



TELECOMMUNICATIONS TOWN HALL

**JAHSI NKULULEKO
SENIOR PROJECT MANAGER,
OFFICE OF THE CITY ENGINEER**



SERVICE LINES



DIRECTOR'S OFFICE



OFFICE OF EMERGENCY MANAGEMENT



PLANNING



HOUSTON WATER



TRANSPORTATION AND DRAINAGE OPERATIONS



ENGINEERING



CONSTRUCTION



UTILITY BILLING



TECHNOLOGY



HOUSTON PERMITTING CENTER

MEET THE TELECOMMUNICATIONS TEAM

- Jahsi Nkululeko
Sr. Project Manager
- Tara Tuttle, P.E., CFM
Engineer
- Thien Nguyen
Graduate Engineer
- Scarlett Hoang, EIT
Engineer in Training



KEY POINTS FOR TELECOMMUNICATIONS PROJECT

- Infrastructure Design Manual (IDM) Chapter 16
- City of Houston graphics and line styles
- Outside agency permit numbers
- Management District approval prior to City of Houston submittal
- Maintain minimum clearances:
 - 3 ft. vertical and 4 ft. horizontal for underground utilities
 - 4 ft horizontal required for above-ground facilities
- Mark all easements clearly
- Pole Load Analysis required for any new or replaced Network Nodes



SUBSURFACE UTILITY EXPLORATION (SUE)

Subsurface Utility Exploration (SUE) Quality Levels:

- Level D: Based on existing records
- Level C: Survey and visible surface features
- Level B: Geophysical methods (e.g., GPR)
- Level A: Physically verified by test holes



SUBSURFACE UTILITY EXPLORATION (SUE) REQUIREMENTS FOR TELECOMMUNICATIONS PROJECTS

QUALITY LEVEL D

Include drawing numbers from existing records on the cover page.

CITY OF HOUSTON RECORD DRAWING REFERENCED

- STM, SWR: 36848
- SAN, SWR: 36848
- WATER: 36848, 8259

CITY OF HOUSTON RECORD DRAWING REFERENCED

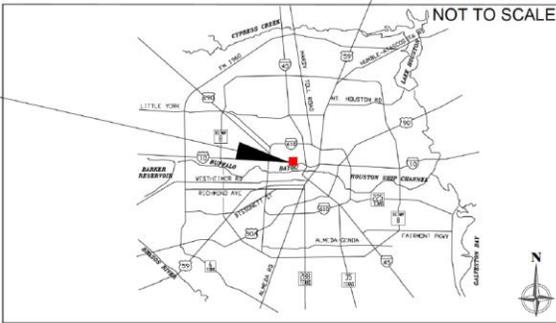
- STM, SWR: 36848
- SAN, SWR: 36848
- WATER: 36848, 8259

PROJECT LOCATION

NO WATER, SANITARY SEWER OR STORM SEWER/DRAINAGE PROPOSED WORK IN THIS SET PLAN.

ACCORDING TO MAP NO. 48201C0670M OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS FOR HARRIS COUNTY AND INCORPORATED AREAS, DATED 06/09/2014, THE SUBJECT TRACT IS SITUATED WITHIN: FLOOD PLAIN ZONE X, UNSHADED

CITY OF HOUSTON APPROVAL IS FOR WORK INSIDE THE PUBLIC ROW/UE ONLY.



LOCATION MAP
NOT TO SCALE

CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, HOUSTON PUBLIC WORKS, OFFICE OF CITY ENGINEER, 48 HOURS BEFORE STARTING WORK ON THIS PROJECT. TELEPHONE NO. 832-394-9098

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
(713) 223-4567 (IN HOUSTON)
(NEW STATEWIDE NUMBER OUTSIDE HOUSTON)
1-800-344-8377



THIS PROJECT CONTAINS WORK TO BE PERFORMED IN THE CITY OF HOUSTON RIGHT-OF-WAY AND PUBLIC EASEMENTS. DRAWINGS MUST BE APPROVED TO OBTAIN PERMITS. PERMITS MUST BE OBTAINED BY THE CONTRACTORS PRIOR TO BEGINNING CONSTRUCTION. INSPECTIONS ARE TO BE CALLED DURING CONSTRUCTION.

CONTACT REQUIRED SECTIONS BELOW AS INDICATED

PERMITS 1002 Washington Ave (2nd floor)
 PAVING: 832-394-9578
 oce.stormpaving@houstontx.gov
 USTORM: 832-394-9578
 oce.stormpaving@houstontx.gov
 VALLEY: 832-394-9578
 WSTREET CUT/EXCAVATION: 832-394-9578
 wstreet@houstontx.gov

PERMITS 1002 Washington Ave (3rd floor)
 QSANITARY: 832-394-8868
 wcrtech@houstontx.gov
 QWATER: 832-394-8868
 wcrtech@houstontx.gov

CAUTION!!!
CONTRACTOR TO LOCATE AND VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

NO.	DATE	REVISION	APP.

BUILD		
DESCRIPTION	QUANTITY	UNIT
DIRECTIONAL BORE	421	FT
TRENCH	30	FT
OVERPULL EXISTING CONDUIT	0	FT
BORE PITS	2	EA
NEW VAULTS	0	EA
EXISTING VAULTS	0	EA
NEW CIRCULAR PEDESTALS	0	EA
EXISTING CIRCULAR PEDESTALS	0	EA
AERIAL RISER	66	FT
AERIAL OVERLASH	125	FT
NEW STRAND	0	FT
ANCHORS	0	EA
EXISTING ANCHORS	0	EA
NEW POLES	0	EA
EXISTING POLES	3	EA
EXISTING POLES (TOP)	0	EA
TOTAL PROJECT FOOTAGE	641	FT

