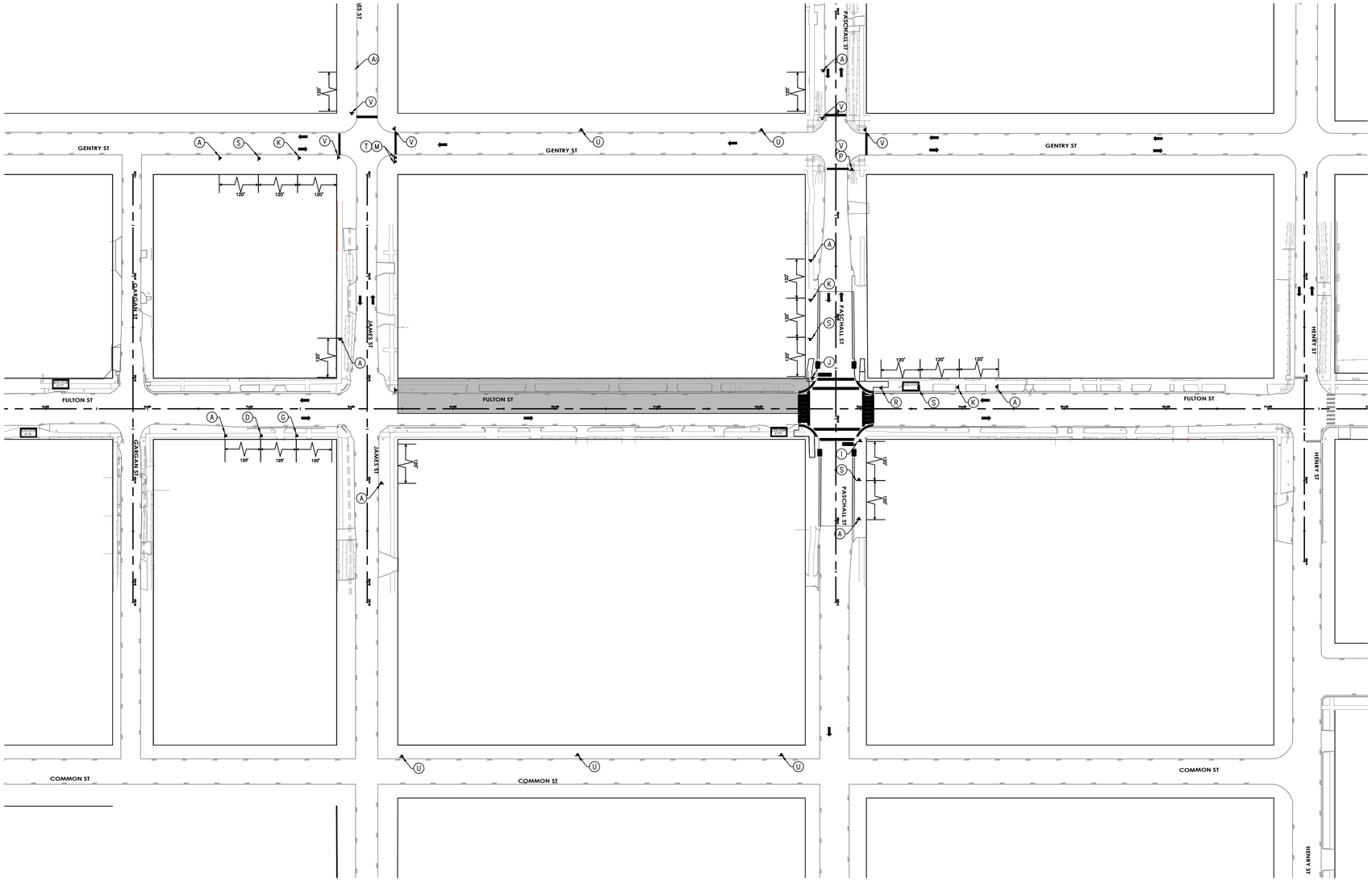
TRAFFIC CONTROL PLAN
PHASE 1 STEP 4 –DETOUR

SHEET 2 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 131 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase1- Step 4.dwg
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PLOTTED: 10/5/2026 8:02 AM


GENTRY ST
GENTRY ST
FULTON ST
JAMES ST
JAMES ST
PASCHALL ST
PASCHALL ST
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40+00
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45+00
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48+00
49+00
50+00



LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
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- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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PROFESSIONAL ENGINEER
STATE OF TEXAS
10/05/2026

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FB NUMBER: F-6357

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

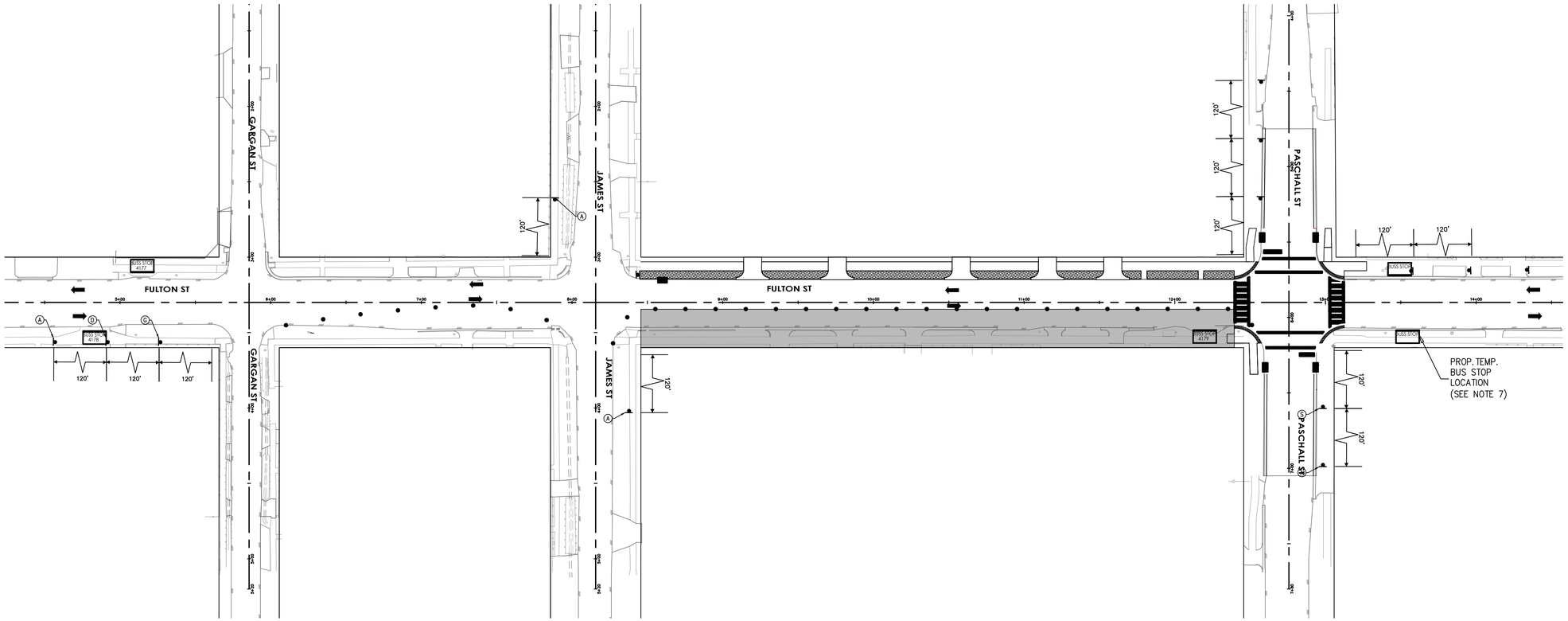
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN PHASE 1 STEP 5-DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 124 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 1 Step5.dwg PLOT STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:14 AM

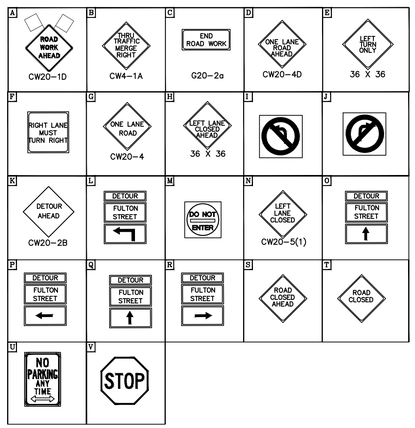


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES, INC.
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6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

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AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

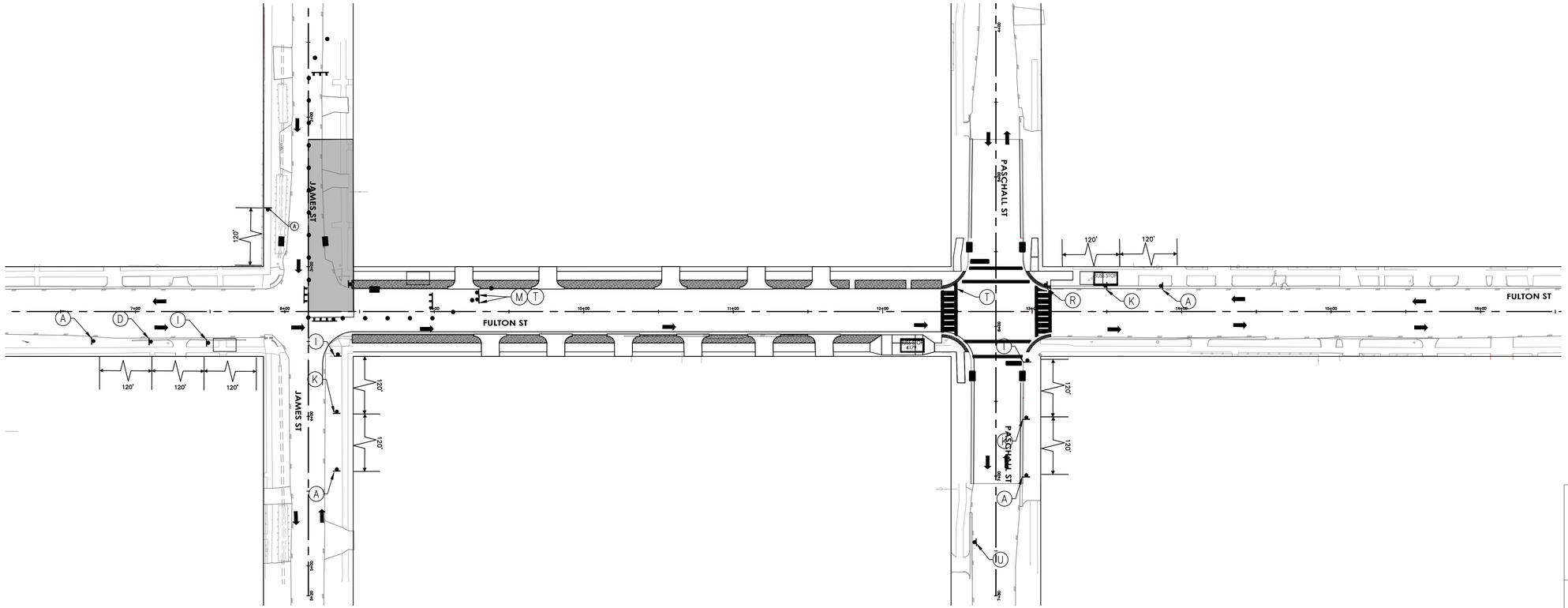
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

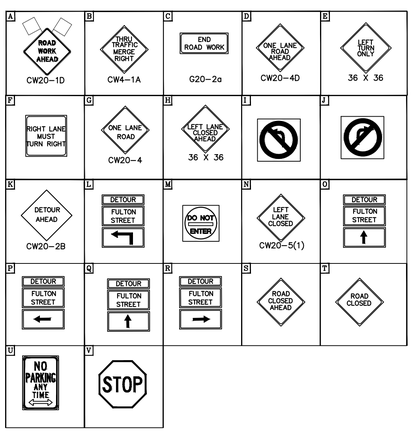
TRAFFIC CONTROL PLAN
PHASE 1 STEP 6

SHEET 1 OF 1

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 134 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 6.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:14 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

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SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

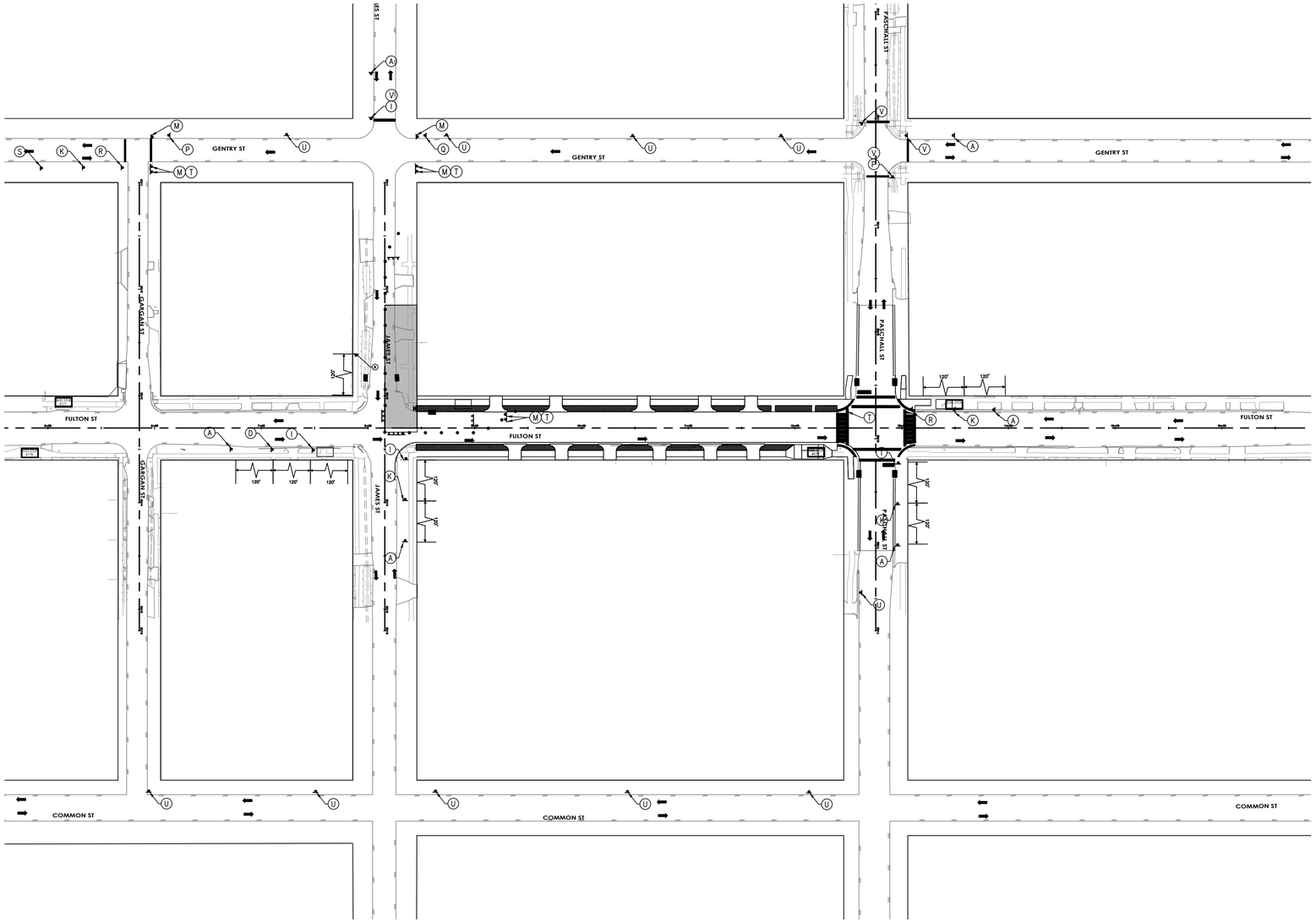
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 7

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 135 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 7.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:15 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

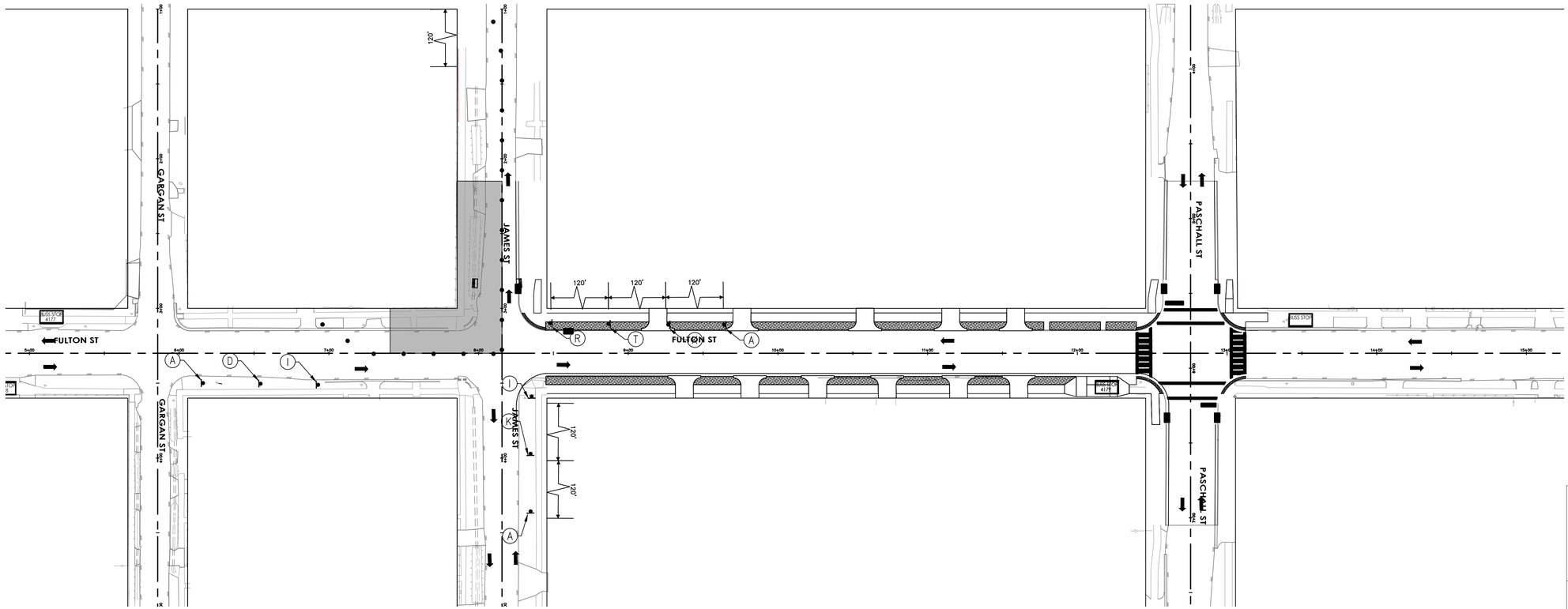
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

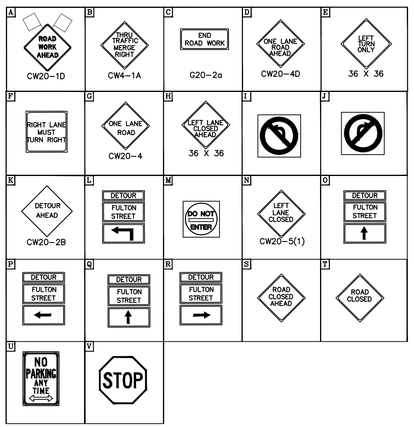
TRAFFIC CONTROL PLAN
PHASE 1 STEP 7–DETOUR

SHEET 2 OF 2

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 136 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 7.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:15 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

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SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

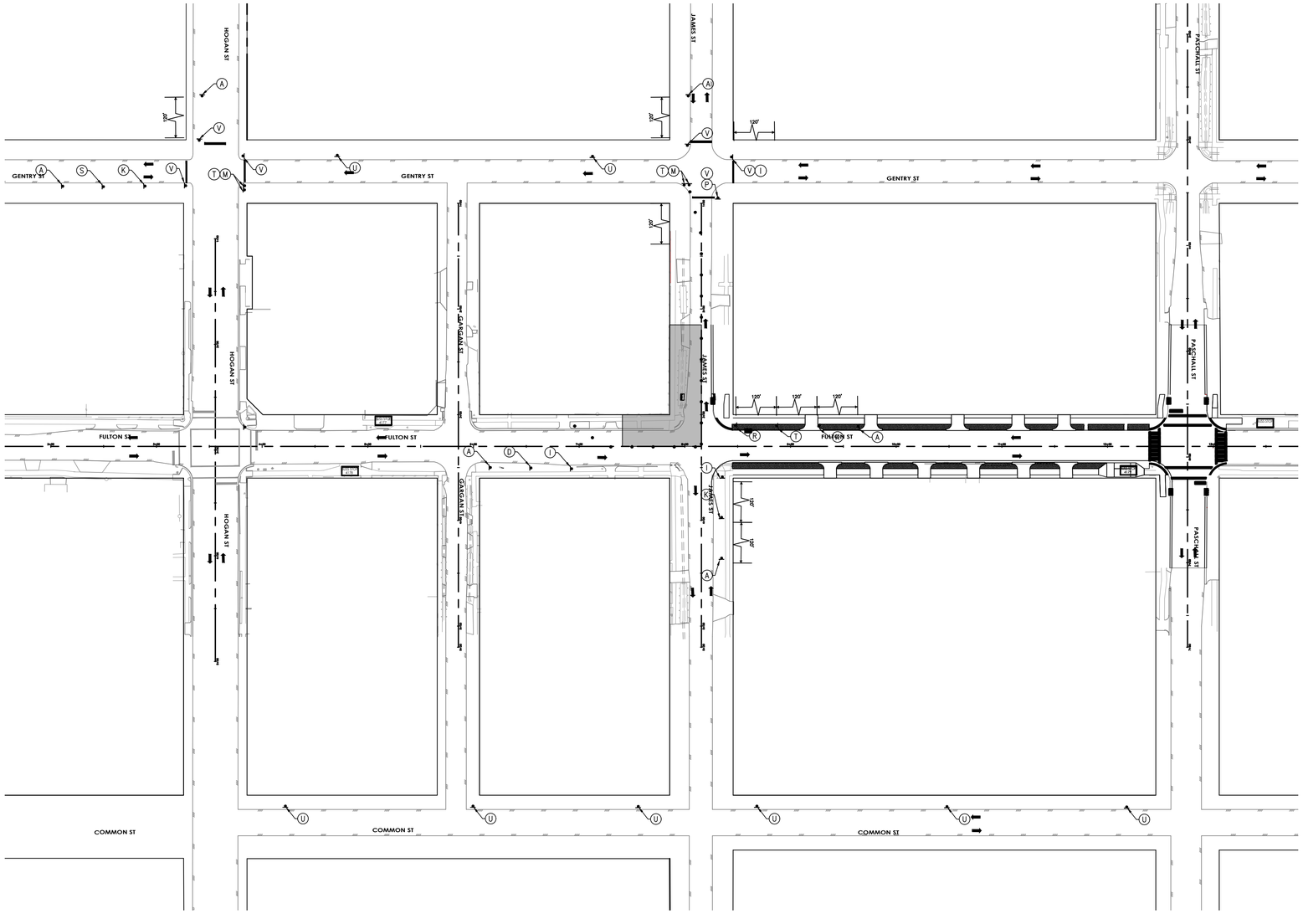
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 8

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 137 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 8\dgn\ STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:16 AM



LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
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1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY I-C
5. REMOVABLE PAV MRK (REFLECTOR) TY A-A
6. REMOVABLE PAV MRK (REFLECTOR) TY I-A
7. REMOVABLE PAV MRK BUTTONS TY W (DOT)
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9. REMOVABLE PAV MRK BUTTONS ARROW
10. REMOVABLE PAV MRK BUTTONS DBL ARROW
11. REMOVABLE PAV MRK BUTTONS TPL ARROW

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

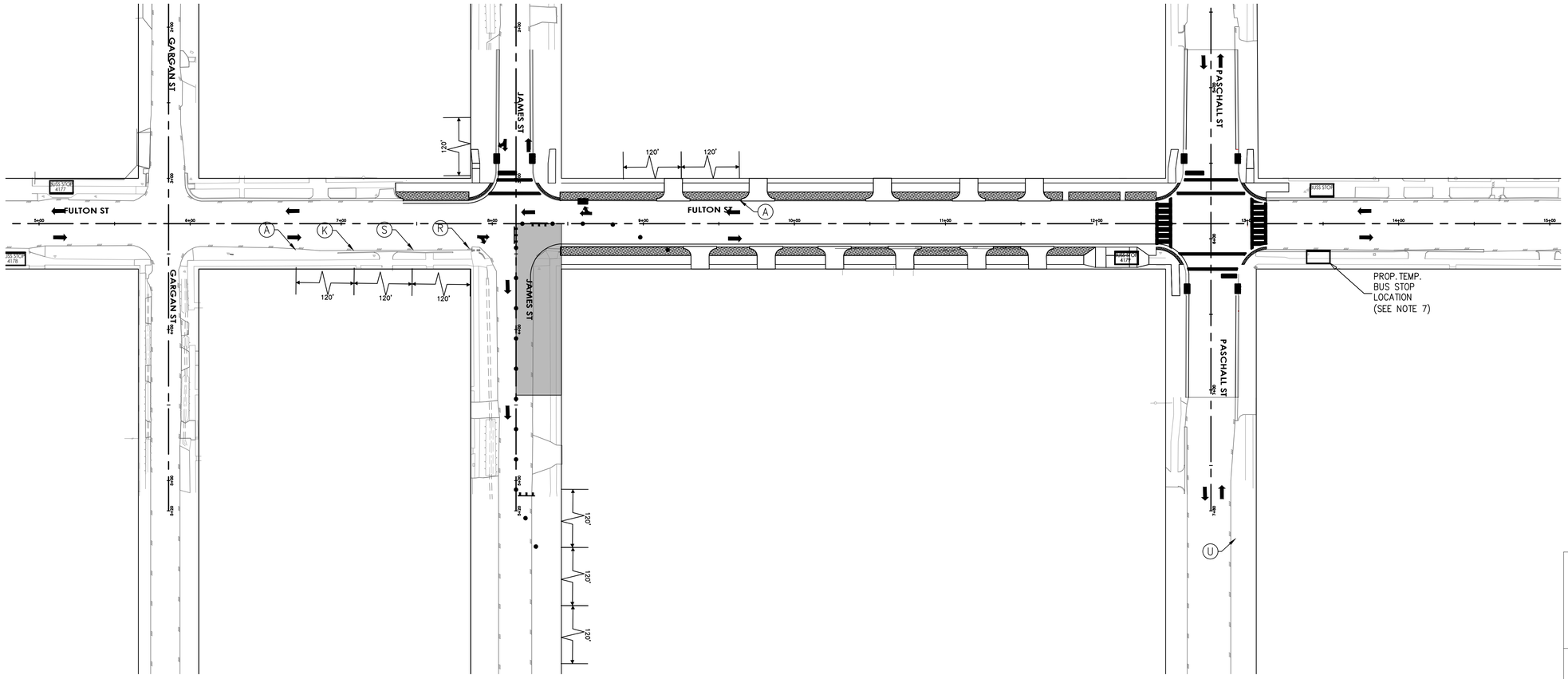
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

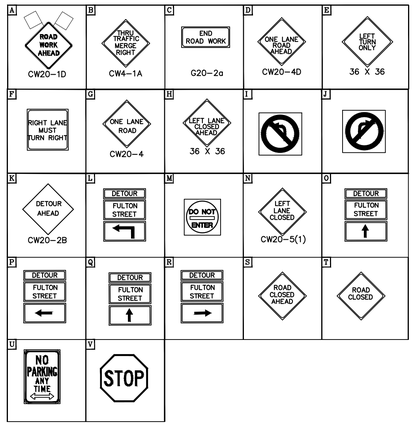
TRAFFIC CONTROL PLAN
PHASE 1 STEP 8-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 138 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 8.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:16 AM





NOTES:

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LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
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NO.	DATE	REVISION	APP.

10/05/2026

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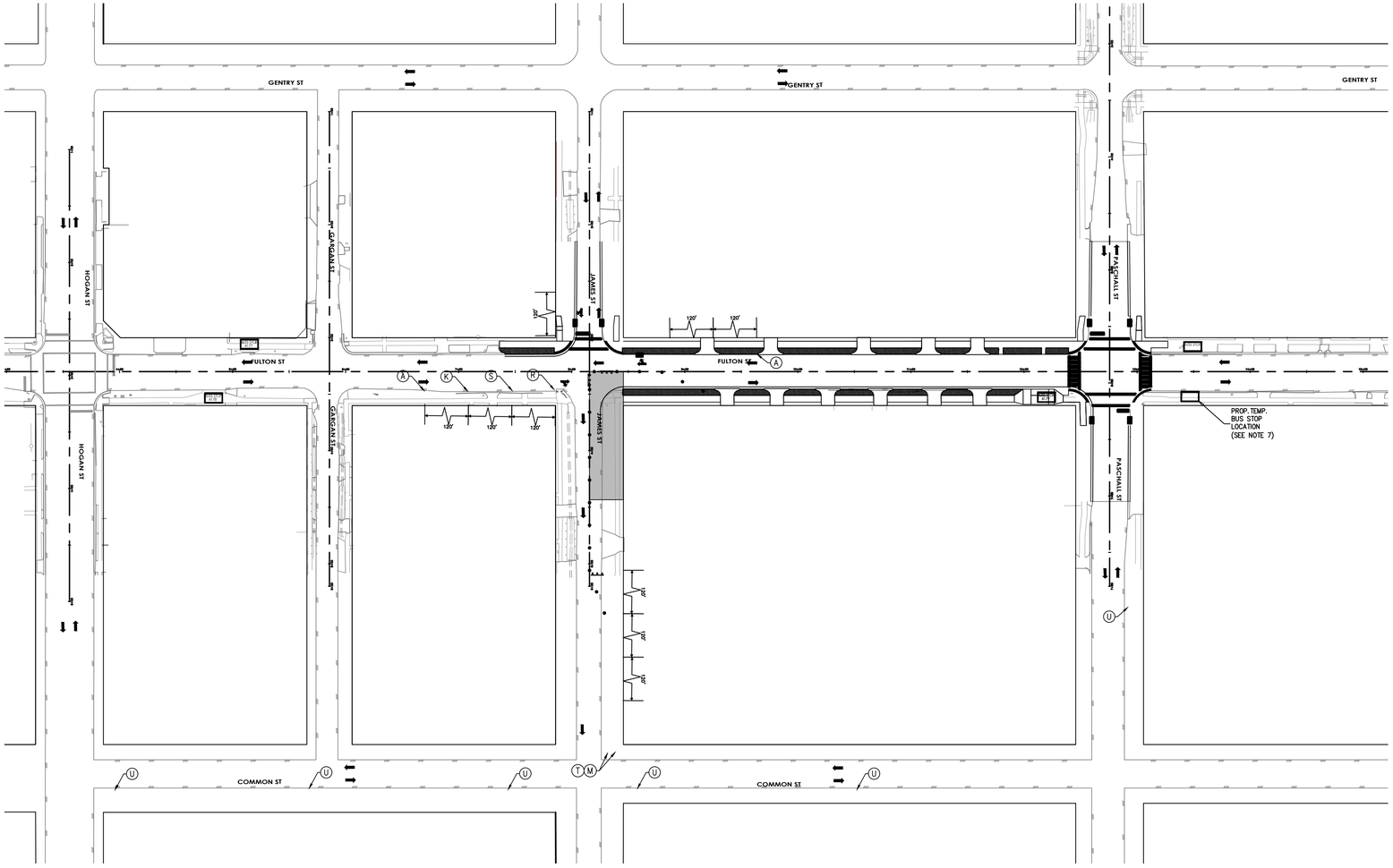
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 9

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 139 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 9.dgn
PLOTTED: 10/5/2026 8:17 AM
STYLE: NEDU-STB-BW.stb



LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
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3. REMOVABLE PAV MRK BUTTONS W STOP BAR
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6. REMOVABLE PAV MRK (REFLECTOR) TY I–A
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8. REMOVABLE PAV MRK BUTTONS TY Y (DOT)
9. REMOVABLE PAV MRK BUTTONS ARROW
10. REMOVABLE PAV MRK BUTTONS DBL ARROW
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NO.	DATE	REVISION	APP.

10/05/2026

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750 TOWN & COUNTRY BLVD
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P: 832-930-7670
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HOUSTON PUBLIC WORKS

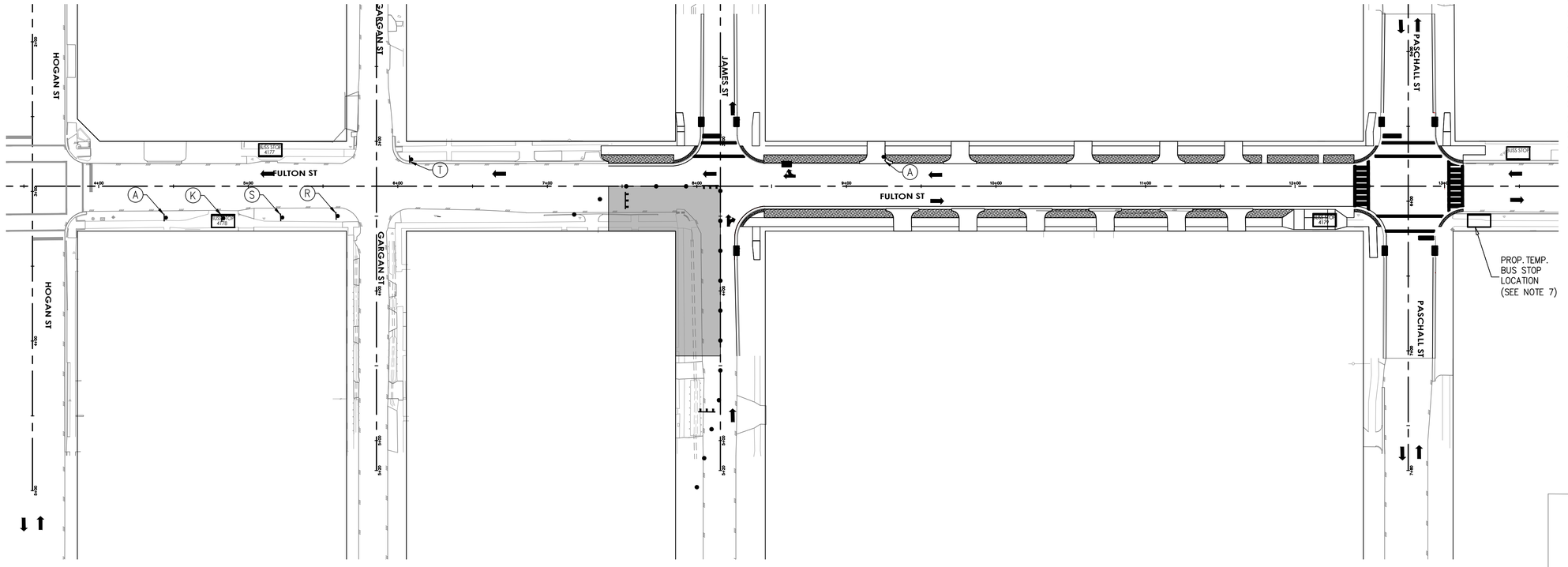
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 9–DETOUR

SHEET 2 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 140 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 9.dwg
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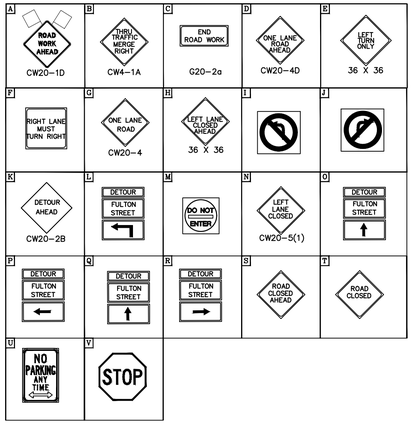


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
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3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

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AMANI ENGINEERING, INC.
FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

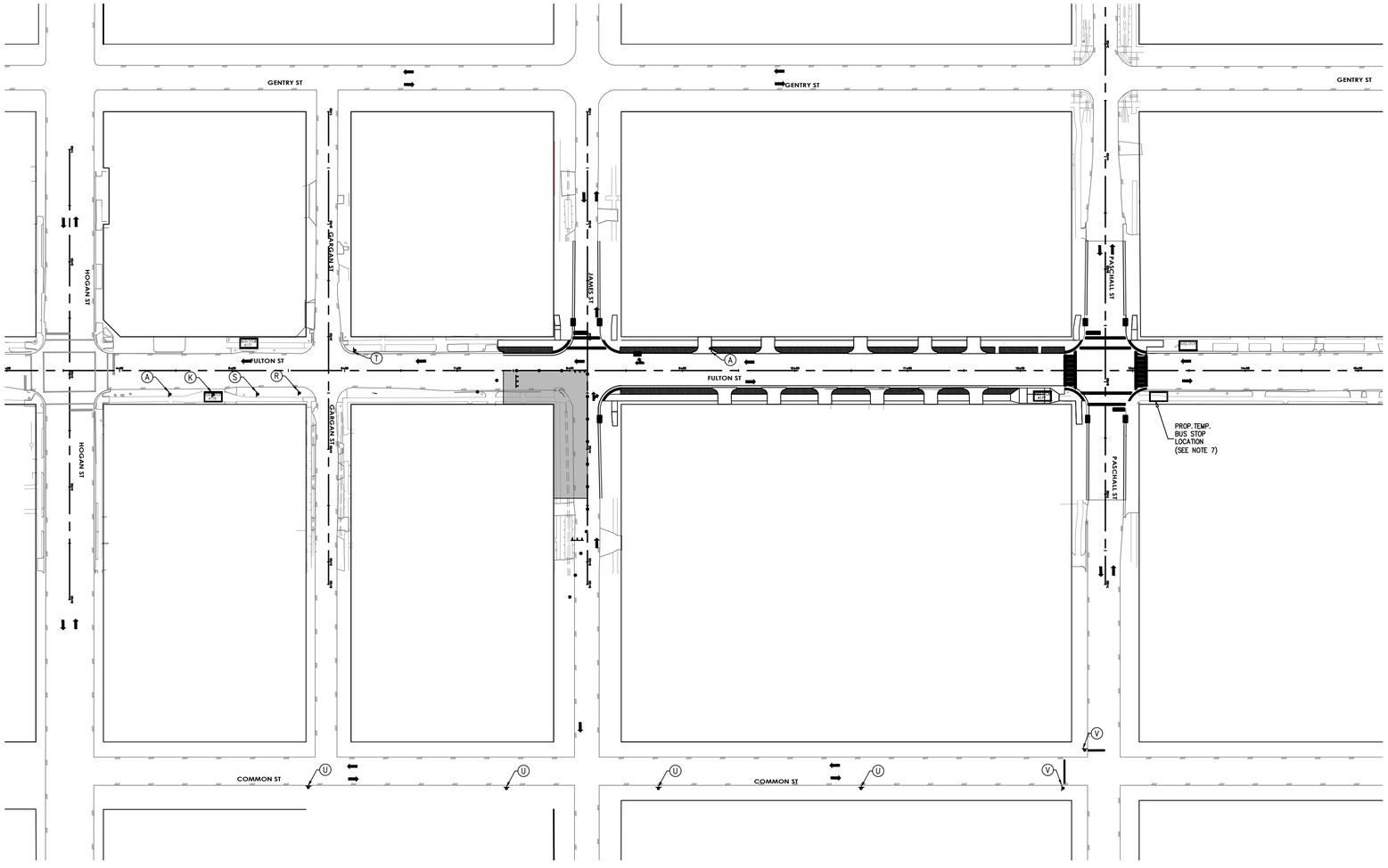
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 10

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 141 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 10.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:21 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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STATE OF TEXAS
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10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

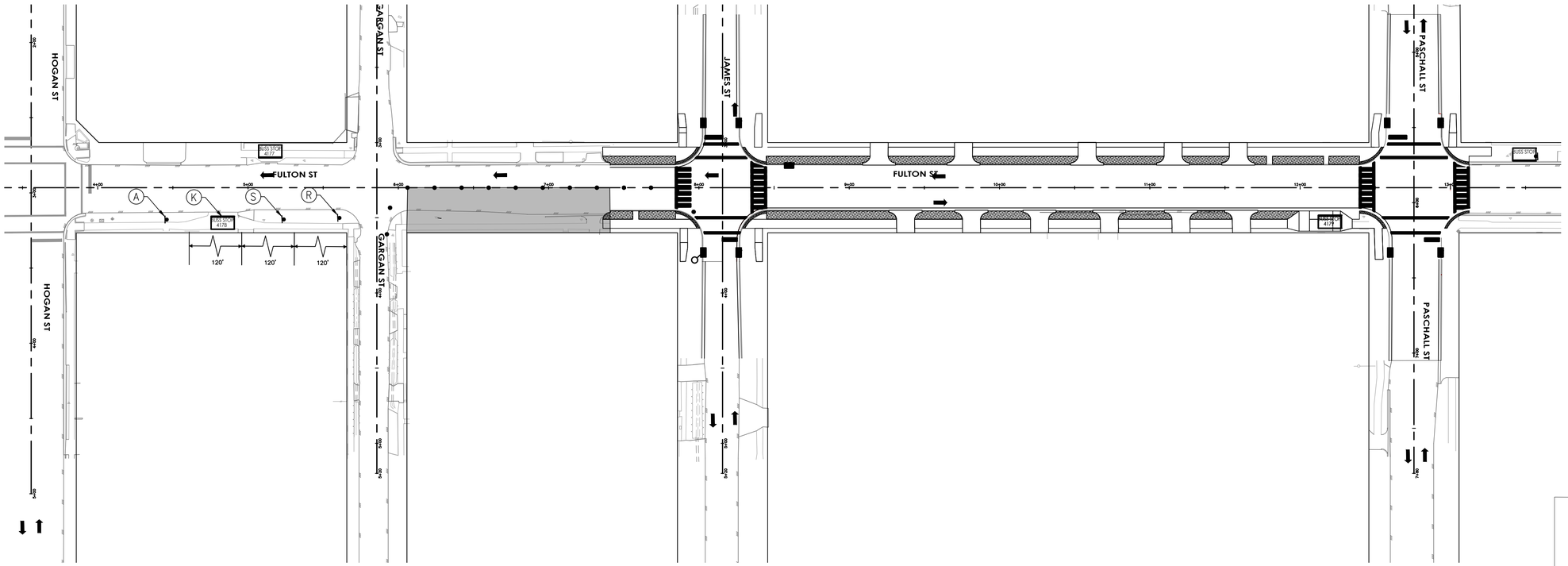
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 10-DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 142 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 10Rev7 STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:21 AM

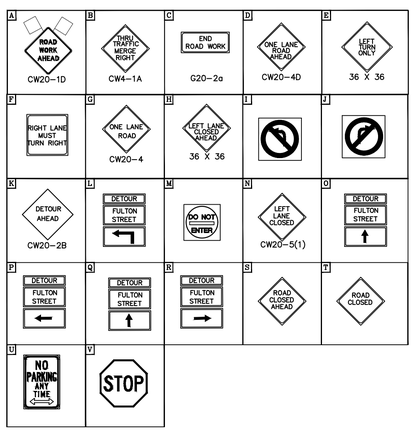


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

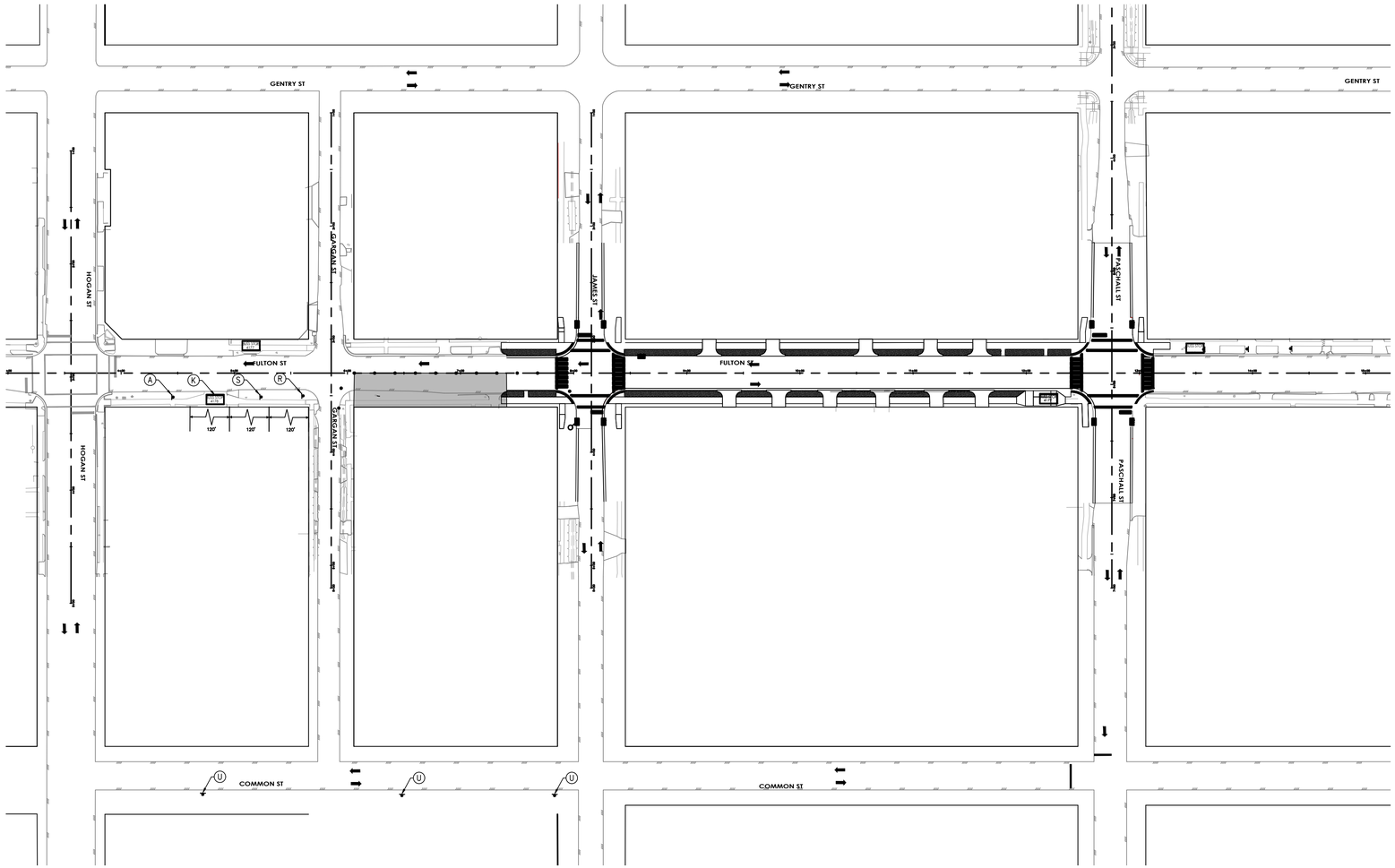
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN PHASE 1 STEP 11

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 143 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-civil\Phase 1-Step 11.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:23 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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STATE OF TEXAS
NICHOLAS C. DELETE
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PROFESSIONAL ENGINEER
10/05/2026

10/05/2026

10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

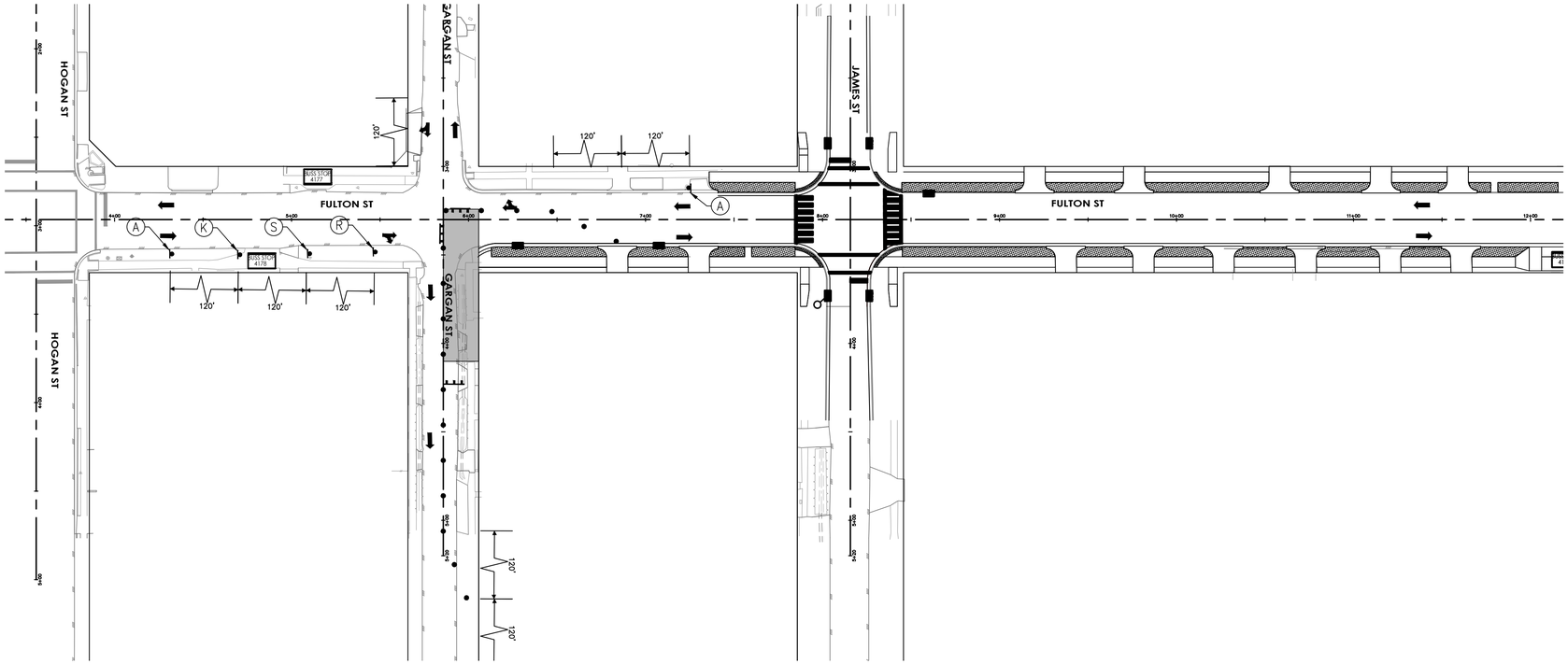
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

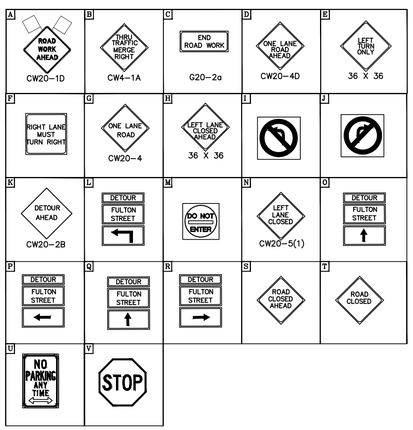
TRAFFIC CONTROL PLAN PHASE 1 STEP 11–DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 144 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 11.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:23 AM





NOTES:

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LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY, DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

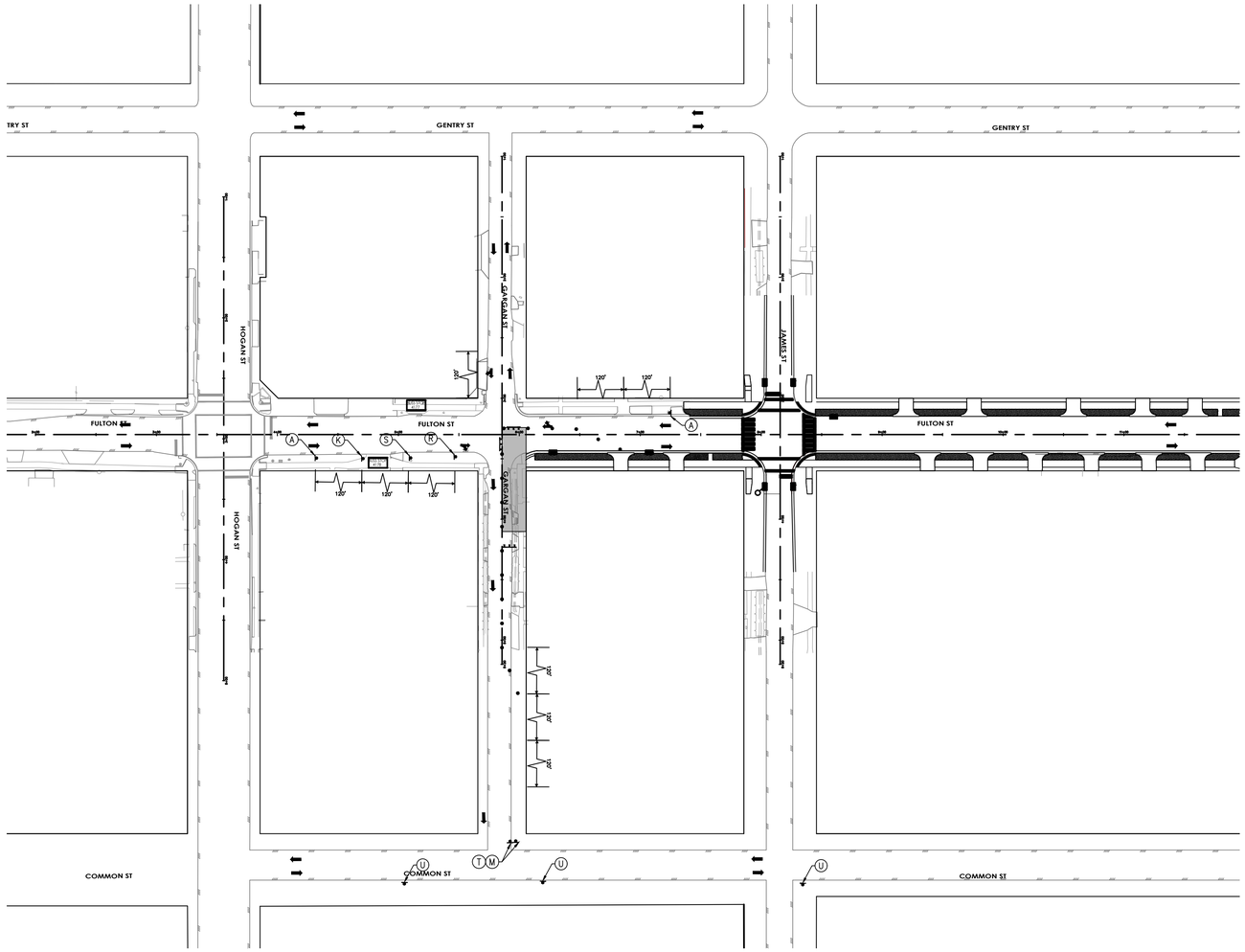
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN PHASE 1 STEP 12

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 145 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 12.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:24 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
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NKEMDI I. OHALETE
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

