

# HARRIS COUNTY ENGINEERING DEPARTMENT

## ON-STREET BIKEWAY AND SIDEWALKS QUITMAN STREET FROM WEST OF HOUSTON AVENUE TO WEST OF ELYSIAN STREET UPIN NO. 21102MFIxE01 ROAD LOG 0248801

RODNEY ELLIS  
COMMISSIONER PRECINCT 1

ADRIAN GARCIA  
COMMISSIONER PRECINCT 2

MICHAEL POST, CPA  
COUNTY AUDITOR

LINA HIDALGO  
COUNTY JUDGE

TOM S. RAMSEY, P.E.  
COMMISSIONER PRECINCT 3

R. JACK CAGLE  
COMMISSIONER PRECINCT 4

MILTON RAHMAN, P.E.  
COUNTY ENGINEER

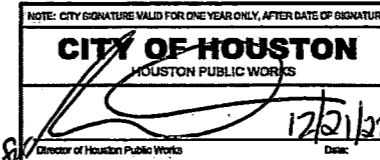


NOVEMBER 2022  
PRECINCT 2  
Harris County, Texas



11-15-2022  
FIRM: F-4014

City of Houston WBS No.:  
N-HCPID0-0014-7



**100%-FINAL SUBMITTAL**

TO ATTORNEY FOR USE TO BE TAKEN UP OR MOVED, CALL CENTERPOINT ENERGY AT 713-653-5523

**NOTICE:**  
For your safety, you are required by Texas Law to call 811 at least 48 hours before you dig or that underground gas can be located. This notification does not hold you responsible to call 811.

**VERIFICATION OF PRIVATE UTILITY LINES**

Mike Browne DATE: 01-18-22

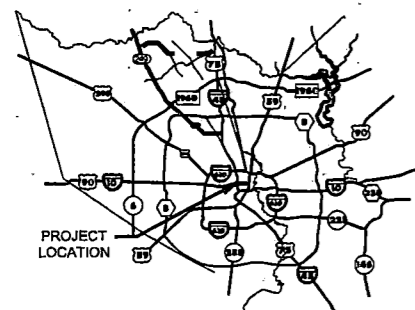
**CenterPoint Energy/Natural Gas Facilities Verification ONLY.**  
(The signature verifies that you have shown CPE Natural Gas lines correctly - not to be used for conflict verification.) (This service line are not shown.)  
Signature valid for 60 months.

Mike Browne DATE: 01-18-22

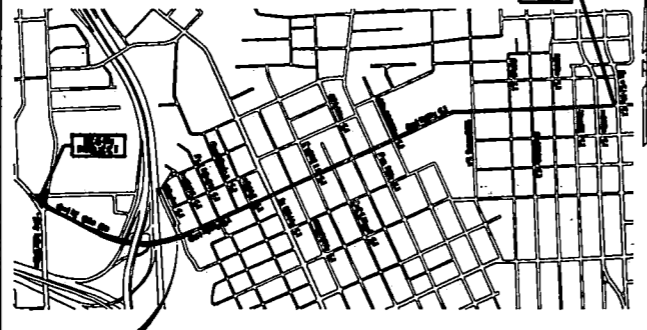
**CenterPoint Energy/Unapproved Electrical Facilities Verification ONLY.**  
(The signature verifies existing underground facilities - not to be used for conflict verification.)  
Signature valid for 60 months.

V. J. Gonzalez DATE: 2/28/22

Approved for AT&T 1400/7877 underground cable facilities with  
Signature valid for one year.



PROJECT LOCATION  
N.T.S.



PROJECT VICINITY  
N.T.S.

**SCIENTECH**  
ENGINEERS  
701 Shepherd Dr., Suite 200 (713) 977-6090  
Houston, Texas 77007 Fax (713) 977-6086  
FIRM #4014

APPROVED: \_\_\_\_\_  
HCED-Permit Group  
Flood Plain Management

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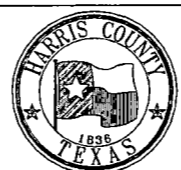
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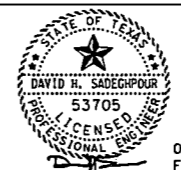
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NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
AD		08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS		2 /	

1. PAVING

(FOR H.C. PUBLIC R.O.W. ONLY)

Table with columns for CONCRETE and ASPHALT, and rows for DESIGN THICKNESS OF PAVING, STABILIZED SUBGRADE DEPTH, DESIGN STRENGTH OF CONCRETE, STEEL SPACING, and DRIVEWAY WIDTH.

DRIVEWAYS (in H.C. ROW only)

Table with columns: DRIVEY, WIDTH, MATERIAL, CULVERT?, CULVERT LENGTH, NEAREST X-STREET, DIST. TO X-STREET.

HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET

REQUIRED AND SHOWN ON SHEET(S) / NOT REQUIRED DUE TO

CURBING

ISLANDS, MEDIANS AND ALL AREAS NOT TAKING DIRECT DRIVEWAY ACCESS REQUIRES STANDARD 6" CURBING

STANDARD 6" CURBING PROPOSED / 4" x 12" CURBING PROPOSED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

- Median Cuts: NO MEDIAN CUT OR RELOCATION IS PROPOSED, MEDIAN MODIFICATIONS ARE SHOWN ON SHEET. Left/Right Turn Lane: NO LEFT / RIGHT TURN LANE IS PROPOSED. Traffic Control Plan: NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW. Traffic Signal: NO TRAFFIC SIGNAL IS EXISTING / PROPOSED. Traffic Impact Analysis: NO TRAFFIC IMPACT ANALYSIS IS REQUIRED.

5. DESCRIPTION OF PROPERTY

- Legal Description: Acreage, Subdivision, Survey & Abstract, Adjacent Roads. Platting: Subdivision Plat, Streets Proposed, Plat Name. Jurisdictions: City of Houston, ETJ, City of Houston, ETJ, City of Houston, No ETJ. Head Account Nos. (All), Key Map Page. Unobstructed Visibility Easement (U.V.E.): Required and shown on sheet(s), Not required. Note: All approved final plats and associated CPC101 forms must be included with plan submittal.

2. RESIDENTIAL / SUBDIVISION DRAINAGE

- Proposed Drainage System Type: Storm Sewer, Roadside Ditch, Low Impact Development (LID). Design Method Used: City of Houston Year Frequency, Other. Drainage System Outfalls Directly to Existing: Detention Pond, HCFCO Drainage Ditch Unit, H.C. Roadside Ditch, H.C. Storm Sewer. H.C. Outfall Calculations: Roadside Ditch Outfall, Storm Sewer Outfall. Detention Provided By: Detention Basin, Regional Detention Basin System.

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED). STATIC W.S.E. @ OUTFALL IS

OFFSITE SHEET FLOW: (100 YEAR)

OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMMODATIONS ARE SHOWN ON SHEET OR AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED. Total Acreage, Total Discharge. Note: All offsite sheet flow from adjacent properties must be identified and properly accounted for in the project.

6. STORMWATER QUALITY

- SWPPP: Construction Measures (Complete for ALL projects). Disturbs >1AC, Site Plan & Details on Sheet(s). Disturbs <1AC, N/A. Applicability for Permanent Features: Exempt New Development, Exempt Redevelopment, Project does not meet the definition of significant redevelopment, Exempt Grandfathered. Project's drainage ties directly into an existing drainage system prior to October 1, 2001. General: Project's SWQ requirements fall within the jurisdiction of City of Houston. Stormwater Quality Permit Requirement is covered by an existing SWQP within project title. Stormwater Quality Management Plan: Site Plan on Sheet(s). Permanent SWQ Features: Vegetative Controls, Pond Structure Used, Hydrodynamic Type Separator Model, Other(s).

3. COMMERCIAL / OTHER SITE DRAINAGE

- Proposed Drainage Area: New Development Area, Re-development Area, Low Impact Development (LID). Detention Volume: .65 (Channel), .75 (5M SWR), 1.00 (RD. DITCH), Other. Proposed Detention Volume: Acre Feet, Calculations Provided on Sheet. Outfall: Roadside Ditch, Existing H.C. Storm Sewer, Other. Pumped Detention Facilities: Volume that Gravity Flows, Volume that is Pumped, Entrance Velocity into Roadside Ditch or Storm Sewer, Pump Specifications and Automatic Shut-off Plan. Flow Restrictor Size: Outfall Pipe Size, Restrictor Pipe Size. Note: All roadside ditch outfalls require erosion control measures.

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED). STATIC W.S.E. @ OUTFALL IS

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7. FLOOD PLAIN STATUS

- General Information: Firm Panel(s) for Property, Firm Panel(s) Date, Status of Property on Map. Flood Plain Determination Based on Ground Elevation: Property lies entirely above the base flood level, Property lies partially or entirely below the base flood level. Floodplain Storage Summary: Total volume of material proposed to be moved or placed within the firm delineated floodplain, Total volume of material proposed to be removed from the firm delineated floodplain, Fill area & volume calculations are shown on sheet. Other: LOMR Required, CLOMR Required, Verified By.

8. CURB RAMPS

ARE CURB RAMPS THAT CONNECT TO PUBLIC STREETS PROPOSED IN THIS SET OF PLANS? [X] YES [ ] NO

9. LANDSCAPING

REQUIRED AND SHOWN ON SHEET(S) 82 TO 131 / NOT REQUIRED

4. WATER AND WASTEWATER

- Commercial Projects: Does Property Have Existing and/or Proposed Utilities? Public Water & Sanitary, Private Water Well & Septic System, Public Water & Private Septic System, Private Water Well & Public Sanitary. Note: Public Utilities Require a Letter from the District/Municipality Authorizing Service & Connection. Utility District/Municipality Name. Note: Septic Systems Require H.C. Waste Water Review. Subdivision Projects: Utility District/Municipality Name, Private Water & Waste Water Systems, Private Water & Individual OSSF, Individual Water Well & OSSF. Note: A Copy of H.C. Approval for Private Water & Waste Water Systems is Required for Plan Approval. Note: Dedicated Underground Fire Lines Must be Submitted to the Harris County Fire Protection Group for Review and Permitting by the Underground Fire Line Contractor. Wastewater Treatment Plants: H.C. WWTW Review, Is the Proposed Project a New WWTW Site or a Rehab/Expansion of an Existing WWTW Site? If Yes, is a Harris County Domestic Wastewater Treatment Plant Express Review Sheet Attached and Completed According to Instructions? Refer to: H.C. E-101/NET/PERMITS/WASTEWATER/REGULATIONS-STANDARDS-DETAILS FOR DOMESTIC WWTWERS FORM.

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED). STATIC W.S.E. @ OUTFALL IS

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10. PERMITS REQUIRED

- Does the Property Have Any Violations? If So Please Provide All Violation Numbers. Storm Water Quality, Septic (Existing) / Septic (Proposed), Civil Site Work (Phase I Permit Class I (non-floodplain) / Phase II Permit Class II (floodplain)), Driveway with Culvert, Curb and Gutter, Building Permits (No. of Buildings = ), Critical Facility, Subdivision Infrastructure Phase I (No. of Lots = ), Notice of Detention Affidavit Required, Mud Maintenance Agreement Required. Notes: A Permit is Required for Each Scope of Work on Site. A R.O.W. Notification is Required for Each Scope of Work in HC or HCFCO ROW. Refer to: www.harriscountytx.gov/permits for each scope of work in HC or HCFCO ROW. Work in Harris County R.O.W.: Utility Work, Turn Lane, Other Construction.

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED). STATIC W.S.E. @ OUTFALL IS

OFFSITE SHEET FLOW: (100 YEAR)

OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMMODATIONS ARE SHOWN ON SHEET OR AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED. Total Acreage, Total Discharge. Note: All offsite sheet flow from adjacent properties must be identified and properly accounted for in the project.

FOR PROJECTS LOCATED IN ANY FLOODPLAIN: Development constructed or placed in accordance with these plans will comply with all provisions of the Regulations of Harris County, Texas for Floodplain Management. No net fill is allowed in the flood plain and no fill is allowed in the floodway. FOUNDATION NOTES: (Applies to only buildings or building additions requiring a class II permit) All water heaters, furnaces, air conditioning units, electrical distribution panels, and any other mechanical or electrical equipment must be elevated in accordance with Section 4.05 of Harris County Floodplain regulations. All materials used below the (100-year) base flood elevation are on approved FEMA Technical Bulletin 2-08 as Class 5 water-resistant, and approved in accordance with FEMA Technical Bulletin 1-08 for foundation openings. Critical facilities located in the 0.2% or 500yr floodplain or 1% or 100yr floodplain shall have the lowest floor elevated to 3 feet or more above the 0.2% flood elevation, or 24 inches above the crown of the adjacent road, whichever ever results in a higher elevation. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood shall be provided to all critical facilities to the extent possible. A completed as-built certificate must be submitted after the structure is complete and before it is occupied. The County Engineer's Office will post a final inspection notice on the structure once all requirements have been met. No fill may be used to elevate structures in the 1% or 100yr flood plain. Structures may be constructed on an open foundation, such as piers, or on continuous foundation walls with properly sized and located openings. All foundations are required to be designed by a registered professional engineer. All structures shall be designed to withstand a three second gust basic wind speed of 120mph. Completed "Elevation Certificates to be submitted: one at permitting, a second after the slab is poured or sub-floor is installed and before the framing starts, and a third is required once construction is finished. \*PER CURRENT FIRM PANEL) to the Harris County Engineering Department, 10555 Northwest Freeway, Suite 120, Houston, TX 77062

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

ENGINEER'S CERTIFICATION

I, DAVID H. SADEGHPOUR, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE. I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE PLANS IN THEIR ENTIRETY ARE DESIGNED PER THE HARRIS COUNTY ENGINEERING STANDARDS, REGULATIONS, AND GUIDELINES UNLESS PROVIDED A VARIANCE BY THE COUNTY ENGINEER OR HIS DESIGNEE. SHOULD IT BE DEEMED BY HCED STAFF, THAT THE PLANS DO NOT MEET THE COUNTY'S STANDARDS, REGULATIONS AND GUIDELINES AND DID NOT RECEIVE AN APPROVED VARIANCE, THE APPROVAL OF SAID PLANS BECOMES NULL AND VOID AND THE DESIGN PLANS MUST BE CORRECTED AT NO CHARGE TO THE COUNTY. THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS 1 THRU 245. SIGNATURE: DAVID H. SADEGHPOUR, DATE: 08-22-22, REVISIONS

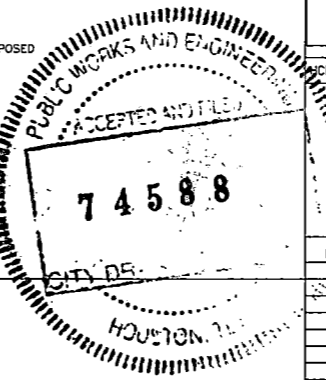
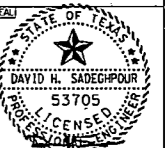
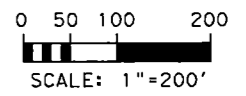
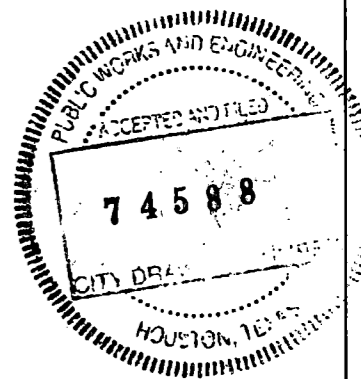
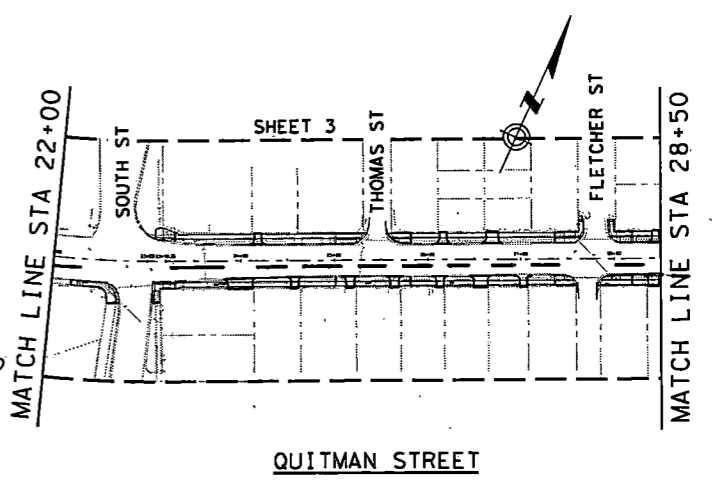
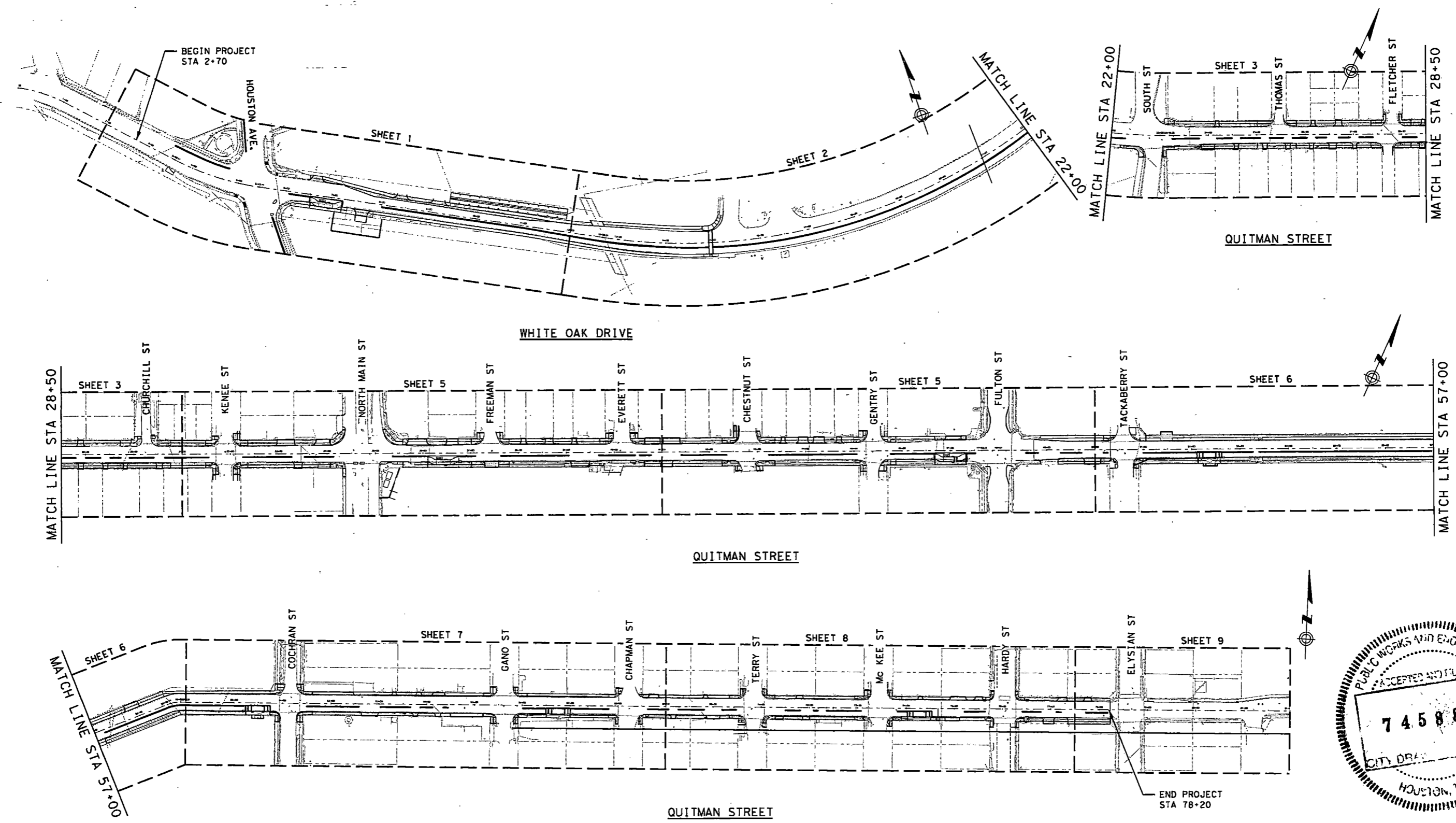


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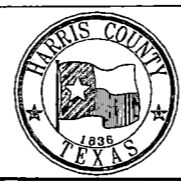
HARRIS COUNTY ENGINEERING DEPARTMENT REVIEW SHEET

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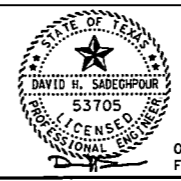


NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

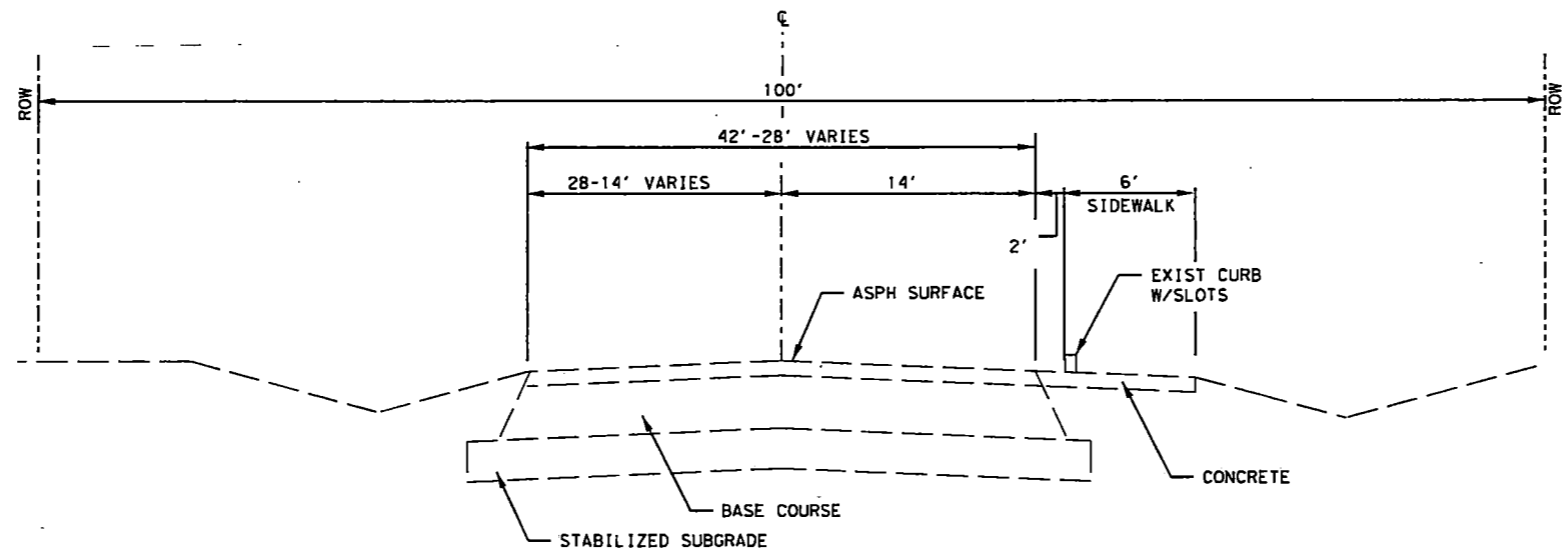


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

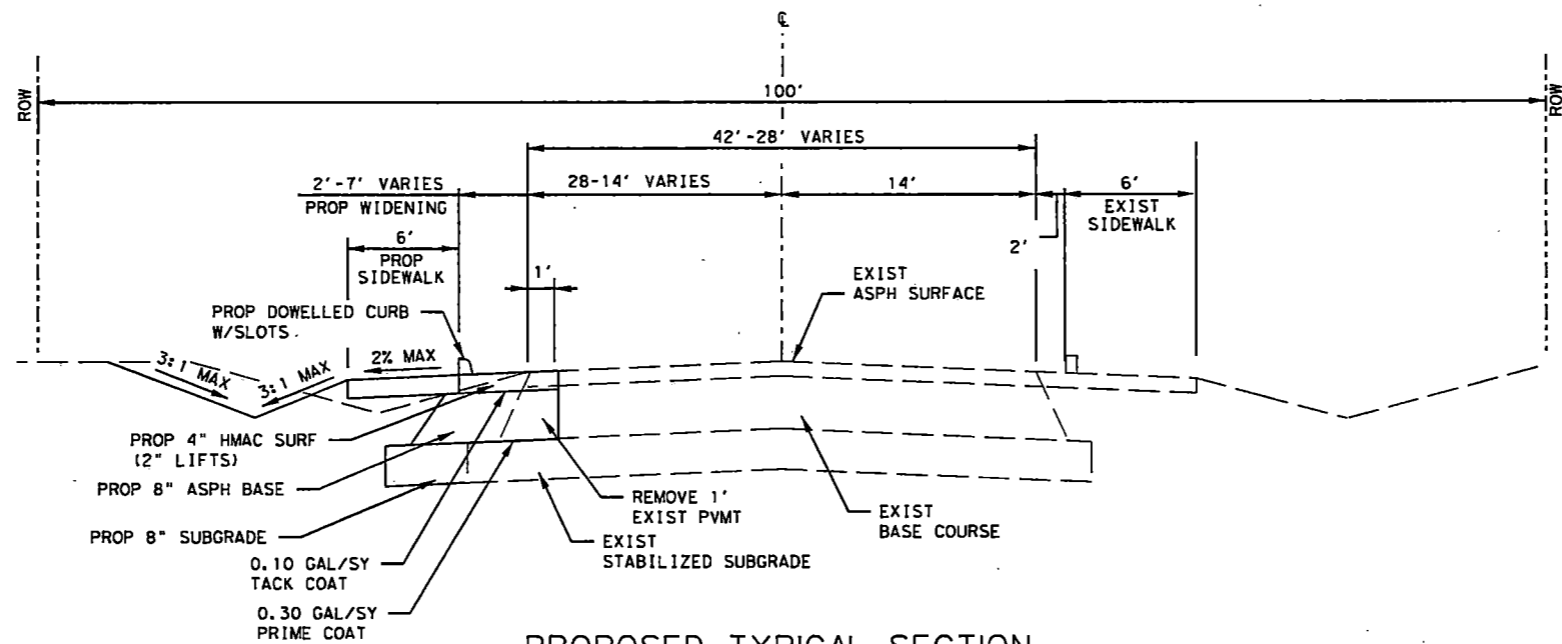


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
DATE:		08-19-2022	
CK'D BY:	DHS	SCALE:	1"=200'
SHEET NO:		4 /	

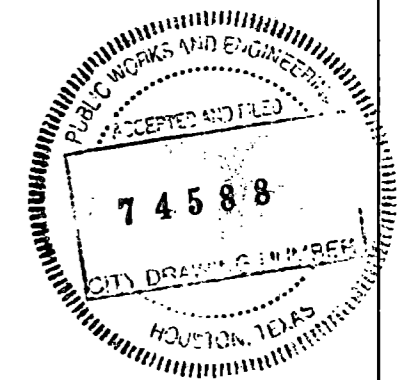


EXISTING TYPICAL SECTION  
 WHITE OAK DRIVE/QUITMAN STREET  
 FROM 200 FT EAST OF HOUSTON AVE TO 600 FT EAST OF HOUSTON AVE



PROPOSED TYPICAL SECTION  
 WHITE OAK DRIVE/QUITMAN STREET  
 FROM 200 FT EAST OF HOUSTON AVE TO 600 FT EAST OF HOUSTON AVE  
 STA 7+18.49 TO STA 11+58.63

- NOTES:
1. SEE ROADWAY IMPROVEMENT PLANS FOR ADDITIONAL INFORMATION.
  2. SEE PLANTING PLANS FOR SODDING LIMITS.
  3. SEE SITEWORK PLAN AND DETAILS FOR ADDITIONAL INFORMATION.
  4. SEE SHEET 33 FOR DOWELLED CURB DETAILS.



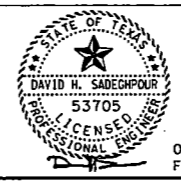
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NO.	REVISIONS	DATE	NAME
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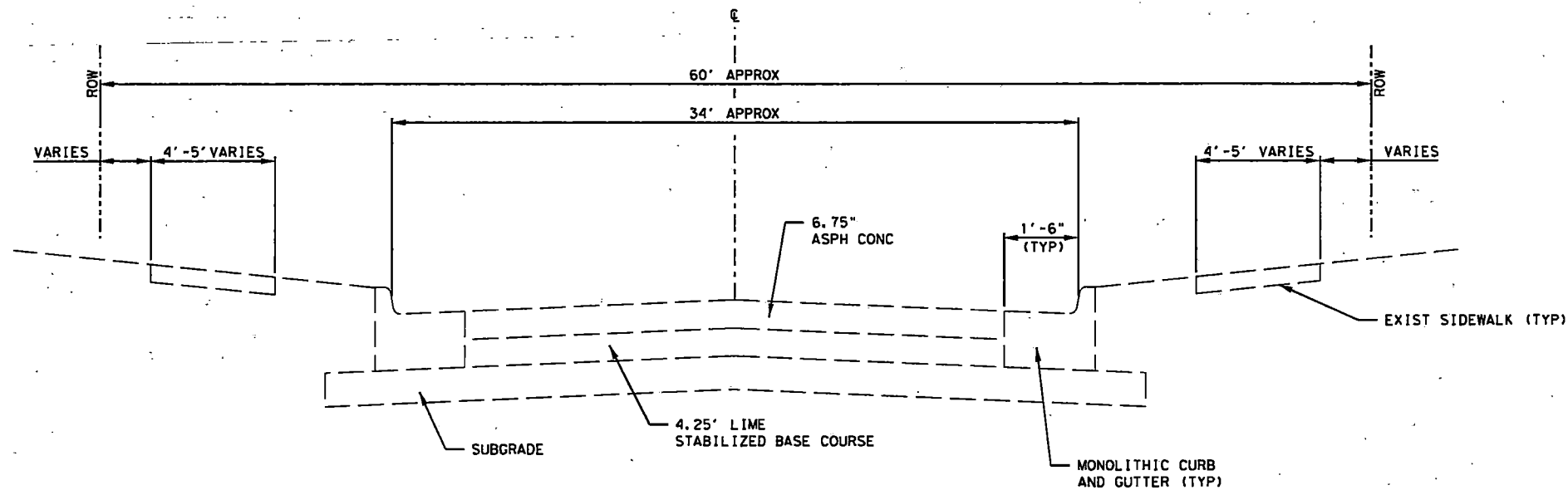


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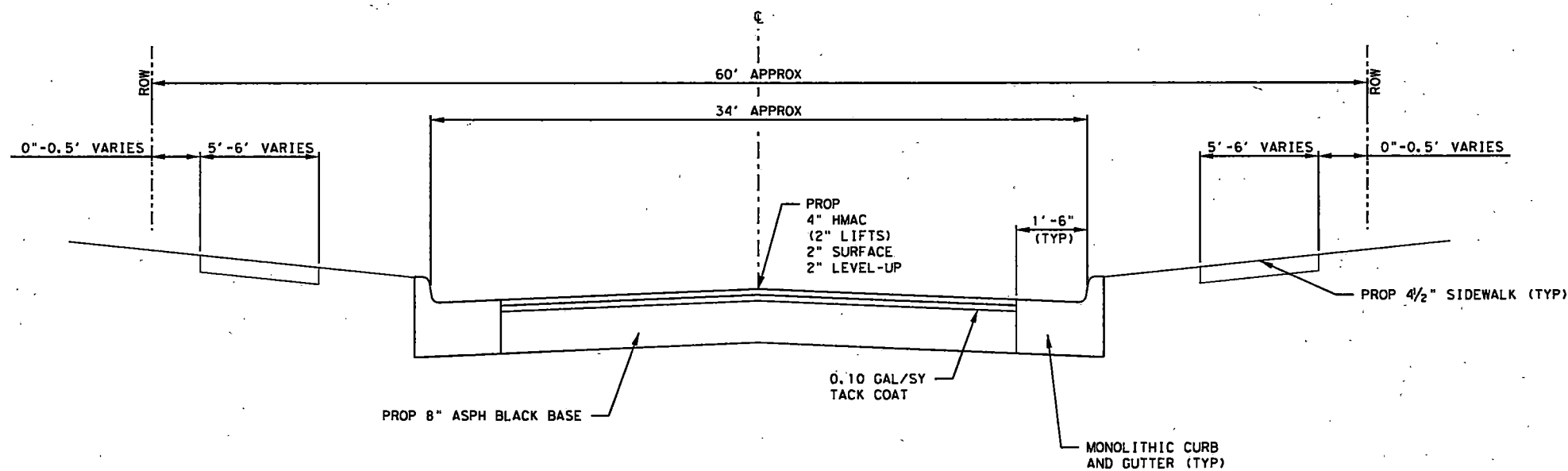
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PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 1 OF 3	
DATE:	08-19-2022	SCALE:	NTS
CHECKED BY:	DHS	SHEET NO.:	5/



EXISTING TYPICAL SECTION  
 QUITMAN STREET  
 FROM EAST OF FULTON STREET TO EAST OF TACKABERRY STREET

NOTES:  
 SEE NOTES ON SHEET 1 OF 3.



PROPOSED TYPICAL SECTION  
 QUITMAN STREET  
 FROM EAST FULTON STREET TO EAST OF TACKABERRY STREET  
 STA 48+72.69 TO STA 54+00



8/21/2022 07-Qui11man-TYP.dgn

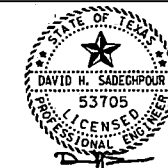
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HARRIS COUNTY  
 ENGINEERING DEPARTMENT



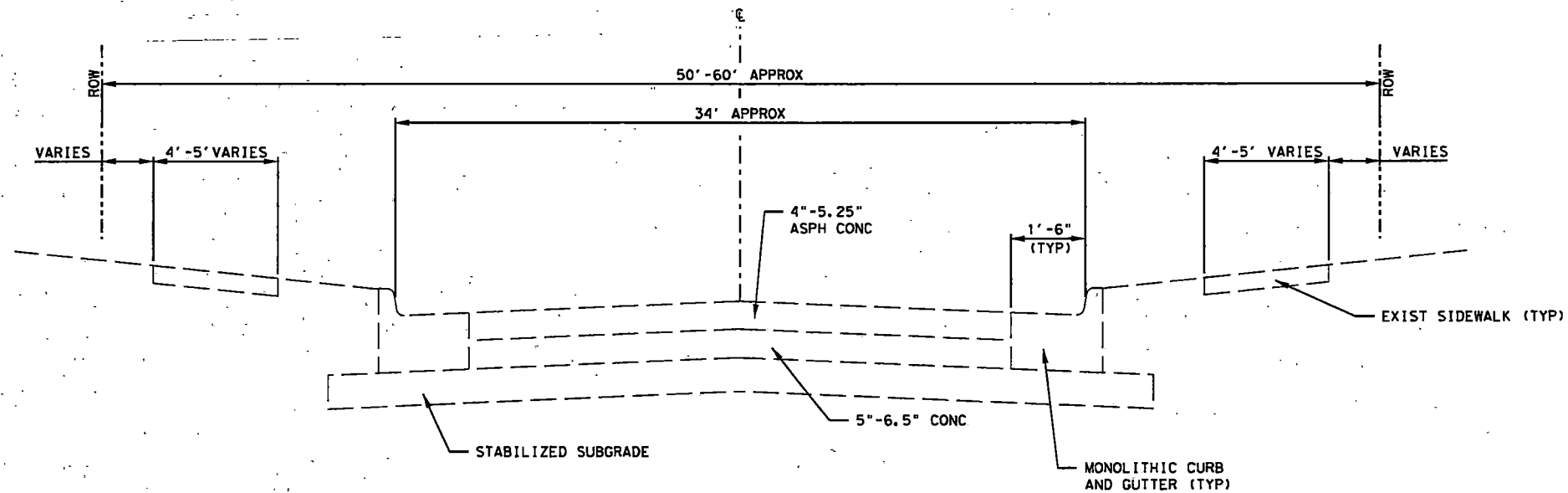
**SCIENTECH**  
 ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014



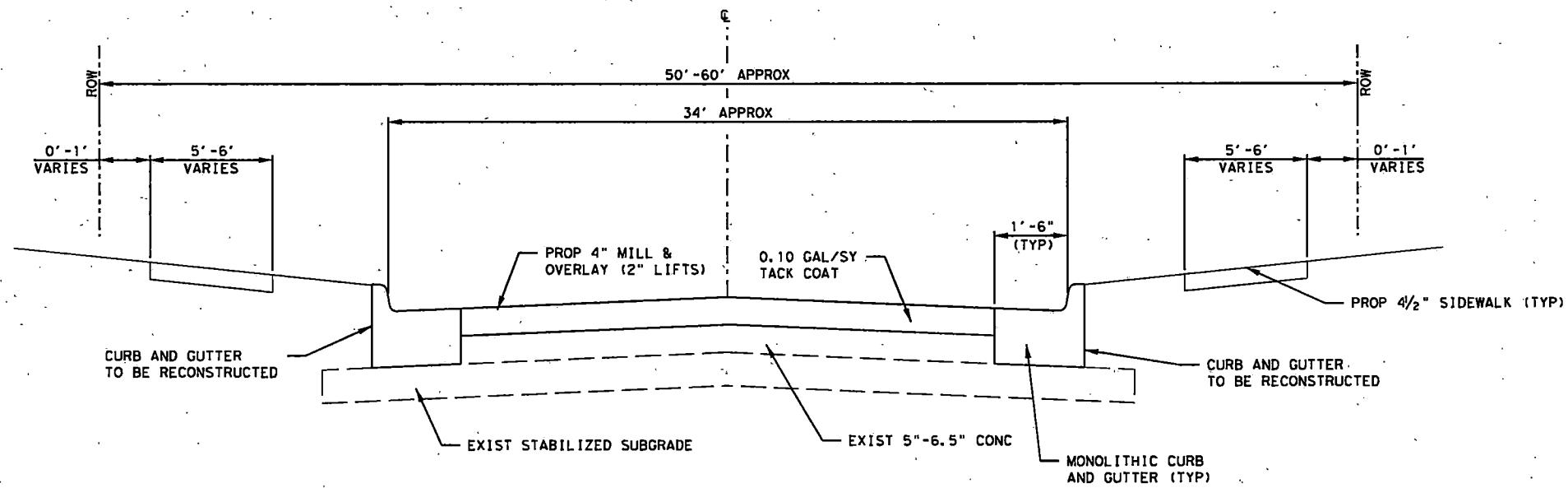
08-19-22  
 FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 2 OF 3	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	SHEET NO.:	
DHS	NTS	67	

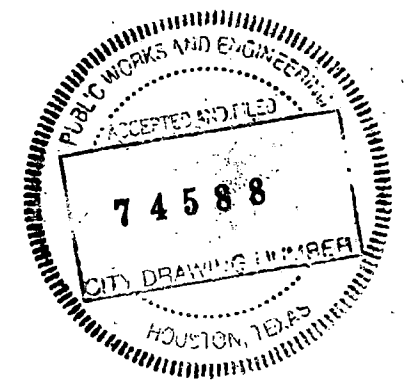


EXISTING TYPICAL SECTION  
 QUITMAN STREET  
 FROM EAST OF TACKABERRY STREET TO WEST OF ELYSIAN STREET

NOTES:  
 SEE NOTES ON SHEET 1 OF 3.



PROPOSED TYPICAL SECTION  
 QUITMAN STREET  
 FROM EAST OF TACKABERRY STREET TO WEST OF ELYSIAN STREET  
 STA 54+00 TO STA 78+20



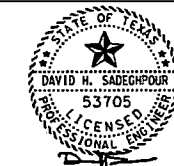
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HARRIS COUNTY  
 ENGINEERING DEPARTMENT

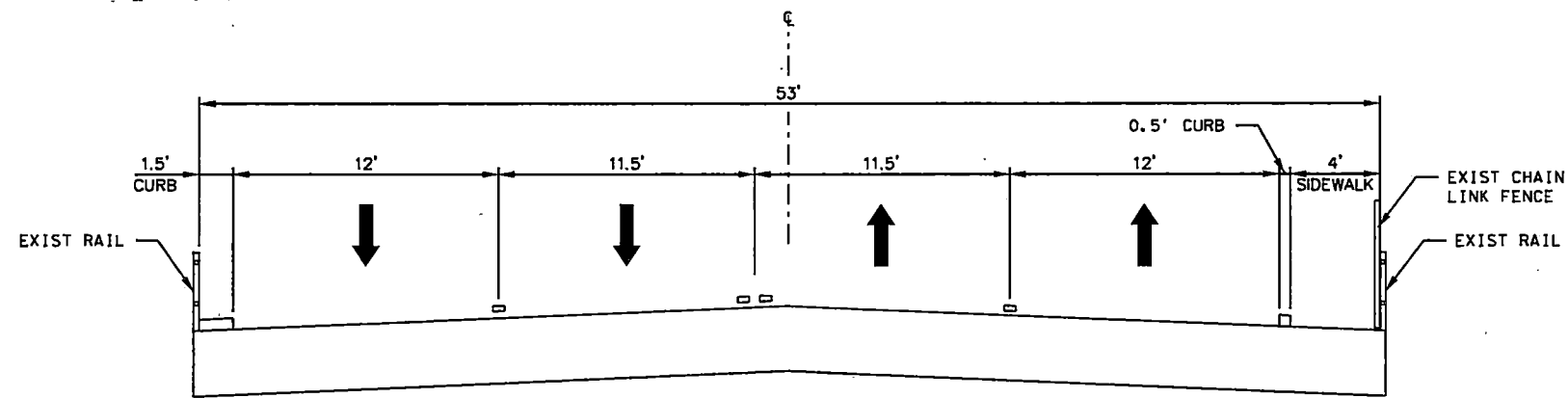


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 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

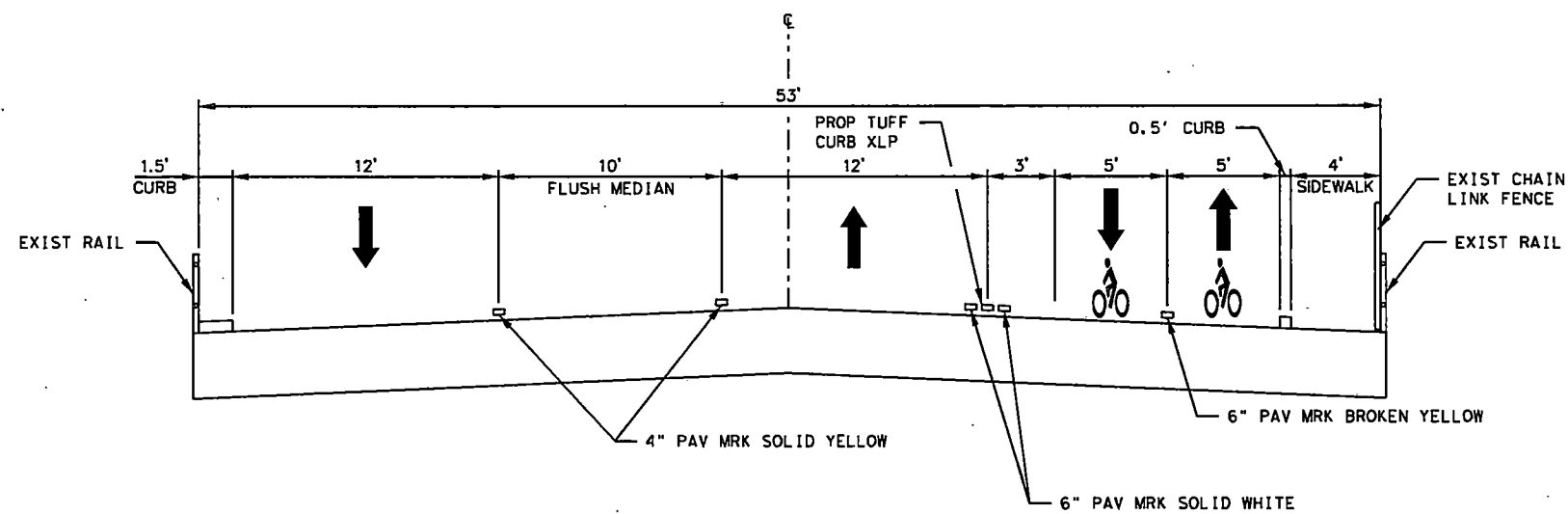


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 FIRM#: F-4014

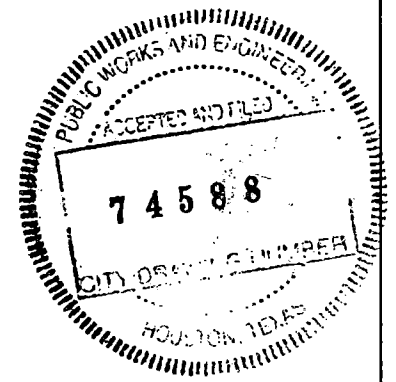
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 3 OF 3	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	NTS	77	



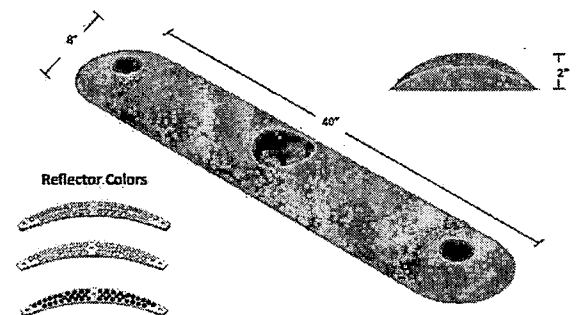
EXISTING TYPICAL SECTION  
QUITMAN STREET BRIDGE OVER IH 45



PROPOSED PAVEMENT MARKING TYPICAL SECTION  
QUITMAN STREET BRIDGE OVER IH 45



Tuff Curb® XLP



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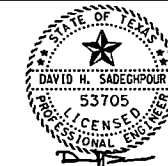
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
AD		08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	NTS	7A /	



**GENERAL**

1. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE BEGINNING CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SECURITY TO PROTECT THE PROJECT SITE, CONTRACTOR PROPERTY, EQUIPMENT, AND WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING STREETS OF CONSTRUCTION DIRT AND DEBRIS AT CLOSE OF EACH WORK DAY.
4. THE CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY, UPON COMPLETION OF THE JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR, ALONG WITH CONCURRENCE FROM THE FIELD ENGINEER, SHALL DETERMINE HIS/HER LAY-DOWN AND/OR STAGING AREA LOCATIONS.
6. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS A MINIMUM OF 24 HOURS PRIOR TO BLOCKING DRIVEWAYS OR ENTERING UTILITY EASEMENTS.
7. TRAFFIC INGRESS AND EGRESS FOR DRIVEWAYS AND PEDESTRIAN ACCESS FACILITIES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
8. THE CONTRACTOR SHALL REMOVE ANY FENCES, POSTS, MAILBOXES, PLANTERS, PERMANENT TRASH CONTAINERS, CULVERTS, ETC. OR SECTIONS THEREOF, THAT ENCRITCH WITHIN THE COUNTY'S RIGHT-OF-WAY. NOTE: PRIOR TO CONSTRUCTION, THE PROPERTY OWNER WAS PAID TO RELOCATE OR REPLACE THESE ITEMS OUTSIDE OF THE COUNTY'S RIGHT-OF-WAY. IF THE OWNER HAS FAILED TO DO SO, THE CONTRACTOR WILL REPLACE THEM WITH THE MINIMUM LEVEL OF QUALITY NEEDED TO SECURE THE PROPERTY AND/OR MAINTAIN MAIL DELIVERY. IN THAT CASE, PAYMENT FOR THESE INSTALLATIONS WILL BE INCLUDED AS EXTRA WORK ITEMS OR AS OVERRUNS TO EXISTING PAY ITEMS.  
  
ANY DAMAGE CAUSED BY THE CONTRACTOR TO SUCH ITEMS LOCATED OUTSIDE OF THE COUNTY'S RIGHT-OF-WAY, SHALL BE REPLACED WITH LIKE-KIND OR BETTER AT THE CONTRACTOR'S EXPENSE.  
  
ALSO, IF THESE ITEMS ARE LOCATED WITHIN THE PROJECT RIGHT-OF-WAY AND ARE DESIGNATED TO REMAIN, ANY DAMAGE CAUSED BY THE CONTRACTOR TO SUCH ITEMS, SHALL BE REPLACED WITH LIKE-KIND OR BETTER AT THE CONTRACTOR'S EXPENSE.  
  
TREES, BUSHES, SHRUBBERY AND OTHER DAMAGED PLANTINGS DESIGNATED TO REMAIN SHALL BE REPLACED WITHIN 72 HOURS OF REMOVAL AND ARE TO BE THOROUGHLY WATERED-IN. NO SEPARATE PAY.
9. PAVED SURFACES, PAVEMENT MARKERS AND MARKINGS SHALL BE PROTECTED FROM DAMAGE BY TRACKED EQUIPMENT.
10. IRON RODS DISTURBED DURING CONSTRUCTION ARE TO BE REPLACED BY A REGISTERED PROFESSIONAL LAND SURVEYOR FOR THE ORIGINAL PROPERTY OWNER AT NO SEPARATE PAY.
11. CONSTRUCTION STAKING WILL BE PROVIDED BY THE CONTRACTOR. TWO COPIES OF STAKING NOTES TO BE PROVIDED TO THE ENGINEER PRIOR TO CONSTRUCTION.
12. THE COUNTY OR THE COUNTY'S SURVEYOR SHALL PROVIDE A BENCHMARK OR TEMPORARY BENCHMARK AND SURVEY CONTROLS.
13. THE CONTRACTOR SHALL MAINTAIN UPDATED RED-LINED RECORD DRAWINGS ON SITE FOR INSPECTION BY THE ENGINEER.
14. MOWING, MAINTENANCE, AND CLEAN-UP OF THE PROJECT SHALL MEET THE REQUIREMENT OF SPECIFICATION ITEM 560 (NO SEPARATE PAY). MOWING, MAINTENANCE, AND CLEAN-UP IS REQUIRED FOR THE PROJECT LIMITS AND DURATION, REGARDLESS OF THE CONTRACTOR'S SCOPE OF ACTIVITIES WITHIN THE PROJECT LIMITS.
15. THE REMOVAL OF ANY ABANDONED UTILITIES REQUIRED TO COMPLETE THE WORK SHALL BE INCIDENTAL AND NO SEPARATE PAYMENT SHALL BE MADE.
16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STOCKPILE NECESSARY MATERIAL ON-SITE OR AT A SECURED OFF-SITE LOCATION AT NO ADDITIONAL EXPENSE TO HARRIS COUNTY. ANY SUITABLE EXCAVATED MATERIAL ON THE PROJECT WHICH IS AVAILABLE AT THE TIME OF NEED; WHETHER FROM STORM SEWER, ROADWAY, AND/OR CHANNEL EXCAVATION, SHALL BE USED BEFORE BORROW IS BROUGHT ON-SITE.
17. MANHOLES, JUNCTION BOXES, INLETS, AND RISERS ARE TO BE PRE-CAST OR CAST IN PLACE.