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

TELECOMMUNICATION _____ DATE _____

CITY ENGINEER _____ DATE _____ DIRECTOR OF _____ DATE _____
HOUSTON PUBLIC WORKS

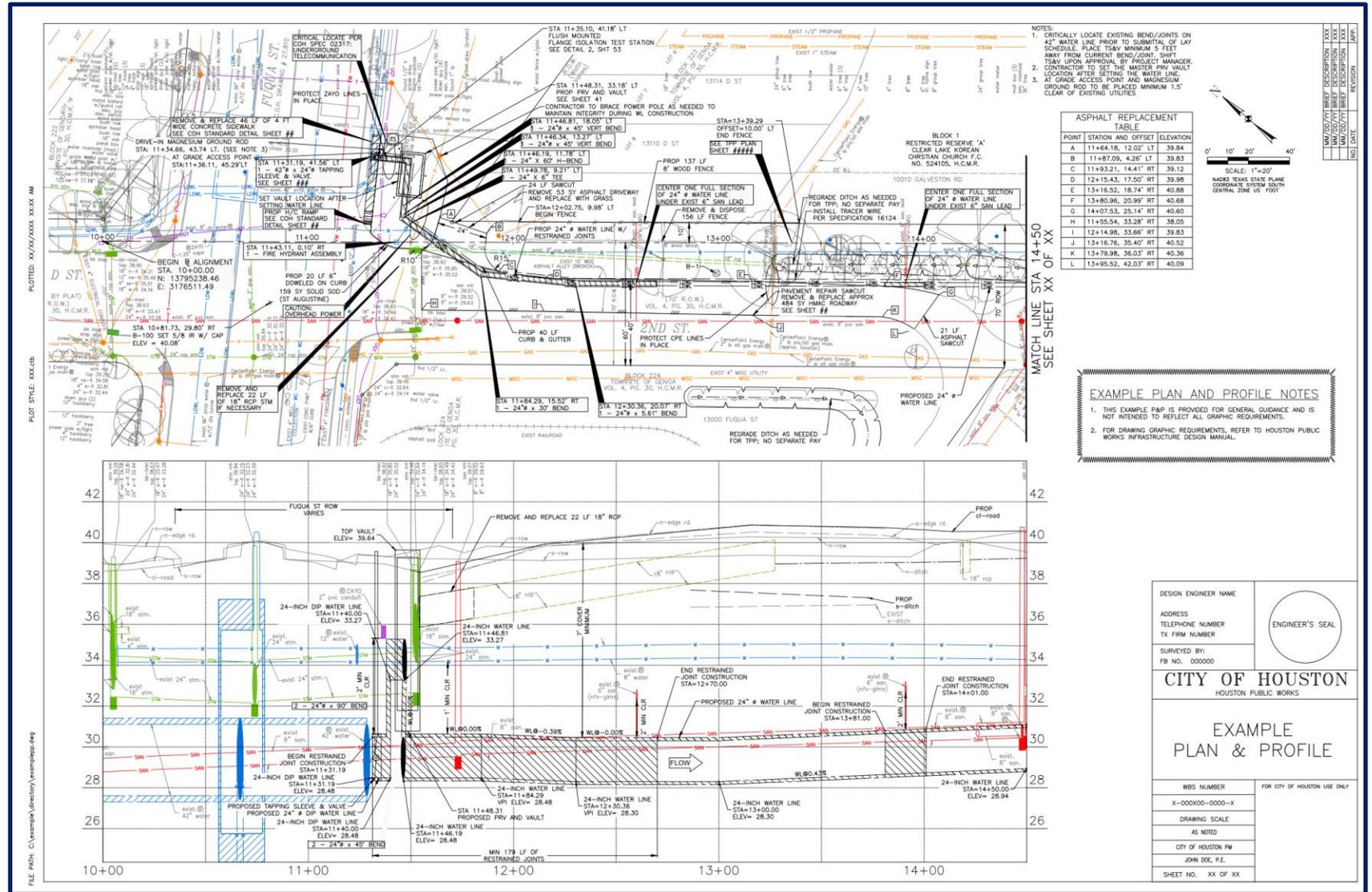
SHEET NO. 01 OF 13 SHEETS
FOR CITY OF HOUSTON USE ONLY

VICINITY MAP
KEY MAP: 493E
GIMS: 5358c
LAMBERT: 5358

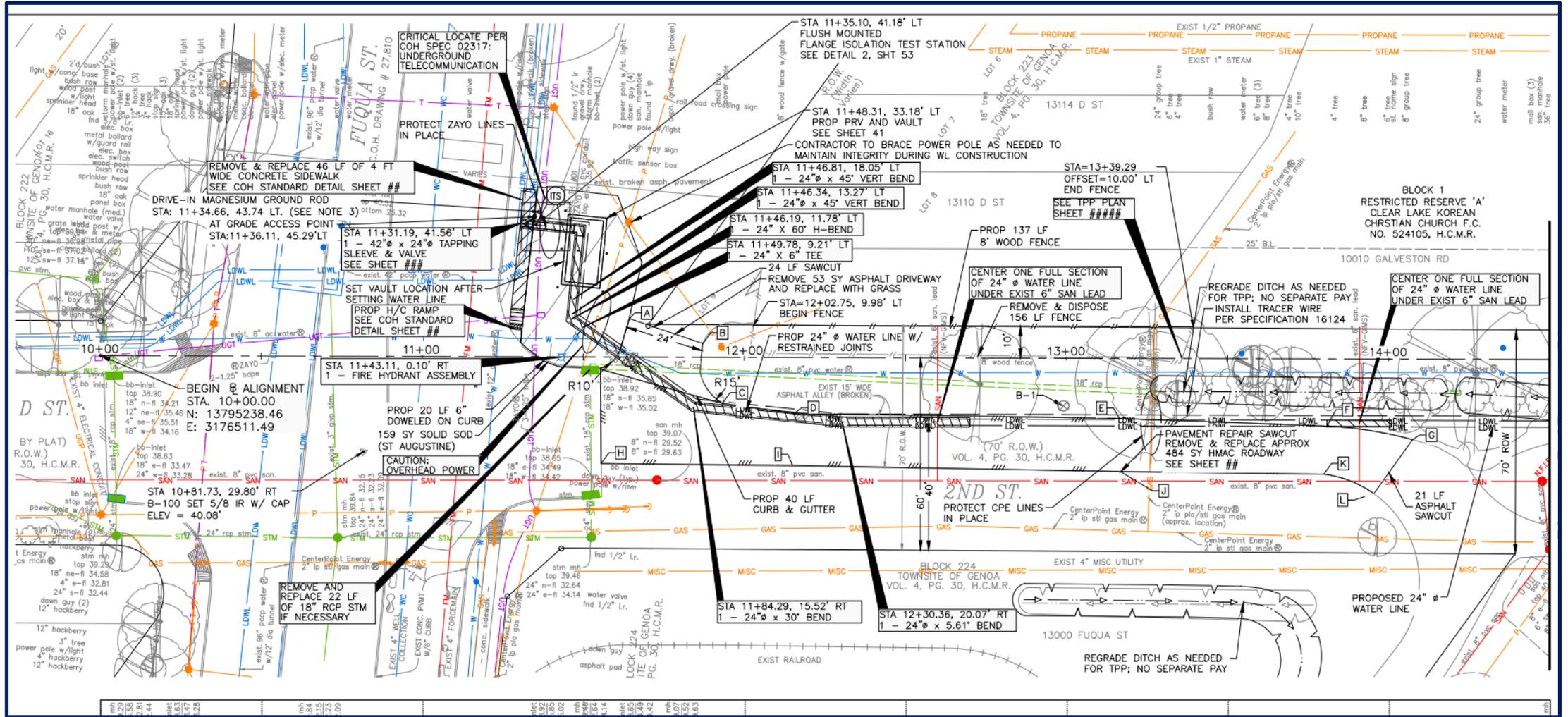
ILMS NO. _____

QUALITY LEVEL C

Surveying and topographical information should be visible in the plan view.