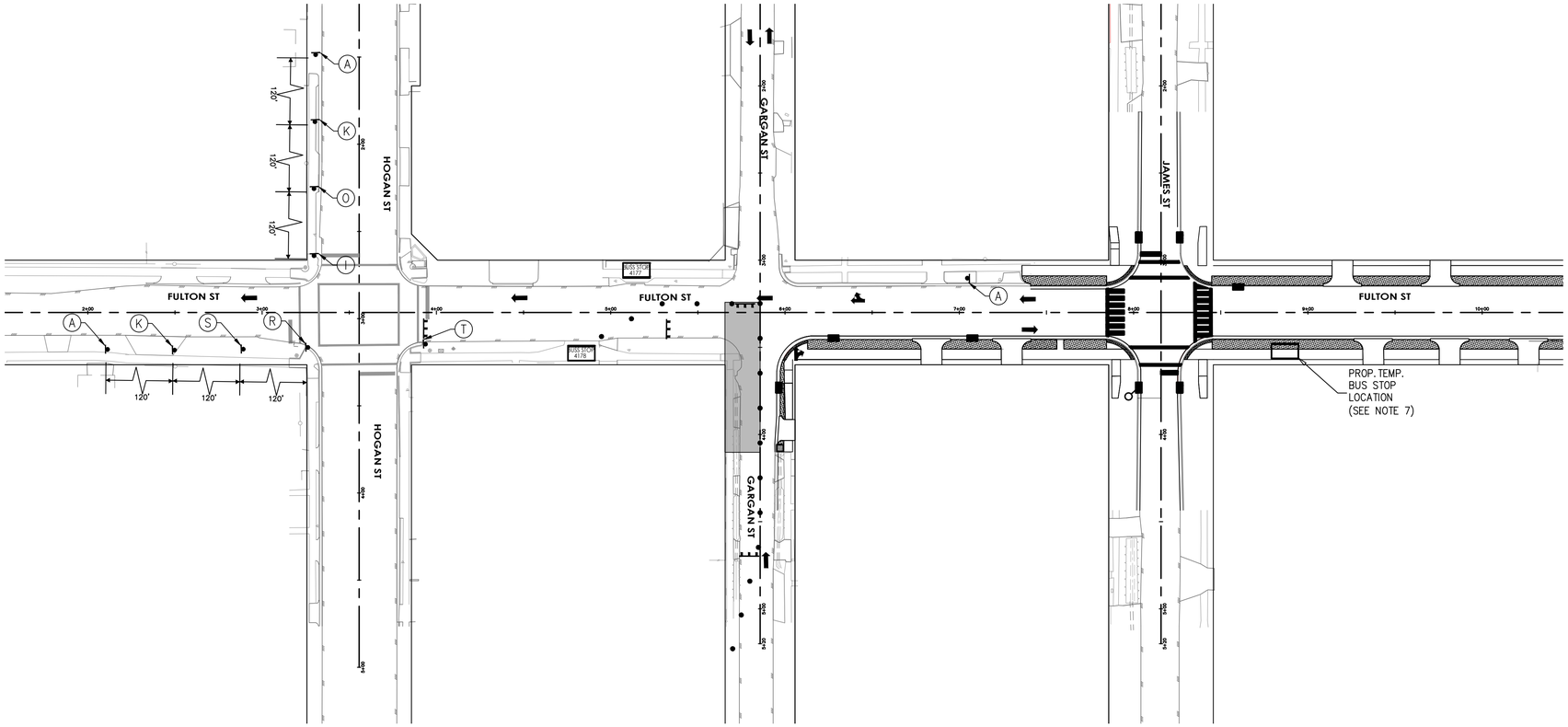
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

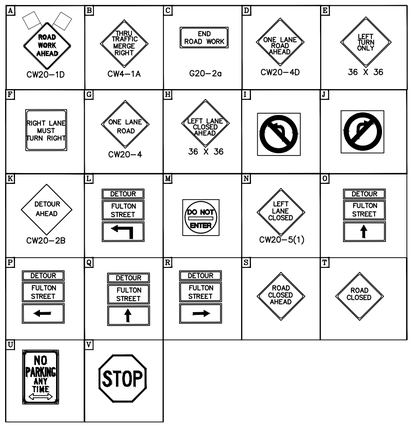
TRAFFIC CONTROL PLAN
PHASE 1 STEP 12-DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 20'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 146 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 12.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:25 AM





NOTES:

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LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES JNC
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STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED
PROFESSIONAL ENGINEER
10/05/2026

SURVEYED BY:
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FB NUMBER: F-6357

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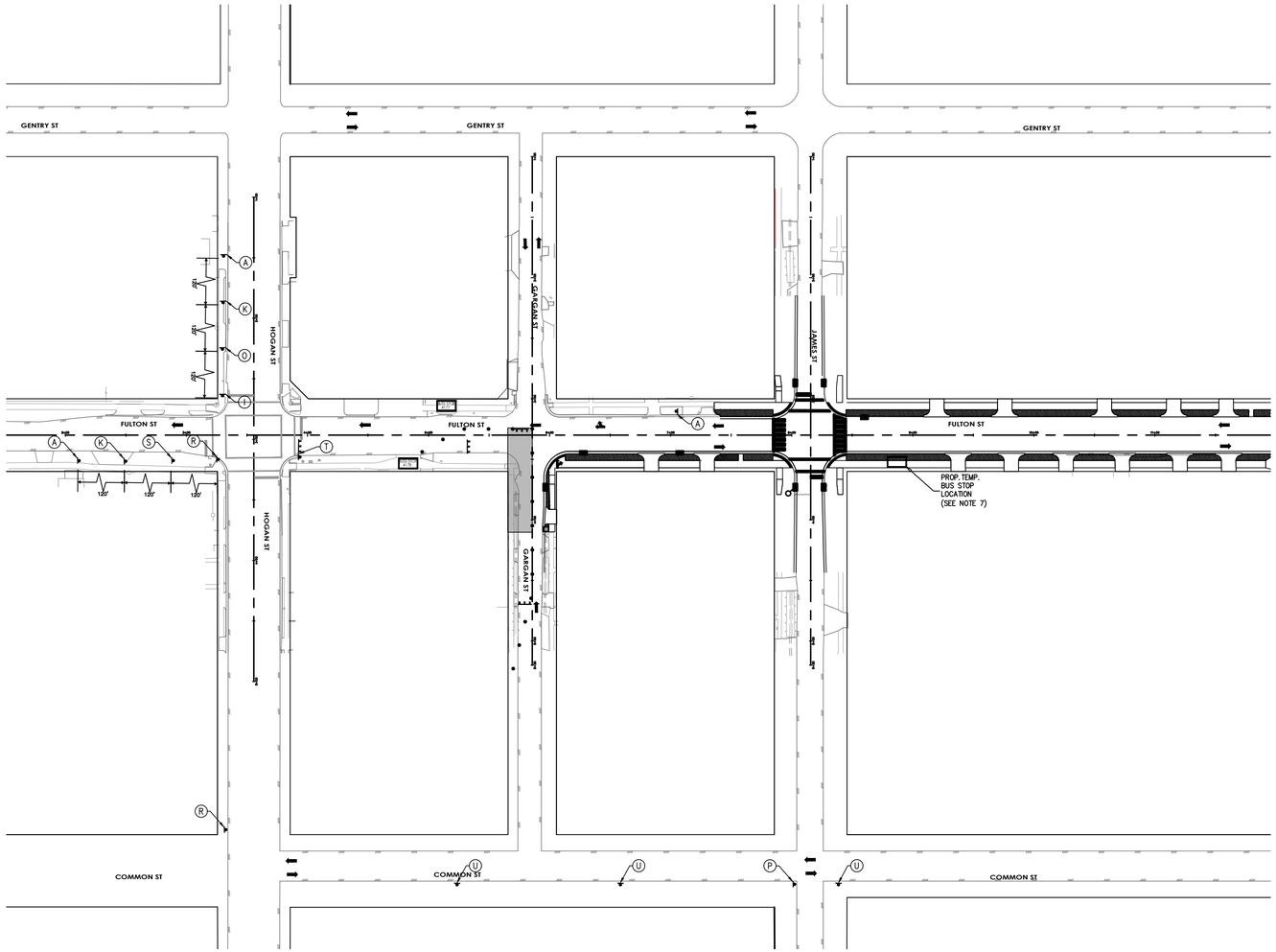
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 13

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 147 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 13.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:31 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

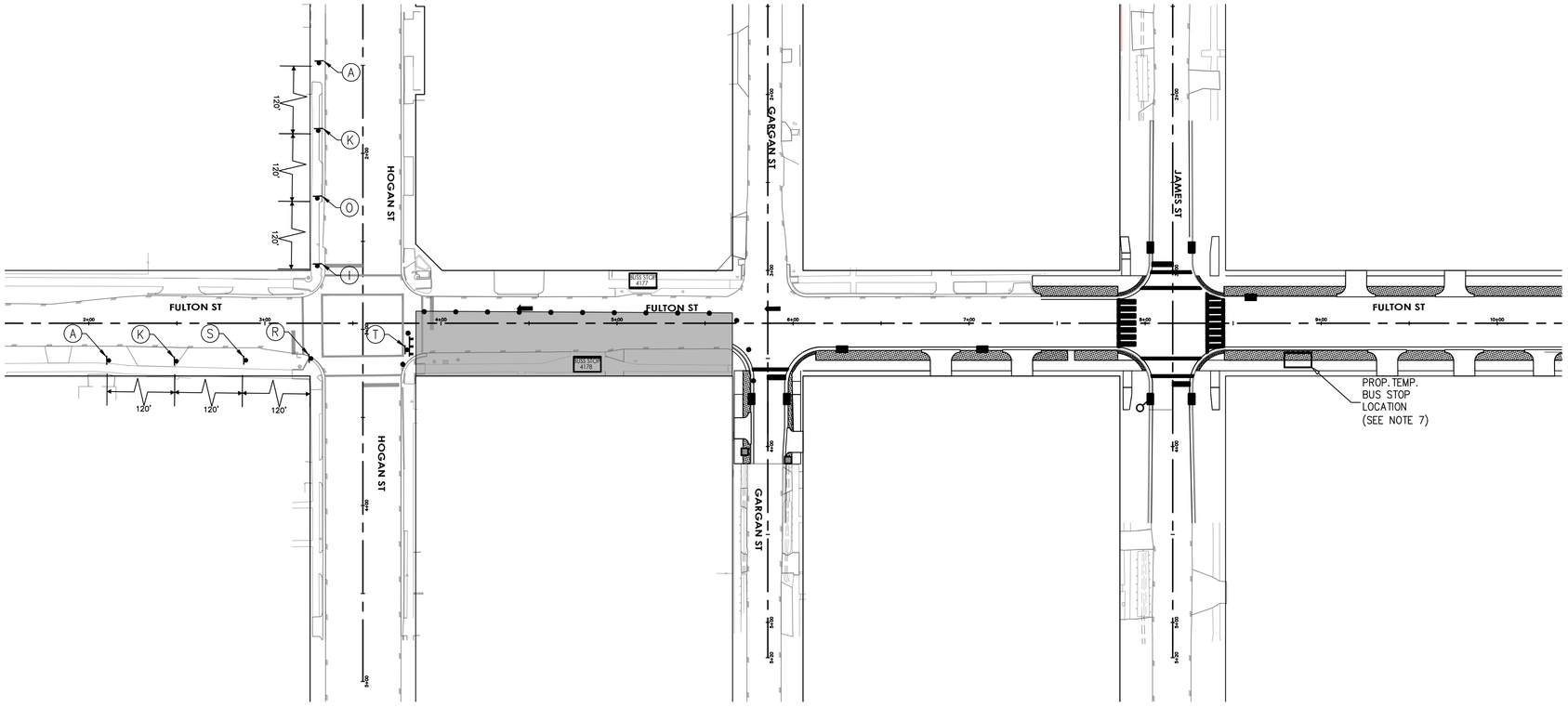
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN PHASE 1 STEP 13–DETOUR

SHEET 2 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 148 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 13.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:31 AM

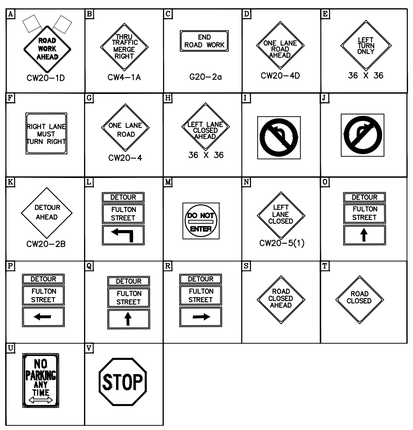


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC
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6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@Nedu.Engineers.com
www.Nedu.Engineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

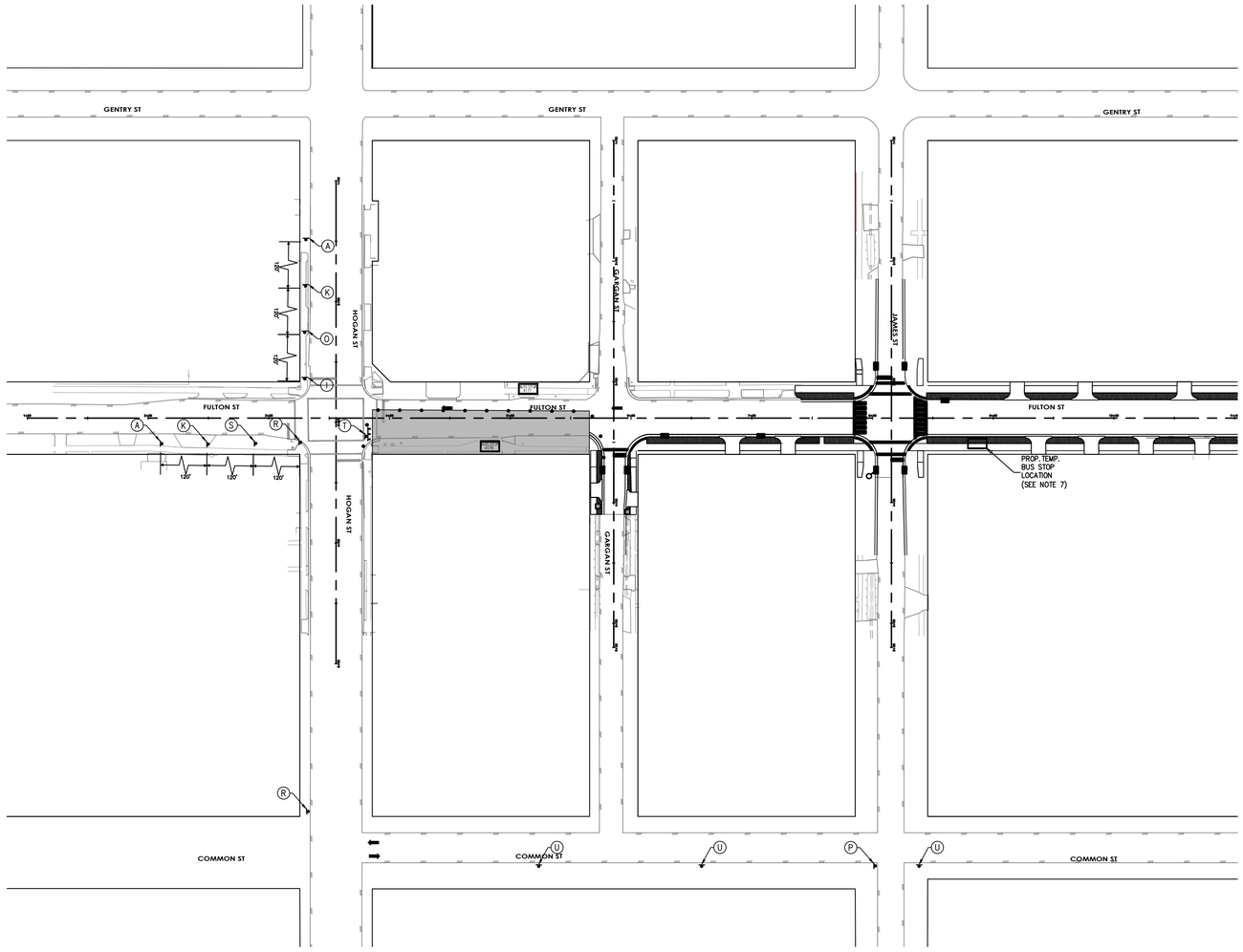
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 14

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 149 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 14.dgn
USER: STYLE: NEDU-STB-BW.stb
PLOTTED: 10/5/2026 8:33 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
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AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

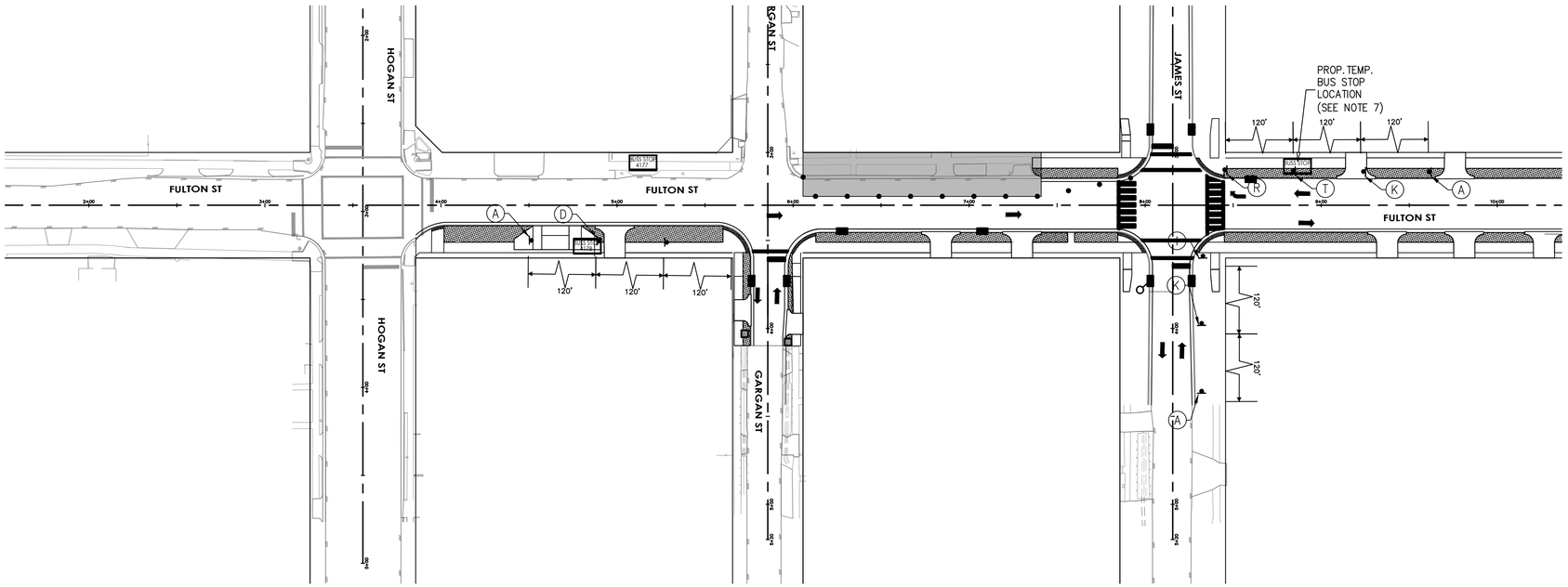
TRAFFIC CONTROL PLAN
PHASE 1 STEP 14–DETOUR

SHEET 2 OF 2

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 150 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 14.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:33 AM

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 15.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 8:34 AM

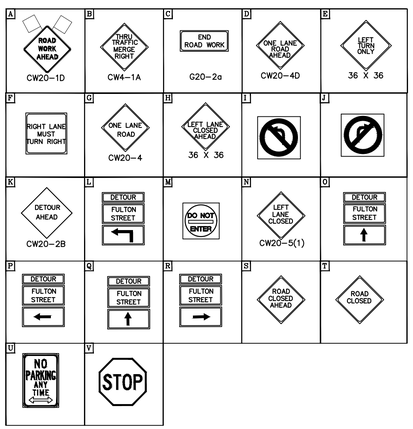


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

1. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
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4. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC
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6464 SAVOY DR, Suite 610
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info@Nedu.Engineers.com
www.Nedu.Engineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
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PROFESSIONAL ENGINEER
10/05/2026

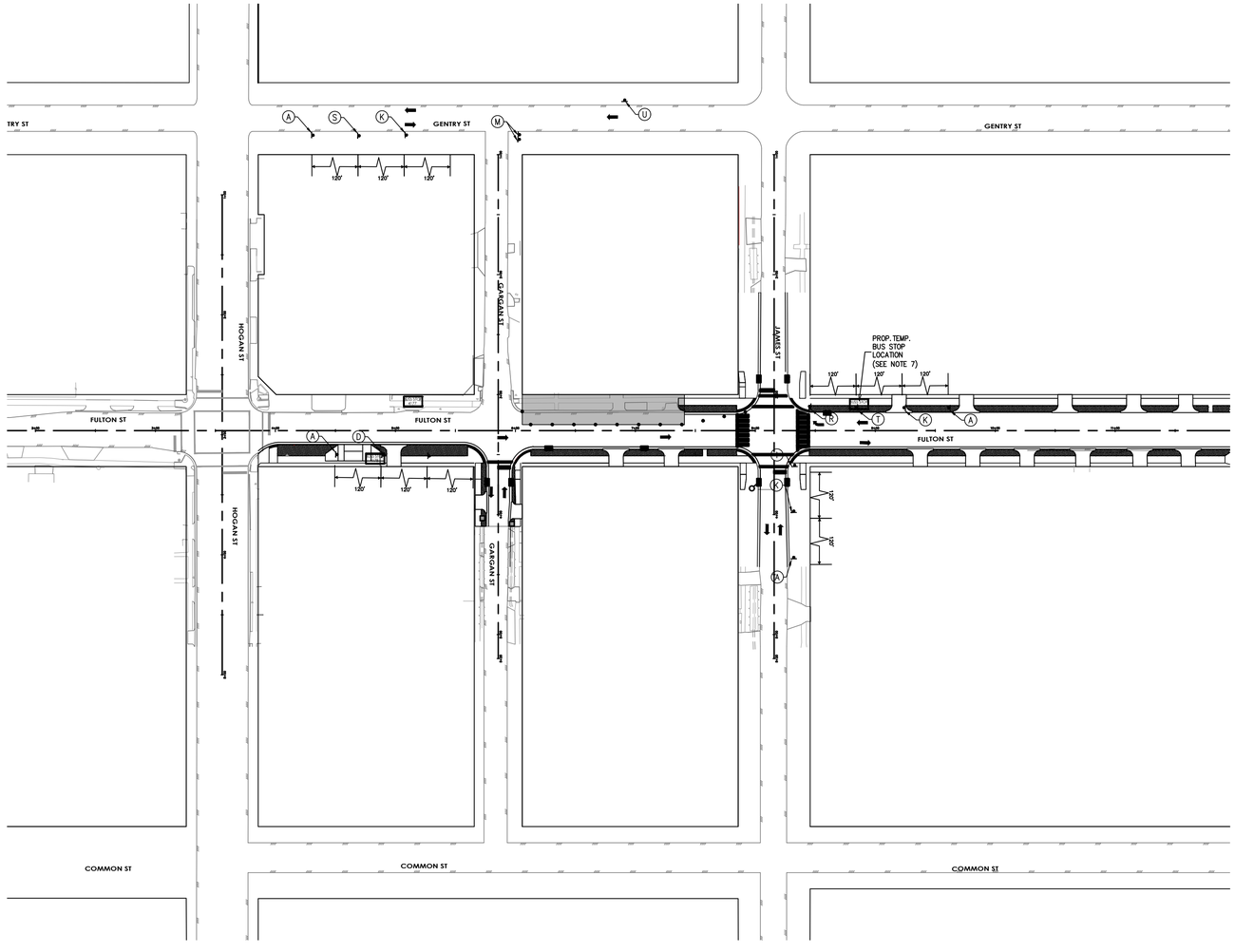
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 15

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 151 OF 223	



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

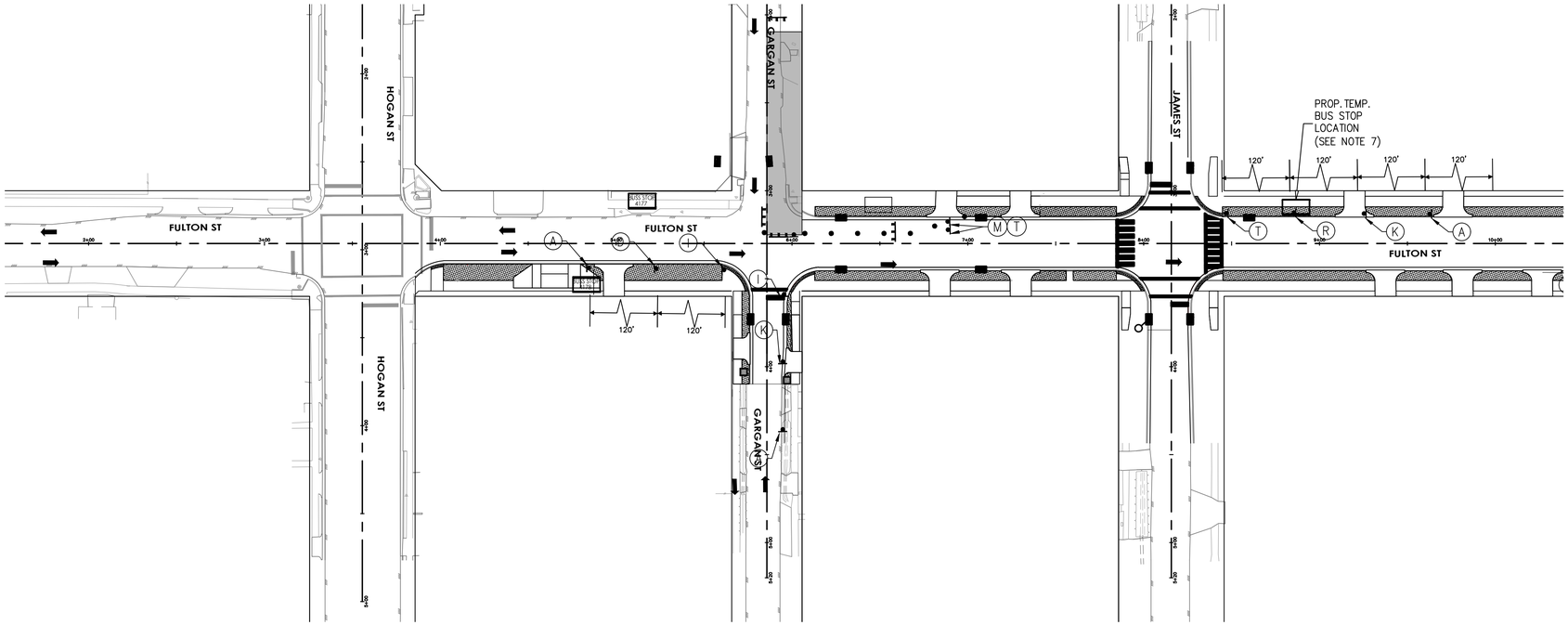
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 15–DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 152 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 15\Fulton_NEDU-STB-BW.dgn
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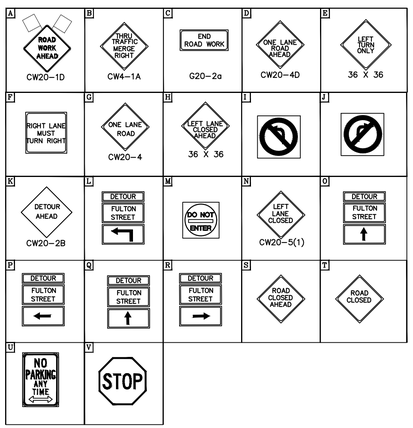
LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026



NOTES:

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES JPC
ENGINEERS, PROJECT MANAGERS/INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

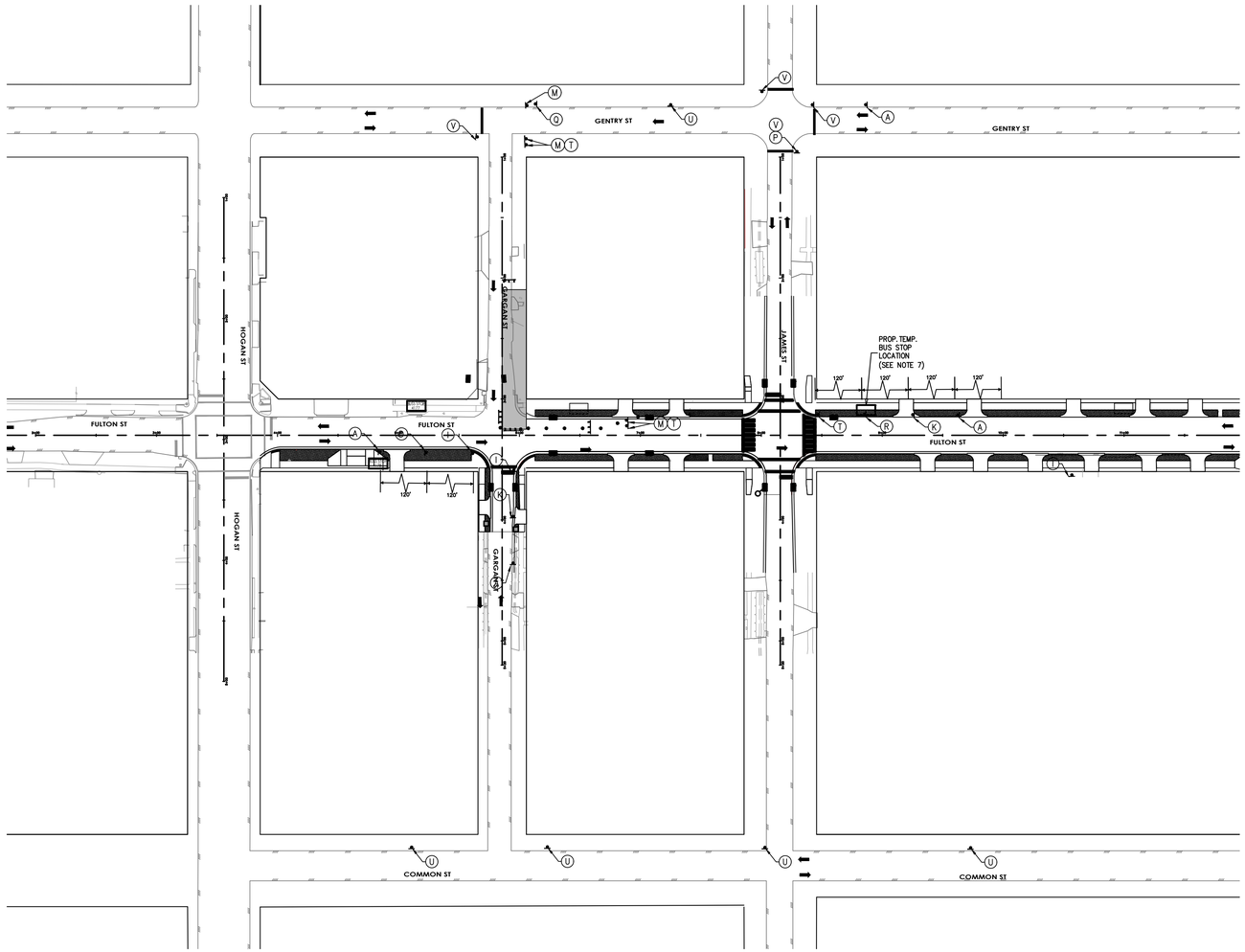
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 16

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 153 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----Fulton St. Paving And Drainage Improvements\4- CADD\CIVIL FINAL\01-Civil\Phase 1- Step PLOTTED: 10/5/2026 8:39 AM
DRAWING STYLE: NEDU-STB-BW.stb



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS, ESTIMATORS, INSPECTORS
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STATE OF TEXAS
NKEMDI I. OHALETE
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

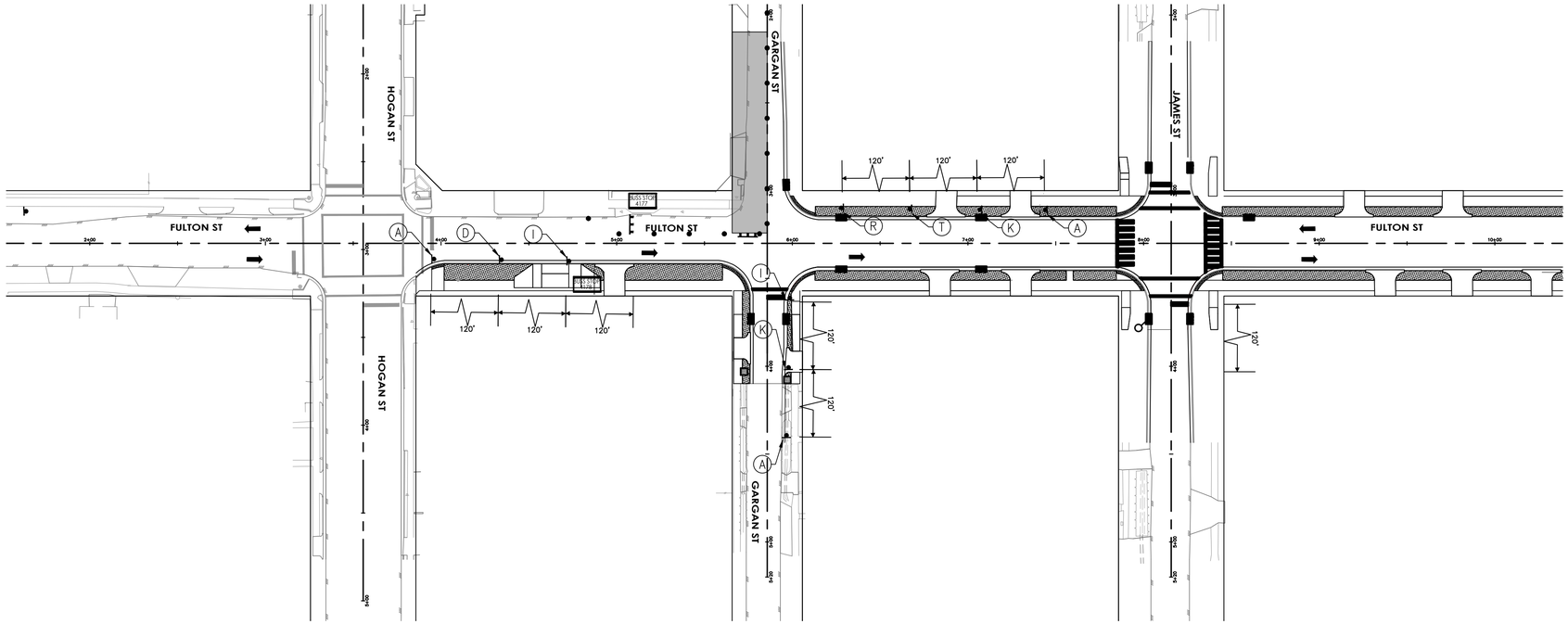
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 16-DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 154 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----Fulton St. Paving And Drainage Improvements\4- CADD\CIVIL FINAL\01-Civil\Phase 1- Step PLOT STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 9:08 AM



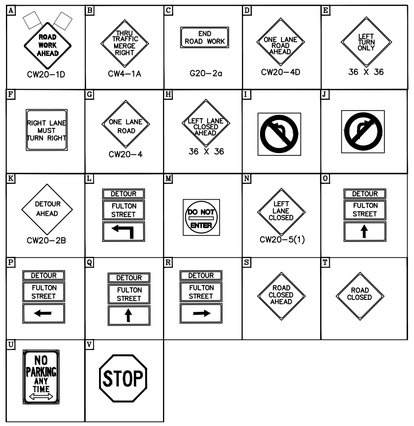
LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026



NOTES:

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES JNC
ENGINEERS, PROJECT MANAGERS, ESTIMATORS, INSPECTORS
6464 SAVOY DR, Suite 610
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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

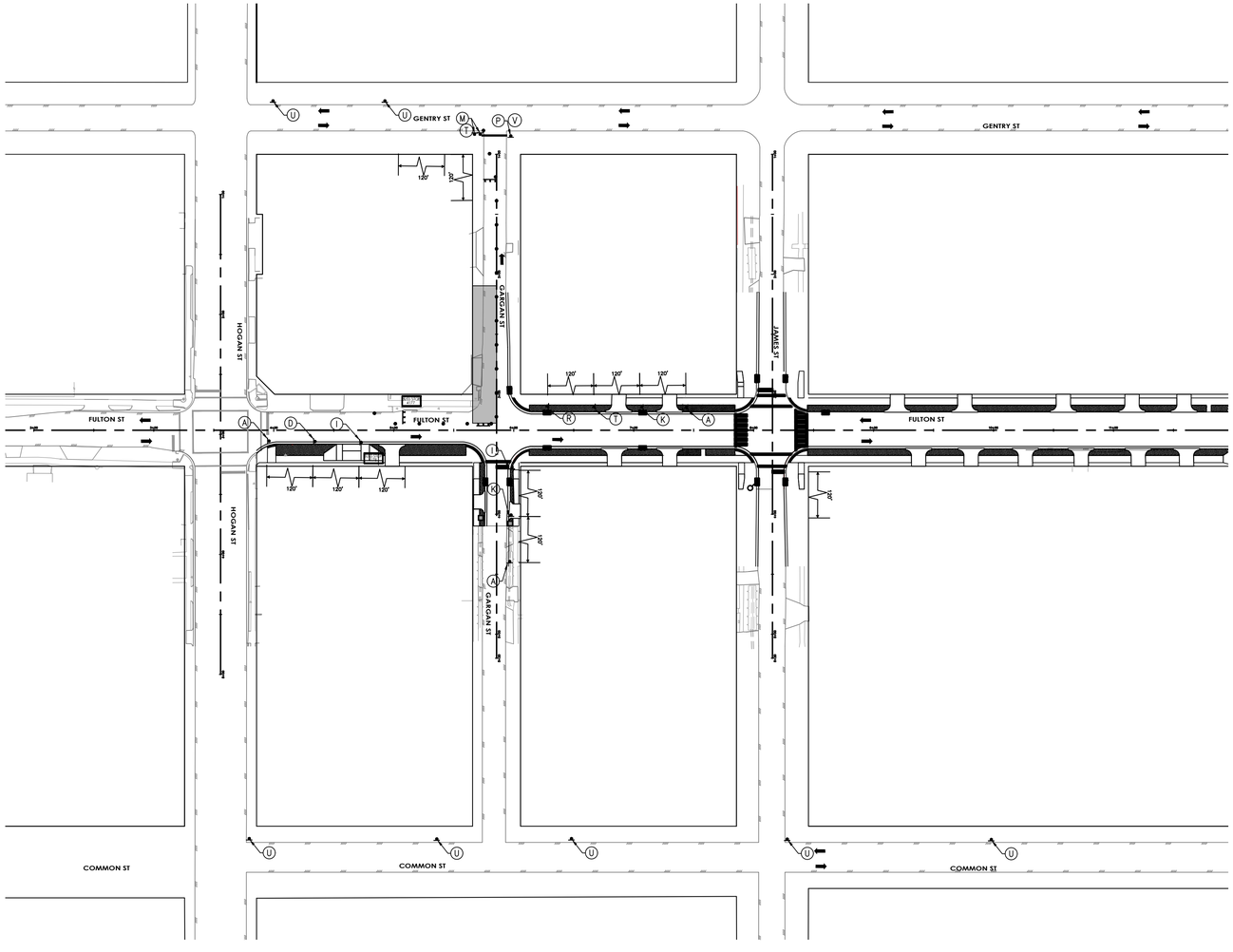
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

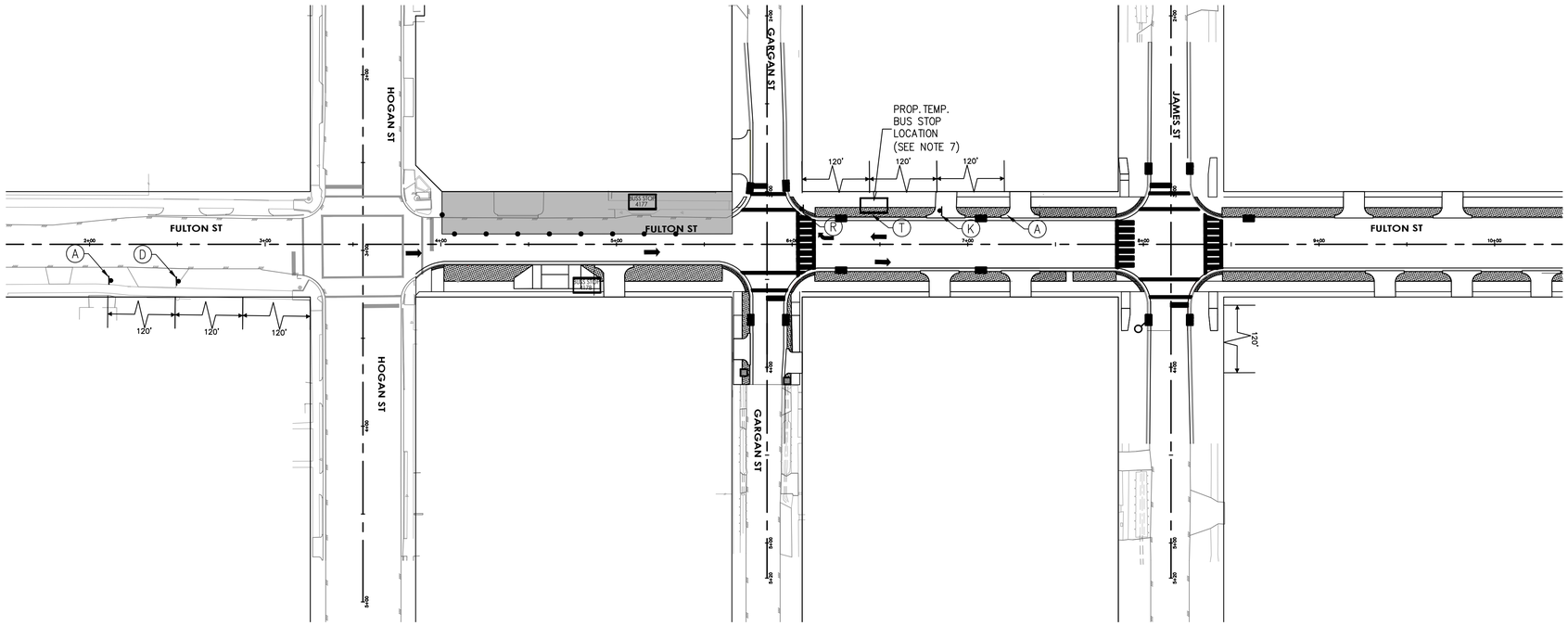
TRAFFIC CONTROL PLAN
PHASE 1 STEP 17

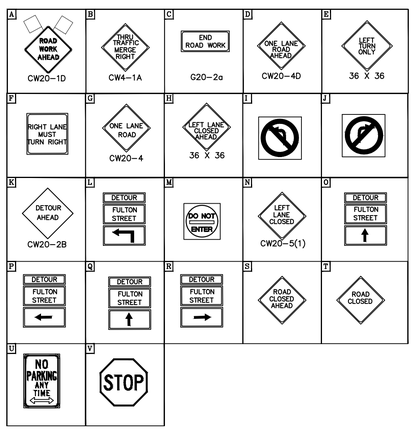
SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 155 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 17.dwg
PLOTTED: 10/5/2026 9:14 AM
PLOT STYLE: NEDU-STB-BW.stb


GENTRY ST
GENTRY ST
FULTON ST
FULTON ST
FULTON ST
HOGAN ST
HOGAN ST
GARGAN ST
GARGAN ST
JAMES ST
COMMON ST
COMMON ST
COMMON ST
120'
120'
120'





NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED
PROFESSIONAL ENGINEER
10/05/2026

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

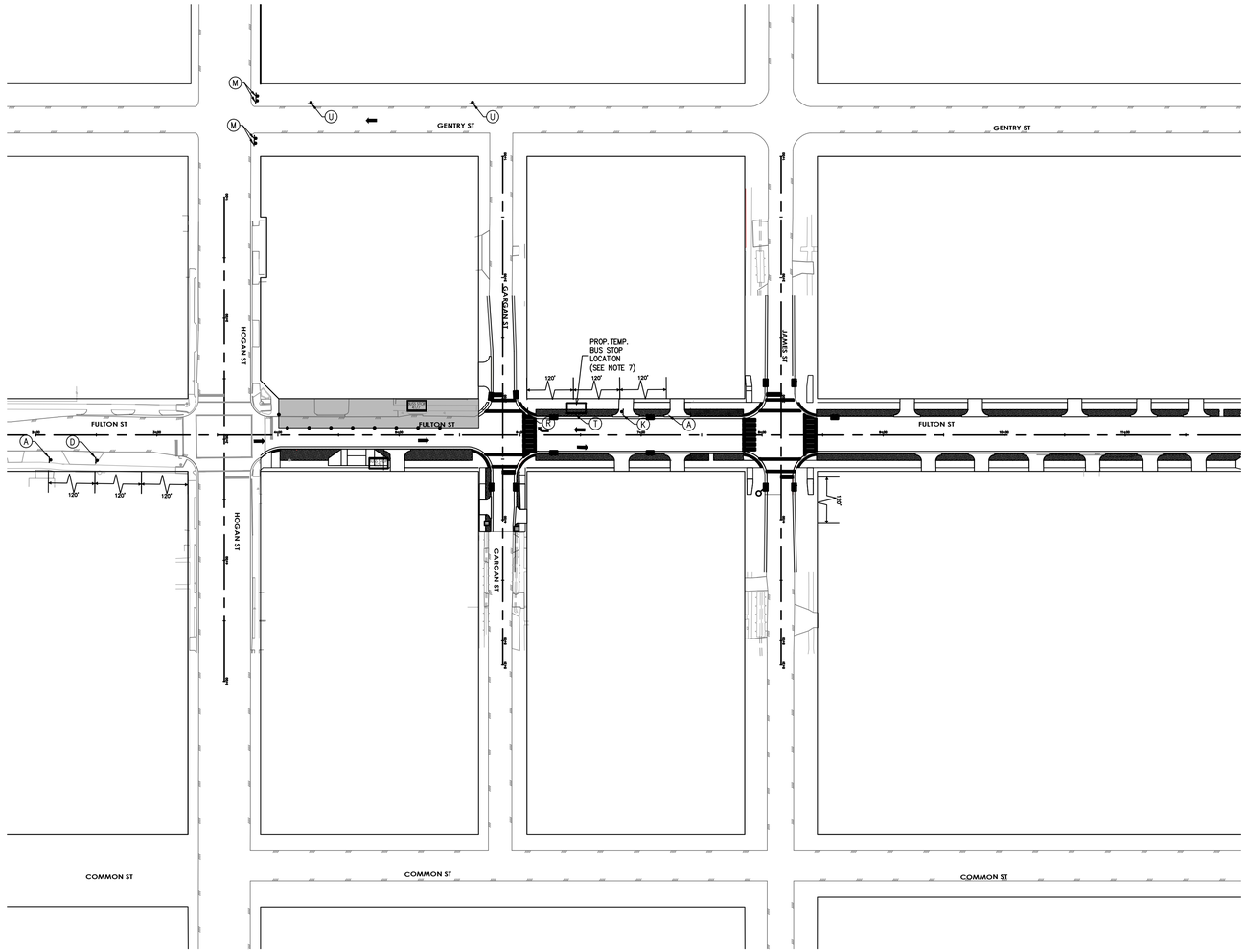
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 18

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 157 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 18.dwg
STYLE: NEDU-STB-BW.stb
PLOTTED: 10/5/2026 9:16 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC
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www.NeduEngineers.com

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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
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PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

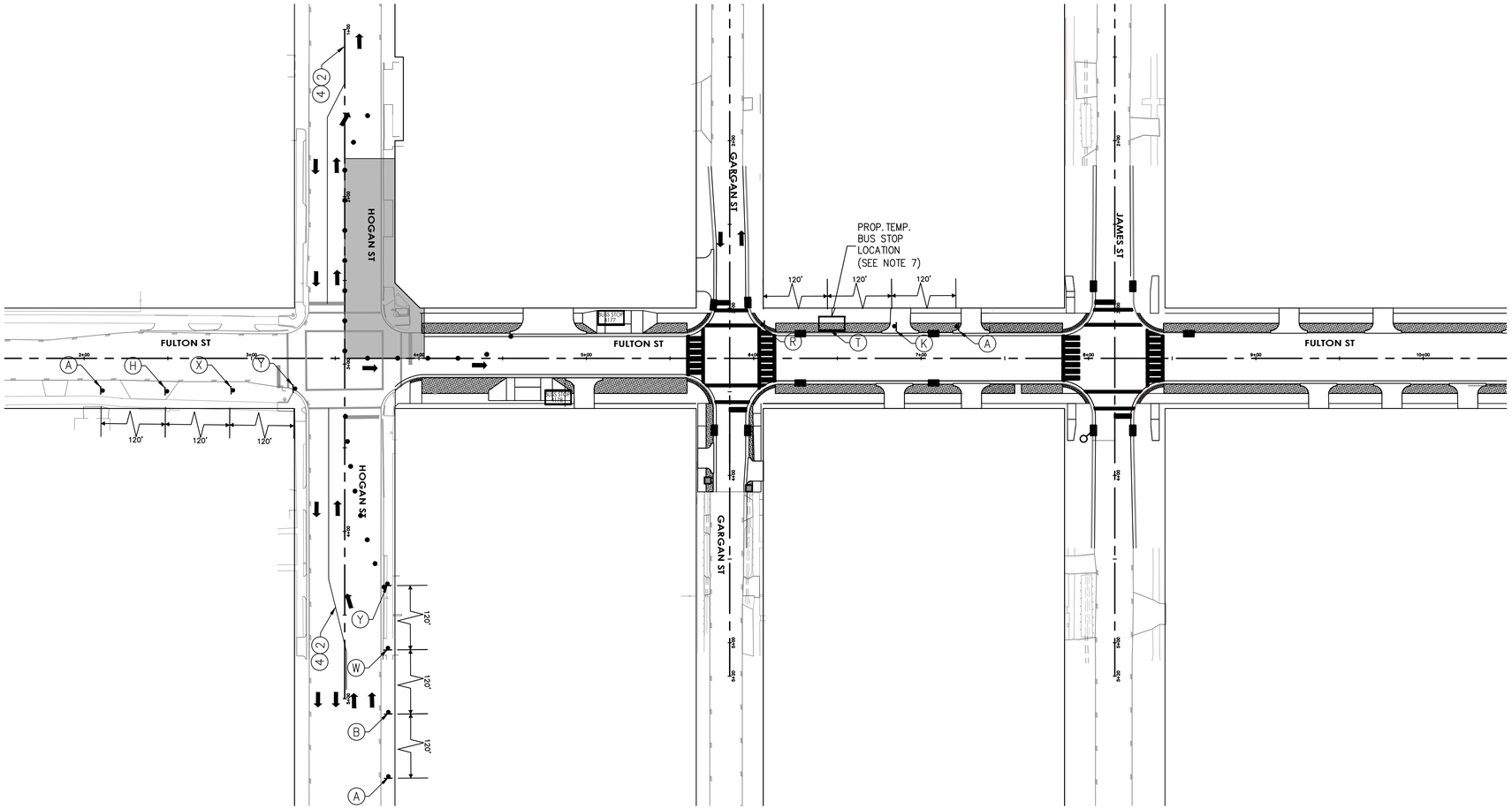
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

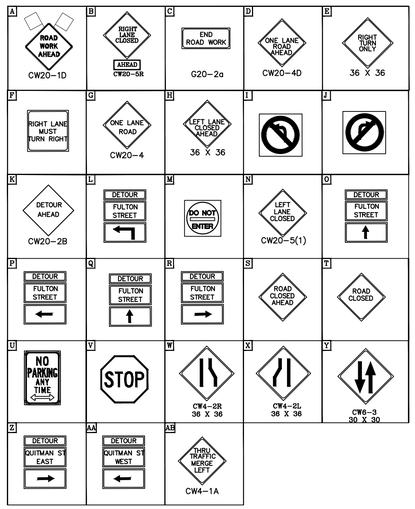
TRAFFIC CONTROL PLAN
PHASE 1 STEP 18–DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 158 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 18.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 9:18 AM





NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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Houston, Texas 77036
info@Nedu.Engineers.com
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AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

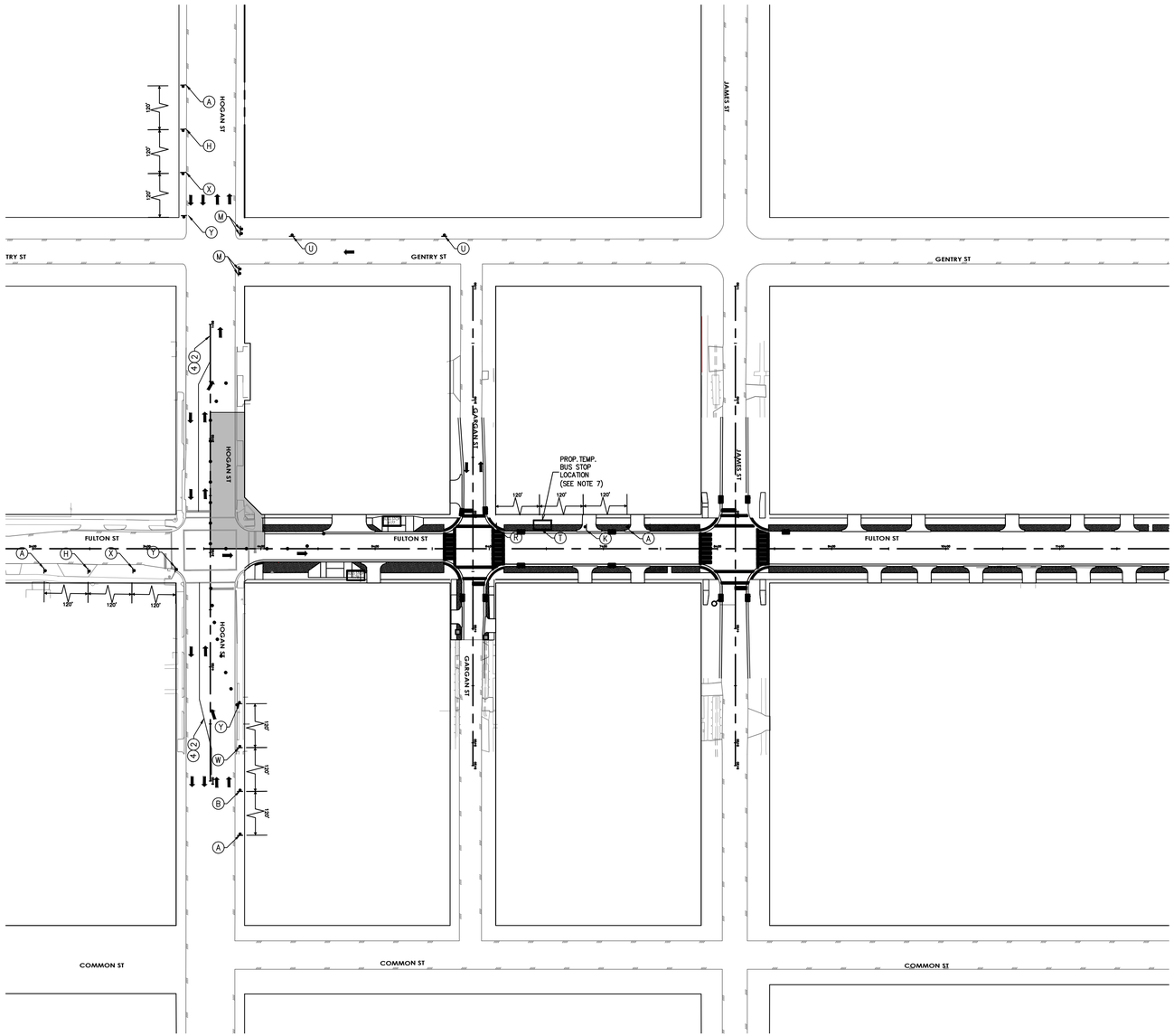
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 19

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 159 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 19.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 9:28 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
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Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