**TRAFFIC SIGNAL**

1. ALL ITEMS RELATING TO THE CONSTRUCTION OF TRAFFIC SIGNAL INSTALLATIONS, EXCEPT FOR PUNCHLIST ITEMS, SHALL BE COMPLETED PRIOR TO THE ACTIVATION OF THE SIGNAL SYSTEM(S), UNLESS OTHERWISE REQUIRED BY THE CONTRACT.
2. THE CONTRACTOR SHALL MEET WITH THE HARRIS COUNTY TRAFFIC SIGNAL MAINTENANCE GROUPS FIELD INSPECTOR, HEREAFTER REFERRED TO AS THE TRAFFIC INSPECTOR, ONE-WEEK PRIOR TO THE DESIRED ACTIVATION OF ANY NEW TRAFFIC SIGNALS. THE CONTRACTOR SHALL OBTAIN VERBAL CONCURRENCE FROM THE TRAFFIC INSPECTOR THAT ADEQUATE PROGRESS HAS BEEN ACHIEVED AND THAT ADEQUATE PREPARATIONS ARE IN PLACE TO SCHEDULE A PRE-"TURN ON" WALK-THROUGH INSPECTION MEETING. IF IN THE OPINION OF THE TRAFFIC INSPECTOR, REQUIRED PROGRESS AND ADEQUATE PREPARATIONS ARE NOT COMPLETE, THE PRE-"TURN ON" WALK-THROUGH INSPECTION MEETING WILL BE POSTPONED TO ALLOW ADEQUATE TIME FOR INCOMPLETE CONSTRUCTION ITEMS AND PREPARATIONS TO BE COMPLETED. AFTER THE CONTRACTOR HAS COMPLETED ALL INCOMPLETE ITEMS AND PREPARATIONS, THE CONTRACTOR SHALL REQUEST THE TRAFFIC INSPECTOR REVIEW AND APPROVE ITEMS PREVIOUSLY IDENTIFIED. IF, IN THE OPINION OF THE TRAFFIC INSPECTOR, ALL ITEMS HAVE BEEN ADDRESSED SATISFACTORILY, THE DATE OF THE PRE-"TURN ON" WALK-THROUGH INSPECTION SHALL BE ESTABLISHED. TIME EXTENSIONS TO THE CONTRACT TIME WILL NOT BE GRANTED FOR DELAYS CAUSED BY INCOMPLETE CONSTRUCTION OR INADEQUATE CONTRACTOR PREPARATIONS REQUIRED TO COMPLETE TRAFFIC SIGNAL SYSTEM WITHIN THE TIMEFRAME SET FORTH IN THE CONTRACT.
3. PRIOR TO ACTIVATING A NEW TRAFFIC SIGNAL, THE CONTRACTOR SHALL REQUEST A PRE-TURN ON WALK-THROUGH INSPECTION MEETING, IN ACCORDANCE WITH ITEM 2. THE PURPOSE OF THE MEETING WILL BE TO ESTABLISH THAT THE TRAFFIC SIGNAL SYSTEM HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT, AND IN A MANNER THAT DOES NOT ADVERSELY IMPACT PUBLIC SAFETY. THIS MEETING SHALL BE ATTENDED BY THE TRAFFIC INSPECTOR, THE ENGINEER OF RECORD, AND THE CONTRACTOR. AS A MINIMUM, ANY DEFICIENCIES THAT ADVERSELY IMPACT PUBLIC SAFETY WILL BE IDENTIFIED FOR CORRECTION PRIOR TO ESTABLISHING THE "TURN ON" DATE FOR THE TRAFFIC SIGNAL SYSTEM. ITEMS THAT HAVE AN IMPACT ON PUBLIC SAFETY INCLUDE, BUT ARE NOT LIMITED TO: PAVEMENT MARKINGS AND SIGNAGE, PROPER AND ACCEPTABLE BONDING OF EARTH GROUNDS, PROPERLY ALIGNED TRAFFIC SIGNALS, FULLY OPERATIONAL VEHICULAR AND PEDESTRIAN DETECTION, COMPLETED CABINET-TO-FIELD WIRING, AND PROPERLY TERMINATED ELECTRICAL SERVICE CONDUCTORS. FAILURE TO ADDRESS THE PUNCHLIST ITEMS IDENTIFIED AS BEING CRITICAL TO PUBLIC SAFETY PRIOR TO THE PRE-TURN ON WALK-THROUGH MEETING WILL RESULT IN THE "TURN ON" BEING POSTPONED TO ALLOW ADEQUATE TIME FOR THE INCOMPLETE ITEMS TO BE COMPLETED. AT SUCH TIME AS MEETING ATTENDEES AGREE THAT THE TRAFFIC SIGNAL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT, AND THAT THE TRAFFIC SIGNAL, AS IT EXISTS, IS NOT A THREAT TO PUBLIC SAFETY, A "TURN ON" DATE WILL BE ESTABLISHED.
4. THE CONTRACTOR SHALL HAVE 10 DAYS FROM THE DATE THE TRAFFIC SIGNAL SYSTEM IS TURNED ON TO COMPLETE ANY PUNCHLIST ITEMS IDENTIFIED AT THE PRE-"TURN ON" WALK-THROUGH MEETING OR AT THE TIME THE SIGNAL SYSTEM IS ACTIVATED THAT ARE NOT OTHERWISE ADDRESSED PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL SYSTEM.
5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO STANDARD SPECIFICATION ITEM 1000, TRAFFIC SIGNAL INSTALLATION AND MODIFICATION, WHICH INCLUDES PROCEDURES AND REQUIREMENTS REGARDING ACTIVATION OF TRAFFIC SIGNAL CONTROL SYSTEMS. THE PROJECT MANUAL MAY INCLUDE SPECIAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS RELATED TO PROPOSED TRAFFIC CONTROL SIGNAL SYSTEM INSTALLATION(S) AND MODIFICATION(S) REQUIRING THE CONTRACTOR'S ADHERENCE TO DEFINED CHECKLISTS, PROCEDURES AND/OR REPORTS AT NO ADDITIONAL COST TO THE COUNTY BEYOND THE ESTABLISHED BID ITEMS OF THE CONTRACT.

**TRAFFIC CONTROL**

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE APPROVED TRAFFIC CONTROL PLAN.
2. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS EXCEPT DURING FLAGGING OPERATION OR PROVIDE DETOURS AROUND THE CONSTRUCTION SITE AND PROVIDE PUBLIC NOTIFICATION.
3. LANE CLOSURES SHALL BE DURING OFF-PEAK HOURS ONLY (MONDAY THROUGH FRIDAY 9 A.M. TO 4 P.M.) UNIFORMED PEACE OFFICERS OR FLAGGERS IN RADIO CONTACT ARE REQUIRED TO DIRECT TRAFFIC DURING LANE CLOSURES.
4. DETOURS REQUIRE PRIOR APPROVAL OF THE FIELD ENGINEER AND PRECINCT. DETOUR PLANS, IF ALLOWED, MUST INCLUDE APPROPRIATE DETOUR SIGNAGE, PUBLIC NOTICE VIA SIGNAGE TWO WEEKS IN ADVANCE STATING THE DATES OF THE AGREED UPON DATE OF CLOSURE AND DATE THE ROAD WILL RE-OPEN TO TRAFFIC. CONTRACTOR TO USE (WITH PRIOR APPROVAL OF THE FIELD ENGINEER) HIGH EARLY STRENGTH CONCRETE AND OTHER RELATED CONSTRUCTION METHODS TO MINIMIZE THE DURATION OF THE DETOUR AND TO ENSURE THAT THE ROADWAY IS OPEN ON, OR PRIOR TO, THE AGREED UPON DATE.
5. ONE DAY PRIOR TO THE IMPLEMENTATION OF A TRAFFIC CONTROL PLAN PHASE OR STEP, OR THE IMPLEMENTATION OF AN ADDITIONAL, REVISED, OR NEW TRAFFIC CONTROL ELEMENT, THE CONTRACTOR SHALL MEET WITH THE ENGINEER TO GIVE A DETAILED DESCRIPTION OF THE CONTRACTOR'S PLAN AND PREPARATIONS. THE CONTRACTOR SHALL OBTAIN WRITTEN CONCURRENCE FROM THE ENGINEER THAT ADEQUATE PROJECT PROGRESS HAS BEEN ACHIEVED AND THAT ADEQUATE PREPARATIONS ARE IN PLACE PRIOR TO SWITCHING TRAFFIC. IF, IN THE OPINION OF THE ENGINEER, REQUIRED PROGRESS AND ADEQUATE PREPARATIONS ARE NOT COMPLETE, THE CONTRACTOR SHALL NOT IMPLEMENT THE NEXT PHASE, STEP, OR ELEMENT OF TRAFFIC CONTROL UNTIL INCOMPLETE CONSTRUCTION ITEMS OR PREPARATIONS ARE COMPLETED. TIME EXTENSIONS WILL NOT BE GRANTED FOR DELAYS CAUSED BY THE INCOMPLETE CONSTRUCTION ITEMS OR INADEQUATE CONTRACTOR PREPARATIONS REQUIRED TO IMPLEMENT TRAFFIC CONTROL.
6. TRAFFIC CONTROL PER THE CONTRACT IS REQUIRED FOR THE ENTIRE DURATION OF THE PROJECT, INCLUDING THE PUNCHLIST PERIOD. PAYMENT FOR TRAFFIC CONTROL THAT IS PROPERLY INSTALLED FOR LESS THAN A FULL MONTH SHALL BE BASED ON A PERCENTAGE BASIS OF THE TIME INSTALLED. TRAFFIC CONTROL PAYMENTS TO THE CONTRACTOR SHALL END 10 DAYS AFTER SUBSTANTIAL COMPLETION, ALTHOUGH PROPER TRAFFIC CONTROL MUST BE MAINTAINED UNTIL PUNCHLIST COMPLETION.
7. THE PURPOSE OF THE CONSTRUCTION SEQUENCE AND TRAFFIC HANDLING OUTLINED HEREIN IS TO DOCUMENT A VIABLE TCP THAT CAN BE UTILIZED TO CONSTRUCT THE PROJECT. IT IS THE BASIS OF ESTIMATION FOR THE TRAFFIC CONTROL BID ITEMS, AND IS TO BE UTILIZED AND IMPLEMENTED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.  
  
IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT TCP, HE/SHE SHALL PREPARE AND SUBMIT THE ALTERNATIVE TCP TO THE COUNTY FOR APPROVAL NO LESS THAN 10 WORKING DAYS PRIOR TO THE PROPOSED IMPLEMENTATION DATE. THE TCP SHALL BE DRAWN TO SCALE AND SIGNED & SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS. UPON APPROVAL BY HARRIS COUNTY, THE ALTERNATIVE PLAN SHALL BECOME THE BASIS FOR A "CHANGE IN CONTRACT" TO REVISE THE TRAFFIC CONTROL BID ITEMS ACCORDINGLY AND BECOME PART OF THE CONTRACT DOCUMENTS.

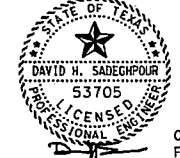
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NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 1 OF 2	
DATE:	08-19-2022	SCALE:	
CHECKED BY:	DHS	SHEET NO:	8 /



**CAUTION: UNDERGROUND GAS FACILITIES**

- THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
- WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713)207-5463 OR (713)945-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713)659-3552 OR (713)207-4200.

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

**WARNING: OVERHEAD ELECTRICAL LINES**

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

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

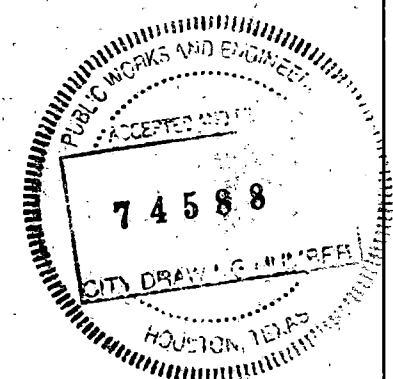
PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713)207-2222.

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

**AT&T/SWBT UNDERGROUND FACILITIES**

- 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.
- THE CONTRACTOR SHALL CALL 1-800-344-8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
- 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.
- 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.
- 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.
- PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER ROOSEVELT LEE, JR. AT (713)567-4552 OR E-MAIL HIM AT RL7259@ATT.COM, IF CABLE LOCATE REQUESTS ARE NOT COMPLETED FOR OUR AT&T TEXAS/SWBT FACILITIES.



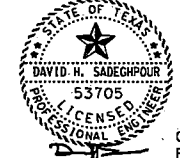
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

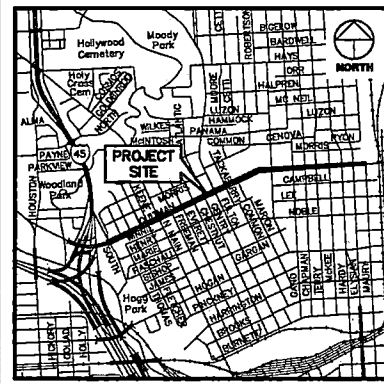


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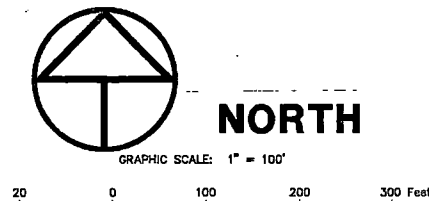


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
		ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:		GENERAL NOTES	
DRAWN BY:	AD	SHEET 2 OF 2	DATE: 08-19-2022
CK'D BY:	DHS	SCALE:	SHEET NO: 8A /



CITY OF HOUSTON, HARRIS COUNTY, TEXAS  
VICINITY MAP  
SCALE: 1" = 2,000'



**LEGEND**

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- BO - BOLLARD
  - MC - MANHOLE
  - GM - GAS METER
  - DV - GAS VALVE
  - PH - FIRE HYDRANT
  - WM - WATER METER
  - WV - WATER VALVE
  - ICV - IRRIGATION CONTROL VALVE
  - GI - GRATE INLET
  - CI - CLEANOUT
  - TE - TELEPHONE PEDestal
  - EB - ELECTRIC BOX
  - TSS - TRAFFIC SIGNAL BOX
  - LP - LIGHT POLE
  - TLP - TRAFFIC LIGHT POLE
  - GL - GROUND/SPOT LIGHT
  - MB - MAIL BOX
  - WR - WATER RISER
  - FDC - FIRE DEPARTMENT CONNECTION
  - TB - TELEPHONE BOX
  - PP - POWER POLE
  - PP/T - POWER POLE W/TRANSFORMER
  - PP/LT - POWER POLE W/LIGHT
  - PP/CT - POWER POLE W/CONDUIT
  - MP - METER POLE
  - SP - SERVICE POLE
  - CA - CUY ANCHOR
  - OP - OVERHEAD POWER LINE
  - BWF - BARBED WIRE FENCE
  - WIF - WROUGHT IRON FENCE
  - WF - WOOD FENCE
  - CF - CHAINLINK FENCE
  - GP - GATE POST
  - PF - PER PLANS
  - APPROX - APPROXIMATE
  - HIGHBANK - HIGHBANK
  - SG - SIGN
  - PLM - PIPELINE MARKER
  - TSP - TRAFFIC SIGNAL POLE
  - GR - GUARD RAIL
  - UCS - UNDERGROUND CABLE SIGN
  - CTL - CATHODIC TEST LEAD
  - MW - MONITORING WELL
  - PF - PIN FLAG/PAINT MARK
  - TO - TOP OF CURB
  - G - GUTTER
  - TD - TOP OF GRATE
  - FL - FLOW LINE
  - HB - HIGHBANK
  - SAN - SANITARY SEWER
  - STM - STORM SEWER
  - CMP - CORRUGATED METAL PIPE
  - CPP - CORRUGATED PLASTIC PIPE
  - RCPP - REINFORCED CONCRETE PIPE
  - TEL - TELEPHONE
  - SWBT - SOUTHWESTERN BELL TELEPHONE CO.
  - WTR - WATER
  - UG - UNDERGROUND
  - ER - ELECTRIC RACK
  - FO - FOUND
  - H.C.C.F. - HARRIS COUNTY CLERK FILE
  - H.C.D.R. - HARRIS COUNTY DEED RECORDS
  - H.C.M.R. - HARRIS COUNTY MAP RECORDS
  - P - IRON PIPE
  - R - IRON ROD
  - NO. - NUMBER
  - PA - PAGE
  - R.O.W. - RIGHT-OF-WAY
  - SQ. FT. - SQUARE FEET
  - Vol. - VOLUME
  - F.A. - FILM CODE
  - B.L. - BUILDING LINE
  - U.L.E. - UTILITY EASEMENT
  - TRC/SURUB - TREE/SURUB

**GENERAL NOTES**

- BEARINGS WERE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
- ALL COORDINATES SHOWN HEREON ARE GRID COORDINATES AND MAY BE BROUGHT TO SURFACE BY APPLYING THE FOLLOWING SCALE FACTOR: 0.999895335.

**BENCHMARK PUBLISHED ELEVATION - 43.26'**

HARRIS COUNTY FLOODPLAIN REFERENCE MARKS NO. 050010 BEING A BRASS DISC STAMPED "BM12 WEISSER" SET ON THE EAST R.O.W. LINE OF HOUSTON APPROXIMATELY 0.15 MILE SOUTH FROM ITS INTERSECTION OF WHITE OAK BAYOU DRIVE. (NAVDB8, 2001 ADJUSTMENT)

**TEMPORARY BENCHMARK "A" ELEVATION - 46.53**

BEING A CUT BOX SET ON CONCRETE INLET LOCATED ON THE EAST SIDE OF GANO STREET APPROXIMATELY 35 FEET NORTH FROM THE CENTER LINE OF QUITMAN STREET. (SHOWN HEREON)

**TEMPORARY BENCHMARK "B" ELEVATION - 46.54**

BEING A CUT BOX SET ON CONCRETE INLET LOCATED ON THE NORTH SIDE OF QUITMAN STREET APPROXIMATELY 60 FEET WEST FROM THE CENTER LINE OF FULTON STREET. (SHOWN HEREON)

**TEMPORARY BENCHMARK "C" ELEVATION - 48.22**

BEING A CUT BOX SET ON CONCRETE INLET LOCATED ON THE NORTH SIDE OF QUITMAN STREET APPROXIMATELY 110 FEET WEST FROM THE CENTER LINE OF NORTH MAIN STREET. (SHOWN HEREON)

**TEMPORARY BENCHMARK "D" ELEVATION - 57.73**

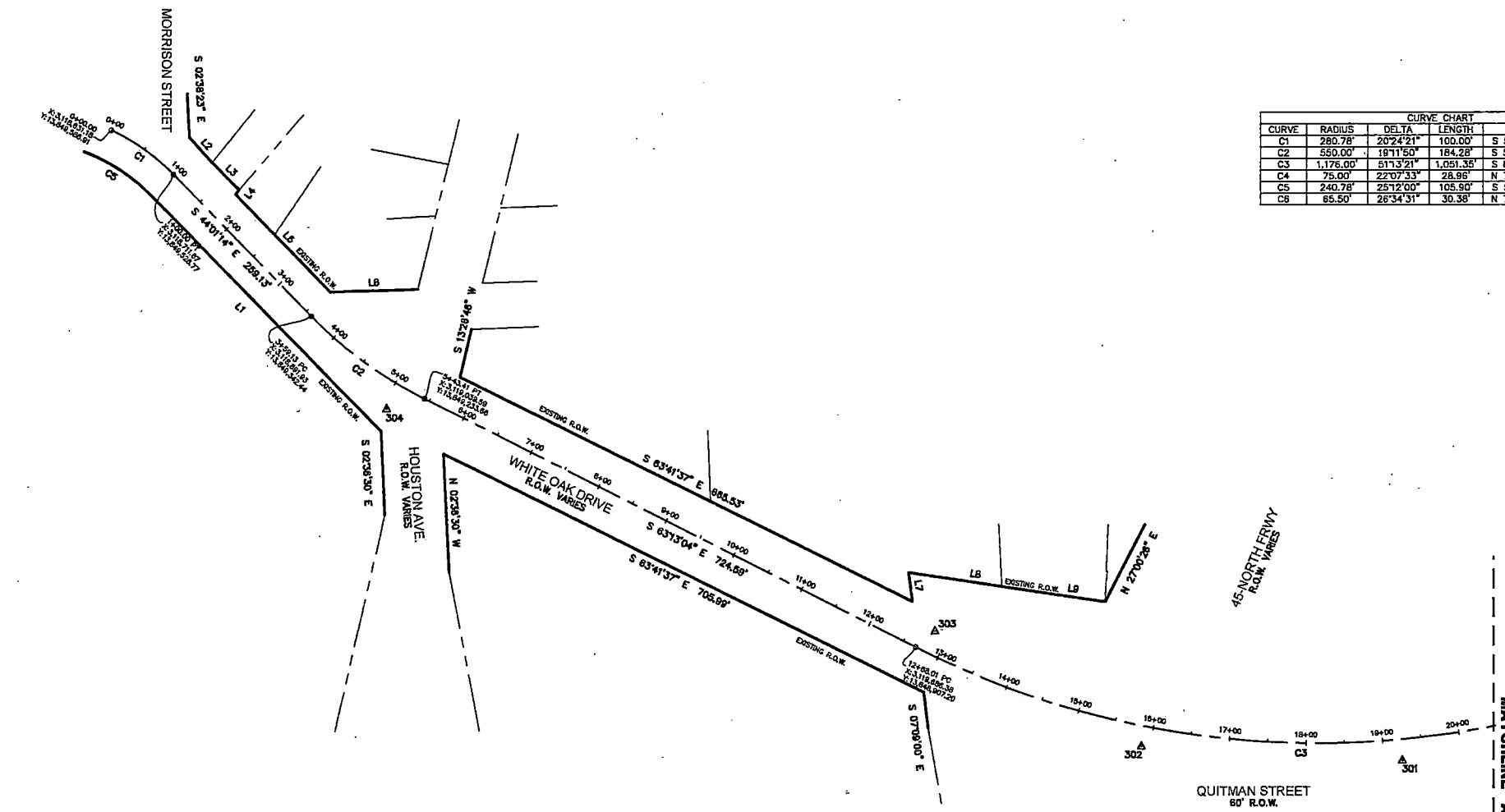
BEING A CUT BOX SET ON CONCRETE INLET LOCATED ON THE SOUTH SIDE OF QUITMAN STREET APPROXIMATELY 175 FEET WEST FROM THE CENTER LINE OF SOUTH STREET.

**TEMPORARY BENCHMARK "E" ELEVATION - 27.16**

BEING A BOX CUT ON STORM INLET LOCATED ON THE NORTHEAST SIDE OF WHITE OAK DRIVE +/- 66 FEET NORTHWEST FROM THE INTERSECTION OF WHITE OAK DRIVE AND HOUSTON AVENUE.

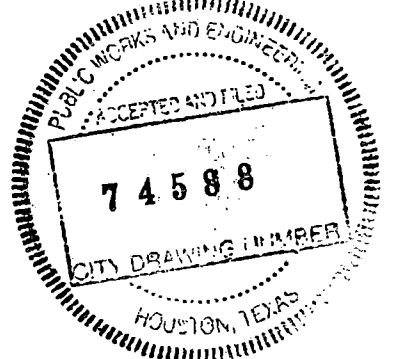
**TEMPORARY BENCHMARK "F" ELEVATION - 45.32**

BEING A BOX CUT ON STORM INLET LOCATED ON THE SOUTH SIDE OF QUITMAN STREET +/- 40 FEET WEST FROM THE INTERSECTION OF MAURY STREET AND QUITMAN STREET.



CURVE CHART					
CURVE	RADIUS	DELTA	LENGTH	BEARING	CHORD
C1	280.78	20°42'31"	100.00'	S 54°13'29" E	99.47'
C2	550.00	18°11'50"	184.28'	S 53°37'08" E	183.42'
C3	1,176.00	5°11'32"	1,051.35'	S 88°49'45" E	1,016.68'
C4	75.00	22°07'33"	28.86'	N 76°37'00" E	28.78'
C5	240.78	25°12'00"	105.50'	S 58°37'14" E	105.05'
C6	65.50	26°34'31"	30.38'	N 78°59'55" E	30.11'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S 44°01'14" E	431.18'
L2	S 41°52'50" E	45.01'
L3	S 44°56'11" E	50.28'
L4	S 40°25'46" W	7.70'
L5	S 44°01'14" E	178.90'
L6	N 88°19'46" E	113.65'
L7	N 07°09'00" W	38.21'
L8	N 81°29'27" W	175.27'
L9	S 81°41'49" E	87.48'
L10	N 65°33'57" E	185.46'
L11	N 65°33'57" E	200.00'
L12	N 65°33'57" E	200.00'
L13	N 65°33'57" E	110.00'
L14	N 65°33'57" E	210.00'
L15	N 65°33'57" E	192.17'
L16	N 20°32'13" E	25.22'
L17	N 20°32'13" E	22.51'
L18	S 66°12'53" E	42.44'
L19	N 65°33'14" E	161.56'
L20	N 65°33'14" E	210.00'
L21	N 65°33'14" E	198.77'
L22	N 65°33'14" E	200.00'
L23	N 65°33'14" E	180.00'
L24	N 20°33'14" E	21.21'
L25	N 65°33'14" E	180.00'
L26	S 69°26'46" E	21.21'
L27	N 20°33'14" E	21.21'
L28	N 65°33'14" E	185.00'
L29	S 69°26'50" E	21.30'
L30	N 87°40'47" E	200.16'
L31	N 42°40'47" E	21.21'
L32	N 87°40'47" E	181.13'
L33	N 87°40'47" E	200.00'
L34	N 87°40'47" E	200.00'
L35	N 87°40'47" E	200.00'
L36	N 87°40'47" E	200.00'
L37	N 87°40'47" E	200.00'
L38	N 87°40'47" E	200.00'
L39	N 87°40'47" E	202.00'
L40	N 87°40'47" E	202.00'
L41	N 87°40'47" E	185.00'
L42	N 87°40'47" E	190.00'
L43	N 87°40'47" E	200.00'
L44	N 87°40'47" E	200.00'



**SURVEYOR'S CERTIFICATION**

I DO HEREBY CERTIFY TO THE ABOVE LISTED THAT THIS SURVEY WAS THIS DAY MADE ON THE GROUND AND WAS PERFORMED UNDER MY SUPERVISION, THAT THIS PLAT CORRECTLY REPRESENTS THE PROPERTY LEGALLY DESCRIBED HEREON, THAT THE FACTS FOUND AT THE TIME OF THIS SURVEY SHOW THE IMPROVEMENTS AND THAT THERE ARE NO VISIBLE ENCROACHMENTS APPARENT ON THE GROUND, EXCEPT AS SHOWN. THIS SURVEY SUBSTANTIALLY CONFORMS TO THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 6, CONDITION II SURVEY, TO THE BEST OF MY KNOWLEDGE.

ROBERT KNESS  
Registered Professional Land Surveyor  
Texas Registration No. 6486

DATE: 03-11-2021

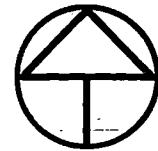
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



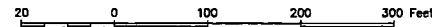
**WINDROSE**  
LAND SURVEYING & PLATTING  
11111 RICHMOND AVE STE 100 | HOUSTON, TX 77062 | 713.668.2291  
EIN 832834300 INC. 10102820 | WWW.WINDROSE-INC.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION:	CONTROL SHEET
DRAWN BY:	AT
DATE:	03-11-2021
CK'D BY:	TW
SCALE:	1"=100'
SHEET NO.:	9 /



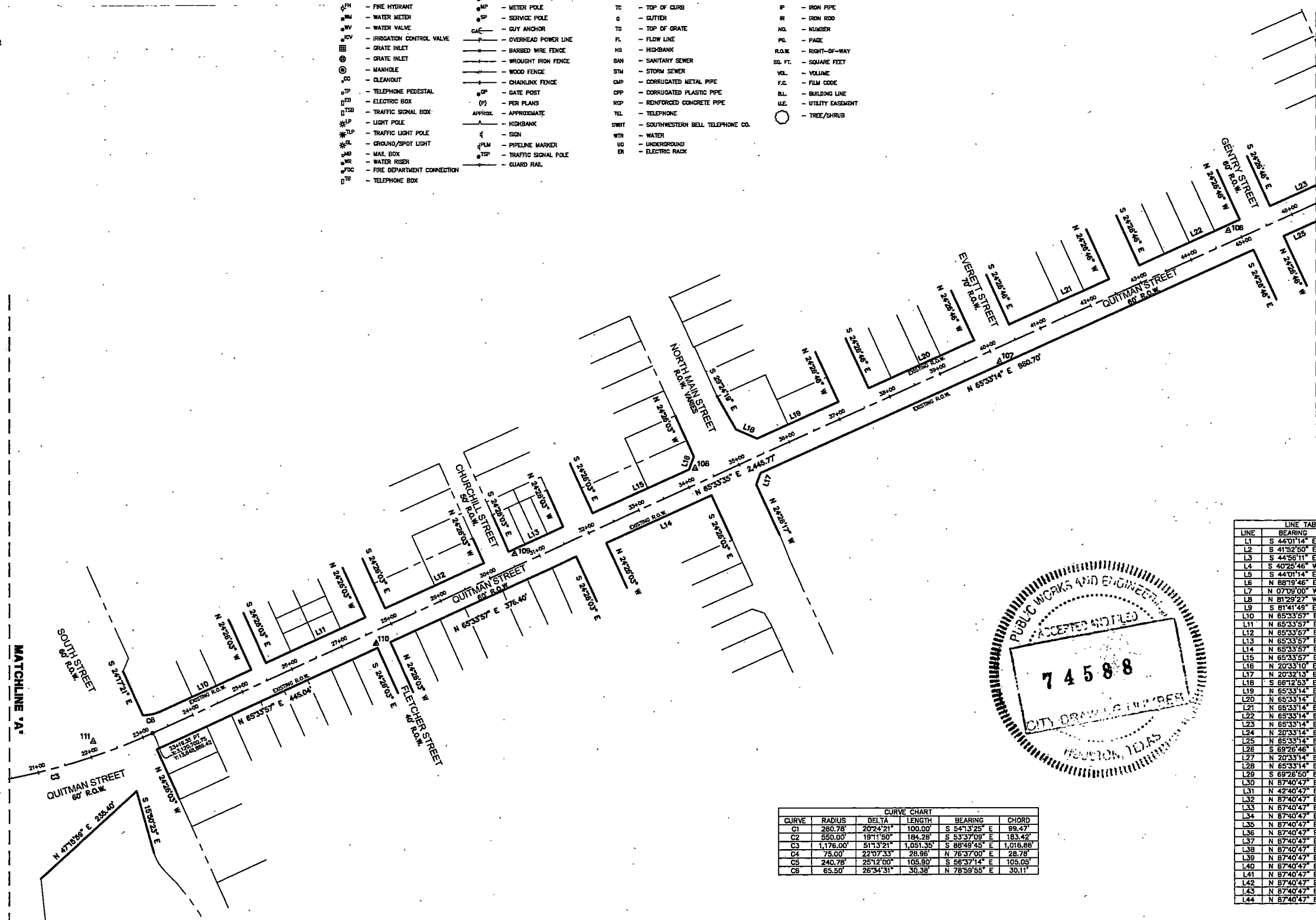
**NORTH**

GRAPHIC SCALE: 1" = 100'



**LEGEND**

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- BOLLARD
  - HANDICAP
  - GAS METER
  - GAS VALVE
  - FIRE HYDRANT
  - WATER METER
  - WATER VALVE
  - IRRIGATION CONTROL VALVE
  - GRATE INLET
  - GRATE INLET
  - MANHOLE
  - CLEANOUT
  - TELEPHONE PEDestal
  - ELECTRIC BOX
  - TRAFFIC SIGNAL BOX
  - LIGHT POLE
  - TRAFFIC LIGHT POLE
  - GROUND/SPOT LIGHT
  - MAIL BOX
  - WATER RISER
  - FIRE DEPARTMENT CONNECTION
  - TELEPHONE BOX
  - POWER POLE
  - POWER POLE W/TRANSFORMER
  - POWER POLE W/LIGHT
  - POWER POLE W/CONDUIT
  - METER POLE
  - SERVICE POLE
  - GUY ANCHOR
  - OVERHEAD POWER LINE
  - BARBED WIRE FENCE
  - WROUGHT IRON FENCE
  - WOOD FENCE
  - CHAINLINK FENCE
  - GATE POST
  - PER PLANS
  - APPROXIMATE
  - HIGHBANK
  - SIGN
  - PIPELINE MARKER
  - TRAFFIC SIGNAL POLE
  - GUARD RAIL
  - UNDERGROUND CABLE SIGN
  - CATHODIC TEST LEAD
  - MONITORING WELL
  - PIN FLAG/PAINT MARK
  - TOP OF CURB
  - GUTTER
  - TOP OF GRATE
  - FLOW LINE
  - HIGHBANK
  - SANITARY SEWER
  - STORM SEWER
  - CORRUGATED METAL PIPE
  - CORRUGATED PLASTIC PIPE
  - REINFORCED CONCRETE PIPE
  - TELEPHONE
  - SOUTHWESTERN BELL TELEPHONE CO.
  - SIGN
  - UNDERGROUND
  - ELECTRIC RACK
  - FOUND
  - H.C.C.F. - HARRIS COUNTY CLERK FILE
  - H.C.D.R. - HARRIS COUNTY DEED RECORDS
  - H.C.M.R. - HARRIS COUNTY MAP RECORDS
  - IRON PIPE
  - IRON ROD
  - NUMBER
  - PAGE
  - RIGHT-OF-WAY
  - SQUARE FEET
  - VOLUME
  - FILM CODE
  - BUILDING LINE
  - UTILITY EASEMENT
  - TREE/SHRUB



LINE	BEARING	DISTANCE
L1	S 44°01'14" E	431.18'
L2	S 41°52'50" E	45.01'
L3	S 44°56'11" E	50.28'
L4	S 40°25'46" W	7.70'
L5	S 44°01'14" E	178.90'
L6	N 88°19'46" E	113.85'
L7	N 07°09'00" W	38.21'
L8	N 81°29'27" W	175.27'
L9	S 81°41'49" E	87.48'
L10	N 65°33'57" E	185.46'
L11	N 65°33'57" E	200.00'
L12	N 65°33'57" E	200.00'
L13	N 65°33'57" E	110.00'
L14	N 65°33'57" E	210.00'
L15	N 65°33'57" E	192.17'
L16	N 20°33'10" E	25.22'
L17	N 20°33'10" E	22.51'
L18	S 66°12'53" E	42.44'
L19	N 65°33'14" E	161.55'
L20	N 65°33'14" E	210.00'
L21	N 65°33'14" E	198.77'
L22	N 65°33'14" E	200.00'
L23	N 65°33'14" E	180.00'
L24	N 20°33'14" E	21.21'
L25	N 65°33'14" E	180.00'
L26	S 69°26'46" E	21.21'
L27	N 20°33'14" E	21.21'
L28	N 65°33'14" E	185.00'
L29	S 69°26'50" E	21.30'
L30	N 67°40'47" E	200.16'
L31	N 42°40'47" E	21.21'
L32	N 67°40'47" E	191.13'
L33	N 67°40'47" E	200.00'
L34	N 67°40'47" E	200.00'
L35	N 67°40'47" E	200.00'
L36	N 67°40'47" E	200.00'
L37	N 67°40'47" E	200.00'
L38	N 67°40'47" E	200.00'
L39	N 67°40'47" E	202.00'
L40	N 67°40'47" E	202.00'
L41	N 67°40'47" E	185.00'
L42	N 67°40'47" E	190.00'
L43	N 67°40'47" E	200.00'
L44	N 67°40'47" E	200.00'



CURVE	RADIUS	DELTA	LENGTH	BEARING	CHORD
C1	280.78'	202°4'21"	100.00'	S 54°13'25" E	98.47'
C2	550.00'	191°1'50"	184.28'	S 53°37'09" E	183.42'
C3	1,176.00'	51°13'21"	1,051.35'	S 88°49'45" E	1,018.68'
C4	75.00'	22°07'33"	28.96'	N 76°37'00" E	28.78'
C5	240.78'	25°12'00"	105.90'	S 56°37'14" E	105.05'
C6	65.50'	26°34'31"	30.38'	N 78°59'55" E	30.11'

NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

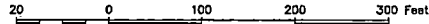


QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: CONTROL SHEET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 10
SCALE: 1"=100'	



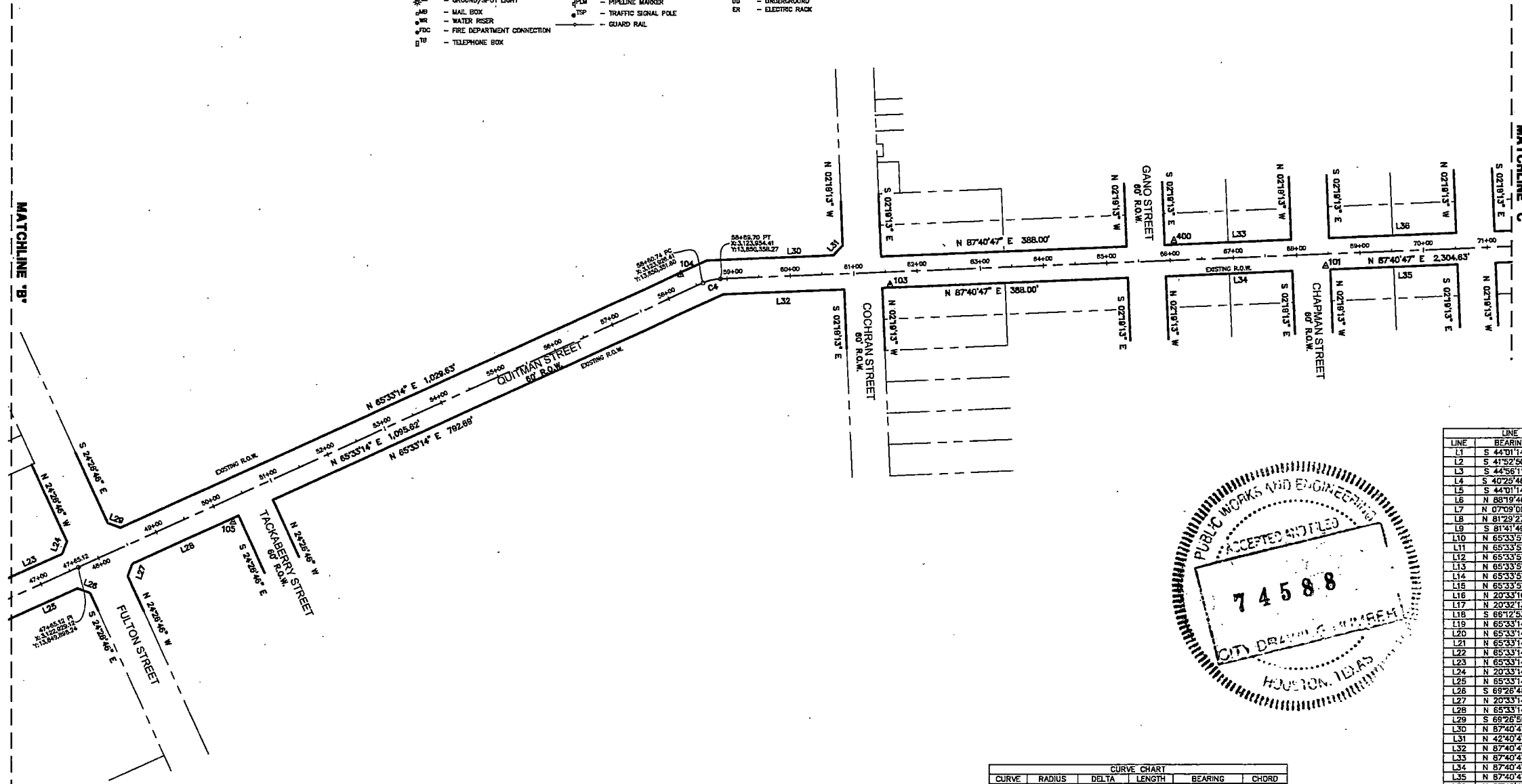
NORTH

GRAPHIC SCALE: 1" = 100'



LEGEND

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- BO - BOLLARD
  - HC - HANDICAP
  - GM - GAS METER
  - GV - GAS VALVE
  - HN - FIRE HYDRANT
  - WM - WATER METER
  - WV - WATER VALVE
  - ICV - IRRIGATION CONTROL VALVE
  - GI - GRATE INLET
  - GR - GRATE INLET
  - MAN - MANHOLE
  - CO - CLEANOUT
  - TP - TELEPHONE PEDESTAL
  - EB - ELECTRIC BOX
  - TSB - TRAFFIC SIGNAL BOX
  - LP - LIGHT POLE
  - TLP - TRAFFIC LIGHT POLE
  - GL - GROUND/SPOT LIGHT
  - MB - MAIL BOX
  - WR - WATER RISER
  - FDC - FIRE DEPARTMENT CONNECTION
  - TB - TELEPHONE BOX
  - PP - POWER POLE
  - PP/T - POWER POLE W/TRANSFORMER
  - PP/LT - POWER POLE W/LIGHT
  - PP/CT - POWER POLE W/CONDUIT
  - MP - METER POLE
  - SP - SERVICE POLE
  - CA - CUY ANCHOR
  - OP - OVERHEAD POWER LINE
  - BWF - BARBED WIRE FENCE
  - WIF - WROUGHT IRON FENCE
  - WF - WOOD FENCE
  - CF - CHAINLINK FENCE
  - GP - GATE POST
  - PL - PER PLANS
  - APPROX - APPROXIMATE
  - H - HIGHBANK
  - S - SIGN
  - PLM - PIPELINE MARKER
  - TSP - TRAFFIC SIGNAL POLE
  - G - GUARD RAIL
  - UCS - UNDERGROUND CABLE SIGN
  - CTL - CATHODIC TEST LEAD
  - MW - MONITORING WELL
  - P - PIN FLAG/PAINT MARK
  - TC - TOP OF CURB
  - Q - QUITTER
  - TG - TOP OF GRATE
  - FL - FLOW LINE
  - HB - HIGHBANK
  - SSN - SANITARY SEWER
  - SSW - STORM SEWER
  - CM - CORRUGATED METAL PIPE
  - CP - CORRUGATED PLASTIC PIPE
  - RC - REINFORCED CONCRETE PIPE
  - TEL - TELEPHONE
  - SWT - SOUTHWESTERN BELL TELEPHONE CO.
  - W - WATER
  - UG - UNDERGROUND
  - ER - ELECTRIC RACK
  - FD - FOUND
  - H.C.C.F. - HARRIS COUNTY CLERK FILE
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  - P - IRON PIPE
  - R - IRON ROD
  - N.D. - NUMBER
  - P.C. - PAGE
  - S.F. - SQUARE FEET
  - VOL. - VOLUME
  - F.C. - FILM CODE
  - B.L. - BUILDING LINE
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  - - TREE/SHRUB



LINE	BEARING	DISTANCE
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L3	S 44°56'11" E	50.28'
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L18	S 66°12'53" E	42.44'
L19	N 65°33'14" E	161.56'
L20	N 65°33'14" E	210.00'
L21	N 65°33'14" E	198.77'
L22	N 65°33'14" E	200.00'
L23	N 65°33'14" E	180.00'
L24	N 20°33'14" E	21.21'
L25	N 65°33'14" E	180.00'
L26	S 69°28'48" E	21.21'
L27	N 20°33'14" E	21.21'
L28	N 65°33'14" E	165.00'
L29	S 69°28'50" E	21.30'
L30	N 87°40'47" E	200.16'
L31	N 42°40'47" E	21.21'
L32	N 87°40'47" E	191.13'
L33	N 87°40'47" E	200.00'
L34	N 87°40'47" E	200.00'
L35	N 87°40'47" E	200.00'
L36	N 87°40'47" E	200.00'
L37	N 87°40'47" E	200.00'
L38	N 87°40'47" E	200.00'
L39	N 87°40'47" E	202.00'
L40	N 87°40'47" E	202.00'
L41	N 87°40'47" E	165.00'
L42	N 87°40'47" E	180.00'
L43	N 87°40'47" E	200.00'
L44	N 87°40'47" E	200.00'



CURVE	RADIUS	DELTA	LENGTH	BEARING	CHORD
C1	280.78'	20°24'21"	100.00'	S 64°13'25" E	99.47'
C2	580.00'	19°11'50"	184.28'	S 53°37'09" E	183.42'
C3	1,176.00'	5°13'21"	1,051.35'	S 88°49'45" E	1,016.68'
C4	75.00'	22°07'33"	28.96'	N 76°37'00" E	28.78'
C5	240.78'	25°12'00"	105.90'	S 85°37'14" E	105.05'
C6	65.50'	26°34'31"	30.38'	N 78°59'55" E	30.11'

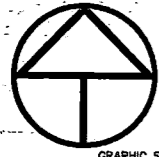
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



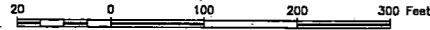
**WINDROSE**  
LAND SURVEYING | PLATTING  
11111 BECHTOLD AVE, STE 100 | HOUSTON, TX 77060 | 713.450.2281  
HARRIS COUNTY REGISTRATION NO. 10120000 | WINDROSEENGINEERING.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION:	CONTROL SHEET
DRAWN BY:	AT
DATE:	03-11-2021
CK'D BY:	TW
SCALE:	1"=100'
SHEET NO.:	11 /



**NORTH**

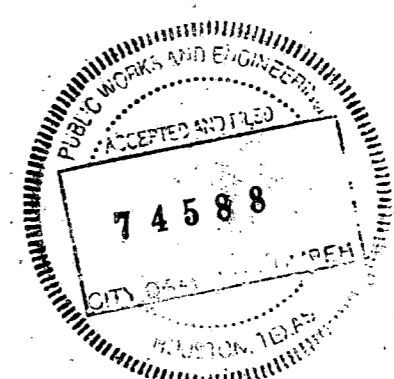
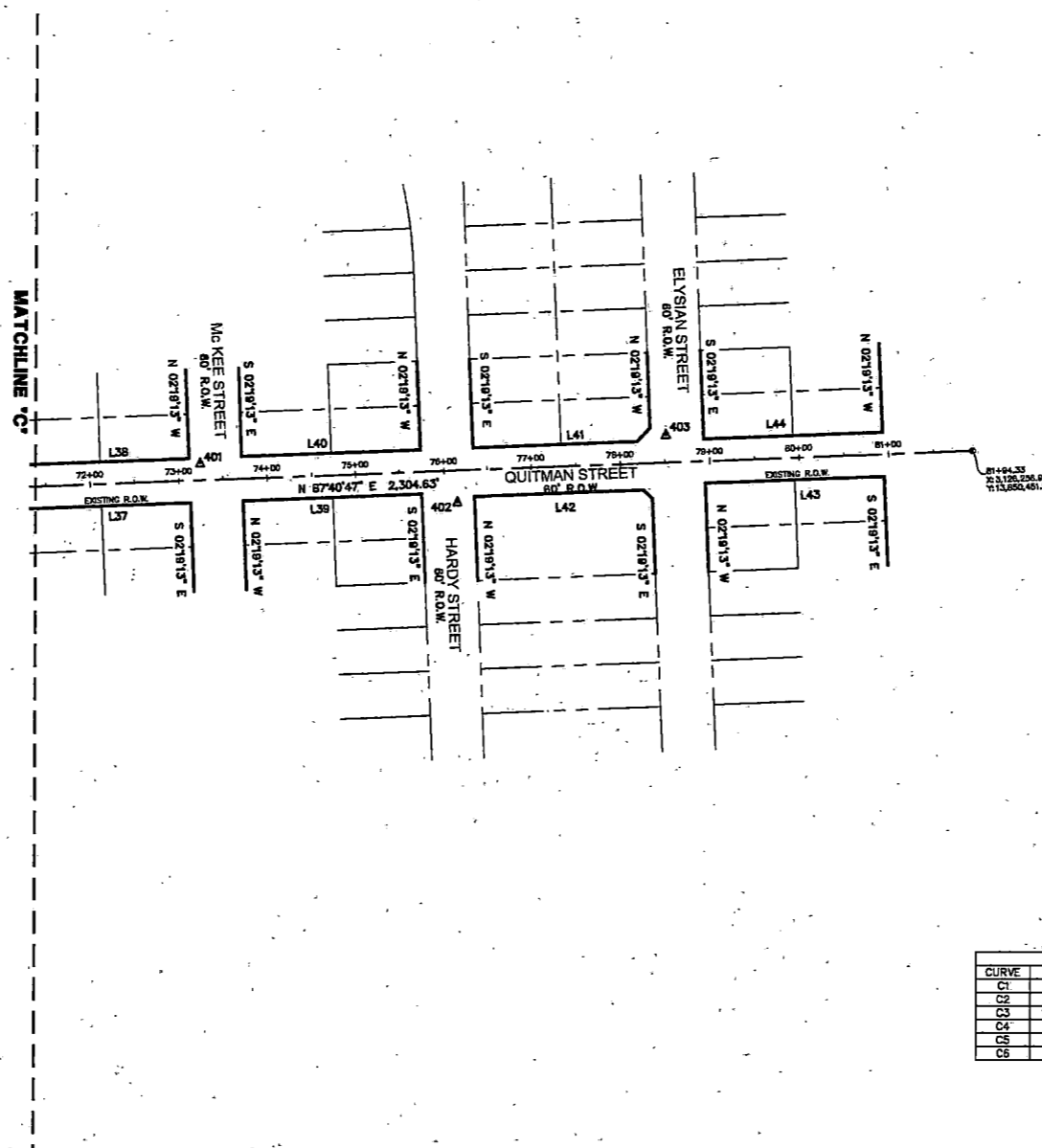
GRAPHIC SCALE: 1" = 100'