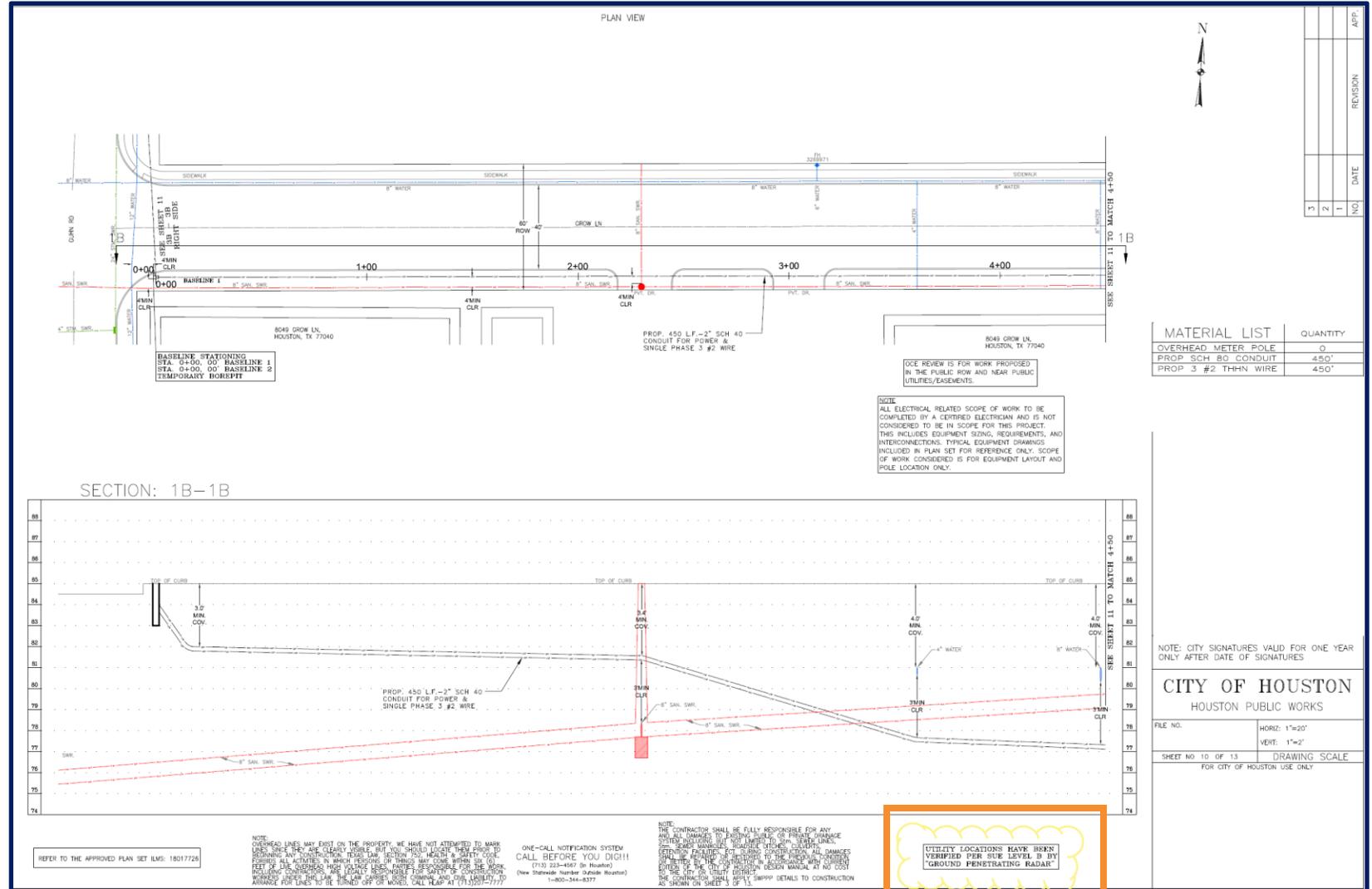


QUALITY LEVEL C



QUALITY LEVEL B

Label the plans with Subsurface Utility Exploration (SUE) Level B survey and explain the method used.



UTILITY LOCATIONS HAVE BEEN VERIFIED PER SUE LEVEL B BY "GROUND PENETRATING RADAR"

UTILITY LOCATIONS HAVE BEEN VERIFIED PER SUE LEVEL B BY "GROUND PENETRATING RADAR"

QUALITY LEVEL A

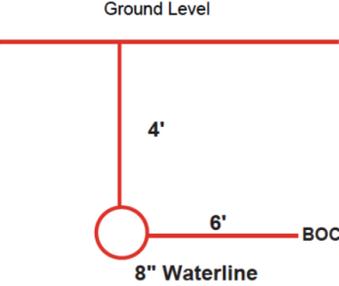
A separate report is required.

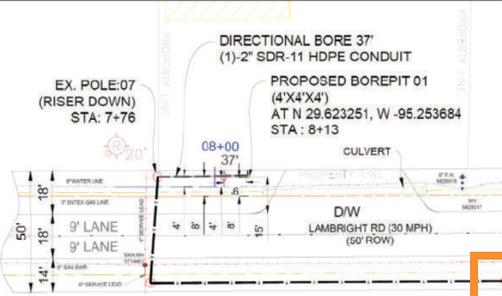
DESIGN ENGINEER NAME	ENGINEER'S SEAL
ADDRESS	
TELEPHONE NUMBER TX FIRM NUMBER	
SURVEYED BY: FB NO. 000000	
CITY OF HOUSTON HOUSTON PUBLIC WORKS	

SUE Report	
Project Number:	
Project Name:	
Test Hole Date:	
Location: 29.623252, -95.253653	
Test Hole Number: 1	Utility Size: 8"
Surface Type: GRASS	Utility Material: PLASTIC
Utility Requested: WATER	Utility Distance BOC: 6'
Utility Found: WATER	Utility Distance Street CL: NA
Utility Depth (Top): 4'	



TOP







DESIGN ENGINEER NAME	ENGINEER'S SEAL
ADDRESS	
TELEPHONE NUMBER TX FIRM NUMBER	
SURVEYED BY: FB NO. 000000	
CITY OF HOUSTON	

WHAT TO INCLUDE IN A SUBSURFACE UTILITY EXPLORATION (SUE) LEVEL A REPORT

- Project number
- Project name
- Test hole date
- Location (longitude & latitude)
- Test hole number
- Utility requested
- Utility found
- Utility depth
- Utility size



WHAT TO INCLUDE IN A SUBSURFACE UTILITY EXPLORATION (SUE) LEVEL A REPORT

- Distance from back of curb
- Photo(s) of the test hole showing located utility
- Plan view snapshot showing where the conflict occurs
- Compass north arrow on the plan
- Texas Professional Engineer Seal with signature and date
- Firm logo or letterhead that performed the survey
- Firm contact information



SUBSURFACE UTILITY EXPLORATION (SUE)

When is Level A or B Required?

- Trenchless underground construction is performed
- Within 10 feet of a utility

Note: Plans may show hand trenching across utility lines, with distances before and after.



SUBSURFACE UTILITY EXPLORATION (SUE)

What happens if a Level A Subsurface Utility Exploration (SUE) survey does not locate a utility at the conflict location?

- Email: Jahsi.Nkululeko@houstontx.gov and Gilbert.Portillo2@houstontx.gov

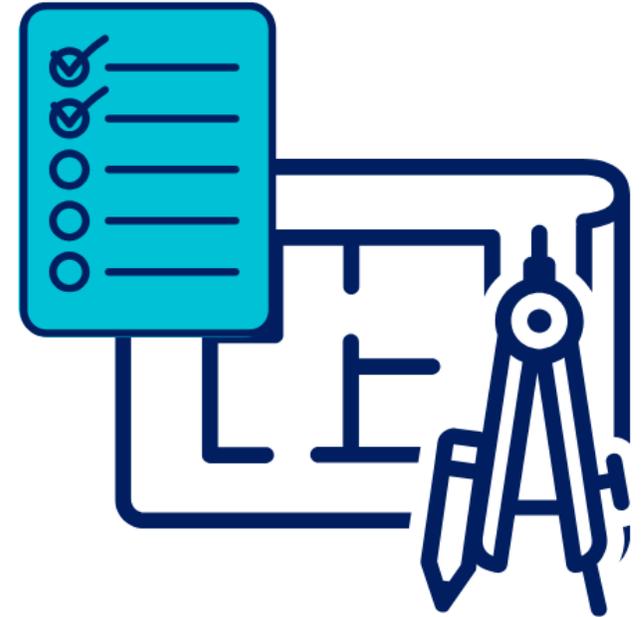
Include:

- Subsurface Utility Exploration (SUE) Report results
- Documentation for each test hole (if multiple)
- Corresponding P&P sheet



HELPFUL TIPS TO IMPROVE YOUR PLAN REVIEW PROCESS

- Schedule a Pre-Development Meeting
- Review open records for similar approved projects
- Confirm all Intake Team requirements are met
- Add clients to ProjectDox as third-party users
- Communicate early with your reviewer
- Submit required outside approvals
- Use accurate information and verified data



HOW TO SUBMIT AN INFRASTRUCTURE DESIGN MANUAL (IDM) VARIANCE

- Variances are allowed when the Infrastructure Design Manual IDM criteria cannot be met
- Must include:
 - Engineering justification
 - Subsurface Utility Exploration (SUE) Level A Report
- Only one variance per clause
- Submit only relevant plan/profile sheets
 - Circle conflicts in red
 - For clearances, show the actual distance in red
- Use the Variance Form and check the correct boxes