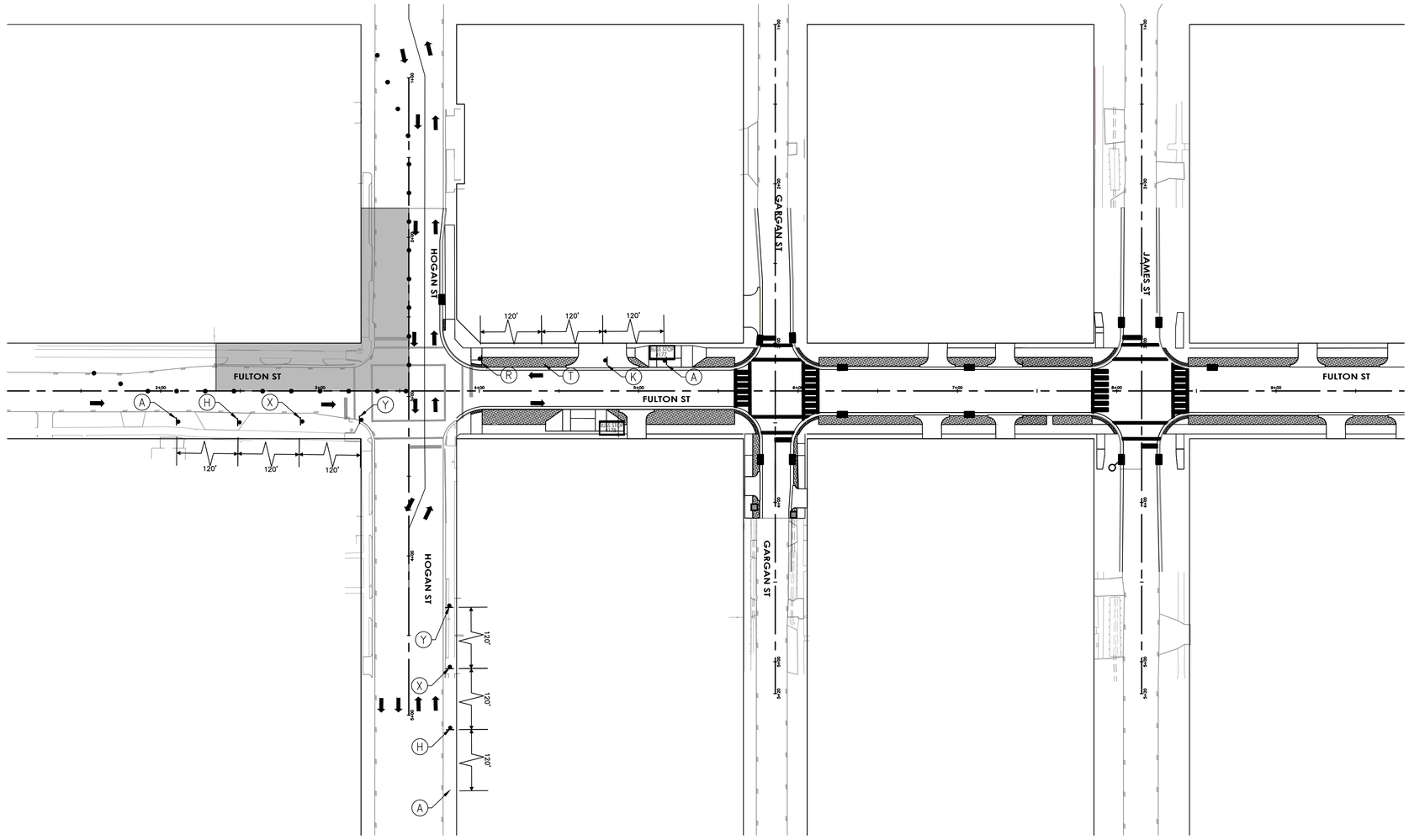
HOUSTON PUBLIC WORKS

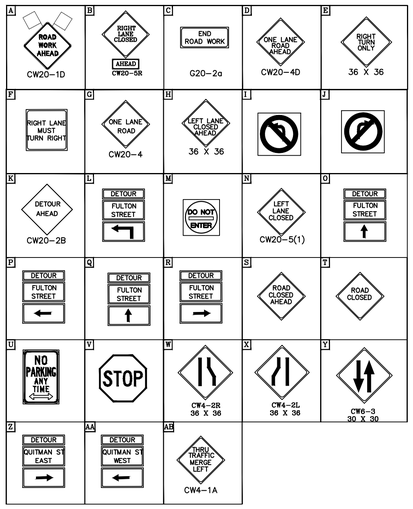
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 19-DETOUR

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 160 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1-Step 19.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 9:29 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

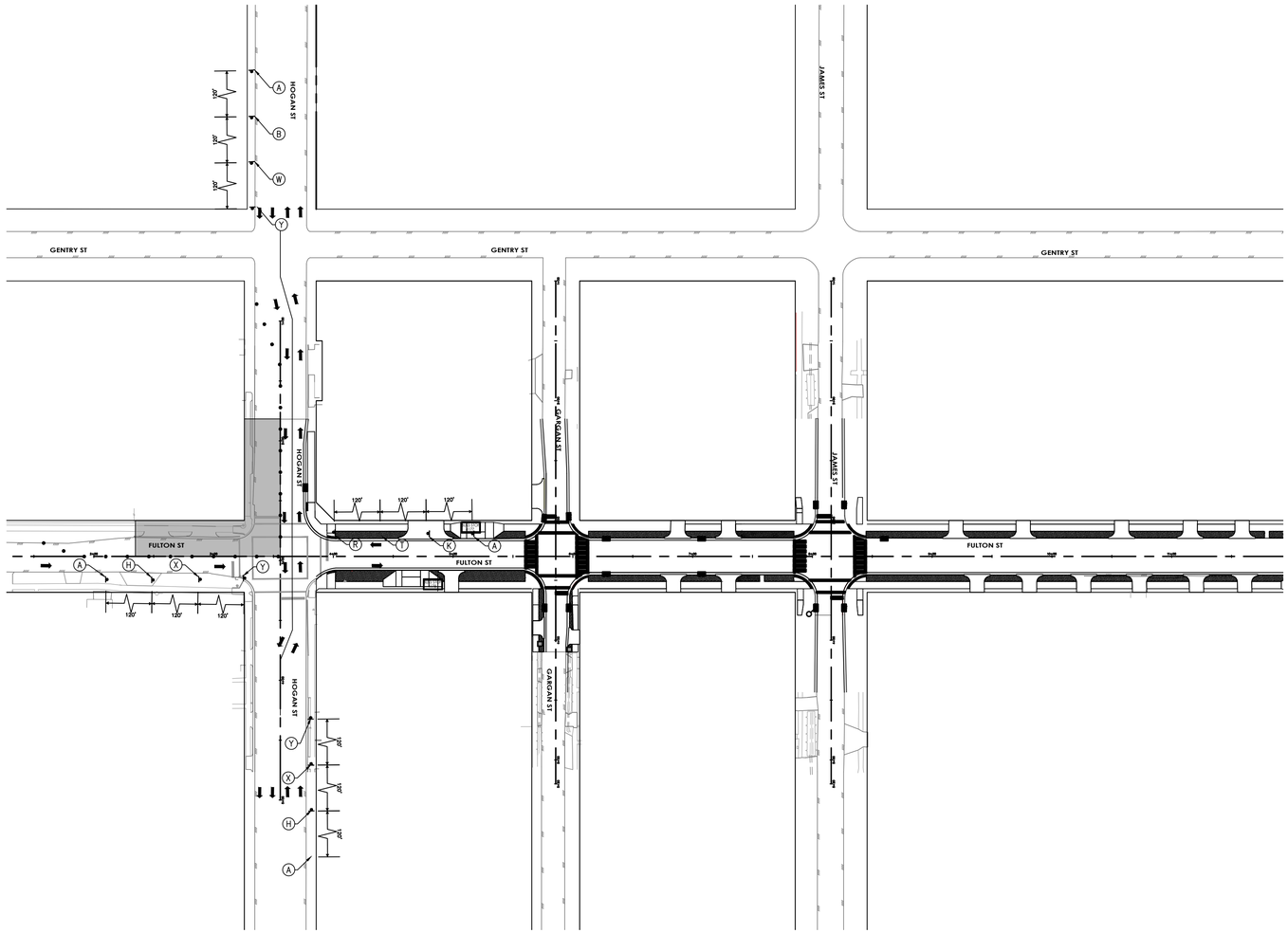
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 20

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 161 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 20.dwg
LAYOUT: LAYOUT1
PLOTTED: 10/5/2026 9:36 AM
PLOT STYLE: NEDU-STB-BW.stb



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
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NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER

10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

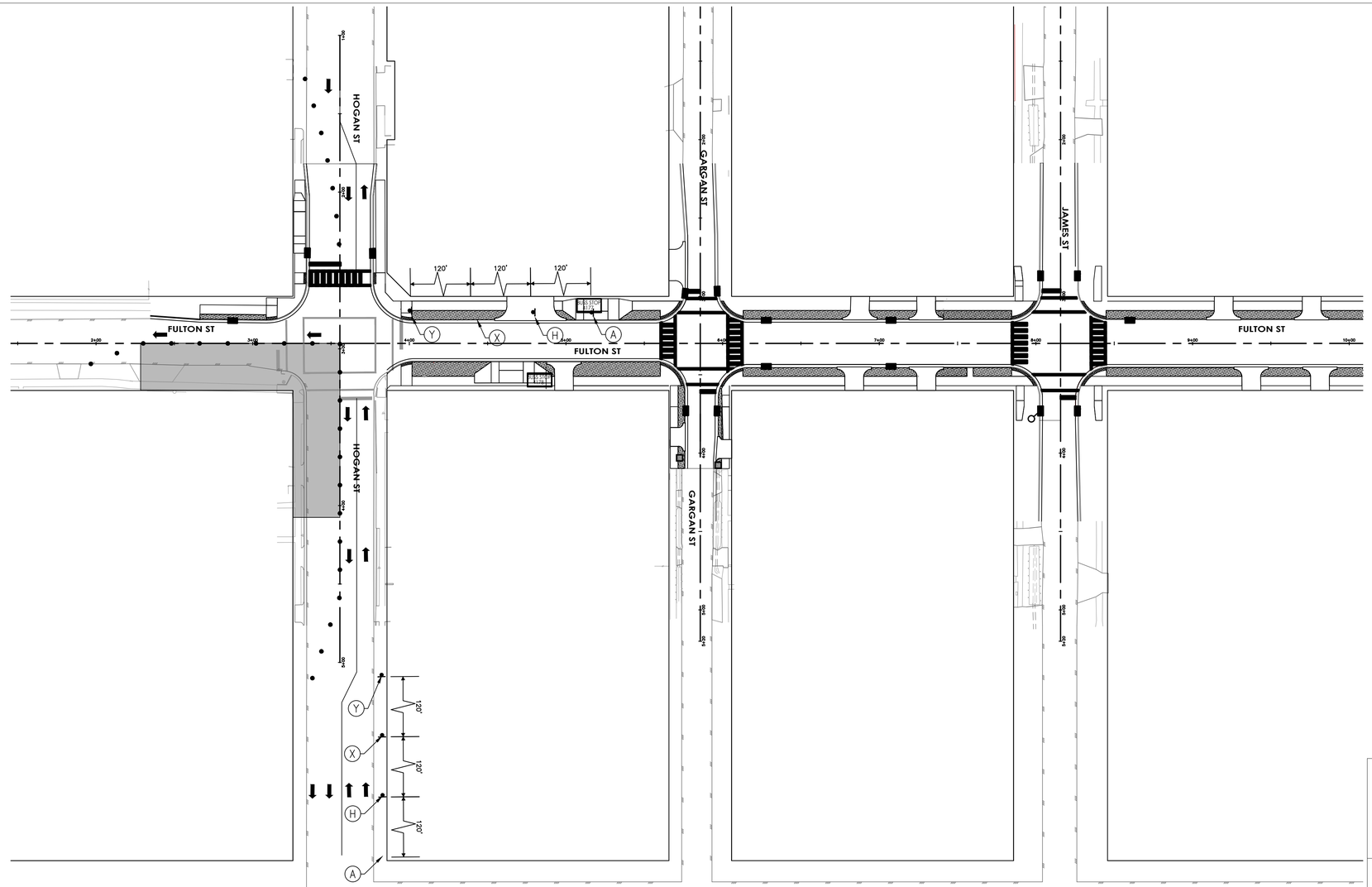
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

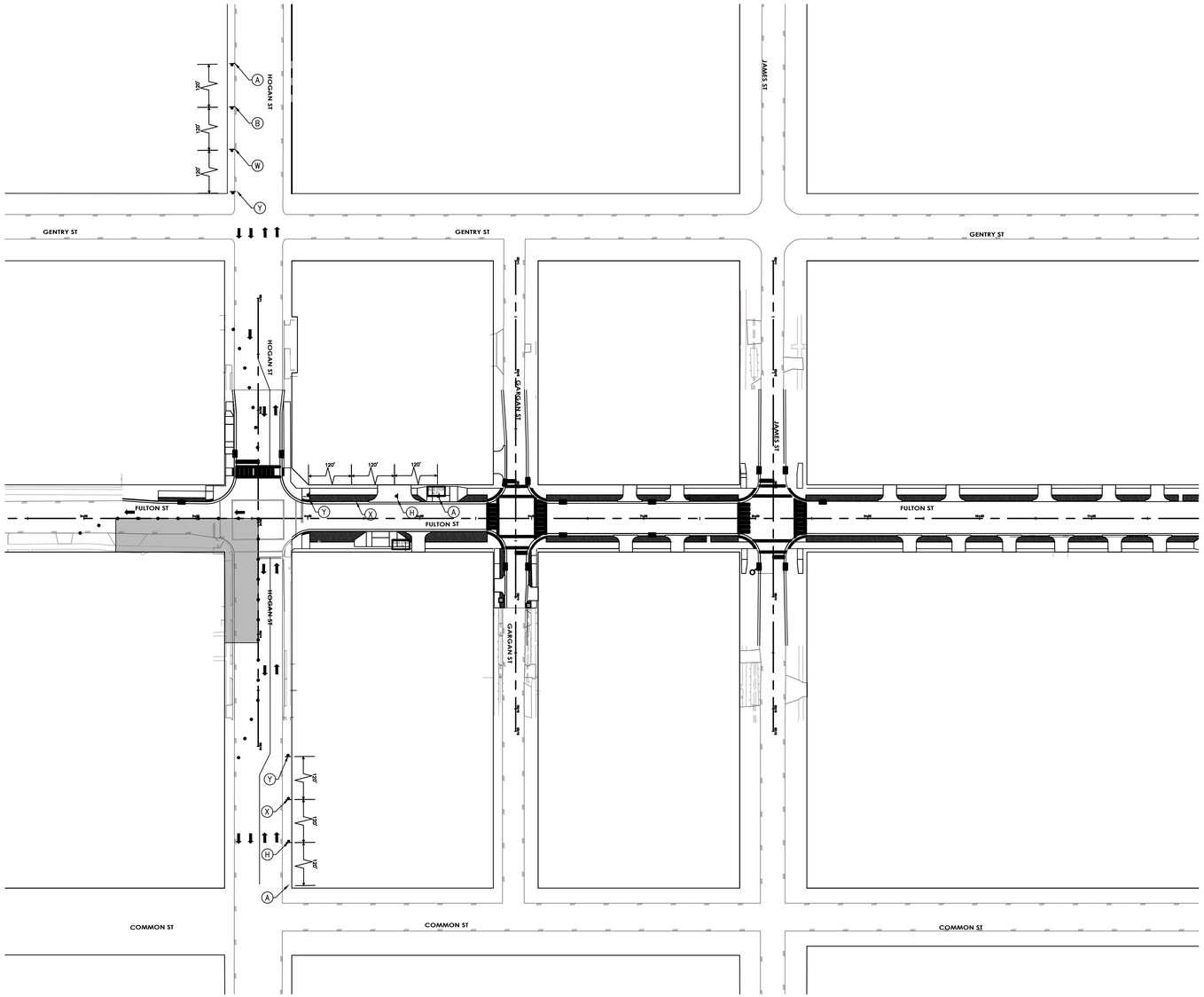
TRAFFIC CONTROL PLAN PHASE 1 STEP 20-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 162 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 20.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 9:37 AM


HOGAN ST
GARGAN ST
JAMES ST
FULTON ST
FULTON ST
FULTON ST
HOGAN ST
GARGAN ST
120'
120'
120'
120'
120'
120'
BUS STOP
BUS STOP
Y
X
H
A
Y
X
H
A
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
12+00
13+00
14+00
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28+00
29+00
30+00
31+00
32+00
33+00
34+00
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36+00
37+00
38+00
39+00
40+00



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
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PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

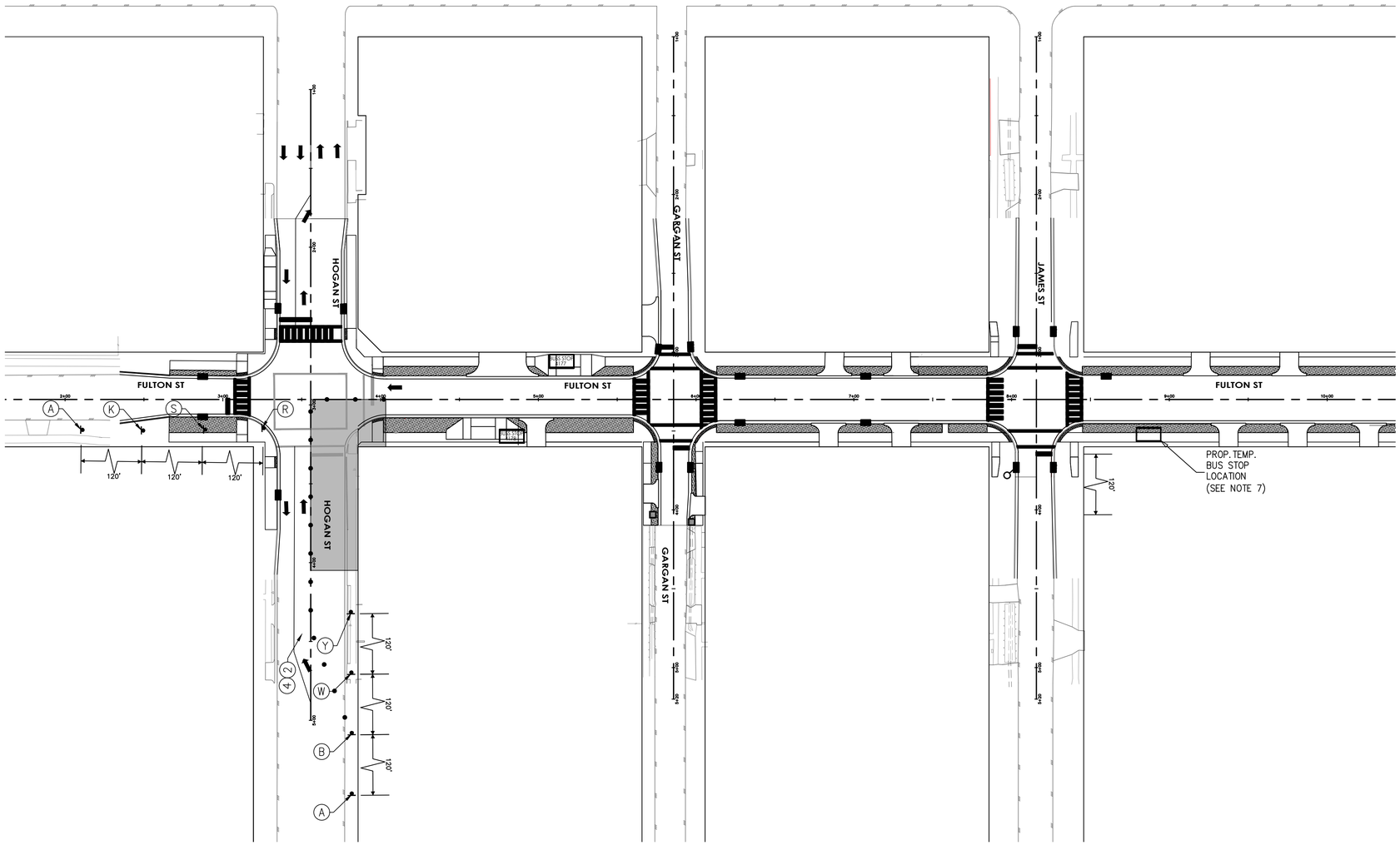
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 1 STEP 21-DETOUR

SHEET 2 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 40'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 164 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 21.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 10:07 AM



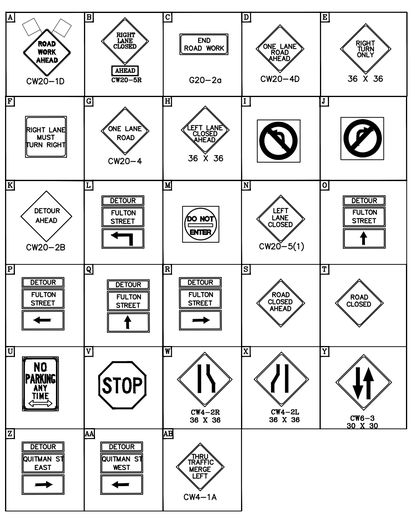
LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026



NOTES:

1. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
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Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS — NKEMDI I. OHALETE — 79423 — REGISTERED PROFESSIONAL ENGINEER

10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

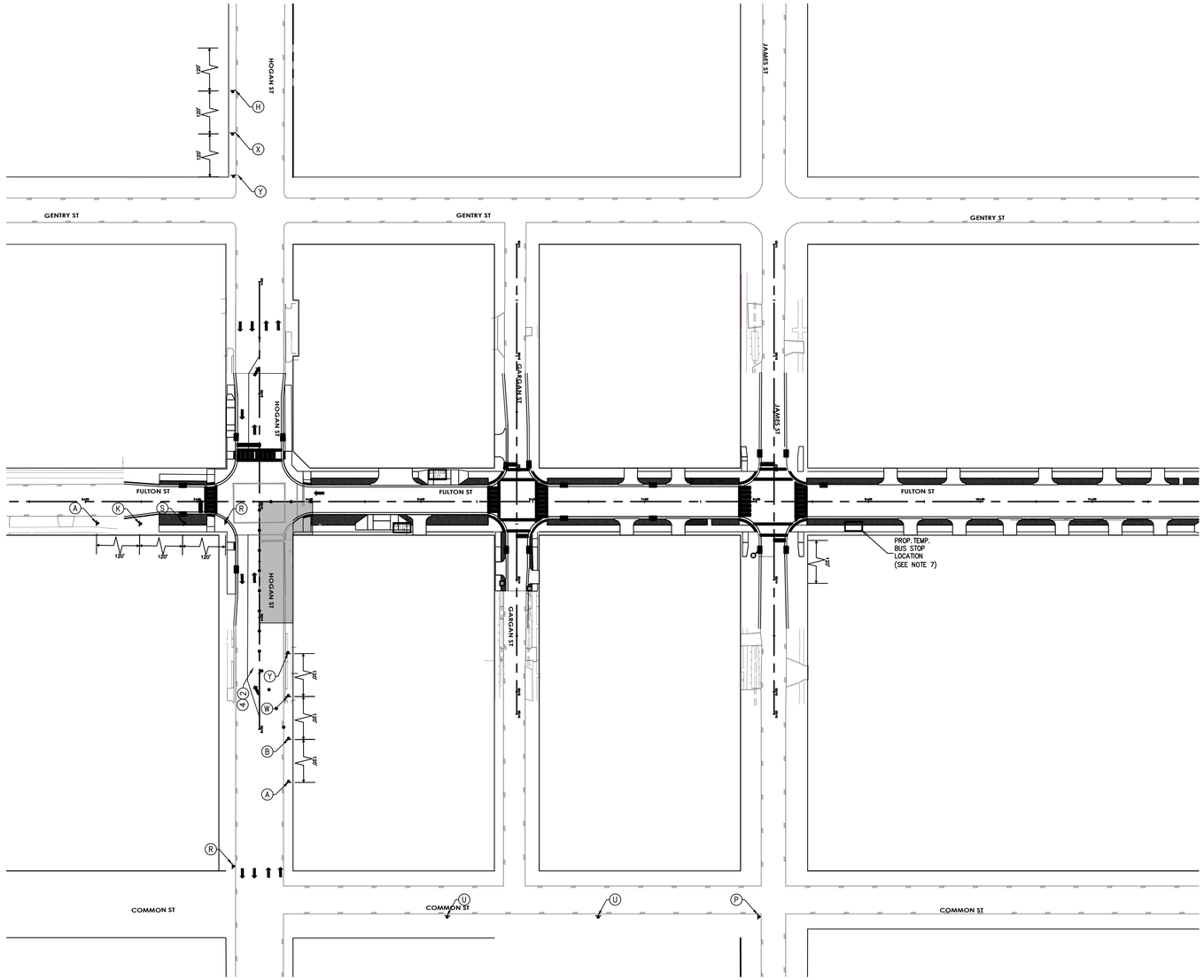
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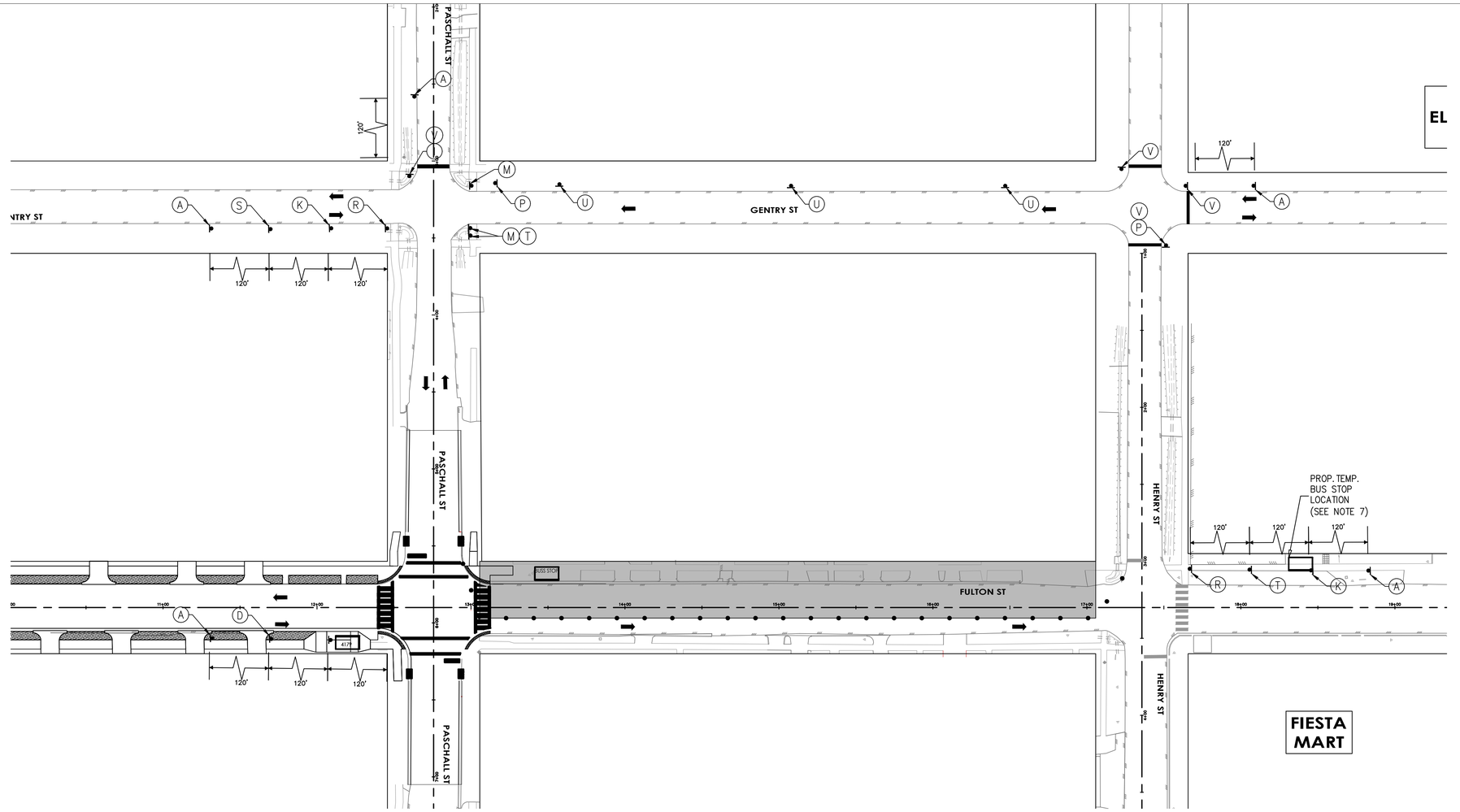
TRAFFIC CONTROL PLAN PHASE 1 STEP 22

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 165 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\Phase 1- Step 2PLOT STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 10:22 AM


HOGAN ST
JAMES ST
GENTRY ST
GENTRY ST
GENTRY ST
GARGAN ST
JAMES ST
FULTON ST
FULTON ST
FULTON ST
HOGAN ST
GARGAN ST
PROP. TEMP. BUS STOP LOCATION (SEE NOTE 7)
COMMON ST
COMMON ST
COMMON ST
A
K
S
R
H
X
Y
U
W
B
P
120'
100'
120'
30'
30'
30

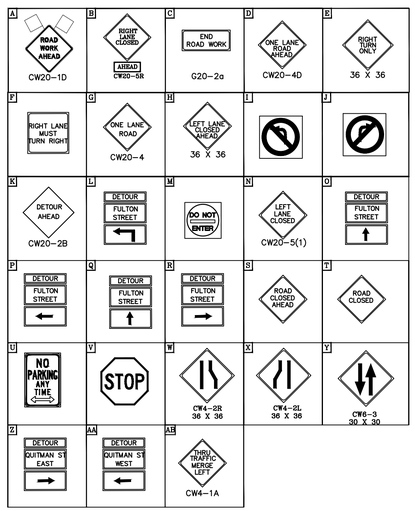


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
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P: 832–930–7670
TX FIRM NUMBER: F–314

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FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

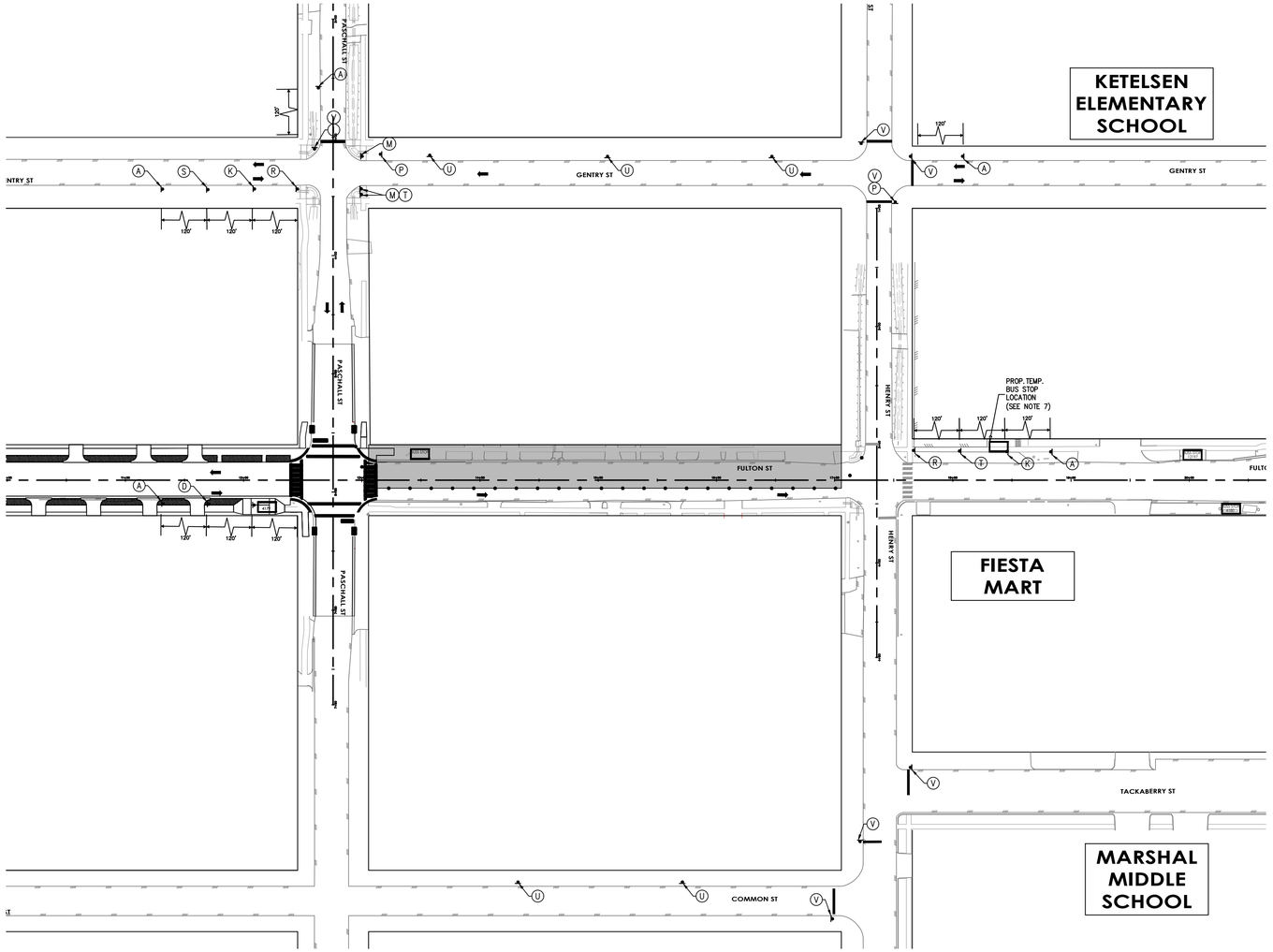
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 1

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 167 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 1.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 10:40 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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STATE OF TEXAS
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

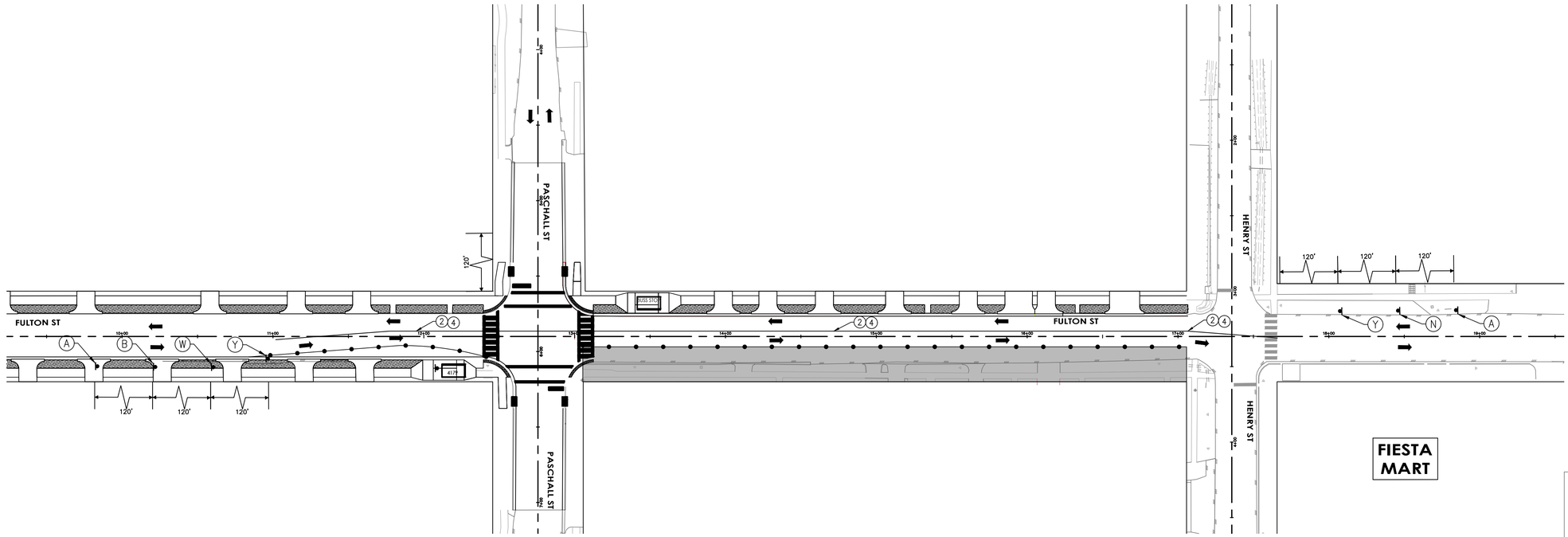
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

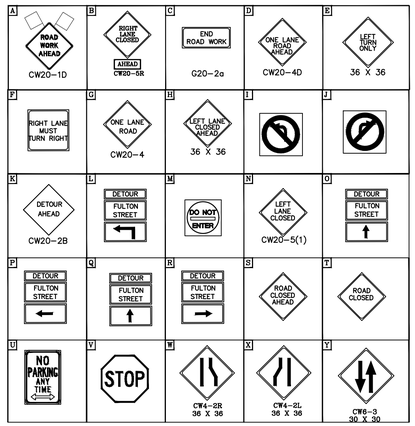
TRAFFIC CONTROL PLAN
PHASE 2 STEP 1-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 168 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 1.dwg
PLOT STYLE: NEDU-STB-BW.stb
PLOTTED: 10/5/2026 10:41 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
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TX FIRM NUMBER: F-314

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STATE OF TEXAS
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

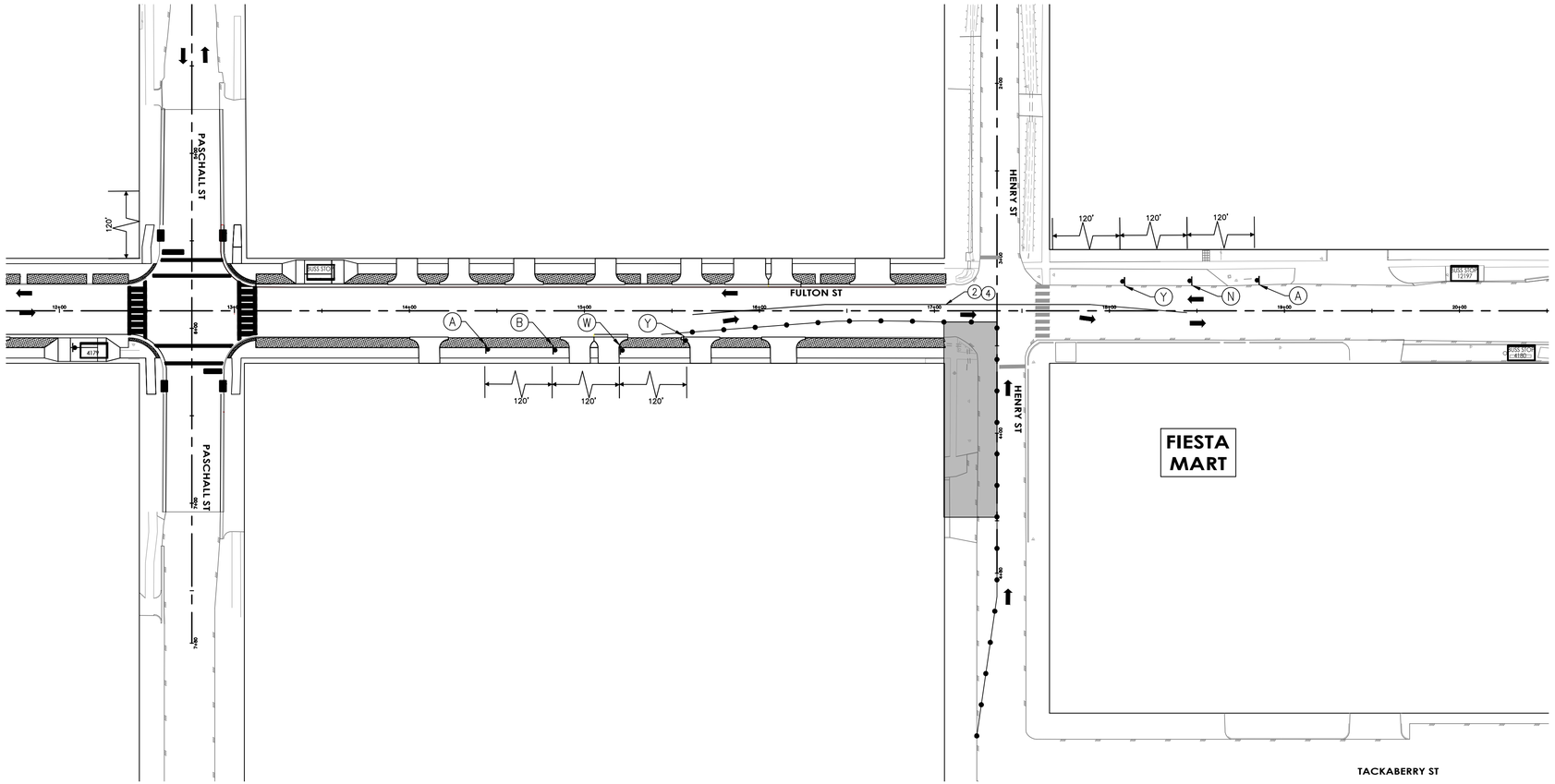
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

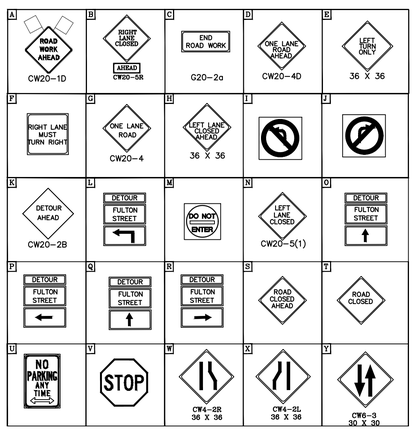
TRAFFIC CONTROL PLAN
PHASE 2 STEP 2

SHEET 1 OF 1

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 169 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 2.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 10:42 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

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750 TOWN & COUNTRY BLVD
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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

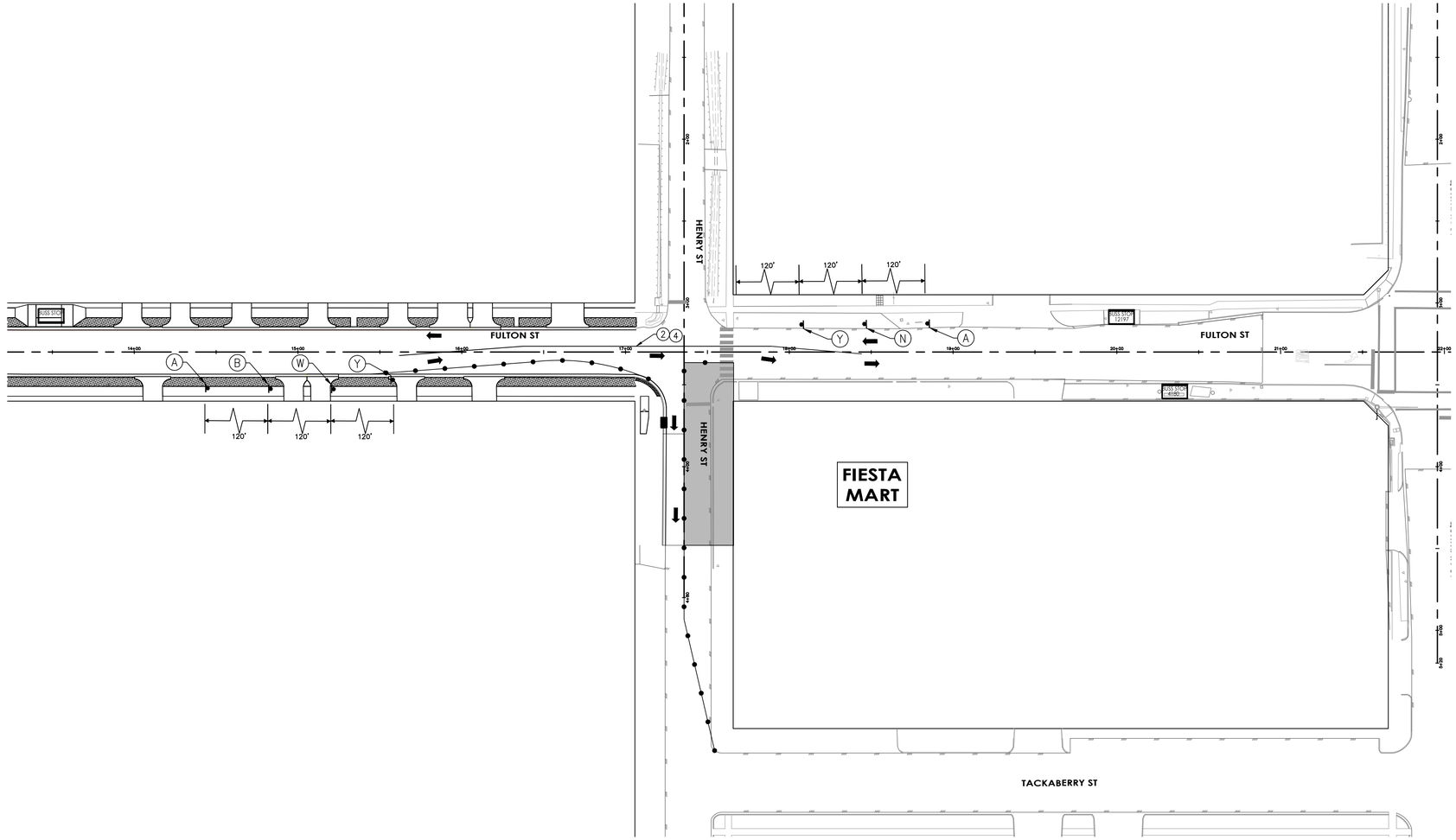
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 3

SHEET 1 OF 1

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 170 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 3.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:06 AM

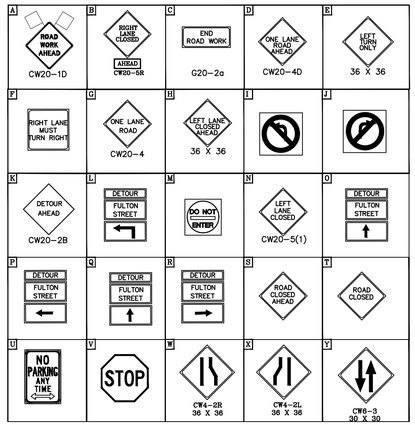


LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
- DRUM
- VERTICAL PANEL
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- TY I WITH TY II END TREATMENT LOW PROFILE CONC BARRIER WITH REFLECTORS

1. REMOVABLE PAV MRK BUTTONS TY W
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4. REMOVABLE PAV MRK (REFLECTOR) TY I–C
5. REMOVABLE PAV MRK (REFLECTOR) TY A–A
6. REMOVABLE PAV MRK (REFLECTOR) TY I–A
7. REMOVABLE PAV MRK BUTTONS TY W (DOT)
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NO.	DATE	REVISION	APP.



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FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

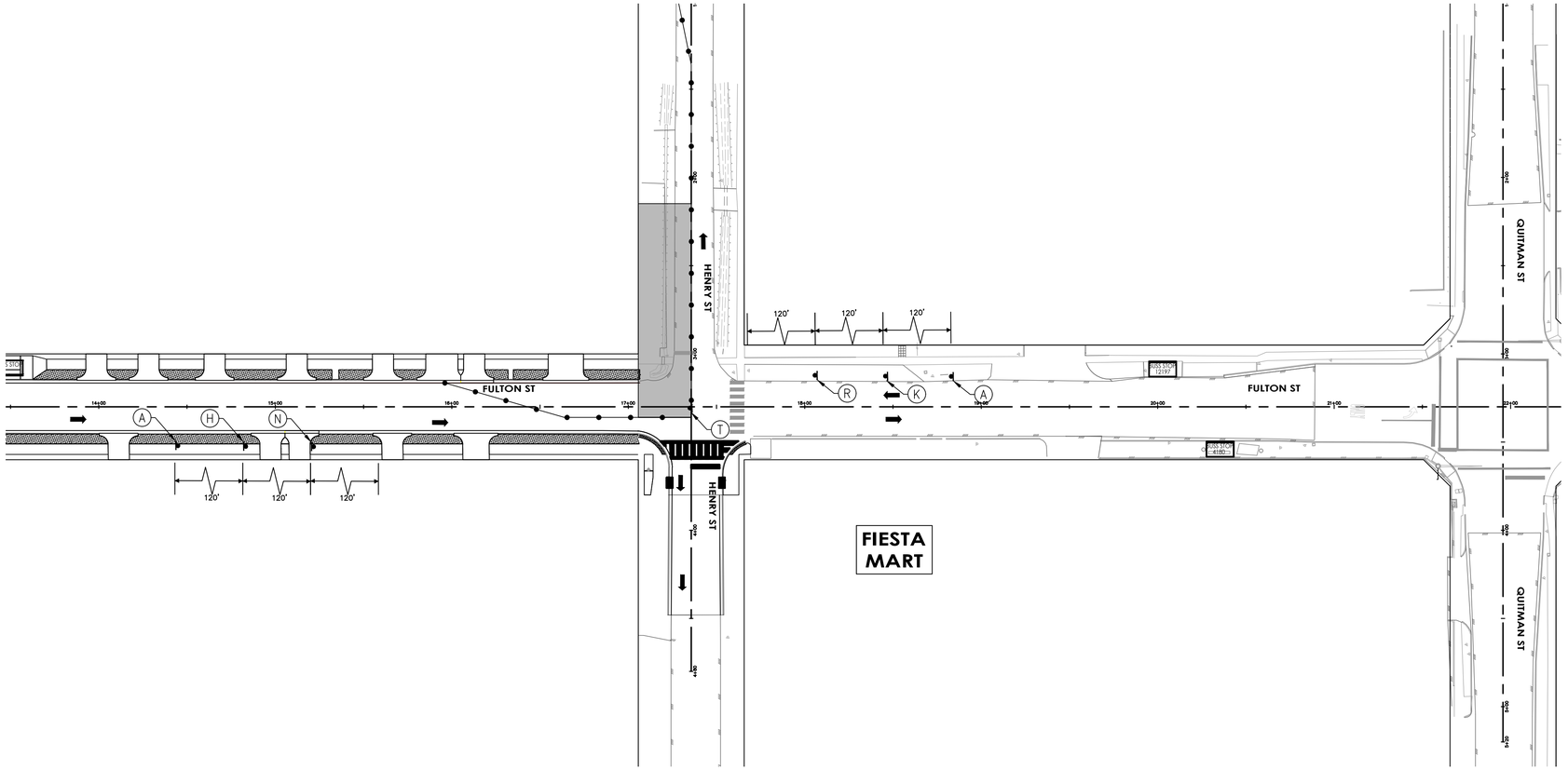
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 4

SHEET 1 OF 1

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 171 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 4.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:07 AM



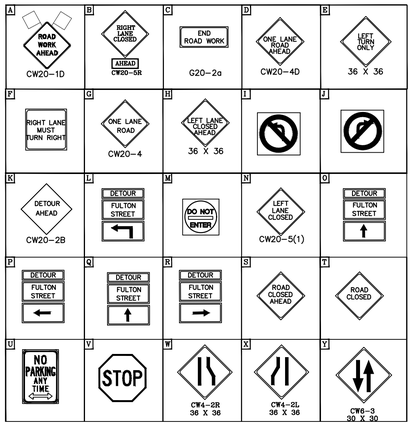
LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026



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FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
LICENSED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
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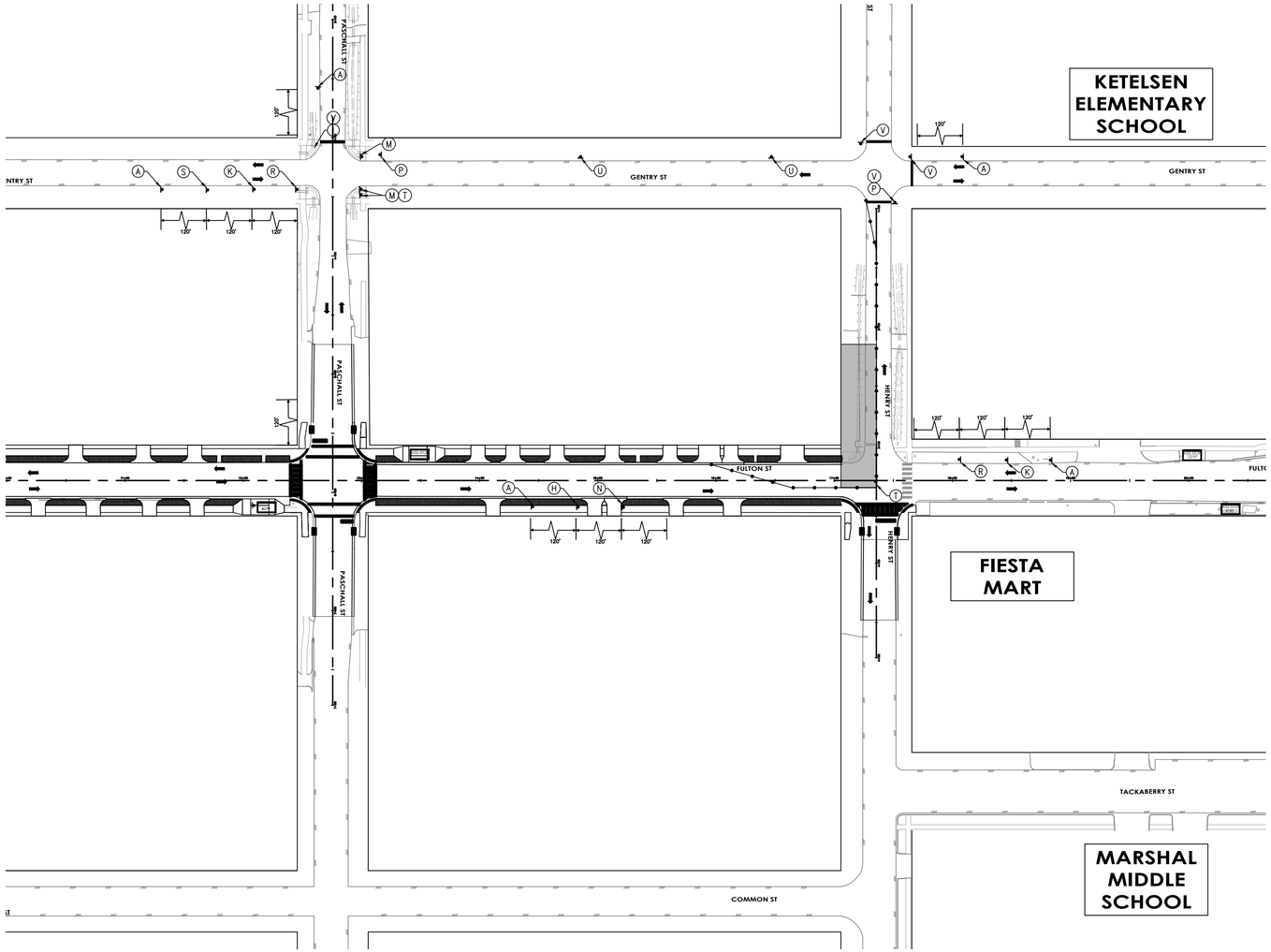
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 5

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 172 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 5.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:11 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

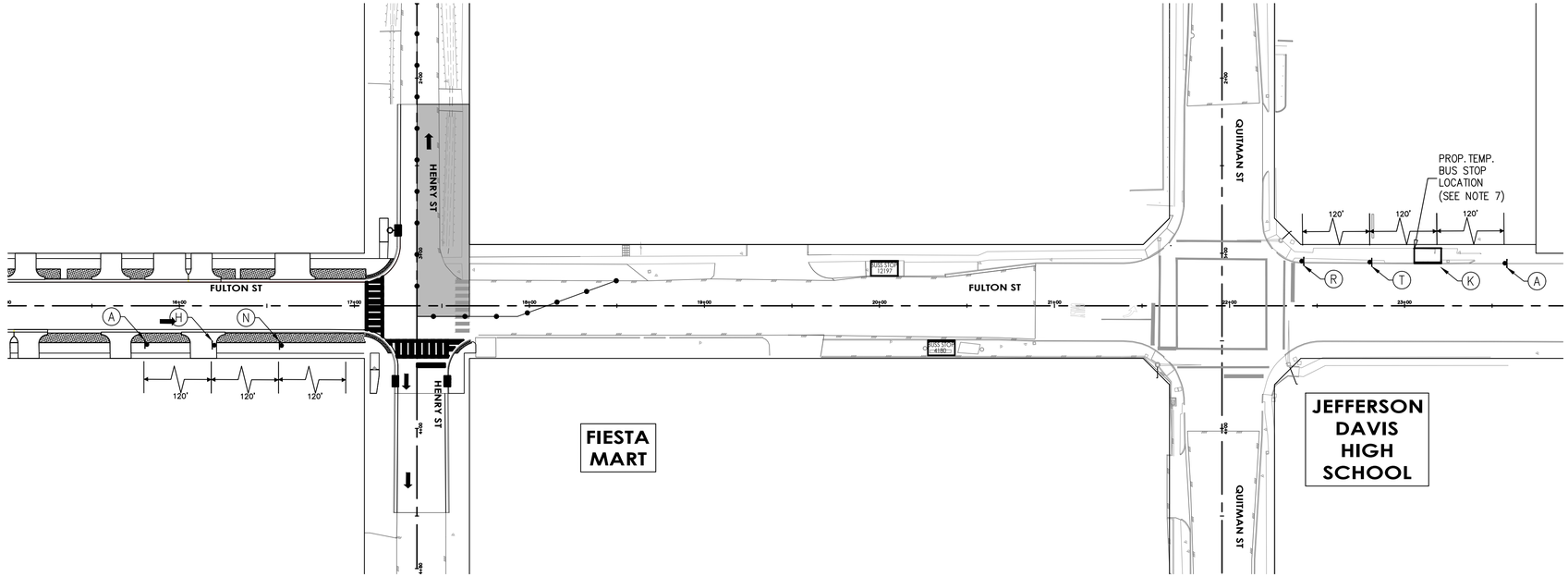
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 5-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 173 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 5.dgn
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PLOT STYLE: NEDU-STB-BW.stb