**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

<ul style="list-style-type: none"> <li>• BOLLARD</li> <li>— HANDICAP</li> <li>— GAS METER</li> <li>— GAS VALVE</li> <li>— FIRE HYDRANT</li> <li>— WATER METER</li> <li>— WATER VALVE</li> <li>— IRRIGATION CONTROL VALVE</li> <li>— GRATE INLET</li> <li>— GRATE INLET</li> <li>— MANHOLE</li> <li>— CLEANOUT</li> <li>— TELEPHONE PEDESTAL</li> <li>— ELECTRIC BOX</li> <li>— TRAFFIC SIGNAL BOX</li> <li>— LIGHT POLE</li> <li>— TRAFFIC LIGHT POLE</li> <li>— GROUND/SPOT LIGHT</li> <li>— MAIL BOX</li> <li>— WATER RISER</li> <li>— FIRE DEPARTMENT CONNECTION</li> <li>— TELEPHONE BOX</li> </ul>	<ul style="list-style-type: none"> <li>— POWER POLE</li> <li>— POWER POLE W/TRANSFORMER</li> <li>— POWER POLE W/LIGHT</li> <li>— POWER POLE W/CONDUIT</li> <li>— METER POLE</li> <li>— SERVICE POLE</li> <li>— GUY ANCHOR</li> <li>— OVERHEAD POWER LINE</li> <li>— BARBED WIRE FENCE</li> <li>— WROUGHT IRON FENCE</li> <li>— WOOD FENCE</li> <li>— CHAINLINK FENCE</li> <li>— GATE POST</li> <li>— PER PLANS</li> <li>— APPROXIMATE</li> <li>— HIGHBANK</li> <li>— SIGN</li> <li>— PIPELINE MARKER</li> <li>— TRAFFIC SIGNAL POLE</li> <li>— GUARD RAIL</li> </ul>	<ul style="list-style-type: none"> <li>— UNDERGROUND CABLE SIGN</li> <li>— CATHODIC TEST LEAD</li> <li>— MONITORING WELL</li> <li>— PIN FLAG/PAIN MARK</li> <li>— TOP OF CURB</li> <li>— GUTTER</li> <li>— TOP OF GRATE</li> <li>— FLOW LINE</li> <li>— HIGHBANK</li> <li>— SANITARY SEWER</li> <li>— STORM SEWER</li> <li>— CORRUGATED METAL PIPE</li> <li>— CORRUGATED PLASTIC PIPE</li> <li>— REINFORCED CONCRETE PIPE</li> <li>— TELEPHONE</li> <li>— SOUTHWESTERN BELL TELEPHONE CO.</li> <li>— WATER</li> <li>— UNDERGROUND</li> <li>— ELECTRIC RACK</li> </ul>	<ul style="list-style-type: none"> <li>— FOUND</li> <li>— HARRIS COUNTY CLERK FILE</li> <li>— HARRIS COUNTY DEED RECORDS</li> <li>— HARRIS COUNTY MAP RECORDS</li> <li>— IRON PIPE</li> <li>— IRON ROD</li> <li>— NUMBER</li> <li>— PAGE</li> <li>— RIGHT-OF-WAY</li> <li>— SQUARE FEET</li> <li>— VOLUME</li> <li>— FILM CODE</li> <li>— BUILDING LINE</li> <li>— UTILITY EASEMENT</li> <li>— TREE/SHRUB</li> </ul>
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LINE	BEARING	DISTANCE
L1	S 44°01'14" E	431.18'
L2	S 41°52'50" E	45.01'
L3	S 44°56'11" E	50.28'
L4	S 40°25'46" W	7.70'
L5	S 44°01'14" E	178.50'
L6	N 85°19'46" E	113.85'
L7	N 07°09'00" W	38.21'
L8	N 81°28'27" W	175.27'
L9	S 81°41'49" E	67.48'
L10	N 65°33'57" E	185.46'
L11	N 65°33'57" E	200.00'
L12	N 65°33'57" E	200.00'
L13	N 65°33'57" E	110.00'
L14	N 65°33'57" E	210.00'
L15	N 65°33'57" E	192.17'
L16	N 20°33'10" E	25.22'
L17	N 20°32'13" E	22.51'
L18	S 65°12'53" E	42.44'
L19	N 65°33'14" E	161.56'
L20	N 65°33'14" E	210.00'
L21	N 65°33'14" E	198.77'
L22	N 65°33'14" E	200.00'
L23	N 65°33'14" E	180.00'
L24	N 20°33'14" E	21.21'
L25	N 65°33'14" E	180.00'
L26	S 69°28'46" E	21.21'
L27	N 20°33'14" E	21.21'
L28	N 65°33'14" E	185.00'
L29	S 69°28'50" E	21.30'
L30	N 87°40'47" E	200.16'
L31	N 42°43'47" E	21.21'
L32	N 87°40'47" E	191.13'
L33	N 87°40'47" E	200.00'
L34	N 87°40'47" E	200.00'
L35	N 87°40'47" E	200.00'
L36	N 87°40'47" E	200.00'
L37	N 87°40'47" E	200.00'
L38	N 87°40'47" E	200.00'
L39	N 87°40'47" E	202.00'
L40	N 87°40'47" E	202.00'
L41	N 87°40'47" E	185.00'
L42	N 87°40'47" E	180.00'
L43	N 87°40'47" E	200.00'
L44	N 87°40'47" E	200.00'

CURVE	RADIUS	DELTA	LENGTH	BEARING	CHORD
C1	280.78	20°24'21"	100.00'	S 54°13'25" E	98.47'
C2	550.00	19°11'50"	184.28'	S 53°37'08" E	183.42'
C3	1,176.00	5°13'21"	1,051.35'	S 88°49'45" E	1,016.68'
C4	75.00	22°07'33"	28.96'	N 76°37'00" E	28.78'
C5	240.78	25°12'00"	105.90'	S 66°37'14" E	105.05'
C6	65.50	26°34'31"	30.38'	N 78°59'55" E	30.11'

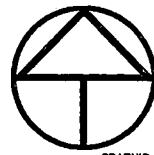
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY ENGINEERING DEPARTMENT**



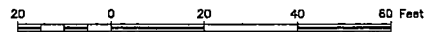
**WINDROSE**  
LAND SURVEYING | PLATTING  
11111 BECHTOLD AVE, STE 150 | HOUSTON, TX 77062 | 713.454.2281  
P.L.L.C. REGISTRATION NO. 10198800 | WWW.WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
CONTROL SHEET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 12 /
SCALE: 1"=100'	



**NORTH**

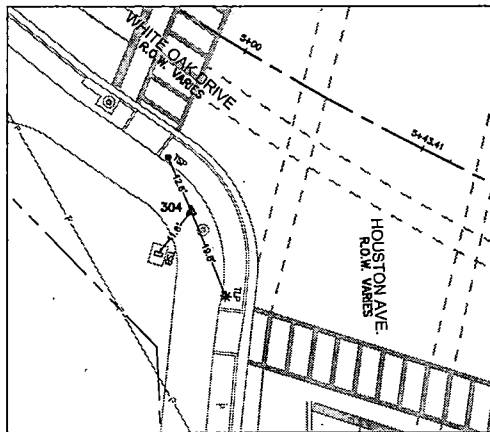
GRAPHIC SCALE: 1" = 20'



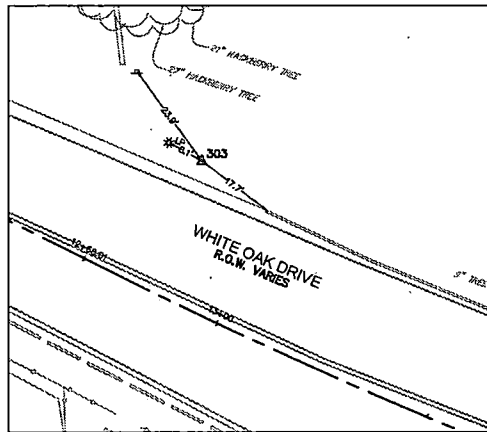
**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

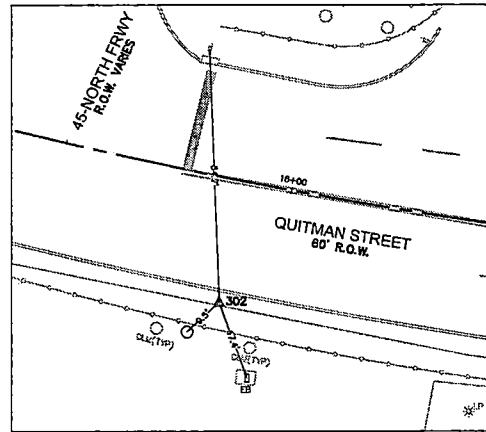
- |                                 |                                 |  |                                       |
|---------------------------------|---------------------------------|--|---------------------------------------|
| BO - BOLLARD                    | PP - POWER POLE                 | UCS - UNDERGROUND CABLE SIGN           | FND - FOUND                           |
| HC - HANDICAP                   | PP/T - POWER POLE W/TRANSFORMER | CTL - CATHODIC TEST LEAD               | H.C.C.F. - HARRIS COUNTY CLERK FILE   |
| GM - GAS METER                  | PP/LT - POWER POLE W/LIGHT      | MW - MONITORING WELL                   | H.C.D.R. - HARRIS COUNTY DEED RECORDS |
| GV - GAS VALVE                  | PP/WT - POWER POLE W/CONDUIT    | P - PIN FLAG/PAINT MARK                | H.C.M.R. - HARRIS COUNTY MAP RECORDS  |
| FH - FIRE HYDRANT               | MP - METER POLE                 | TC - TOP OF CURB                       | IP - IRON PIPE                        |
| WM - WATER METER                | SP - SERVICE POLE               | G - GUTTER                             | IR - IRON ROD                         |
| WV - WATER VALVE                | CA - CUY ANCHOR                 | TO - TOP OF GRATE                      | NO. - NUMBER                          |
| ICV - IRRIGATION CONTROL VALVE  | OP - OVERHEAD POWER LINE        | FL - FLOW LINE                         | PG. - PAGE                            |
| GI - GRATE INLET                | BWF - BARBED WIRE FENCE         | HB - HIGHBANK                          | SQ. FT. - SQUARE FEET                 |
| GI - GRATE INLET                | WIF - WROUGHT IRON FENCE        | SS - SANITARY SEWER                    | VOL. - VOLUME                         |
| M - MANHOLE                     | WF - WOOD FENCE                 | STM - STORM SEWER                      | F.C. - FILM CODE                      |
| CH - CLEANOUT                   | CF - CHAINLINK FENCE            | CMP - CORRUGATED METAL PIPE            | BL. - BUILDING LINE                   |
| TP - TELEPHONE PEDESTAL         | GP - GATE POST                  | CPP - CORRUGATED PLASTIC PIPE          | U.E. - UTILITY EASEMENT               |
| EB - ELECTRIC BOX               | (P) - PER PLANS                 | RCR - REINFORCED CONCRETE PIPE         | ○ - TREE/SHRUB                        |
| TBS - TRAFFIC SIGNAL BOX        | APPROX. - APPROXIMATE           | TEL - TELEPHONE                        |                                       |
| LP - LIGHT POLE                 | HIGHBANK - HIGHBANK             | SWBT - SOUTHWESTERN BELL TELEPHONE CO. |                                       |
| TLP - TRAFFIC LIGHT POLE        | SIGN - SIGN                     | WTR - WATER                            |                                       |
| GL - GROUND/SPOT LIGHT          | PLM - PIPELINE MARKER           | UG - UNDERGROUND                       |                                       |
| MB - MAIL BOX                   | TSP - TRAFFIC SIGNAL POLE       | ER - ELECTRIC RACK                     |                                       |
| WR - WATER RISER                | GR - GUARD RAIL                 |  |                                       |
| FD - FIRE DEPARTMENT CONNECTION |                                 |  |                                       |
| TB - TELEPHONE BOX              |                                 |  |                                       |



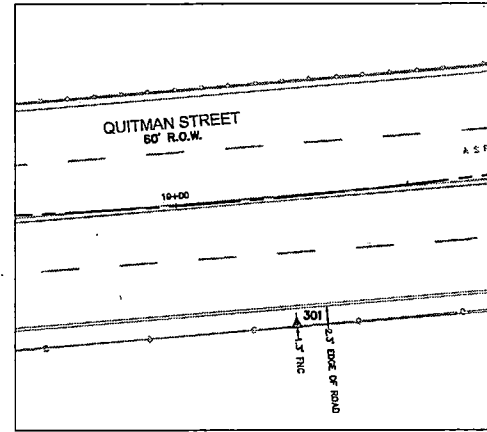
SET CUT "X"  
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Y: 13,849,220.23  
ELEV. 25.68



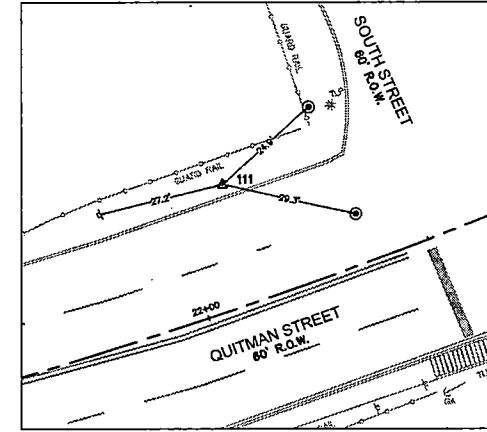
SET 5/8" IRC  
"WINDROSE"  
CONTROL POINT #303  
12+81.62 L30.16  
X: 3,119,711.85  
Y: 13,848,928.21  
ELEV. 25.30



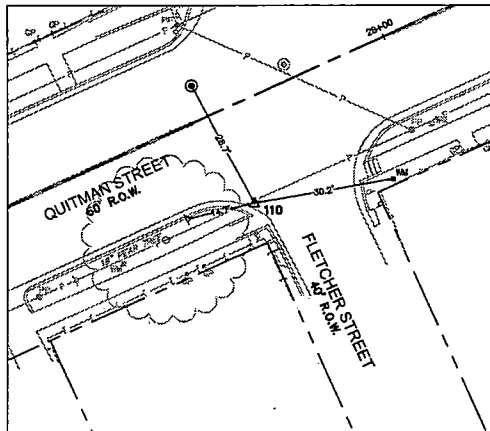
SET CUT "X"  
CONTROL POINT #302  
15+89.30 R26.68  
X: 3,119,984.13  
Y: 13,848,776.99  
ELEV. 32.98



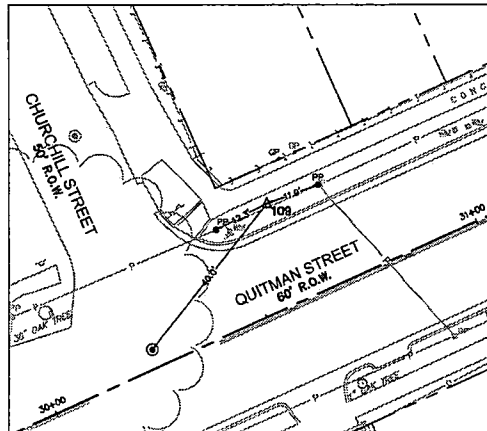
SET CUT "X"  
CONTROL POINT #301  
19+23.57 R27.63  
X: 3,120,324.41  
Y: 13,848,758.40  
ELEV. 51.60



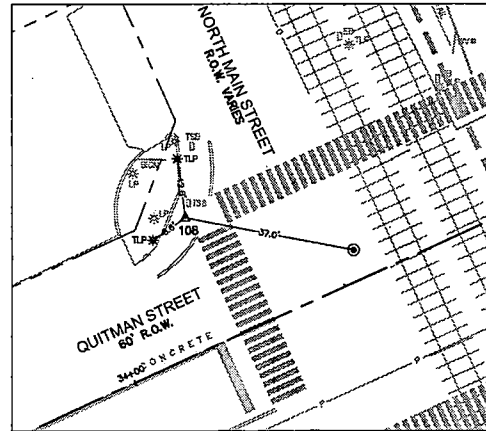
SET 5/8" IRC  
"WINDROSE"  
CONTROL POINT #111  
22+12.22 L26.37  
X: 3,120,594.66  
Y: 13,848,871.50  
ELEV. 51.66



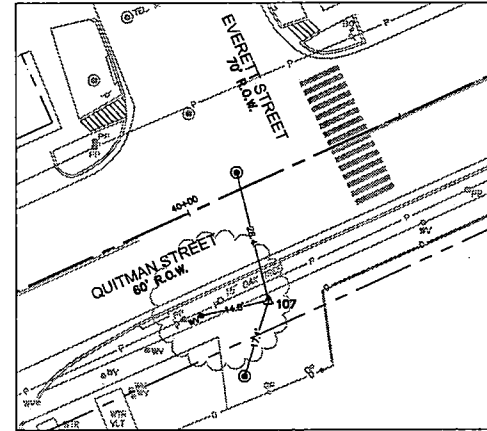
SET MAG NAIL  
CONTROL POINT #110  
27+59.98 R21.19  
X: 3,121,112.61  
Y: 13,849,049.42  
ELEV. 48.36



SET 5/8" IRC  
"WINDROSE"  
CONTROL POINT #109  
30+60.11 L22.35  
X: 3,121,367.81  
Y: 13,849,213.23  
ELEV. 49.25



SET CUT "X"  
CONTROL POINT #108  
34+24.67 L27.62  
X: 3,121,697.40  
Y: 13,849,369.02  
ELEV. 48.30



SET CUT "X"  
CONTROL POINT #107  
40+07.80 R24.23  
X: 3,122,249.76  
Y: 13,849,562.88  
ELEV. 48.38



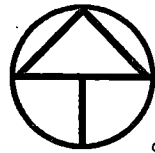
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



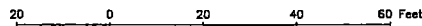
**WINDROSE**  
LAND SURVEYING & PLATTING  
11111 WINDROSE AVE, STE 100 | HOUSTON, TX 77060 | 713-455-2241  
FIRM REGISTRATION NO. 10100000 | WINDROSEENGINEERING.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION:	CONTROL SHEET
DRAWN BY:	AT
DATE:	03-11-2021
CK'D BY:	TW
SCALE:	1"=20'
SHEET NO.:	13 /



**NORTH**

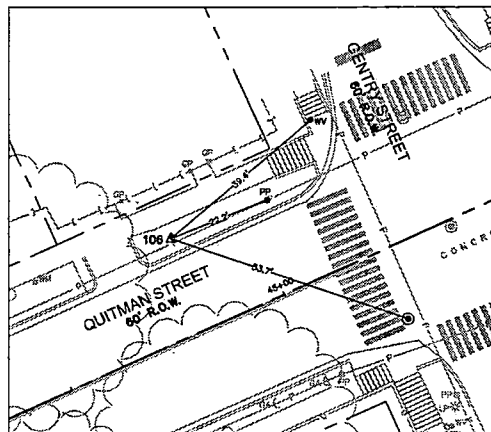
GRAPHIC SCALE: 1" = 20'



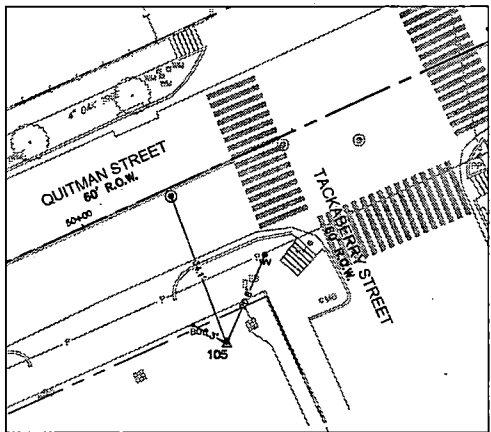
**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

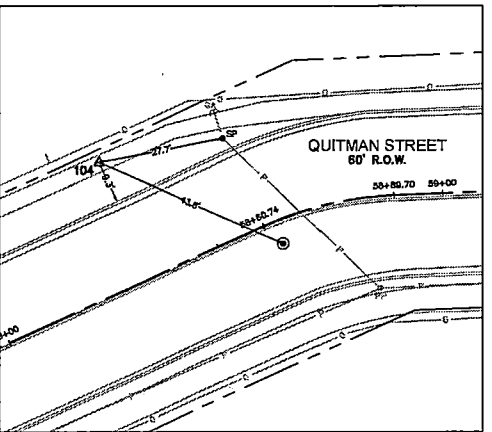
- BO - BOLLARD
- HC - HANDICAP
- GM - GAS METER
- GV - GAS VALVE
- PH - FIRE HYDRANT
- WM - WATER METER
- WV - WATER VALVE
- ICV - IRRIGATION CONTROL VALVE
- GI - GRATE INLET
- GI - GRATE INLET
- MI - MANHOLE
- CO - CLEANOUT
- TP - TELEPHONE PEDESTAL
- EB - ELECTRIC BOX
- TBS - TRAFFIC SIGNAL BOX
- LP - LIGHT POLE
- TLP - TRAFFIC LIGHT POLE
- GL - GROUND/SPOT LIGHT
- MB - MAIL BOX
- WR - WATER RESER
- FDC - FIRE DEPARTMENT CONNECTION
- TB - TELEPHONE BOX
- PP - POWER POLE
- PP/T - POWER POLE W/TRANSFORMER
- PP/LT - POWER POLE W/LIGHT
- PP/WT - POWER POLE W/CONDUIT
- MP - METER POLE
- SP - SERVICE POLE
- GA - GUY ANCHOR
- OL - OVERHEAD POWER LINE
- BWF - BARBED WIRE FENCE
- WIF - WROUGHT IRON FENCE
- WF - WOOD FENCE
- CF - CHAINLINK FENCE
- GP - GATE POST
- P - PER PLANS
- APPROX. - APPROXIMATE
- H - HIGHBANK
- S - SIGN
- PLM - PIPELINE MARKER
- TSP - TRAFFIC SIGNAL POLE
- GR - GUARD RAIL
- UCS - UNDERGROUND CABLE SIGN
- CTL - CATHODIC TEST LEAD
- MW - MONITORING WELL
- P - PIN FLAG/PAINT MARK
- TC - TOP OF CURB
- G - GUTTER
- TO - TOP OF GRATE
- FL - FLOW LINE
- HB - HIGHBANK
- SAN - SANITARY SEWER
- SSM - STORM SEWER
- CMP - CORRUGATED METAL PIPE
- CPP - CORRUGATED PLASTIC PIPE
- RCP - REINFORCED CONCRETE PIPE
- TEL - TELEPHONE
- SWBT - SOUTHWESTERN BELL TELEPHONE CO.
- WTR - WATER
- UG - UNDERGROUND
- ER - ELECTRIC RACK
- FD - FOUND
- H.C.C.F. - HARRIS COUNTY CLERK FILE
- H.C.D.R. - HARRIS COUNTY DEED RECORDS
- H.C.M.R. - HARRIS COUNTY MAP RECORDS
- IP - IRON PIPE
- IR - IRON ROD
- NL - NUMBER
- PL - PAGE
- R.O.W. - RIGHT-OF-WAY
- SQ. FT. - SQUARE FEET
- VOL. - VOLUME
- F.C. - FILM CODE
- BL - BUILDING LINE
- UE - UTILITY EASEMENT
- - TREE/SHRUB



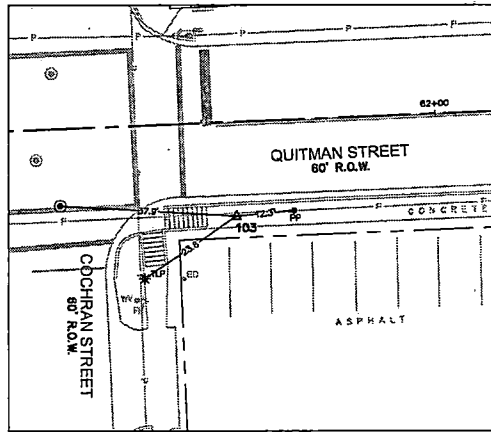
SET 5/8" IRC  
"WINDROSE"  
CONTROL POINT #106  
44+82.89 L21.05  
X: 3,122,663.50  
Y: 13,849,800.64  
ELEV. 48.39



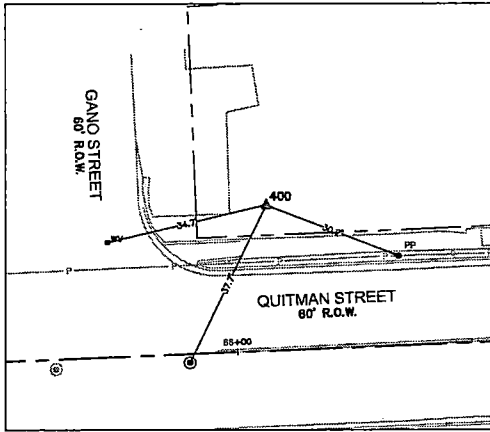
SET MAG NAIL  
CONTROL POINT #105  
50+17.95 R35.75  
X: 3,123,174.06  
Y: 13,849,970.33  
ELEV. 47.39



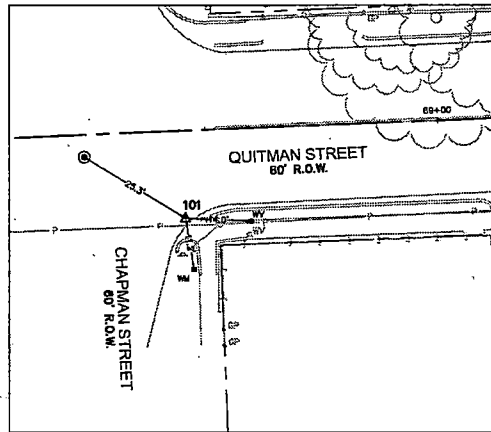
SET CUT "X"  
CONTROL POINT #104  
58+33.72 L27.47  
X: 3,123,890.46  
Y: 13,850,365.43  
ELEV. 47.64



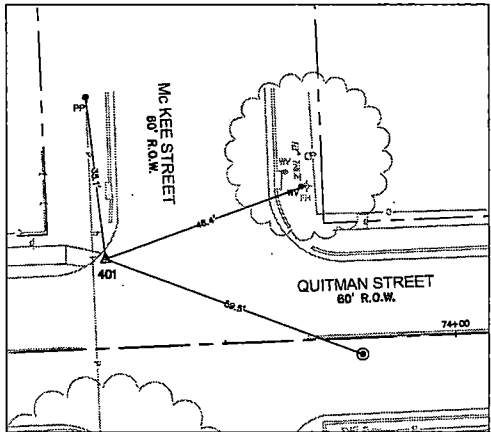
SET CUT "X"  
CONTROL POINT #103  
61+56.76 R20.35  
X: 3,124,222.05  
Y: 13,850,348.75  
ELEV. 47.63



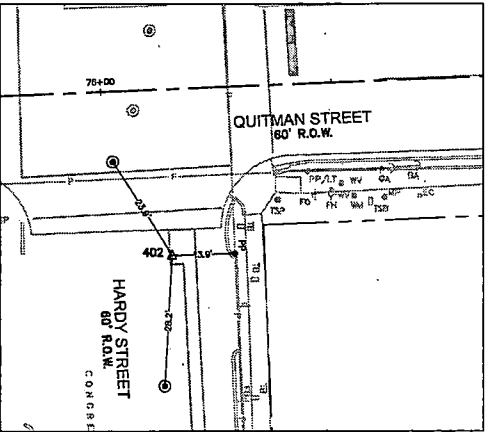
SET 5/8" IRC  
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CONTROL POINT #400  
66+07.36 L31.47  
X: 3,124,670.13  
Y: 13,850,418.76  
ELEV. 47.74



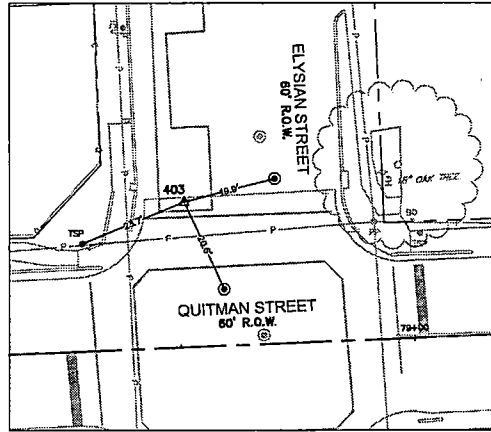
SET MAG NAIL  
CONTROL POINT #101  
68+45.14 R18.85  
X: 3,124,909.73  
Y: 13,850,378.11  
ELEV. 47.01



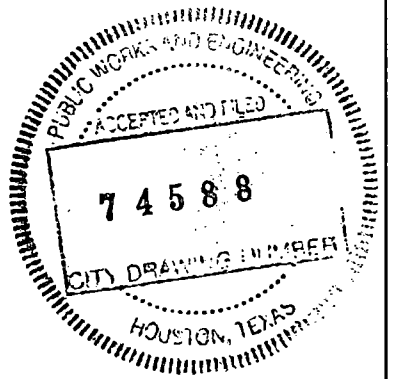
SET MAG NAIL  
CONTROL POINT #401  
73+24.70 L19.21  
X: 3,125,387.31  
Y: 13,850,435.54  
ELEV. 46.12



SET CUT "X"  
CONTROL POINT #402  
76+14.09 R35.77  
X: 3,125,678.66  
Y: 13,850,392.33  
ELEV. 46.12



SET MAG NAIL  
CONTROL POINT #403  
78+51.94 L31.30  
X: 3,125,913.57  
Y: 13,850,468.97  
ELEV. 45.78



NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

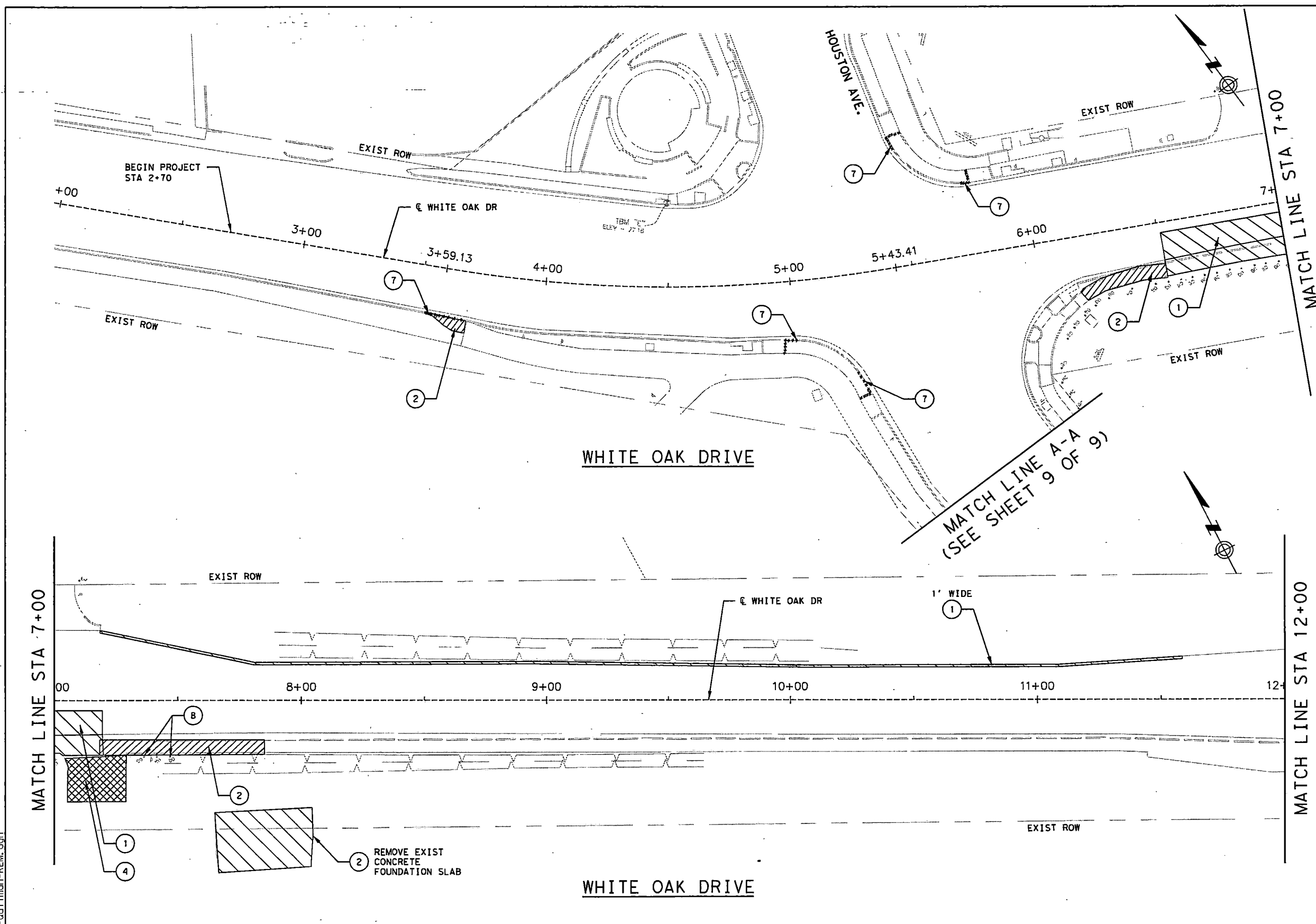


**WINDROSE**  
LAND SURVEYING | PLATTING  
11111 RICHMOND AVE STE 100 | HOUSTON, TX 77002 | 713.455.2291  
TOWNSHIP REGISTRATION NO. 101768802 | WINDROSEENGINEERING.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION:	CONTROL SHEET
DRAWN BY:	AT
DATE:	03-11-2021
CK'D BY:	TW
SCALE:	1"=20'
SHEET NO.:	14 /



9/24/2022 20-Quitman-REM.dgn



- LEGEND**
- ① REMOVE EXIST PVMT
  - ② REMOVE EXIST SIDEWALK
  - ③ REMOVE EXIST ADA RAMP
  - ④ REMOVE EXIST DRIVEWAY
  - ⑤ MILL EXIST ASPHALT PVMT
  - ⑥ REMOVE EXIST CURB & GUTTER
  - ⑦ REMOVE CURB
  - ⑧ REMOVE EXIST BOLLARD

- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.

ACCEPTED AND FILED  
 74588  
 CITY DRAWING DIVISION  
 HOUSTON, TEXAS

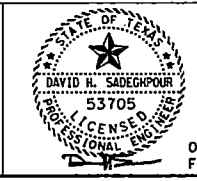
0 10 20 40  
 SCALE: 1"=40'

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
 ENGINEERING DEPARTMENT

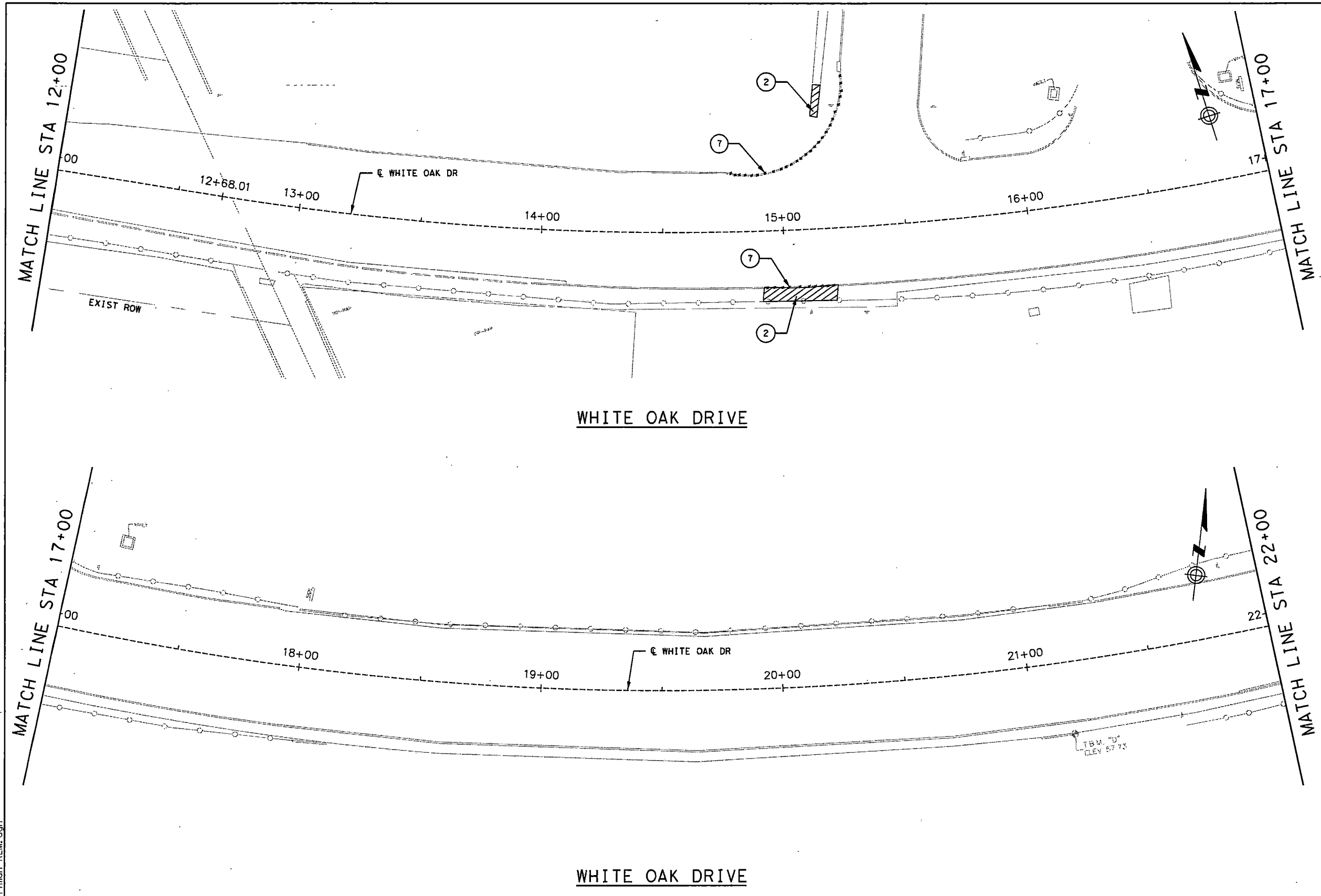


**SCIENTECH**  
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 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014



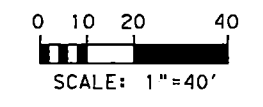
08-19-22  
 FIRM#: F-4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: REMOVAL LAYOUT	
DRAWN BY: AD	SHEET 1 OF 9
DATE: 08-19-2022	SHEET NO: 15 /
CK'D BY: DHS	SCALE: 1"=40'



- LEGEND**
- ① REMOVE EXIST PVMT
  - ② REMOVE EXIST SIDEWALK
  - ③ REMOVE EXIST ADA RAMP
  - ④ REMOVE EXIST DRIVEWAY
  - ⑤ MILL EXIST ASPHALT PVMT
  - ⑥ REMOVE EXIST CURB & GUTTER
  - ⑦ REMOVE CURB
  - ⑧ REMOVE EXIST BOLLARD

- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.

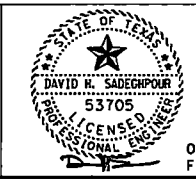


NO.	REVISIONS	DATE	NAME
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TEXAS FIRM REGISTRATION NO. 4014



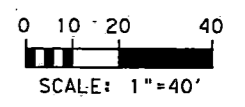
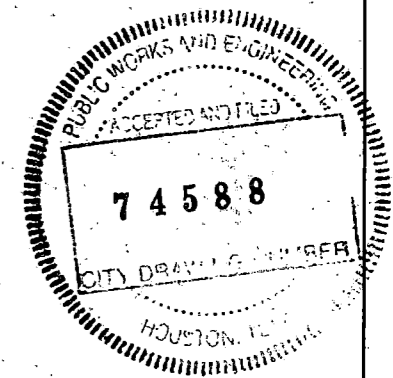
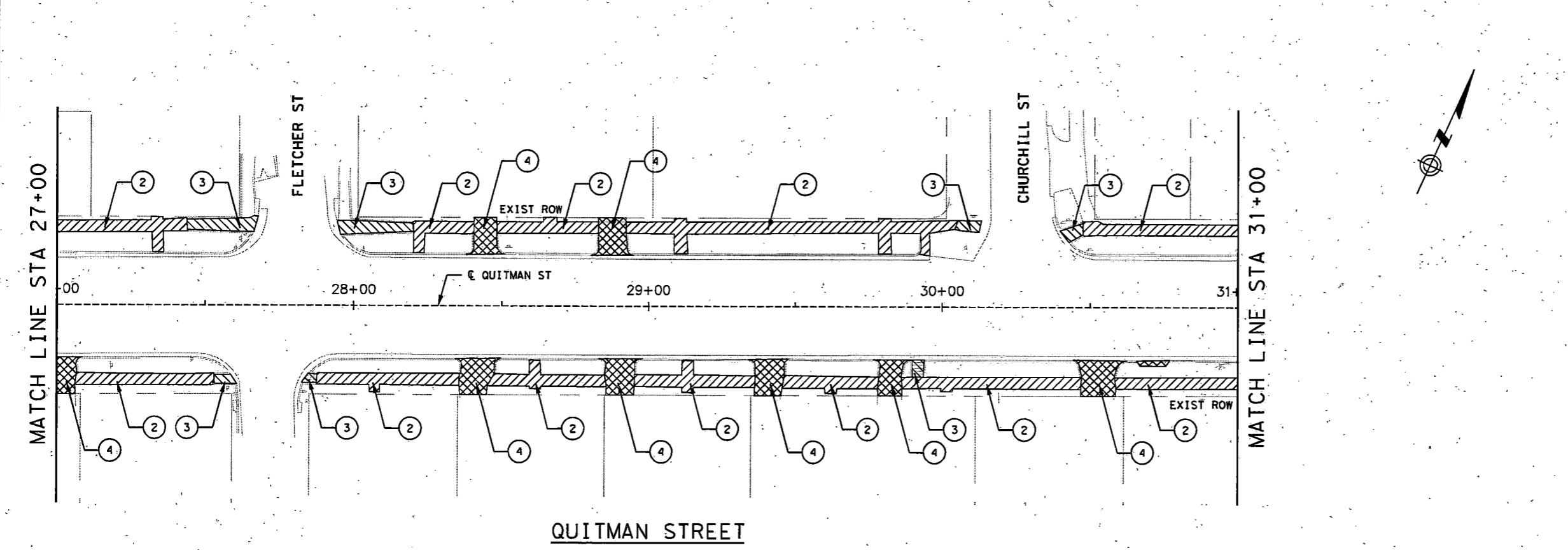
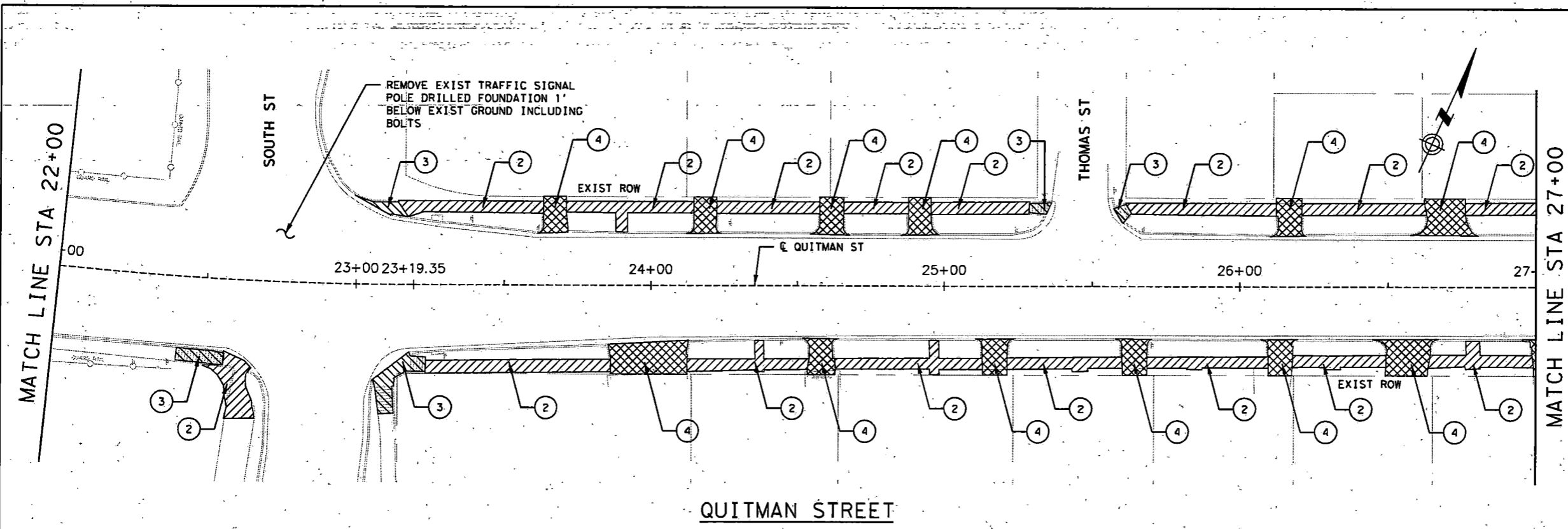
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		REMOVAL LAYOUT	
DRAWN BY:	AD	SHEET 2 OF 9	DATE:
CK'D BY:	DHS	SCALE: 1"=40'	08-19-2022
			SHEET NO:
			16 /

9/24/2022 21-Quitman-REM.dgn

- LEGEND**
- 1 REMOVE EXIST PVMT
  - 2 REMOVE EXIST SIDEWALK
  - 3 REMOVE EXIST ADA RAMP
  - 4 REMOVE EXIST DRIVEWAY
  - 5 MILL EXIST ASPHALT PVMT
  - 6 REMOVE EXIST CURB & GUTTER
  - 7 REMOVE CURB
  - 8 REMOVE EXIST BOLLARD

- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.



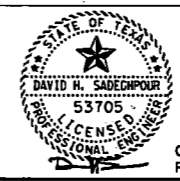
9/24/2022 22-Quitman-REM.dgn

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HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

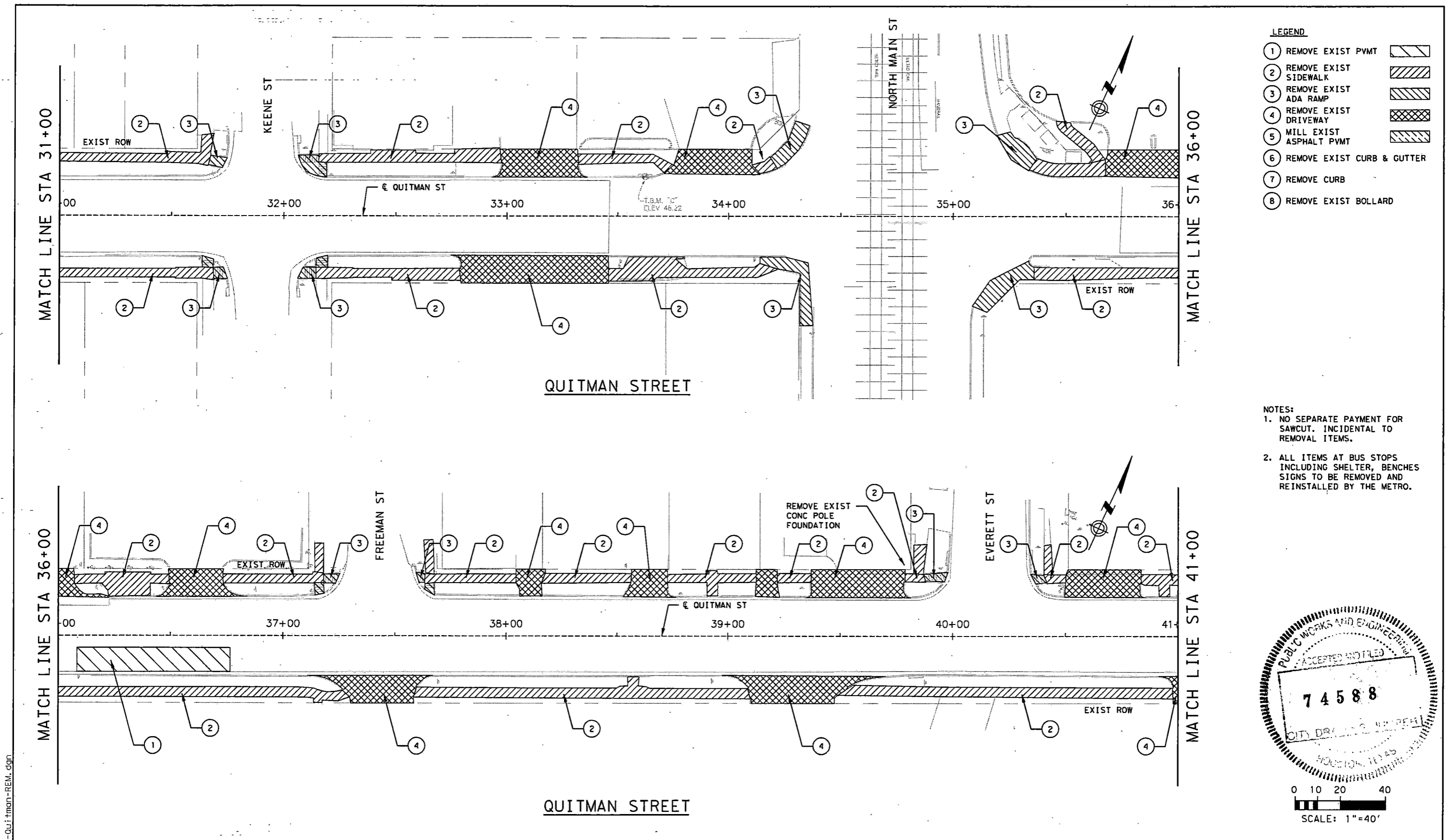
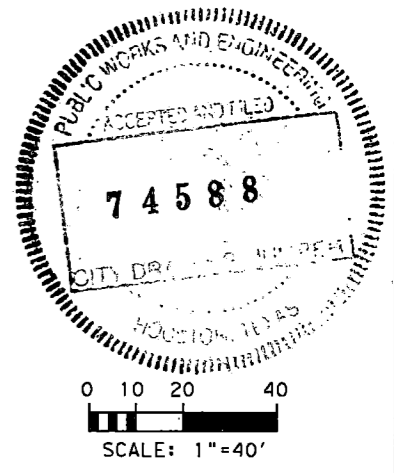


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS REMOVAL LAYOUT	
DRAWN BY:	AD	SHEET 3 OF 9	DATE:
CK'D BY:	DHS	SCALE: 1"=40'	08-19-2022
			SHEET NO:
			17 /

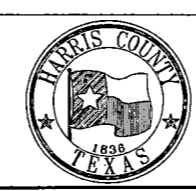
- LEGEND**
- ① REMOVE EXIST PVMT
  - ② REMOVE EXIST SIDEWALK
  - ③ REMOVE EXIST ADA RAMP
  - ④ REMOVE EXIST DRIVEWAY
  - ⑤ MILL EXIST ASPHALT PVMT
  - ⑥ REMOVE EXIST CURB & GUTTER
  - ⑦ REMOVE CURB
  - ⑧ REMOVE EXIST BOLLARD

- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.