MARK TYPE OF VARIANCE:

Water Wastewater Storm Facility Stormwater Quality Easement

Telecommunications Traffic/Pavement (Has a TIA been submitted for this project)? YES NO

Specific Section in IDM that is being requested to vary (Ex: 5.07.A.1.a): _____

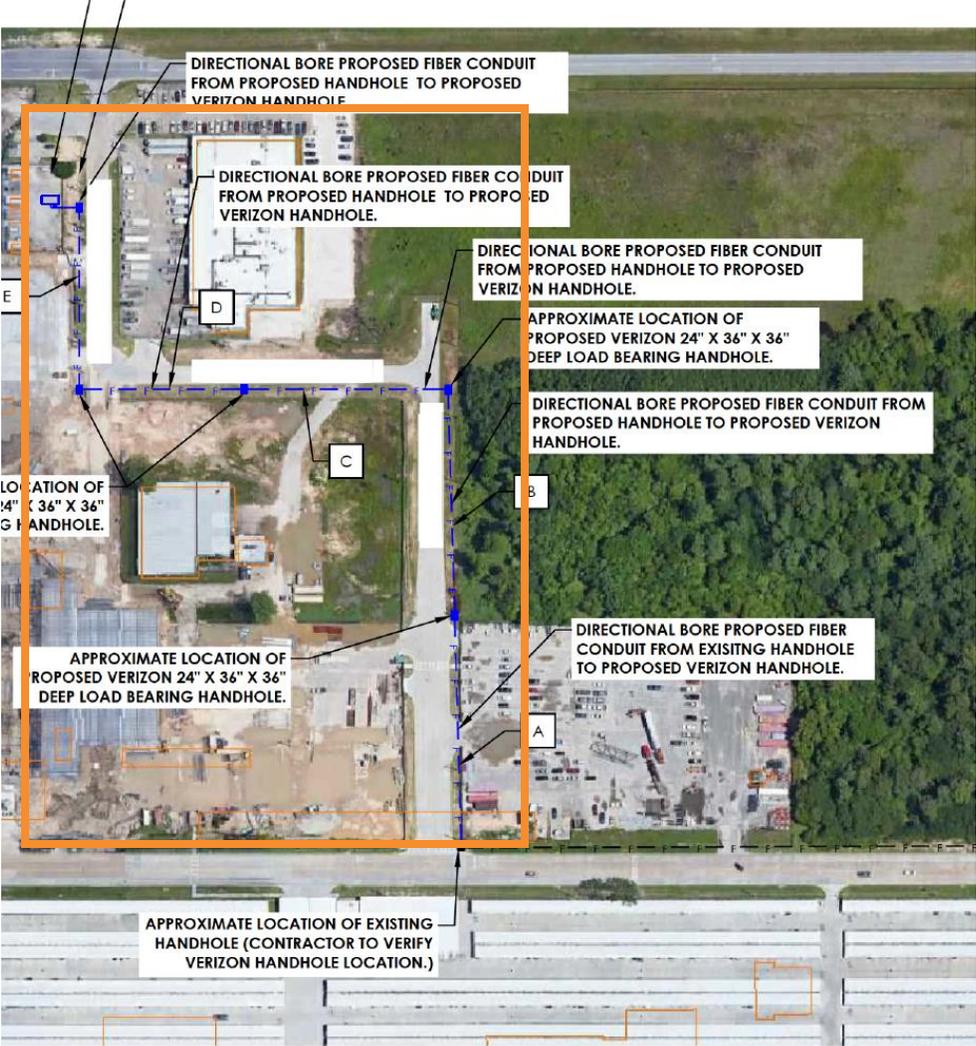
Required

PROJECT EXAMPLES

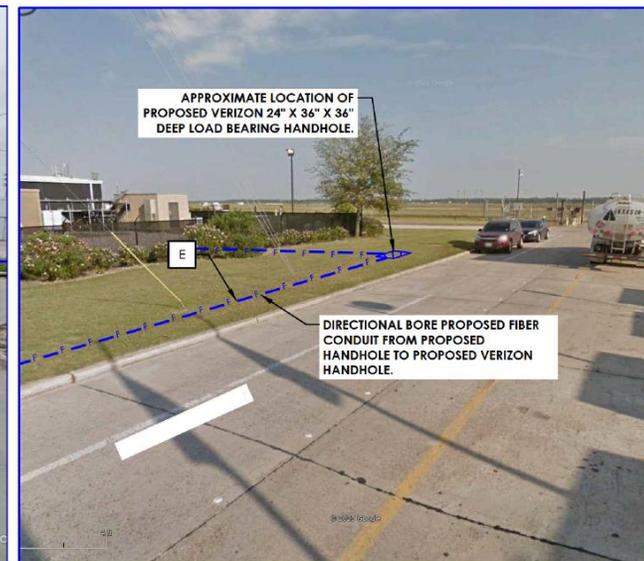
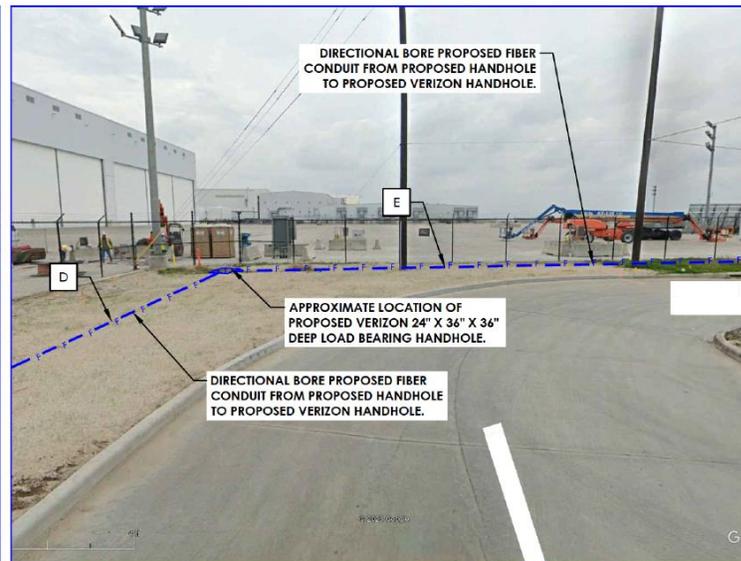
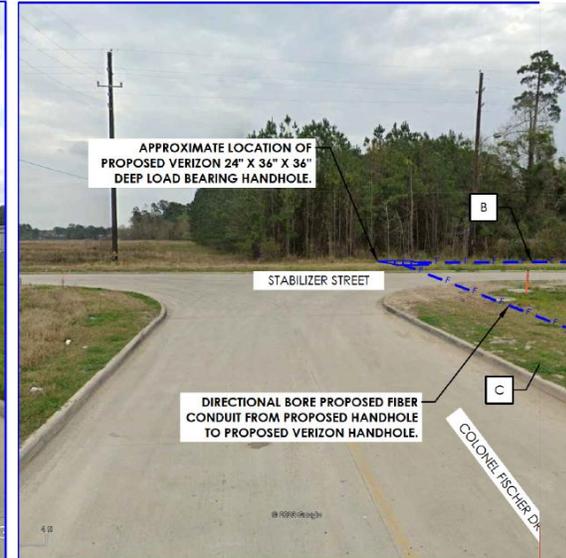
EXAMPLE 1