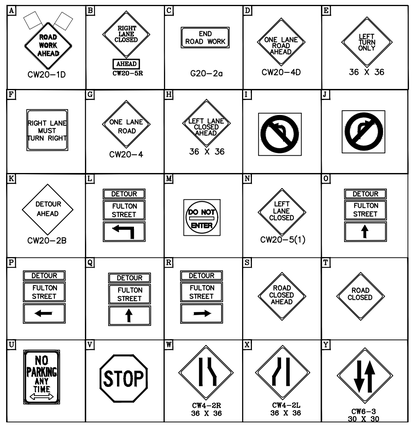


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

1. PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2. MAINTAIN MINIMUM 11-FOOT LANE WIDTH AT ALL TIMES.
3. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED, METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS, ESTIMATORS, INSPECTORS
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AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

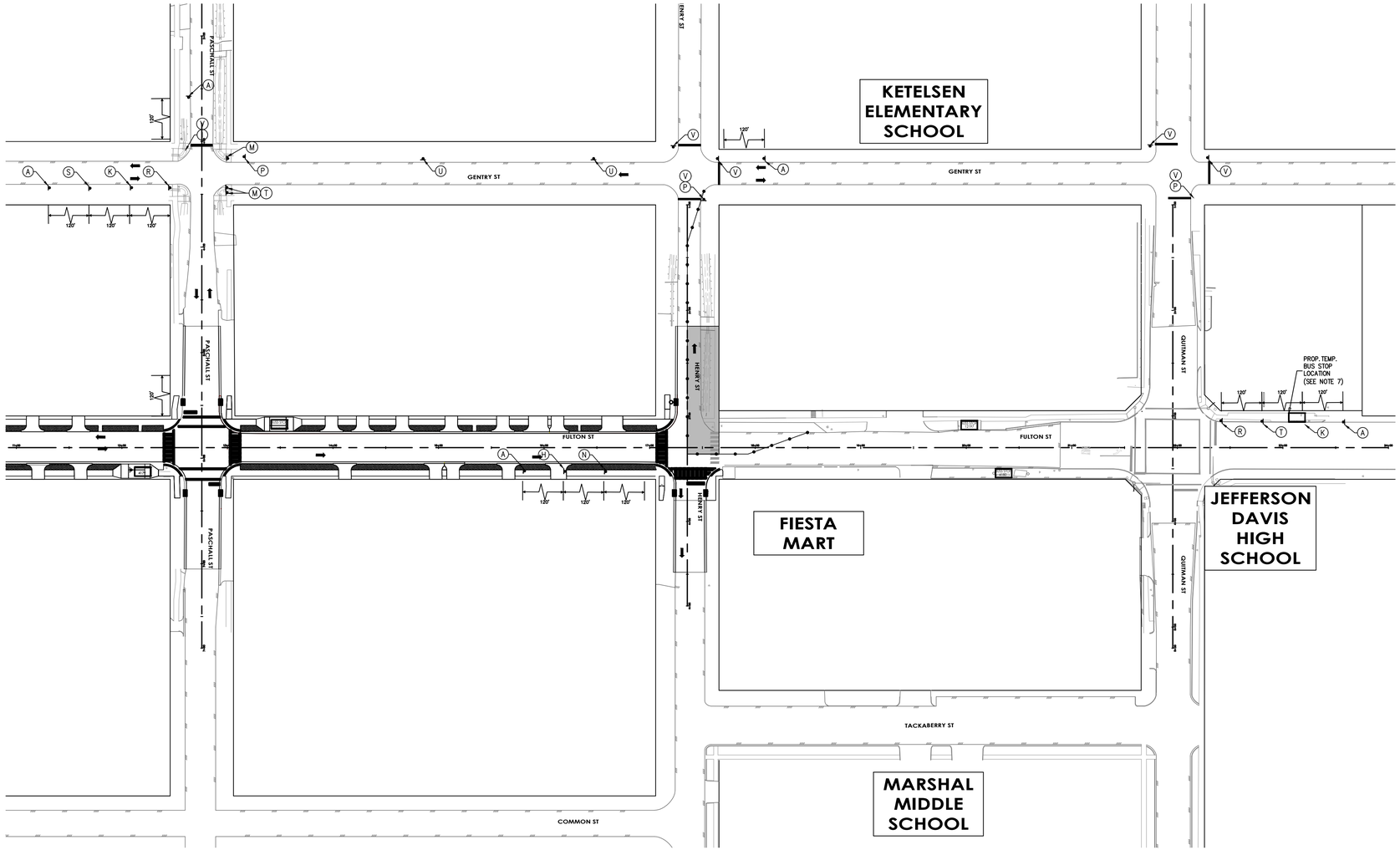
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 6

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 174 OF 223	

FILE PATH: Y:_PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 6.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:19 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS, ESTIMATORS, INSPECTORS
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www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

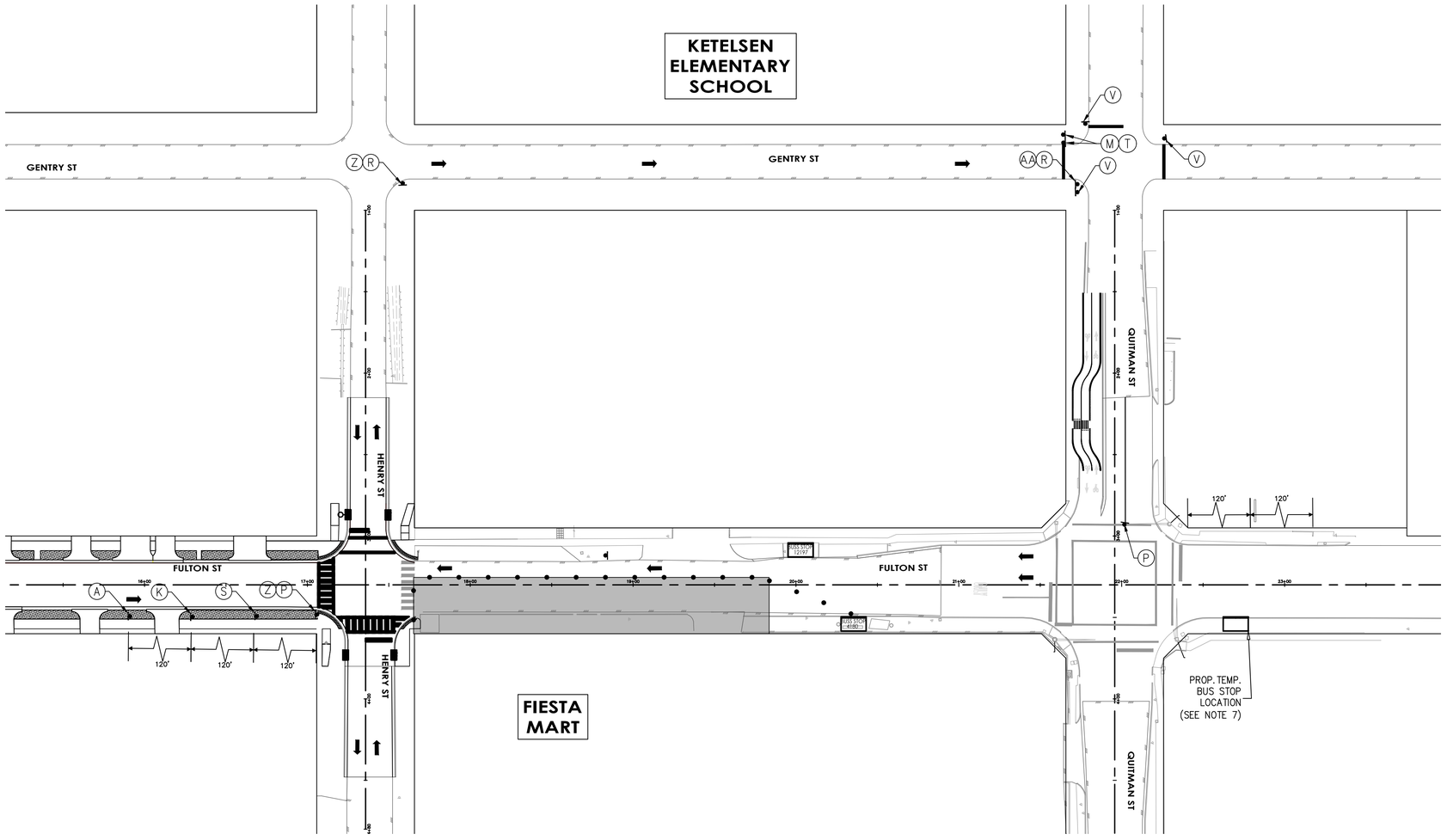
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 6-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 175 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 6.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:22 AM



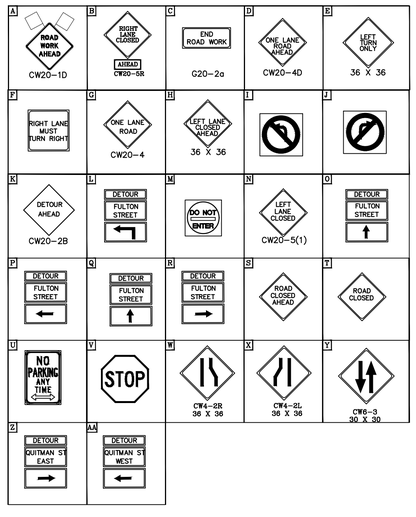
LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026



NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
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3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

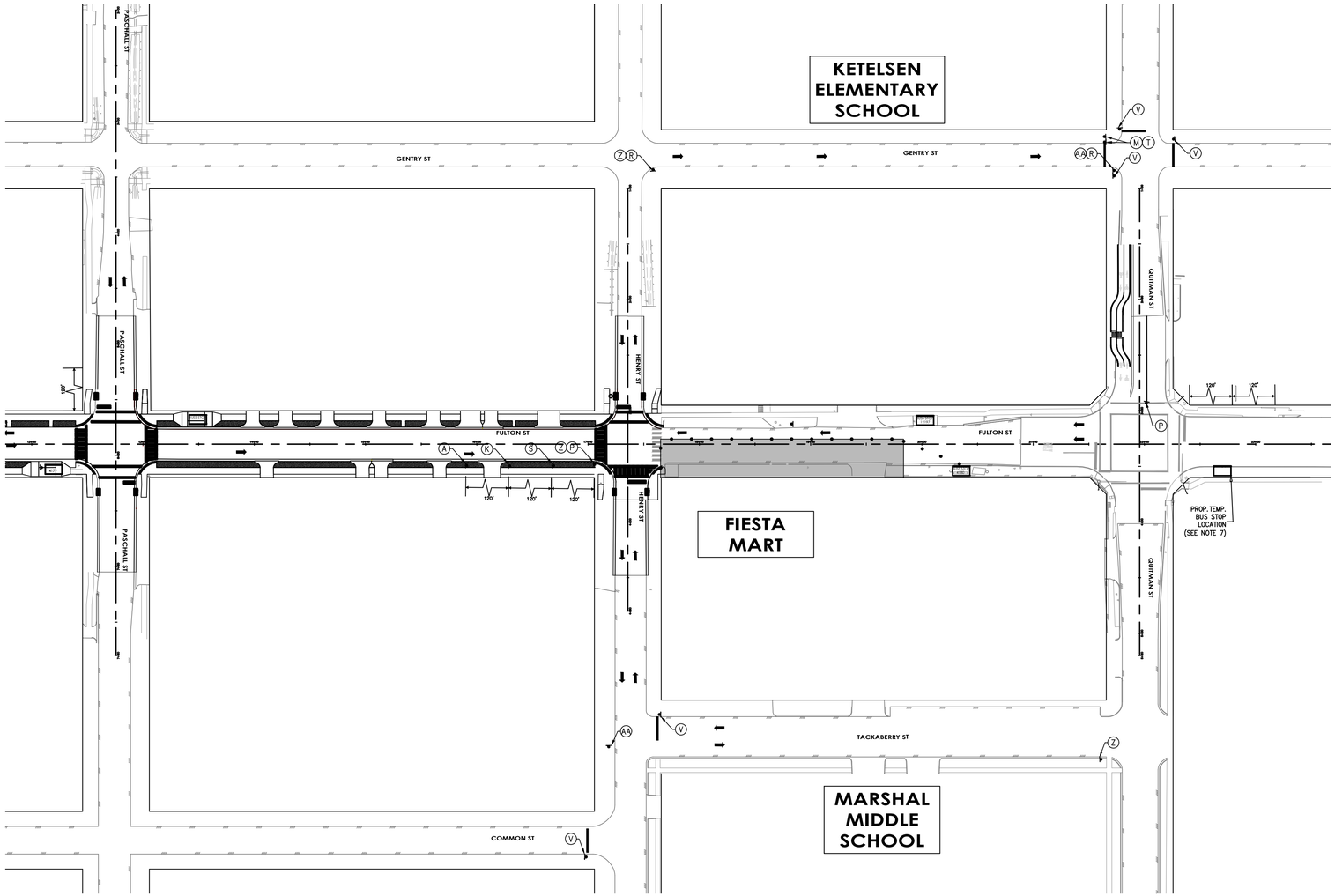
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 7

SHEET 1 OF 2

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
1"= 40'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 176 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 7\Fulton Step 7.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:29 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES, INC.
ENGINEERS, PROJECT MANAGERS, ESTIMATORS, INSPECTORS
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info@NeduEngineers.com
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SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

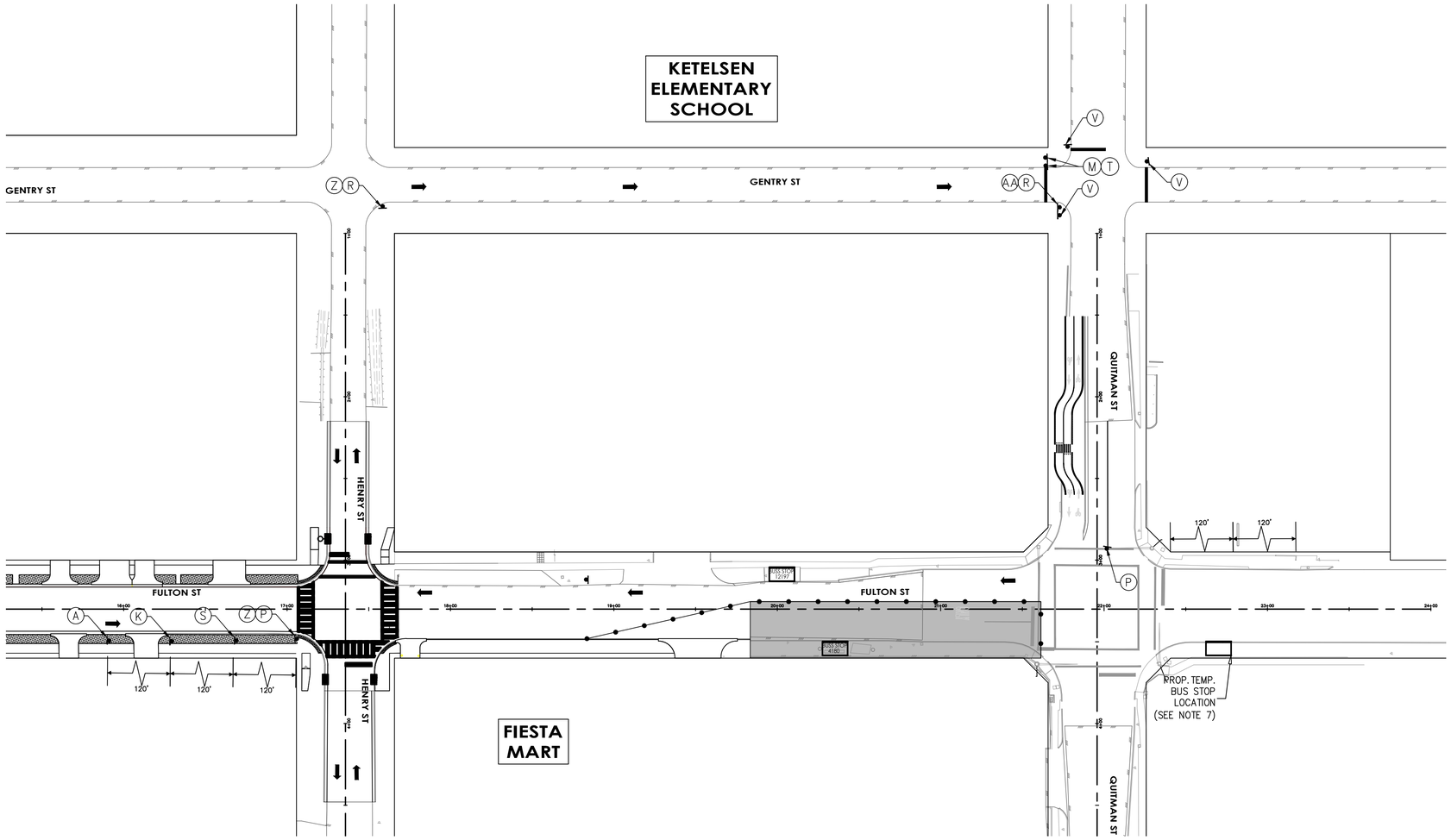
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

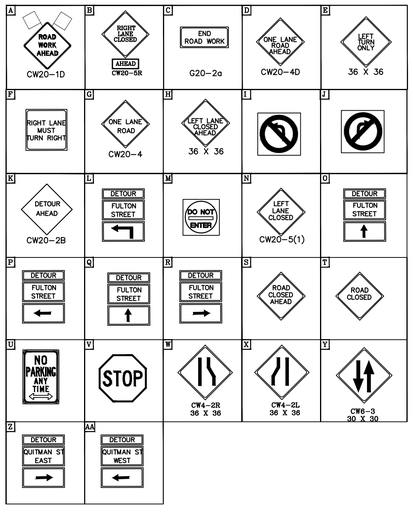
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 7-DETOUR

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 177 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 7.dwg
PLOT STYLE: NEDU-STB-BW.stb
PLOTTED: 10/5/2026 11:29 AM





LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
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3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

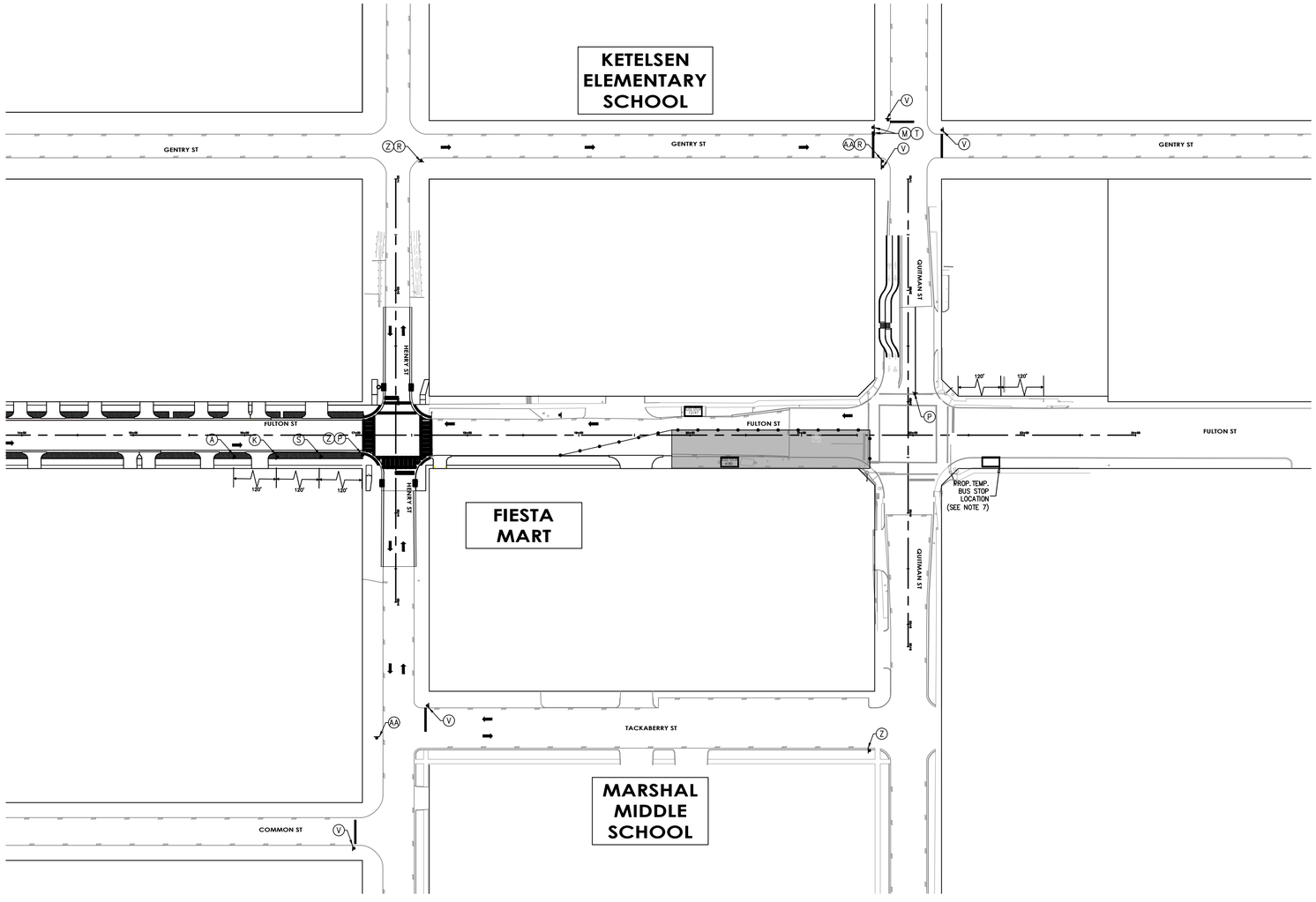
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 8

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 178 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 8.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:30 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
ENGINEERS, PROJECT MANAGERS, INSPECTORS
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SURVEYED BY:
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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

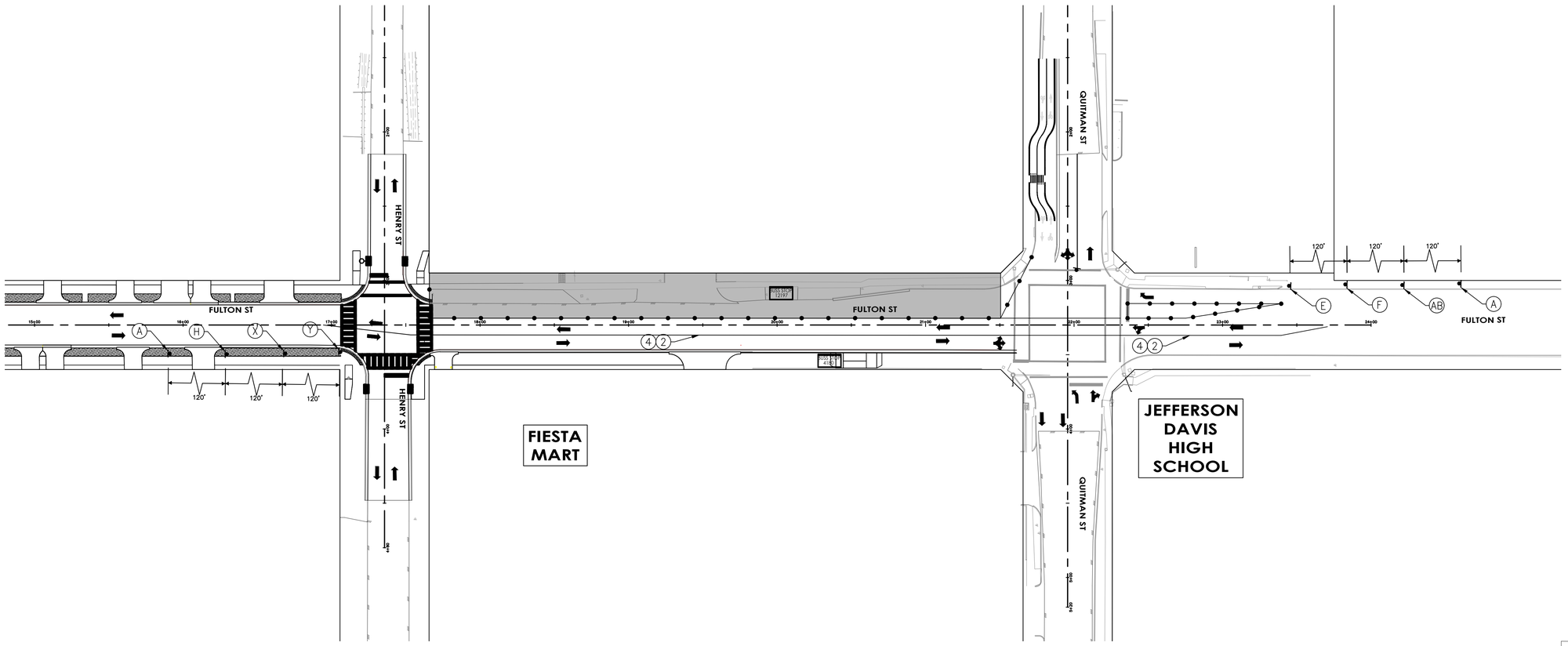
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 8-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 179 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 8.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:31 AM

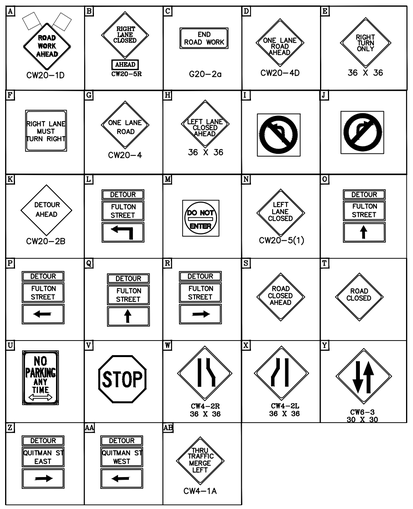


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

NEDU ENGINEERING SERVICES,INC.
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F–6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

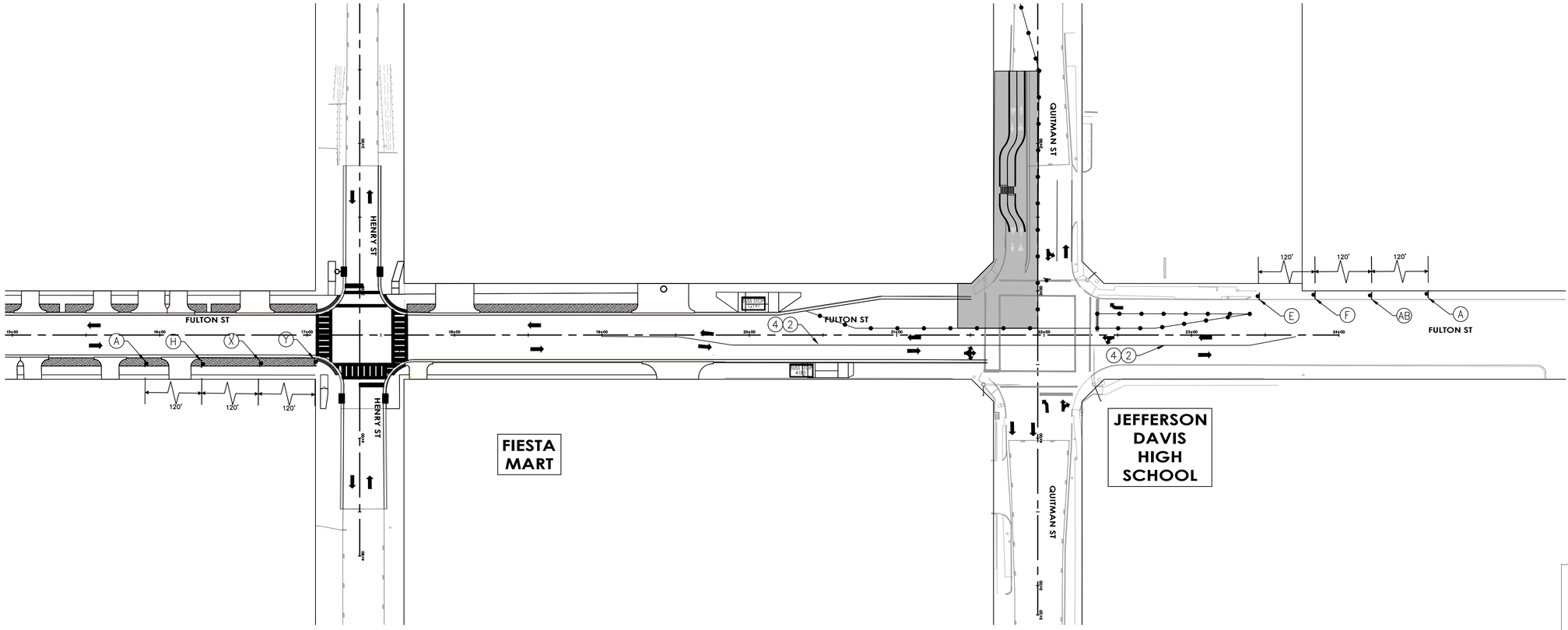
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 9

SHEET 1 OF 1

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 180 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 9.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:32 AM

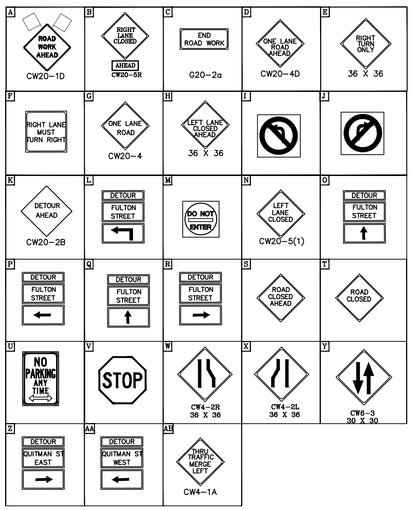


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

1.PRIOR TO CONSTRUCTION ACROSS DRIVEWAY, COORDINATE WITH CM. CONTRACTOR TO MAINTAIN ACCESS TO RESIDENTS AND BUSINESSES AT ALL TIMES.
2.MAINTAIN MINIMUM 11–FOOT LANE WIDTH AT ALL TIMES.
3.COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

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STATE OF TEXAS
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79423
PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

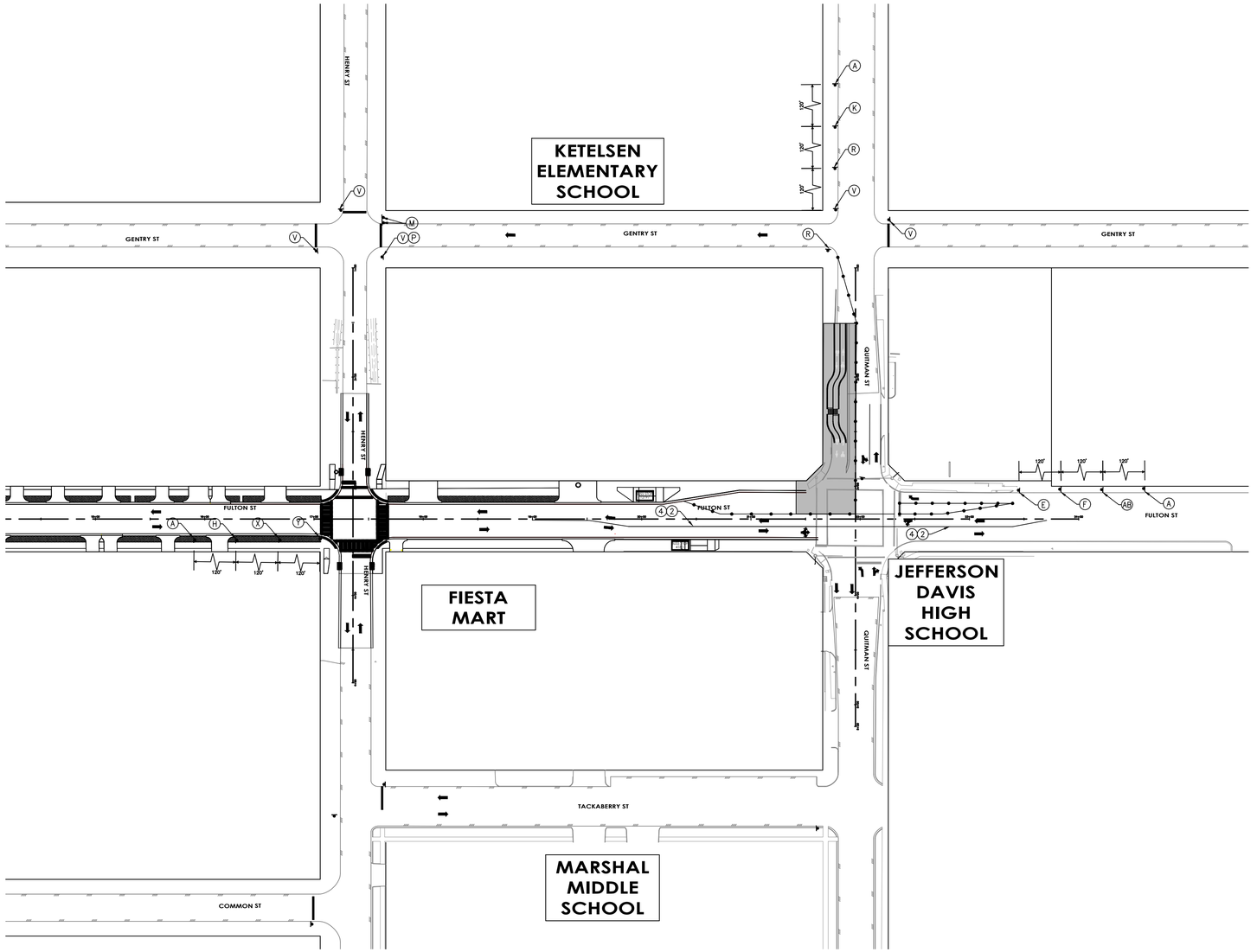
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 10

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 181 OF 223	

FILE PATH: Y:\PROJECTS\2025\25–06–05–––fulton St. Paving And Drainage Improvements\4– CADD\civil Final\01–Civil\phase 2– Step 10.dgn
STYLE: NEDU–STB–BW.stb
PLOTTED: 10/5/2026 11:34 AM



LEGEND

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

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

NO.	DATE	REVISION	APP

10/05/2026

N

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
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STATE OF TEXAS
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79423
PROFESSIONAL ENGINEER

10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

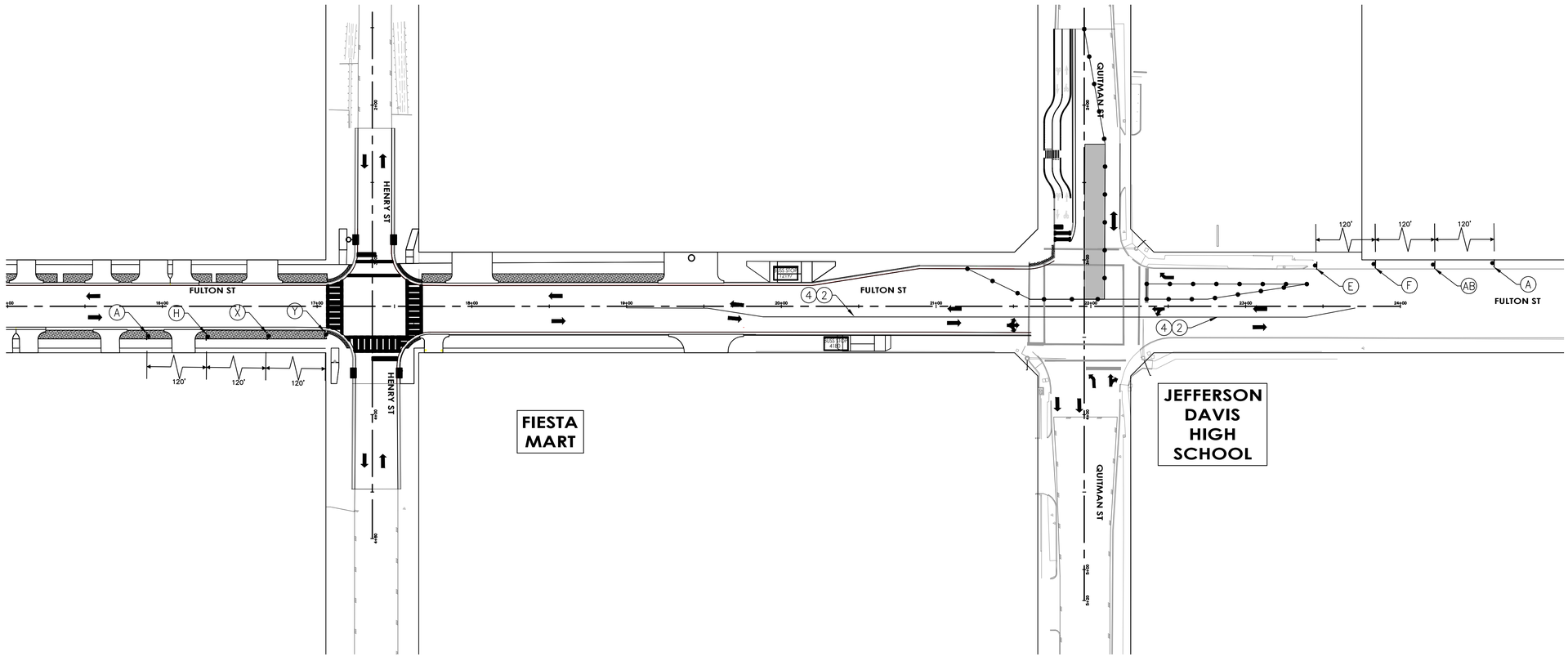
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 10–DETOUR

SHEET 2 OF 2

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 182 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 10.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:42 AM

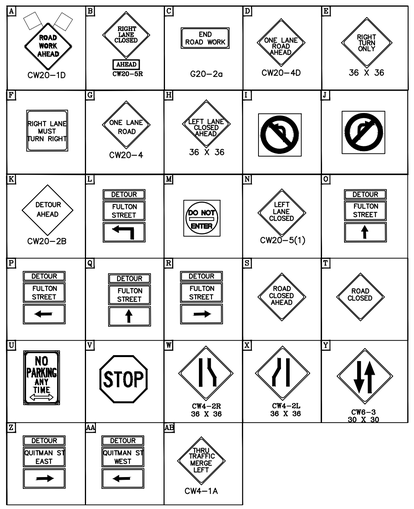


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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4. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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FB NUMBER: F-6357

STATE OF TEXAS
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

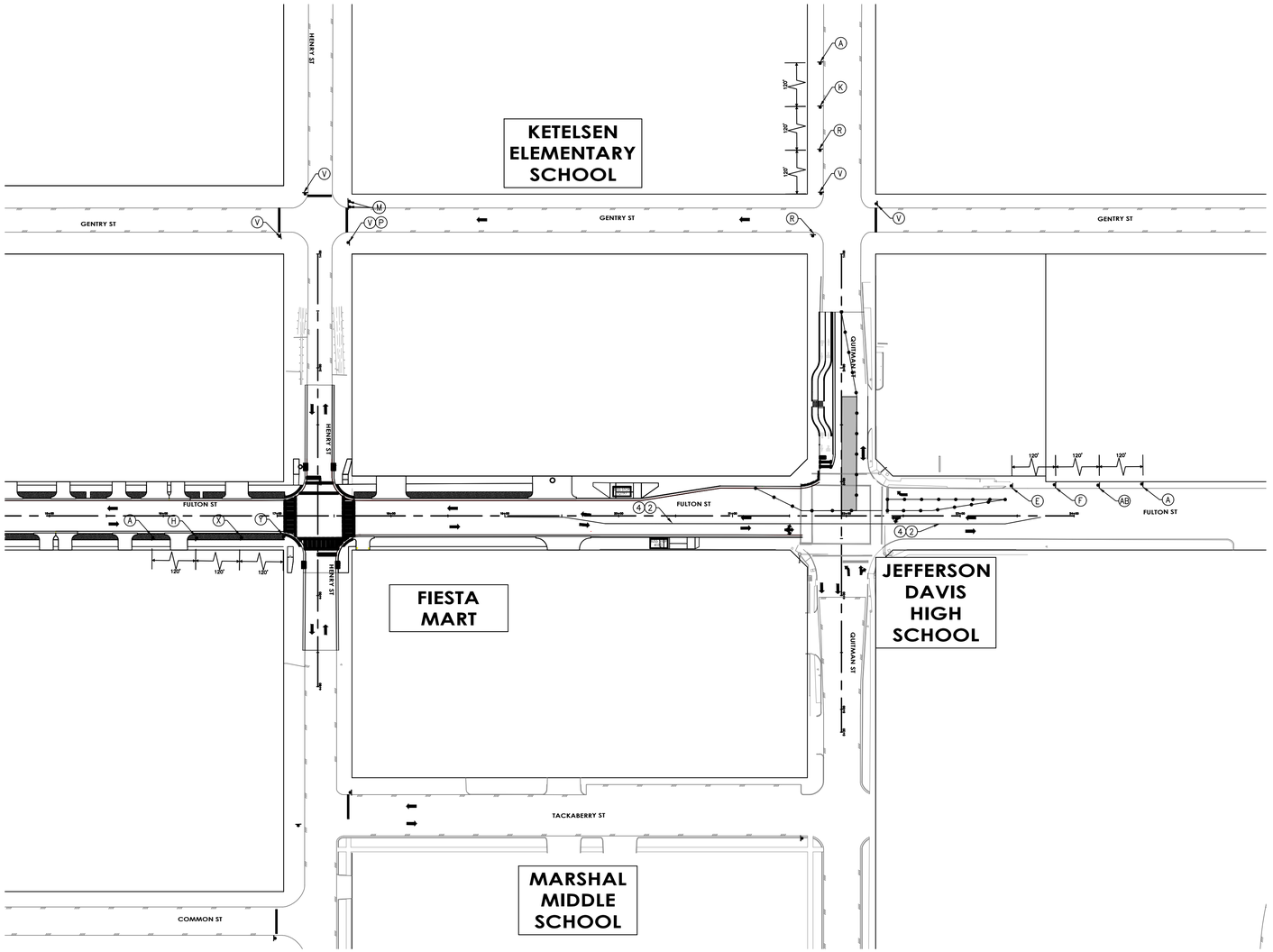
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 11

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 183 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 11.dgn
PLOTTED: 10/5/2026 11:43 AM
STYLE: NEDU-STB-BW.stb



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS, INSPECTORS
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Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

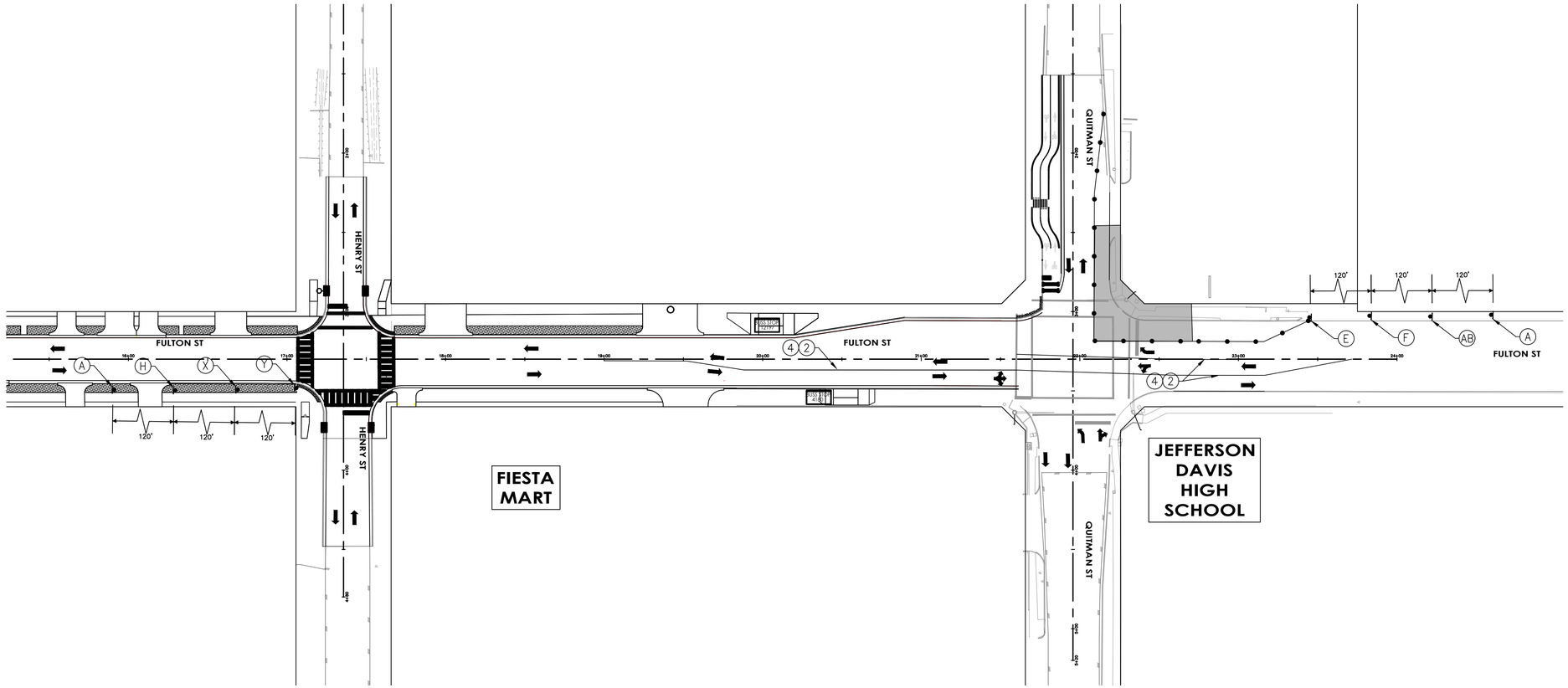
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 11–DETOUR

SHEET 2 OF 2

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
1"= 60'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 184 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 11-DETOUR.dgn
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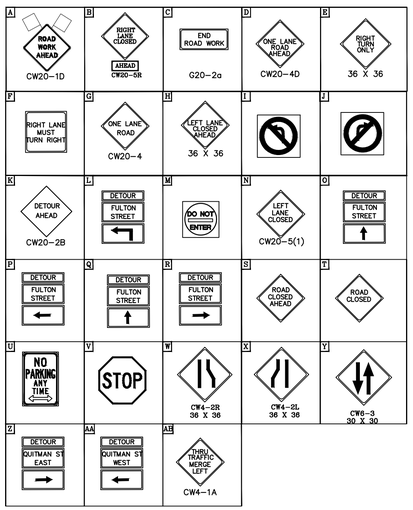


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES, INC.
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

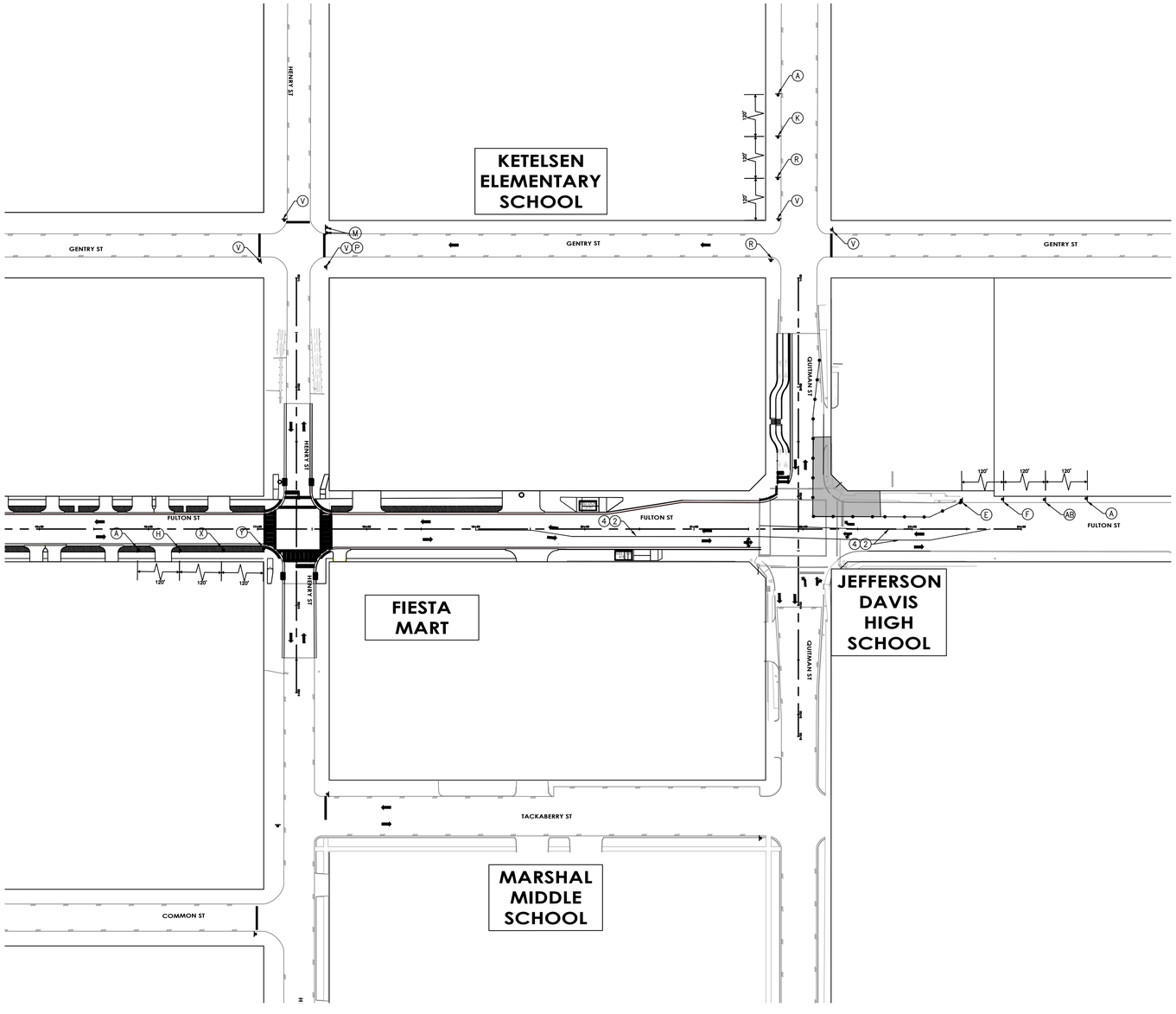
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 12

SHEET 1 OF 2

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1"= 40'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 185 OF 223

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 12.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 11:47 AM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES, INC.
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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

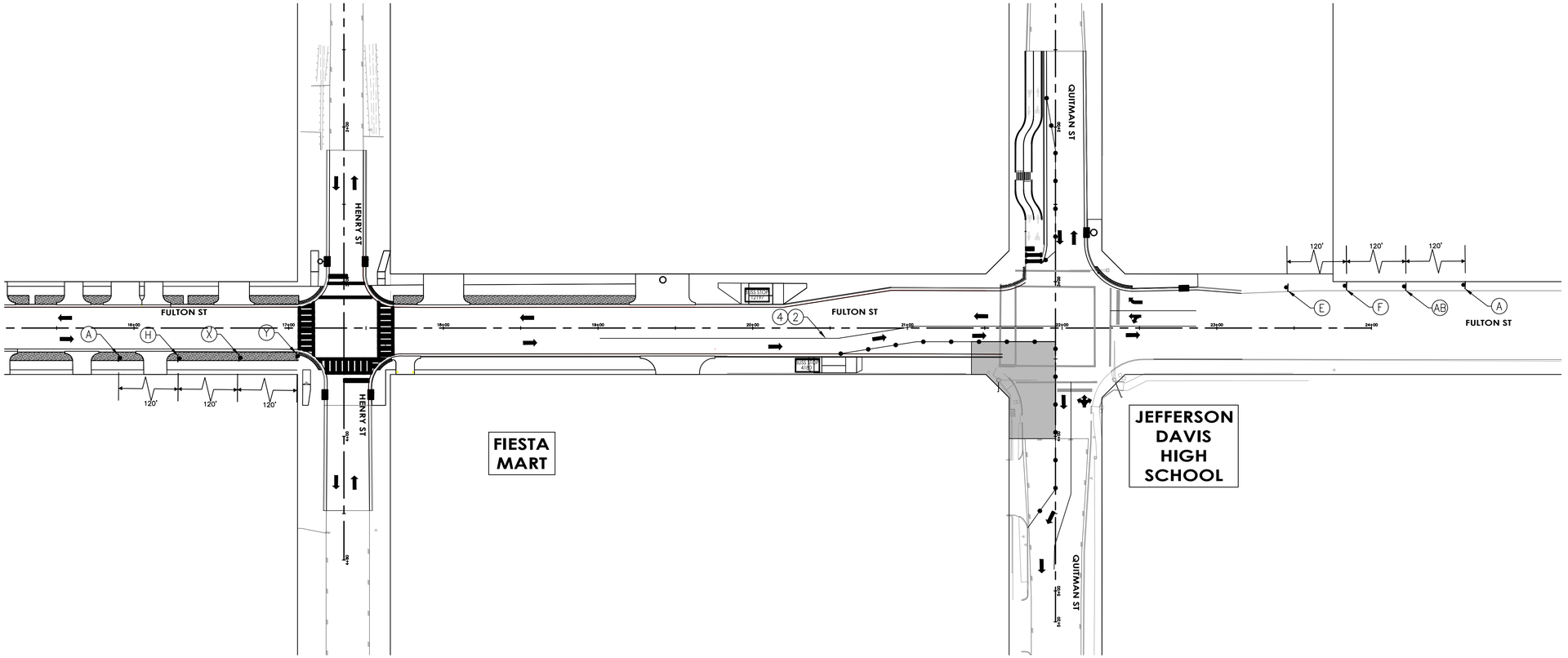
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 12–DETOUR

SHEET 2 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 186 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 12.dgn
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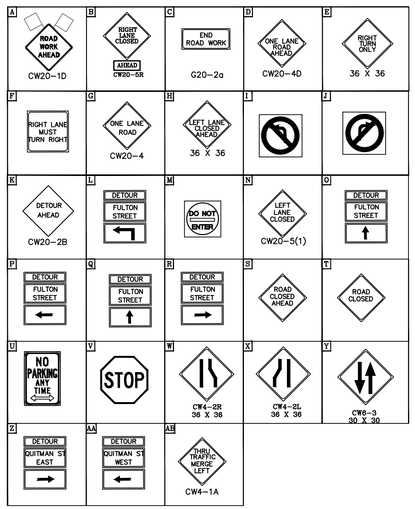


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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STATE OF TEXAS
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

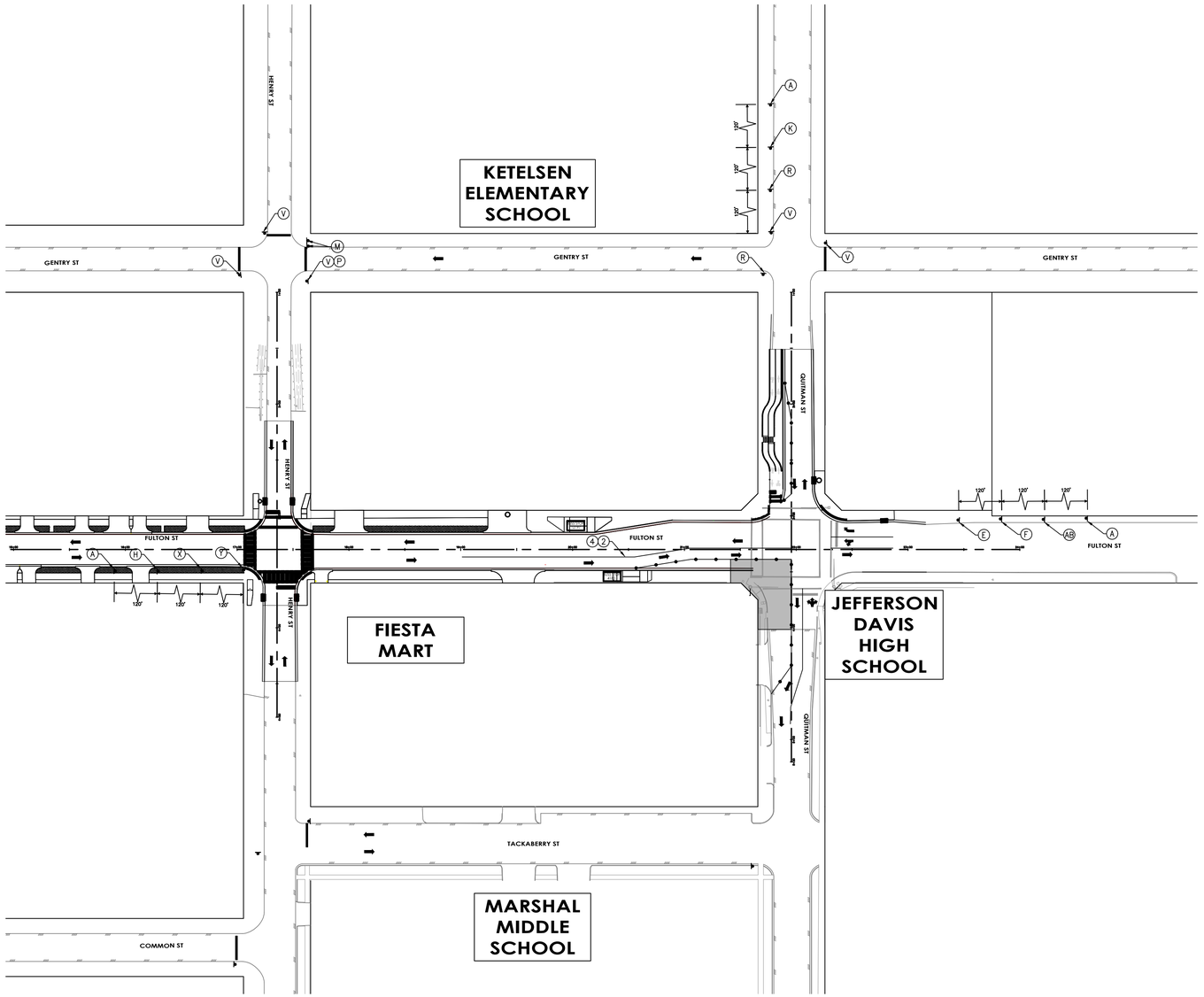
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 13

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 187 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 13.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 12:20 PM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER

10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

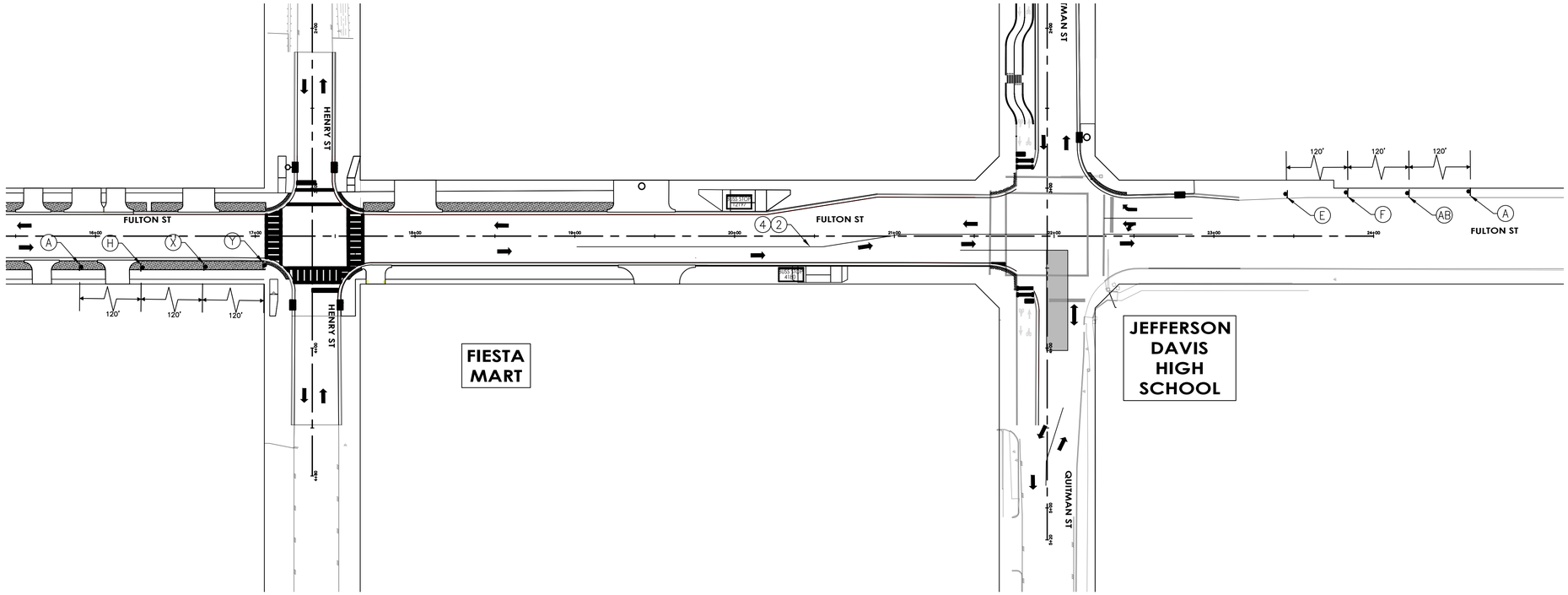
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 13-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 188 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 13-DETOUR.dgn
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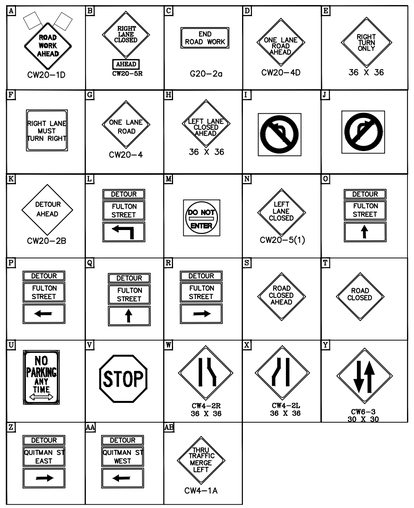


LEGEND

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

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

NO.	DATE	REVISION	APP.