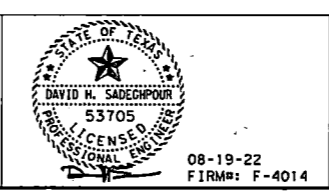


NO.	REVISIONS	DATE	NAME
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TEXAS FIRM REGISTRATION NO. 4014

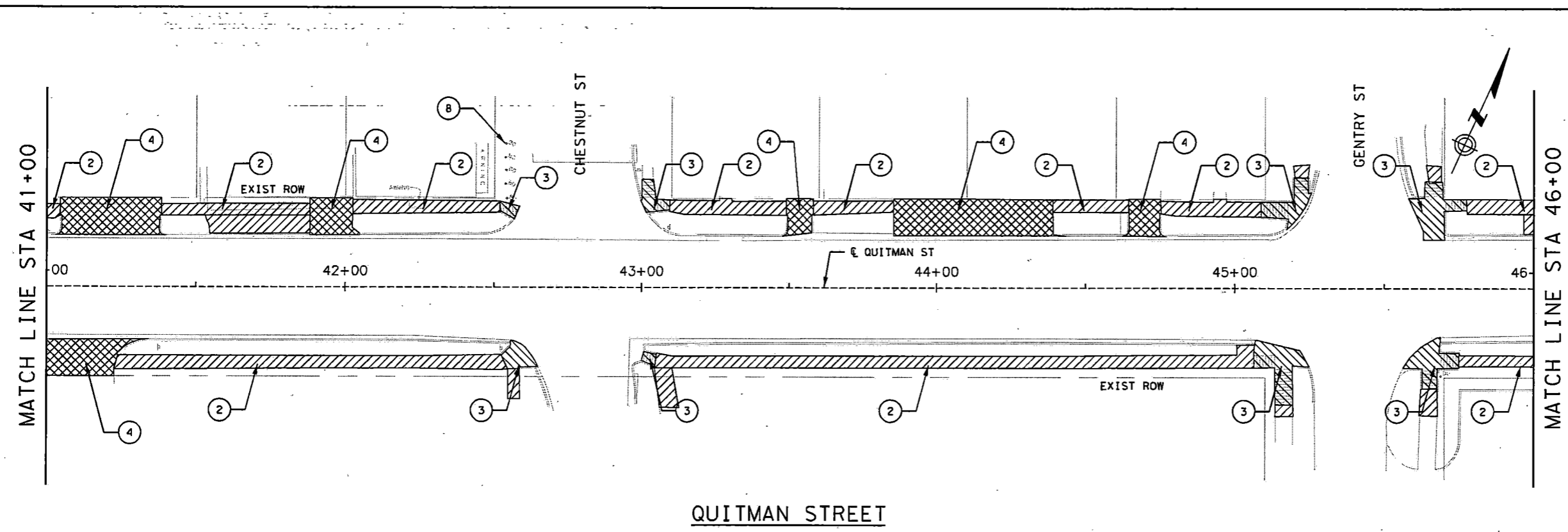


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		REMOVAL LAYOUT	
DRAWN BY:	AD	SHEET 4 OF 9	DATE:
CK'D BY:	DHS	SCALE:	08-19-2022
		1"=40'	SHEET NO:
			18 /

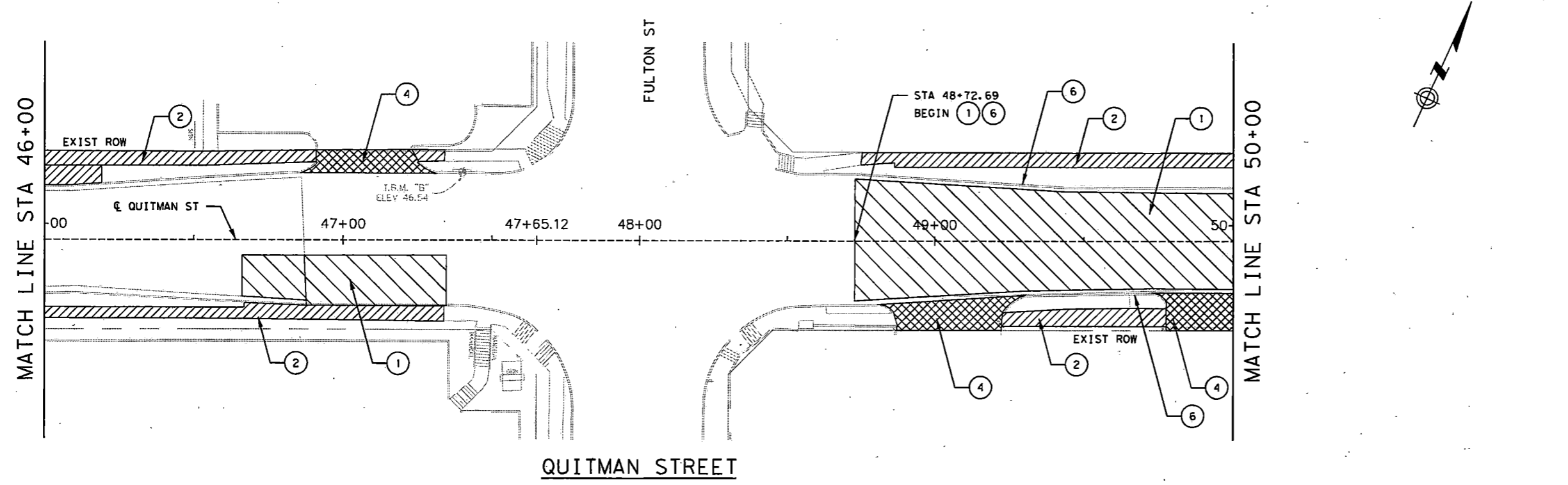
9/24/2022 23-Quitman-REM.dgn

- LEGEND**
- 1 REMOVE EXIST PVMT
  - 2 REMOVE EXIST SIDEWALK
  - 3 REMOVE EXIST ADA RAMP
  - 4 REMOVE EXIST DRIVEWAY
  - 5 MILL EXIST ASPHALT PVMT
  - 6 REMOVE EXIST CURB & GUTTER
  - 7 REMOVE CURB
  - 8 REMOVE EXIST BOLLARD

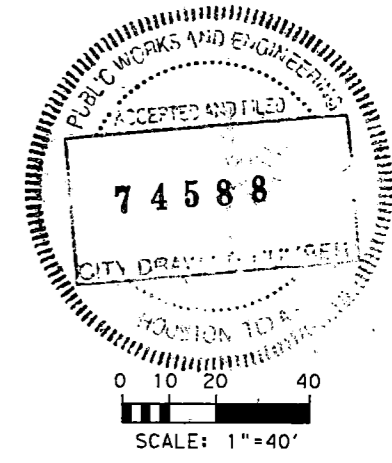
- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.



**QUITMAN STREET**



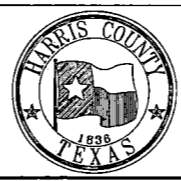
**QUITMAN STREET**



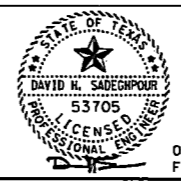
9/24/2022 24-Quitman-REM.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



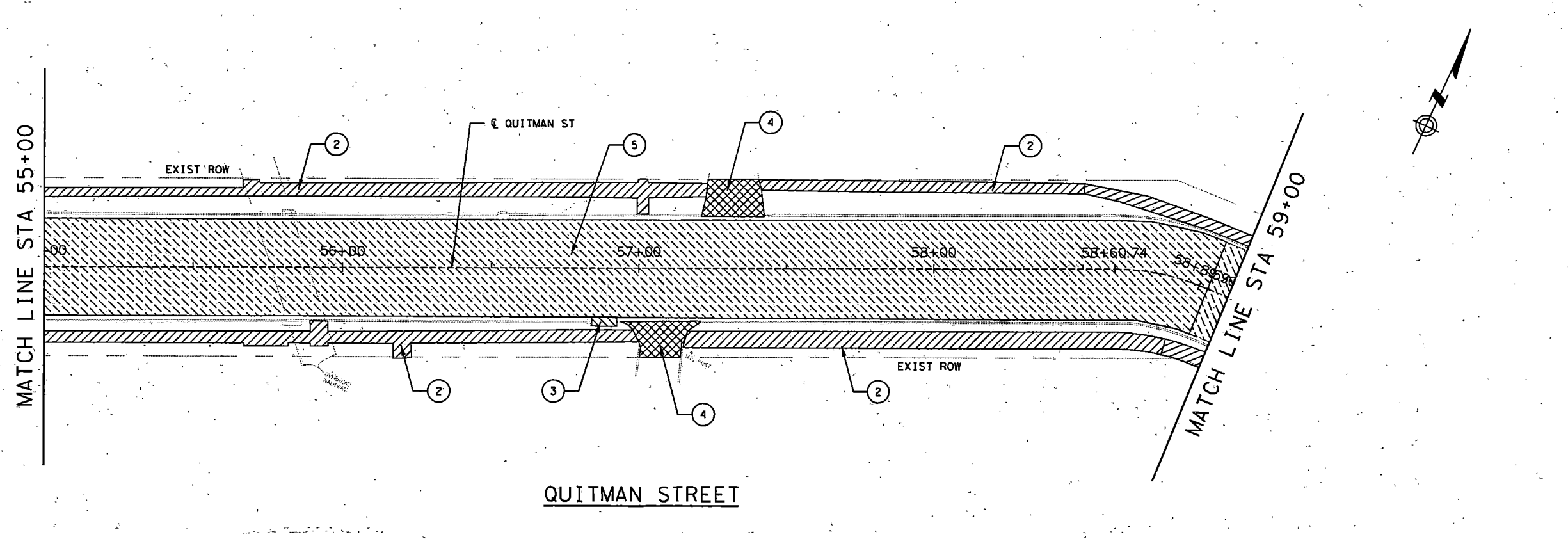
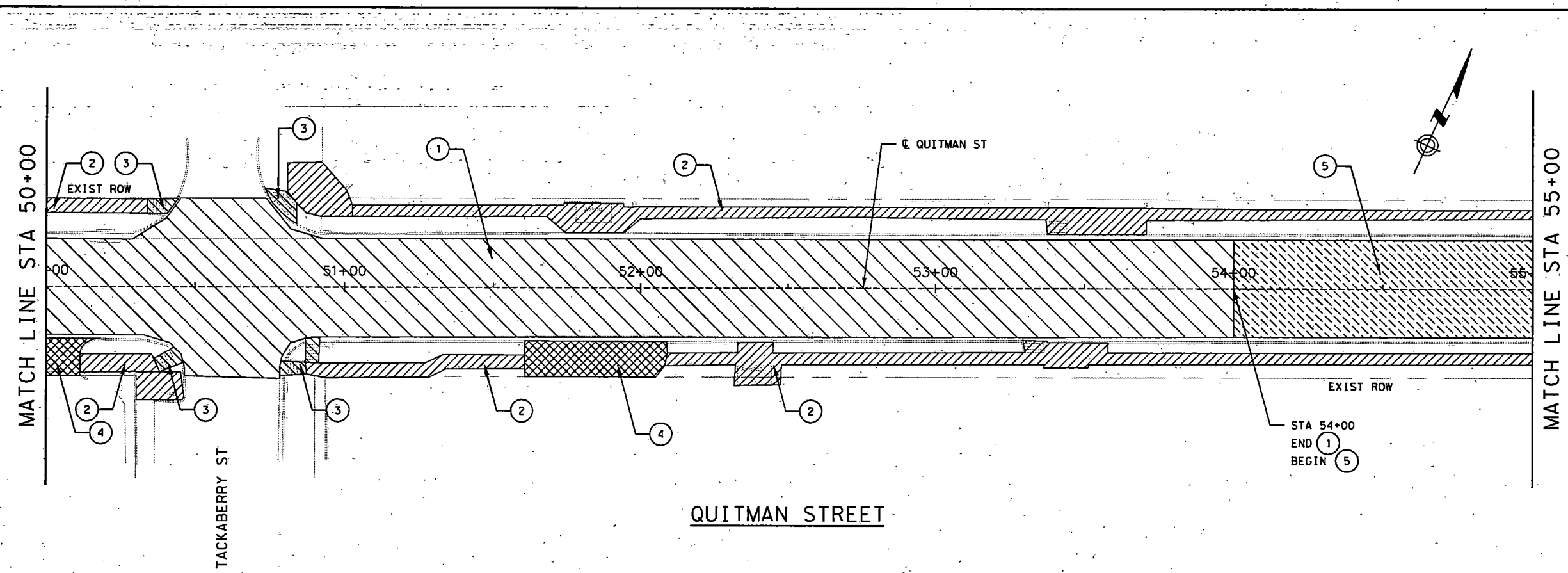
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ENGINEERS, INC.**  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



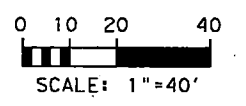
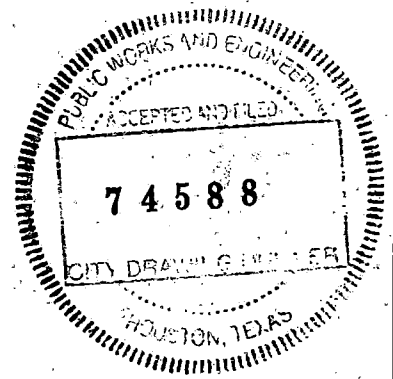
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS REMOVAL LAYOUT</b>	
DRAWN BY:	AD	SHEET 5 OF 9	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: 1"=40'	SHEET NO: 19 /

- LEGEND**
- 1 REMOVE EXIST PVMT
  - 2 REMOVE EXIST SIDEWALK
  - 3 REMOVE EXIST ADA RAMP
  - 4 REMOVE EXIST DRIVEWAY
  - 5 MILL EXIST ASPHALT PVMT
  - 6 REMOVE EXIST CURB & GUTTER
  - 7 REMOVE CURB
  - 8 REMOVE EXIST BOLLARD



- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.



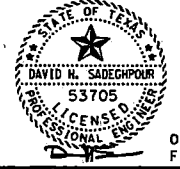
9/24/2022 25-Quitman-REM.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



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701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM-REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

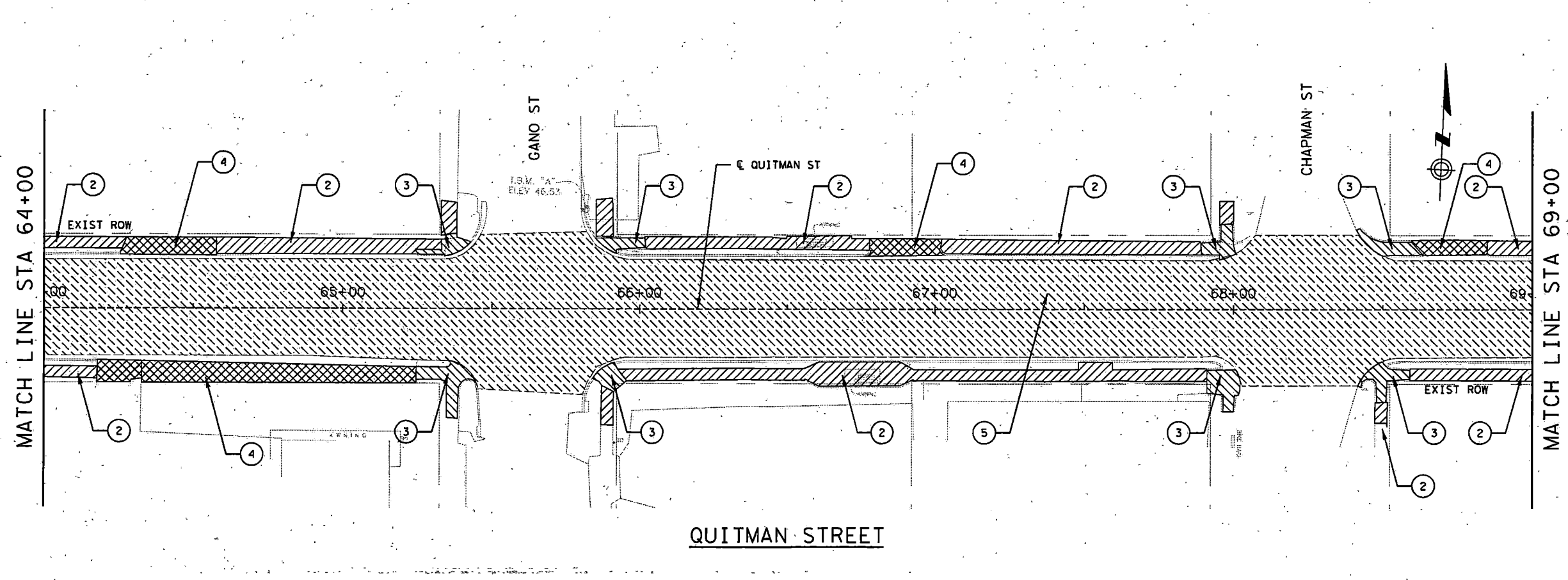
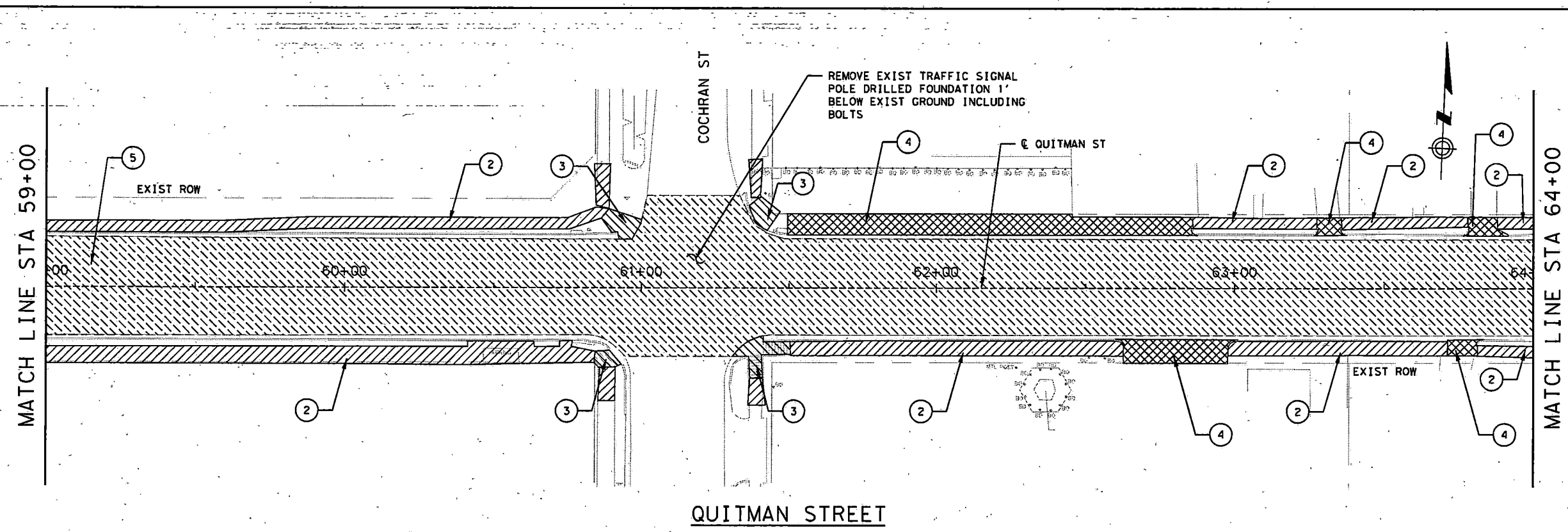
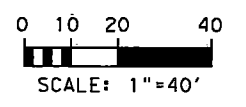
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 6 OF 9	
AD	SCALE:	DATE: 08-19-2022	
DHS	1"=40'	SHEET NO: 20/	

**LEGEND**

- 1 REMOVE EXIST PVMT
- 2 REMOVE EXIST SIDEWALK
- 3 REMOVE EXIST ADA RAMP
- 4 REMOVE EXIST DRIVEWAY
- 5 MILL EXIST ASPHALT PVMT
- 6 REMOVE EXIST CURB & GUTTER
- 7 REMOVE CURB
- 8 REMOVE EXIST BOLLARD

**NOTES:**

- 1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
- 2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.



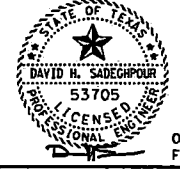
9/24/2022 26-Quitman-REM.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



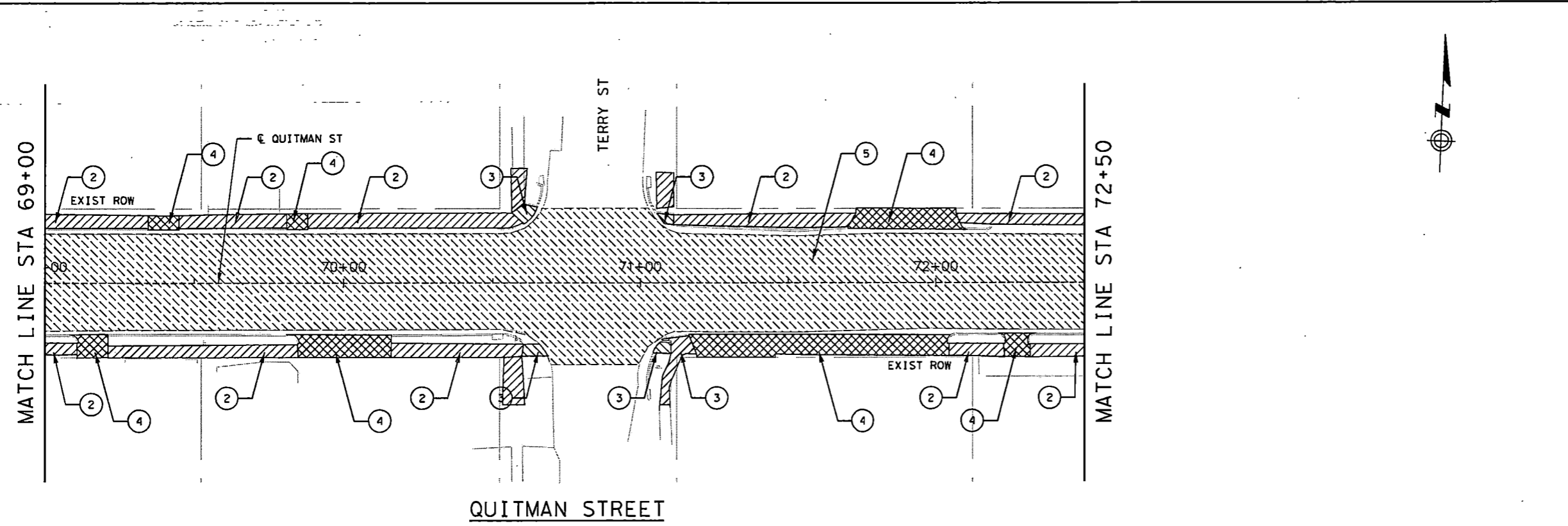
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HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

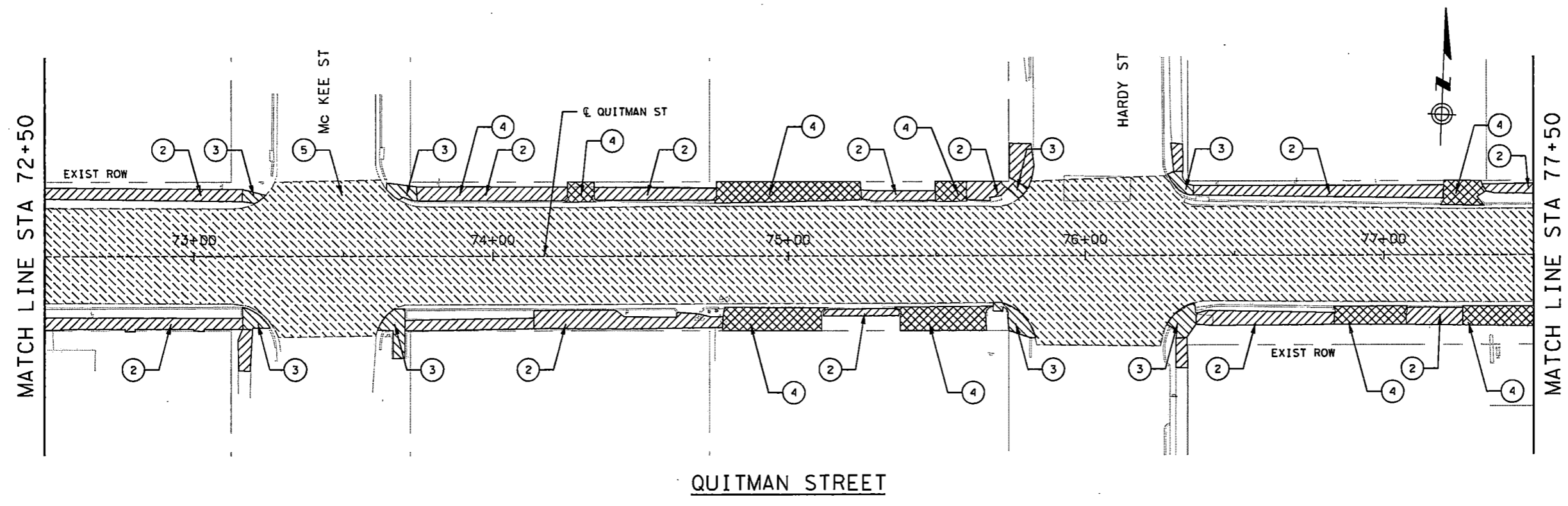
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		REMOVAL LAYOUT	
DRAWN BY:	AD	SHEET 7 OF 9	DATE:
CK'D BY:	DHS	SCALE:	08-19-2022
		1"=40'	SHEET NO:
			21/

- LEGEND**
- ① REMOVE EXIST PVMT
  - ② REMOVE EXIST SIDEWALK
  - ③ REMOVE EXIST ADA RAMP
  - ④ REMOVE EXIST DRIVEWAY
  - ⑤ MILL EXIST ASPHALT PVMT
  - ⑥ REMOVE EXIST CURB & GUTTER
  - ⑦ REMOVE CURB
  - ⑧ REMOVE EXIST BOLLARD

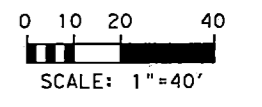
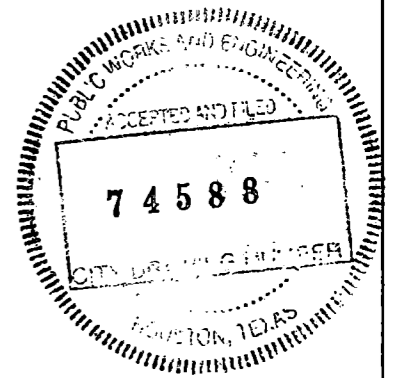


**QUITMAN STREET**

- NOTES:**
1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
  2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.



**QUITMAN STREET**



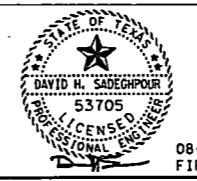
9/24/2022 27-Quitman-REM.dgn

NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS REMOVAL LAYOUT</b>	
DRAWN BY:	AD	SHEET 8 OF 9	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: 1"=40'	SHEET NO: 22 /

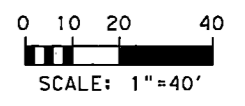
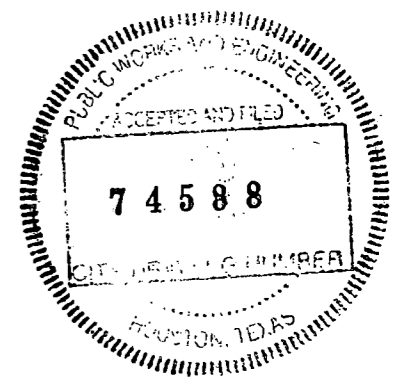
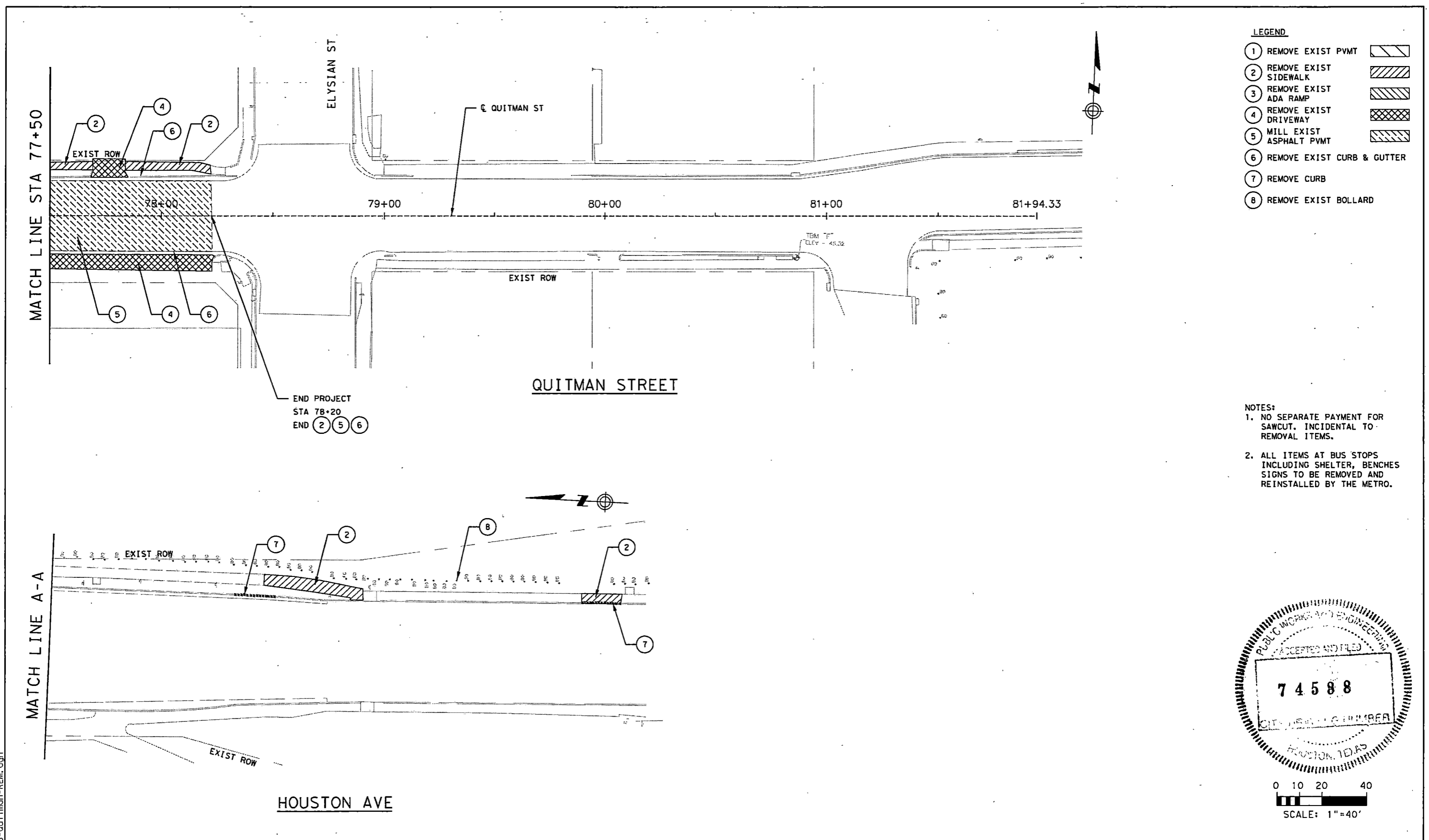


**LEGEND**

- ① REMOVE EXIST PVMT
- ② REMOVE EXIST SIDEWALK
- ③ REMOVE EXIST ADA RAMP
- ④ REMOVE EXIST DRIVEWAY
- ⑤ MILL EXIST ASPHALT PVMT
- ⑥ REMOVE EXIST CURB & GUTTER
- ⑦ REMOVE CURB
- ⑧ REMOVE EXIST BOLLARD

**NOTES:**

1. NO SEPARATE PAYMENT FOR SAWCUT. INCIDENTAL TO REMOVAL ITEMS.
2. ALL ITEMS AT BUS STOPS INCLUDING SHELTER, BENCHES SIGNS TO BE REMOVED AND REINSTALLED BY THE METRO.



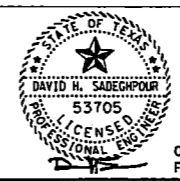
9/24/2022 28-Quitman-REM.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

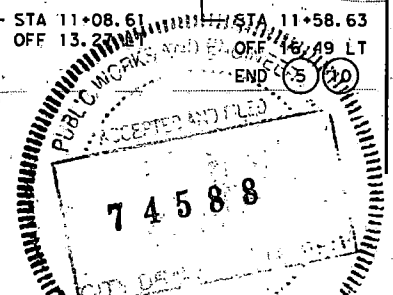
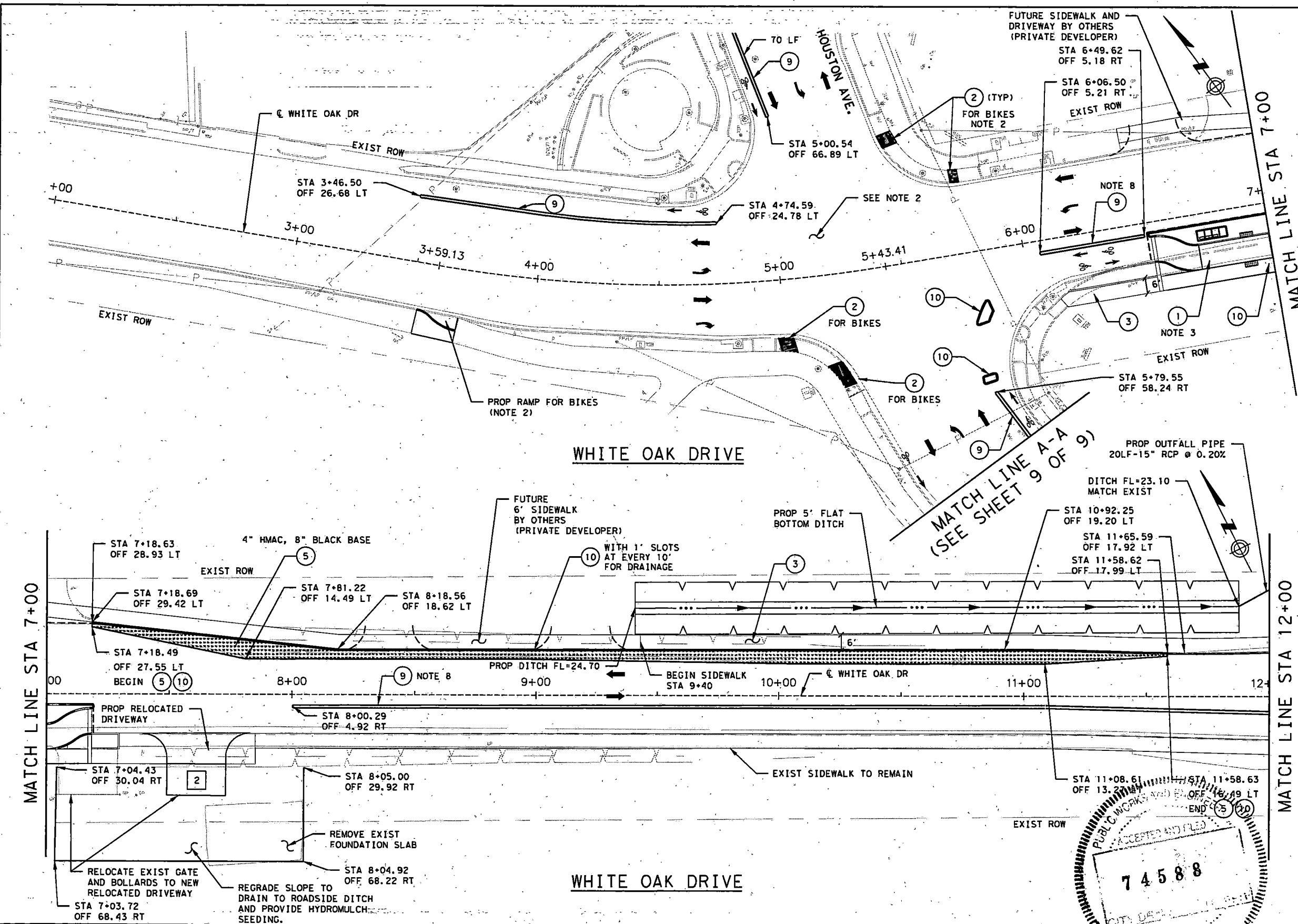
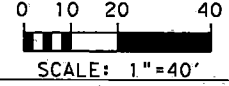


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CK'D BY:		DHS	
SCALE:		1"=40'	
DATE:		08-19-2022	
SHEET NO.:		23 /	

- LEGEND**
- 1 PROP FLOATING BUS STOP
  - 2 PROP CURB RAMP
  - 3 PROP SIDEWALK
  - 4 RECONSTRUCT DRIVEWAYS
  - 5 PROP PAVEMENT WIDENING
  - 6 PROPOSED CURB REPAIR
  - 7 REMOVE AND RECONSTRUCT CURB & GUTTER
  - 8 PROPOSED MILL & OVERLAY
  - 9 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - 10 DOWELED CURB
  - 11 CYCLE TRACK AT BUS STOP
  - 12 RELOCATE EXIST FIRE HYDRANT
  - 13 ADJUST WV/WM
  - 14 RELOCATE EXIST HISD FENCE (NOTE 18)
  - 15 RELOCATE EXIST FENCE
  - 16 TUFF CURB XLP
  - X DRIVEWAY NO.

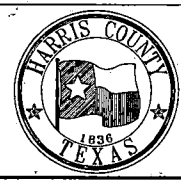
- NOTES:**
1. SEE TYPICAL SECTION SHEETS 5-7 FOR ADDITIONAL INFORMATION.
  2. SEE INTERSECTION DETAILS SHEETS 33-52 FOR ADDITIONAL INFORMATION AND DETAILS.
  3. SEE FLOATING BUS STOP DETAILS SHEETS FOR ADDITIONAL INFORMATION AND DETAILS.
  4. SEE STANDARDS DRAWINGS FOR ADDITIONAL DETAILS.
  5. FOR DRIVEWAY SEE DRIVEWAYS DETAILS AND DRIVEWAY SUMMARY SHEETS 61 & 65
  6. FOR RAMP DETAILS SEE INTERSECTION DETAILS SHEETS.
  7. ALL REPLACED CURB & GUTTER MUST SLOPE TO AN EXIST INLET AS PER EXISTING DRAINAGE PATTERN.
  8. PROVIDE 1' MIN GAP BETWEEN PRECAST CURB SEGMENT PLACEMENT FOR DRAINAGE. OFFSET SHOWN ARE CENTER OF CURB.
  9. PROVIDE AND MAINTAIN INLET PROTECTION BARRIER ON ALL INLETS WITHIN PROJECT LIMIT.
  10. SEE CYCLE TRACK AT BUS STOPS DETAIL SHEET FOR ADDITIONAL INFORMATION.
  11. SEE DRIVEWAY SUMMARY SHEETS FOR SIDEWALK WIDTH ACROSS DRIVEWAY.
  12. EXISTING FENCE ENCROACHMENT ON SOUTH SIDE FROM STA 35+50 TO STA 45+20 AND 51+30 TO STA 59+00 TO BE RELOCATED.
  13. SEE SITWORK PLAN AND DETAILS FOR ADDITIONAL INFORMATION.
  14. EXIST BUS SHELTER BENCHES, SIGNS TO BE REMOVE AND REINSTALLED BY METRO.
  15. EXISTING HISTORIC BLUE TILES CURB TO BE REMOVED AND REINSTALLED BY CONTRACTOR SEE ADDITIONAL INFORMATION ON SHEET 82.
  16. EXISTING HISTORIC STREET NAME ON POST TO BE REMOVED AND REINSTALLED BY THE CONTRACTOR.
  17. EXIST 4" PVC DRAINS AT CURB TO DRAIN STORM WATER TO BE REMOVED AND REPLACED BY THE CONTRACTORS.



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NO.	REVISIONS	DATE	NAME

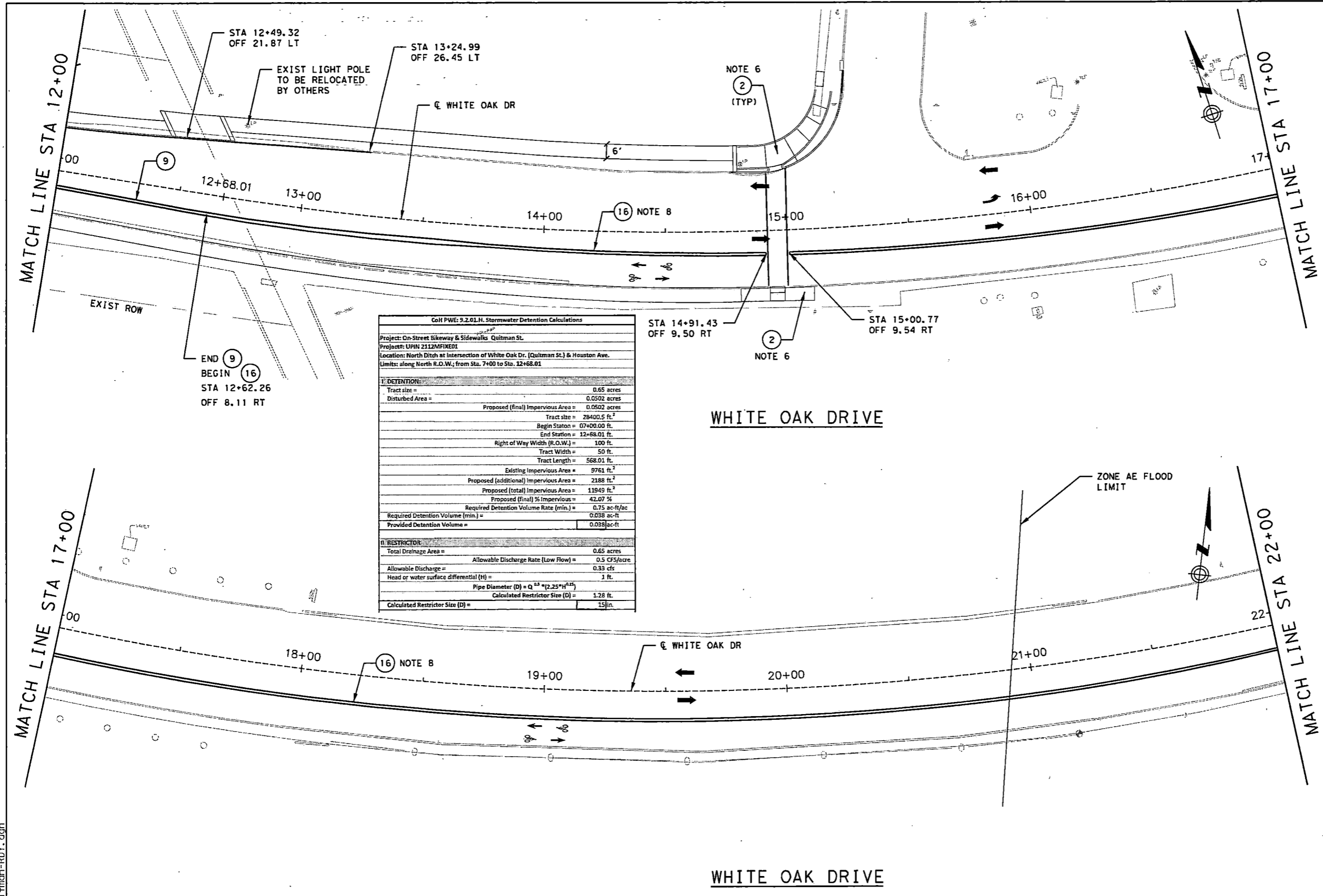
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

STATE OF TEXAS  
DAVID N. SADEHPOUR  
53705  
LICENSED PROFESSIONAL ENGINEER  
08-19-22  
FIRM#: F-4014

PROJECT TITLE:	QUITMAN STREET	
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	AD	DATE: 08-19-2022
CK'D BY:	DHS	SHEET NO: 24 /
SCALE:	SHEET 1 OF 9	



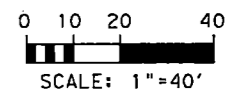
- LEGEND**
- ① PROP FLOATING BUS STOP
  - ② PROP CURB RAMP
  - ③ PROP SIDEWALK
  - ④ RECONSTRUCT DRIVEWAYS
  - ⑤ PROP PAVEMENT WIDENING
  - ⑥ PROPOSED CURB REPAIR
  - ⑦ REMOVE AND RECONSTRUCT CURB & GUTTER
  - ⑧ PROPOSED MILL & OVERLAY
  - ⑨ 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - ⑩ DOWELED CURB
  - ⑪ CYCLE TRACK AT BUS STOP
  - ⑫ RELOCATE EXIST FIRE HYDRANT
  - ⑬ ADJUST WV/WM
  - ⑭ RELOCATE EXIST HISD FENCE (NOTE 18)
  - ⑮ RELOCATE EXIST FENCE
  - ⑯ TUFF CURB XLP
  - X DRIVEWAY NO.

- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
  18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.

COH PWE: 9.2.01.H. Stormwater Detention Calculations

Project: On-Street Bikeway & Sidewalks - Quitman St.  
 Project#: UPIN 2112MFKED01  
 Location: North Ditch at Intersection of White Oak Dr. (Quitman St.) & Houston Ave.  
 Limits: along North R.O.W.; from Sta. 7+00 to Sta. 12+68.01

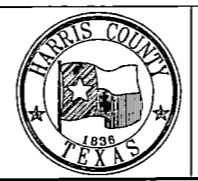
I. DETENTION:	
Tract size =	0.65 acres
Disturbed Area =	0.0502 acres
Proposed (final) Impervious Area =	0.0502 acres
Tract size =	28400.5 ft. <sup>2</sup>
Begin Station =	07+00.00 ft.
End Station =	12+68.01 ft.
Right of Way Width (R.O.W.) =	100 ft.
Tract Width =	50 ft.
Tract Length =	568.01 ft.
Existing Impervious Area =	9761 ft. <sup>2</sup>
Proposed (additional) Impervious Area =	2188 ft. <sup>2</sup>
Proposed (total) Impervious Area =	11949 ft. <sup>2</sup>
Proposed (final) % Impervious =	42.07 %
Required Detention Volume Rate (min.) =	0.75 ac-ft/ac
Required Detention Volume (min.) =	0.038 ac-ft
Provided Detention Volume =	0.038 ac-ft
II. RESTRICTOR:	
Total Drainage Area =	0.65 acres
Allowable Discharge Rate (Low Flow) =	0.5 CFS/acre
Allowable Discharge =	0.33 cfs
Head or water surface differential (H) =	1 ft.
Pipe Diameter (D) = $Q^{0.33} / (2.25 * H^{0.33})$	
Calculated Restrictor Size (D) =	1.28 ft.
Calculated Restrictor Size (D) =	15 in.