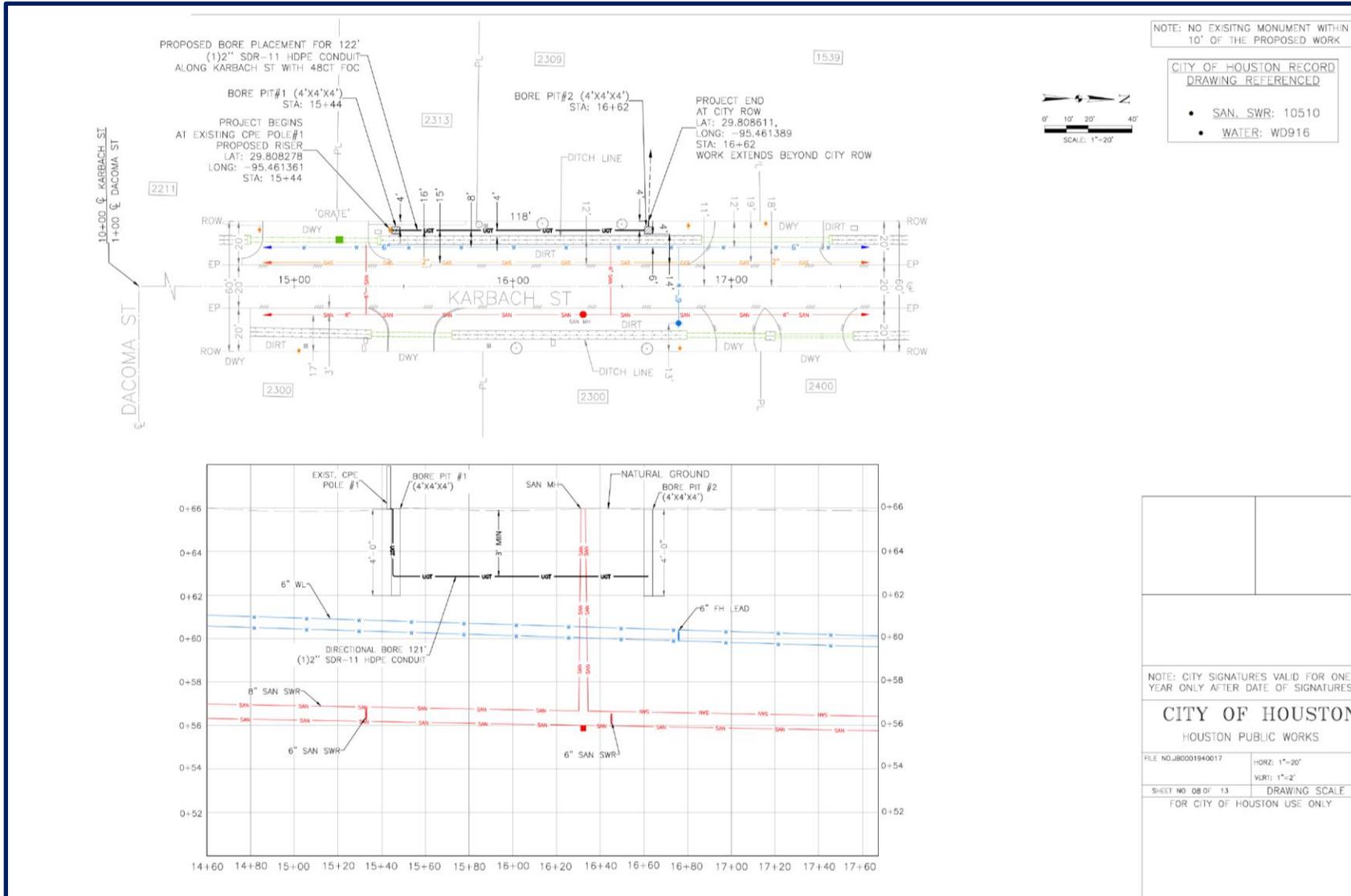
EXAMPLE 1



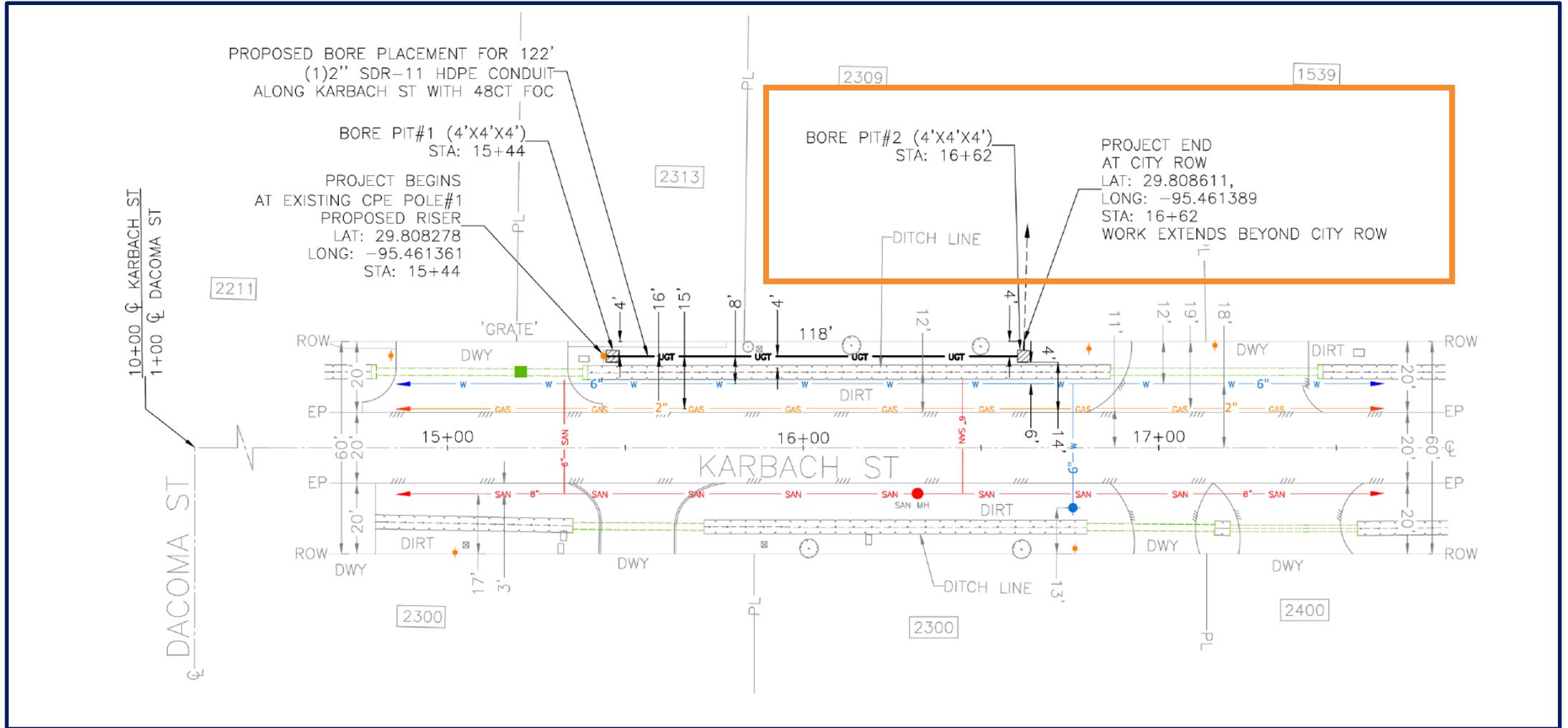
EXAMPLE 3



EXAMPLE 5



EXAMPLE 5



EXAMPLE 6

TRIP_SC5 NODE INFORMATION:

LATITUDE: 29.743219° (29° 44' 35.59" N)
 LONGITUDE: -95.585275° (95° 35' 6.99" W)
 ADDRESS:
 CITY: HOUSTON
 ZIP CODE: 77077
 KEY MAP: 489S

FLOODPLAIN:
 TRIP_SC5: THE PROPERTY SHOWN HEREON (EITHER TOTAL OR IN PORTION) IS LOCATED IN FLOOD INSURANCE RATE MAP 48201C0830L DATED 06/18/2007. UNSHADED ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2 PERCENT ANNUAL FLOOD CHANCE FLOODPLAIN.