NOTES:

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2. MAINTAIN MINIMUM 11–FOOT LANE WIDTH AT ALL TIMES.
3. COORDINATE WITH METRO FOR TEMPORARY SIGNS IF NEEDED,METRO TEMP STOPS TO BE RELOCATED WITH THE TRAFFIC CONTROL SO THAT ACCESS TO METRO IS ALWAYS MAINTAINED.
4. REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

N

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
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10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

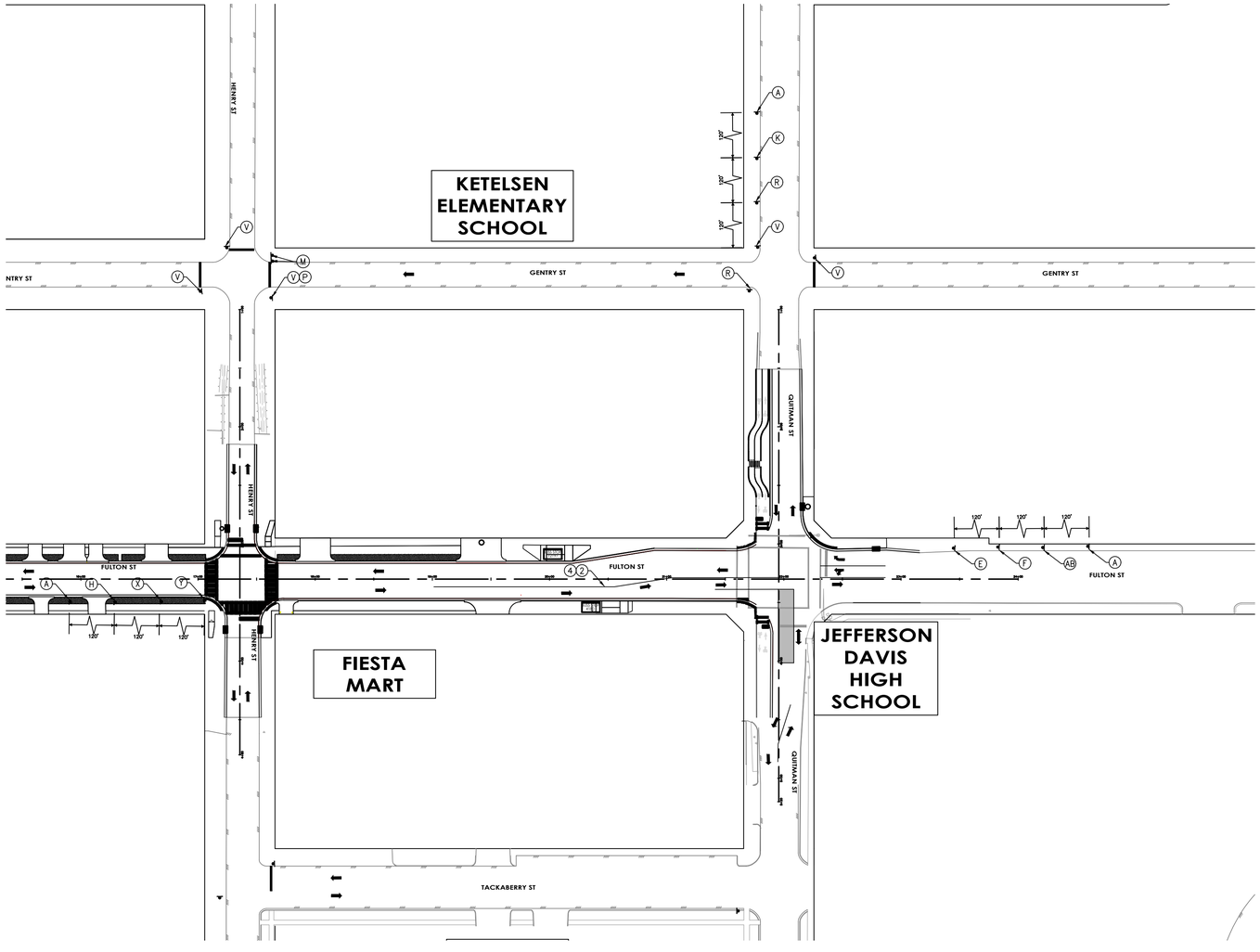
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 14

SHEET 1 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 189 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 14.dgn
PLOTTING STYLE: NEDU-STB-BW.stb
PLOTTED: 10/5/2026 12:21 PM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC.
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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
PROFESSIONAL ENGINEER
10/05/2026

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HOUSTON PUBLIC WORKS

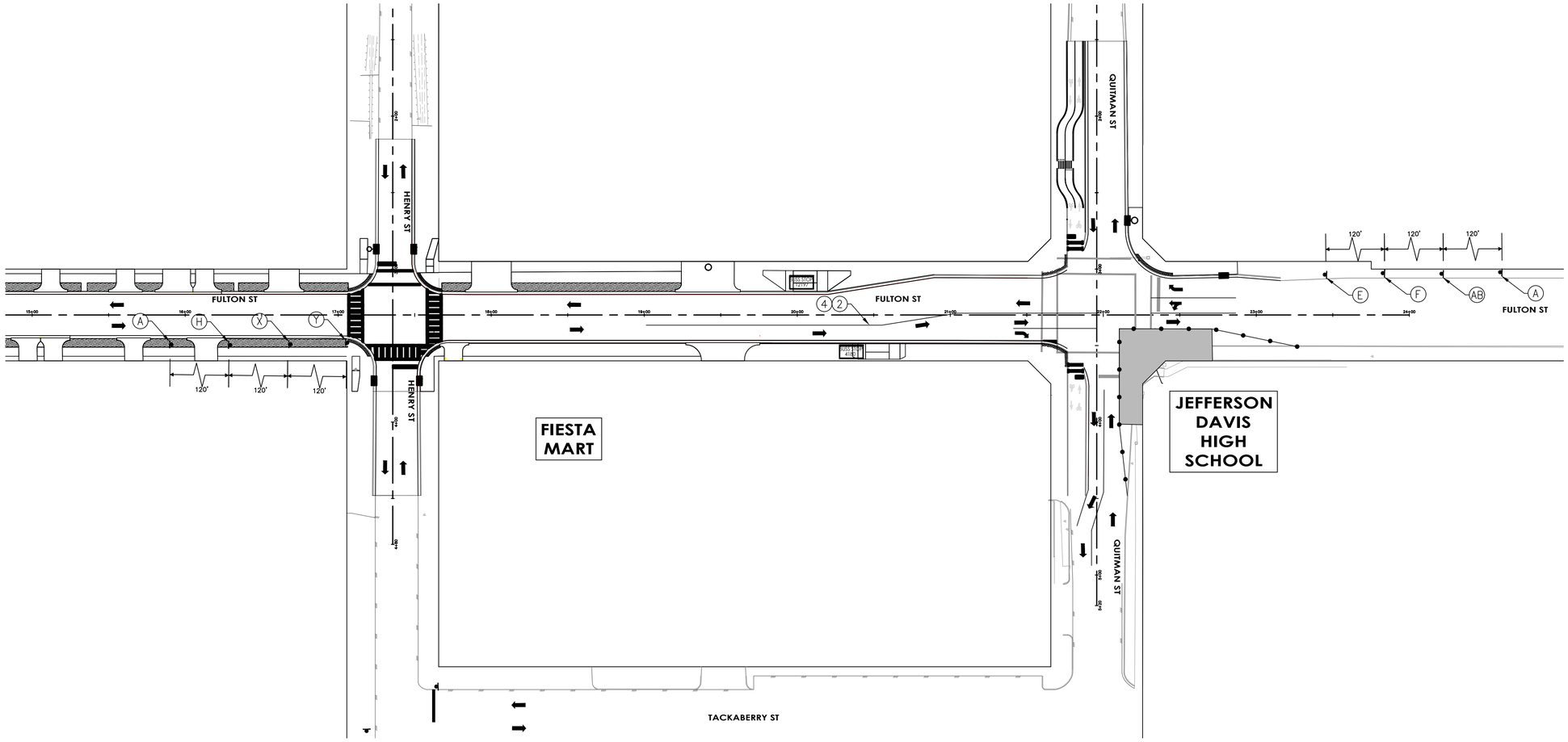
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 14-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 190 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 14.dgn
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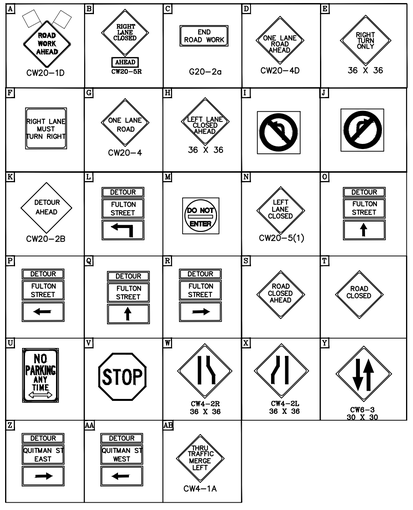


LEGEND

- WORK ZONE
- TEMPORARY ASPHALT
- HIGH EARLY STRENGTH CONCRETE
- PROPOSED LANES UNDER TRAFFIC
- EXISTING LANES UNDER TRAFFIC
- TEMP GROUND MOUNTED SIGN
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1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY I–C
5. REMOVABLE PAV MRK (REFLECTOR) TY A–A
6. REMOVABLE PAV MRK (REFLECTOR) TY I–A
7. REMOVABLE PAV MRK BUTTONS TY W (DOT)
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NO.	DATE	REVISION	APP.



NOTES:

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4.REFER TO TCP STANDARD DETAILS FOR MORE INFORMATION.

10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

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FB NUMBER: F-6357

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NKEMDI I. OHALETE
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10/05/2026

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

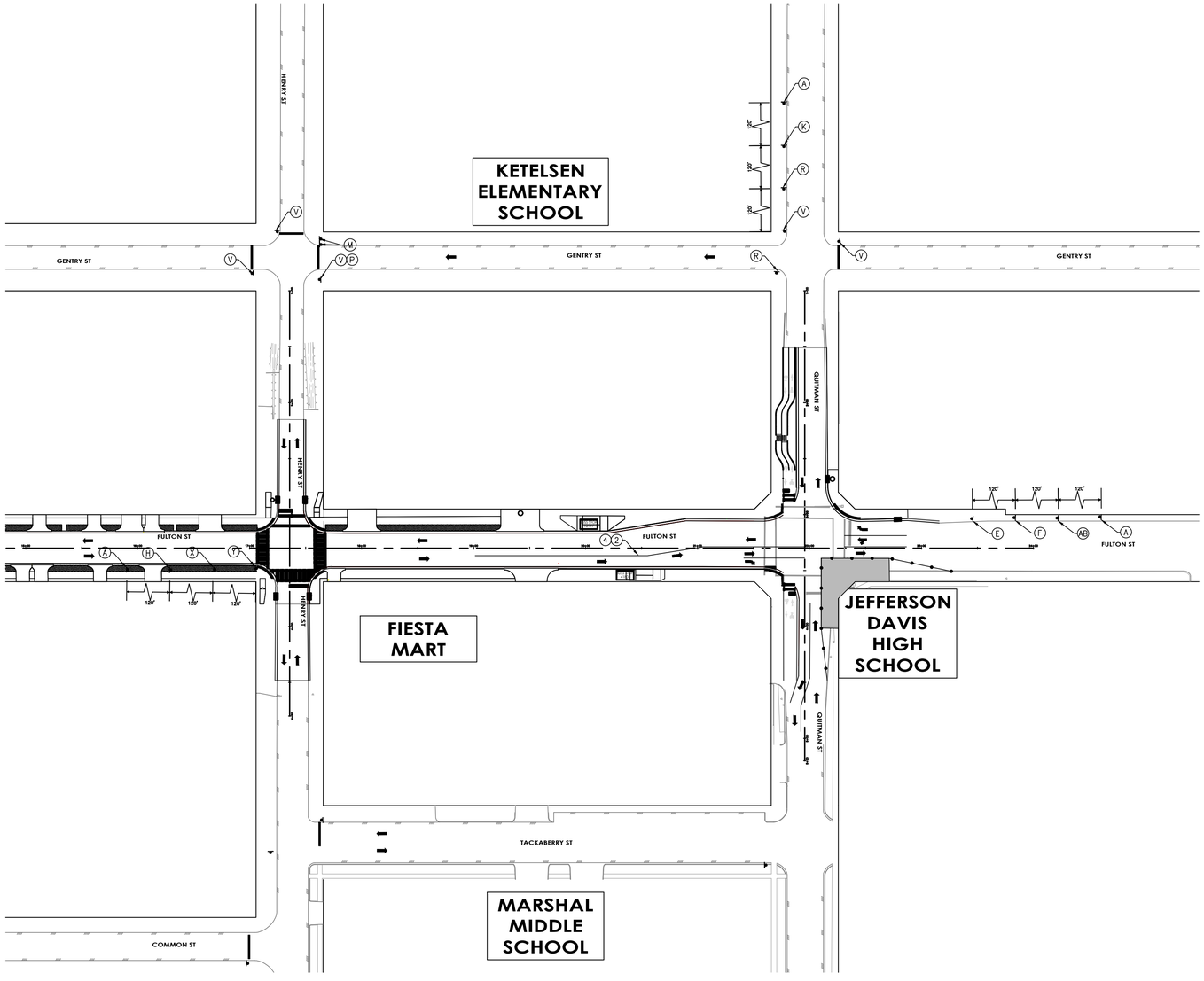
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 15

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 191 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-civil\phase 2- Step 15.dwg STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 12:23 PM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

N

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES INC
ENGINEERS, PROJECT MANAGERS,ESTIMATORS,INSPECTORS
6464 SAVOY DR, Suite 610
Houston, Texas 77036
info@NeduEngineers.com
www.NeduEngineers.com

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
79423
REGISTERED PROFESSIONAL ENGINEER
10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

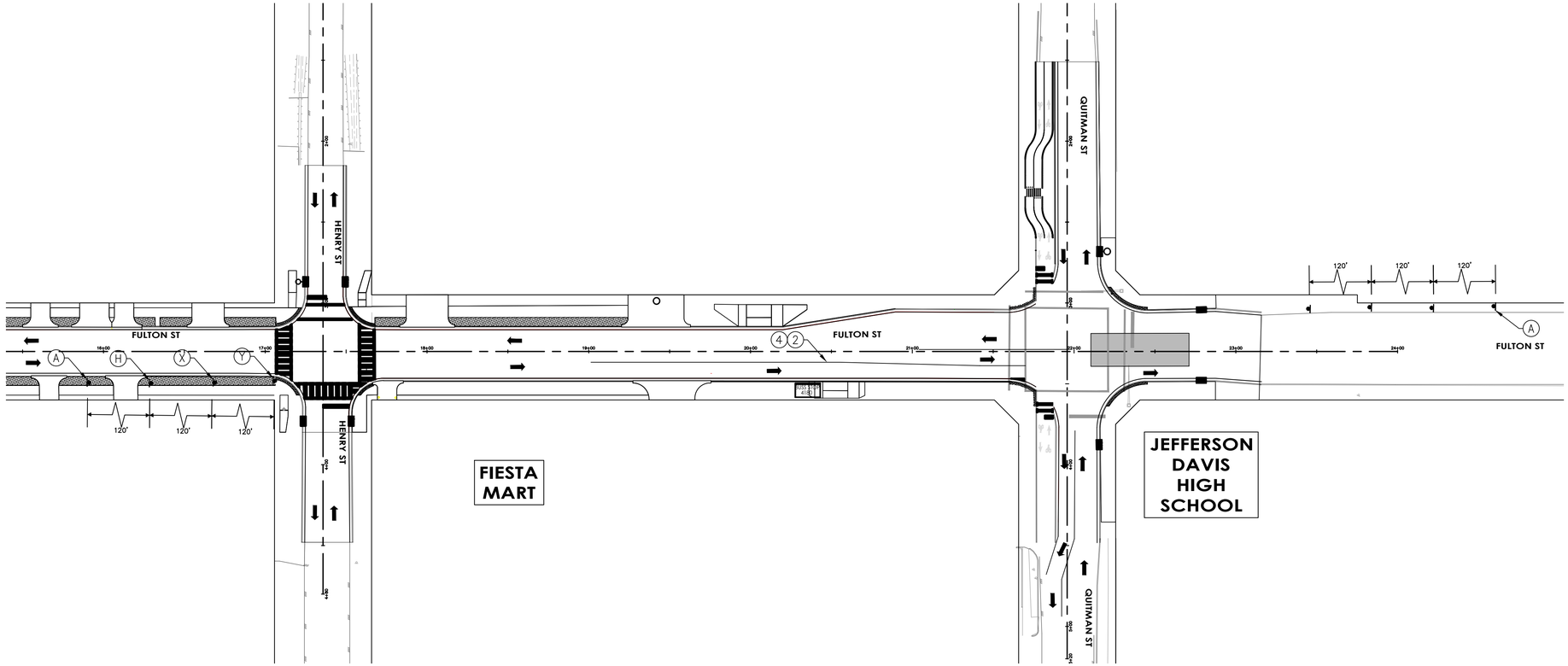
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 15-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 192 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\phase 2- Step 15.dgn
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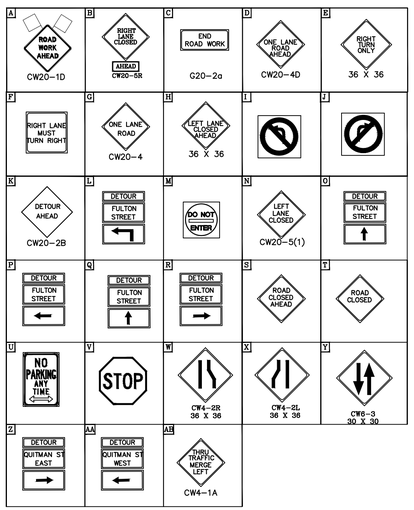


LEGEND

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

1. REMOVABLE PAV MRK BUTTONS TY W
2. REMOVABLE PAV MRK BUTTONS TY Y
3. REMOVABLE PAV MRK BUTTONS W STOP BAR
4. REMOVABLE PAV MRK (REFLECTOR) TY I–C
5. REMOVABLE PAV MRK (REFLECTOR) TY A–A
6. REMOVABLE PAV MRK (REFLECTOR) TY I–A
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NO.	DATE	REVISION	APP.



NOTES:

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10/05/2026

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

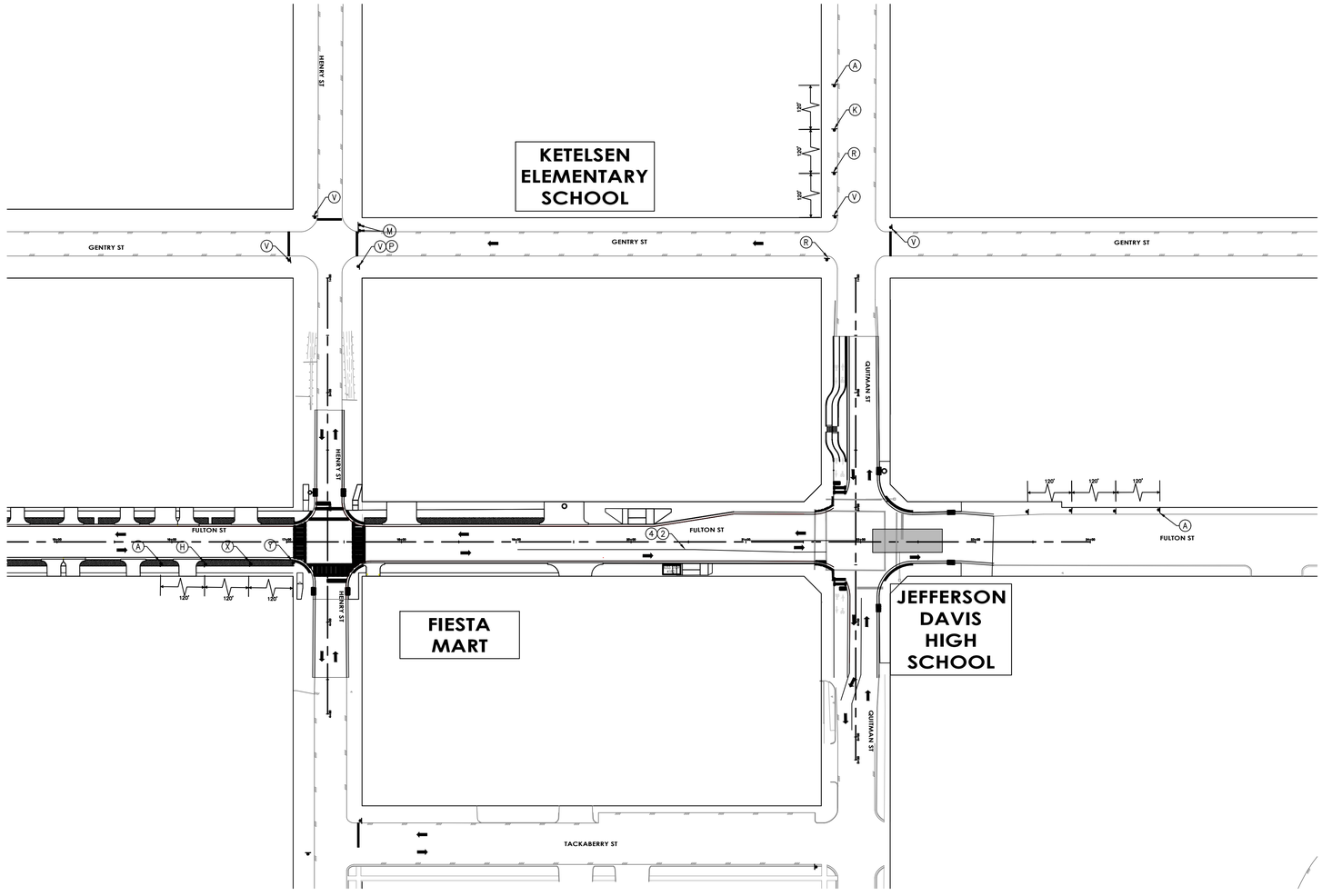
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 16

SHEET 1 OF 2

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
1"= 40'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 193 OF 223	

FILE PATH: Y:\PROJECTS\2025\25–06–05–––––fulton St. Paving And Drainage Improvements\4– CADD\civil Final\01–Civil\PHASE 2 STEP 16.dwg STYLE: NEDU–STB–BW.stb PLOTTED: 10/5/2026 12:25 PM



LEGEND

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

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

NO.	DATE	REVISION	APP.

10/05/2026

0' 25' 50'
SCALE IN FEET

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

NEDU ENGINEERING SERVICES ,INC.
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SURVEYED BY:
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FB NUMBER: F-6357

STATE OF TEXAS
NKEMDI I. OHALETE
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10/05/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

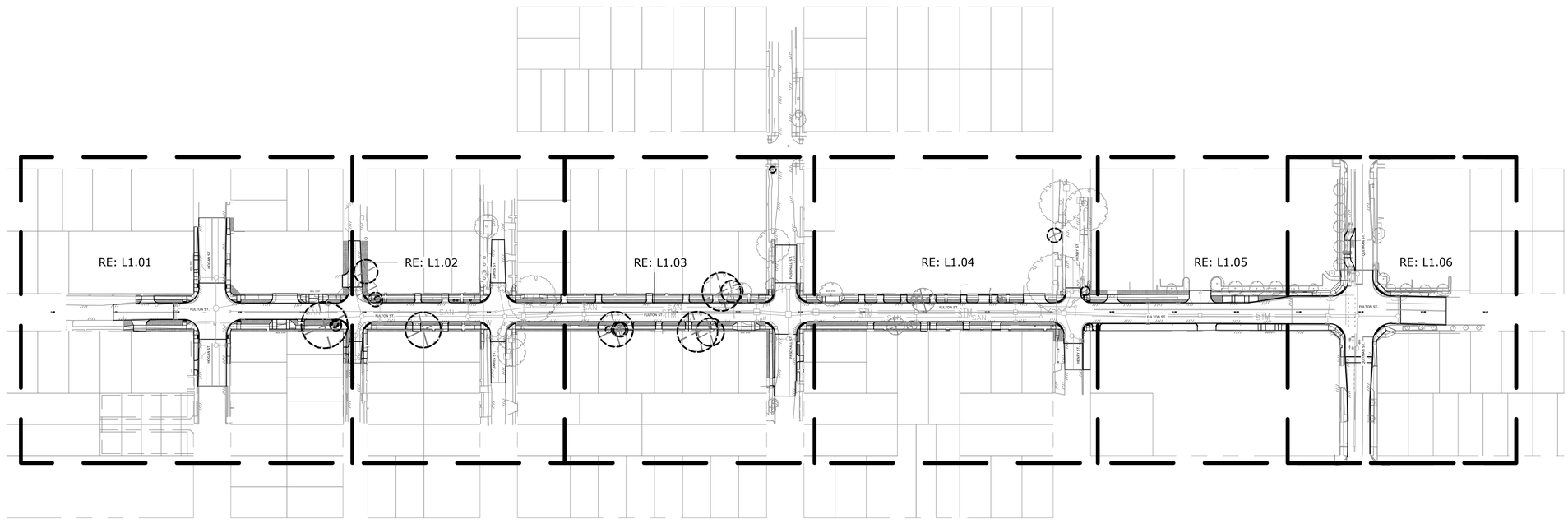
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

TRAFFIC CONTROL PLAN
PHASE 2 STEP 16-DETOUR

SHEET 2 OF 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1"= 60'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 194 OF 223	

FILE PATH: Y:\PROJECTS\2025\25-06-05-----fulton St. Paving And Drainage Improvements\4- CADD\civil Final\01-Civil\PHASE 2 STEP 16-detour.dgn STYLE: NEDU-STB-BW.stb PLOTTED: 10/5/2026 12:25 PM



NO.	DATE	REVISION	APP.

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: 314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.00
TREE PROTECTION PLAN KEY MAP

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 196 OF 223

PLOTTED: 10/5/2026 4:35 PM
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PLOT STYLE: ----

FILE PATH: J:\HAT2501 Fulton Street Paving And Drainage Improvements\ARY\03 CD\L1.00 TREE PROTECTION PLAN.dwg

NO.	DATE	REVISION	APP.

N

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- TREES NO LONGER EXIST
- EXISTING TREES TO BE REMOVED
- SOD RESTORATION BY OTHERS
- TREE PROTECTION FENCING RE: DETAIL 1/L1.07
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.07
- ZERO CURB CUT, RE: DETAIL 3/L1.07

HOGAN ST.

FULTON ST.

HOGAN ST.

EXISTING ROW

BUS STOP

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

CONTRACTOR TO SOD ANY AREAS DAMAGED OR DISTURBED BY CONSTRUCTION, TYP.

TREES NO LONGER EXIST, TYP.

MATCHLINE L1.02

ASAKURA ROBINSON

2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: 314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.01 TREE PROTECTION PLAN FULTON STREET STA 1+00 TO STA 5+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1" = 20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 197 OF 223	

PLOTTED: 10/5/2026 4:35 PM

PLOT STYLE: ----

FILE PATH: J:\HAT2501 Fulton Street Paving And Drainage Improvements\AR\03 CD\L1.00 TREE PROTECTION PLAN.dwg

NO.	DATE	REVISION	APP.

N

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- TREES NO LONGER EXIST
- EXISTING TREES TO BE REMOVED
- SOD RESTORATION BY OTHERS
- TREE PROTECTION FENCING RE: DETAIL 1/L1.07
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.07
- ZERO CURB CUT, RE: DETAIL 3/L1.07

MATCHLINE L1.01

MATCHLINE L1.03

GARGAN ST.

JAMES ST.

FULTON ST.

EXISTING ROW

BUS STOP

5+00

6+00

7+00

8+00

9+00

SAN

STM

W

WLS

1 2 3 4 5 6 7 8 9 10 11 12 13

CTOR TO SOD ANY AREAS
D OR DISTURBED BY
UCTION, TYP.

TREES NO LONGER EXIST, TYP.

EXISTING TREE TO BE REMOVED, TYP.

APPROXIMATE LOCATION OF THREE (3) SMALL TREE TO BE SHIFTED TO NEW GRASS STRIP, TYP.

ZERO CURB CUT , TYP.

EXISTING TREE TO REMAIN, TYP.

ROOT PRUNING , TYP.

TREE PROTECTION FENCING , TYP.

TR

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SUITE 650
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P: 832-930-7670
TX FIRM NUMBER: 314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

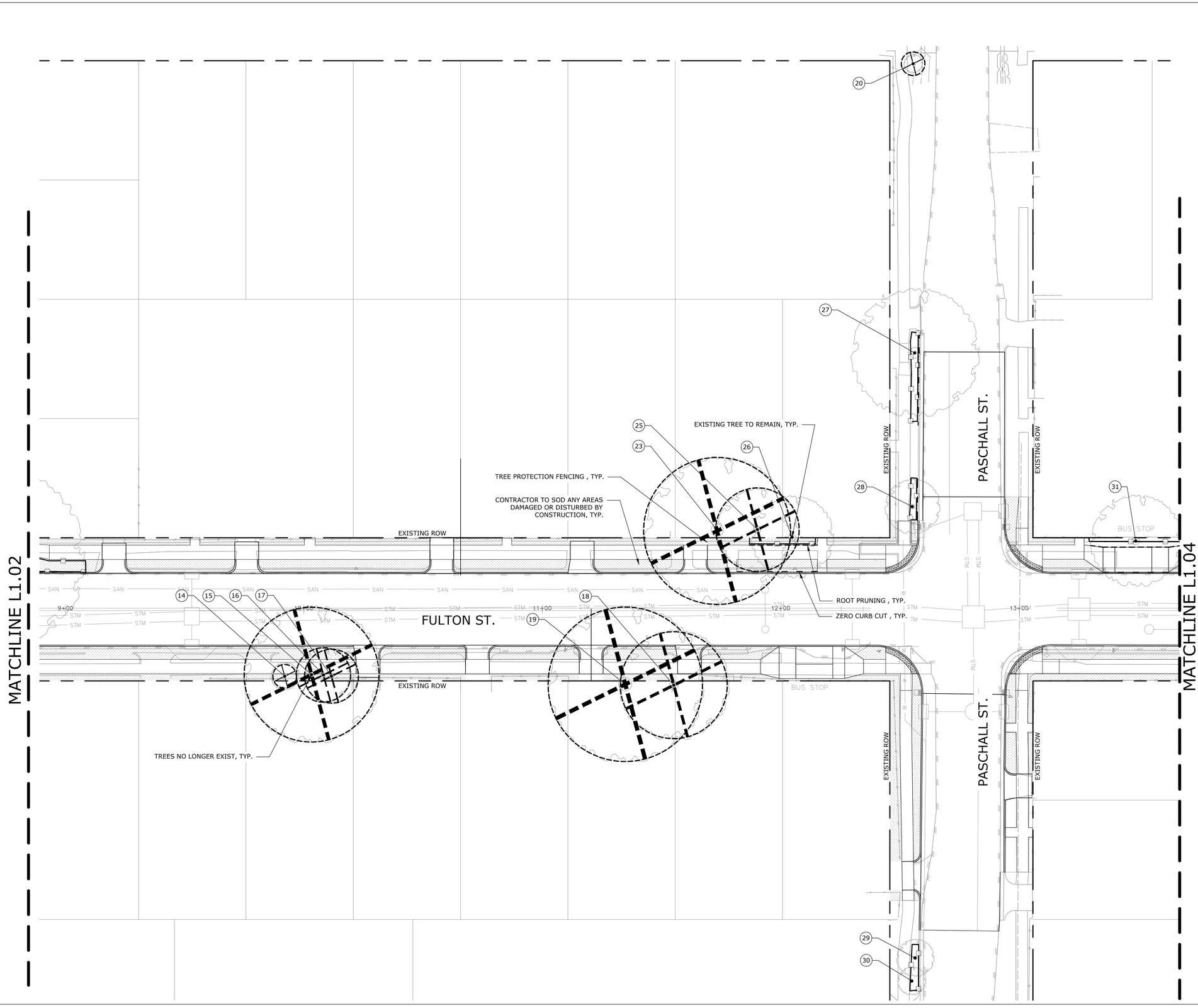
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.02 TREE PROTECTION PLAN FULTON STREET STA 5+00 TO STA 9+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1" = 20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 198 OF 223	

PLOTTED: 10/5/2026 4:35 PM
PLOT STYLE: ----
FILE PATH: J:\HAT2501 Fulton Street Paving And Drainage Improvements\AR\03 CD\L1.00 TREE PROTECTION PLAN.dwg



LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- TREES NO LONGER EXIST
- EXISTING TREES TO BE REMOVED
- SOD RESTORATION BY OTHERS
- TREE PROTECTION FENCING RE: DETAIL 1/L1.07
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.07
- ZERO CURB CUT, RE: DETAIL 3/L1.07

NO.	DATE	REVISION	APP.

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HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: 314

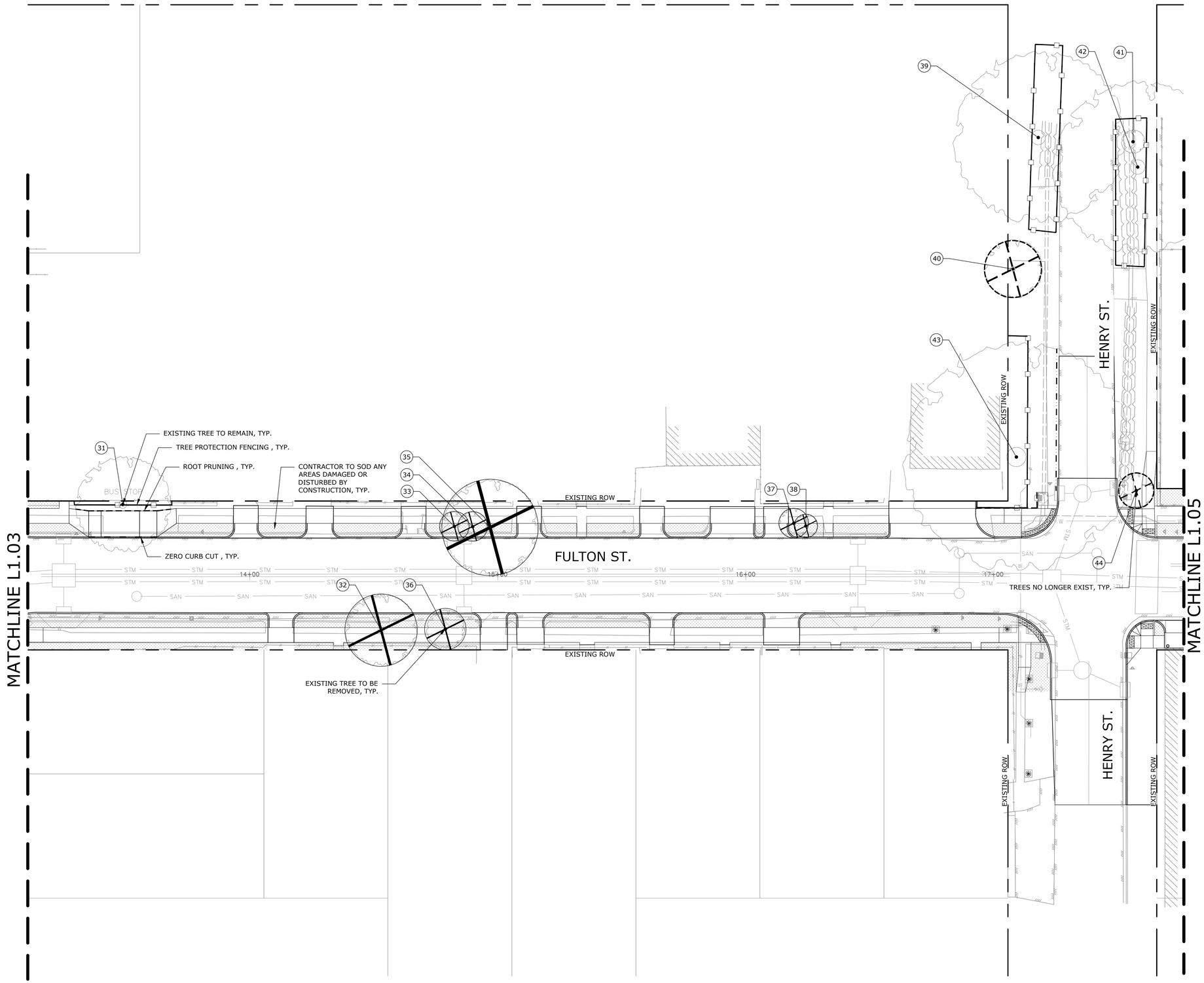
SURVEYED BY:
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FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.03 TREE PROTECTION PLAN FULTON STREET STA 9+00 TO STA 13+50

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
1" = 20'
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 199 OF 223



LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- TREES NO LONGER EXIST
- EXISTING TREES TO BE REMOVED
- SOD RESTORATION BY OTHERS
- TREE PROTECTION FENCING RE: DETAIL 1/L1.07
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.07
- ZERO CURB CUT, RE: DETAIL 3/L1.07

NO.	DATE	REVISION	APP.

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FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

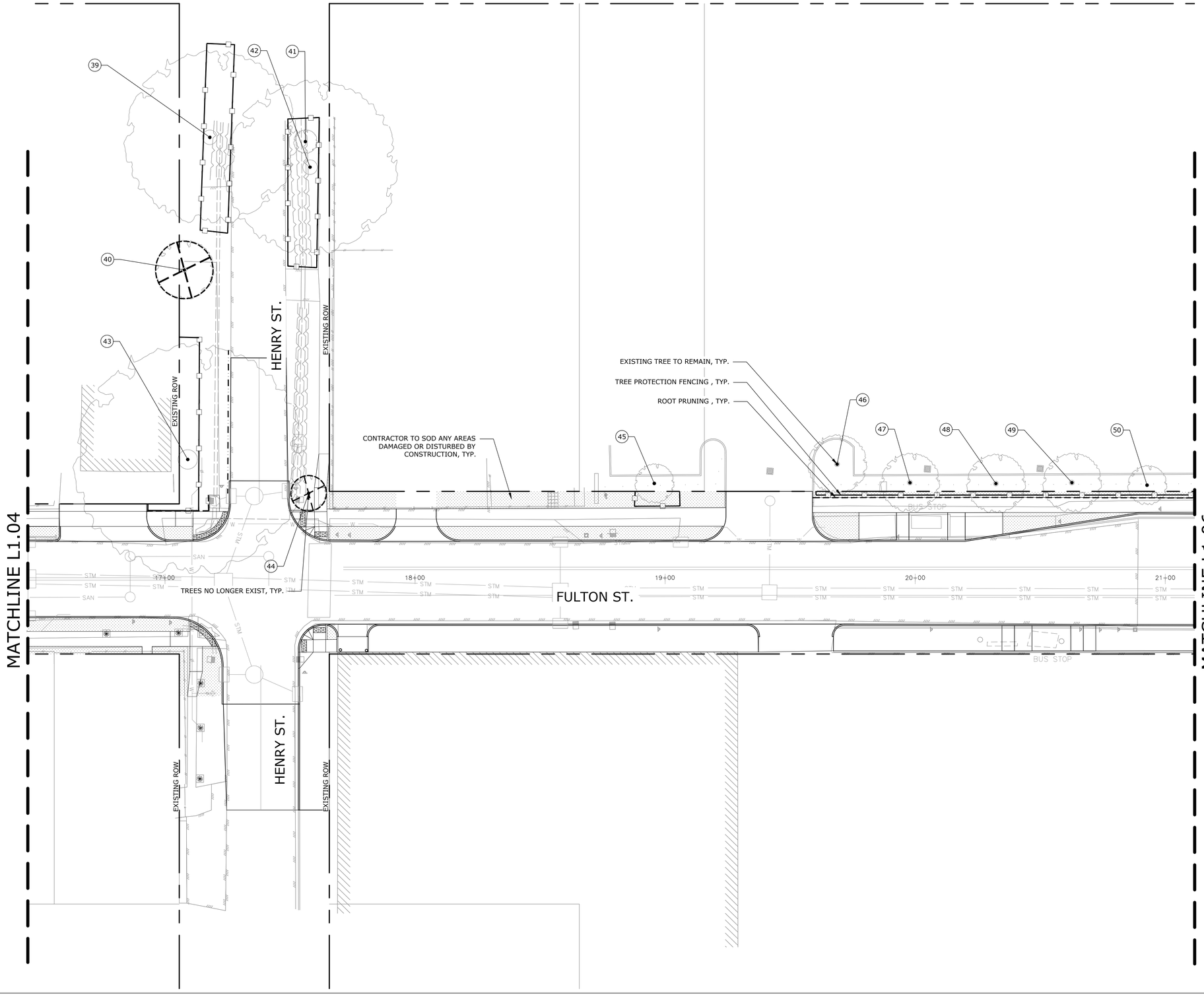
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.04 TREE PROTECTION PLAN FULTON STREET STA 13+50 TO STA 17+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1" = 20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 200 OF 223	

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PLOT STYLE: ----
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N

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- TREES NO LONGER EXIST
- EXISTING TREES TO BE REMOVED
- SOD RESTORATION BY OTHERS
- TREE PROTECTION FENCING RE: DETAIL 1/L1.07
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.07
- ZERO CURB CUT, RE: DETAIL 3/L1.07

NO.	DATE	REVISION	APP.

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AMANI ENGINEERING, INC.
FB NUMBER: P-6357

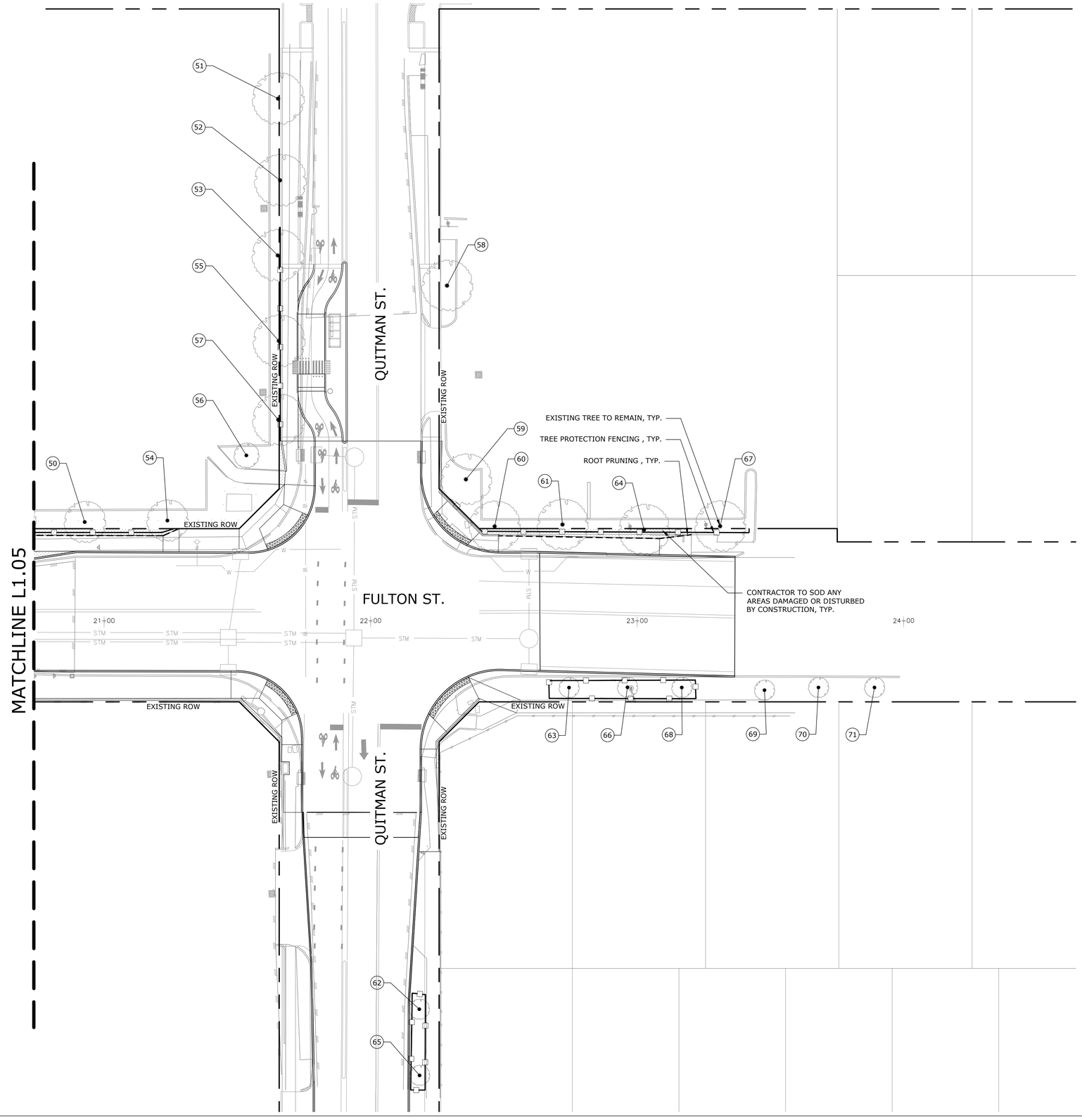
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.05 TREE PROTECTION PLAN FULTON STREET STA 17+00 TO STA 21+00

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
1" = 20'	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 201 OF 223	

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PLOT STYLE: ----
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N

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- TREES NO LONGER EXIST
- EXISTING TREES TO BE REMOVED
- SOD RESTORATION BY OTHERS
- TREE PROTECTION FENCING RE: DETAIL 1/L1.07
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.07
- ZERO CURB CUT, RE: DETAIL 3/L1.07

NO.	DATE	REVISION	APP.

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TX FIRM NUMBER: 314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

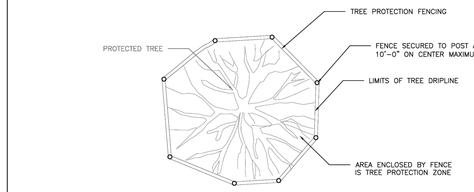
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

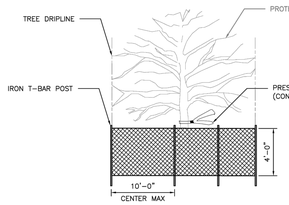
L1.06 TREE PROTECTION PLAN FULTON STREET STA 21+00 TO END

WBS NUMBER	N-000818-0001-4
DRAWING SCALE	1" = 20'
CITY OF HOUSTON PM	DERRICK HOLMES, E.I.T
SHEET NO.	202 OF 223

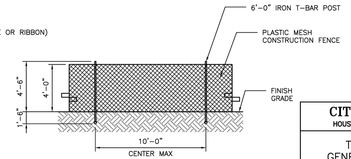
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PLAN VIEW
TREE PROTECTION FENCING DETAIL



FRONT VIEW
TREE PROTECTION FENCING DETAIL



DETAIL B-4
PROTECTIVE PLASTIC MESH FENCE

NOTES:

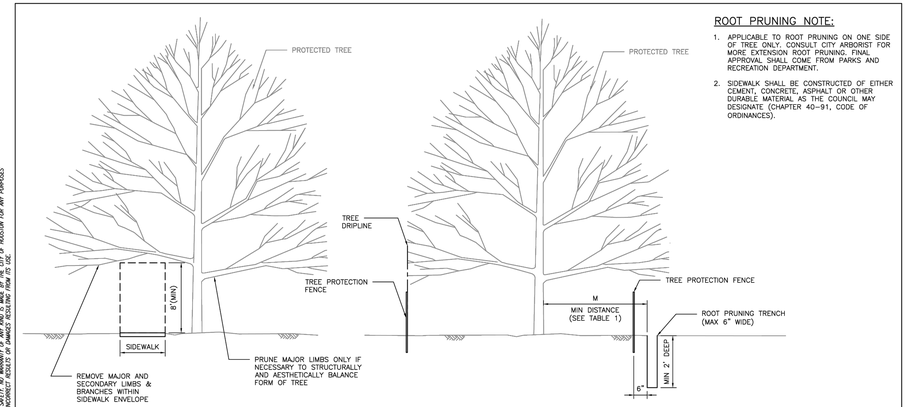
FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.

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 REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR PROPER AND ADEQUATE DESIGN FOR 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	
TREE PROTECTION GENERAL REQUIREMENTS (SCALE: NOT TO SCALE)	
APPROVED BY:	
Developed by: Suhail Kanwar CITY ENGINEER	Developed by: Carl Haldebrook DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01562-01

1 TREE PROTECTION FENCING DETAIL
SCALE: NTS

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TREE PRUNING

ROOT PRUNING DETAIL

ROOT PRUNING NOTE:

1. APPLICABLE TO ROOT PRUNING ON ONE SIDE OF TREE ONLY. CONSULT CITY ARBORIST FOR MORE EXTENSION ROOT PRUNING. FINAL APPROVAL SHALL COME FROM PARKS AND RECREATION DEPARTMENT.
2. SIDEWALK SHALL BE CONSTRUCTED OF EITHER CEMENT, CONCRETE, ASPHALT OR OTHER DURABLE MATERIAL AS THE COUNCIL MAY DESIGNATE (CHAPTER 40-91, CODE OF ORDINANCES).