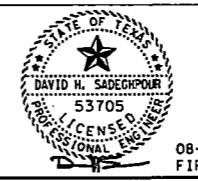
9/21/2022 31-Quitman-RDY.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

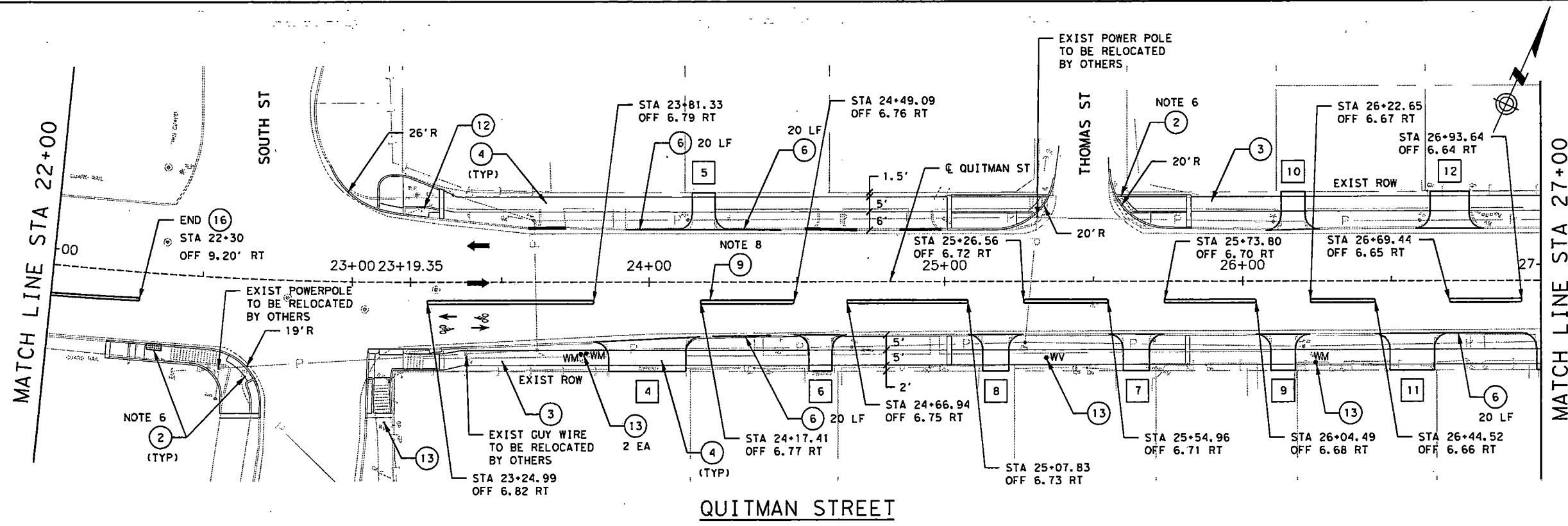


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TEXAS FIRM REGISTRATION NO. 4014



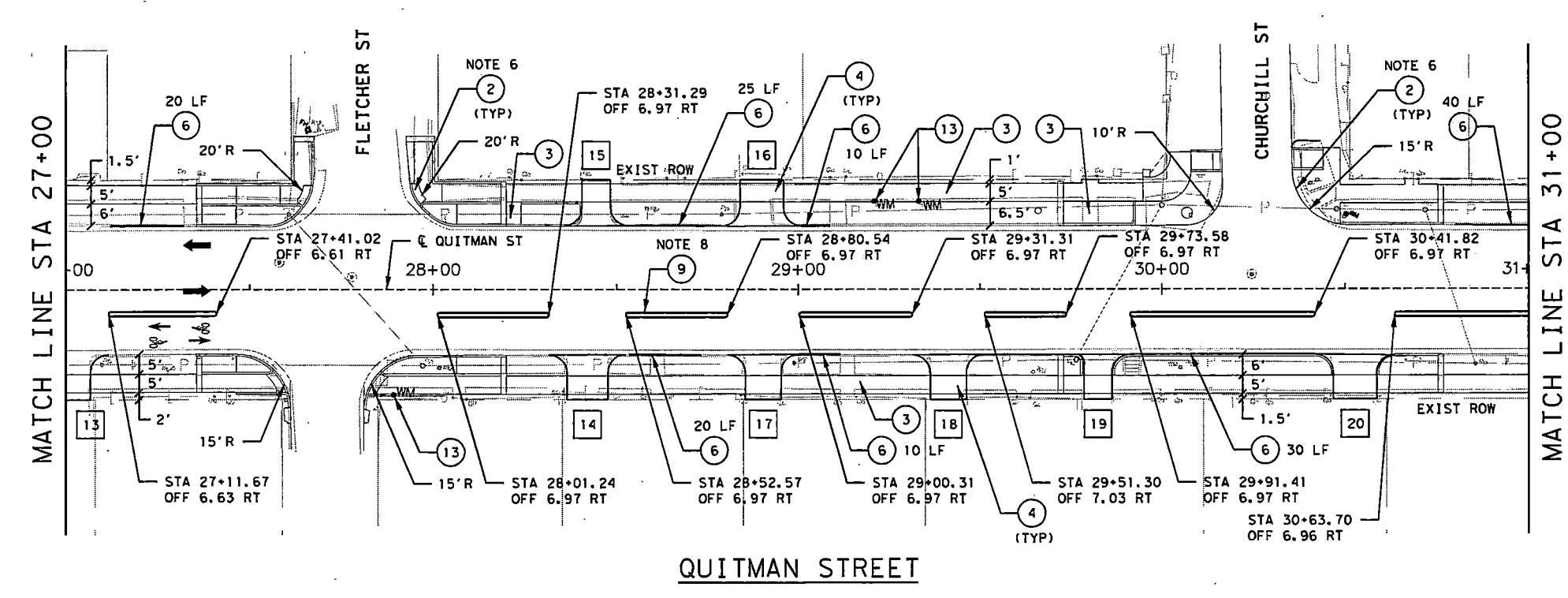
08-19-22  
FIRM#: F-4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY IMPROVEMENT LAYOUT	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 25 /
SCALE: 1"=40'	SHEET 2 OF 9



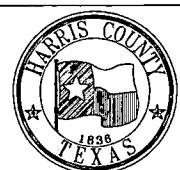
- LEGEND**
- (1) PROP FLOATING BUS STOP
  - (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (4) RECONSTRUCT DRIVEWAYS
  - (5) PROP PAVEMENT WIDENING
  - (6) PROPOSED CURB REPAIR
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (8) PROPOSED MILL & OVERLAY
  - (9) 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - (10) DOWELED CURB
  - (11) CYCLE TRACK AT BUS STOP
  - (12) RELOCATE EXIST FIRE HYDRANT
  - (13) ADJUST WV/WM
  - (14) RELOCATE EXIST HISD FENCE (NOTE 18)
  - (15) RELOCATE EXIST FENCE
  - (16) TUFF CURB XLP
  - X DRIVEWAY NO.

- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
  18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.

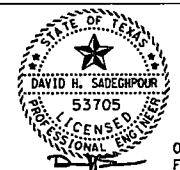


NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



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HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



PROJECT TITLE: QUITMAN STREET		DATE: 08-19-2022
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS ROADWAY IMPROVEMENT LAYOUT		SHEET NO: 26 /
DRAWN BY: AD	SHEET 3 OF 9	
CK'D BY: DHS	SCALE: 1"=40'	

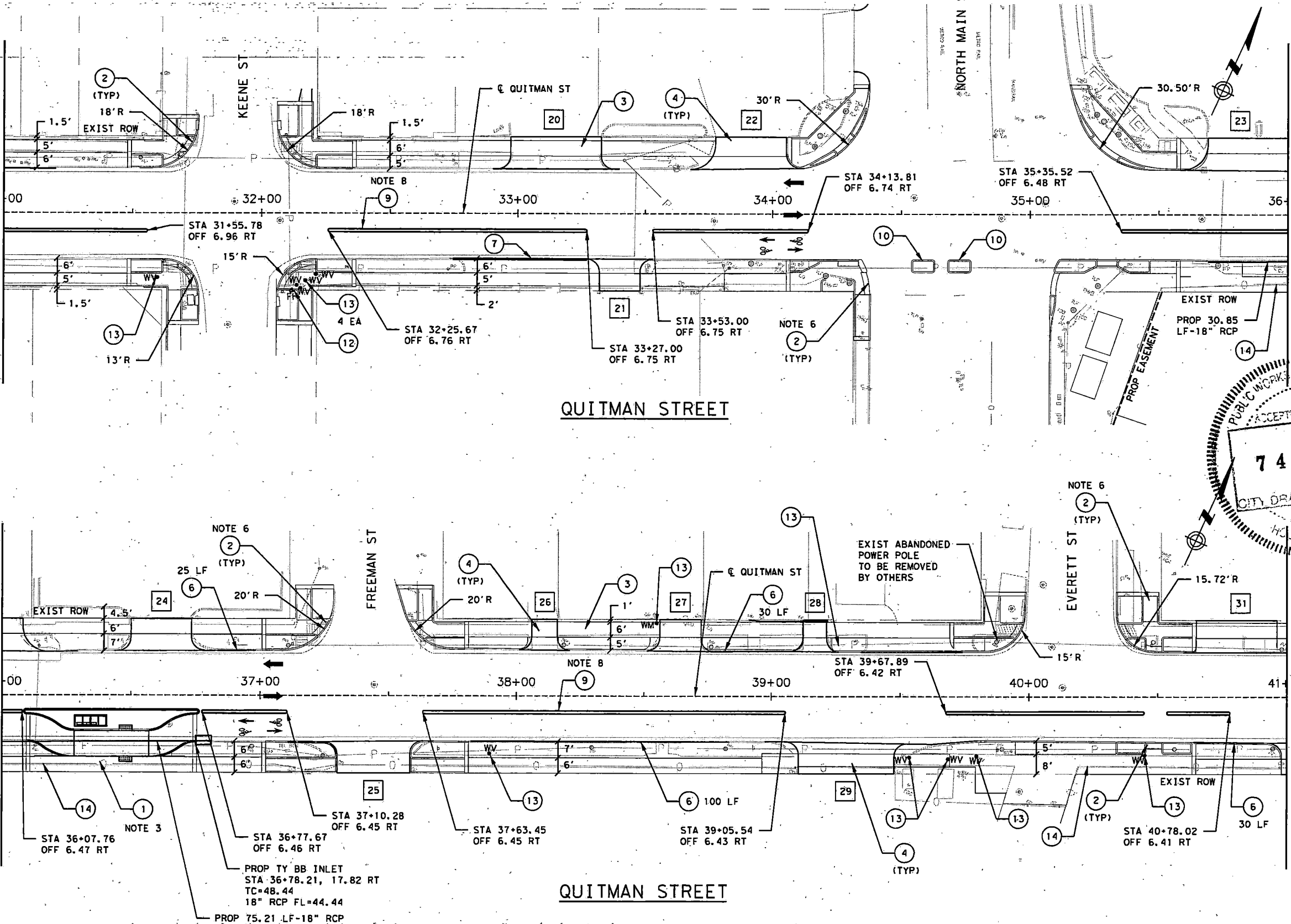
32-Quitman-RDY.dgn  
9/24/2022

MATCH LINE STA 31+00

MATCH LINE STA 36+00

MATCH LINE STA 36+00

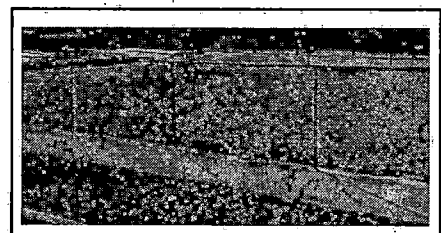
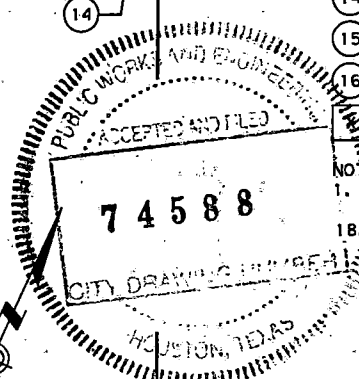
MATCH LINE STA 41+00



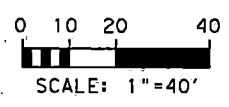
- LEGEND**
- 1 PROP FLOATING BUS STOP
  - 2 PROP CURB RAMP
  - 3 PROP SIDEWALK
  - 4 RECONSTRUCT DRIVEWAYS
  - 5 PROP PAVEMENT WIDENING
  - 6 PROPOSED CURB REPAIR
  - 7 REMOVE AND RECONSTRUCT CURB & GUTTER
  - 8 PROPOSED MILL & OVERLAY
  - 9 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - 10 DOWELED CURB
  - 11 CYCLE TRACK AT BUS STOP
  - 12 RELOCATE EXIST FIRE HYDRANT
  - 13 ADJUST WV/WM
  - 14 RELOCATE EXIST HISD FENCE (NOTE 18)
  - 15 RELOCATE EXIST FENCE
  - 16 TUFF CURB XLP DRIVEWAY NO.

**NOTES:**

- SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
- FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.



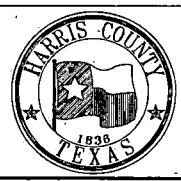
**HISD FENCE TYPE I**



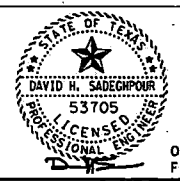
9/24/2022 33-Quitman-RDY.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
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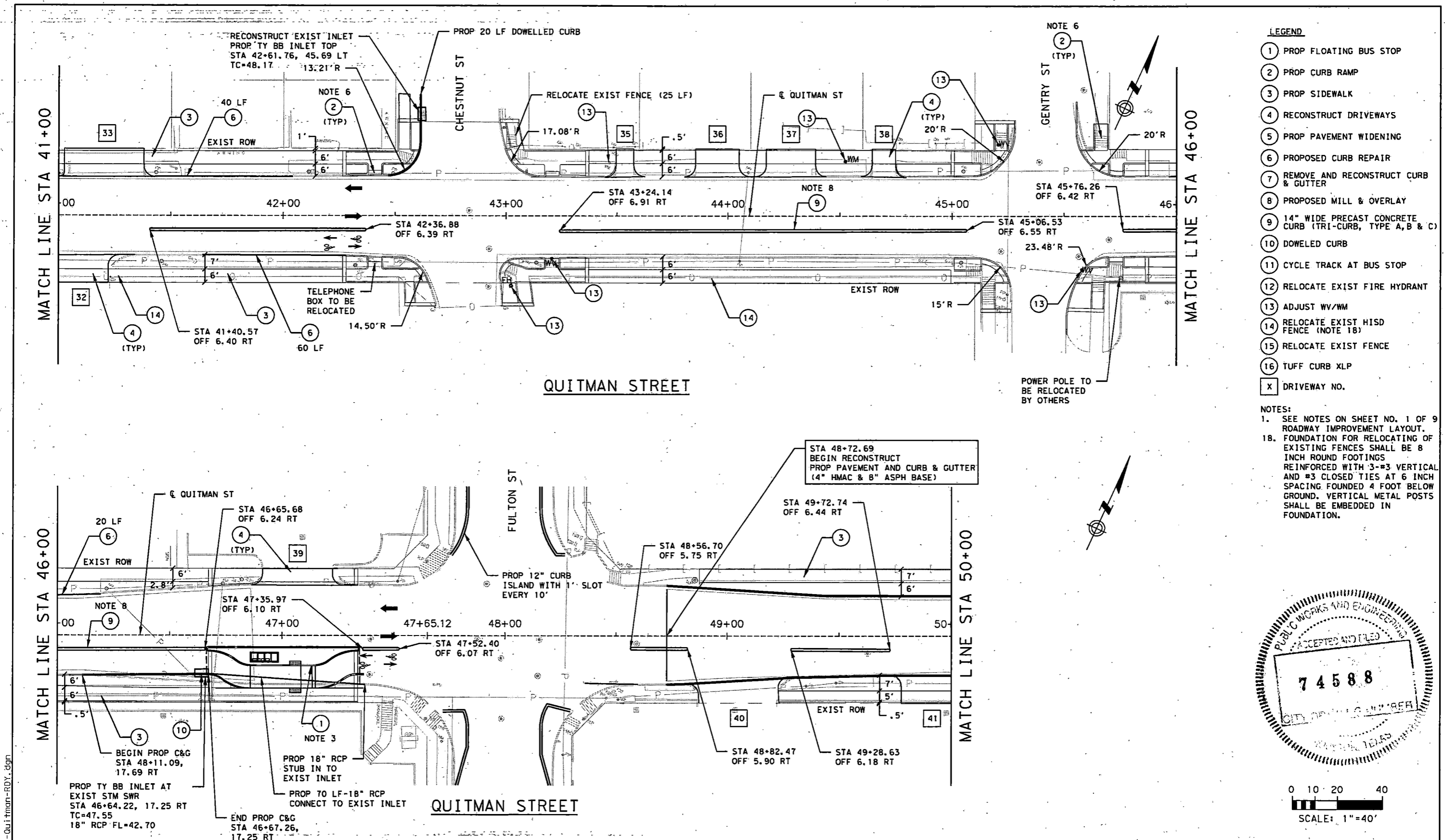


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TEXAS FIRM REGISTRATION NO. 4014

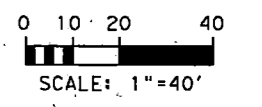
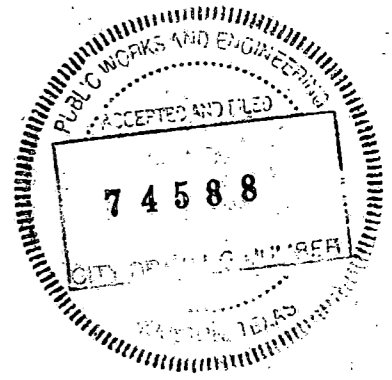


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 4 OF 9	
DATE:		08-19-2022	
CK'D BY:		SCALE: 1"=40'	
DATE:		SHEET NO:	
27 /			



- LEGEND**
- ① PROP FLOATING BUS STOP
  - ② PROP CURB RAMP
  - ③ PROP SIDEWALK
  - ④ RECONSTRUCT DRIVEWAYS
  - ⑤ PROP PAVEMENT WIDENING
  - ⑥ PROPOSED CURB REPAIR
  - ⑦ REMOVE AND RECONSTRUCT CURB & GUTTER
  - ⑧ PROPOSED MILL & OVERLAY
  - ⑨ 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - ⑩ DOWELED CURB
  - ⑪ CYCLE TRACK AT BUS STOP
  - ⑫ RELOCATE EXIST FIRE HYDRANT
  - ⑬ ADJUST WV/WM
  - ⑭ RELOCATE EXIST HSD FENCE (NOTE 18)
  - ⑮ RELOCATE EXIST FENCE
  - ⑯ TUFF CURB XLP
  - X DRIVEWAY NO.
- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
  18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.

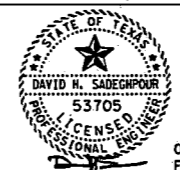


NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
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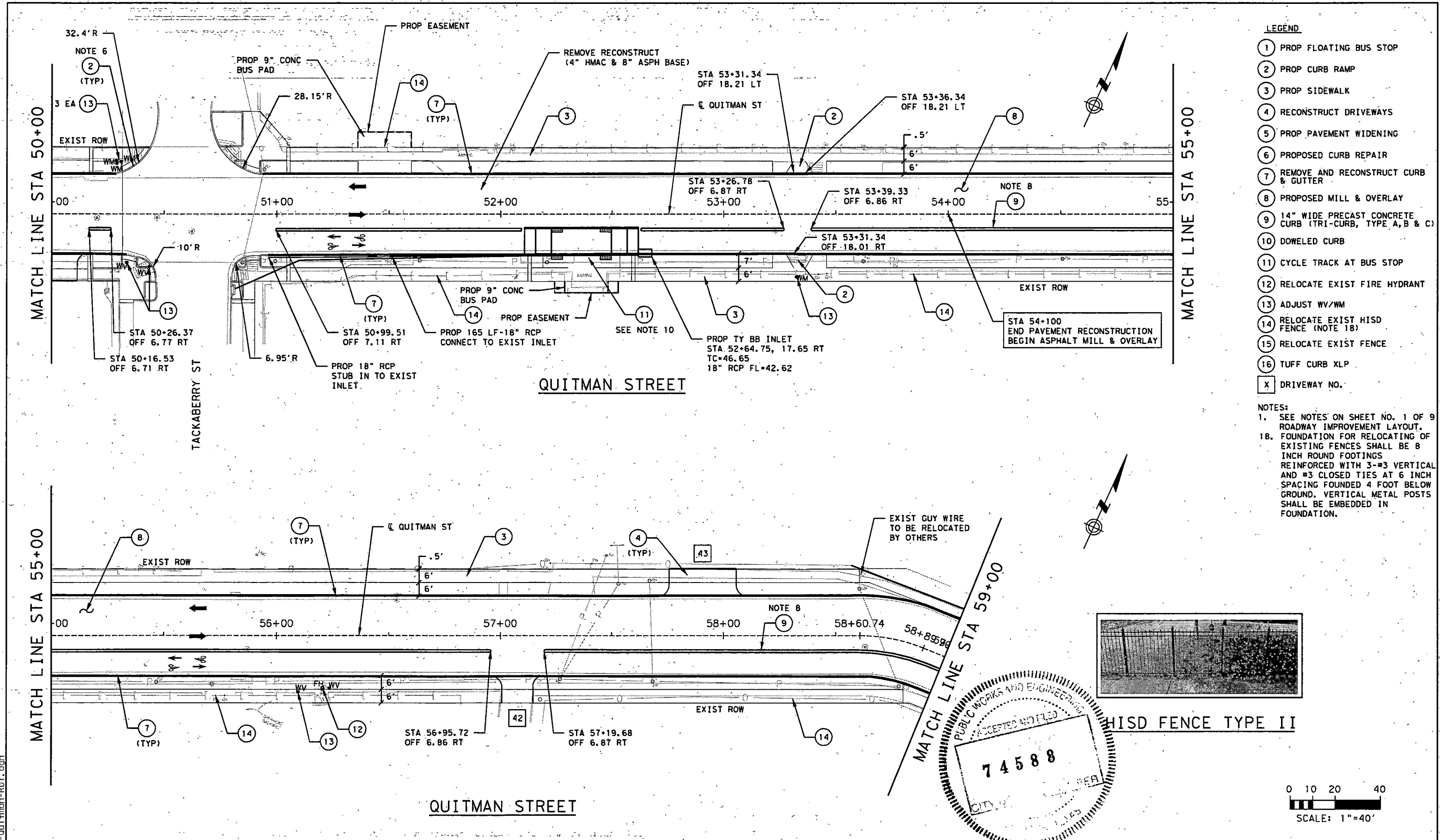
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TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

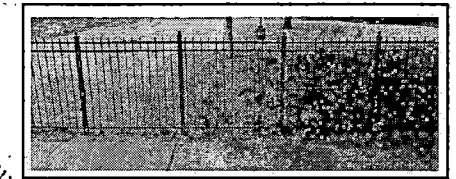
PROJECT TITLE: <b>QUITMAN STREET</b>	
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
SHEET 5 OF 9	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO.: 28
SCALE: 1"=40'	

9/24/2022 34-Quitman-RDY.dgn

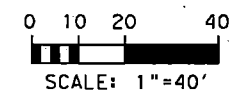
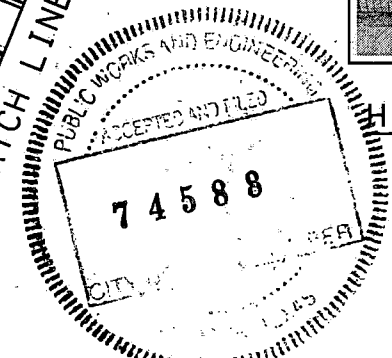


- LEGEND**
- 1 PROP FLOATING BUS STOP
  - 2 PROP CURB RAMP
  - 3 PROP SIDEWALK
  - 4 RECONSTRUCT DRIVEWAYS
  - 5 PROP PAVEMENT WIDENING
  - 6 PROPOSED CURB REPAIR
  - 7 REMOVE AND RECONSTRUCT CURB & GUTTER
  - 8 PROPOSED MILL & OVERLAY
  - 9 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - 10 DOWELED CURB
  - 11 CYCLE TRACK AT BUS STOP
  - 12 RELOCATE EXIST FIRE HYDRANT
  - 13 ADJUST WV/WM
  - 14 RELOCATE EXIST HISS FENCE (NOTE 18)
  - 15 RELOCATE EXIST FENCE
  - 16 TUFF CURB XLP
  - X DRIVEWAY NO.

- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
  18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.

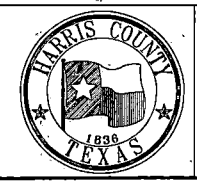


HISS FENCE TYPE II

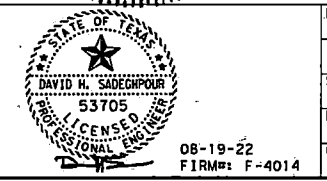


NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



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ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



PROJECT TITLE: QUITMAN STREET		DATE: 08-19-2022
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 29 /
DRAWN BY: AD	SHEET 6 OF 9	SCALE: 1"=40'
CR'D BY: DHS	FIRM: F-4014	

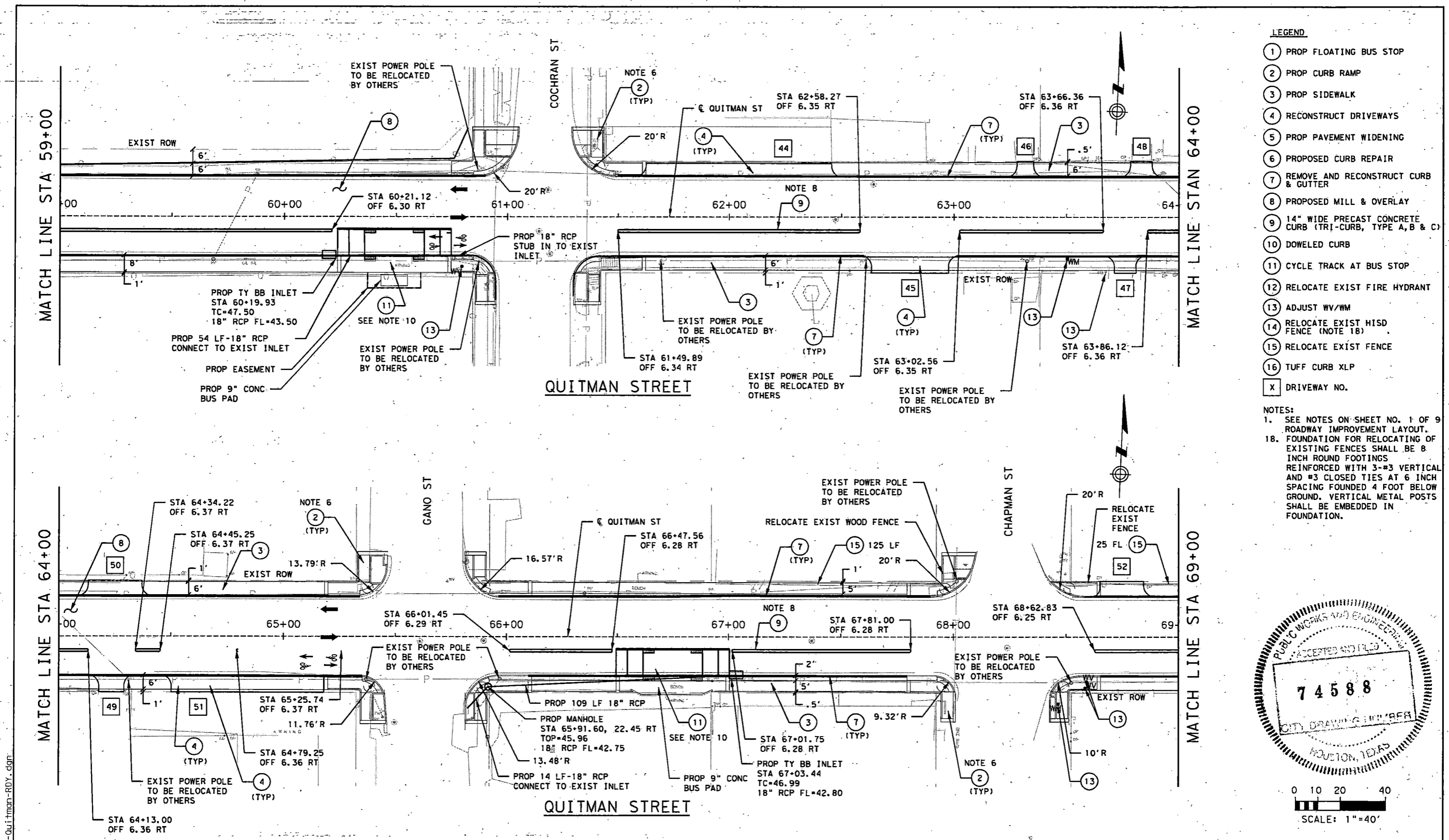
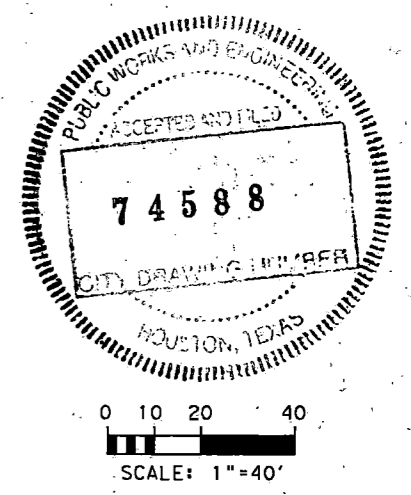
9/24/2022 35-Quitman-RDY.dgn

**LEGEND**

- 1 PROP FLOATING BUS STOP
- 2 PROP CURB RAMP
- 3 PROP SIDEWALK
- 4 RECONSTRUCT DRIVEWAYS
- 5 PROP PAVEMENT WIDENING
- 6 PROPOSED CURB REPAIR
- 7 REMOVE AND RECONSTRUCT CURB & GUTTER
- 8 PROPOSED MILL & OVERLAY
- 9 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
- 10 DOWELED CURB
- 11 CYCLE TRACK AT BUS STOP
- 12 RELOCATE EXIST FIRE HYDRANT
- 13 ADJUST WV/WM
- 14 RELOCATE EXIST HISD FENCE (NOTE 18)
- 15 RELOCATE EXIST FENCE
- 16 TUFF CURB XLP
- X DRIVEWAY NO.

**NOTES:**

- 1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
- 18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.

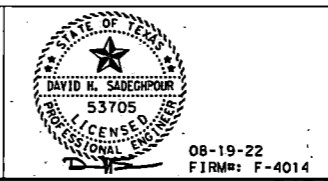


NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**



**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CHECKED BY:		DHS	
SCALE:		1"=40'	
DATE:		08-19-2022	
SHEET NO.:		30 /	

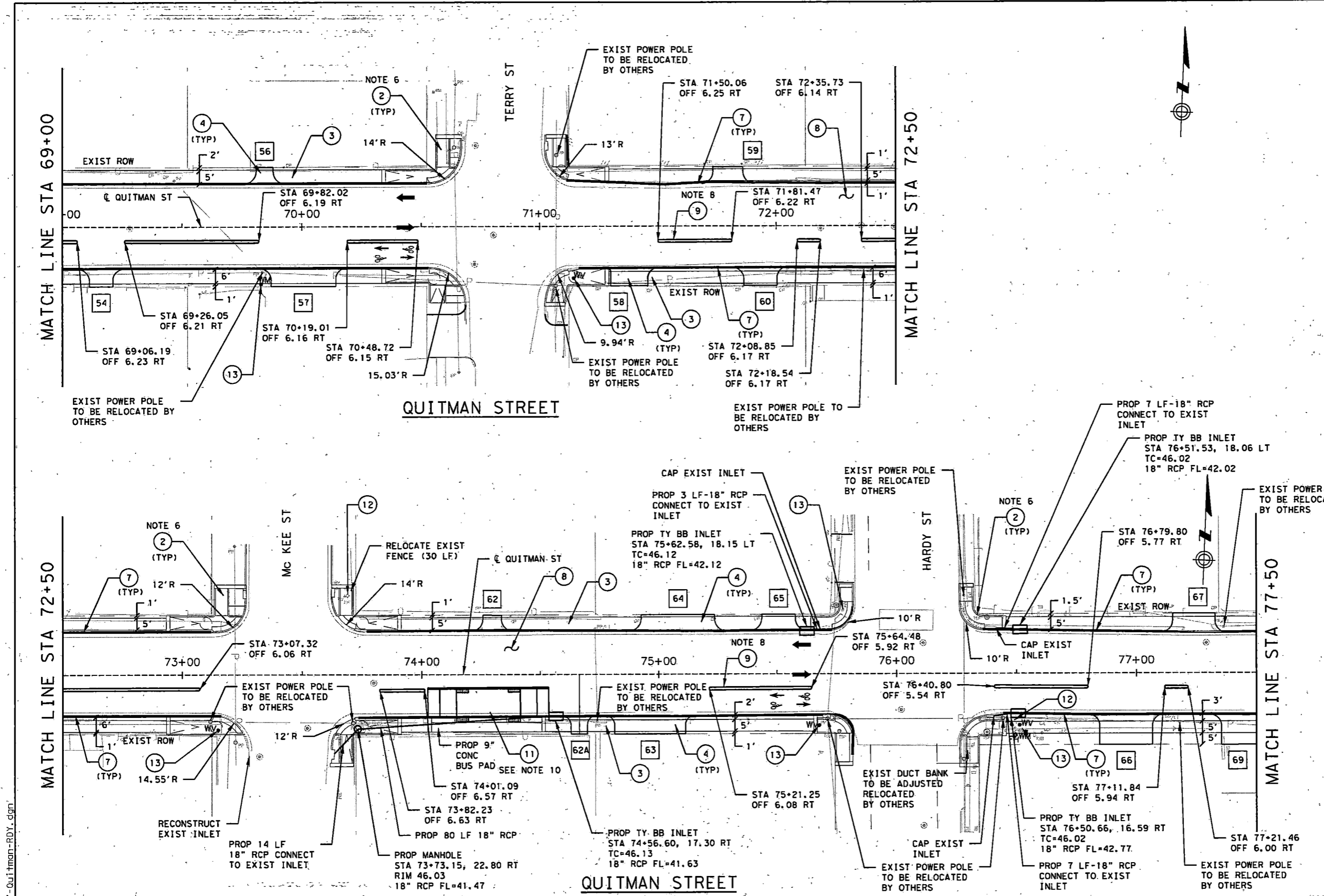
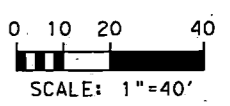
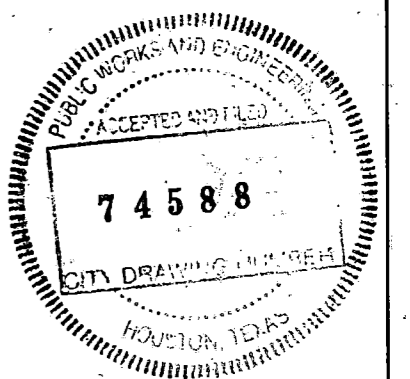
9/24/2022 36-Quitman-RDY.dgn



- LEGEND**
- 1 PROP FLOATING BUS STOP
  - 2 PROP CURB RAMP
  - 3 PROP SIDEWALK
  - 4 RECONSTRUCT DRIVEWAYS
  - 5 PROP PAVEMENT WIDENING
  - 6 PROPOSED CURB REPAIR
  - 7 REMOVE AND RECONSTRUCT CURB & GUTTER
  - 8 PROPOSED MILL & OVERLAY
  - 9 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
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  - 11 CYCLE TRACK AT BUS STOP
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  - 13 ADJUST WV/WM
  - 14 RELOCATE EXIST HISD FENCE (NOTE 18)
  - 15 RELOCATE EXIST FENCE
  - 16 TUFF CURB XLP
  - X DRIVEWAY NO.

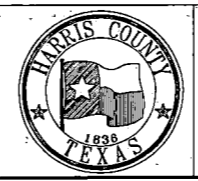
**NOTES:**

1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.

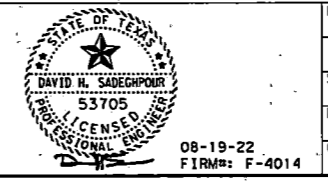


NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

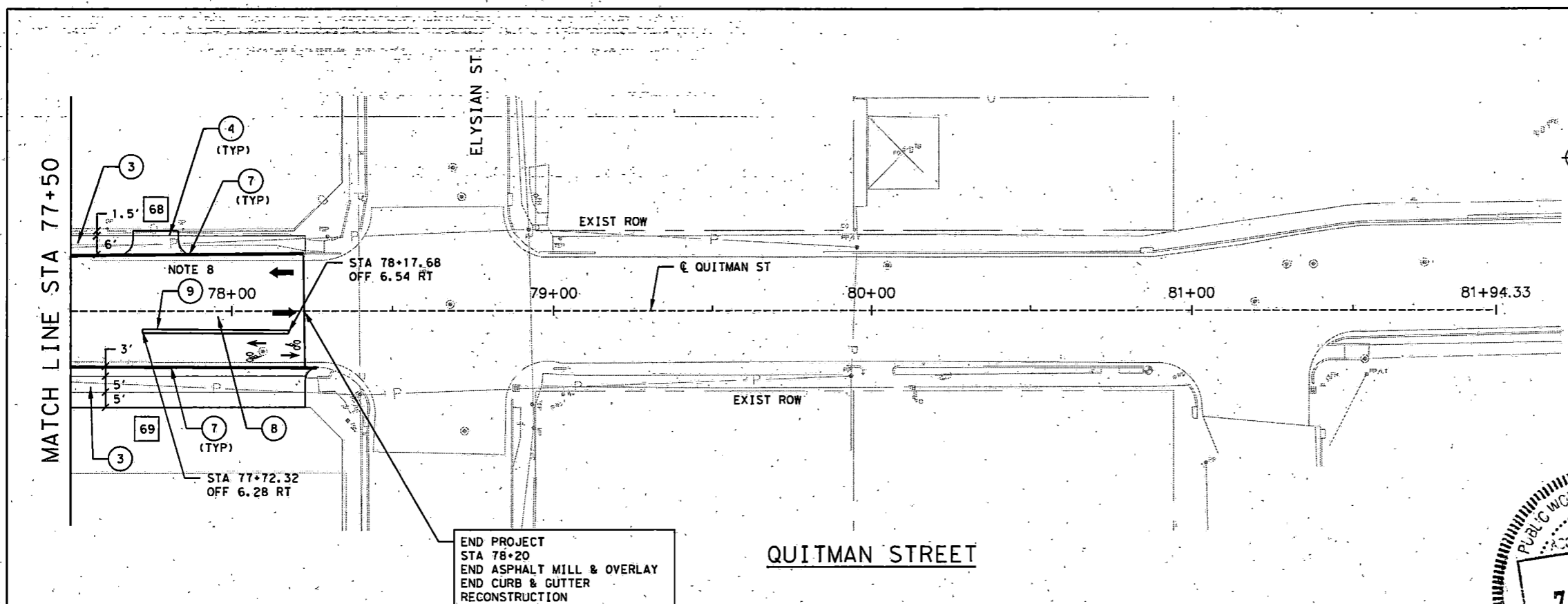


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ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CR'D BY:		DHS	
SCALE:		1"=40'	
DATE:		08-19-2022	
SHEET NO.:		31/	
SHEET 8 OF 9			

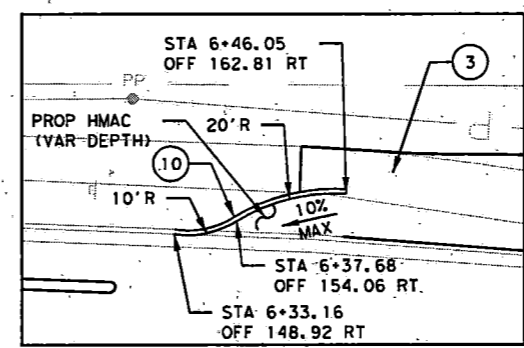
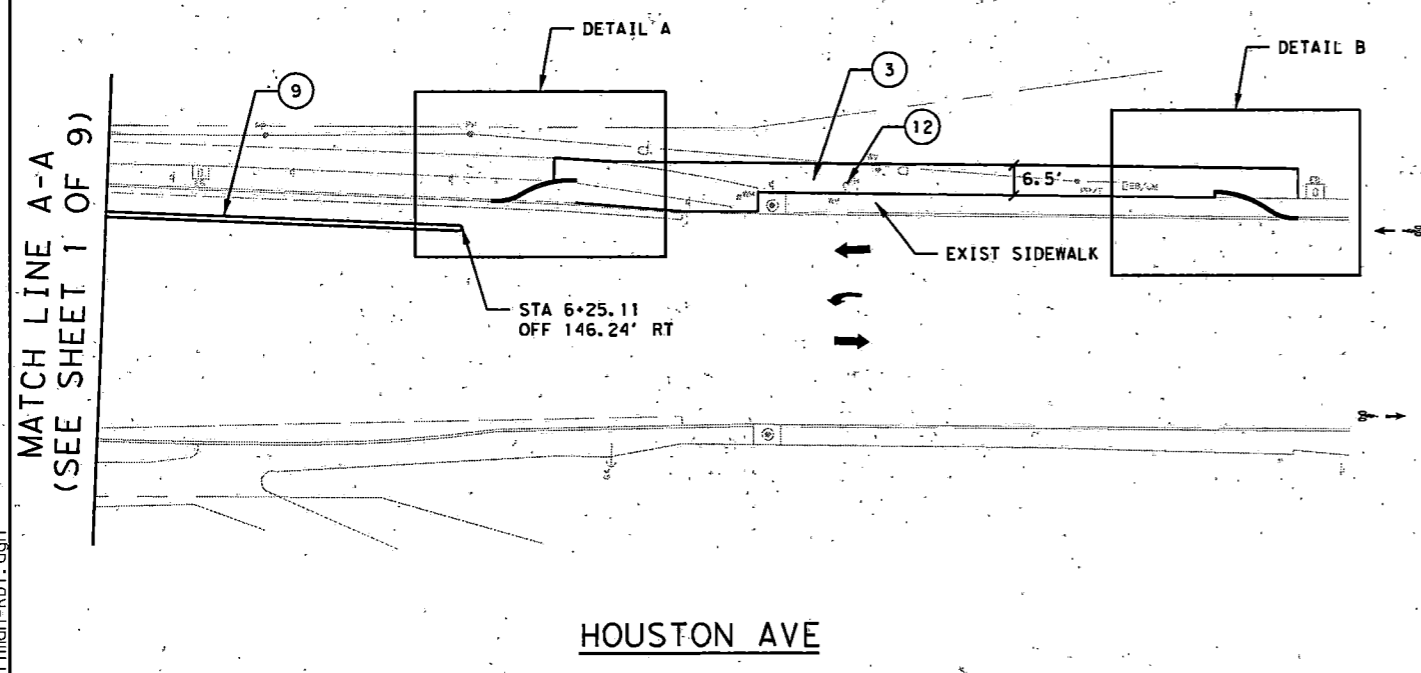
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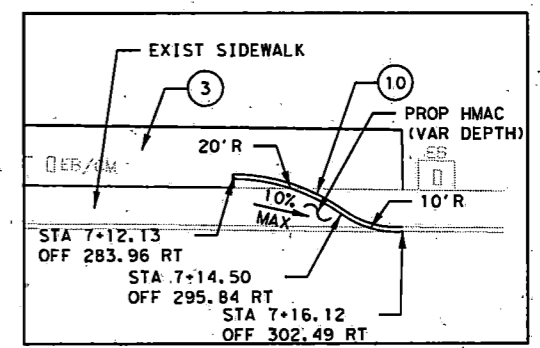
- LEGEND**
- 1 PROP FLOATING BUS STOP
  - 2 PROP CURB RAMP
  - 3 PROP SIDEWALK
  - 4 RECONSTRUCT DRIVEWAYS
  - 5 PROP PAVEMENT WIDENING
  - 6 PROPOSED CURB REPAIR
  - 7 REMOVE AND RECONSTRUCT CURB & GUTTER
  - 8 PROPOSED MILL & OVERLAY
  - 9 14" WIDE PRECAST CONCRETE CURB (TRI-CURB, TYPE A, B & C)
  - 10 DOWELED CURB
  - 11 CYCLE TRACK AT BUS STOP
  - 12 RELOCATE EXIST FIRE HYDRANT
  - 13 ADJUST WV/WM
  - 14 RELOCATE EXIST HISD FENCE (NOTE 18)
  - 15 RELOCATE EXIST FENCE
  - 16 TUFF CURB XLP
  - X DRIVEWAY NO.



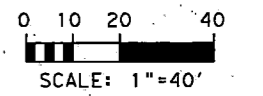
- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 ROADWAY IMPROVEMENT LAYOUT.
  18. FOUNDATION FOR RELOCATING OF EXISTING FENCES SHALL BE 8 INCH ROUND FOOTINGS REINFORCED WITH 3-#3 VERTICAL AND #3 CLOSED TIES AT 6 INCH SPACING FOUNDED 4 FOOT BELOW GROUND. VERTICAL METAL POSTS SHALL BE EMBEDDED IN FOUNDATION.



**BIKE RAMP DETAIL A**



**BIKE RAMP DETAIL B**



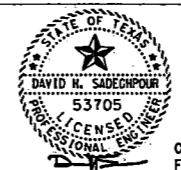
38-Quitman-RDY.dgn  
9/24/2022

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

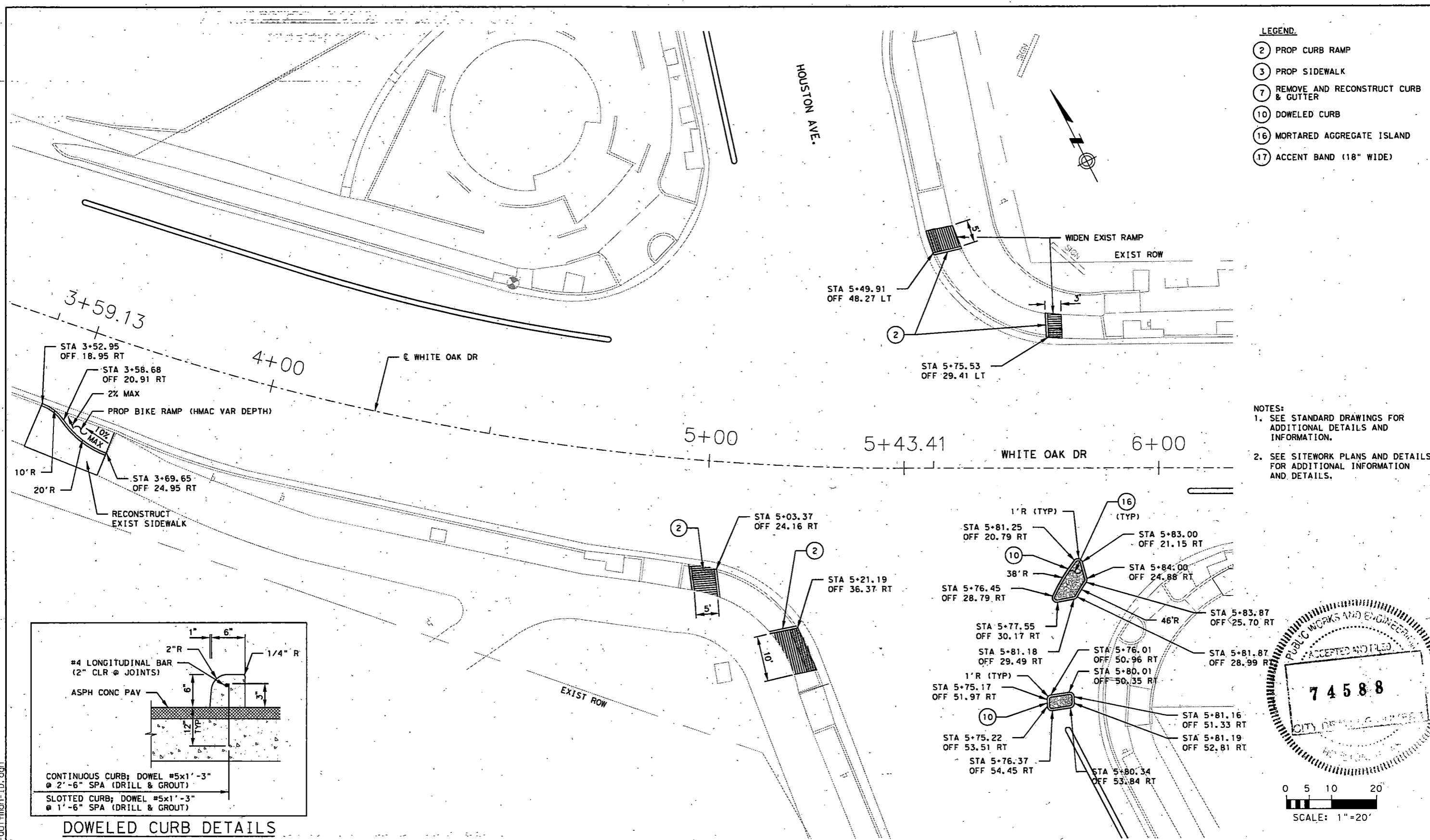


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HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



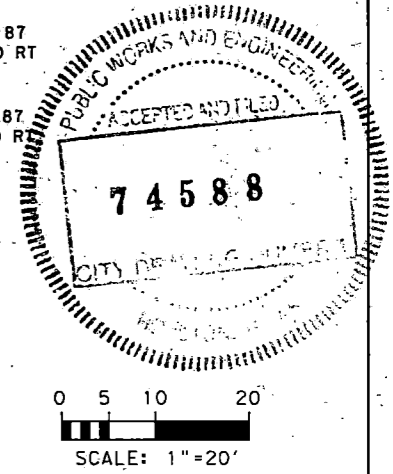
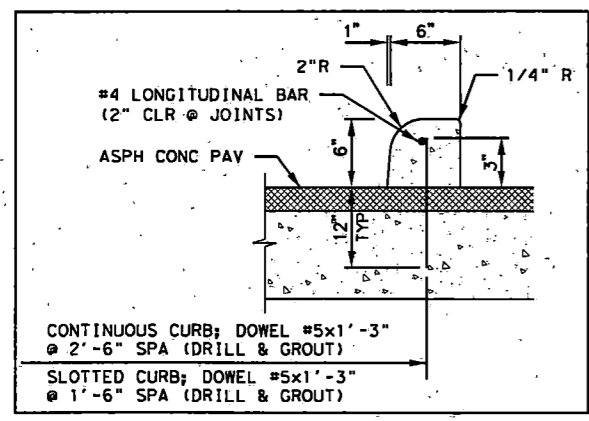
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CHECKED BY:		DHS	
SCALE:		1"=40'	
DATE:		08-19-2022	
SHEET NO.:		32 /	
SHEET 9 OF 9			



- LEGEND:**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)

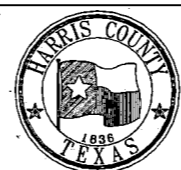
- NOTES:**
1. SEE STANDARD DRAWINGS FOR ADDITIONAL DETAILS AND INFORMATION.
  2. SEE SITEWORK PLANS AND DETAILS FOR ADDITIONAL INFORMATION AND DETAILS.