BENCHMARK:
 TRIP_SC5: BENCHMARKS SHOWN HEREON REFERENCED TO HARRIS COUNTY FLOODPLAIN MARKER NO. 210175, FROM THE INTERSECTION OF MEMORIAL DRIVE AND NORTH KIRKWOOD DRIVE, TRAVEL SOUTH ON KIRKWOOD DRIVE TO BRIDGE OVER BUFFALO BAYOU. MONUMENT IS LOCATED ON EAST SIDE OF BRIDGE.

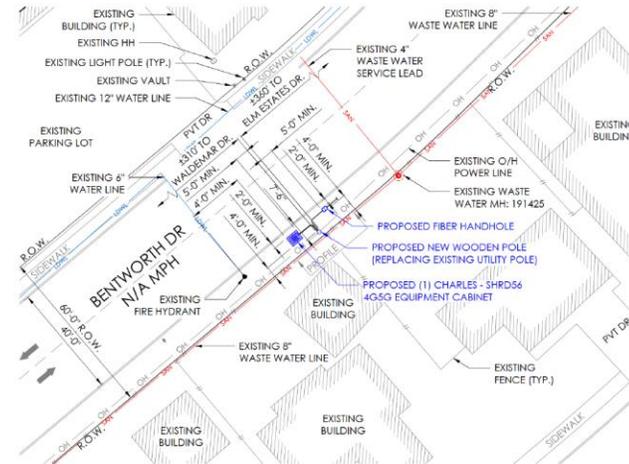
TRIP_SC5 NODE INFORMATION:

LATITUDE: 29.743219° (29° 44' 35.59" N)
 LONGITUDE: -95.585275° (95° 35' 6.99" W)
 ADDRESS:
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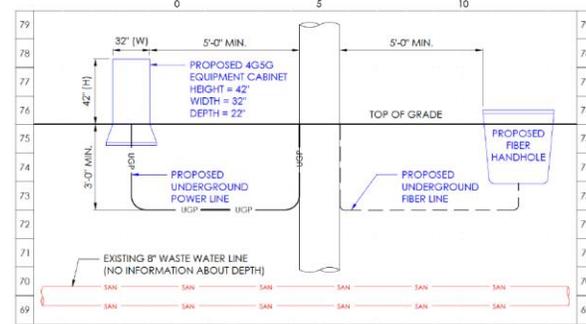
NOTE:

THIS IS NOT A SITE SURVEY. ALL PROPERTY BOUNDARIES, ORIENTATION OF TRUE NORTH AND STREET HALF-WIDTHS HAVE BEEN OBTAINED FROM A TAX PARCEL MAP AND ARE APPROXIMATE. ALL NEW ACCESS, UTILITY EASEMENTS AND NEW LEASE AREAS ARE APPROXIMATE.

ALL EXISTING LANDSCAPING AND OR PRIVATE UTILITIES AFFECTED BY CONSTRUCTION TO BE RESTORED TO ORIGINAL STATE UPON COMPLETION.

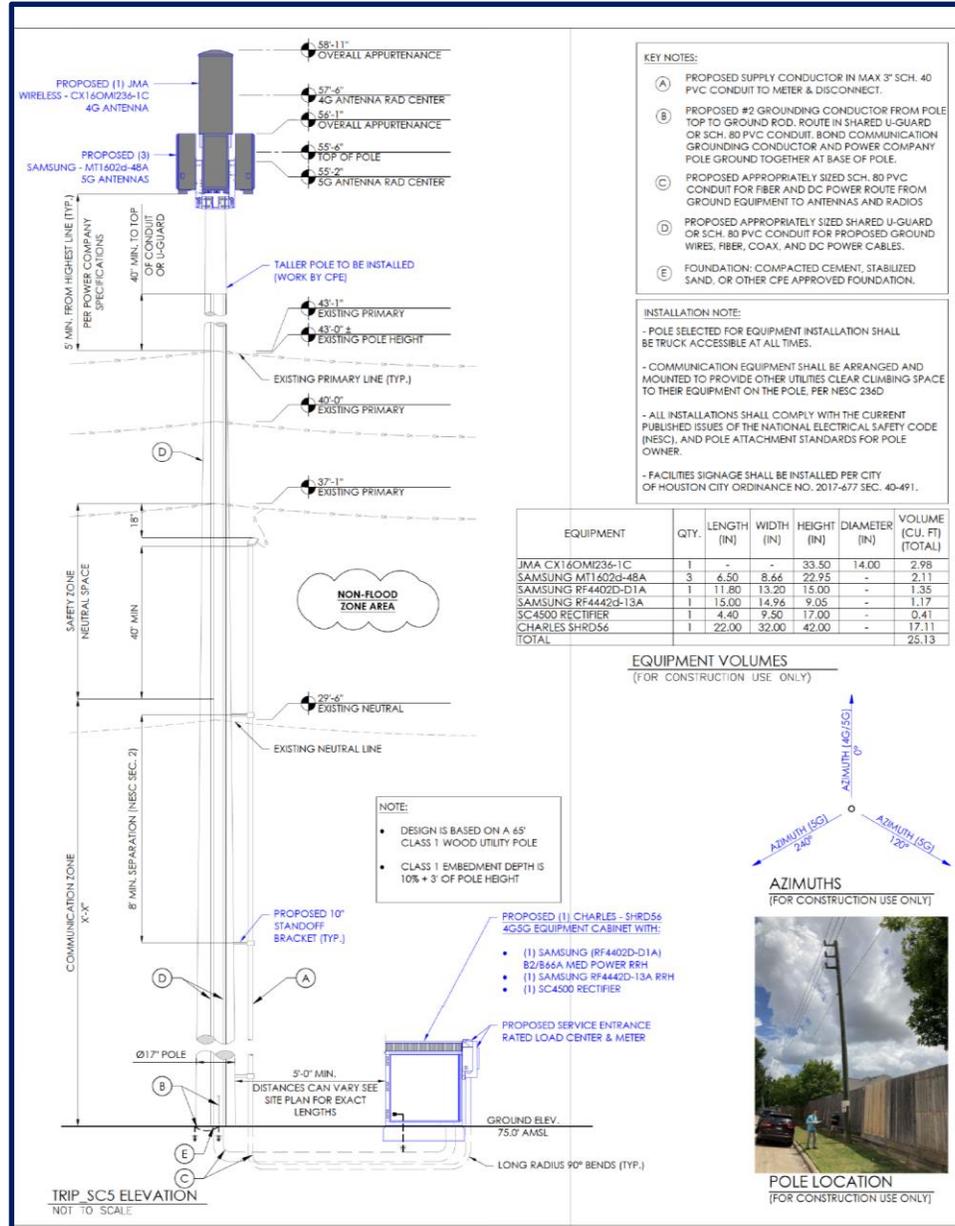


20'-0" (FULL SIZE)
 40'-0" (11x17)

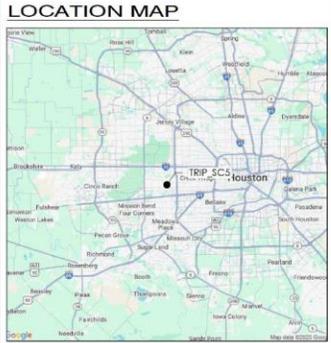


2'-0" (FULL SIZE)
 4'-0" (11x17)