TABLE 1 "M" DISTANCE TABLE	
TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.-INCH
> 20"	CONSULT CITY ARBORIST

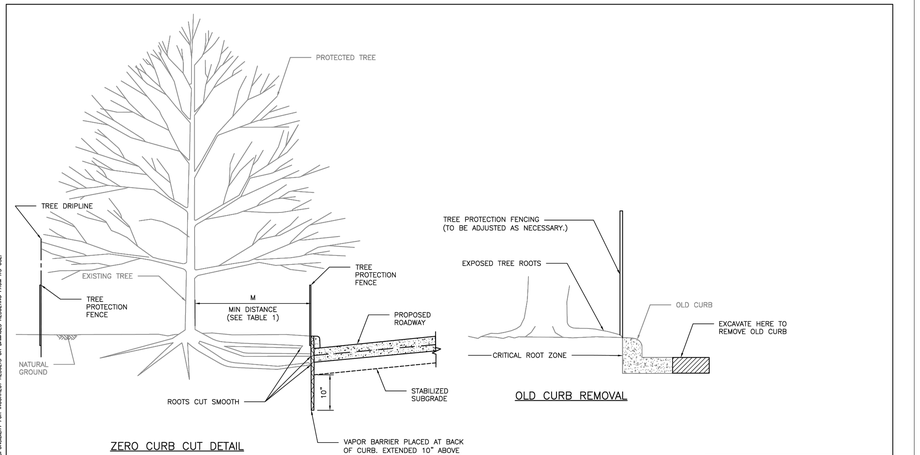
*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF TRENCH

DISCLAIMER:
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CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TREE PROTECTION TREE AND ROOT PRUNING (SCALE: NOT TO SCALE)	
APPROVED BY:	
Developed by: Suhail Kanwar CITY ENGINEER	Developed by: Carl Haldebrook DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01562-02

2 TREE AND ROOT PRUNING DETAIL @ SIDEWALK
SCALE: NTS

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ZERO CURB CUT DETAIL

OLD CURB REMOVAL

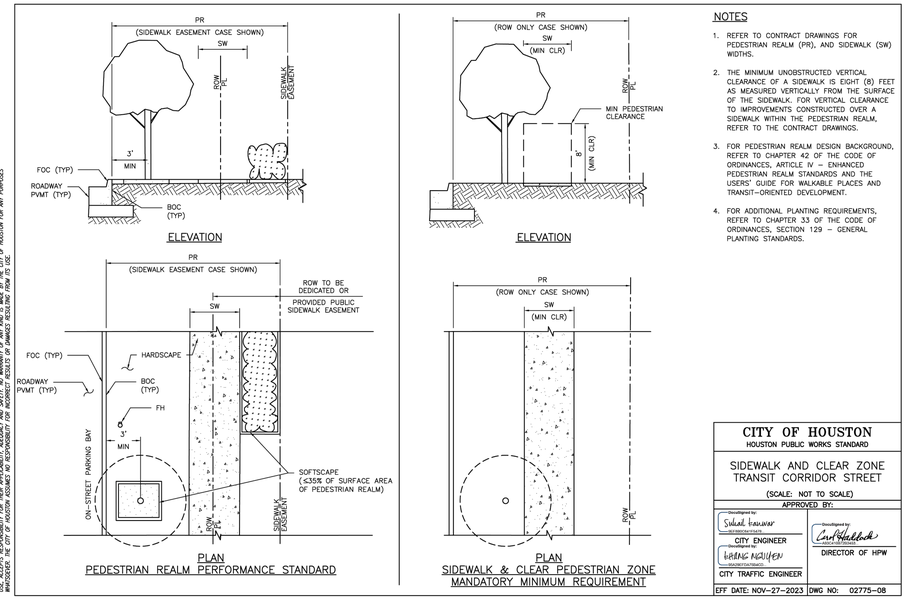
TABLE 1 "M" DISTANCE TABLE	
TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.-INCH
> 20"	CONSULT CITY ARBORIST

DISCLAIMER:
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CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TREE PROTECTION ZERO CURB CUT (SCALE: NOT TO SCALE)	
APPROVED BY:	
Developed by: Suhail Kanwar CITY ENGINEER	Developed by: Carl Haldebrook DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01562-04

3 TREE PROTECTION ZERO CURB CUT
SCALE: NTS

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NOTES

1. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), AND SIDEWALK (SW) WIDTHS.
2. THE MINIMUM UNOBSTRUCTED VERTICAL CLEARANCE OF A SIDEWALK IS EIGHT (8) FEET AS MEASURED VERTICALLY FROM THE SURFACE OF THE SIDEWALK. FOR VERTICAL CLEARANCE TO IMPROVEMENTS CONSTRUCTED OVER A SIDEWALK WITHIN THE PEDESTRIAN REALM, REFER TO THE CONTRACT DRAWINGS.
3. FOR PEDESTRIAN REALM DESIGN BACKGROUND, REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES, ARTICLE IV – ENHANCED PEDESTRIAN REALM STANDARDS AND THE USERS' GUIDE FOR WALKABLE PLACES AND TRANSIT-ORIENTED DEVELOPMENT.
4. FOR ADDITIONAL PLANTING REQUIREMENTS, REFER TO CHAPTER 33 OF THE CODE OF ORDINANCES, SECTION 129 – GENERAL PLANTING STANDARDS.

DISCLAIMER:
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CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
SIDEWALK AND CLEAR ZONE TRANSIT CORRIDOR STREET (SCALE: NOT TO SCALE)	
APPROVED BY:	
Developed by: Suhail Kanwar CITY ENGINEER	Developed by: Carl Haldebrook DIRECTOR OF HPW
Developed by: HANG NGUYEN CITY TRAFFIC ENGINEER	
EFF DATE: NOV-27-2023	DWG NO: 02775-08

4 SIDEWALKS AND CLEAR ZONE
SCALE: NTS

NO.	DATE	REVISION	APP.

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SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: 314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.07
TREE PROTECTION DETAILS

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T	
SHEET NO. 203 OF 223	

PLOTTED: 10/5/2026 4:36 PM
PLOT STYLE: ----
FILE PATH: J:\HAT2501 Fulton Street Paving And Drainage Improvements\AR\03 CD\L1.00 TREE PROTECTION PLAN.dwg

Tree ID	Species	DBH (inches)	Preserved or Removed?	Comments	Mitigation Inches
1	N/A			Tree no longer exists	
2	N/A			Tree no longer exists	
3	N/A			Tree no longer exists	
4	N/A			Tree no longer exists	
5	N/A			Tree no longer exists	
6	Crape Myrtle	18	**R**		
7	N/A			Tree no longer exists	
8	N/A			Tree no longer exists	
9	N/A			Tree no longer exists	
10	Crape Myrtle	20	P		
11	Ash	24	P		
12	Chinese Tallow	40	P		
13	Sycamore	24	P		
14	N/A			Tree no longer exists	
15	N/A			Tree no longer exists	
16	N/A			Tree no longer exists	
17	N/A			Tree no longer exists	
18	N/A			Tree no longer exists	
19	N/A			Tree no longer exists	
20	N/A			Tree no longer exists	
21	Peach	6	-	Out of construction limit	
22	Magnolia	12	-	Out of construction limit	
23	N/A			Tree no longer exists	
24	Cedar	2	-	Out of construction limit	
25	N/A			Tree no longer exists	
26	Cedar	18	P		
27	Oak	28	P		
28	Oak	12	P		
29	Crape Myrtle	20	P	Out of construction limit	
30	Crape Myrtle	15	P	Out of construction limit	
31	Elm	20	P		
32	Crape Myrtle	15	**R**		
33	Crape Myrtle	15	**R**		
34	Crape Myrtle	15	**R**		
35	Crape Myrtle	20	**R**		
36	Crape Myrtle	8	**R**		
37	Crape Myrtle	15	**R**		
38	Crape Myrtle	12	**R**		
39	Oak	36	P	Out of construction limit	
40	N/A			Tree no longer exists	
41	Oak	12	P	Out of construction limit	
42	Oak	36	P	Out of construction limit	
43	Oak	48	P		
44	N/A			Tree no longer exists	
45	Cypress	8	P		
46	Cypress	12	P		
47	Cypress	12	P		
48	Cypress	12	P		
49	Cypress	12	P		
50	Cypress	8	P		
51	Cypress	10	P	Out of construction limit	
52	Cypress	10	P	Out of construction limit	
53	Cypress	10	P	Out of construction limit	
54	Cypress	8	P		
55	Cypress	10	P	Out of construction limit	
56	Crape Myrtle	12	P	Out of construction limit	
57	Cypress	10	P	Out of construction limit	
58	Oak	10	P	Out of construction limit	
59	Oak	10	P	Out of construction limit	
60	Oak	10	P		
61	Oak	10	P		
62	Oak	4	P	Out of construction limit	
63	Oak	4	P		
64	Oak	10	P		
65	Oak	4	P	Out of construction limit	
66	Oak	4	P		
67	Oak	10	P		
68	Oak	4	P		
69	Oak	4	P	Out of construction limit	
70	Oak	4	P	Out of construction limit	
71	Oak	4	P	Out of construction limit	
Total Mitigation					0

TREE PROTECTION NOTES :

1. IT IS CRUCIAL THAT TREE PROTECTION FENCES MUST BE ERECTED PRIOR TO THE BEGINNING OF ANY SITE DEMOLITION.
2. THE TREE PROTECTION FENCE SHALL BE T-POSTS AT 8'-0" O.C. W/ 4' HT. BRIGHT ORANGE, LIGHT WEIGHT, REUSABLE MESH SAFETY FENCING MADE OF HIGH DENSITY POLYETHYLENE WITH 1 1/2" X 3" SIZE MESH OR SIMILAR MATERIAL.
3. PROTECTION FENCE SHALL BE PLACED AROUND CRITICAL ROOT ZONE OF ALL TREES TO REMAIN.
4. UNDER NO CIRCUMSTANCES, SHOULD A CONTRACTOR DRIVE OR PARK MACHINERY ON TREE ROOTS OR UNDER THE DRIPLINE.
5. AVOID DISTURBING ROOTS IN CRITICAL ROOT ZONE. IF ROOT CUTTING IS NECESSARY OR ANY ROOTS ARE DAMAGED, THEY SHALL BE CUT CLEANLY WITH THE APPROPRIATE PRUNING SHEARS OR PRUNING SAWS A FEW INCHES ON THE SIDE CLOSER TO THE TRUNK. ANY EXPOSED OR PRUNED TREE ROOTS MUST BE COVERED IMMEDIATELY WITH DIRT AND MULCH TO PREVENT ROOTS FROM DRYING OUT.
6. NO STORAGE OR CONCRETE DUMPING IS PERMITTED ON TREE ROOTS AND/OR UNDER DRIPLINE.
7. NO BUILDING MATERIALS ARE TO BE STACKED OR STOCKPILED WITHIN THE DRIPLINE OR WITHIN 6 FEET OF ANY TREE TO BE PRESERVED, WHICHEVER DISTANCE IS GREATER.
8. TOPSOIL SHALL NOT BE STOCKPILED WITHIN THE DRIP LINE OR WITHIN 6 FEET OF ANY TREE TO BE PRESERVED, WHICHEVER DISTANCE IS GREATER.
9. ANY UNDERSTORY CLEARING WITHIN SIX FEET OF EXISTING TREE TRUNKS SHOULD BE DONE BY HAND.
10. CONTRACTORS ARE REQUIRED TO HIRE A CERTIFIED ARBORIST TO MONITOR AND ASSIST WITH FIELD LAYOUT (EXACT LOCATIONS OF FENCING, ROOT PRUNING, AND ZERO CURB CUTBACK) OF THE TREE PRESERVATION PROGRAM DURING DEMOLITION AND CONSTRUCTION TO ENSURE TREE PROTECTION PROCEDURES AND TECHNIQUES ARE PRACTICED AS SPECIFIED TO ADDRESS CONCERNS AND CONDITIONS WHICH OCCUR IN THE FIELD. AT A MINIMUM, THE INDIVIDUAL RESPONSIBLE FOR MONITORING AND FIELD LAYOUT OF THE TREE PROTECTION SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE AS A CONSULTANT, AND SHALL NOT BE AFFILIATED WITH A TREE CARE CONTRACTOR IN THE HARRIS COUNTY AREA. QUALIFICATIONS OF THE SELECTED CERTIFIED ARBORIST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
11. LIMB AND CANOPY TRIMMING TO BE REQUIRED TO KEEP CLEAR PEDESTRIAN ZONE. REFER TO DETAIL 4/L1.07.
12. ALL CONTRACTORS ASSOCIATED WITH UTILITY, ROADWAY, AND SIDEWALK WORK ARE RESPONSIBLE FOR ENSURING TREE PROTECTION PLANS ARE FOLLOWED DURING THE ENTIRE DURATION OF THE PROJECT. CONTRACTORS ARE RESPONSIBLE FOR COORDINATING BETWEEN ONE ANOTHER TO MEET ALL TREE PROTECTION MEASURES. CONTRACTORS SHALL ASSUME RESPONSIBILITY FOR ANY IMPROPER TREATMENT AND PROTECTION TO ALL TREES WITHIN THE PROJECT LIMIT.

NO.	DATE	REVISION	APP.

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

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TX FIRM NUMBER: 314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

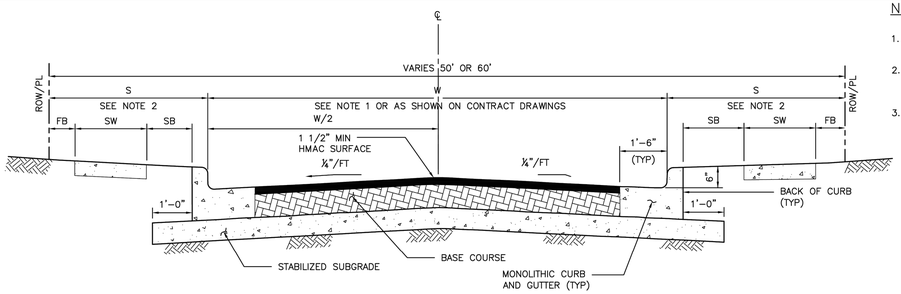
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

L1.08
TREE PROTECTION NOTES AND TREE MITIGATION TABLE

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T
SHEET NO. 204 OF 223

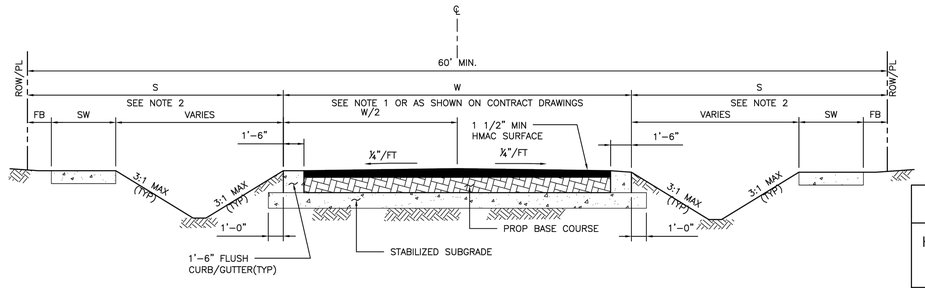
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HMAC PAVEMENT – CURB & GUTTER SECTION

(NOT APPLICABLE TO ETJ OF CITY OF HOUSTON)



HMAC PAVEMENT – DITCH SECTION

(NOT APPLICABLE TO ETJ OF CITY OF HOUSTON)

NOTES:

1. FOR TRAVEL WAY WIDTH (W) REFER TO IDM SECTION 10.3.03.A.
2. REFER TO CONTRACT DRAWINGS FOR "S" DIMENSION (S), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
3. BASE COURSE SHALL BE:
   ALTERNATES:
   A) 6" (MIN) HOT MIX ASPHALTIC CONCRETE.
   B) 8" (MIN) CRUSHED CONCRETE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

HOT MIX ASPHALTIC CONCRETE PAVEMENT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanawar — CITY ENGINEER	DocuSigned by: Carl Hubbard — DIRECTOR OF HPW
DocuSigned by: HANG NGUYEN — CITY TRAFFIC ENGINEER	
EFF DATE: NOV-27-2023	DWG NO: 02741-01

NO.	DATE	REVISION	APP.

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HOUSTON, TX 77024
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TX FIRM NUMBER: F-314

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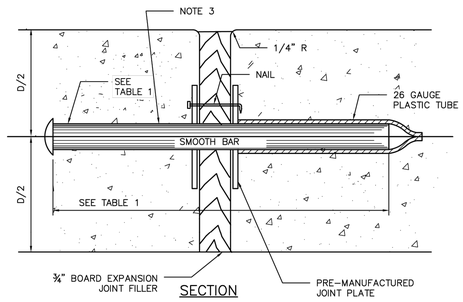
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PAVING DETAIL 1

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N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 206 OF 223

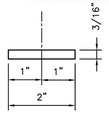
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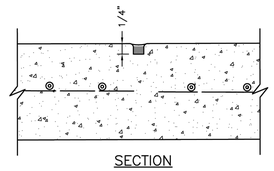
SECTION

DOWEL TYPE EXPANSION JOINT



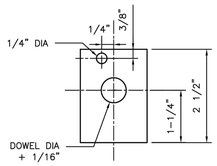
PLAN VIEW

JOINT PLATE



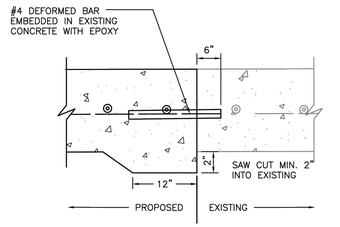
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CONTROL JOINT



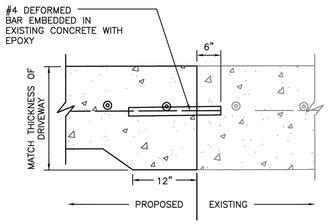
ELEVATION VIEW

JOINT PLATE



SECTION

SIDEWALK TO EXISTING SIDEWALK



SECTION

SIDEWALK TO EXISTING DRIVEWAY

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 3 FEET MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN A 2 INCH MINIMUM COVER.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — 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

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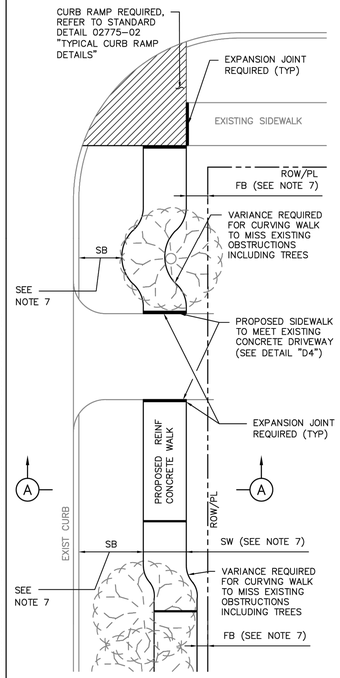
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PAVING DETAIL 2

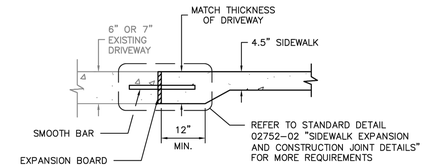
WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 207 OF 223

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PLAN VIEW

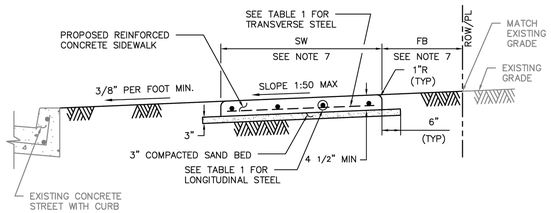


DETAIL D4
DRIVEWAY/SIDEWALK HEADER

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS			TRANSVERSE STEEL #3 BARS SPACING (IN)
		NO. OF BARS	SPACING (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48



SECTION A–A

NOTES:

1. 6X6 – W2.9XW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF THE REINFORCING STEEL GIVEN IN TABLE 1.
2. REINFORCED CONCRETE SIDEWALKS THRU DRIVEWAYS OPENINGS SHALL BE EITHER 6" THICK OR 7" THICK AS SPECIFIED ON 6" STABILIZED SUBGRADE. FOR THE REINFORCING STEEL REQUIREMENTS, SEE CITY OF HOUSTON STANDARD DETAILS 02754–01A, 02754–01B, 02754–03, AND 02754–04.
3. MAXIMUM SPACING FOR EXPANSION JOINTS SHALL BE 40 FEET.
4. CONTRACTOR SHALL CONSTRUCT SIDEWALK IN A MANNER NOT TO BLOCK THE NATURAL DRAINAGE FROM ADJACENT PROPERTY.
5. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
6. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
7. REFER TO CONTRACT DRAWINGS FOR SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL SIDEWALK LAYOUT AND DETAILS FOR STREETS WITH CURBS
(SCALE: NOT TO SCALE)

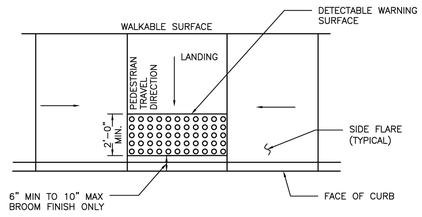
APPROVED BY:

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DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

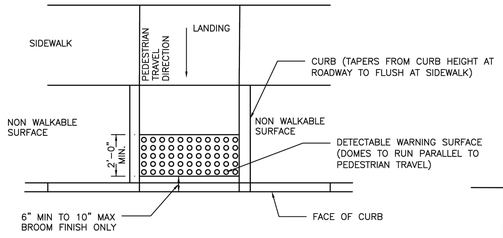
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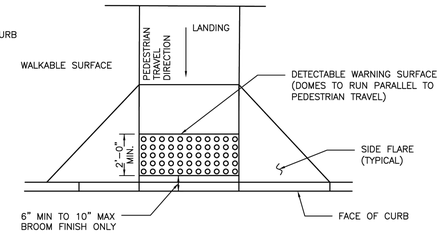
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TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE





TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN

GENERAL NOTES FOR DETECTABLE WARNINGS:

1. DETECTABLE WARNING SURFACES MUST BE FULLY ADA COMPLIANT.
2. ALL NEW CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES. THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACE, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
3. DETECTABLE WARNING SURFACES MUST MAINTAIN A SLIP RESISTANCE WITH FA–VALUE OF EQUAL TO OR GREATER THAN 0.8.
4. DETECTABLE WARNING SURFACES MUST MAINTAIN A WATER ABSORPTION RATE OF LESS THAN 1%, DETECTABLE WARNING SHALL NOT ALLOW WATER TO ACCUMULATE.
5. DETECTABLE WARNINGS INSTALLED INTO FRESH CONCRETE SHALL BE WITHOUT VOIDS AND UTILIZING AN ACCEPTABLE ANCHORING SYSTEM.
6. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
7. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
8. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6" MIN TO 10" MAX FROM THE DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
9. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
10. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DETECTABLE WARNING CURB RAMP DETAILS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukut kanwar — CITY ENGINEER
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

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FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PAVING DETAIL 3

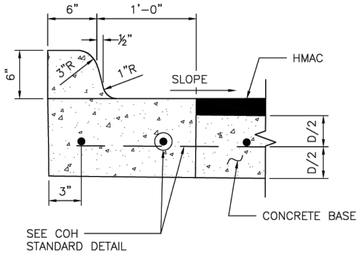
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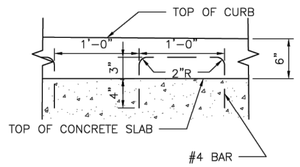
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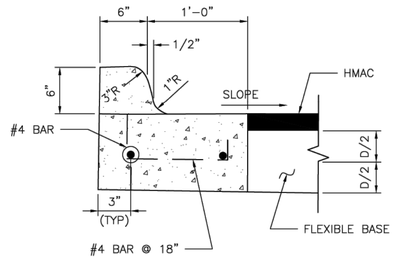
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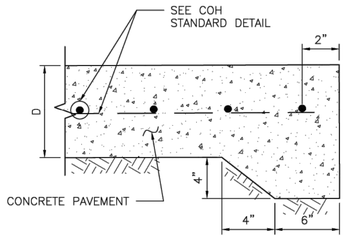
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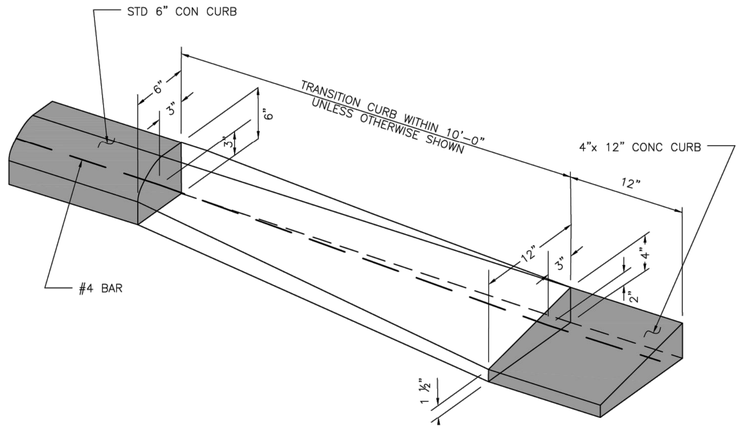
ALTERNATE CONCRETE CURB REINFORCEMENT



ESPLANADE CURB CONNECTED TO FLEXIBLE BASE

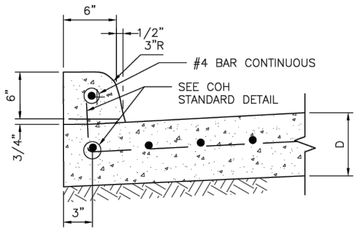


STANDARD CONCRETE PAVING HEADER



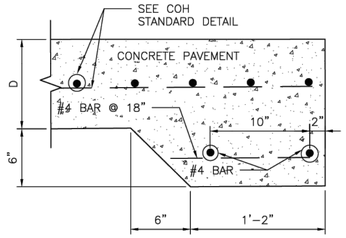
CURB TRANSITION

(SEE NOTES)

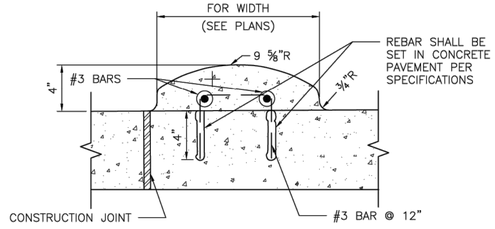


CONCRETE CURB

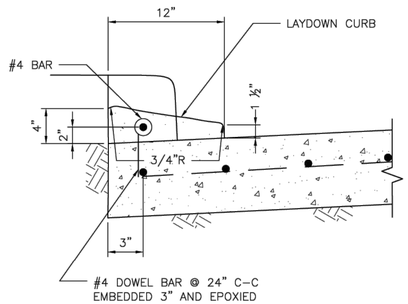
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE
#4 BAR @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT.
SET #4 DOWEL BARS, 25" LONG AT 12" C–C WHEN PAVEMENT SECTION POURED.



STANDARD RAILROAD HEADER

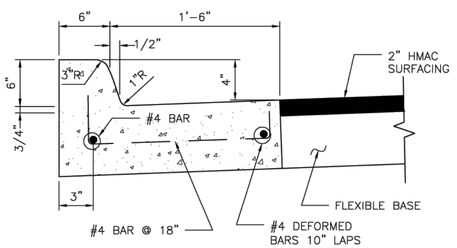


MOUNTABLE CURB

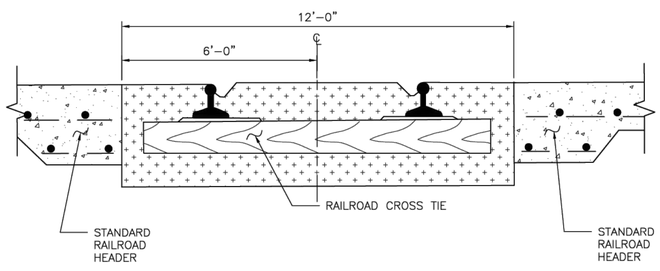


4–INCH x 12–INCH TRANSITION CURB

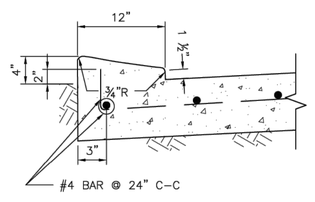
(SEE NOTES)



MONOLITHIC CURB AND GUTTER



STANDARD RAILROAD CROSSING – SINGLE TRACK



4–INCH x 12–INCH MONOLITHIC CURB

(SEE NOTES)

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.

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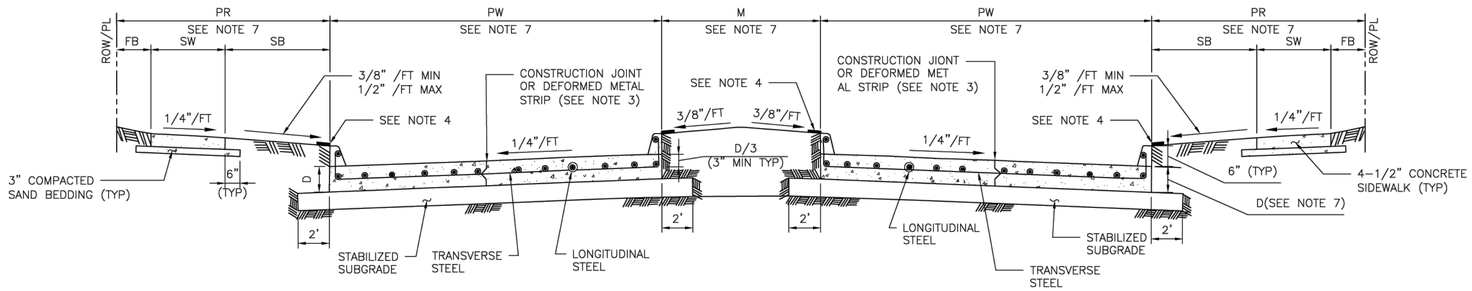
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CURB, CURB AND GUTTER AND HEADER DETAILS

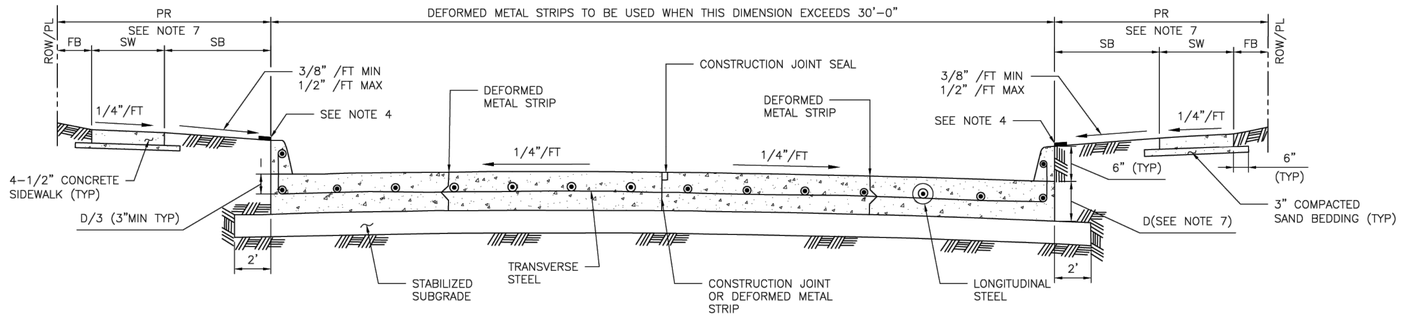
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TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

TABLE 1

REINFORCING STEEL BAR SIZES AND SPACINGS FOR VARIOUS PAVEMENT THICKNESSES (D) WITH: MAXIMUM TRANSVERSE CONTROL JOINT SPACING = 20'–0"
MAXIMUM EXPANSION JOINT SPACING = 80'–0"
fc' = 4,000 PSI/28 DAYS AND FY = 60,000 PSI

PAVEMENT THICKNESS 'D' (IN)	PAVEMENT WIDTH 'PW' (FT)	LONGITUDINAL STEEL									TRAVERSE STEEL		
		#4 BARS			#5 BARS			#6 BARS			#4 BARS	#5 BARS	#6 BARS
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	SPACING (IN)	SPACING (IN)	SPACING (IN)
6	28	17	20.50	4.00	–	–	–	–	–	–	36	–	–
7	25	17	18.25	4.00	–	–	–	–	–	–	36	–	–
7	35	24	18.00	3.00	–	–	–	–	–	–	36	–	–
7	36	25	17.75	3.00	–	–	–	–	–	–	36	–	–
7	37	25	18.25	3.00	–	–	–	–	–	–	36	–	–
7	41	28	18.00	3.00	–	–	–	–	–	–	36	–	–
7	45	31	17.75	3.75	–	–	–	–	–	–	36	–	–
8	25	20	15.50	2.75	13	24.50	3.0	–	–	–	36	36	–
8	34	27	15.50	2.50	17	25.00	4.0	–	–	–	36	36	–
8	35	27	16.00	2.00	18	24.25	4.0	–	–	–	36	36	–
8	36	28	15.75	3.25	18	25.00	3.0	–	–	–	30	36	–
8	44	24	15.75	4.00	22	24.75	4.0	–	–	–	30	36	–
8	45	35	15.75	2.25	23	24.25	3.0	–	–	–	30	36	–
9	25	22	14.00	3.00	14	22.50	4.0	–	–	–	36	36	–
9	34	31	13.50	2.00	19	22.25	3.5	–	–	–	30	36	–
9	35	31	13.75	3.75	20	21.75	3.5	–	–	–	30	36	–
9	36	32	13.75	3.00	21	21.25	3.5	–	–	–	30	36	–
9	44	39	13.75	2.75	25	21.75	3.0	–	–	–	24	36	–
9	45	39	14.00	4.00	26	21.25	4.5	–	–	–	24	36	–
10	25	24	12.75	3.50	17	18.25	4.0	–	–	–	36	36	36
10	34	33	12.50	4.00	21	20.00	4.0	–	–	–	30	36	36
10	35	34	12.50	3.75	23	18.75	4.0	–	–	–	30	36	36
10	36	35	12.50	3.50	24	18.50	3.0	–	–	–	30	36	36
10	44	44	12.00	4.00	29	18.50	4.5	–	–	–	24	36	36
10	45	44	12.50	3.00	29	19.00	3.0	–	–	–	24	36	36
11	25	27	11.25	3.00	17	18.25	4.0	12	26.75	3	36	36	36
11	34	36	11.50	2.75	24	17.50	2.5	17	25.00	4	24	36	36
11	35	37	11.50	3.00	24	18.00	3.0	17	25.75	4	24	36	36
11	36	40	11.00	2.00	25	17.75	3.0	17	26.50	4	24	36	36
11	44	48	11.125	2.50	30	18.00	3.0	21	26.00	4	24	36	36
11	45	49	11.125	3.00	31	17.75	4.0	22	25.50	3	24	36	36
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

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.

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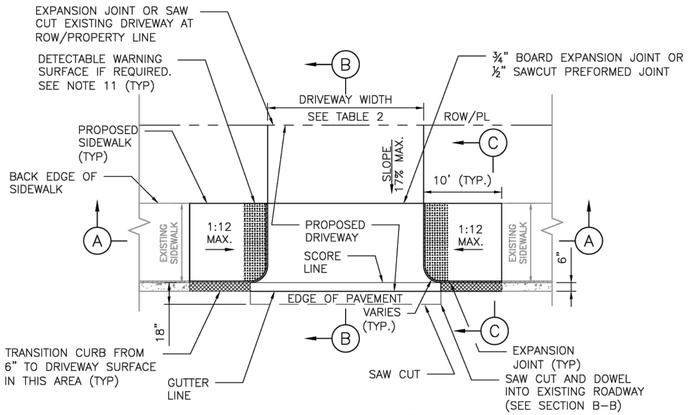
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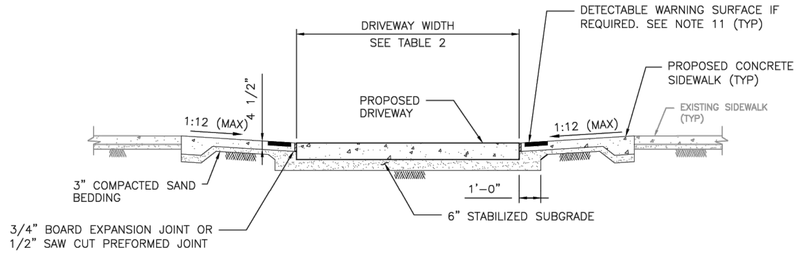
CONCRETE PAVEMENT DETAILS

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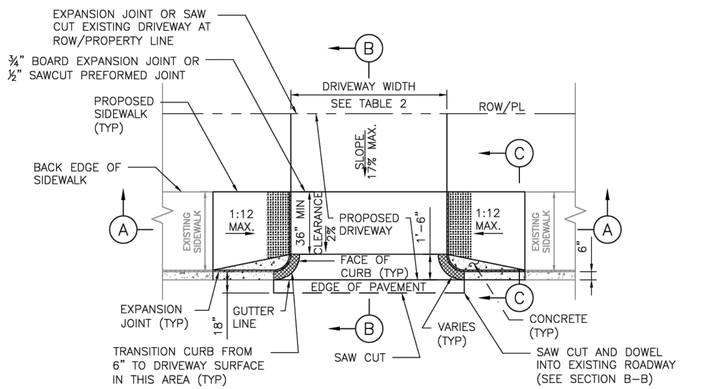
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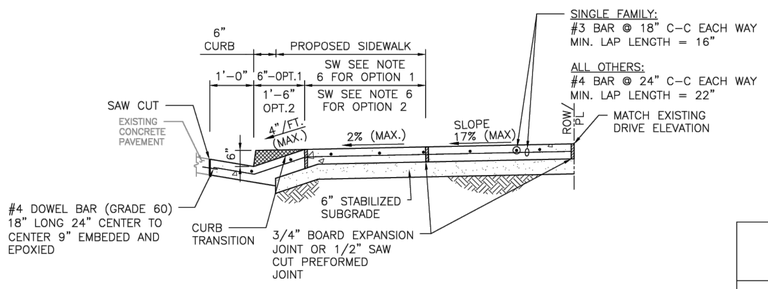
OPTION 1 – CURB LEVEL SIDEWALK
PLAN VIEW – DRIVEWAY WITHOUT CURB AT CURB RETURN



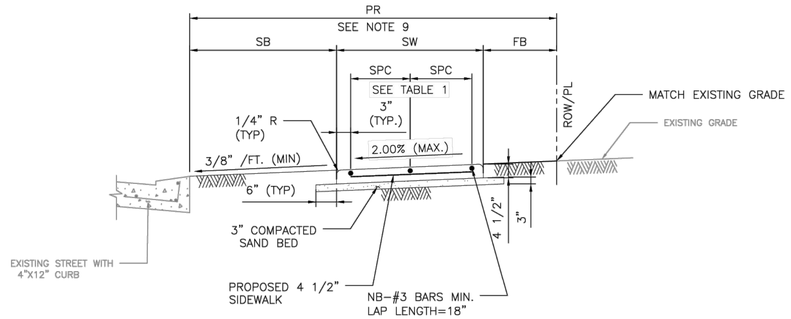
SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY



OPTION 2 – CURB LEVEL SIDEWALK
PLAN VIEW – DRIVEWAY WITH CURB AT CURB RETURN



SECTION B–B
TYPICAL DRIVEWAY SECTION THROUGH DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL			TRANSVERSE STEEL #3 BARS SPACING (IN)
		#3 BARS			
		NO. OF BARS "NB"	SPACING "SPC" (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES)				TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY)				TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)			
	WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
ONE–WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO–WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE–WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42–146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40–552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. PROPOSED SIDEWALKS THAT DO NOT FALL WITHIN THE SCOPE DEFINED IN NOTE 2 SHALL BE DESIGNED ACCORDING TO IDM REQUIREMENTS AND CONSTRUCTED ACCORDING TO THE CONTRACT DRAWINGS.
4. DRIVEWAY WIDTH VARIES TO MATCH EXISTING DRIVE.
5. DRIVEWAY DETAIL TO PROVIDE FOR SIDEWALK TRANSITION FROM EXISTING BACK OF CURB TO PROPOSED DRIVEWAY EDGE.
6. DRIVEWAY WITH WIDTH >5' @ 2% CROSS SLOPE QUALIFIES AS PASSING SPACE. (SEE OPTION 1 AND OPTION 2 PLANS)
7. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
8. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.
9. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
10. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)
11. DETECTABLE WARNING SURFACES:
    - 11.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
      - 11.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD OR TRAFFIC SIGNAL CONTROLLED; OR
      - 11.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
    - 11.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
    - 11.3. REFER TO STANDARD DETAILS 02775–06 TO 02775–07 FOR DETECTABLE WARNING SURFACE STANDARDS.

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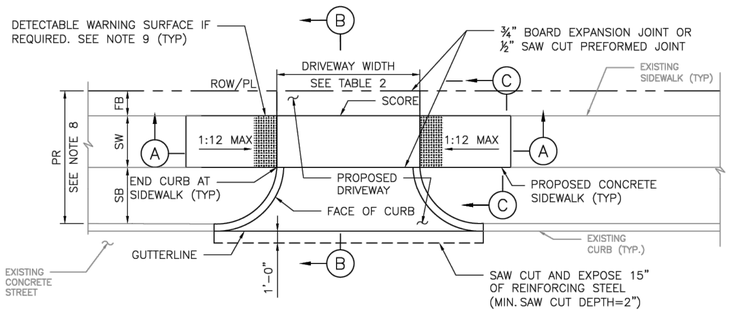
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PROPOSED SIDEWALK THROUGH DRIVEWAY WITH EXCESSIVE ELEVATION DIFFERENCE

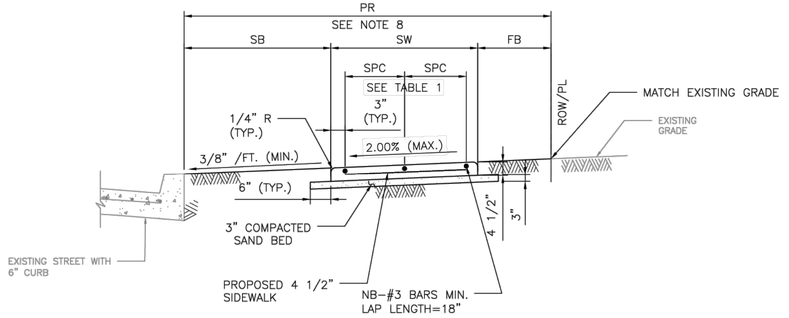
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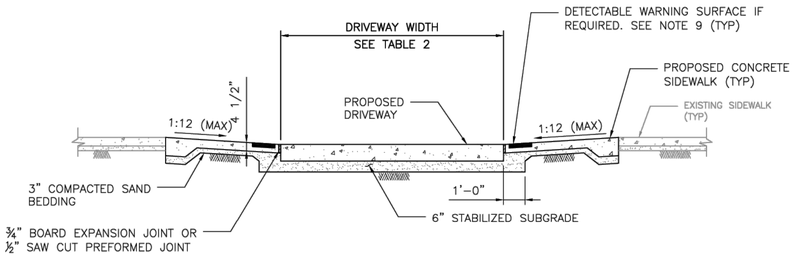
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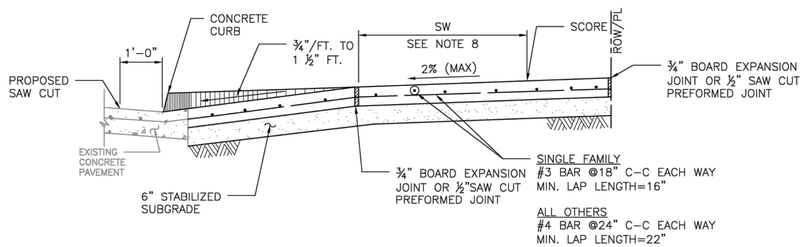
PLAN VIEW
DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY
WITH EXCESSIVE ELEVATION DIFFERENCE
WITH EXISTING SIDEWALK



SECTION B–B
TYPICAL DRIVEWAY SECTION

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS NO. OF BARS "NB"	LONGITUDINAL STEEL #3 BARS SPACING "SPC" (IN)	LONGITUDINAL STEEL #3 BARS END BAR SPACING (IN)	TRANSVERSE STEEL #3 BARS SPACING (IN)
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES)				TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY)				TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)			
	WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
ONE–WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO–WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE–WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42–146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

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.

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CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Curt Haddock A83C4108728345...
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023 | DWG NO: 02754–01B

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SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

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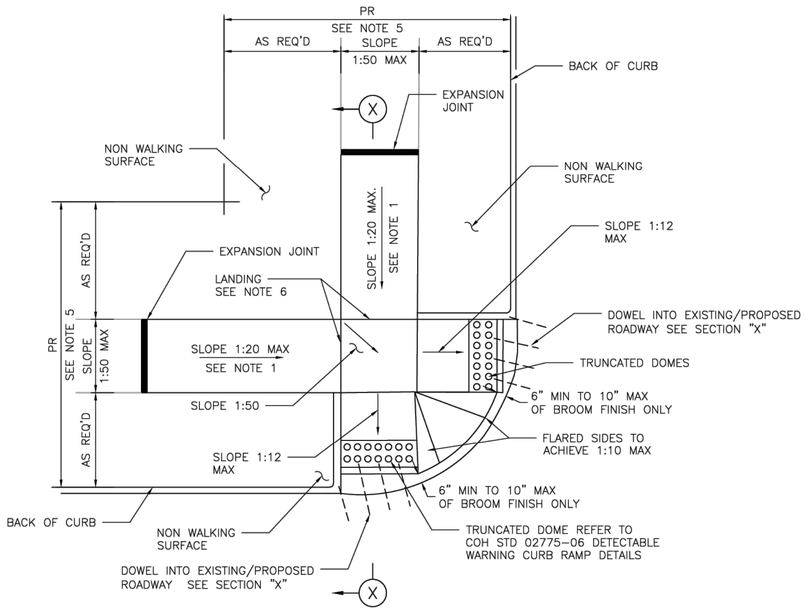
CITY OF HOUSTON
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DRIVEWAY DETAIL WITH 6" CURBED STREETS

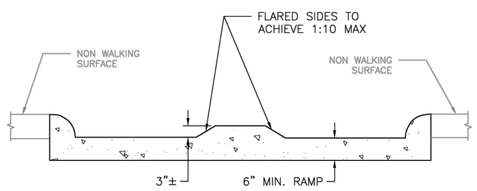
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DRAWING SCALE	
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CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEETNO: 209C OF 223	

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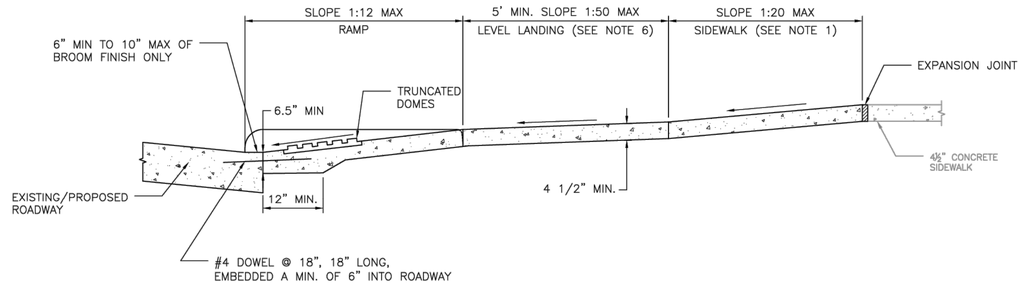
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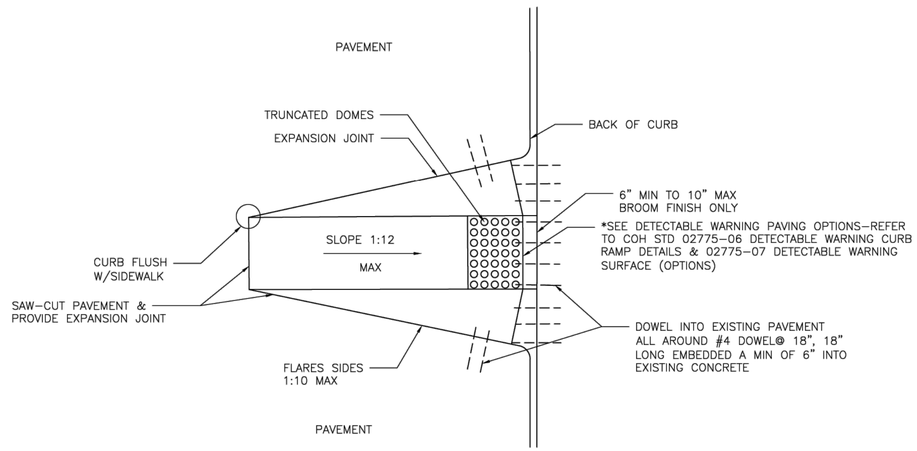
STREETS WITH NON– WALKING SURFACE BEHIND CURB
SEE NOTE–7



ELEVATION
LOOKING UP RAMP



SECTION X–X



CURB RAMP CONSTRUCTION FOR EXISTING PAVEMENT

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.

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APPROVED BY: DocuSigned by: Carol Haddock A93C41DB72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV–27–2023	DWG NO: 02775–02
HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832–930–7670 TX FIRM NUMBER: F–314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P–8357	

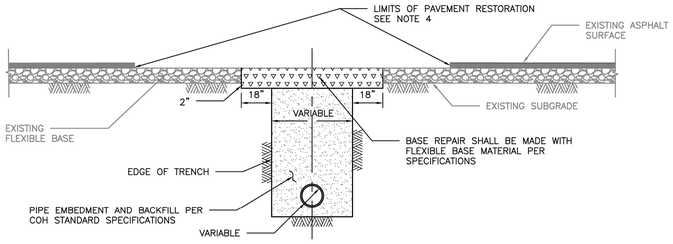
CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TYPICAL CURB RAMP DETAILS

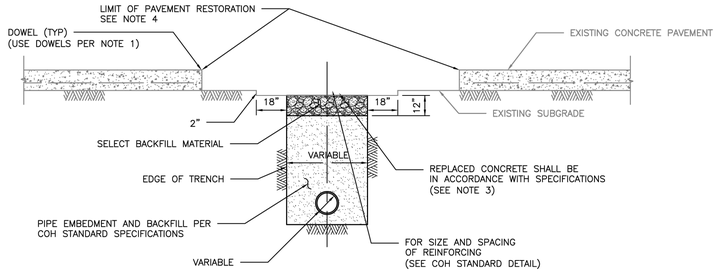
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ELEVATION A
REPAIR OF FLEXIBLE BASE PAVEMENT



ELEVATION B
REPAIR OF REINFORCED CONCRETE PAVEMENT

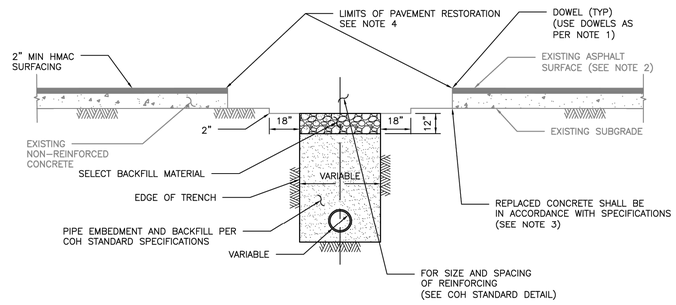
NOTES:

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.

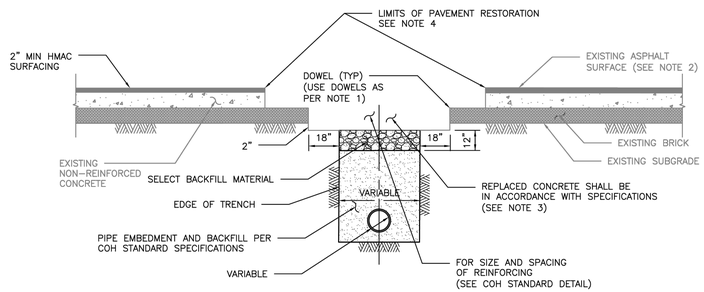
CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX-BASE PAVEMENT & CONCRETE PAVEMENT) (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukait kanwar CITY ENGINEER DocuSigned by: KHANG NGUYEN CITY TRAFFIC ENGINEER	DocuSigned by: Carl Haddock DIRECTOR OF HPW
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ELEVATION C
REPAIR OF NON-REINFORCED CONCRETE PAVEMENT



ELEVATION D
REPAIR OF NON-REINFORCED CONCRETE PAVEMENT WITH BRICK

NOTES:

1. EXPOSE 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BAR, 24" LONG, 24" C-C, DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB. WITH "PO ROC" OR EQUAL.
2. IF REINFORCED CONCRETE IS OVERLAYED REPLACE WITH SAME THICKNESS OF HMAC SURFACING.
3. REFER TO STANDARD DETAIL 02751-01 FOR REINFORCING STEEL REQUIREMENT
4. REFER TO STANDARD DETAILS 02951-01 THROUGH 03 FOR PAVEMENT RESTORATION LIMITS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
PAVEMENT REPAIR DETAIL FOR STREET CUTS (NON-REINFORCED CONCRETE & BRICK PAVEMENT) (SCALE: NOT TO SCALE)	
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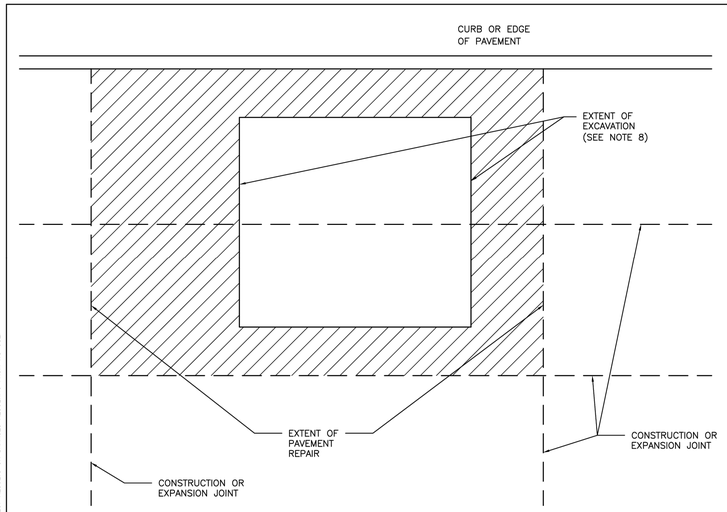
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PAVING DETAIL 4

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 209E OF 223	

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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. REPLACE ENTIRE PANEL WIDTH AND LENGTH TO NEAREST CONSTRUCTION OR EXPANSION JOINT BEYOND EDGE OF EXCAVATION.
3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL WITHIN EXISTING PAVEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION) IF EXISTING REINFORCING IS BROKEN OFF.
4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
5. MAINTAIN EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
6. SPECIALTY PAVEMENTS (IE: BRICK PAVERS) TO BE REPLACED WITH MATCHING PAVEMENT IN ALL CASES.
7. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764–RAISED PAVEMENT MARKERS AND 02767–THERMOPLASTIC PAVEMENT MARKINGS.
8. EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT & CONCRETE PAVEMENT).

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

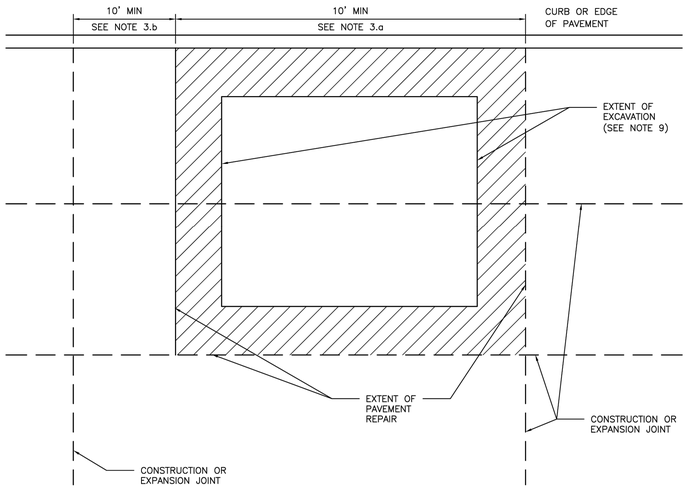
STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT ≤ 5YRS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukait Kanwar — CITY ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV–27–2023 | DWG NO: 02951–01

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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:

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DocuSigned by: Carl Haddock — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV–27–2023 | DWG NO: 02951–02

NO.	DATE	REVISION	APP.