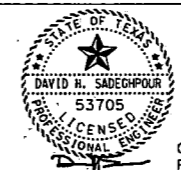
8/21/2022 50-Qui.tman-ID.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



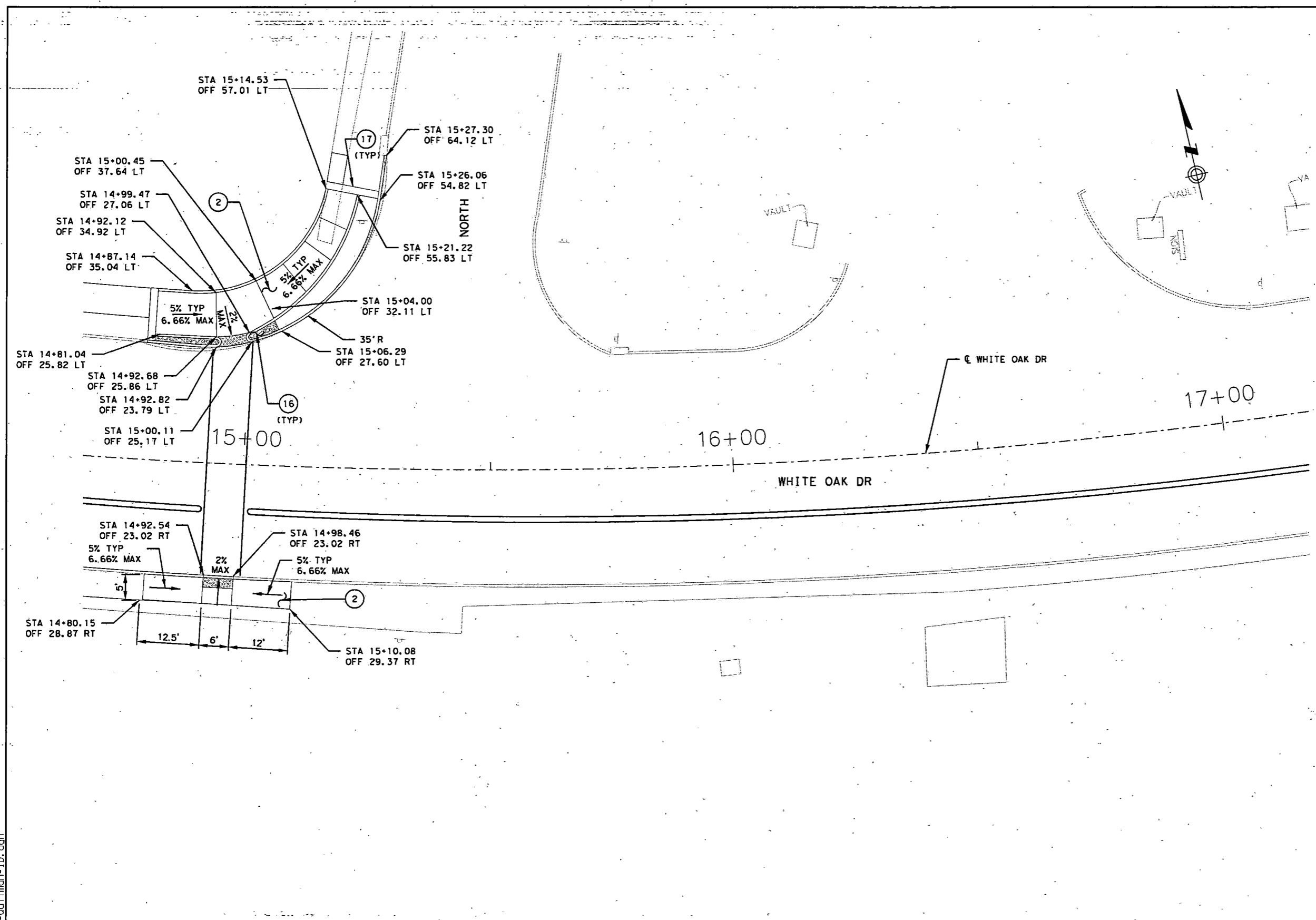
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77001  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE: QUITMAN STREET		DATE: 08-19-2022
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 33 /
SHEET 1 OF 20		SCALE: 1"=20'
DRAWN BY: AD	CK'D BY: DHS	

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.

PUBLIC WORKS AND ENGINEERING  
ACCEPTED AND FILED  
**74588**  
CITY DRAWING NUMBER  
HOUSTON, TEXAS

0 5 10 20  
SCALE: 1"=20'

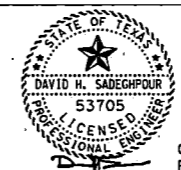
8/21/2022 51-Qui.tman-ID.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



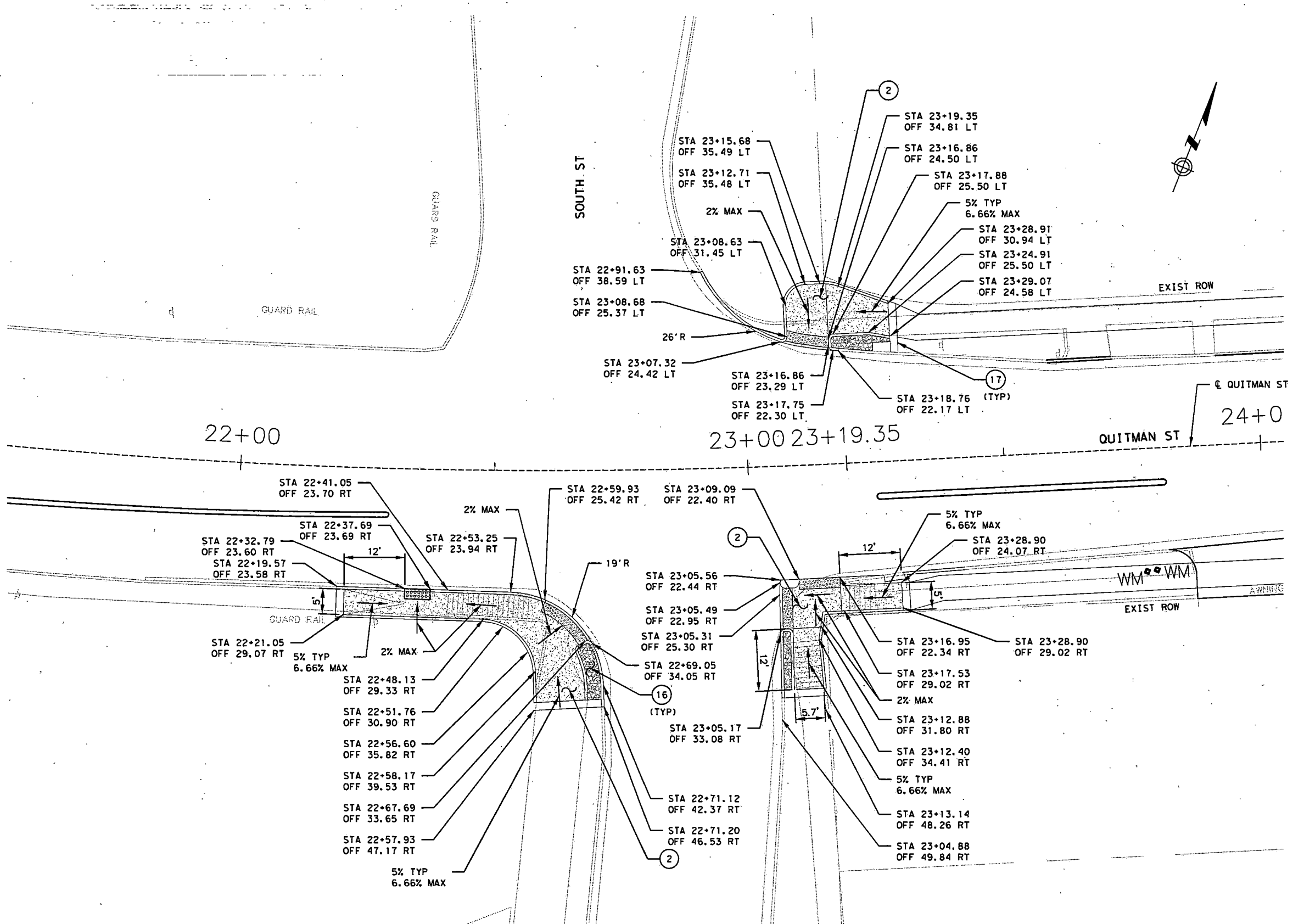
**SCIENTECH  
ENGINEERS, INC.**  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77001  
TEXAS FIRM REGISTRATION NO. 4014



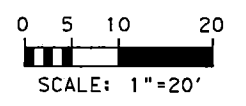
08-19-22  
FIRM#: F-4014

PROJECT TITLE: <b>QUITMAN STREET</b>		DATE: <b>08-19-2022</b>
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>		SHEET NO: <b>34 /</b>
DRAWN BY: <b>AD</b>	<b>SHEET 2 OF 20</b>	SCALE: <b>1"=20'</b>
CK'D BY: <b>DHS</b>		

- LEGEND**
- ② PROP CURB RAMP
  - ③ PROP SIDEWALK
  - ⑦ REMOVE AND RECONSTRUCT CURB & GUTTER
  - ⑩ DOWELED CURB
  - ⑯ MORTARED AGGREGATE ISLAND
  - ⑰ ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



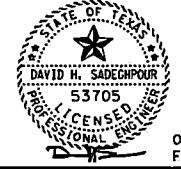
10/13/2022 52-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

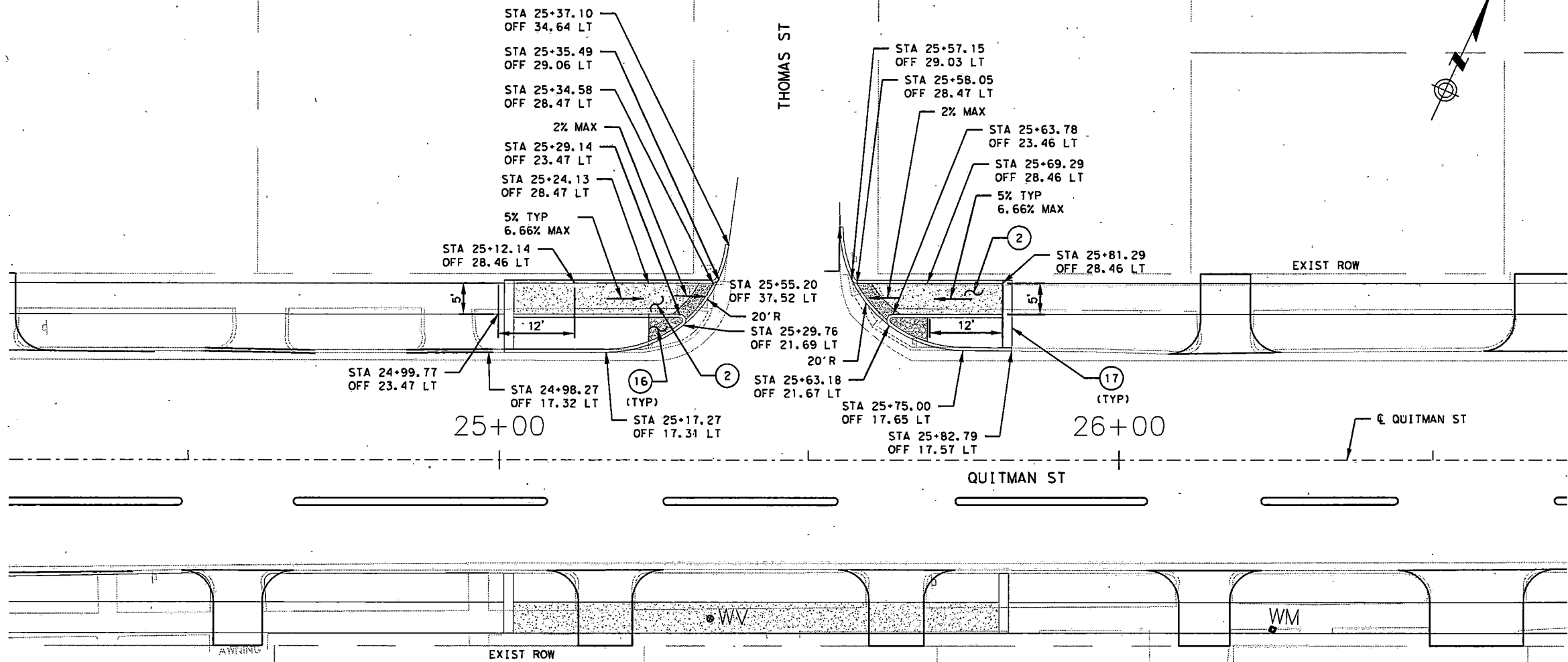


08-19-22  
FIRM#: F-4014

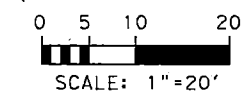
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS INTERSECTION DETAILS	
DRAWN BY:	AD	SHEET 3 OF 20	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: 1"=20'	SHEET NO: 35 /

**LEGEND**

- (2) PROP CURB RAMP
- (3) PROP SIDEWALK
- (7) REMOVE AND RECONSTRUCT CURB & GUTTER
- (10) DOWELED CURB
- (16) MORTARED AGGREGATE ISLAND
- (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



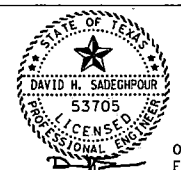
B/21/2022 53A-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



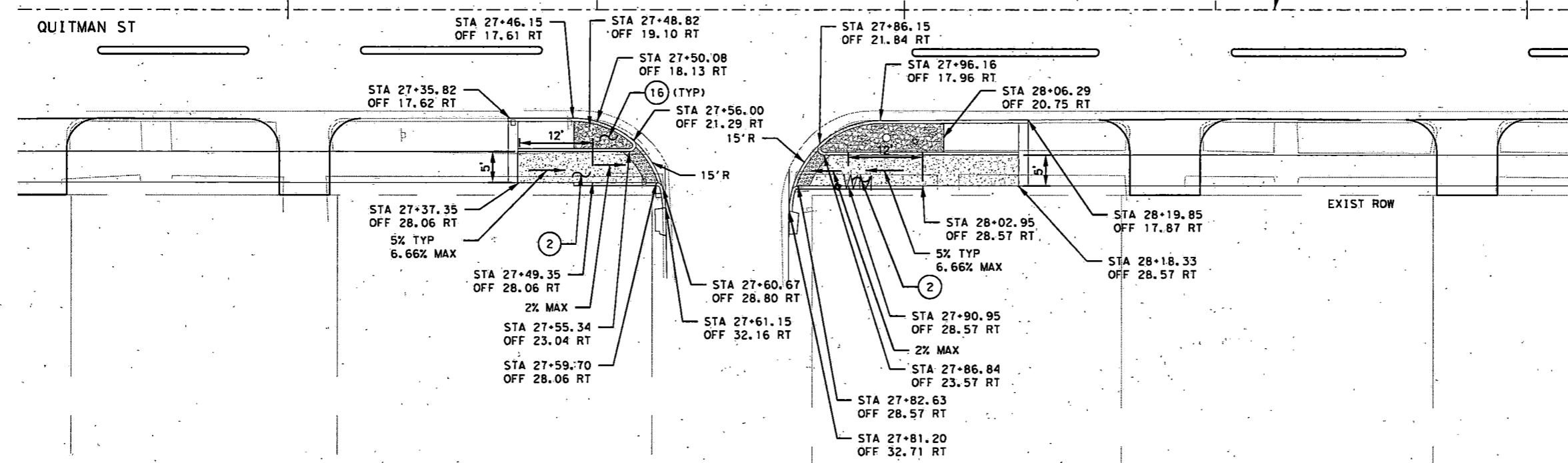
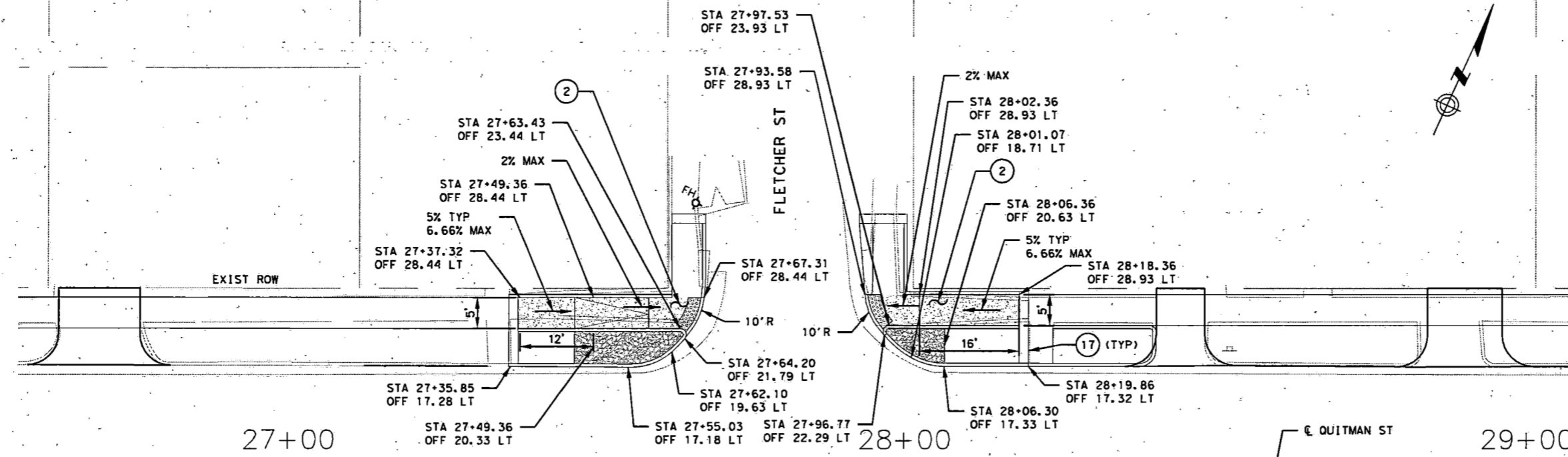
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



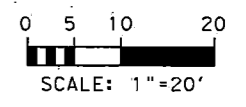
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
DRAWN BY:		<b>AD</b>	
DATE:		<b>08-19-2022</b>	
CK'D BY:	SCALE:	<b>SHEET 4 OF 20</b>	SHEET NO:
<b>DHS</b>	<b>1"=20'</b>		<b>36 /</b>

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1-OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



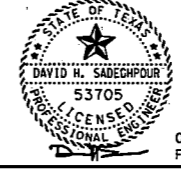
8/21/2022-53-Quitman-1D.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



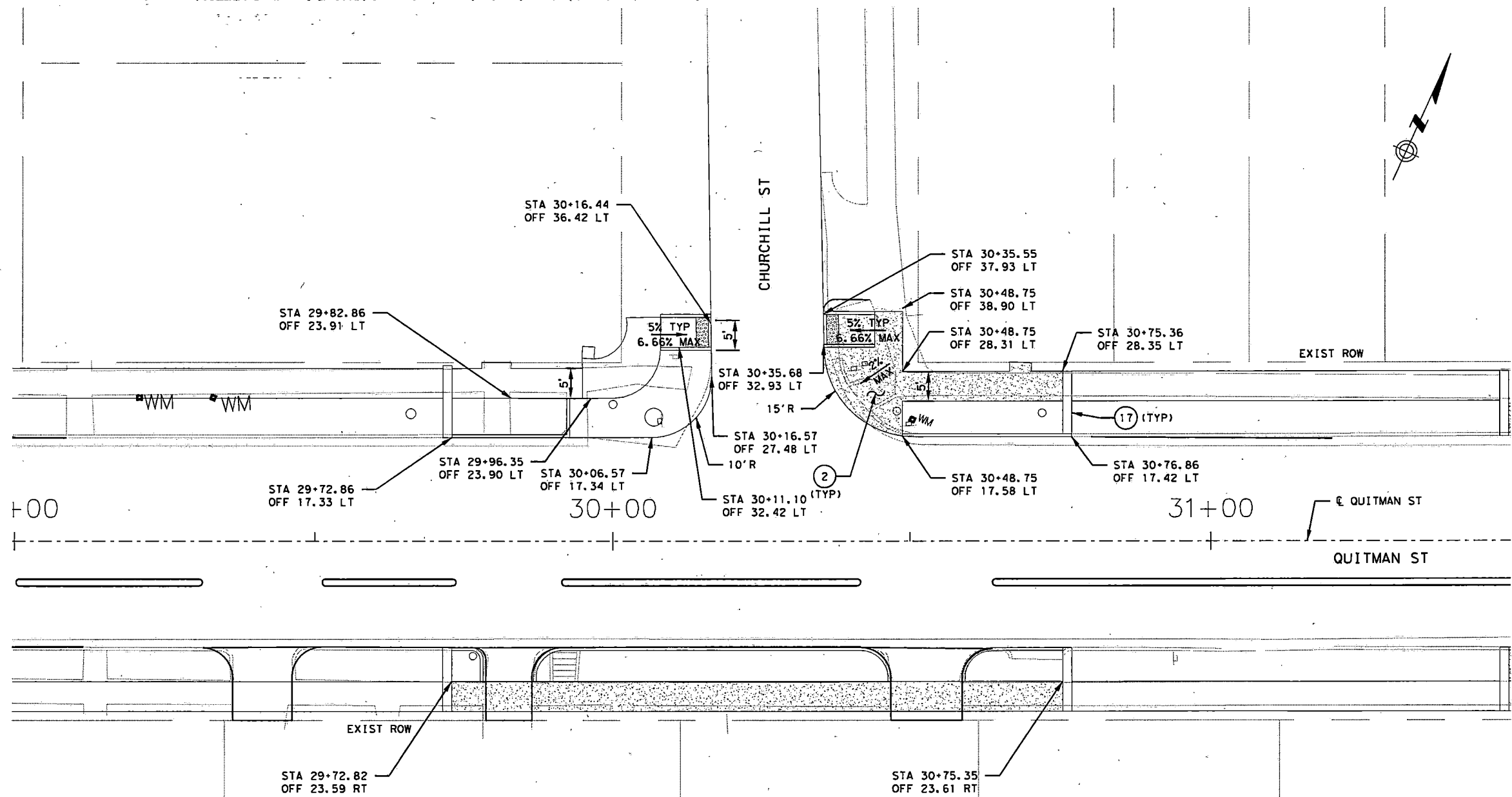
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO: 4014



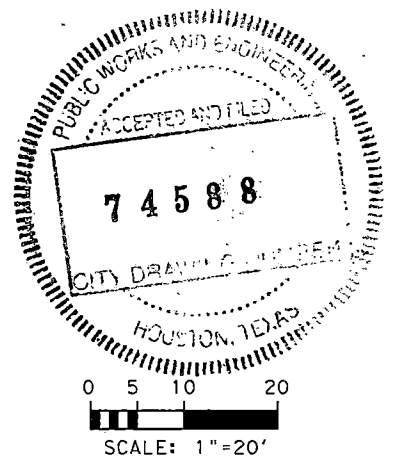
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	AD	SHEET 5 OF 20	DATE:
CK'D BY:	DHS	SCALE:	08-19-2022
		1"=20'	SHEET NO:
			37 /

- LEGEND**
- ② PROP CURB RAMP
  - ③ PROP SIDEWALK
  - ⑦ REMOVE AND RECONSTRUCT CURB & GUTTER
  - ⑩ DOWELED CURB
  - ⑯ MORTARED AGGREGATE ISLAND
  - ⑰ ACCENT BAND (18" WIDE)



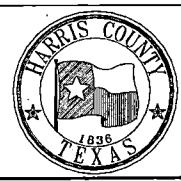
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



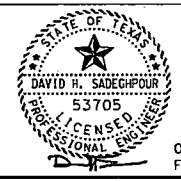
8/21/2022 54A-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

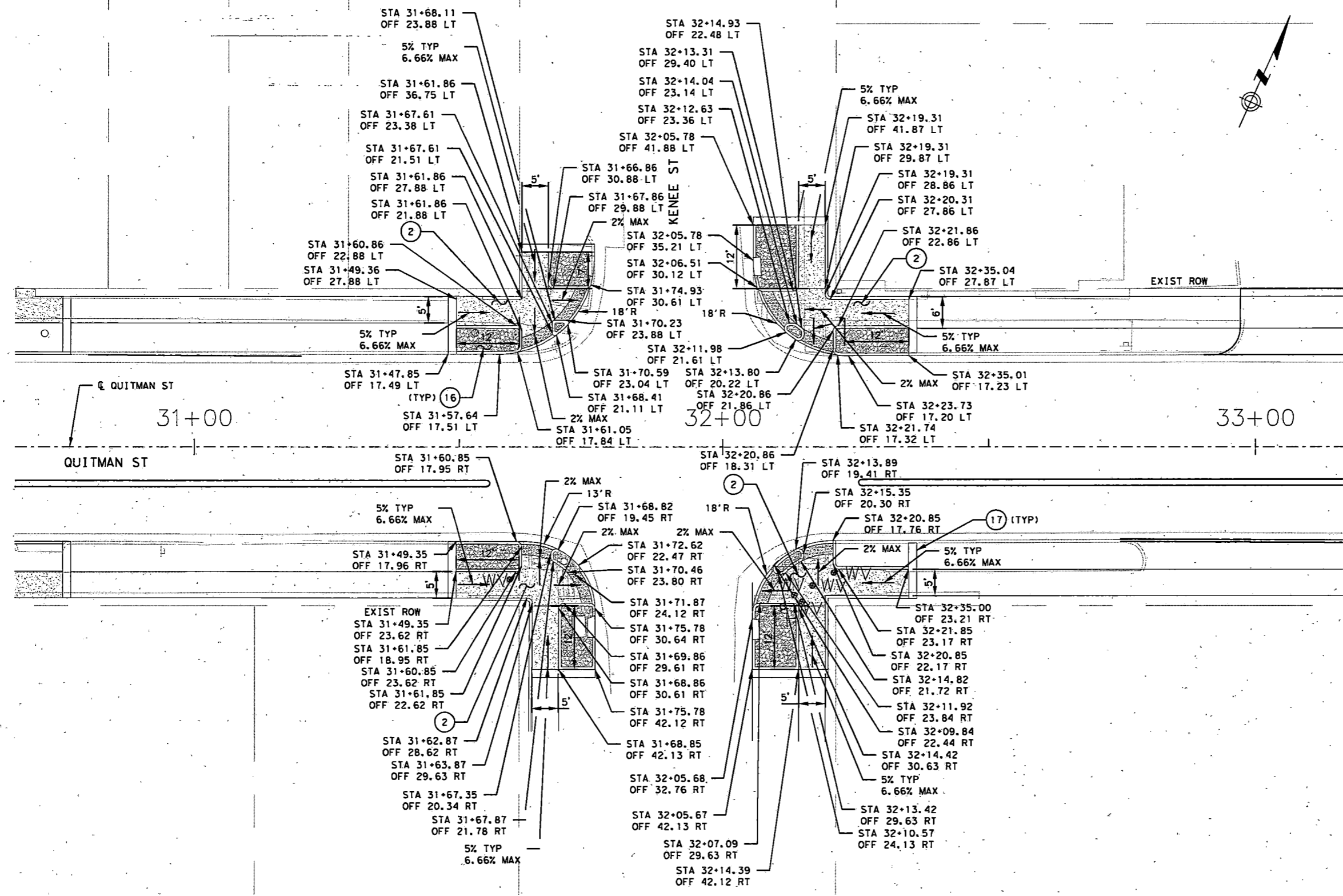


08-19-22  
FIRM#: F-4014

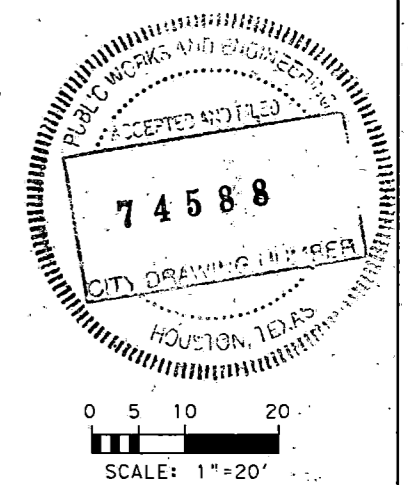
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 6 OF 20	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	SHEET NO:
DHS			38 /



- LEGEND**
- 2 PROP CURB RAMP
  - 3 PROP SIDEWALK
  - 7 REMOVE AND RECONSTRUCT CURB & GUTTER
  - 10 DOWELED CURB
  - 16 MORTARED AGGREGATE ISLAND
  - 17 ACCENT BAND (18" WIDE)



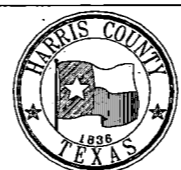
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



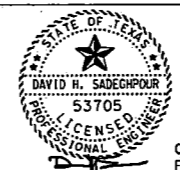
8/21/2022 54-Quitman-1D.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

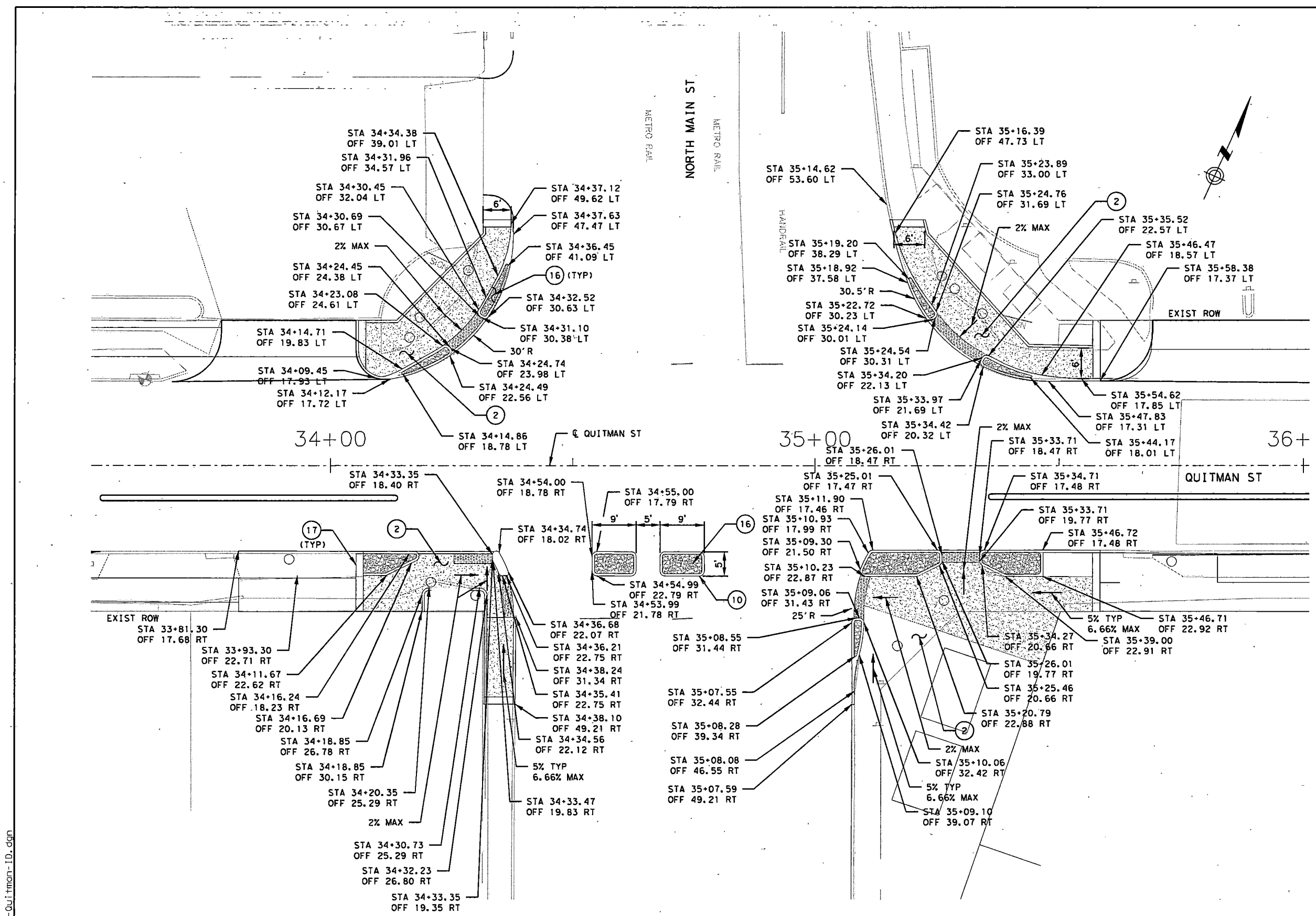


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
DRAWN BY:		<b>AD</b>	
DATE:		<b>08-19-2022</b>	
CK'D BY:	SCALE:	<b>SHEET 7 OF 20</b>	SHEET NO:
<b>DHS</b>	<b>1"=20'</b>		<b>39</b>

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)

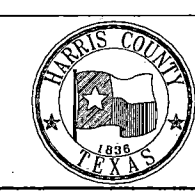
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



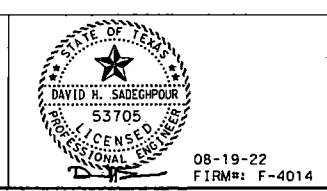
8/21/2022 55-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

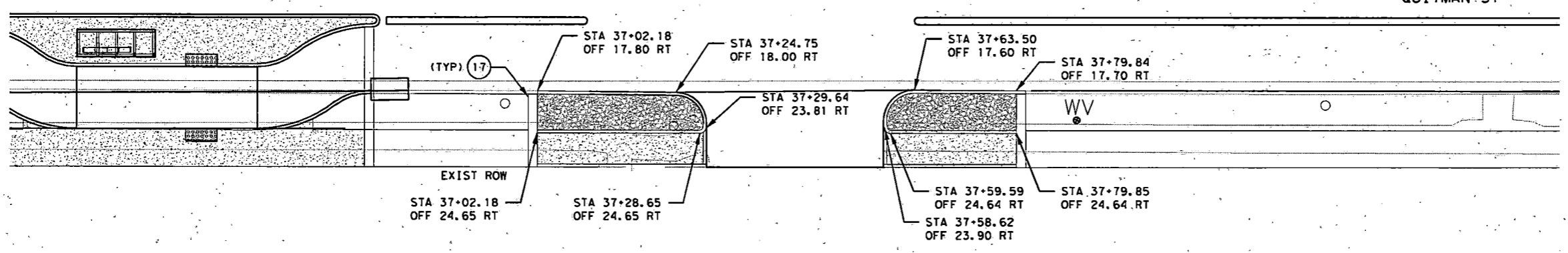
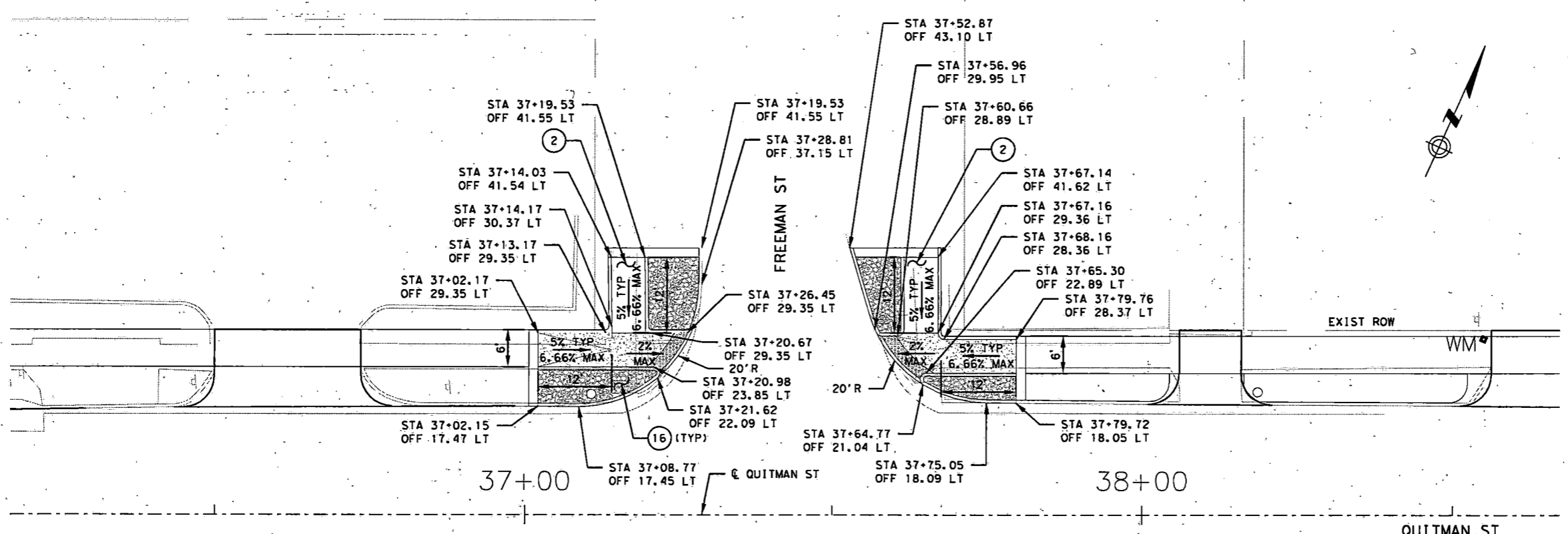


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

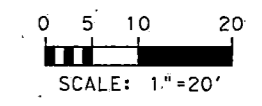


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 8 OF 20	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	
DHS	FIRM#:	F-4014	
		SHEET NO: 40 /	

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



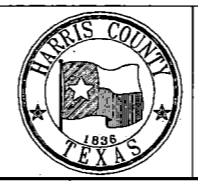
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



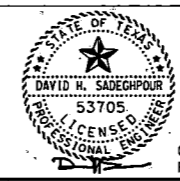
8/21/2022 56-Quitman-10.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



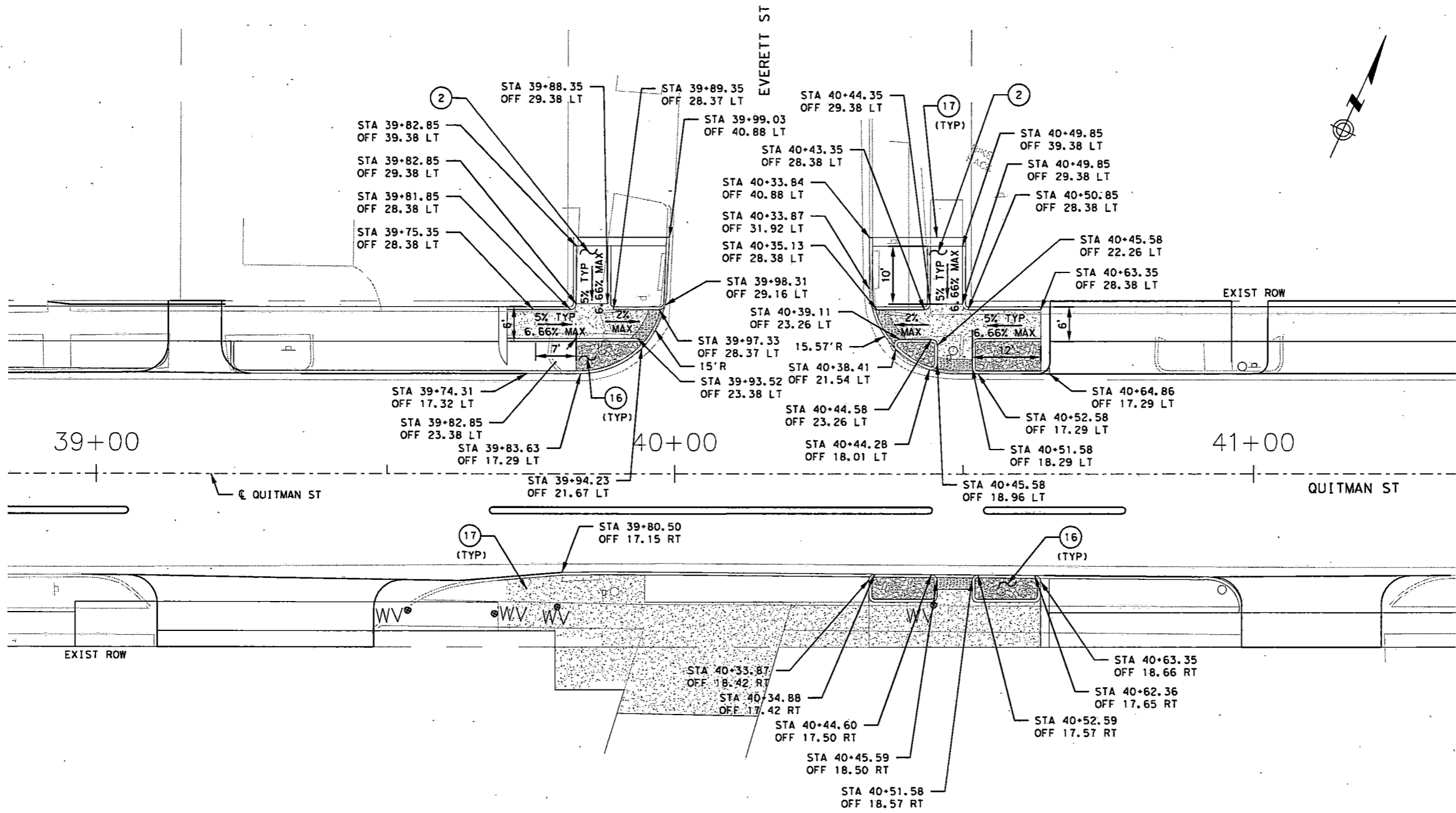
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



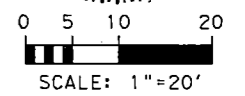
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 9 OF 20	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	1"=20'	41/	

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



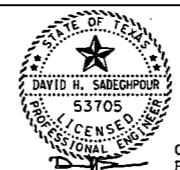
8/21/2022 57-Quitman-1D.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



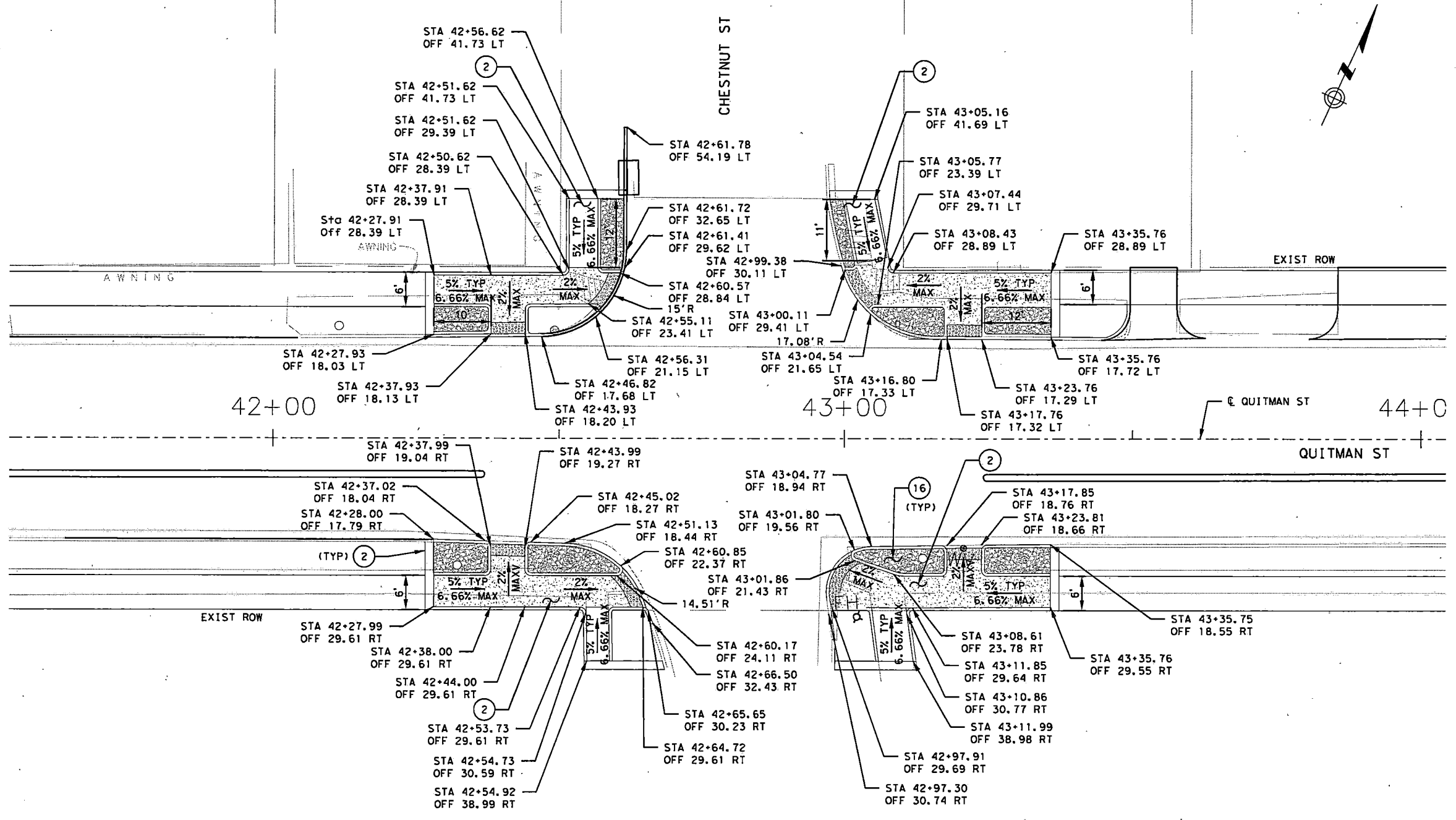
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



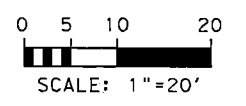
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CK'D BY:		DHS	
SCALE:		1"=20'	
DATE:		08-19-2022	
SHEET NO.:		42 /	
SHEET TITLE:		INTERSECTION DETAILS	
SHEET NO. OF TOTAL SHEETS:		10 OF 20	

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



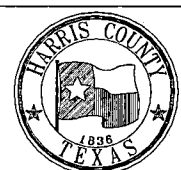
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



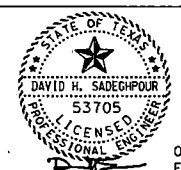
B/21/2022 58-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



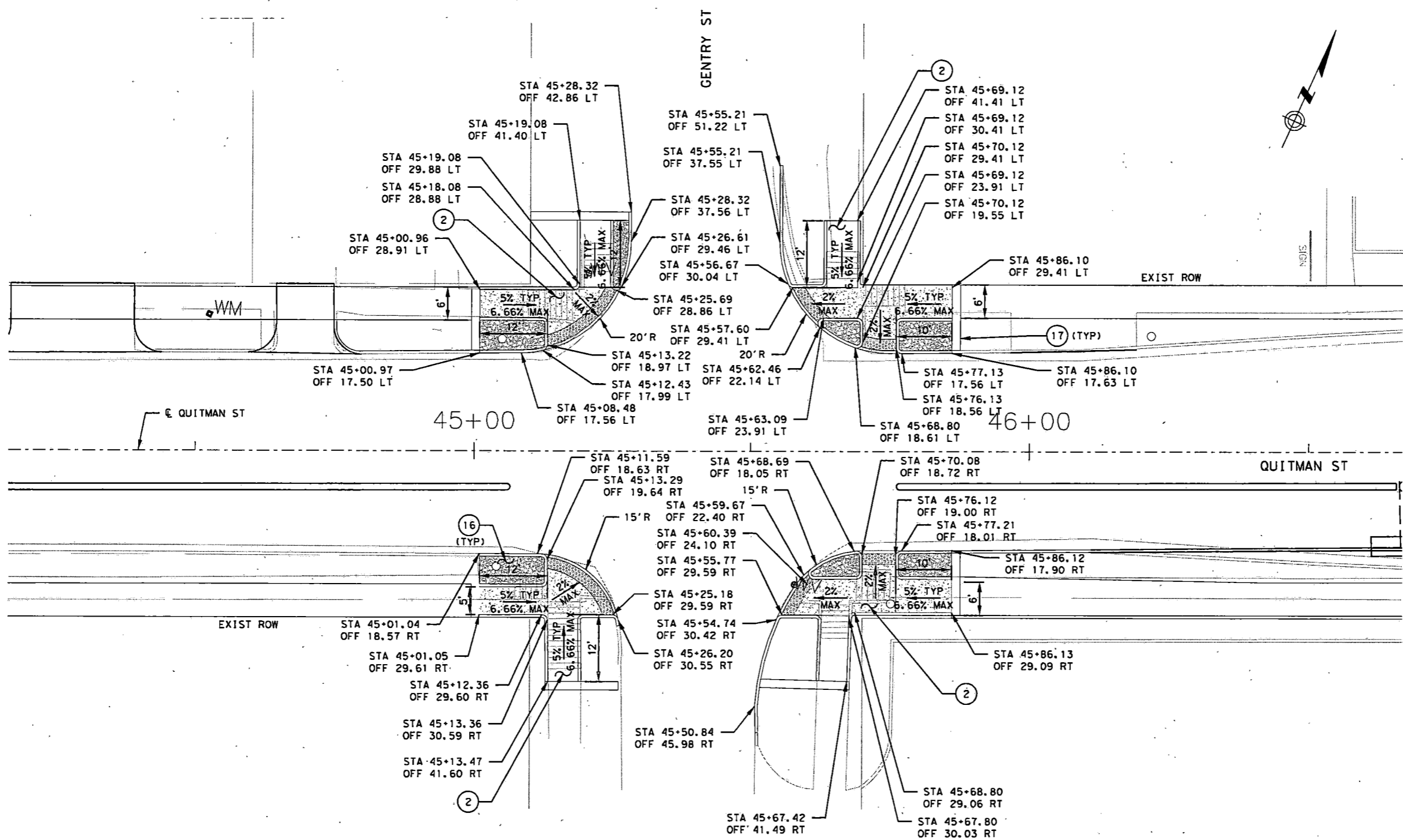
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