EXAMPLE 6



EXAMPLE 7



LOCATION MAP

SITE NAME:

NOTES

- CONTRACTOR SHALL COMPLY WITH CITY OF HOUSTON STREET CUT ORDINANCE.
- ALL INFRASTRUCTURE PROPOSED IN THIS DOCUMENT IS LOCATED WITHIN THE CITY LIMITS OF HOUSTON. THIS HAS BEEN DETERMINED CONSIDERING THE ENGINEERING INFRASTRUCTURE DESIGN MANUAL (COH-EM) AS PUBLISHED BY CITY OF HOUSTON PUBLIC WORKS, EFFECTIVE JULY 1, 2020.
- ENGINEER OF RECORD HAS ACCESSED THE CITY OF HOUSTON WATER MANAGEMENT PROGRAM AND HAS INCORPORATED INFORMATION REGARDING EXISTING AND PROPOSED UTILITY INFORMATION AS SHOWN ON COH-GMS AT WWW.GMS.HOUSTONTX.GOV.
- THE POLES PROPOSED IN THIS PROJECT WILL BE CONSTRUCTED, PAINTED, AND INSTALLED BY ALL THE CRITERIA PASSED UNDER CITY OF HOUSTON ORDINANCE NO. 2017-477.
- CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, HOUSTON PUBLIC WORKS, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK ON THE PROJECT. TELEPHONE NO. 832-394-9578.
- CONTRACTOR MUST FIELD VERIFY EXACT LOCATION AND DEPTH OF ALL EXISTING CENTERPOINT ENERGY UTILITY LINES, AT&T/SCS CONDUITS AND CITY STORM, WASTE WATER, AND WATER LINE PRIOR TO COMMENCING CONSTRUCTION ON THIS PROJECT.
- *NO WATER, WASTEWATER, OR DRAINAGE PROPOSED IN THIS PLAN SET.



VICINITY MAP

CONSTRUCTION PLANS FOR PROPOSED SMALL CELL NODE ON EXISTING CPE UTILITY POLE

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
719-225-4547 (IN HOUSTON)
NEW STATEWIDE NUMBER OUTSIDE HOUSTON
1-800-344-8377

VZW SITE NAME	LOCATION CODE	OWNER	LAT	LONG	APPLICANT/LESSEE ADDRESS	ZIP CODE	KEY MAP	COUNCIL DISTRICT	FLOODPLAIN	EFFECTIVE DATE	PANEL	PM&A PROJECT #	PREVIOUS ILSM #
TRIP_SCS	724951	CENTERPOINT	29.743219° (29° 44' 35.59" N)	-95.585275° (95° 35' 6.99" W)	2129 2/3 BENTWORTH DRIVE	77077	4895	G	UNSHADED ZONE X	06/18/2007	48201C0830L	22_V15-008	N/A

DRAWING INDEX	
SHEET NUMBER	SHEET TITLE
1	TITLE
2	NOTES 1
3	NOTES 2
4	NOTES 3
5	NOTES 4
6	TRIP_SCS
7	GROUNDING
8	ONE LINE DIAGRAM & LOAD ANALYSIS
9	DETAILS 1
10	DETAILS 2
11	DETAILS 3
12	TCP
13	SWPPP

REGULATORY QUESTION	TRIP_SCS
ORIGINAL/EXISTING POLE HEIGHT (FT)	± 43.0(4)
ARE THE ANTENNAS AND EQUIPMENT BEING INSTALLED ON THE EXISTING POLE?	NO
IS THIS A REPLACEMENT POLE?	YES
IF YES, HOW FAR AWAY IS THE REPLACEMENT POLE FROM EXISTING POLE?	SAME LOCATION
WHO IS COMPLETING THE CONSTRUCTION OF THE REPLACEMENT STRUCTURE/POLE?	CPE
WHO IS INSTALLING VZW ANTENNAS AND EQUIPMENT?	VZW
OWNERSHIP - WHO OWNS THE STRUCTURE DURING CONSTRUCTION?	CPE
OWNERSHIP - WHO OWNS THE STRUCTURE AFTER CONSTRUCTION IS COMPLETE?	CPE

THIS PROJECT INCLUDES WORK TO BE PERFORMED IN THE CITY OF HOUSTON'S RIGHT-OF-WAY AND EASEMENTS.

DRAWINGS MUST BE APPROVED AND PERMITTED PRIOR TO BEGINNING CONSTRUCTION. INSPECTIONS ARE TO BE CALLED DURING CONSTRUCTION.

CONTACT REQUIRED SECTIONS BELOW AS INDICATED

PERMITS: 1002 WASHINGTON (2ND FLOOR)

- PAVING 832-394-9578 ooc.stormpaving@houstontx.gov
- STORM 832-394-9578 ooc.stormpaving@houstontx.gov
- ALLEY 832-394-9578
- STREET CUT/ EXCAVATION 832-394-9578 ooc.stormpaving@houstontx.gov

PERMITS: 1002 WASHINGTON (3RD FLOOR)

- SANITARY 832-394-8888 wclechs@houstontx.gov
- WATER 832-394-8888 wclechs@houstontx.gov

NO.	DATE	REVISION	APP.