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HOUSTON, TX 77024
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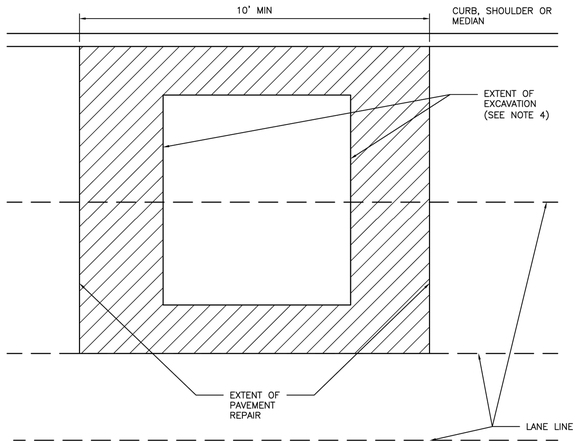
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PAVING DETAIL 5

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 209F OF 223

PLOT STYLE: COH CIP.CTB
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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. FLEXIBLE BASE: REPLACE BASE TO SAME THICKNESS PLUS TWO INCHES (2") FOR EXTENT OF EXCAVATION. USE APPROVED BASE MATERIAL TYPE.*
3. SURFACE COURSE:
   - 3.1. WIDTH: SURFACE MILL AND OVERLAY FULL WIDTH OF LANE(S) TO NEAREST LANE DIVIDER BEYOND EDGE OF EXCAVATION.
   - 3.2. LENGTH: MINIMUM LENGTH OF SURFACE MILL ALONG TRAVEL WAY IS 10'.
   - 3.3. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764–RAISED PAVEMENT MARKERS AND 02767–THERMOPLASTIC PAVEMENT MARKINGS.
4. EXTENT OF EXCAVATION INCLUDES 18" OVER CUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT AND CONCRETE PAVEMENT).
5. ADDITIONAL REQUIREMENTS FOR ASPHALT OVERLAY ON CONCRETE PAVEMENT:
   - 5.1. REPLACE CONCRETE FOR EXTENT OF EXCAVATION. REPLACE TO SAME THICKNESS PLUS TWO INCHES (2").
   - 5.2. WIDTH:
     - 5.2.1. IF EXCAVATION EXTENDS MORE THAN HALF OF A LANE, REPLACE ENTIRE LANE OF CONCRETE. OTHERWISE USE STANDARD DETAIL 02951–04 THROUGH 05.
   - 5.3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF CONCRETE REPLACEMENT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION.
   - 5.4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
   - 5.5. MAINTAIN CONCRETE EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE APPROVED BY CITY ENGINEER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR ASPHALT PAVEMENT REPLACEMENT/RESTORATION FOR PAVEMENT OF ALL AGES
(SCALE: NOT TO SCALE)

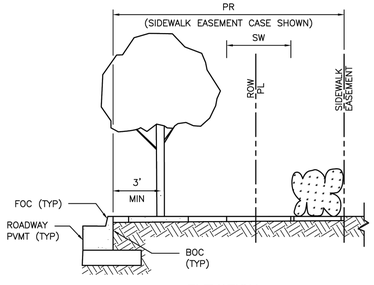
APPROVED BY:

DocuSigned by: Sukai Kanwar — CITY ENGINEER
DocuSigned by: LIHING NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

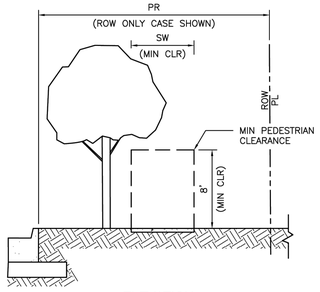
EFF DATE: NOV–27–2023 | DWG NO: 02951–03

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 OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE USER'S REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

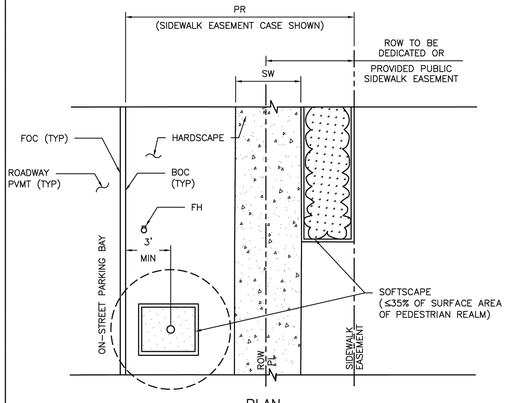
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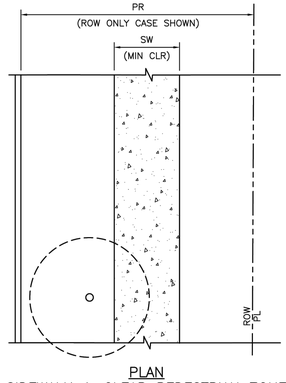
ELEVATION



ELEVATION



PLAN
PEDESTRIAN REALM PERFORMANCE STANDARD



PLAN
SIDEWALK & CLEAR PEDESTRIAN ZONE
MANDATORY MINIMUM REQUIREMENT

NOTES

1. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), AND SIDEWALK (SW) WIDTHS.
2. THE MINIMUM UNOBSTRUCTED VERTICAL CLEARANCE OF A SIDEWALK IS EIGHT (8) FEET AS MEASURED VERTICALLY FROM THE SURFACE OF THE SIDEWALK. FOR VERTICAL CLEARANCE TO IMPROVEMENTS CONSTRUCTED OVER A SIDEWALK WITHIN THE PEDESTRIAN REALM, REFER TO THE CONTRACT DRAWINGS.
3. FOR PEDESTRIAN REALM DESIGN BACKGROUND, REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES, ARTICLE IV – ENHANCED PEDESTRIAN REALM STANDARDS AND THE USERS' GUIDE FOR WALKABLE PLACES AND TRANSIT–ORIENTED DEVELOPMENT.
4. FOR ADDITIONAL PLANTING REQUIREMENTS, REFER TO CHAPTER 33 OF THE CODE OF ORDINANCES, SECTION 129 – GENERAL PLANTING STANDARDS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK AND CLEAR ZONE TRANSIT CORRIDOR STREET
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukai Kanwar — CITY ENGINEER
DocuSigned by: LIHING NGUYEN — CITY TRAFFIC ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02775–08

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

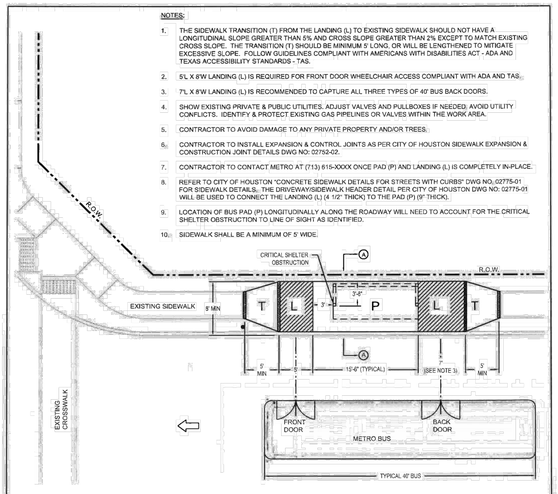
PAVING DETAIL 6

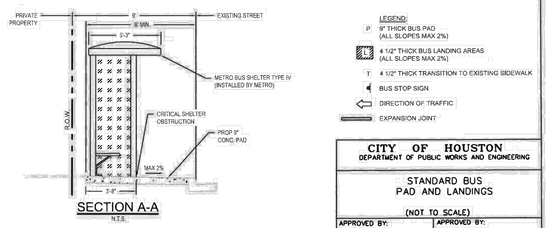
WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 209G OF 223	

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/5/2026 5:22 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

NOTES:

1. THE SIDEWALK TRANSITION (T) FROM THE LANDING (L) TO EXISTING SIDEWALK SHOULD NOT HAVE A LONGITUDINAL SLOPE GREATER THAN 5% AND CROSS SLOPE GREATER THAN 2% EXCEPT TO MATCH EXISTING CROSS SLOPE. THE TRANSITION (T) SHOULD BE MINIMUM 5' LONG, OR WILL BE LENGTHENED TO MITIGATE EXCESSIVE SLOPE. FOLLOW GUIDELINES COMPLIANT WITH AMERICANS WITH DISABILITIES ACT - ADA AND TEXAS ACCESSIBILITY STANDARDS - TAS.
2. 5'L X 8'W LANDING (L) IS REQUIRED FOR FRONT DOOR WHEELCHAIR ACCESS COMPLIANT WITH ADA AND TAS.
3. 7'L X 8'W LANDING (L) IS RECOMMENDED TO CAPTURE ALL THREE TYPES OF 40' BUS BACK DOORS.
4. SHOW EXISTING PRIVATE & PUBLIC UTILITIES. ADJUST VALVES AND PULLBOXES IF NEEDED. AVOID UTILITY CONFLICTS. IDENTIFY & PROTECT EXISTING GAS PIPELINES OR VALVES WITHIN THE WORK AREA.
5. CONTRACTOR TO AVOID DAMAGE TO ANY PRIVATE PROPERTY AND/OR TREES.
6. CONTRACTOR TO INSTALL EXPANSION & CONTROL JOINTS AS PER CITY OF HOUSTON SIDEWALK EXPANSION & CONSTRUCTION JOINT DETAILS DWG NO: 02752-02.
7. CONTRACTOR TO CONTACT METRO AT (713) 615-XXXX ONCE PAD (P) AND LANDING (L) IS COMPLETELY IN-PLACE.
8. REFER TO CITY OF HOUSTON "CONCRETE SIDEWALK DETAILS FOR STREETS WITH CURBS" DWG NO. 02775-01 FOR SIDEWALK DETAILS. THE DRIVEWAY/SIDEWALK HEADER DETAIL PER CITY OF HOUSTON DWG NO: 02775-01 WILL BE USED TO CONNECT THE LANDING (L) (4 1/2" THICK) TO THE PAD (P) (9" THICK).
9. LOCATION OF BUS PAD (P) LONGITUDINALLY ALONG THE ROADWAY WILL NEED TO ACCOUNT FOR THE CRITICAL SHELTER OBSTRUCTION TO LINE OF SIGHT AS IDENTIFIED.
10. SIDEWALK SHALL BE A MINIMUM OF 5' WIDE.





SECTION A-A
N.T.S.

LEGEND:

- P — 9" THICK BUS PAD (ALL SLOPES MAX 2%)
- L — 4 1/2" THICK BUS LANDING AREAS (ALL SLOPES MAX 2%)
- T — 4 1/2" THICK TRANSITION TO EXISTING SIDEWALK
- BUS STOP SIGN
- DIRECTION OF TRAFFIC
- EXPANSION JOINT

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STANDARD BUS PAD AND LANDINGS

(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF. DATE: JAN-04-2017	DWG NO: 10.06-15

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

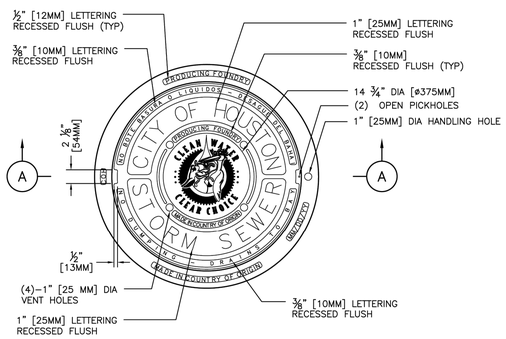
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

PAVING DETAIL 7

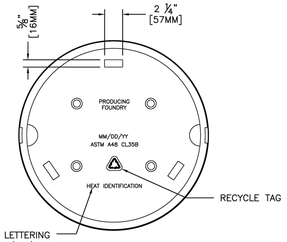
WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 209H OF 223

PLOTTED: 10/5/2026 5:23 PM
PLOT STYLE: COH CIP.CTB
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

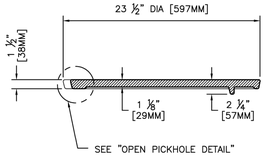
DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE LICENSE REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE ACCEPTS RESPONSIBILITY FOR THE SAFE DESIGN AND APPLICATION OF THE MATERIALS AND METHODS SPECIFIED. THE EOR IS RESPONSIBLE FOR ADAPTING THESE DESIGN REQUIREMENTS TO EACH PROJECT AS REQUIRED AND FOR ANY OMISSIONS OR ERRORS WHICH MAY BE CONTAINED IN THEM. HATCH ASSUMES NO RESPONSIBILITY FOR ANY MODIFICATIONS MADE TO THESE DESIGN REQUIREMENTS BY OTHER ENGINEERS OR AUTHORIZED USERS. WHATSOEVER, THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



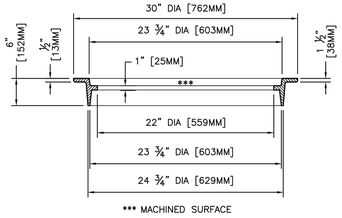
TOP VIEW



BOTTOM VIEW OF COVER

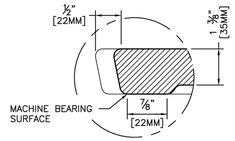


COVER SECTION



FRAME SECTION

SECTION A–A



OPEN PICKHOLE DETAIL

NOTES:

1. APPROXIMATE WEIGHTS:

   FRAME – 120 LBS (55KGS)
   COVER – 130 LBS (59KGS)
   UNIT – 250 LBS (114KGS)

2. MATERIALS – GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V1814 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 CRATE AND COVER MARKINGS ON EITHER TOP OR BOTTOM OF CASTING.

CITY OF HOUSTON	
HOUSTON PUBLIC WORKS STANDARD	
STORM SEWER TYPE "C", "C–1" AND "C–2" INLET FRAME AND COVER (SCALE: NOT TO SCALE)	
APPROVED BY:	
Signed by: 19E0B02D73F84DC...	Signed by: 5C4E1CF7CDF4543...
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: MAR–02–2026	DWG NO: 02090–08

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

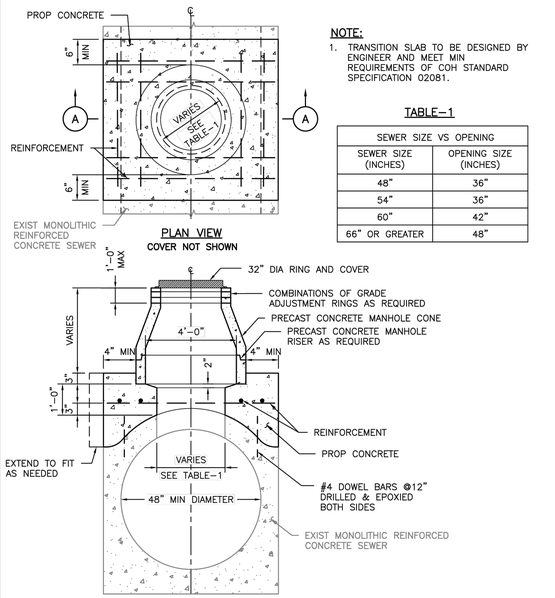
STORM SEWER DETAIL 1

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 210 OF 223

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/5/2026 5:23 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

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PLOTTED: 10/5/2026 5:23 PM
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NO.	DATE	REVISION	APP.



NOTE:

1. TRANSITION SLAB TO BE DESIGNED BY ENGINEER AND MEET MIN REQUIREMENTS OF COH STANDARD SPECIFICATION 02081.

TABLE-1

SEWER SIZE VS OPENING	
SEWER SIZE (INCHES)	OPENING SIZE (INCHES)
48"	36"
54"	36"
60"	42"
66" OR GREATER	48"

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:

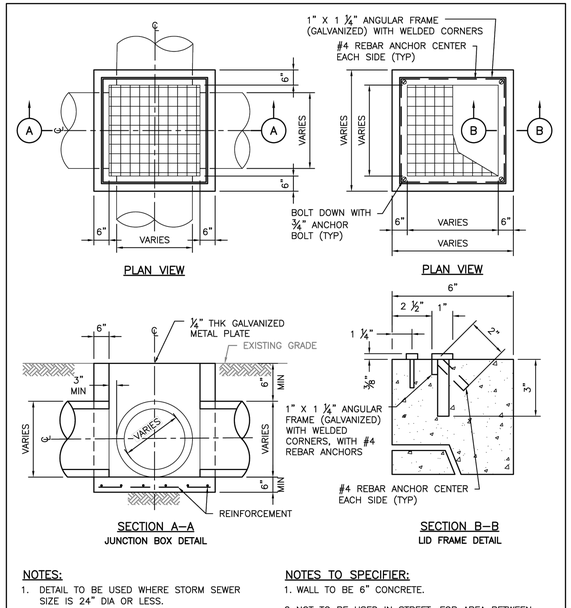
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER MANHOLE FOR EXISTING MONOLITHIC REINFORCED CONCRETE 48" DIA AND GREATER

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02082-17



NOTES:

1. DETAIL TO BE USED WHERE STORM SEWER SIZE IS 24" DIA OR LESS.
2. FOR SEWER GREATER THAN 24" DIA USE TYPE C MANHOLE.

NOTES TO SPECIFIER:

1. WALL TO BE 6" CONCRETE.
2. NOT TO BE USED IN STREET. FOR AREA BETWEEN CURB AND PROPERTY LINE ONLY.

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:

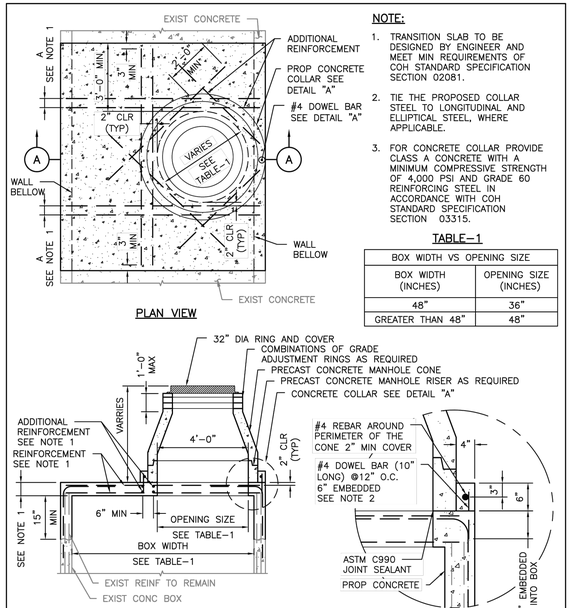
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER JUNCTION BOX WITH LID OR GRATE TOP FOR MAXIMUM OF 24" DIA STORM SEWER

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02081-06



NOTE:

1. TRANSITION SLAB TO BE DESIGNED BY ENGINEER AND MEET MIN REQUIREMENTS OF COH STANDARD SPECIFICATION SECTION 02081.
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.

TABLE-1

BOX WIDTH VS OPENING SIZE	
BOX WIDTH (INCHES)	OPENING SIZE (INCHES)
48"	36"
GREATER THAN 48"	48"

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

PROPOSED MANHOLE ON EXISTING BOX STORM SEWER

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02082-16

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

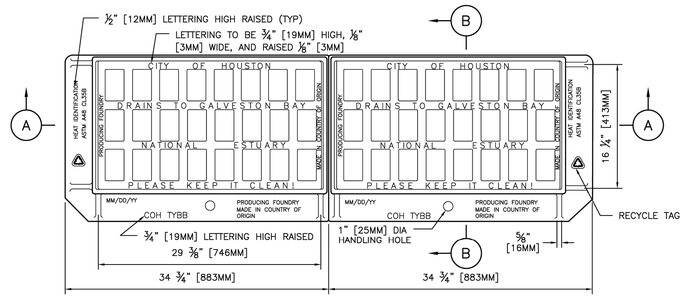
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

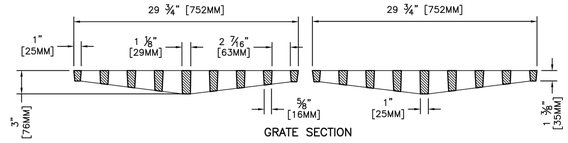
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER DETAIL 2

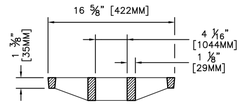
WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 211 OF 223



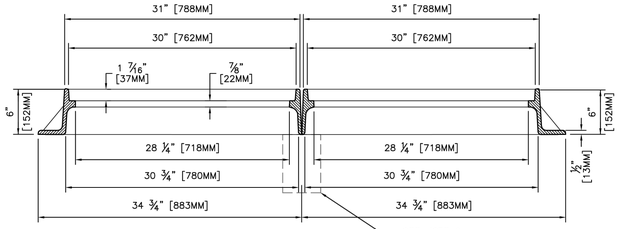
TOP VIEW



GRATE SECTION

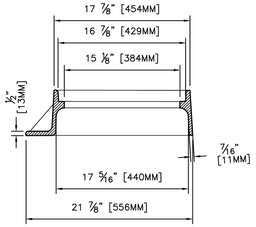


GRATE SECTION



FRAME SECTION

SECTION A–A



FRAME SECTION

SECTION B–B

NOTES:

1. APPROXIMATE WEIGHTS:

   EACH GRATE – 115 LBS (52KGS)
   EACH FRAME – 120 LBS (55KGS)
   EACH UNIT – 235 LBS (107KGS)

2. MATERIAL– 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
   TYPE B–B 480 SQ. IN. [3096 SQ. CM.]
   TYPE B 240 SQ. IN. [1548 SQ. CM.]
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 FRAME AND GRATE FOR TYPE "B–B" INLET DOUBLE ASSEMBLY
(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
Signed by: 19DB8B2097DF84DC...	Signed by: DE4651D1D1F45403...

EFF DATE: MAR–02–2026 | DWG NO: 02090–05

NO.	DATE	REVISION	APP.

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY PROBLEMS ASSOCIATED WITH ITS USE OR ALL OF THE REQUIREMENTS NECESSARY FOR A PARTICULAR PROJECT. IT IS THE RESPONSIBILITY OF THE USER TO ESTABLISH APPROPRIATE SAFETY AND HEALTH PRACTICES AND DETERMINE THE APPLICABILITY OF REGULATORY LIMITATIONS PRIOR TO USE. ACCEPTANCE OF THE DESIGN REQUIREMENTS ON THIS STANDARD IS NOT TO BE CONSTRUED AS RELIEVING ANY PARTY OF 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.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

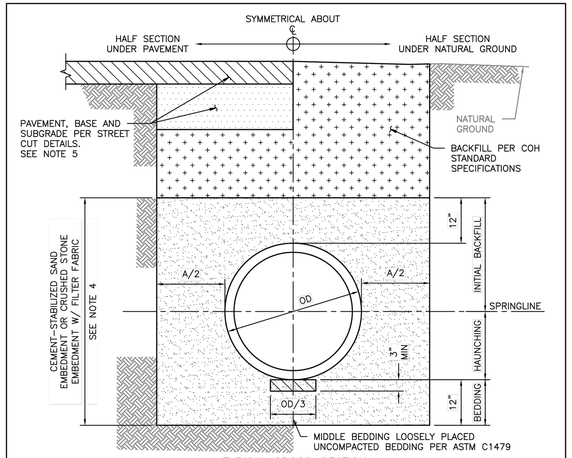
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER DETAIL 3

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 212 OF 223	

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/5/2026 5:23 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg



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:

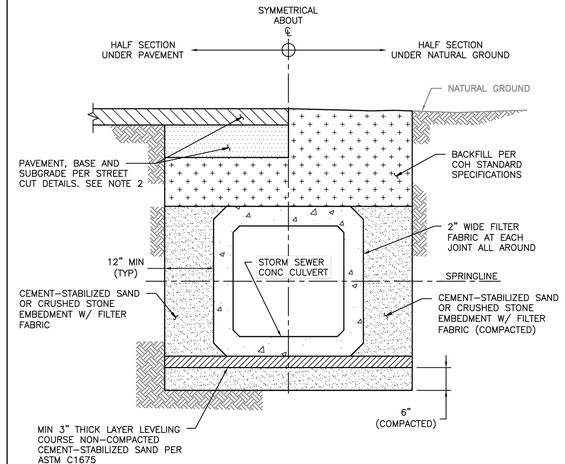
CITY ENGINEER | DIRECTOR OF HPW

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:

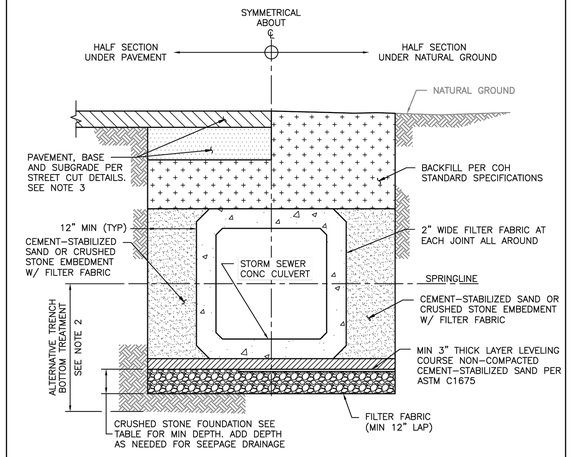
CITY ENGINEER | DIRECTOR OF HPW

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:

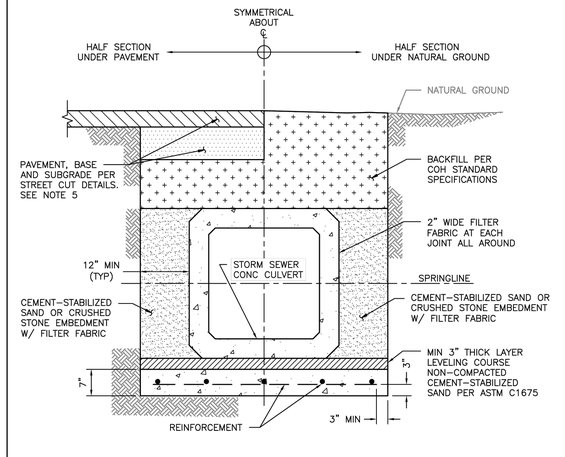
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR WET STABLE TRENCH

(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:

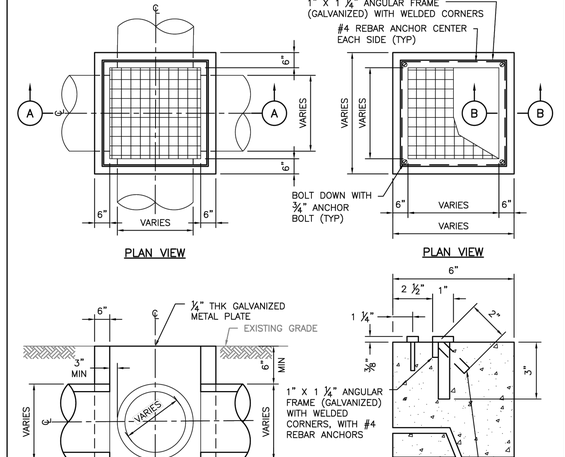
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL WITH SEAL SLAB

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02317-07



NOTES:

1. DETAIL TO BE USED WHERE STORM SEWER SIZE IS 24" DIA OR LESS.
2. FOR SEWER GREATER THAN 24" DIA USE TYPE C MANHOLE.

NOTES TO SPECIFIER:

1. WALL TO BE 6" CONCRETE.
2. NOT TO BE USED IN STREET. FOR AREA BETWEEN CURB AND PROPERTY LINE ONLY.

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

STORM SEWER JUNCTION BOX WITH LID OR GRATE TOP FOR MAXIMUM OF 24" DIA STORM SEWER

(SCALE: NOT TO SCALE)

EFF DATE: MAR-02-2026 | DWG NO: 02081-06

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

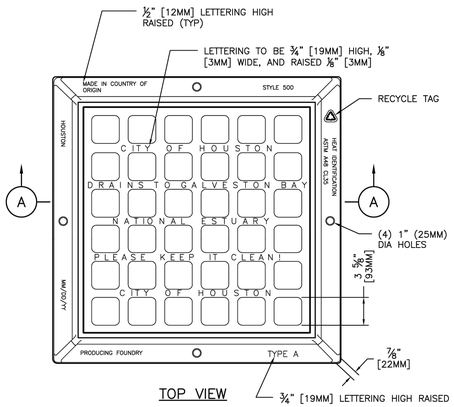
STORM SEWER DETAIL 4

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 213 OF 223	

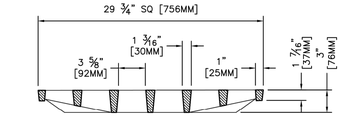
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PLOT STYLE: COH CIP.CTB

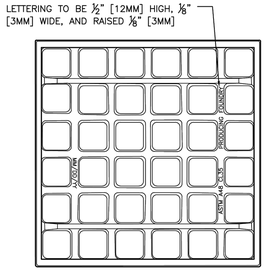
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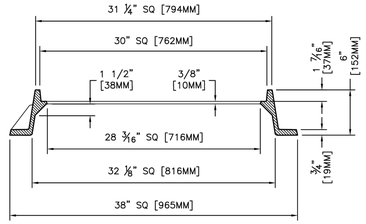
TOP VIEW



GRATE SECTION



BOTTOM VIEW OF GRATE



FRAME SECTION

SECTION A–A

NOTES:

1. APPROXIMATE WEIGHTS:

   GRATE – 190 LBS (86KG)
   FRAME – 235 LBS (107KG)
   UNIT – 425 LBS (193KG)

2. MATERIAL– GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V4880 ASY OR APPROVED EQUAL.
5. OPEN AREA OF GRATE 473 SQ. IN. [3051 SQ.CM.].
6. 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.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER TYPE "A" INLET GRATE AND FRAME

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
Signed by: 15CB922072F84DC...	Signed by: EC4852FD2F454EB...

EFF DATE: MAR–02–2026 | DWG NO: 02090–07

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 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.

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

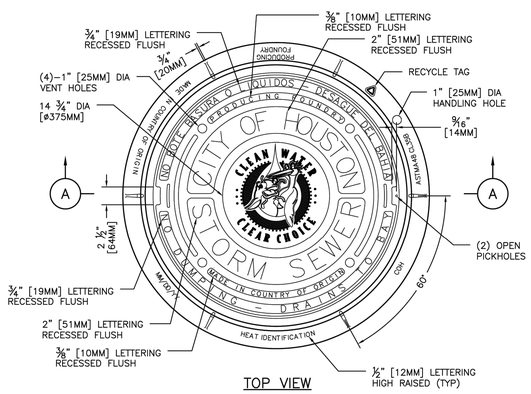
STORM SEWER DETAIL 5

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 214 OF 223

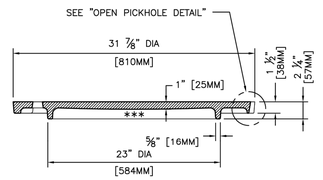
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FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:23 PM

DISCLAIMER:
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TOP VIEW



*** MACHINED SURFACE

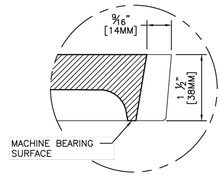
COVER SECTION

NOTES:

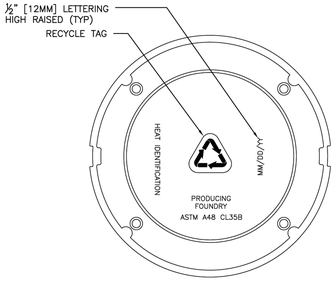
1. APPROXIMATE WEIGHTS:

   FRAME – 125 LBS (57KGS)
   COVER – 205 LBS (93KGS)
   UNIT – 330 LBS (150KGS)

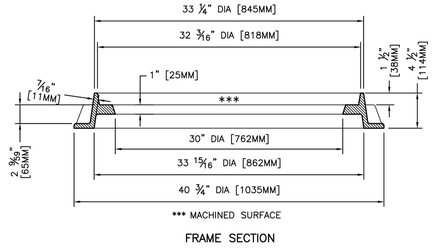
2. MATERIALS – GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V1430 ASY OR APPROVED EQUAL
5. IDENTIFICATION MARKINGS MUST COMPLY WITH CITY SPECIFICATIONS. MARKINGS NOT SHOWN ON THIS DETAIL MUST BE PLACED ON THE CASTING:
   A. PROVIDE ALL 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



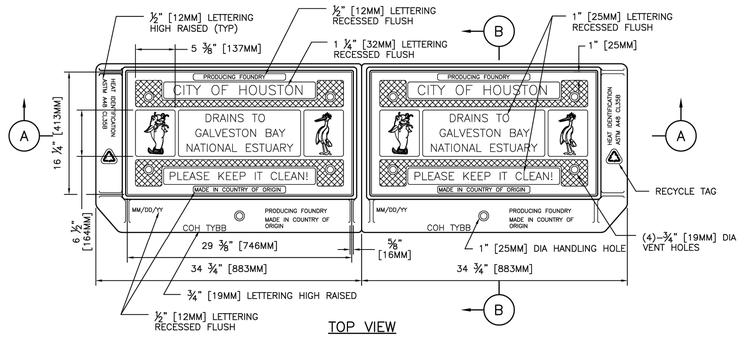
*** MACHINED SURFACE

FRAME SECTION

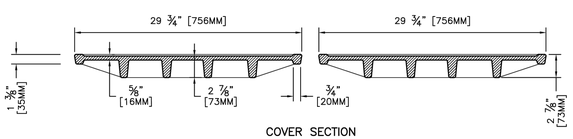
SECTION A–A

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

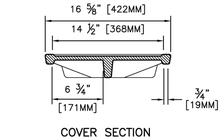
DISCLAIMER:
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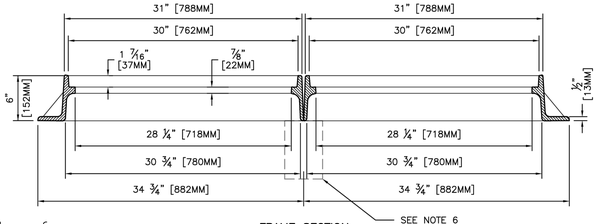
TOP VIEW



COVER SECTION

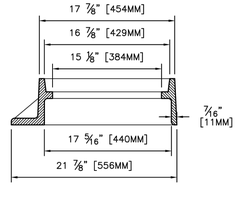


COVER SECTION



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

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

100% PROGRESS

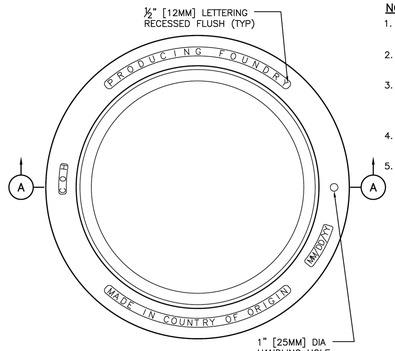
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

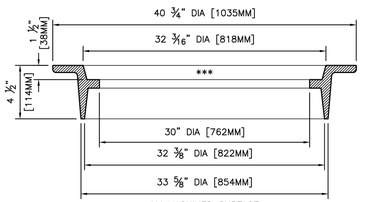
STORM SEWER DETAIL 6

WBS NUMBER	
N–000818–0001–4	
DRAWING SCALE	
N.T.S	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 214A OF 223	

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TOP VIEW



*** MACHINED SURFACE

SECTION A–A
FRAME SECTION

NOTES:

1. APPROXIMATE WEIGHTS: FRAME–190 LBS (86KGS).
2. MATERIALS–GRAY IRON ASTM A48 CL35B.
3. CASTING MUST BE MANUFACTURED AND PROOF TESTED IN ACCORDANCE WITH AASHTO M306.
4. EJ V1816 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.

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:

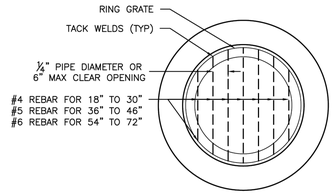
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

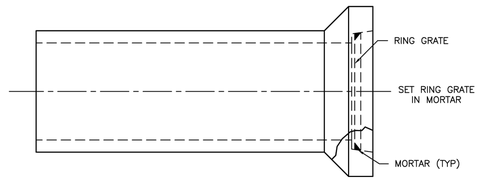
32" INVERTED MANHOLE FRAME

(SCALE: NOT TO SCALE)

EFF DATE: MAR–02–2026 | DWG NO: 02090–09



END VIEW



SIDE VIEW

NOTE:

1. GALVANIZED GRATE AFTER FABRICATION.

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

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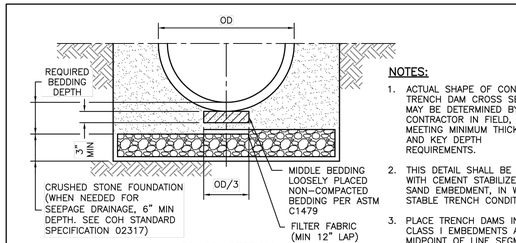
CITY ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STORM SEWER RING GRATE FOR OPEN END OF 18" TO 72" RCP STUBS TO DITCH

(SCALE: NOT TO SCALE)

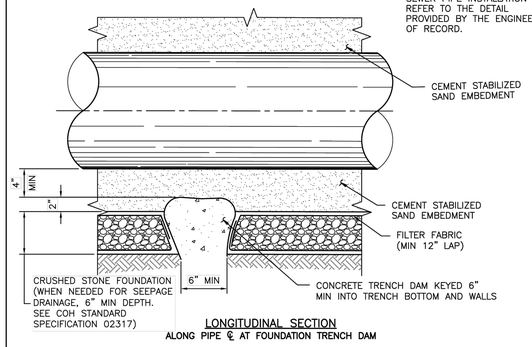
EFF DATE: MAR–02–2026 | DWG NO: 02090–10



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 ENGINEER | DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SANITARY OR STORM SEWER CRUSHED STONE FOUNDATION FOR WET STABLE TRENCH

(SCALE: NOT TO SCALE)

EFF DATE: MAR–02–2026 | DWG NO: 02317–02

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HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

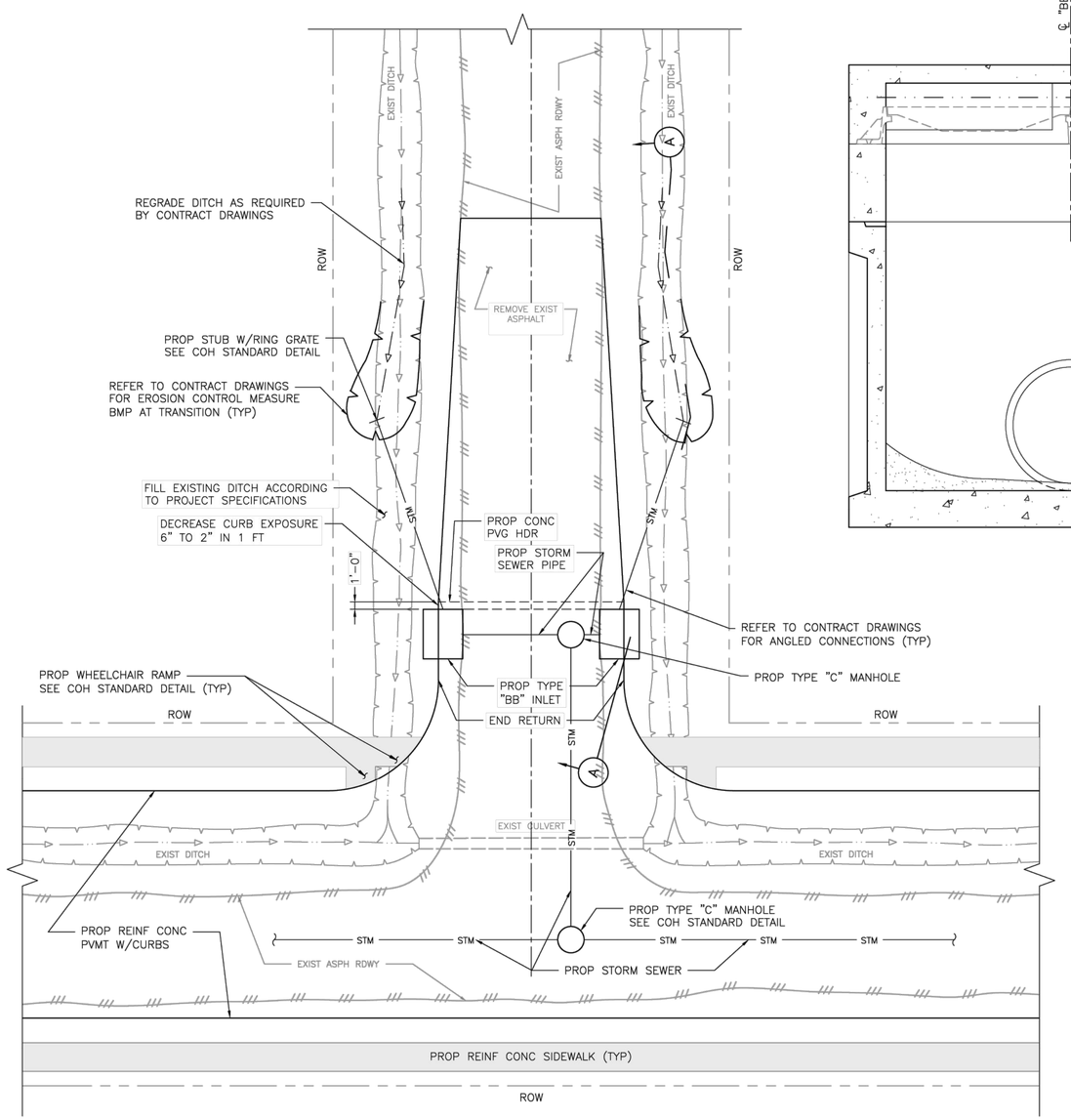
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

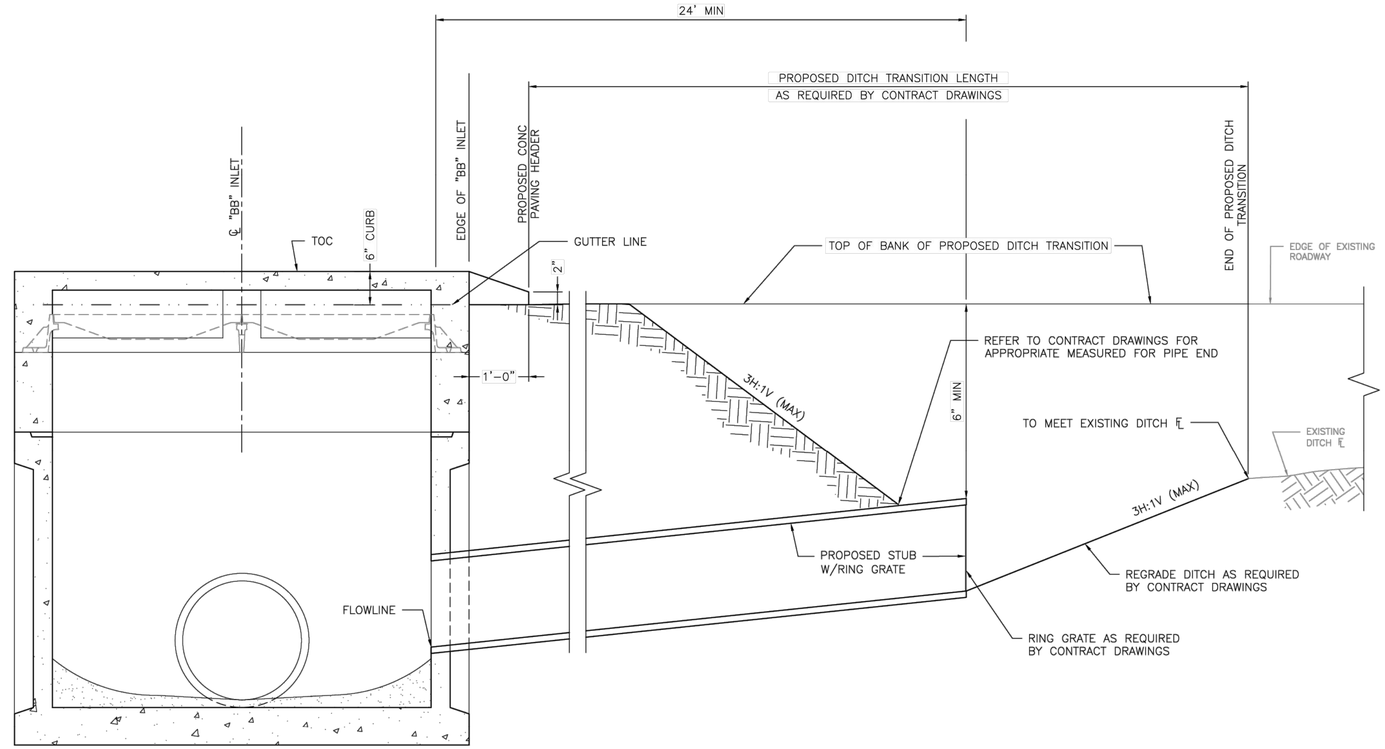
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

STORM SEWER DETAIL 7

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
N.T.S
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO.214B OF 223



PLAN VIEW



SECTION A–A

LONGITUDINAL SECTION OF PROPOSED STUB FROM PROPOSED "B–B" INLET TO EXISTING DITCH

THIS IS NOT A STANDARD DETAIL. IT IS TO BE USED ONLY AS A GUIDE. REFER TO CONTRACT DRAWINGS FOR PROJECT SPECIFIC REQUIREMENTS.

NOTES TO EOR & DESIGNER:

1. THIS SHEET TO BE USED AS A GUIDE FOR SIDE STREET DITCH RECEPTION DESIGN.
2. DETAIL WITH APPROPRIATE NOTES FROM THIS GUIDE SHOULD BE PREPARED FOR PROJECT SPECIFIC APPLICATION.
3. THE DETAILS SHOWN MAY NEED TO BE AMENDED IF THE EXACT EXISTING CONDITIONS ARE NOT COVERED.
4. IN ALL CASES, DETAILS AND NOTES NOT REQUIRED MUST BE DELETED.
5. THIS SHEET MAY NOT BE USED WITHOUT MODIFICATION. THE NOTE IN THE TITLE BLOCK "THIS IS NOT TO BE USED AS A STANDARD" MUST BE REMOVED AND THE SHEET MUST BE SIGNED AND SEALED BY PROFESSIONAL ENGINEER.

PUB DATE: MAR–02–2026	DWG NO: 02631–GD01

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

100% PROGRESS

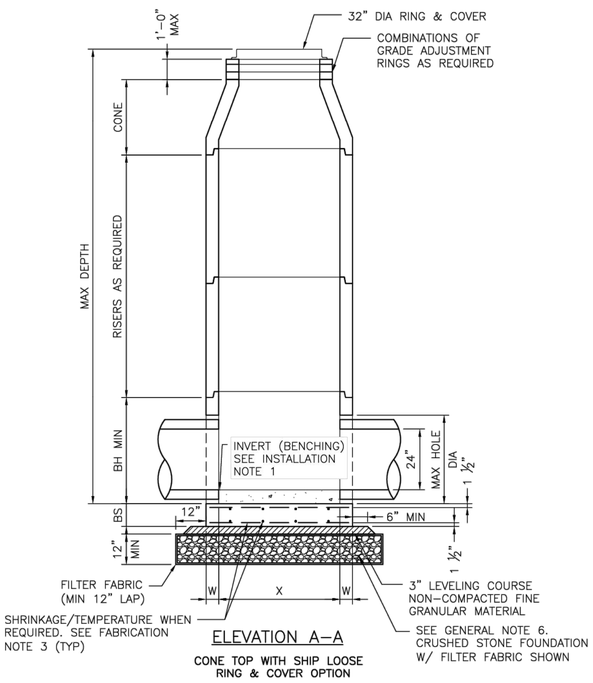
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

SIDE STREET DITCH RECEPTION

(NOT TO BE USED AS STANDARD)

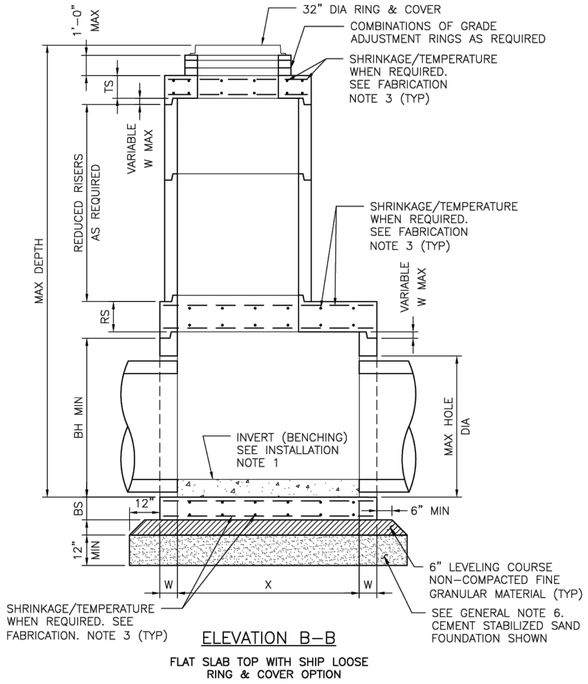
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CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 214C OF 223	

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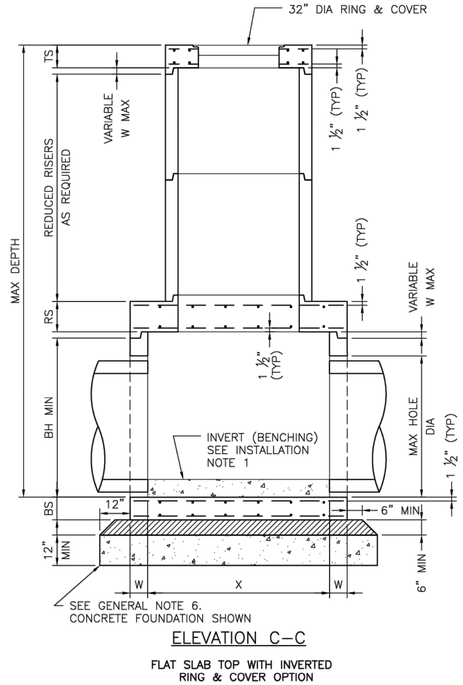
ELEVATION A–A

CONE TOP WITH SHIP LOOSE RING & COVER OPTION



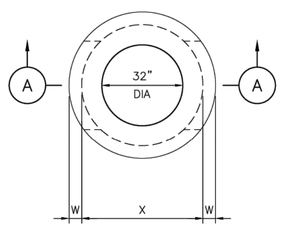
ELEVATION B–B

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION C–C

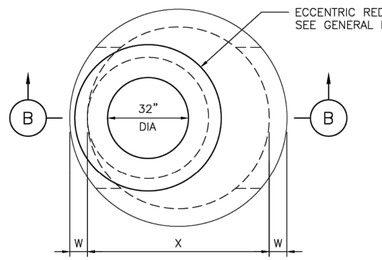
FLAT SLAB TOP WITH INVERTED RING & COVER OPTION



PLAN VIEW A

COVER NOT SHOWN

4–FT DIA MANHOLE

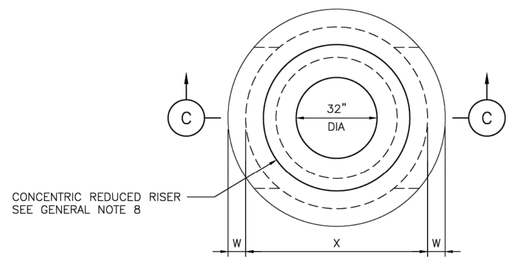


PLAN VIEW B

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.

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.

APPROVED BY:	APPROVED BY:
Signed by: 1AFFRD7007AF4A7C	Signed by: RF4B35FF07F454FB
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02082–12
HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832–930–7670 TX FIRM NUMBER: F–314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P–8357	

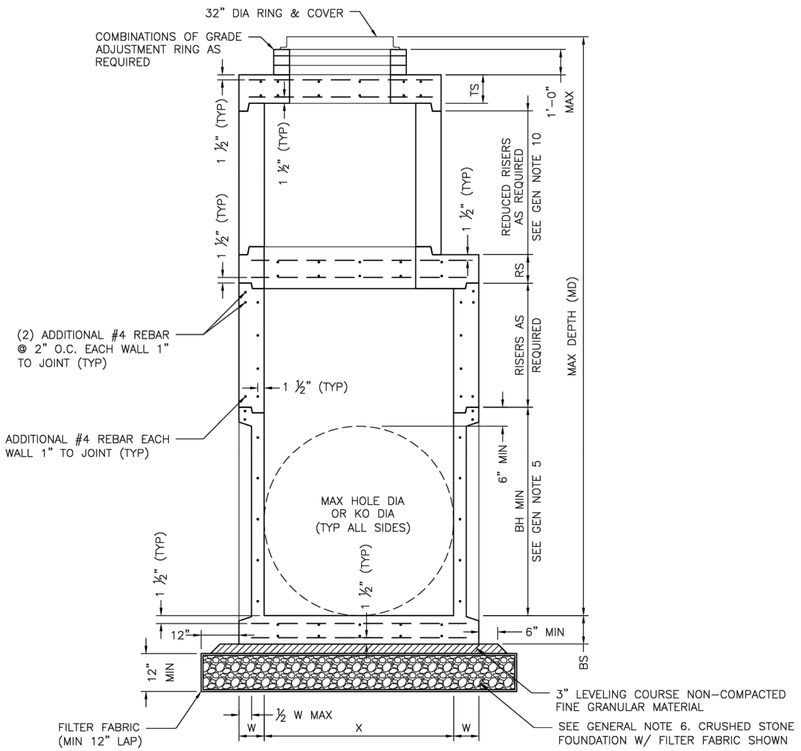
CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

STORM SEWER TYPE "C" PRECAST ROUND MANHOLE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–000818–0001–4	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 214D OF 223	

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.



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 IN²/FT EACH WAY.
5. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
6. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
7. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
9. MAXIMUM SPACING OF REINFORCEMENT IS 8".
10. AT MANUFACTURERS OPTION, PROVIDE CAST OR CORED HOLES OR THIN WALL PANELS (KO) TO THE MAXIMUM DIA SHOWN FOR EACH. WHEN NO PENETRATION IS REQUIRED, IT IS ACCEPTABLE TO PROVIDE A WALL WITH NO SECTIONAL REDUCTION.
11. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE ALLOWED. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED. REFER TO 02082–12 FOR OPTIONS.
12. BASES AND RISERS MAY HAVE CAST, CUT OR THIN WALL PANEL (KO) THAT ARE ROUND AND DO NOT EXTEND INTO THE FLOOR, INTO WALLS, OR WITHIN 6" OF THE JOINT ABOVE OR BELOW.

INSTALLATION NOTES:

1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO MANHOLE/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

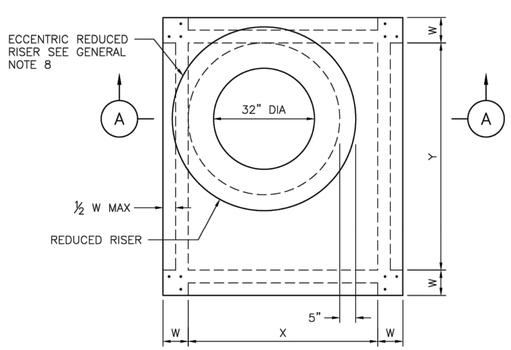
PRECAST BOX INLET (PBI) OR PRECAST BOX MANHOLE (PBM) MINIMUM REQUIREMENTS FOR 24 IN. TO 78 IN. INTERNAL DIA STORM SEWER PIPES.