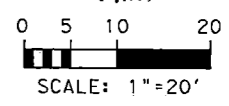
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 11 OF 20	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	SHEET NO:
DHS			43/

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



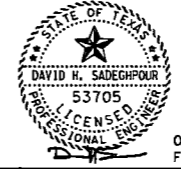
8/21/2022 59-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

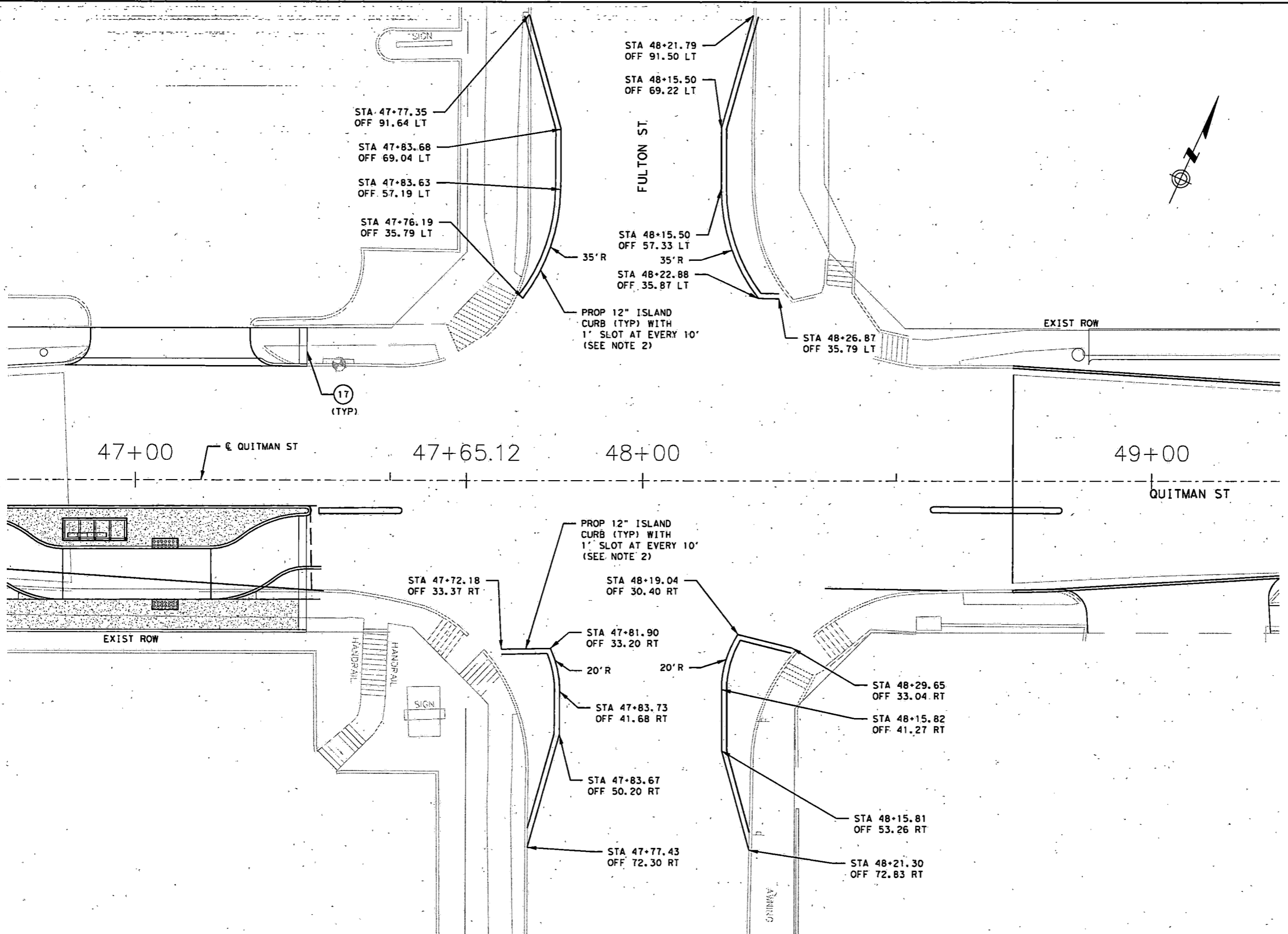
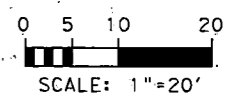


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 12 OF 20	
AD	DHS	SCALE:	DATE:
		1"=20'	08-19-2022
			SHEET NO:
			44/

- LEGEND**
- ② PROP CURB RAMP
  - ③ PROP SIDEWALK
  - ⑦ REMOVE AND RECONSTRUCT CURB & GUTTER
  - ⑩ DOWELED CURB
  - ⑯ MORTARED AGGREGATE ISLAND
  - ⑰ ACCENT BAND (18" WIDE)

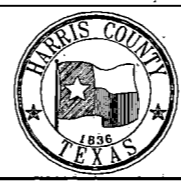
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



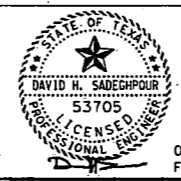
8/21/2022 60-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



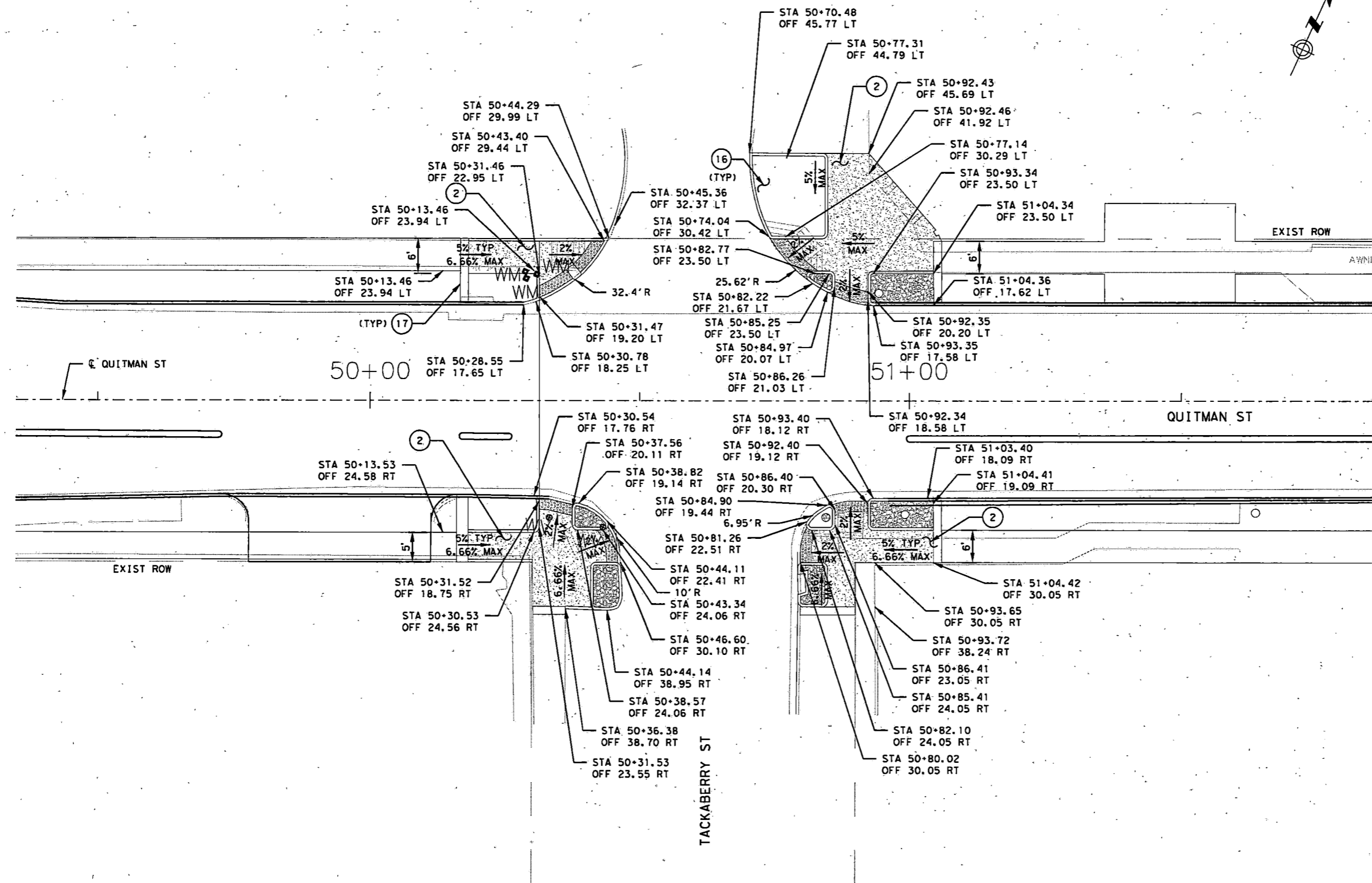
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



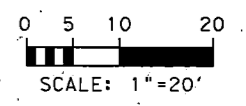
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 13 OF 20	
AD	SCALE:	1"=20'	DATE:
DHS			08-19-2022
			SHEET NO:
			45 /

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



- NOTES:**
- SEE SHEET NO. 1 OF 20 FOR NOTES.
  - SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



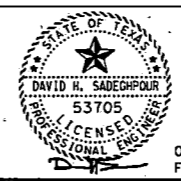
8/21/2022 61A-Quitman-ID.dgn

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HARRIS COUNTY  
ENGINEERING DEPARTMENT



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ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

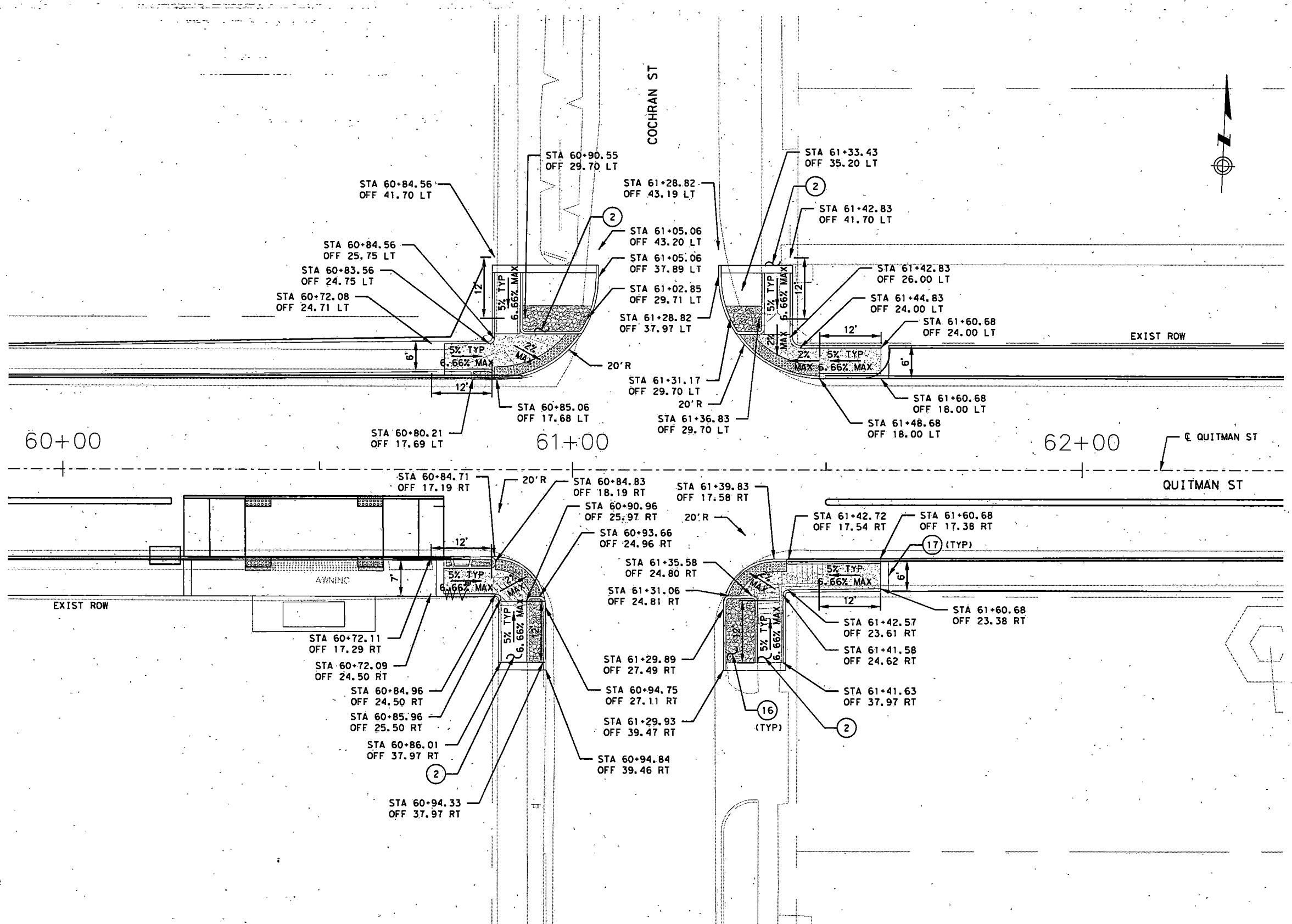


08-19-22  
FIRM#: F-4014

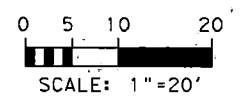
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 14 OF 20	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	
DHS	SHEET NO.:	46 /	



- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



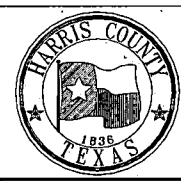
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



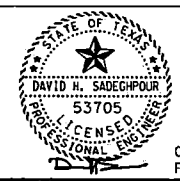
61-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



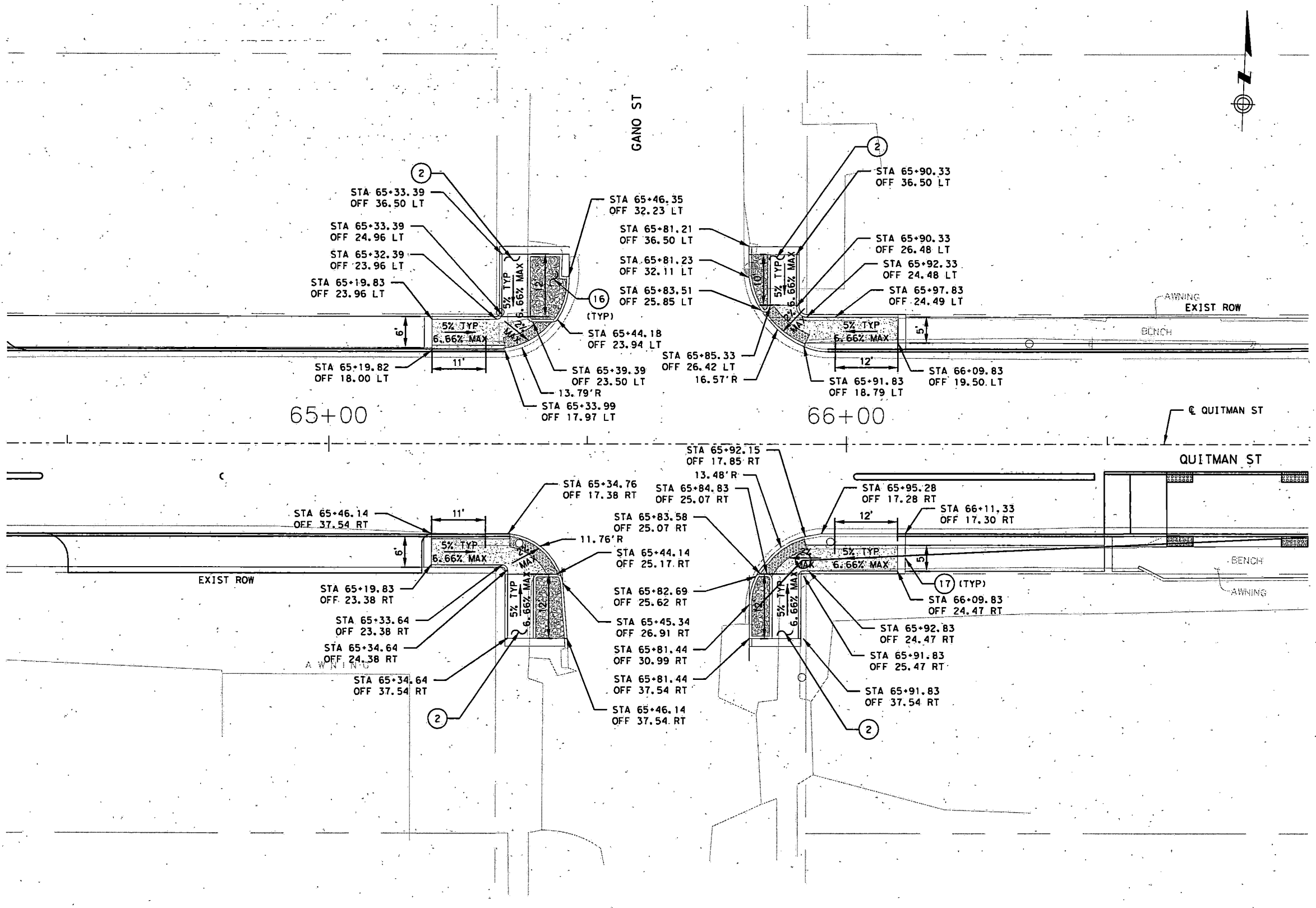
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



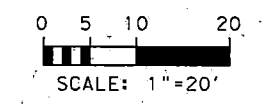
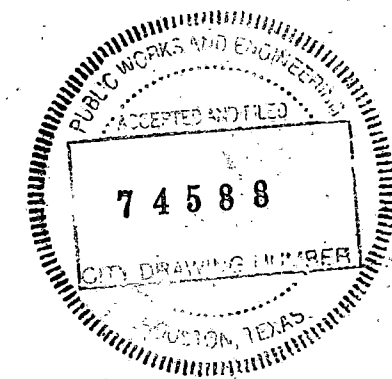
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET: 15 OF 20	
CK'D BY:		DATE:	08-19-2022
DHS		SCALE:	1"=20'
		SHEET NO.:	47

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



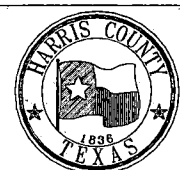
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



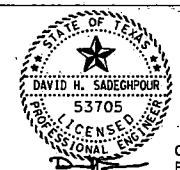
8/21/2022 62A-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME

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ENGINEERING DEPARTMENT**



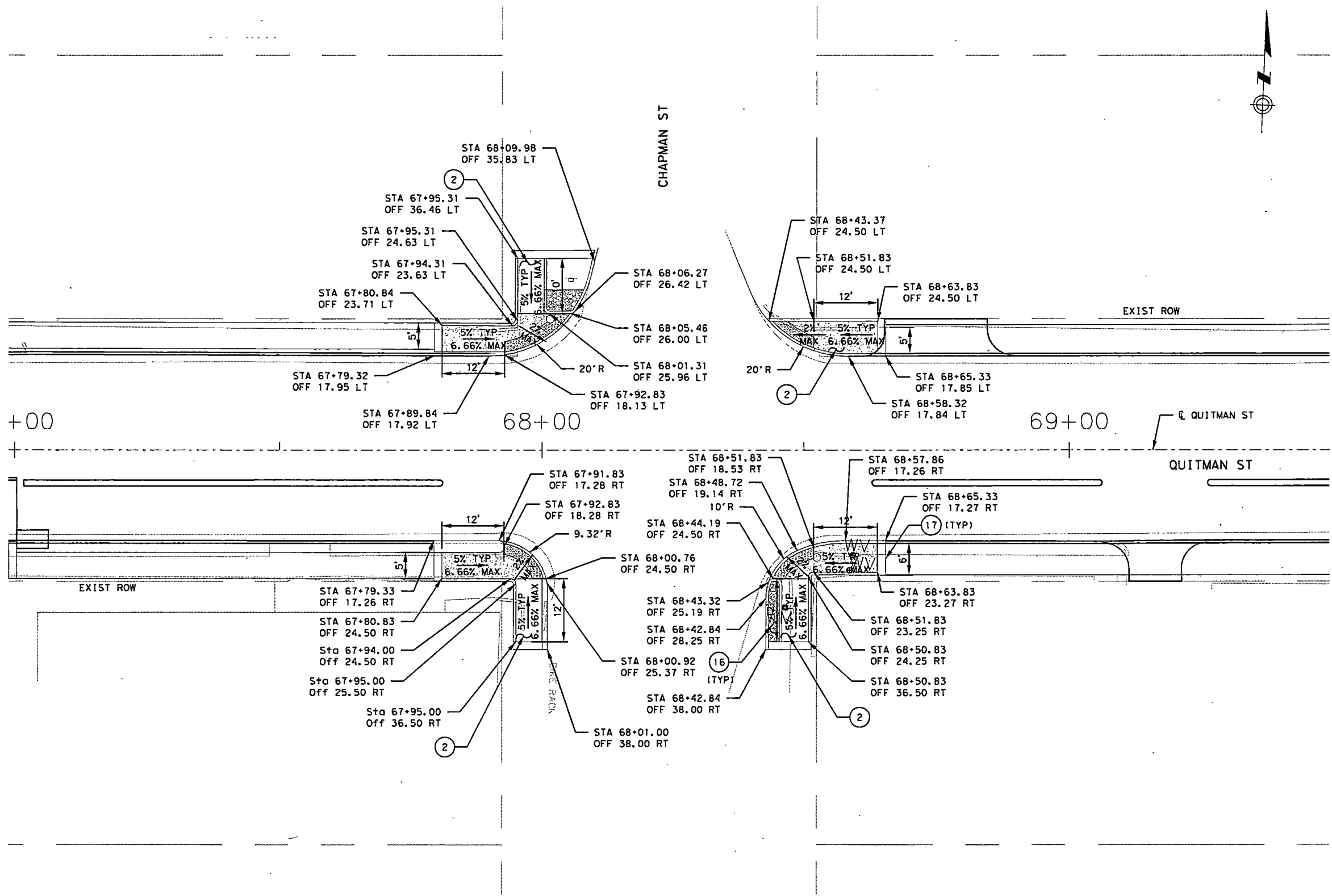
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



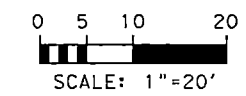
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FIRM#: F-4014

PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
DRAWN BY:		<b>AD</b>	
CK'D BY:		<b>DHS</b>	
SCALE:		<b>1"=20'</b>	
DATE:		<b>08-19-2022</b>	
SHEET NO.:		<b>48 /</b>	
PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
DRAWN BY:		<b>AD</b>	
CK'D BY:		<b>DHS</b>	
SCALE:		<b>1"=20'</b>	
DATE:		<b>08-19-2022</b>	
SHEET NO.:		<b>48 /</b>	

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



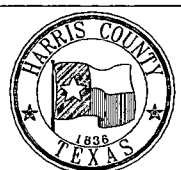
- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



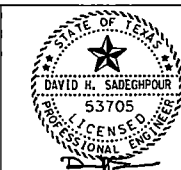
8/21/2022 62-0u1fman-ID.dgn

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ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

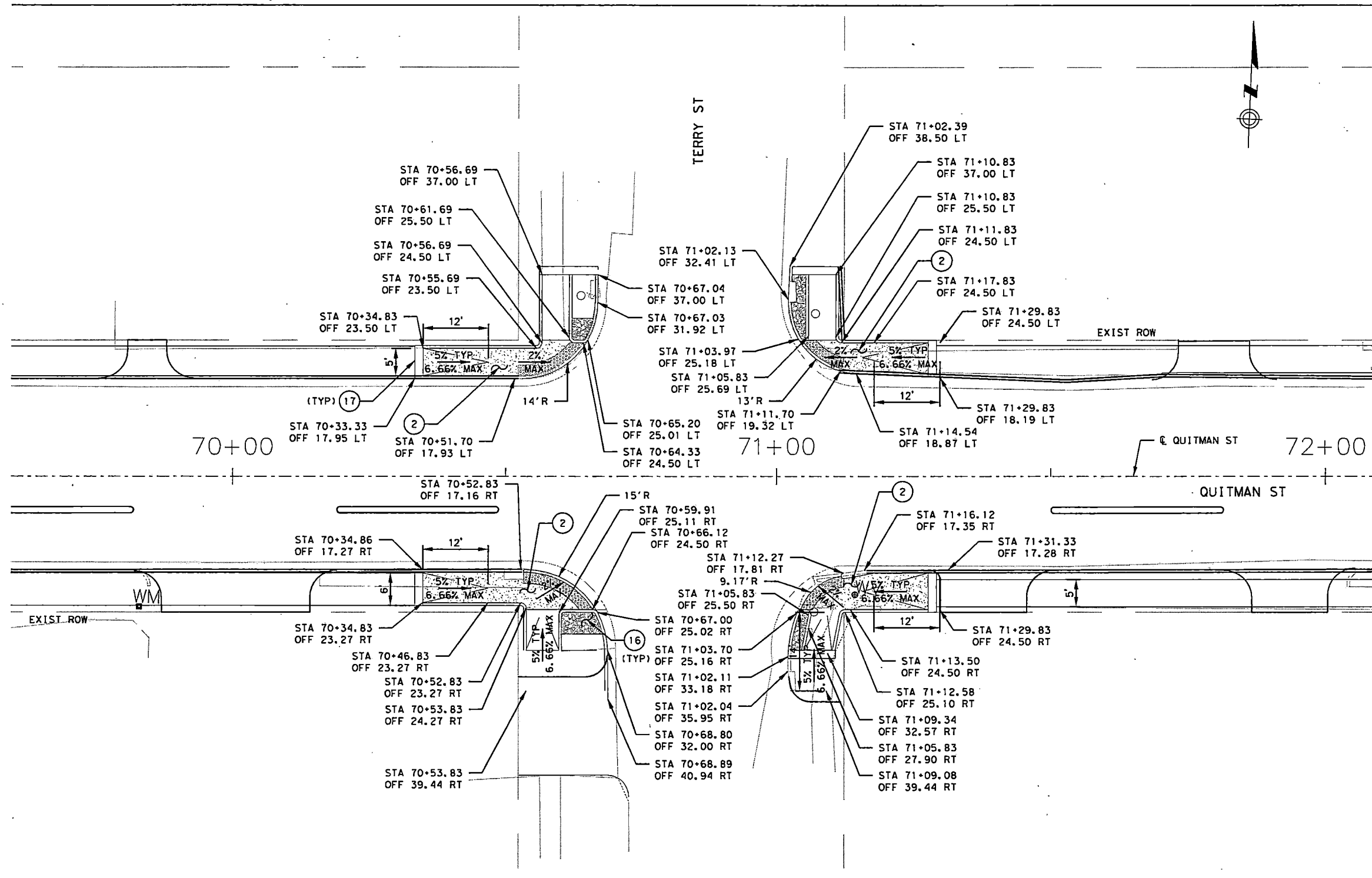


08-19-22  
FIRM#: F-4014

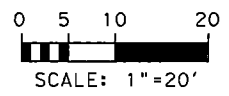
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CHECKED BY:		DHS	
SCALE:		1"=20'	
DATE:		08-19-2022	
SHEET NO.:		49 /	
		SHEET 17 OF 20	

LEGEND

- (2) PROP CURB RAMP
- (3) PROP SIDEWALK
- (7) REMOVE AND RECONSTRUCT CURB & GUTTER
- (10) DOWELED CURB
- (16) MORTARED AGGREGATE ISLAND
- (17) ACCENT BAND (18" WIDE)



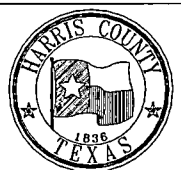
- NOTES:
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



8/21/2022 63A-Quitman-ID.dgn

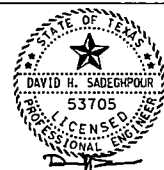
NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



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ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

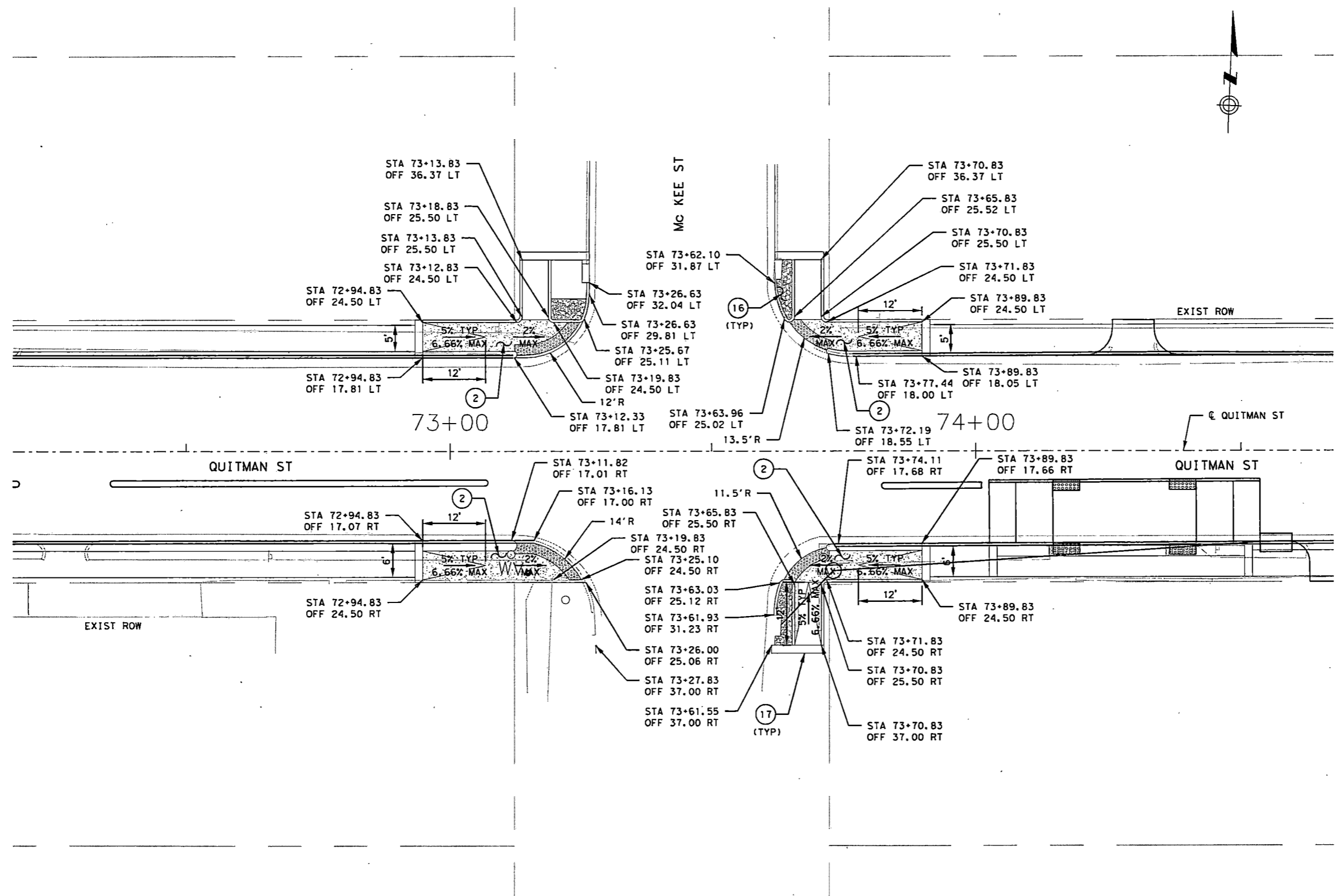


08-19-22  
FIRM#: F-4014

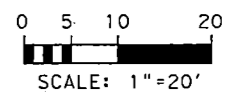
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 18 OF 20	
DATE:		08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	1"=20'	50 /	

**LEGEND**

- (2) PROP CURB RAMP
- (3) PROP SIDEWALK
- (7) REMOVE AND RECONSTRUCT CURB & GUTTER
- (10) DOWELED CURB
- (16) MORTARED AGGREGATE ISLAND
- (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



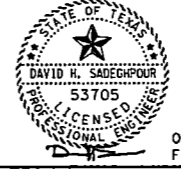
8/21/2022 63-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



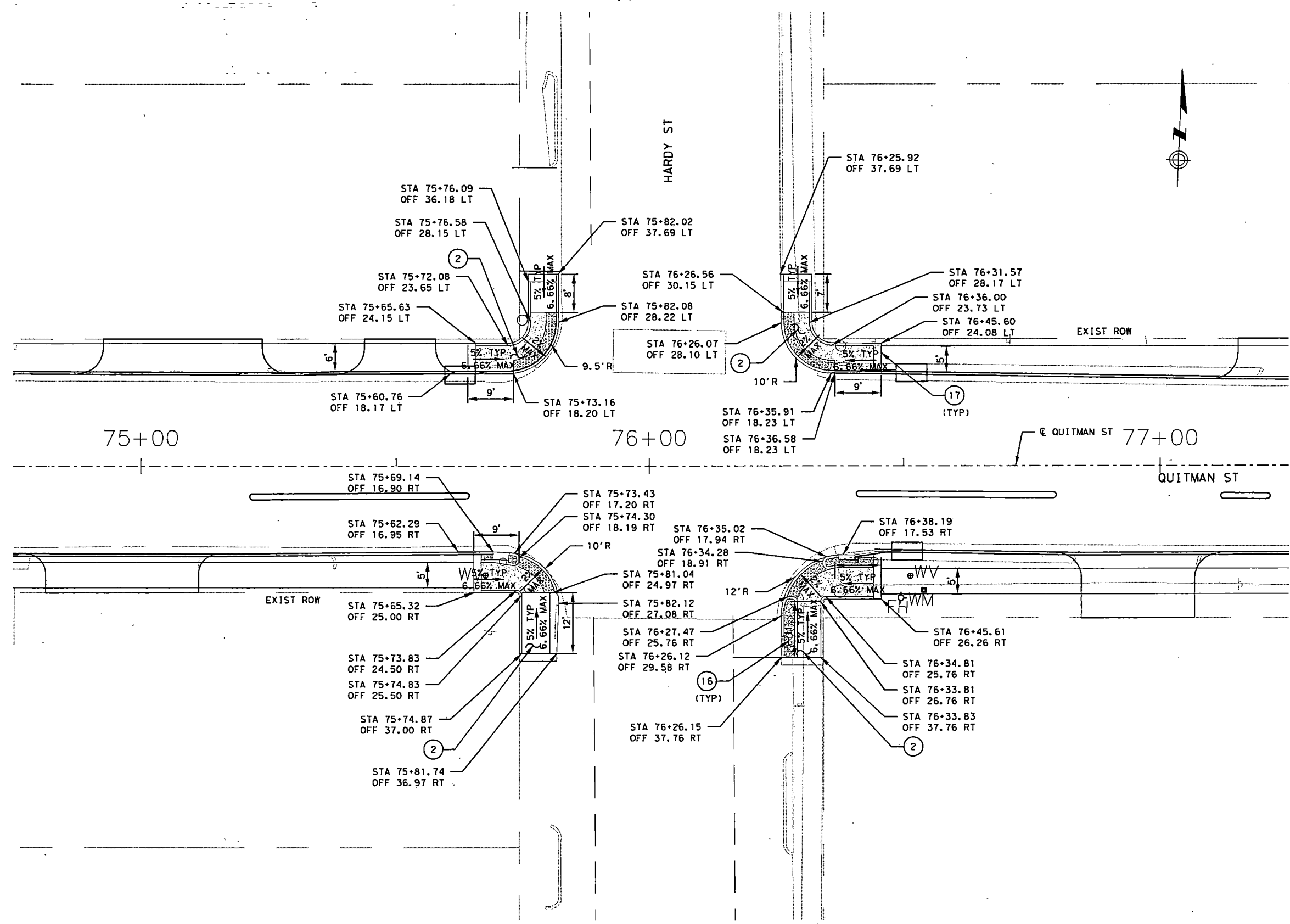
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 19 OF 20	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	SHEET NO:
DHS			51/

- LEGEND**
- (2) PROP CURB RAMP
  - (3) PROP SIDEWALK
  - (7) REMOVE AND RECONSTRUCT CURB & GUTTER
  - (10) DOWELED CURB
  - (16) MORTARED AGGREGATE ISLAND
  - (17) ACCENT BAND (18" WIDE)



- NOTES:**
1. SEE SHEET NO. 1 OF 20 FOR NOTES.
  2. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.

PUBLIC WORKS AND ENGINEERING  
ACCEPTED AND FILED  
**74588**  
CITY DRAWING NUMBER  
HOUSTON, TEXAS

0 5 10 20  
SCALE: 1"=20'

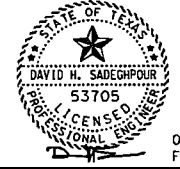
8/21/2022 64-Quitman-ID.dgn

NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

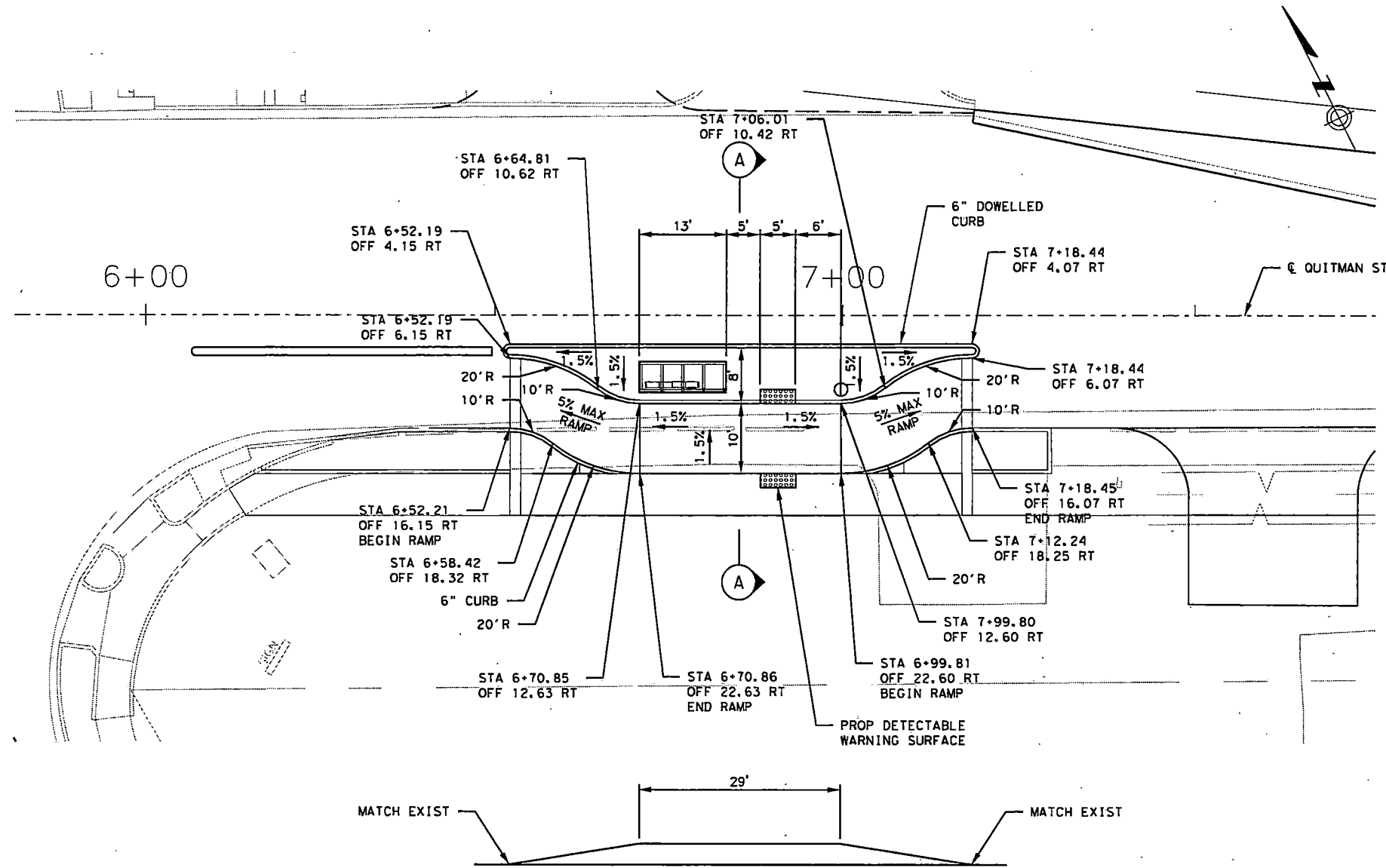


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

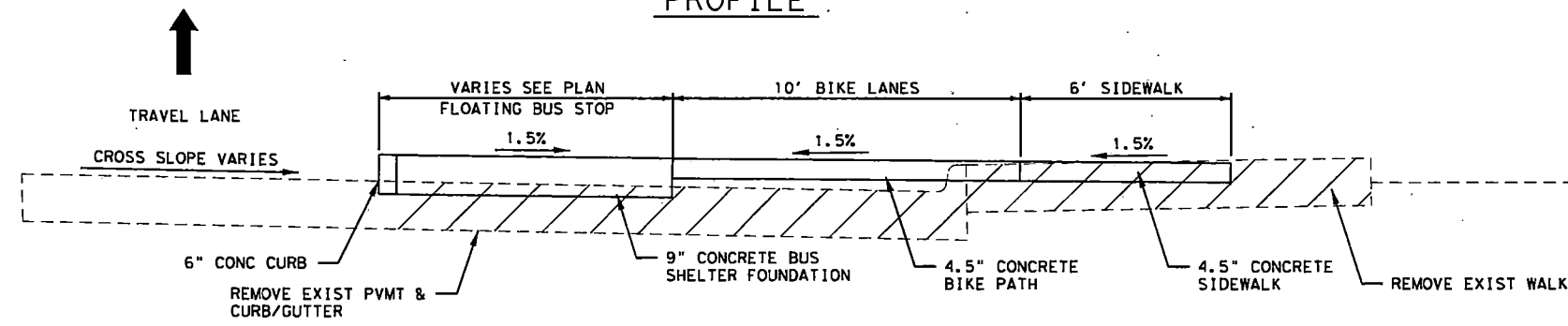


08-19-22  
FIRM#: F-4014

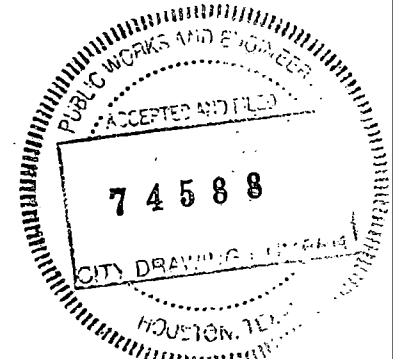
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 20 OF 20	
CK'D BY:		DATE:	08-19-2022
SCALE:		SHEET NO.:	52 /
1"=20'			



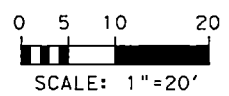
**PROFILE**



**SECTION A-A**



- NOTES:**
1. CONTRACTOR SHALL CONSTRUCT PROP PAVEMENT TO ENSURE THAT DRAINAGE FLOWS INTO THE EXIST GUTTER.
  2. SEE STANDARD DRAWINGS FOR ADDITIONAL INFORMATION AND DETAILS.
  3. USE HEADER DETAILS SHOWN IN STANDARD DRAWINGS.
  4. SEE SITEWORK PLANS AND DETAILS FOR ADDITIONAL INFORMATION DETAILS.
  5. EXISTING BUS SHELTER TO BE REMOVED AND REINSTALLED BY OTHERS (METRO).



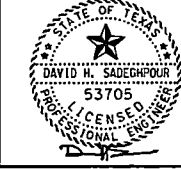
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NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

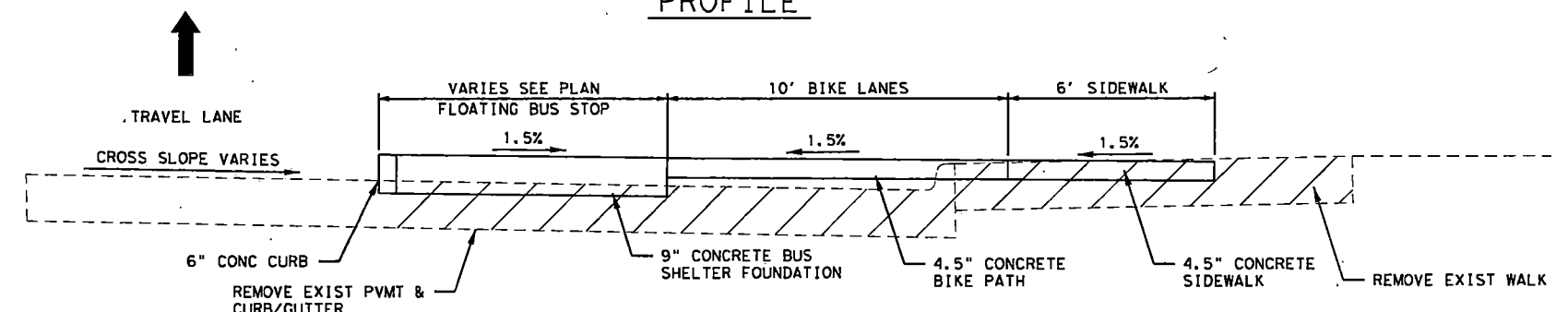
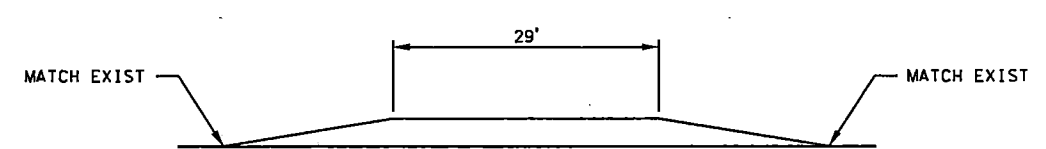
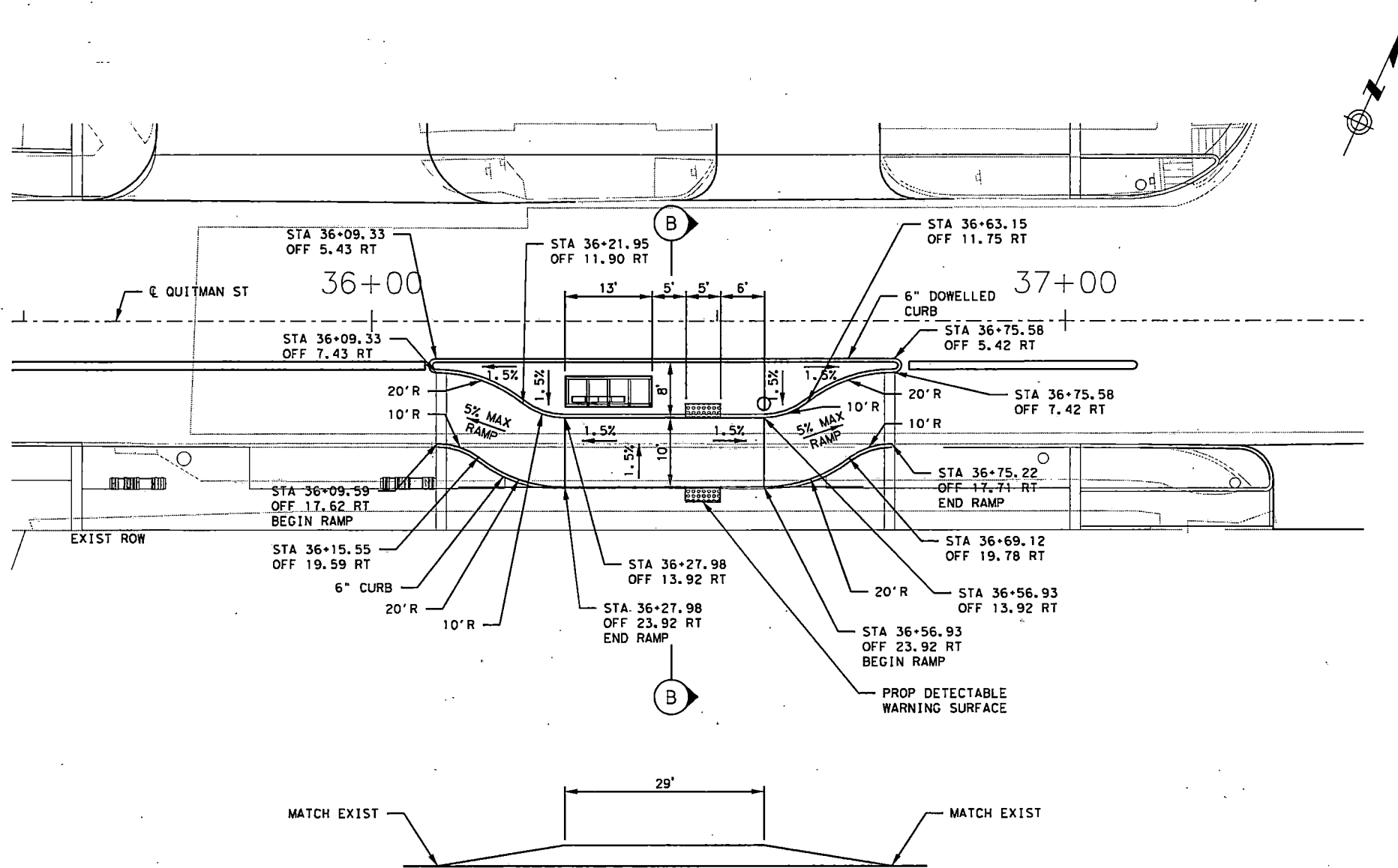


**SCIENTECH  
ENGINEERS, INC.**  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

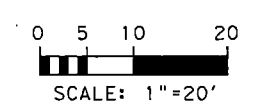


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		<b>QUITMAN STREET</b>	
SHEET DESCRIPTION:		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
		<b>FLOATING BUS STOP DETAILS</b>	
DRAWN BY:	AD	SHEET 1 OF 3	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: 1"=20'	SHEET NO: 53 /



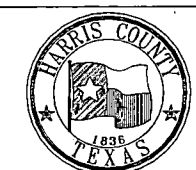
NOTES:  
SEE NOTES ON SHEET 1 OF 3.