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

TELECOMMUNICATION DATE

CITY ENGINEER DATE DIRECTOR OF DATE
HOUSTON PUBLIC WORKS

SHEET NO 1 OF 12
FOR CITY OF HOUSTON USE ONLY

ILMS NO.#

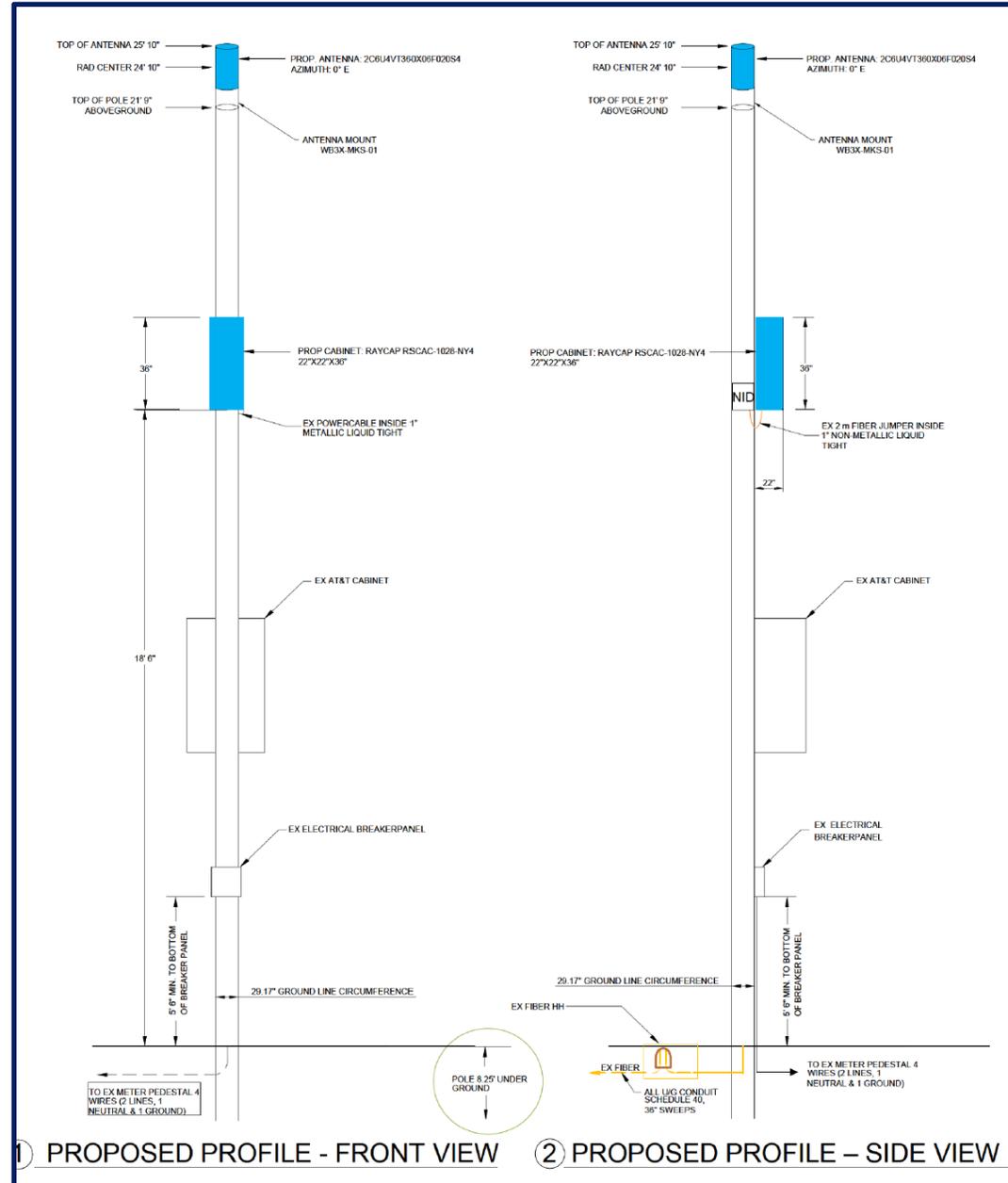
EXAMPLE 8



EXAMPLE 8



EXAMPLE 8



EXAMPLE 9

EXISTING NODES AND EXISTING NODE POLES IN CITY OF HOUSTON RIGHT OF WAY

NODE NO.	SHEET	CC ID	HUB ID	SCU	T-Mobile Node ID	LAT	LONG	E911 ADDRESS	EXISTING SITE PERMITTED UNDER ILMs #	JURISDICTION	POLE OWNER	ANTENNA AZIMUTH	FLOOD ZONE	FLOOD ELEVATION	PANEL #	DATE
1	4	Taft_SCI	A3C0080A	423022	HN2392BA_51LAB	29.744659	-95.385155	316 2/3 WESTHEIMER RD (A), HOUSTON, TX 77006	16025139	CITY OF HOUSTON	CROWN CASTLE	0° E	500 YR UNSHADED	NA	48201C0860L	18-Jun-07
2	5	Taft_SCE_m1	A3C0080A	423027	HN11408A_41LAB	29.747011	-95.392116	2510 2/3 MONTROSE BLVD, HOUSTON, TX 77006	16025139	CITY OF HOUSTON	CROWN CASTLE	0° E	500 YR UNSHADED	NA	48201C0860L	18-Jun-07

SEE SHEET 3 FOR NODE LOCATION MAP

DRAWING INDEX:	
SHEET	DESCRIPTION
1	COVER SHEET
2	GENERAL CONSTRUCTION NOTES & DETAILS
3	NODE LOCATION MAP
4-5	PLAN VIEW
6-7	CONSTRUCTION DETAILS
8	SWPPP
9-10	POLE CONFIGURATIONS

• THE ENGINEER OF RECORD CONFIRMS ALL CITY FACILITIES ARE SHOWN ON PLANS PER RECORD DRAWINGS.
 • BOUNDARY SURVEYING WAS NOT PERFORMED BY CORBFINDLEY
 • RIGHT-OF-WAY (R.O.W.) INFORMATION REPRESENTED HEREIN, IS REFERENCED TO PUBLIC RECORD INFORMATION AND HAS NOT BEEN VERIFIED ON-THE-GROUND
 • THE CONTRACTOR SHALL VERIFY THE ROAD RIGHT OF WAY AND EASEMENTS PRIOR TO COMMENCING WORK.

UTILITIES REPRESENTED ON PLANS ARE BASED ON COH RECORD INFORMATION. NOT BASED ON TOPOGRAPHIC SURVEY AND FIELD EXPOSURES.
 CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, HOUSTON PUBLIC WORKS, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK ON THIS PROJECT. TELEPHONE NO. 832-394-0099

NO WATER, WASTEWATER, OR DRAINAGE PROPOSED IN THIS PLAN SET
 CONTRACTOR SHALL COMPLY WITH CITY OF HOUSTON STREET CUT ORDINANCE
 CONTRACTOR TO FIELD VERIFY UTILITY LOCATIONS PRIOR TO COMMENCING WORK
 CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES IN PUBLIC ROW AND PUBLIC UTILITY EASEMENTS

CALL BEFORE YOU DIG!
 TEXAS ONE CALL PARTICIPANTS REQUEST
 48 HOURS NOTICE BEFORE YOU DIG, DRILL,
 OR BLAST. OR CALL
 811
 1-800-344-8377

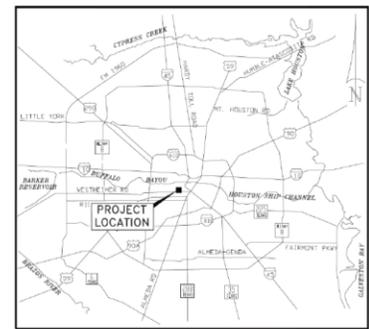


- Texas811 Portal (Most efficient method)
- Dial 811
- Out of state, contact us at (800) 344-8377

THIS PROJECT INCLUDES WORK TO BE PERFORMED IN THE CITY OF HOUSTON'S RIGHT OF WAY AND EASEMENTS. DRAWINGS MUST BE APPROVED AND PERMITTED PRIOR TO BEGINNING CONSTRUCTION.

CONTACT THE REQUIRED SECTIONS BELOW AS INDICATED

- PERMITS 1002 WASHINGTON (2ND FLOOR)
- PAVING 832-394-9578
 - STORM 832-394-9579
 - ALLEY 832-394-8851
 - STREET CUT/EXCAVATION 832-394-9101
- PERMITS 1002 WASHINGTON (3RD FLOOR)
- SANITARY 832-394-8888
 - WATER 832-394-8888



LOCATION MAP
 N.T.S.
 Harris County
 Key Map No. 494N, 493T
 GIMS MAP No. 5356B, 5357C
 ZIP CODE 77006

ILMS NO.

3			
2			
1			
NO.	DATE	REVISION	APP.

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON HOUSTON PUBLIC WORKS

TELECOMMUNICATION DATE

CITY ENGINEER DATE DIRECTOR OF HOUSTON PUBLIC WORKS DATE

SHEET NO 01 OF 10 SHEETS
 FOR CITY OF HOUSTON USE ONLY

WEB RESOURCES

- Telecommunications Webpage (<https://bit.ly/3UIX5EP>)
- Schedule an Appointment (<https://bit.ly/3RmyaOF>)
- Infrastructure Design Manual (IDM) Chapter 16 (<https://bit.ly/41Sv8pQ>)
- Utility Code Sections 66 (<https://bit.ly/4cDxn5l>)
- Utility Code Sections 251 (<https://bit.ly/3XZREwa>)
- Local Government Code Chapters 283 (<https://bit.ly/3EiEzaL>)
- Local Government Code Chapters 284 (<https://bit.ly/4jrSHgK>)

QUESTIONS & ANSWERS

You have questions, we are here to help!!!



CONTACT US

Houston Permitting Center



Facebook
@COHPermits



X
@COHPermits



Instagram
@COHPermits



YouTube
@COHPermits



Houston Permitting Center
1002 Washington Ave.
Houston, TX 77002

 832.394.9000

 www.houstonpermittingcenter.org

 Hpc-ra@houstontx.gov

thank you!



HoustonPublicWorks.org

[f](#) [@](#) [X](#) [@](#) @HouPublicWorks