	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

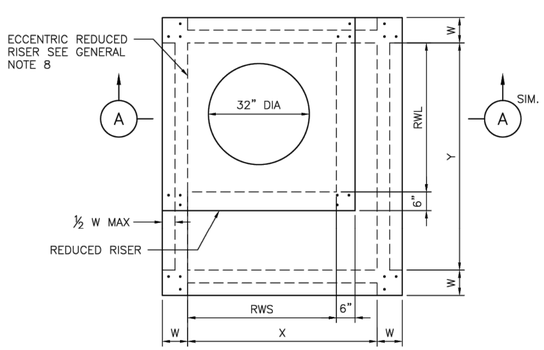
TABLE–1 NOTES:

(1) ROUND MANHOLES ARE PREFERRED FOR THESE SIZES.

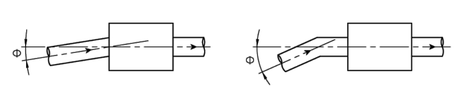
(2) MAX DEPTH (MD) DENOTES THE MAX INSTALLATION DEPTH MEASURED TO THE TOP OF BASE SLAB.



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: Signed by: 1AFFRD7077F847C	APPROVED BY: Signed by: RF4B3FF07F454FB
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR–02–2026	DWG NO: 02082–13
HATCH 750 TOWN & COUNTRY BLVD SUITE 650 HOUSTON, TX 77024 P: 832–930–7670 TX FIRM NUMBER: F–314	100% PROGRESS
SURVEYED BY: AMANI ENGINEERING, INC. FB NUMBER: P–8357	

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

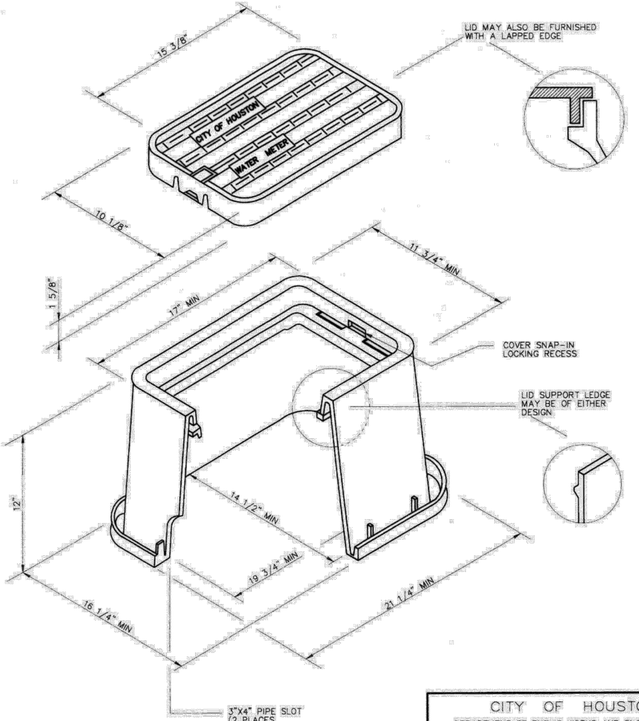
STORM SEWER PRECAST BOX INLET/MANHOLE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
N–000818–0001–4	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 214E OF 223	

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.

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:23 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

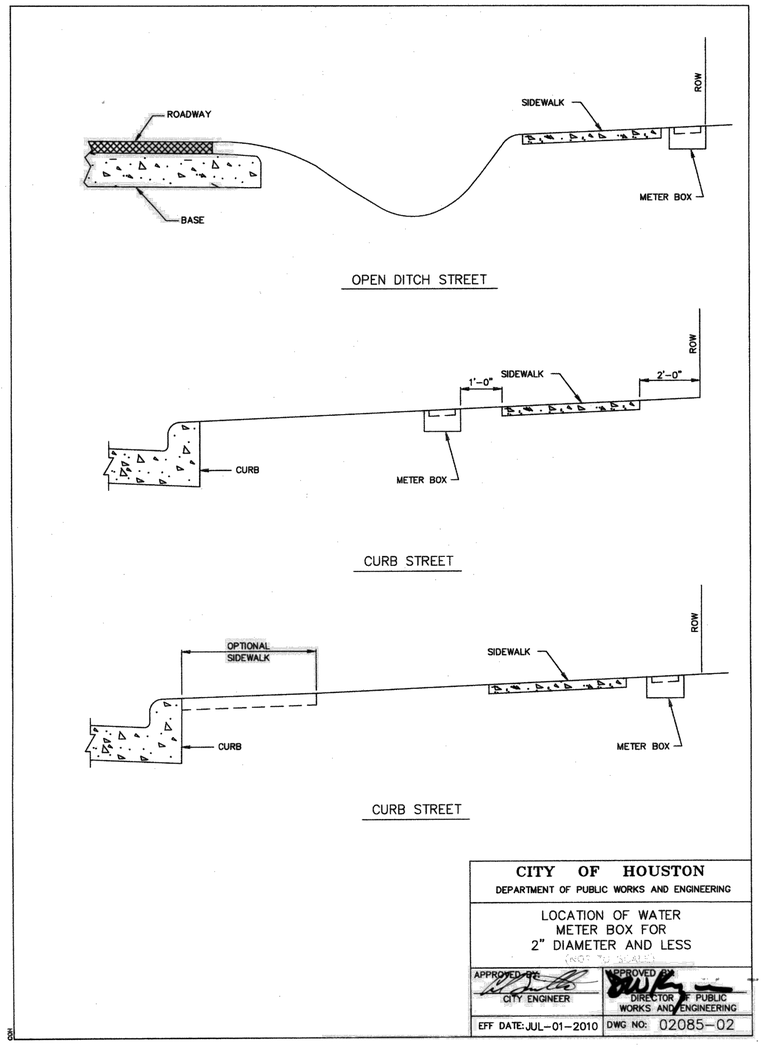
NO.	DATE	REVISION	APP.



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 BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-01



OPEN DITCH STREET

CURB STREET

CURB STREET

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
LOCATION OF WATER METER BOX FOR 2" DIAMETER AND LESS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02085-02

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

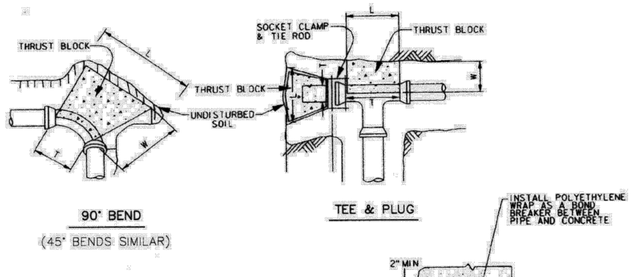
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

WATER DETAIL 1

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 215 OF 223

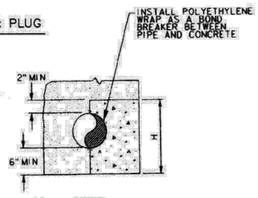
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FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

NO.	DATE	REVISION	APP.



90° BEND
(45° BENDS SIMILAR)

TEE & PLUG



PIPE
CROSS SECTION

MINIMUM BLOCKING DIMENSION IN INCHES												
PIPE SIZE	90° BEND				45° BEND				TEE/PLUG			
	W	H	L	T	W	H	L	T	W	H	L	T
4"	6	12	14	10	6	8	11	8	6	10	12	12
6"	8	14	26	12	8	14	14	12	8	14	19	19
8"	10	16	40	16	10	18	20	16	10	18	26	26
10"	12	24	44	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

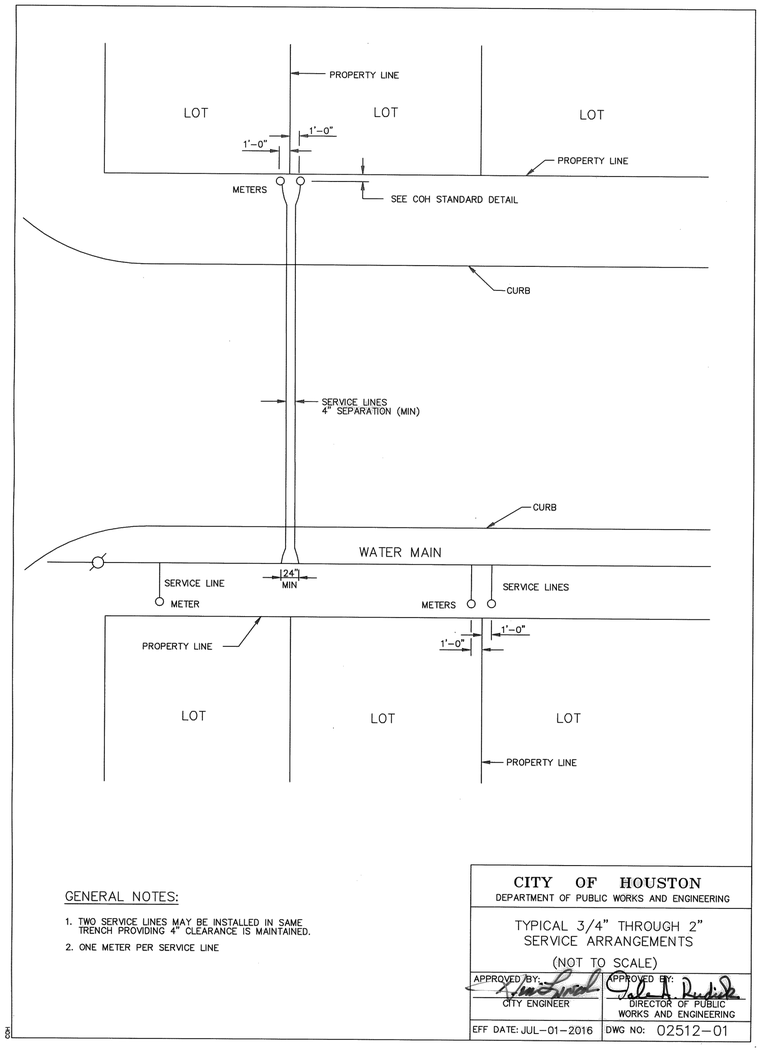
NOTES:

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 | DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010 | DWG NO: 02511-02



GENERAL NOTES:

1. TWO SERVICE LINES MAY BE INSTALLED IN SAME TRENCH PROVIDING 4" CLEARANCE IS MAINTAINED.
2. ONE METER PER SERVICE LINE

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL 3/4" THROUGH 2"
SERVICE ARRANGEMENTS
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER | APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016 | DWG NO: 02512-01

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

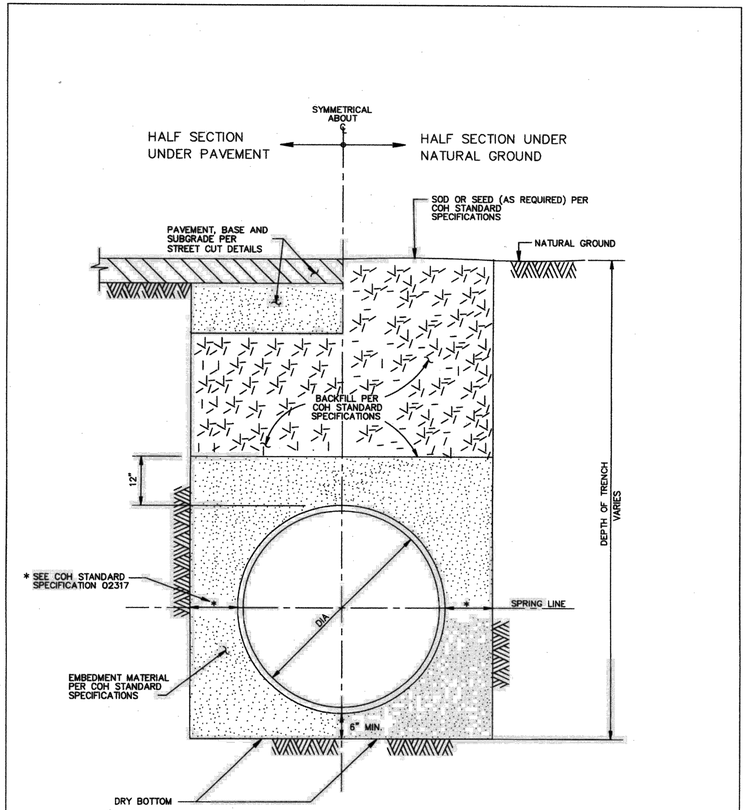
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

WATER DETAIL 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 216 OF 223	



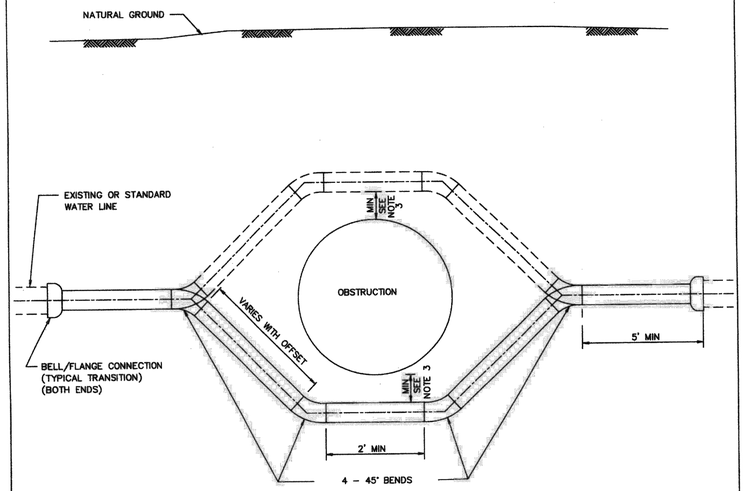
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER DISTRIBUTION MAIN
BEDDING AND BACKFILL FOR
OPEN CUT TRENCHES
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02317-04

NOTE:

1. MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH WATER LINE STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPING BEYOND STEEL SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. AS PER DESIGN GUIDELINE.



PIPE OFFSET ALTERNATES

1. DUCTILE IRON PIPE PRESSURE 250 PSI WITH APPROVED RESTRAINED JOINTS.
2. PVC PIPE WITH INTEGRAL RESTRAINED JOINT SYSTEM, OR DUCTILE - IRON RESTRINED JOINT FITTINGS, EPOXY LINED AND COATED. USE 250 PSI AWWA C900 DR 14 FOR PVC RESTRAINED JOINTS.
3. PVC NOT ALLOWED FOR GREATER THAN 20 FT OF COVER OR FOR DIAMETER LARGER THAN 20 IN.
4. USE ONLY DUCTILE IRON AND PVC PRODUCTS LISTED ON OCE DIVISION APPROVED PRODUCTS LIST AND IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL STEEL PIPE OFFSET
SECTION FOR WATER LINES
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02511-01

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

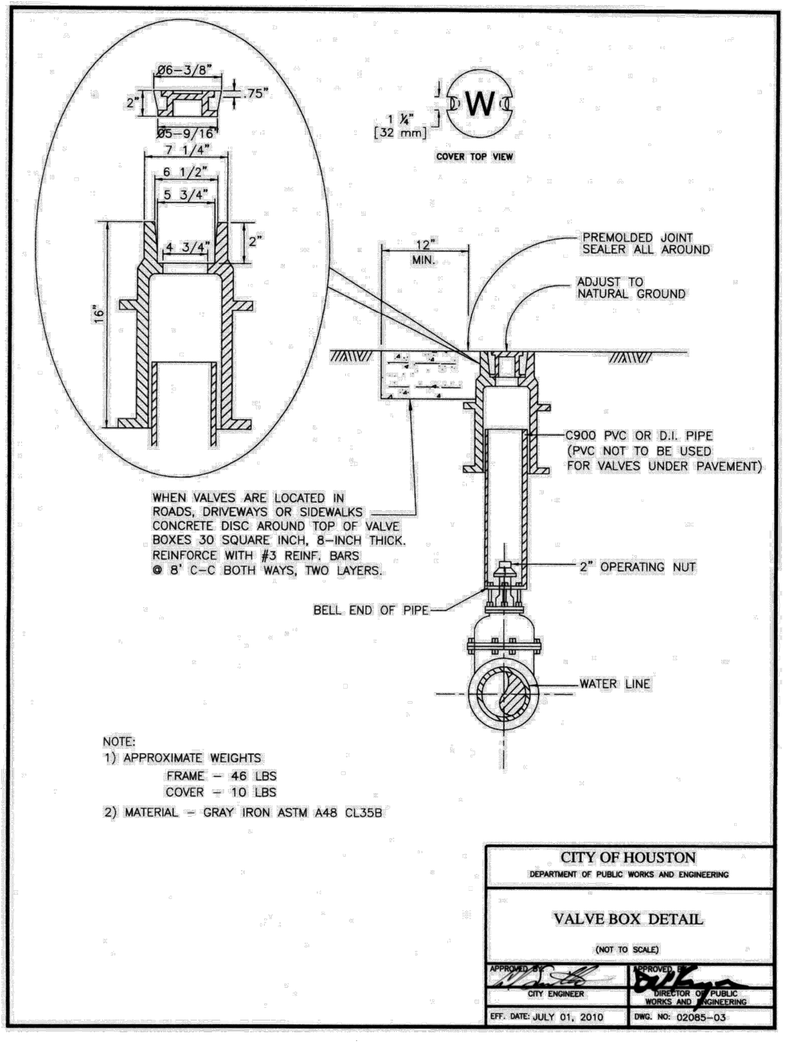
WATER DETAIL 3

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 216A OF 223	

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:24 PM
FILE PATH: C:\pwworking\hotch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

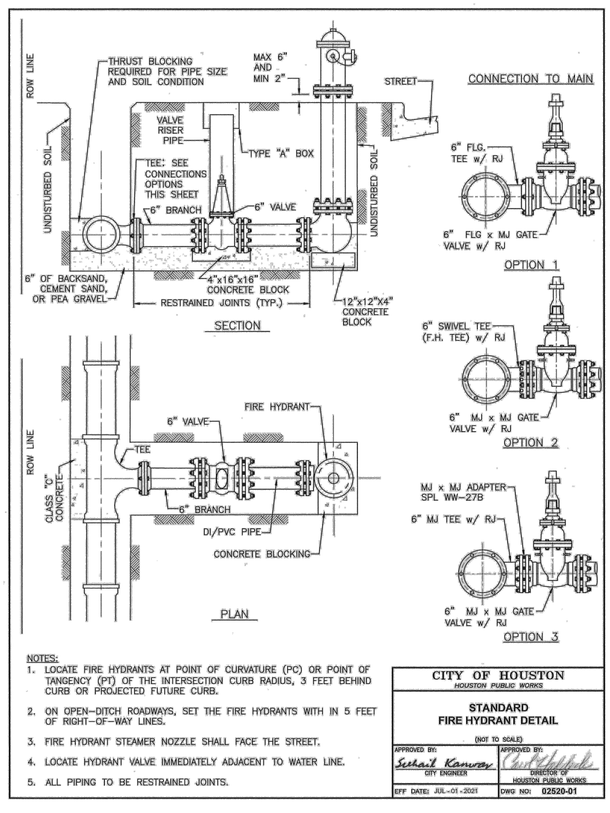
PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:24 PM
FILE PATH: C:\pwworking\hotch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

NO.	DATE	REVISION	APP.



NOTE:
1) APPROXIMATE WEIGHTS
FRAME – 46 LBS
COVER – 10 LBS
2) MATERIAL – GRAY IRON ASTM A48 CL35B

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
VALVE BOX DETAIL (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF. DATE: JULY 01, 2010	DWG. NO: 02085–03



NOTES:
1. LOCATE FIRE HYDRANTS AT POINT OF CURVATURE (PC) OR POINT OF TANGENCY (PT) OF THE INTERSECTION CURB RADIUS, 3 FEET BEHIND CURB OR PROJECTED FUTURE CURB.
2. ON OPEN–DITCH ROADWAYS, SET THE FIRE HYDRANTS WITH IN 5 FEET OF RIGHT–OF–WAY LINES.
3. FIRE HYDRANT STEAMER NOZZLE SHALL FACE THE STREET.
4. LOCATE HYDRANT VALVE IMMEDIATELY ADJACENT TO WATER LINE.
5. ALL PIPING TO BE RESTRAINED JOINTS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STANDARD FIRE HYDRANT DETAIL (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02620-01

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832–930–7670
TX FIRM NUMBER: F–314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P–6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

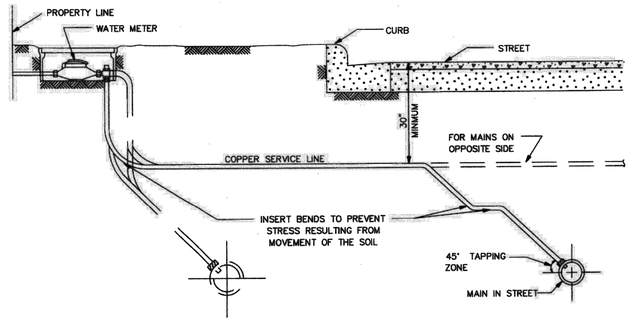
WATER DETAIL 4

WBS NUMBER
N–000818–0001–4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 216BOF 223

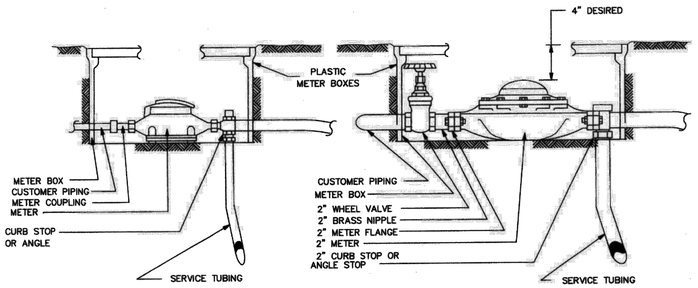
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PLOTTED: 10/5/2026 5:24 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

NOTES:

1 1/2" METER SET IS SAME AS 2" EXCEPT WHEEL VALVE IS NOT REQUIRED.



TYPICAL SECTION SERVICE LINE



5/8", 3/4" AND 1" METER SET

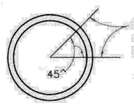
2" METER SET

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TYPICAL METER SETTINGS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02526-01

PIPE TAPPING SCHEDULE

WATER MAIN TYPE AND DIAMETER	SERVICE SIZE			
	3/4"	1"	1 1/2"	2"
4" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
4" ASBESTOS (EXISTING) CEMENT	WBSS	WBSS	DSS, WBSS	DSS, WBSS
4" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
16" AND UP CAST IRON OR DUCTILE IRON	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP ASBESTOS (EXISTING) CEMENT	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP PVC (AWWA C900)	DWBSS	DWBSS	DWBSS	DWBSS

DSS – DUAL STRAP SADDLES
WBSS – WIDE BAND STRAP SADDLES
DWBSS – DUAL WIDE BAND STRAP SADDLES



SERVICE TAPS TO BE MADE IN THIS ZONE EXCEPT FOR PVC FASTTAP

BLOW-OFF & CHLORINATION TAPS ARE MADE IN VERTICAL POSITION



WIDE BAND SINGLE SADDLE OR DUAL SADDLES

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SERVICE TAPS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02512-02

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

WATER DETAIL 5

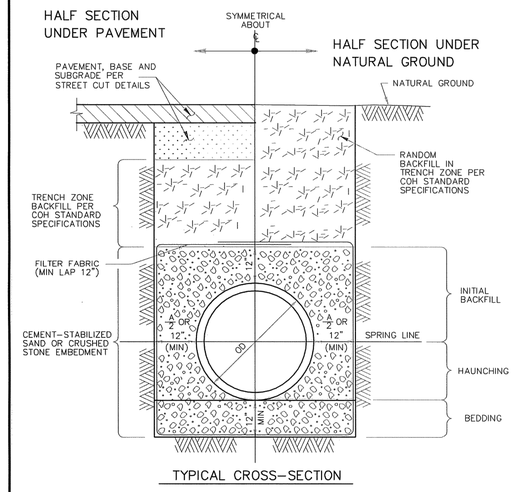
WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 216 OF 223

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:24 PM
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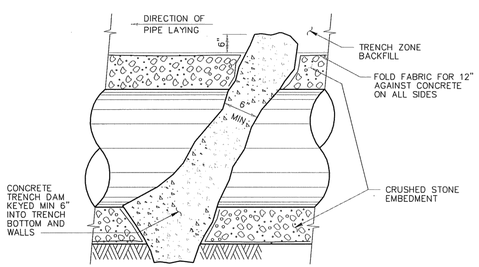
NO.	DATE	REVISION	APP.

HALF SECTION UNDER PAVEMENT

HALF SECTION UNDER NATURAL GROUND



TYPICAL CROSS-SECTION



LONGITUDINAL SECTION ALONG PIPE ℄
AT EMBEDMENT TRENCH DAM

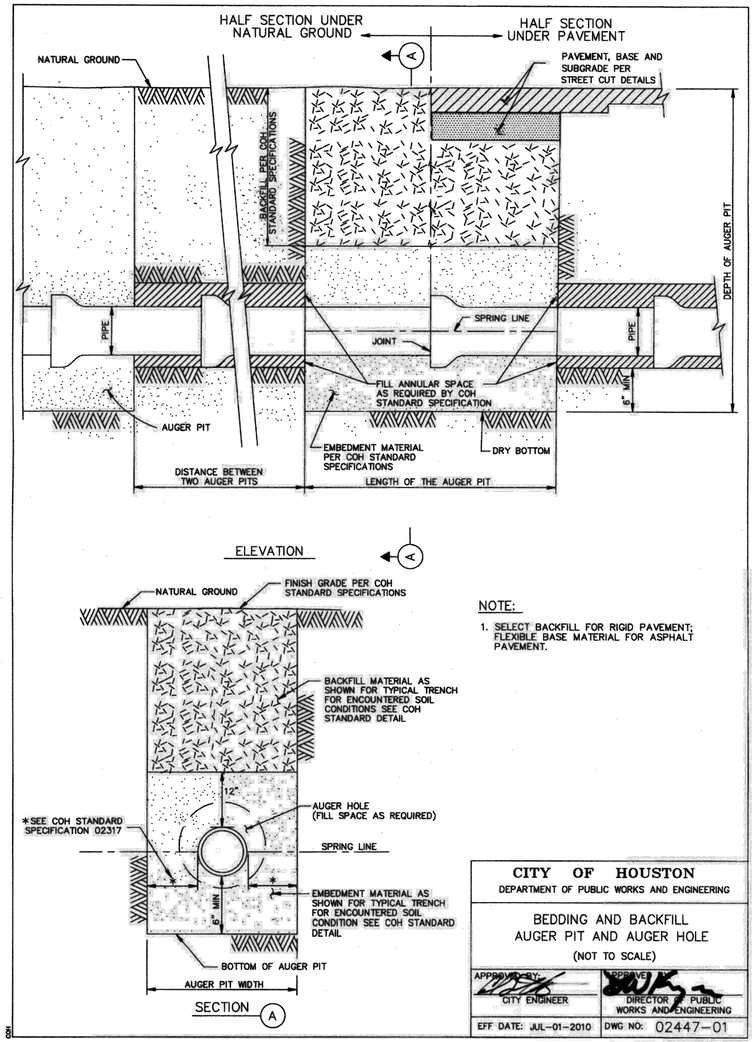
NOTES:

1. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

2. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
3. TRENCH DAM MAY BE FORMED OR UNFORMED. ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
4. TRENCH DAM SHALL BE PLACED AT LEAST 5 FT AWAY FROM ANY PIPELINE STRUCTURE. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
5. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.
6. CEMENT-STABILIZED SAND IS PREFERRED FOR EMBEDMENT, BUT CRUSHED STONE MAY BE USED ONLY WHEN SPECIFIED ON THE PLANS.

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER EMBEDMENT AND TRENCH ZONE BACKFILL FOR DRY OR WET STABLE TRENCH (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016	DWG NO: 02317-01



ELEVATION

SECTION A

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

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

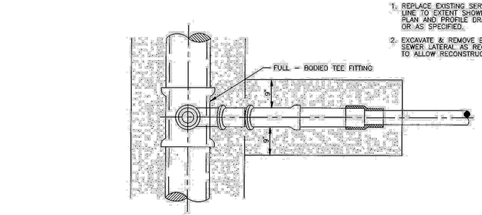
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY SEWER DETAIL 1

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 217 OF 223

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:25 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

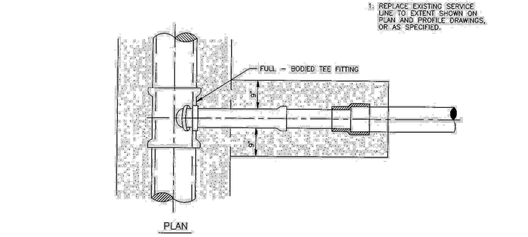
NOTES:
1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN AND PROFILE DRAWINGS, OR AS SPECIFIED.
2. EXCAVATE & REMOVE EXISTING SEWER LATERAL AS REQUIRED TO ALLOW RECONSTRUCTION.



CROSS-SECTION OF SEWER AT SERVICE CONNECTION

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE RECONNECTION WITH STACK ON NEW OR REPLACEMENT SEWER (NOT TO SCALE)	
APPROVED BY: Brandaglio CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-02

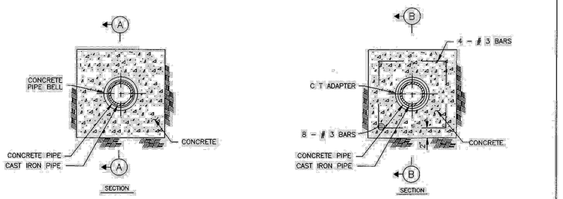
NOTE:
1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN AND PROFILE DRAWINGS, OR AS SPECIFIED.



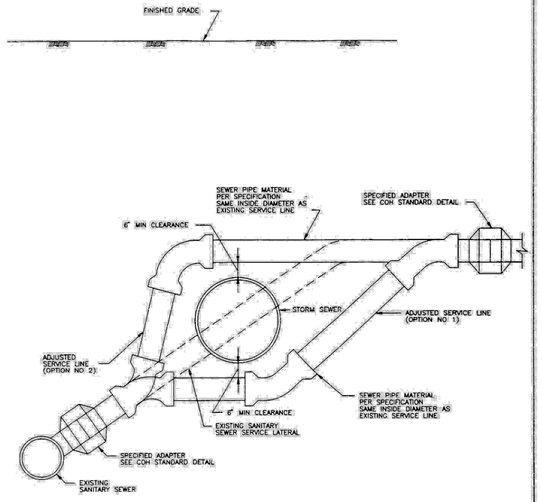
CROSS-SECTION OF SEWER AT SERVICE CONNECTION

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE RECONNECTION ON NEW OR REPLACEMENT SEWER (NOT TO SCALE)	
APPROVED BY: Brandaglio CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-04

NOTE:
1. THE CONTRACTOR SHALL CENTER A MINIMUM OF 18 FOOT JOINT OF DUCTILE IRON PIPE OR C900 PVC PIPE ACROSS THE CENTER OF THE PROPOSED STORM SEWER.

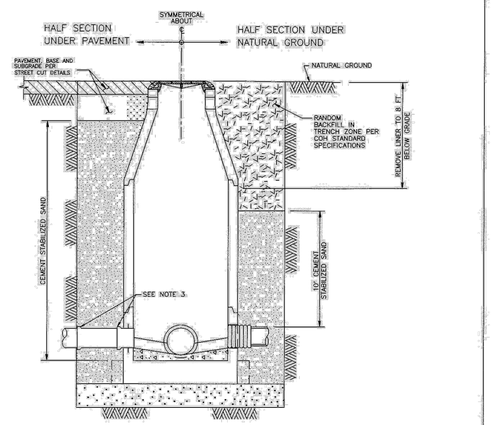


CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER DUCTILE IRON PIPE STORM SEWER CROSSING (NOT TO SCALE)	
APPROVED BY: Brandaglio CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02531-03



CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE LINE RECONNECTION FOR STORM SEWER CONFLICTS (NOT TO SCALE)	
APPROVED BY: Brandaglio CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-03

NOTES:
1. GROUTING OF MANHOLE STRUCTURE ANNULAR SPACE WILL BE PERMITTED IN CASES WHERE INSUFFICIENT WORK SPACE EXISTS FOR PLACEMENT AND COMPACTION OF CEMENT STABILIZED SAND, PER COH STANDARD SPECIFICATION FOR TUNNEL GROUT.
2. THIS DETAIL ALSO APPLIES TO BACKFILL OF SHAFTS WITHOUT STRUCTURES.
3. ARRANGE PIPE JOINTS AS SHOWN WHEN USING RIGID CONNECTION TO CAST IN PLACE MANHOLE BASE.



TYPICAL CROSS - SECTION

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER BACKFILL OF SHAFTS (NOT TO SCALE)	
APPROVED BY: Brandaglio CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02317-08

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

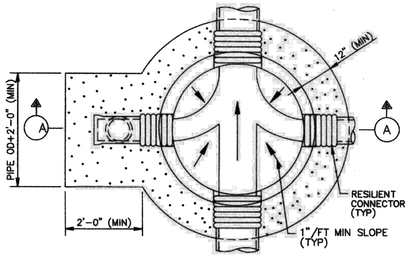
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY SEWER DETAIL 2

WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 218 OF 223	

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/5/2026 5:25 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

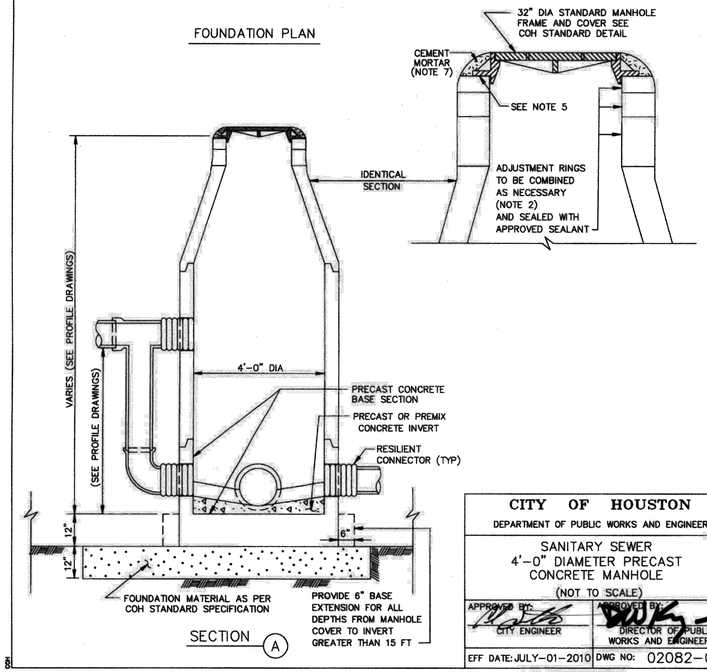
NO.	DATE	REVISION	APP.



FOUNDATION PLAN

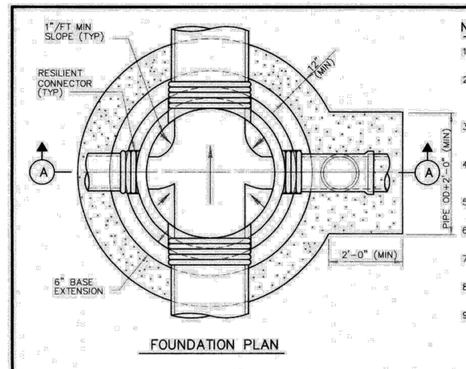
NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12", THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
6. ECCENTRIC PRECAST CONCRETE MANHOLE MAY BE USED.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8 EW.



SECTION (A)

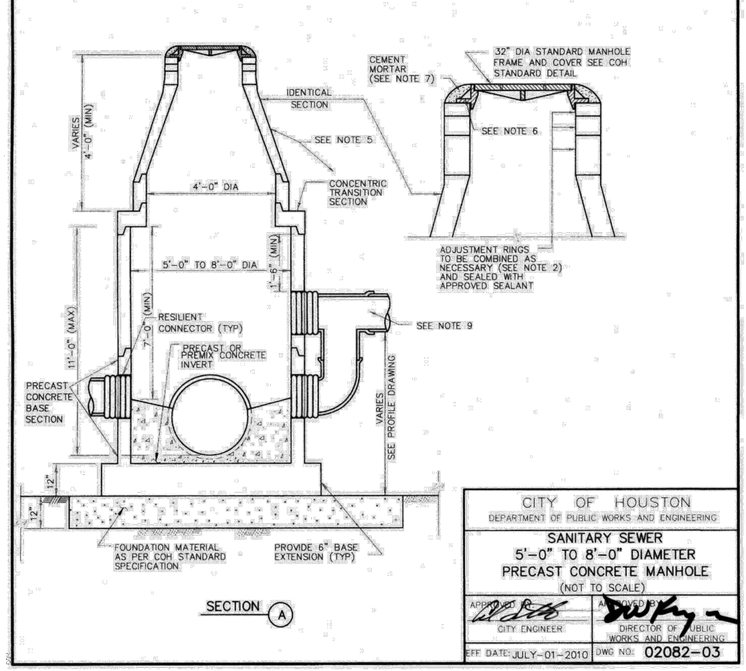
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER 4'-0" DIAMETER PRECAST CONCRETE MANHOLE (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02082-02



FOUNDATION PLAN

NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12", THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. ALTERNATE ECCENTRIC CONE AND/OR TRANSITION SECTION MAY BE USED.
6. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8 EW.
9. WHERE DIMENSIONAL RESTRICTIONS DICTATE, THE MANHOLE BASE HEIGHT SHALL BE ADJUSTED TO HAVE THE UPPER INLET PIPE OF THE DROP ENTER INTO THE 4'-0" DIAMETER RISER SECTION.



SECTION (A)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER 5'-0" TO 8'-0" DIAMETER PRECAST CONCRETE MANHOLE (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02082-03

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

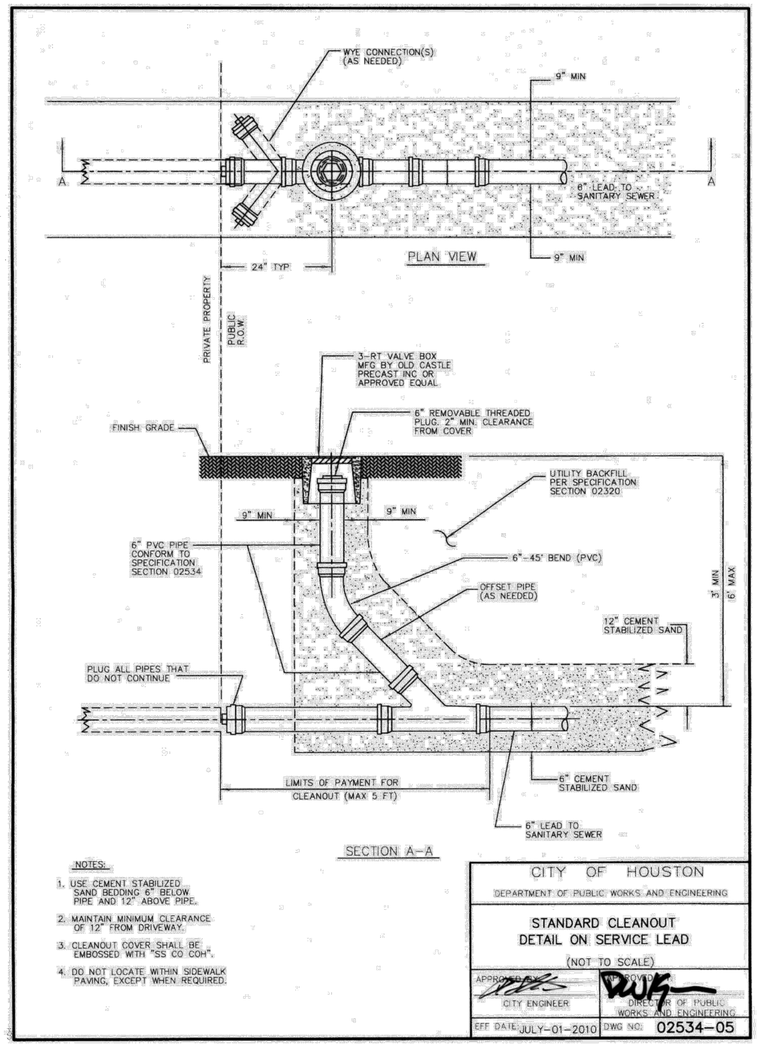
SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY SEWER DETAIL 3

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 219 OF 223



NOTES:

1. USE CEMENT STABILIZED SAND BEDDING 6" BELOW PIPE AND 12" ABOVE PIPE.
2. MAINTAIN MINIMUM CLEARANCE OF 12" FROM DRIVEWAY.
3. CLEANOUT COVER SHALL BE EMBOSSED WITH "SS CO COH".
4. DO NOT LOCATE WITHIN SIDEWALK PAVING, EXCEPT WHEN REQUIRED.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STANDARD CLEANOUT DETAIL ON SERVICE LEAD

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER

APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE JULY-01-2010 DWG NO: 02534-05

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

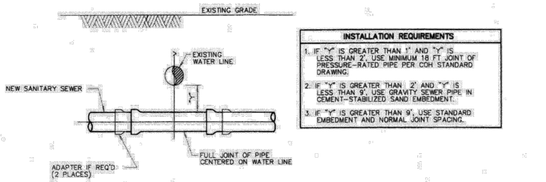
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY SEWER DETAIL 4

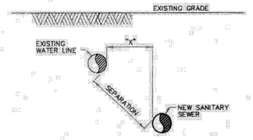
WBS NUMBER	
N-000818-0001-4	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
DERRICK HOLMES, E.I.T.	
SHEET NO. 220 OF 223	

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:25 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg



INSTALLATION REQUIREMENTS
1. IF "Y" IS GREATER THAN 1' AND "Y" IS LESS THAN 2', USE MINIMUM 18 FT JOINT OF PRESSURE-RATED PIPE PER COH STANDARD DRAWING.
2. IF "Y" IS GREATER THAN 2' AND "Y" IS LESS THAN 9', USE GRAVITY SEWER PIPE IN CEMENT-STABILIZED SAND EMBEDMENT.
3. IF "Y" IS GREATER THAN 9', USE STANDARD EMBEDMENT AND NORMAL JOINT SPACING.

NEW SANITARY SEWER CROSSING EXISTING WATER LINE



INSTALLATION REQUIREMENTS
1. IF SEPARATION IS LESS THAN 9', USE PRESSURE-RATED PIPE. MH TO MH, "X" MUST BE AT LEAST 4 FT. VERTICAL SEPARATION MUST BE AT LEAST 2 FT.
2. IF SEPARATION IS 9' OR GREATER, USE STANDARD PIPE AND EMBEDMENT.

NEW SANITARY SEWER PARALLEL TO EXISTING WATER LINE

NOTES:

1. SANITARY SEWER MUST BE BELOW WATER LINE WHEREVER POSSIBLE. WHEN WATERLINE IS BELOW THE SANITARY SEWER PROVIDE MINIMUM 2 FT SEPARATION AND INSTALL PIPE IN ACCORDANCE TO CHAPTER 7 TABLE 7.3 OF COH DESIGN MANUAL.
2. WHEN PRESSURE-RATED PIPE IS REQUIRED, PROVIDE PIPE WITH MINIMUM 150 psi PRESSURE RATING.
3. ADAPTERS MUST BE FACTORY-MOLDED OR FABRICATED, WITH RING STIFFNES AT LEAST EQUAL TO THE ADJOINING SANITARY SEWER PIPE, AND USING RESILIENT GASKET OR SEAL MATERIAL. FLEXIBLE RUBBER "BOOT" TYPE ADAPTERS WILL NOT BE ACCEPTED.
4. INSTALL FORCE MAINS SAME AS FOR GRAVITY SEWER, USING SPECIFIED PRESSURE PIPE.
5. "Y" MUST ALWAYS BE GREATER THAN OR EQUAL TO 1 FT FOR PRESSURE RATED SS AND 2 FT FOR NON-PRESSURE RATED SS.
6. "X" MUST BE GREATER THAN OR EQUAL TO 4 FT.
7. ALTERNATIVES MAY BE SHOWN ON THE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.
8. SEPARATION REQUIREMENTS SHOWN HERE DO NOT APPLY TO SERVICE CONNECTIONS – REFER TO PLUMBING CODE FOR APPLICABLE REQUIREMENTS.

INSTALLING SANITARY SEWERS CROSSING OR PARALLEL TO WATER LINES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SANITARY SEWER
INSTALLING SANITARY SEWERS
CROSSING OR PARALLEL TO WATER LINES
(NOT TO SCALE)

APPROVED: CITY ENGINEER | DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JUL-01-2010 | DWG NO: 02531-05

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

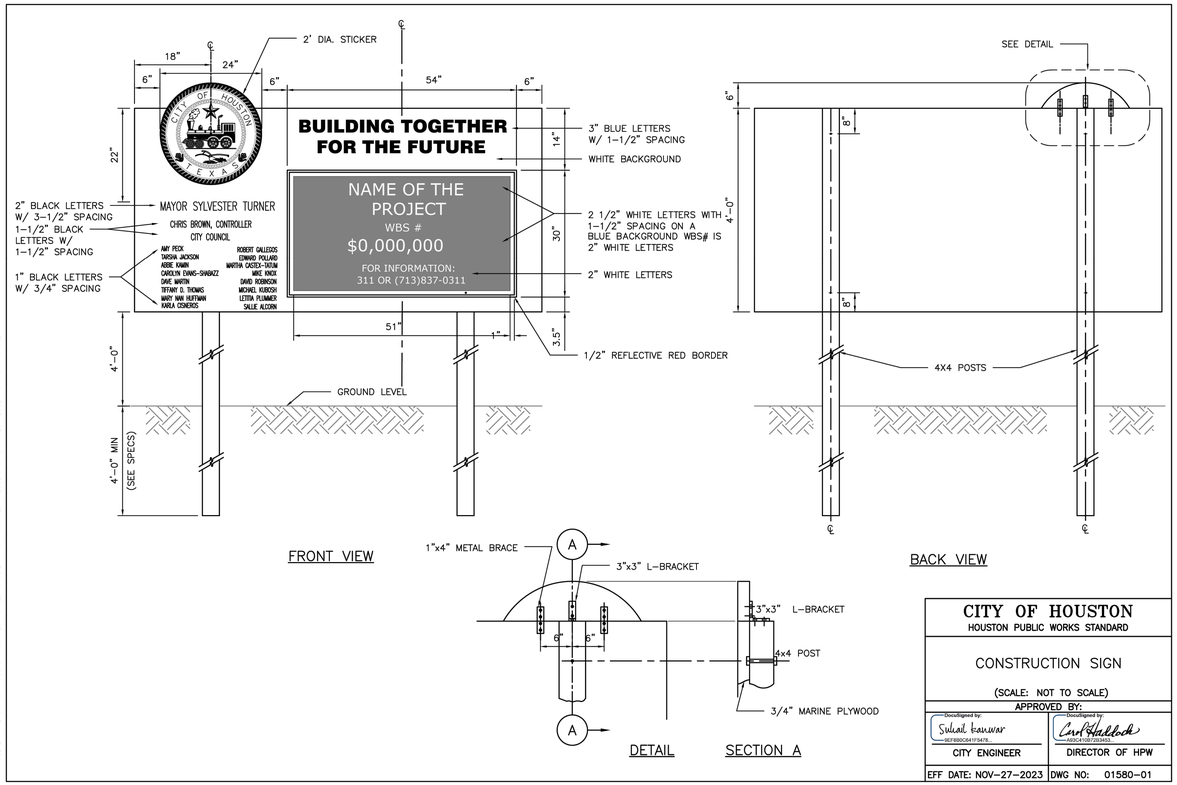
FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

SANITARY SEWER DETAIL 5

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 220A OF 223

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/5/2026 5:25 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

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 THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ASSUMES RESPONSIBILITY FOR THE DESIGN AND SAFETY OF THE PROJECT. THE EOR IS TO PROVIDE ADDITIONAL DESIGN AND SAFETY FEATURES AS MAY BE REQUIRED BY SITE CONDITIONS AND PROJECT SPECIFICS. WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

CITY OF HOUSTON	
HOUSTON PUBLIC WORKS STANDARD	
CONSTRUCTION SIGN	
(SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: Sukali Kanwar	DocuSigned by: Carl Haddock
CITY ENGINEER	DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01580-01

NO.	DATE	REVISION	APP.

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

100% PROGRESS

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 221 OF 223

PLOT STYLE: COH CIP.CTB PLOTTED: 10/5/2026 5:25 PM

FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\36 STANDARD DETAILS.dwg

LOG OF BORING NO. GB-1

PROJECT : Fulton Street Paving and Drainage Improvements from Quitman Street to Hogan Street; WBS No. N-000818-0001-3 Houston, Texas — PROJECT NO. : 1140306001

LOCATION : N 13851265.27, E 3123341.25 Fulton Street; See Plan of Borings (Figure 2) — COMPLETION DEPTH : 30.0 FT.

SURFACE ELEVATION : 47.38 FT. — DATE : 03-23-26

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

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
47.4	0			7.75" Asphalt over 4.25" Lime Stabilized Clay w/shell fragments and gravel							
46.4				Stiff to very stiff yellowish brown and gray LEAN CLAY WITH SAND (CL) w/calcareous nodules and ferrous stains		79.9	110	18.5	43	19	24
	5							23.8			
								18.6			
								18.9			
	10							23.0			
								16.0			
						83.5	115	16.2	42	19	23
	15							14.9			
29.4								17.9			
	20			Very stiff to hard gray and reddish brown FAT CLAY (CH) w/calcareous nodules and ferrous stains		98.6	104	24.7	73	28	45
								21.9			
								25.9			
	25							25.9			
								22.5			
17.4	30							21.6			
	35										

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

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

Geotest Engineering, Inc.

FIGURE A-1

LOG OF BORING NO. GB-2

PROJECT : Fulton Street Paving and Drainage Improvements from Quitman Street to Hogan Street; WBS No. N-000818-0001-3 Houston, Texas — PROJECT NO. : 1140306001

LOCATION : N 13850817.85, E 3123538.93 Fulton Street; See Plan of Borings (Figure 2) — COMPLETION DEPTH : 30.0 FT.

SURFACE ELEVATION : 48.41 FT. — DATE : 03-18-26

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

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
48.4	0			6" Asphalt over 2" Cement Stabilized Oyster Shell w/gravel							
47.7				Stiff to hard brown and gray FAT CLAY (CH) w/calcareous nodules -w/ferrous stains 8'-18' -w/calcareous nodules 4'-14'		86.6	114	11.5			
	5							17.0			
								19.0	54	22	32
								16.8			
	10							14.9			
								16.0			
						91.3	116	16.5	54	22	32
	15							21.2			
								14.0			
	20					99.2	109	20.5	57	23	34
								22.1			
								25.2			
	25							24.5			
								24.4			
18.4	30							27.1			
	35										

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

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

Geotest Engineering, Inc.

FIGURE A-2

LOG OF BORING NO. GB-3

PROJECT : Fulton Street Paving and Drainage Improvements from Quitman Street to Hogan Street; WBS No. N-000818-0001-3 Houston, Texas — PROJECT NO. : 1140306001

LOCATION : N 13850324.30, E 3123766.61 Fulton Street; See Plan of Borings (Figure 2) — COMPLETION DEPTH : 30.0 FT.

SURFACE ELEVATION : 47.68 FT. — DATE : 03-18-26

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 18.0 FT.
WET ROTARY : 18.0 TO 30.0 FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
47.7	0			9" Asphalt over 2" Stabilized Sand w/shell fragments and gravel							
46.8				FILL: firm to stiff yellowish brown and gray fat clay with sand -w/calcareous and ferrous nodules 4'-10'		84.5	112	19.7	52	21	31
	5							21.5			
								22.9			
								19.1			
37.7	10							21.0			
				Very stiff to hard reddish brown and gray FAT CLAY (CH) w/calcareous nodules and ferrous stains		87.3		17.9	52	21	31
								20.6			
	15							20.3			
								23.0	70	27	43
	20					98.0	110	24.5			
								24.4			
								23.3			
	25							23.4			
								24.3			
17.7	30							28.4			
	35										

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

DEPTH TO WATER IN BORING :
▽ - FREE WATER 1st ENCOUNTERED AT 18.0 FT. DURING DRILLING; AFTER 20.0 MIN. AT 7.3 FT.
HOLE OPEN TO 30.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-3

LOG OF BORING NO. GB-4

PROJECT : Fulton Street Paving and Drainage Improvements from Quitman Street to Hogan Street; WBS No. N-000818-0001-3 Houston, Texas — PROJECT NO. : 1140306001

LOCATION : N 13849831.96, E 3123972.90 Fulton Street; See Plan of Borings (Figure 2) — COMPLETION DEPTH : 30.0 FT.

SURFACE ELEVATION : 46.84 FT. — DATE : 03-18-26

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : 0.0 TO 28.0 FT.
WET ROTARY : 28.0 TO 30.0 FT.

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
46.8	0			7" Asphalt over 4.5" Cement Stabilized Sand w/shell fragments and gravel							
45.9				Very stiff to hard yellowish brown and gray FAT CLAY WITH SAND (CH) -w/calcareous nodules 6'-10' -w/sand seams 8'-10'		83.7	113	34.9			
	5							16.6	57	23	34
								16.9			
								15.6			
	10							14.6			
36.8				Very stiff to hard brown and gray LEAN CLAY WITH SAND (CL) w/calcareous nodules, ferrous stains, and sand seams		76.4	122	12.7	48	20	28
								18.9			
	15							17.8			
28.8								16.5			
26.8	20			Very stiff to hard gray and reddish brown FAT CLAY (CH) w/calcareous nodules and sand pockets		99.1	105	20.4	67	26	41
24.8				Stiff to very stiff gray and reddish brown LEAN CLAY (CL) w/calcareous nodules and sand seams		91.3		16.2	40	20	20
								19.4			
	25			Very stiff to hard gray and reddish brown FAT CLAY (CH) w/calcareous nodules and sand seams		99.1		19.9	73	28	45
								21.8			
16.8	30							25.2			
	35										

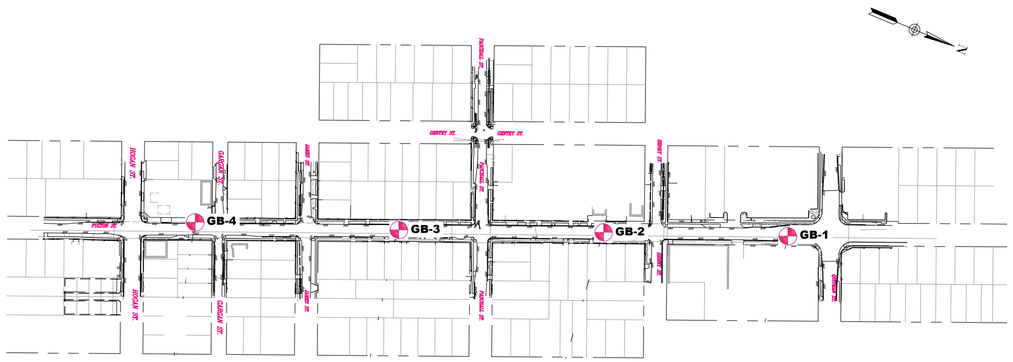
UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER ● UNCONFINED COMPRESSION ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION △ TORVANE — 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING :
▽ - FREE WATER 1st ENCOUNTERED AT 28.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 21.9 FT.
HOLE OPEN TO 30.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE A-4

NO.	DATE	REVISION	APP.



	NORTHING	EASTING	ELEVATION
GB-1	13851265.27	3123341.252	47.375
GB-2	13850817.85	3123538.926	48.406
GB-3	13850324.3	3123766.606	47.675
GB-4	13849831.96	3123972.896	46.844

HATCH
750 TOWN & COUNTRY BLVD
SUITE 650
HOUSTON, TX 77024
P: 832-930-7670
TX FIRM NUMBER: F-314

SURVEYED BY:
AMANI ENGINEERING, INC.
FB NUMBER: P-6357

100% PROGRESS

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FULTON STREET PAVING AND DRAINAGE IMPROVEMENTS FROM QUITMAN STREET TO HOGAN STREET

BORING LOGS

WBS NUMBER
N-000818-0001-4
DRAWING SCALE
N.T.S.
CITY OF HOUSTON PM
DERRICK HOLMES, E.I.T.
SHEET NO. 223 OF 223

PLOT STYLE: COH CIP.CTB
PLOTTED: 10/13/2026 12:00 PM
FILE PATH: C:\pwworking\hatch-dpd-south_central_us\dms91314\223 BORING LOGS.dwg