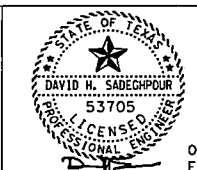
8/21/2022 71-Quitman-FBS.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



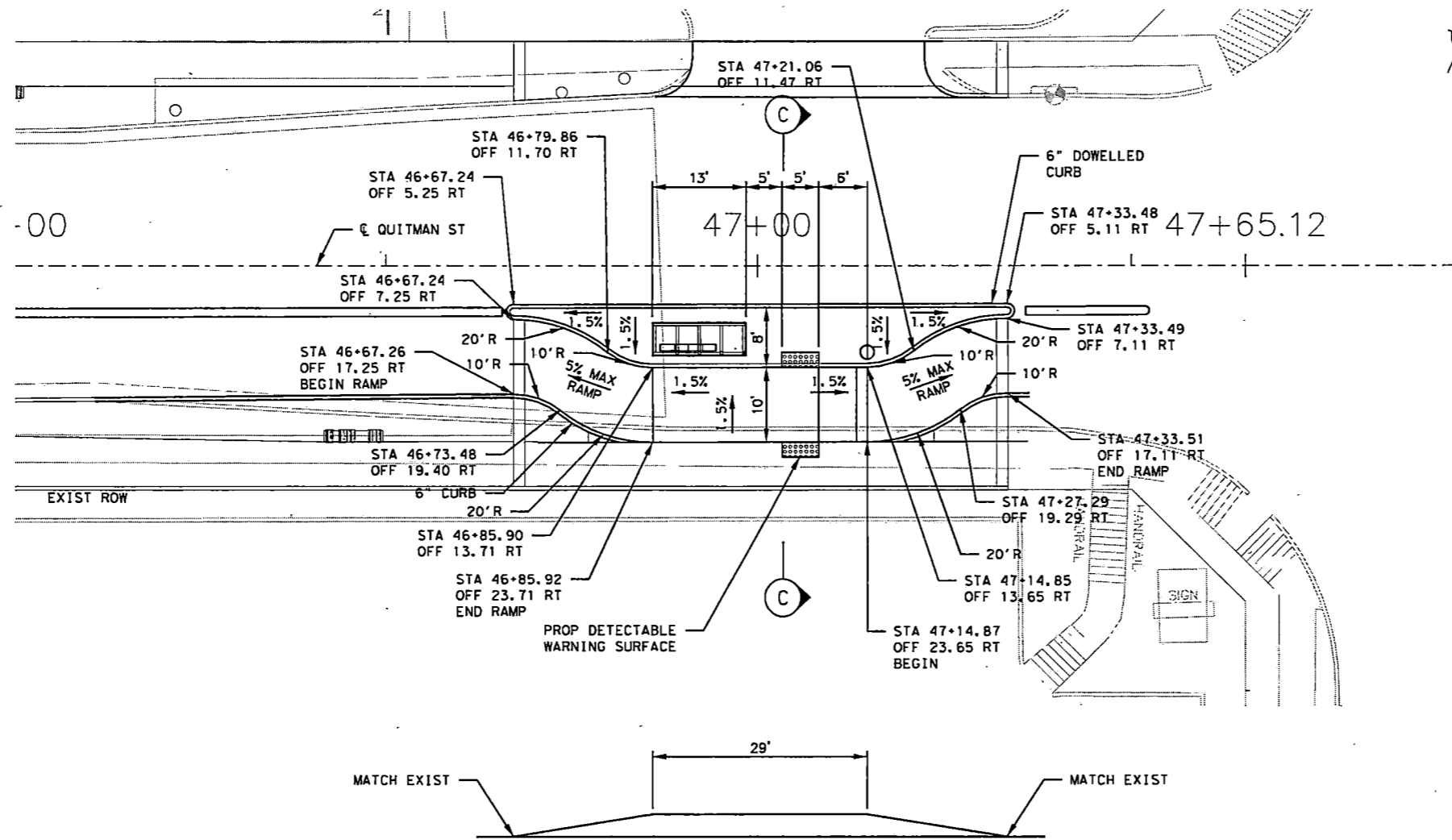
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

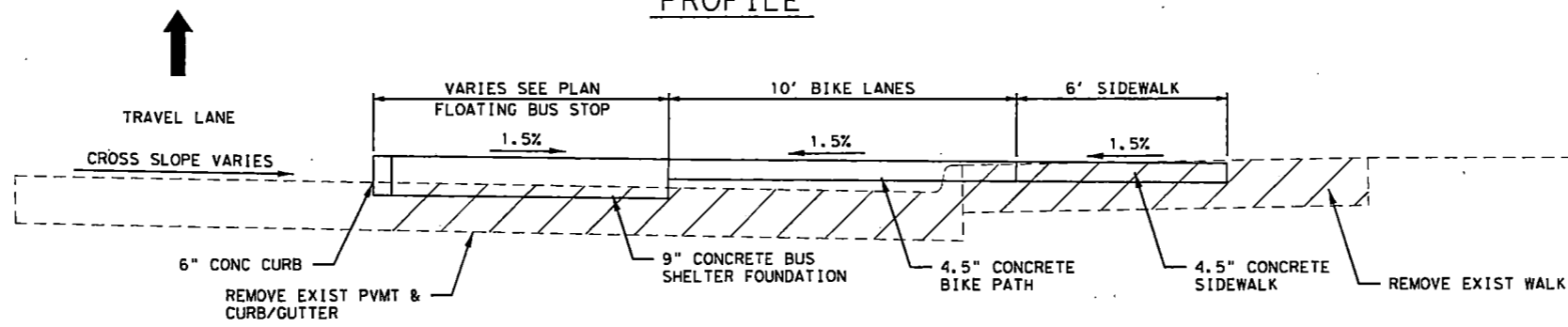
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 2 OF 3	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	SHEET NO:
DHS			54



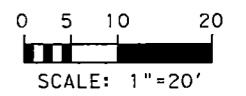


NOTES:  
SEE NOTES ON SHEET 1 OF 3.

**PROFILE**



**SECTION C-C**



8/21/2022 72-001.txdm-FBS.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

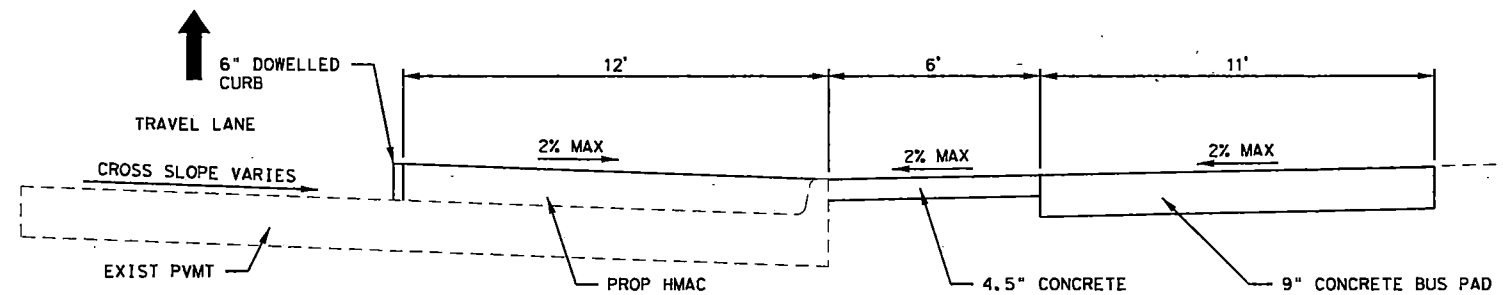
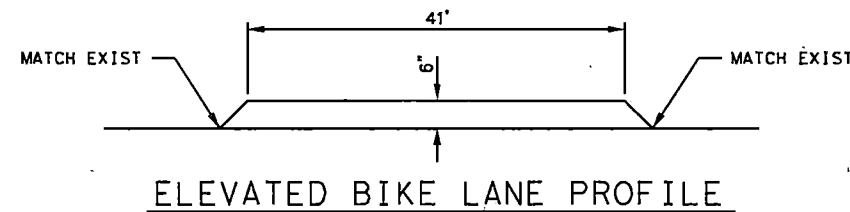
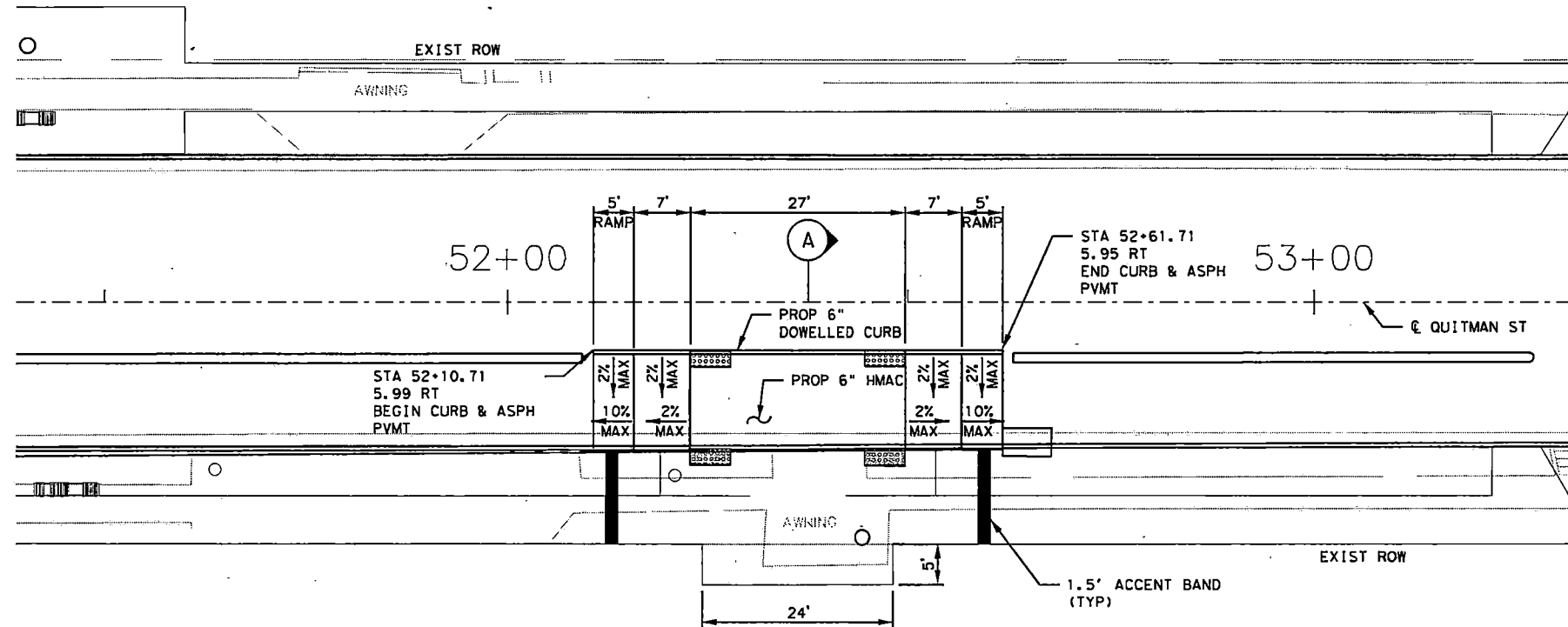


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 3 OF 3	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	1"=20'	SHEET NO:
DHS			55 /



SECTION A-A

- NOTES:
1. SEE STANDARD DRAWINGS FOR ADDITIONAL DETAILS AND INFORMATION.
  2. USE HEADER DETAILS SHOWN IN STANDARD DRAWINGS.
  3. SEE SITEWORK PLANS AND DETAILS FOR ADDITIONAL INFORMATION AND DETAILS.
  4. EXISTING BUS SHELTER TO BE REMOVED AND REINSTALLED BY OTHERS (METRO).

ACCEPTED AND FILED

74588

CITY DRAWING NUMBER

HARRIS COUNTY, TEXAS

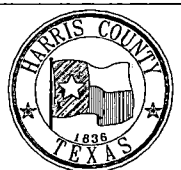
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SCALE: 1"=20'

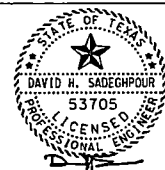
B/21/2022 73-Quitman-Cycle Track.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

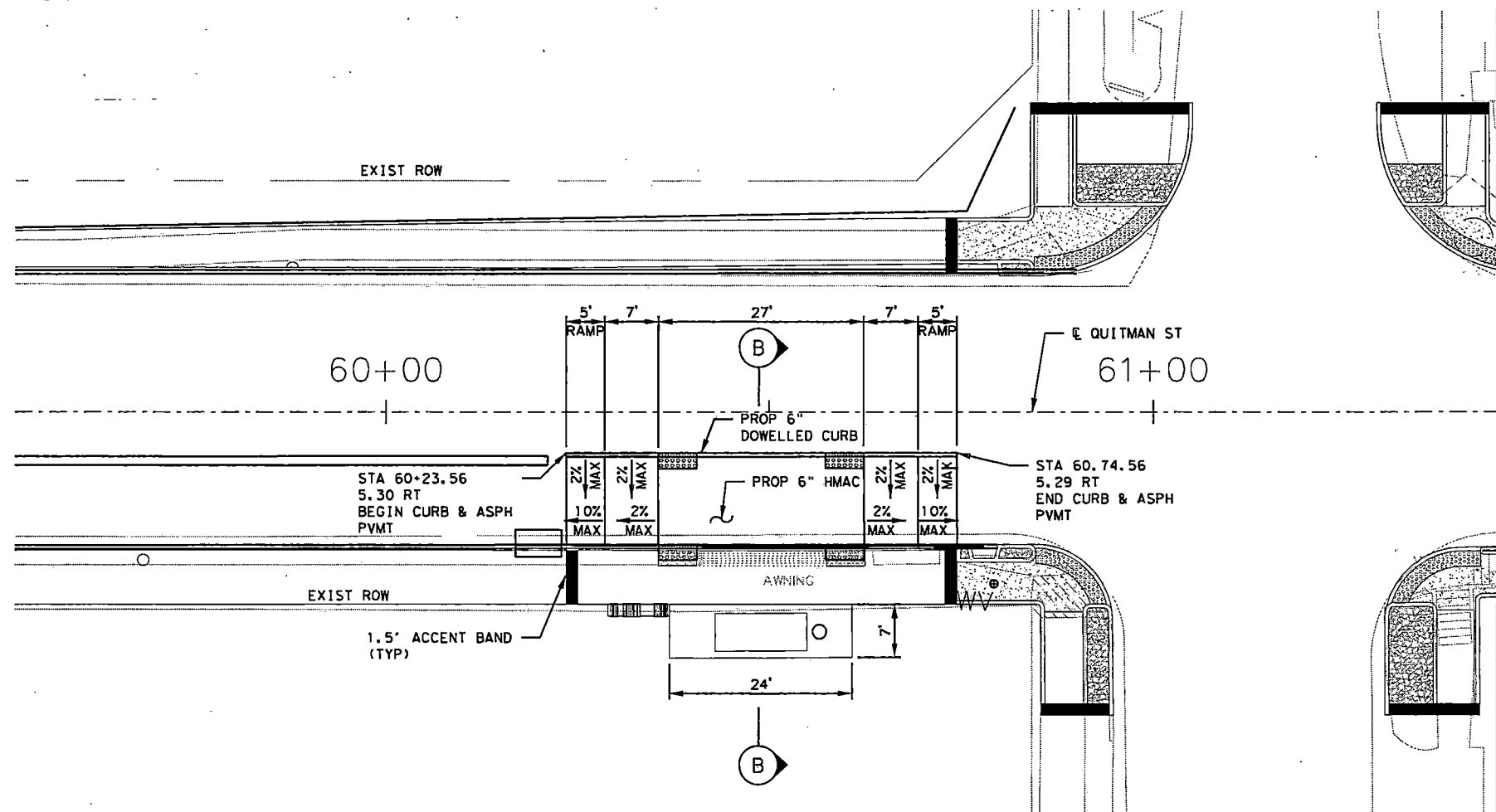


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

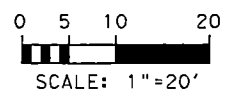
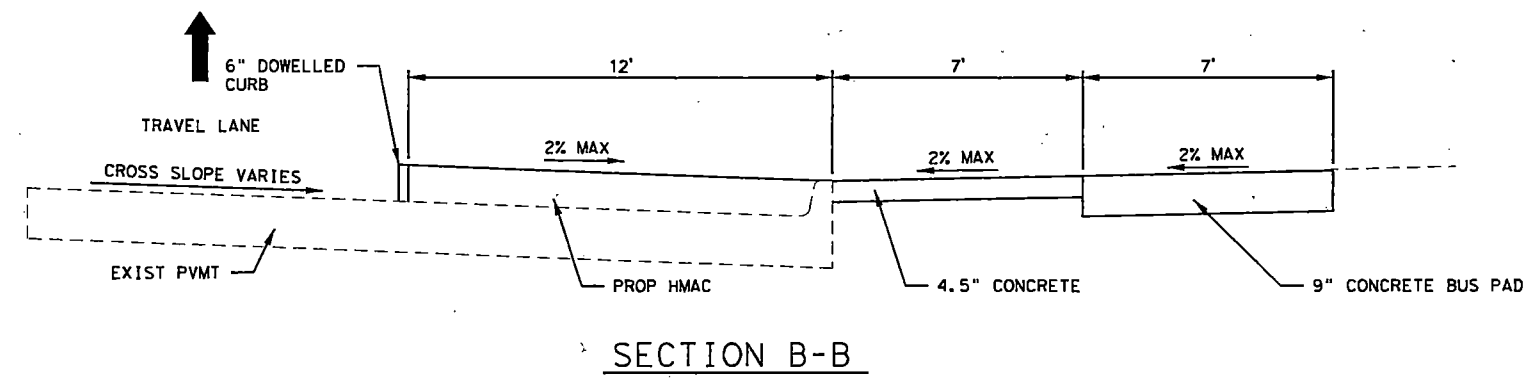
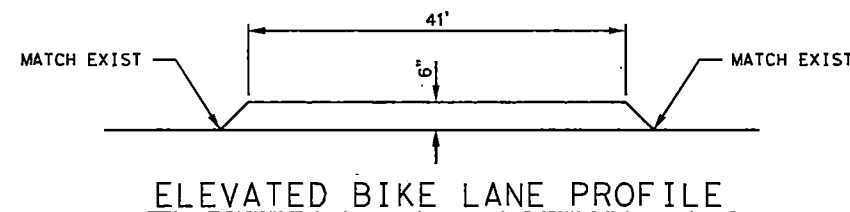


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
		ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:		CYCLE TRACK AT BUS STOP DETAILS	
DRAWN BY:	AD	SHEET 1 OF 4	DATE:
CK'D BY:	DHS	SCALE:	08-19-2022
		1"=20'	SHEET NO:
			56 /



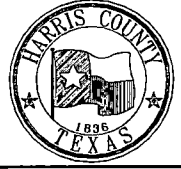
NOTES:  
SEE NOTES ON SHEET 1 OF 4.



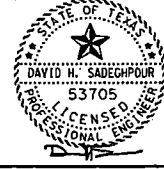
B/21/2022 74-Quitman-Cycle Track.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

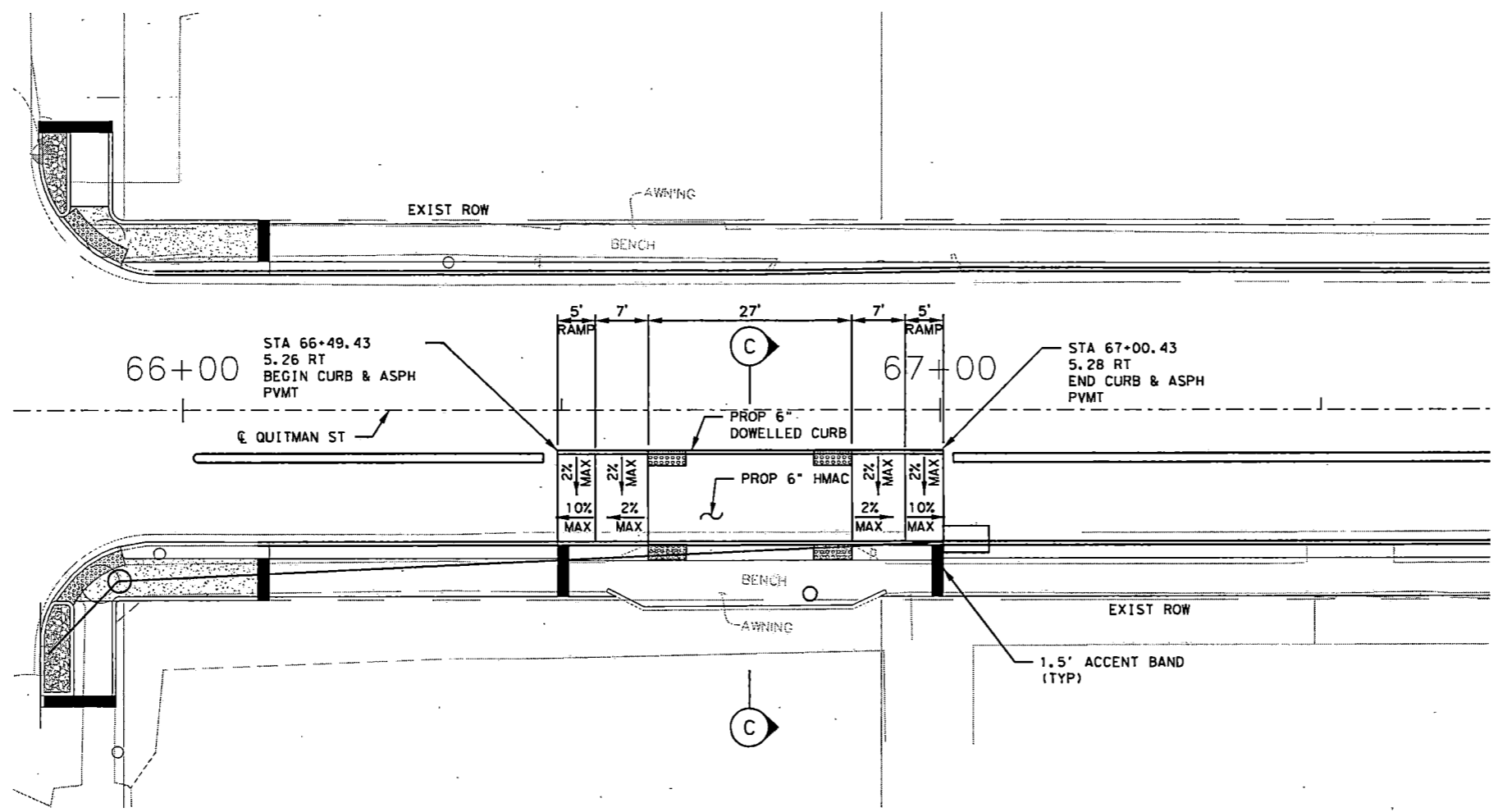


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

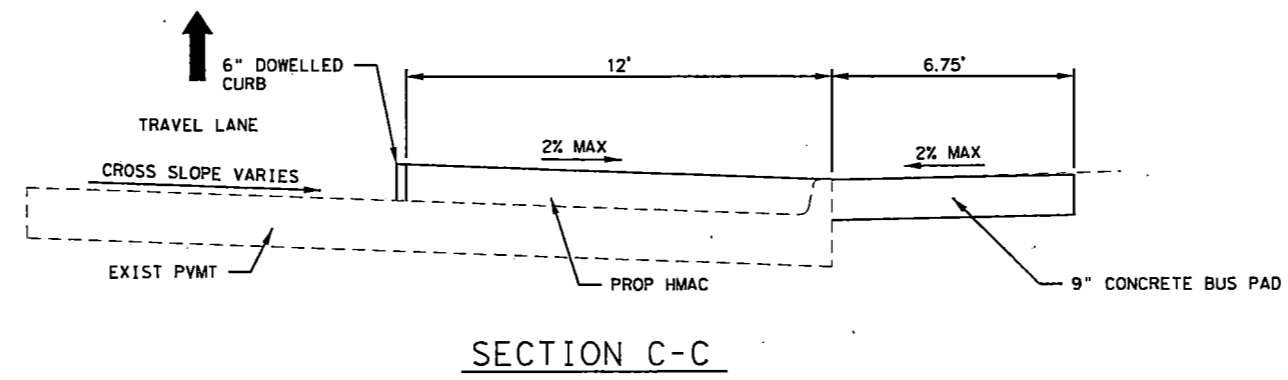
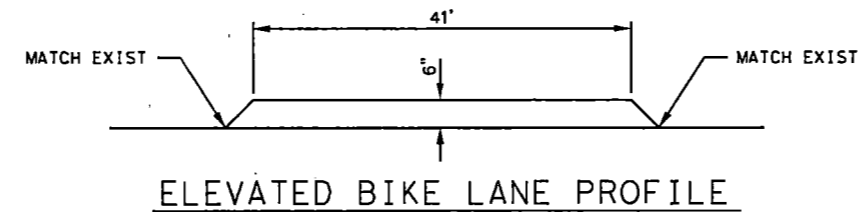


08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 2 OF 4	
AD		DATE:	08-19-2022
CK'D BY:	DHS	SCALE:	1"=20'
		SHEET NO.:	57 /



NOTES:  
SEE NOTES ON SHEET 1 OF 4.



ACCEPTED AND FILED  
74588  
CITY OF HOUSTON, TEXAS  
PUBLIC WORKS AND ENGINEERING  
0 5 10 20  
SCALE: 1"=20'

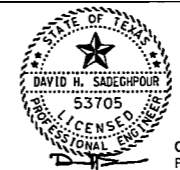
8/21/2022 75-Quitman-Cycle Track.dgn

NO.	REVISIONS	DATE	NAME
△			
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△			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

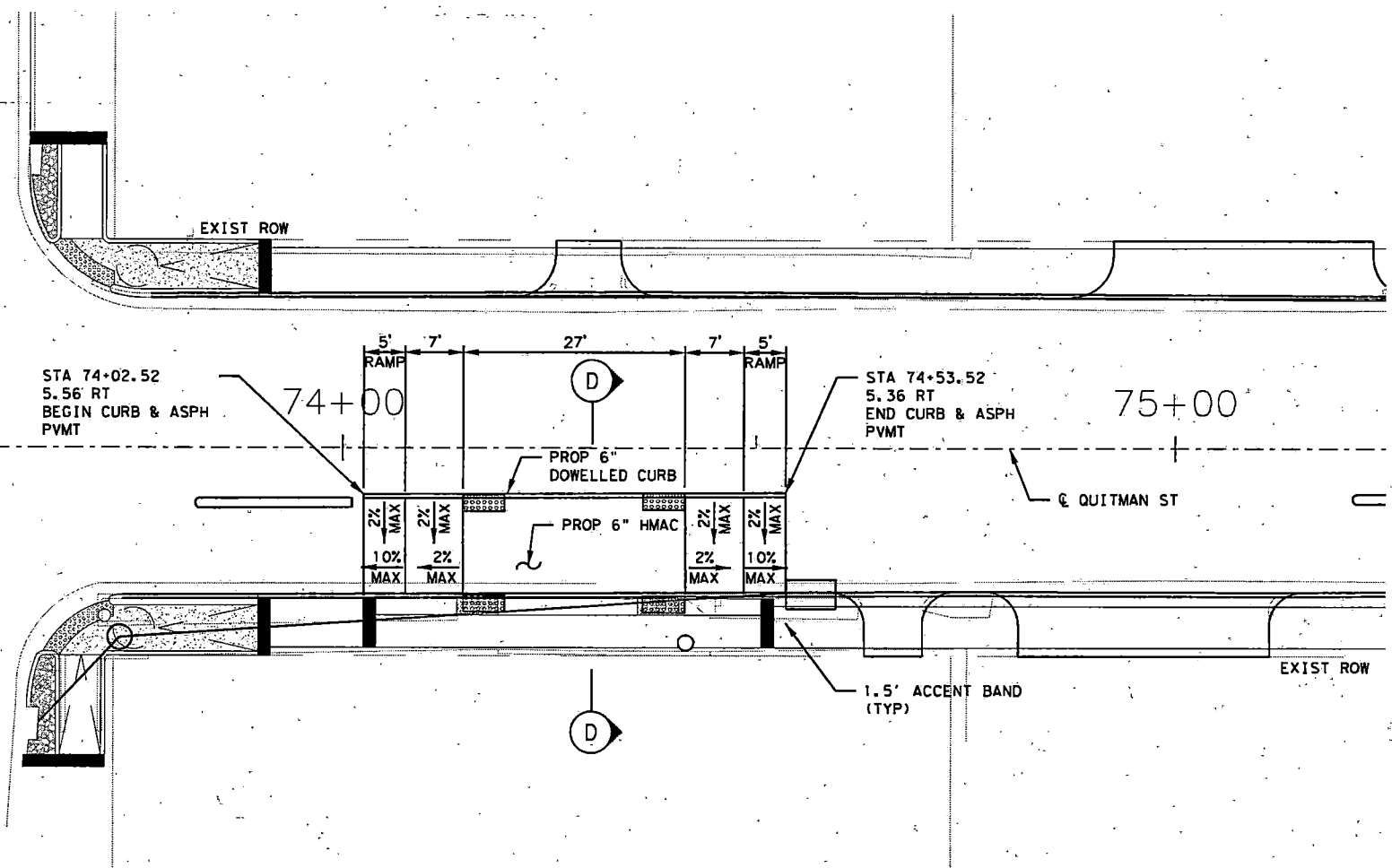


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

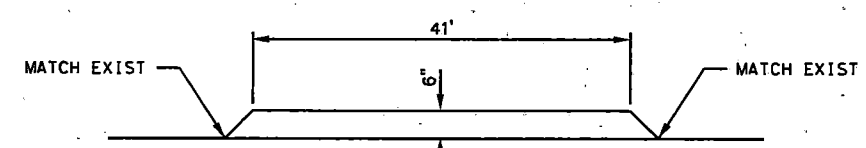


08-19-22  
FIRM#: F-4014

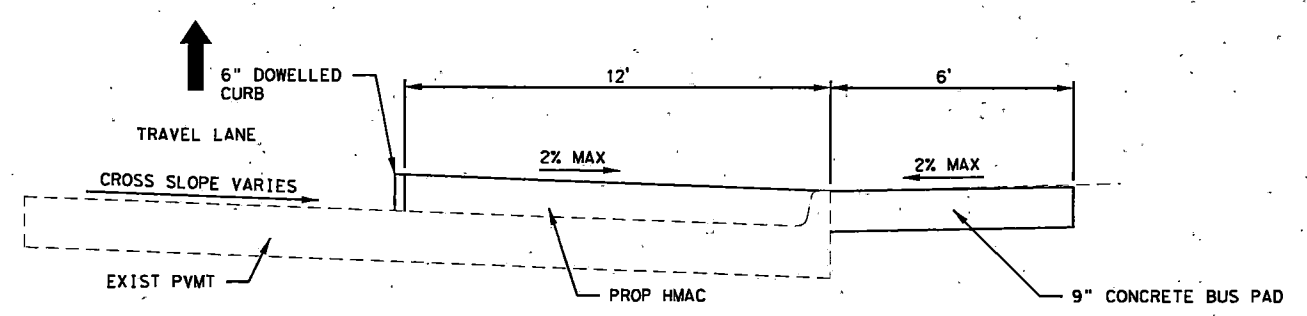
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 3 OF 4	
CK'D BY:		DATE:	08-19-2022
SCALE:		SHEET NO.:	58 /
1"=20'			



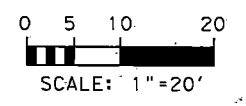
NOTES:  
SEE NOTES ON SHEET 1 OF 4.



ELEVATED BIKE LANE PROFILE



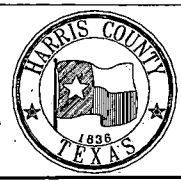
SECTION D-D



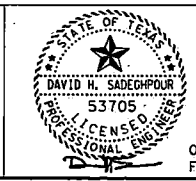
8/21/2022 76-Quitman-Cycle Track.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

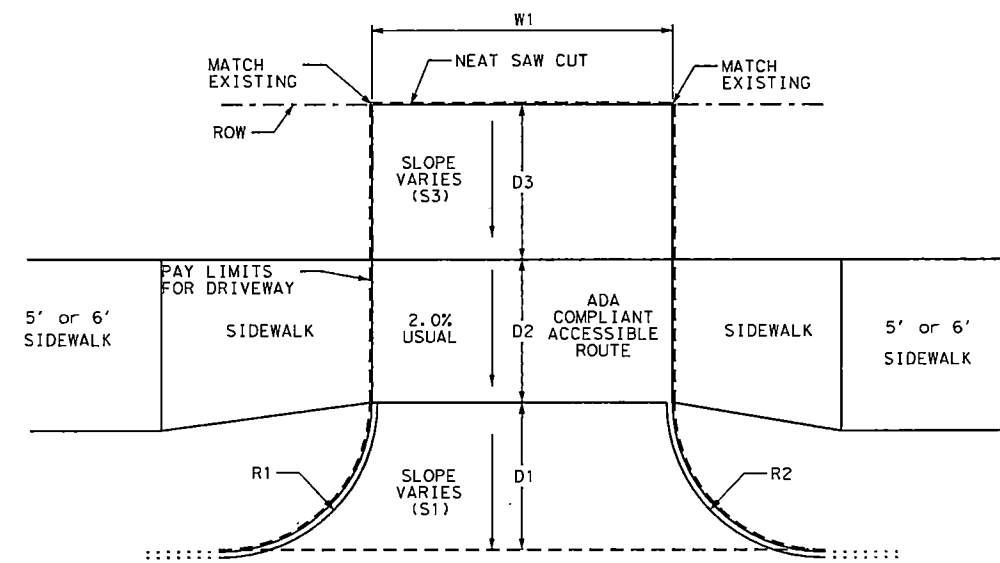


08-19-22  
FIRM#: F-4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: CYCLE TRACK AT BUS STOP DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 59 /
SCALE: 1"=20'	SHEET 4 OF 4

DRIVEWAY SUMMARY

DRIVEWAY NO.	DRIVEWAY LOCATION		CURB RADII R1/R2 (FT)	EXISTING WIDTH (FT)	PROPOSED WIDTH (FT)	GUTTER ELEV "X"	ROW ELEV "Y"	D1 (FT)	D2 (FT)	D3 (FT)	S1 (%)	S3 (%)	AREA (SY)	TYPE
	STATION	OFFSET												
2	7+61.16	RT	10/10	23.52	24.00	25.75	26.24	0.0	6.0	18.5	0.2	2.0	70.1	PARK
4	23+99.37	RT	5/5	26.00	26.00	48.58	49.71	5.5	3.5	2.0	13.0	17.3	33.0	RESIDENTIAL
5	24+18.47	LT	5/5	7.80	7.80	48.71	49.64	6.0	5.0	1.5	13.0	3.3	12.0	RESIDENTIAL
6	24+58.01	RT	5/5	7.90	7.90	48.75	49.79	6.2	4.0	2.0	13.0	7.7	11.9	RESIDENTIAL
7	25+64.41	RT	5/5	9.00	9.00	49.00	49.93	5.3	5.0	2.0	13.0	7.0	13.5	RESIDENTIAL
8	25+17.19	RT	5/5	8.70	8.70	48.90	50.04	6.2	4.0	2.0	13.0	12.7	13.0	RESIDENTIAL
9	26+13.56	RT	5/5	8.20	8.20	48.72	49.60	5.2	5.0	2.0	13.0	5.2	12.3	RESIDENTIAL
10	26+16.93	LT	5/5	7.90	7.90	48.75	49.90	7.3	4.0	1.5	13.0	8.1	12.4	RESIDENTIAL
11	26+56.98	RT	5/5	14.90	14.90	48.75	49.65	5.8	4.5	2.0	13.0	2.8	21.6	RESIDENTIAL
12	26+69.54	LT	5/5	13.00	13.00	48.65	49.70	7.0	4.0	1.5	13.0	4.0	19.3	RESIDENTIAL
13	27+02.65	RT	5/5	8.00	8.00	48.65	49.65	6.4	4.0	2.0	13.0	4.4	12.2	RESIDENTIAL
14	28+41.93	RT	5/5	11.30	11.30	48.42	49.50	7.1	4.0	1.5	13.0	5.1	17.0	RESIDENTIAL
15	28+44.35	LT	5/5	7.80	7.80	48.18	49.50	8.6	3.0	1.0	13.0	14.2	12.1	RESIDENTIAL
16	28+90.03	LT	5/5	12.00	12.00	48.48	49.54	7.6	4.0	1.0	12.5	3.0	18.0	RESIDENTIAL
17	28+90.42	RT	5/5	9.80	9.80	48.48	49.47	6.3	4.5	1.5	13.0	5.4	14.6	RESIDENTIAL
18	29+41.27	RT	5/5	9.90	9.90	48.58	49.48	6.3	4.5	1.5	12.5	1.5	14.7	RESIDENTIAL
19	29+82.49	RT	5/5	7.80	7.80	48.60	49.51	6.3	4.5	1.5	12.5	2.2	11.9	RESIDENTIAL
20	30+52.76	RT	5/5	11.90	11.90	48.45	49.61	6.7	4.0	1.5	13.0	13.9	17.3	RESIDENTIAL
20A	33+15.22	LT	-5/5	35.00	35.00	48.00	48.70	5.0	6.0	1.5	11.0	2.0	49.8	COMMERCIAL
21	33+39.99	RT	5/5	16.00	16.00	47.90	48.85	6.4	4.0	2.0	13.0	1.9	23.2	COMMERCIAL
22	33+91.51	LT	5/5	27.50	27.50	47.89	48.30	4.9	6.0	1.5	5.3	2.0	39.1	COMMERCIAL
23	35+88.56	LT	5/5	38.90	38.90	48.00	48.33	6.6	6.0	0.1	3.2	2.1	56.1	COMMERCIAL
24	36+61.73	LT	5/5	23.50	23.50	48.19	48.98	6.3	6.0	0.1	10.6	2.2	33.6	COMMERCIAL
25	37+43.08	RT	5/5	28.70	28.70	48.71	48.96	6.8	5.0	0.5	2.1	2.0	40.4	SCHOOL
26	38+11.01	LT	5/5	10.00	10.00	48.20	49.20	7.1	4.0	1.0	12.0	6.8	14.6	COMMERCIAL
27	38+64.31	LT	5/5	16.10	16.10	47.90	49.00	7.4	4.0	1.0	13.0	5.8	23.4	COMMERCIAL
28	39+16.86	LT	5/5	9.20	9.20	47.80	48.76	6.4	5.0	1.0	13.0	2.8	13.9	COMMERCIAL
29	39+28.90	RT	5/5	36.70	36.70	47.90	48.50	5.0	5.0	2.8	7.0	5.4	53.4	SCHOOL
31	40+80.64	LT	5/5	24.00	31.20	47.80	48.70	6.6	5.0	1.0	11.8	2.1	44.9	COMMERCIAL
32	41+10.02	RT	5/5	24.10	24.10	47.80	48.55	6.2	6.0	0.1	10.2	0.7	34.1	SCHOOL
33	41+21.46	LT	5/5	32.80	32.80	47.85	48.90	7.5	5.0	1.0	12.4	2.0	50.4	COMMERCIAL
35	43+53.61	LT	5/5	8.10	8.10	47.91	48.85	7.0	5.0	0.5	11.9	2.1	12.4	RESIDENTIAL
36	43+95.29	LT	5/5	19.50	19.50	48.00	48.70	7.0	5.0	0.5	8.5	1.7	28.3	COMMERCIAL
37	44+28.11	LT	5/5	22.00	22.00	47.90	48.80	7.0	5.0	0.5	11.3	1.8	31.8	COMMERCIAL
38	44+69.58	LT	5/5	10.20	10.20	47.60	48.75	8.0	4.0	0.5	13.0	6.0	15.4	RESIDENTIAL
39	47+06.83	LT	5/5	31.20	31.20	46.50	47.00	3.5	4.0	0.1	12.0	1.7	27.5	COMMERCIAL
40	49+05.42	RT	5/5	35.70	35.70	46.43	47.10	6.0	4.0	0.1	9.8	2.0	41.3	COMMERCIAL
41	49+94.50	RT	5/5	33.60	33.60	46.54	47.41	7.1	5.0	0.5	10.7	2.1	48.2	COMMERCIAL
42	57+07.65	RT	5/5	14.00	14.00	46.53	47.38	7.1	5.0	0.1	10.6	1.0	20.2	SCHOOL
43	57+90.71	LT	5/5	30.00	30.00	46.38	47.00	8.0	4.0	0.5	6.7	1.6	42.9	SCHOOL
44	62+23.92	LT	5/5	123.10	123.10	46.80	47.51	2.0	4.5	0.5	30.5	2.0	96.9	COMMERCIAL
45	62+80.44	RT	5/5	34.90	34.90	46.80	47.72	2.5	4.0	1.3	33.0	2.4	31.2	COMMERCIAL
46	63+31.76	LT	5/5	7.50	7.50	46.78	47.54	2.5	4.0	0.5	26.8	2.0	7.0	RESIDENTIAL
47	63+76.14	RT	5/5	9.60	9.60	46.65	47.49	2.6	4.0	1.2	28.3	2.0	9.5	RESIDENTIAL
48	63+83.31	LT	5/5	9.60	9.60	46.65	47.83	3.2	3.5	0.5	33.0	9.5	8.9	RESIDENTIAL
49	64+23.43	RT	5/5	11.20	11.20	46.58	47.40	2.4	4.0	1.2	30.0	1.7	10.7	RESIDENTIAL
50	64+25.04	LT	5/5	24.00	24.00	46.58	47.11	2.8	4.0	0.5	15.7	2.1	20.7	COMMERCIAL
51	64+84.07	RT	5/5	68.00	68.00	46.55	47.28	2.6	4.0	1.0	24.2	2.1	58.6	COMMERCIAL
53	68+74.82	LT	5/5	19.40	19.40	46.49	47.08	1.5	4.0	1.7	33.0	1.9	16.5	RESIDENTIAL
54	69+16.19	RT	5/5	9.90	9.90	46.43	47.20	2.6	4.0	1.2	25.6	2.0	9.8	RESIDENTIAL
56	69+84.45	LT	5/5	7.00	7.00	46.26	46.99	1.6	4.0	1.5	33.0	8.1	6.7	RESIDENTIAL
57	70+00.58	RT	5/5	27.00	27.00	46.10	47.00	2.7	4.0	1.2	29.5	2.0	24.9	RESIDENTIAL
58	71+37.81	RT	5/5	23.60	15.10	46.05	46.70	2.8	4.0	1.0	19.7	1.8	14.3	RESIDENTIAL
59	71+79.77	LT	5/5	33.80	13.00	46.08	46.75	2.2	4.0	1.0	26.0	1.8	11.6	COMMERCIAL
60	71+93.47	RT	5/5	17.40	14.00	46.10	46.71	2.9	4.0	1.0	17.6	2.0	13.5	RESIDENTIAL
62	74+29.71	LT	5/5	7.90	7.90	45.91	46.63	1.6	4.0	1.0	33.0	9.9	7.0	RESIDENTIAL
62A	74+66.50	RT	4/4	7.00	7.00	45.71	45.97	2.7	4.0	1.0	6.0	1.8	1.2	RESIDENTIAL
63	74+96.33	RT	5/5	29.90	29.90	45.60	46.25	2.7	4.0	1.0	20.4	1.9	26.8	COMMERCIAL
64	75+08.13	LT	5/5	31.00	31.00	45.48	46.30	2.1	4.0	1.0	34.3	2.0	25.7	COMMERCIAL
65	75+50.73	LT	5/5	14.00	14.00	45.60	46.30	1.9	4.0	1.0	31.2	2.1	12.0	COMMERCIAL
66	76+95.65	RT	5/5	22.00	22.00	45.53	46.14	3.2	5.0	4.8	12.0	2.8	32.7	COMMERCIAL
67	77+24.03	LT	5/5	10.90	17.70	45.80	46.70	2.5	4.0	1.5	30.0	4.7	16.9	COMMERCIAL
68	77+76.45	LT	5/5	14.00	14.00	45.91	46.57	2.3	4.0	1.5	13.0	18.7	13.3	COMMERCIAL
69	77+79.09	RT	5/5	87.00	87.00	45.91	46.61	2.8	5.0	5.0	10.0	6.4	124.9	COMMERCIAL



NOTES:  
SEE STANDARD DETAILS FOR  
ADDITIONAL INFORMATION.



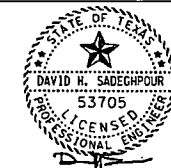
NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



SCIENTECH  
ENGINEERS, INC.

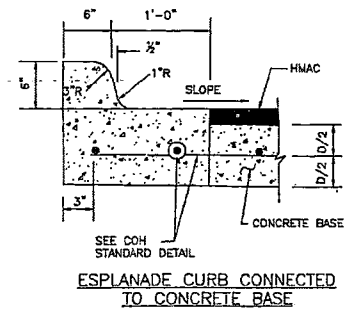
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



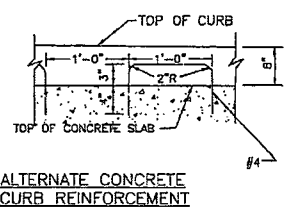
08-19-22  
FIRM#: F-4014

PROJECT TITLE:			QUITMAN STREET	
SHEET DESCRIPTION:			ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:			SHEET 1 OF 1	
SCALE:		DATE: 08-19-2022		
FIRM:		SHEET NO: 60 /		

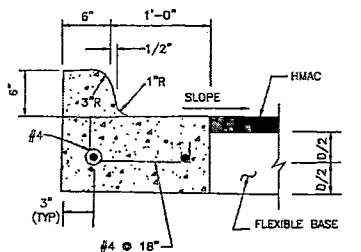
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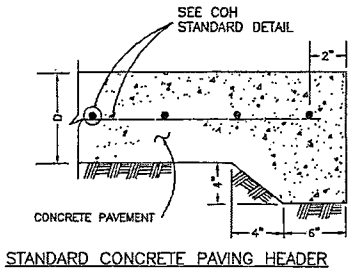
ESPLANADE CURB CONNECTED TO CONCRETE BASE



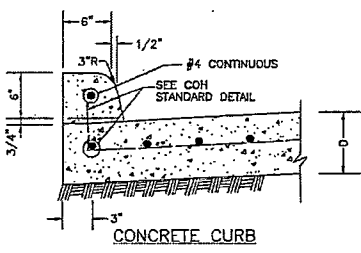
ALTERNATE CONCRETE CURB REINFORCEMENT



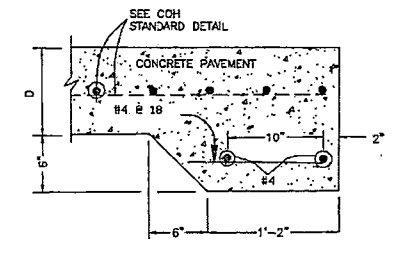
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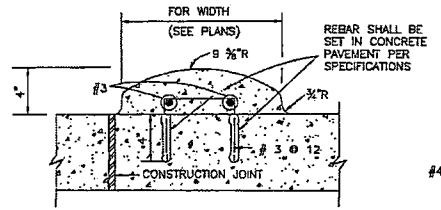
STANDARD CONCRETE PAVING HEADER



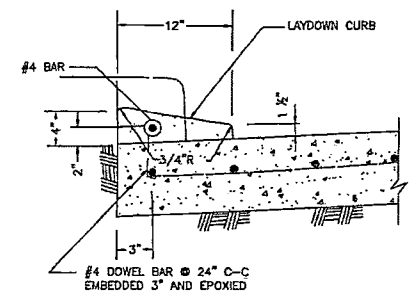
CONCRETE CURB



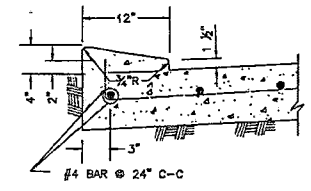
STANDARD RAILROAD HEADER



MOUNTABLE CURB



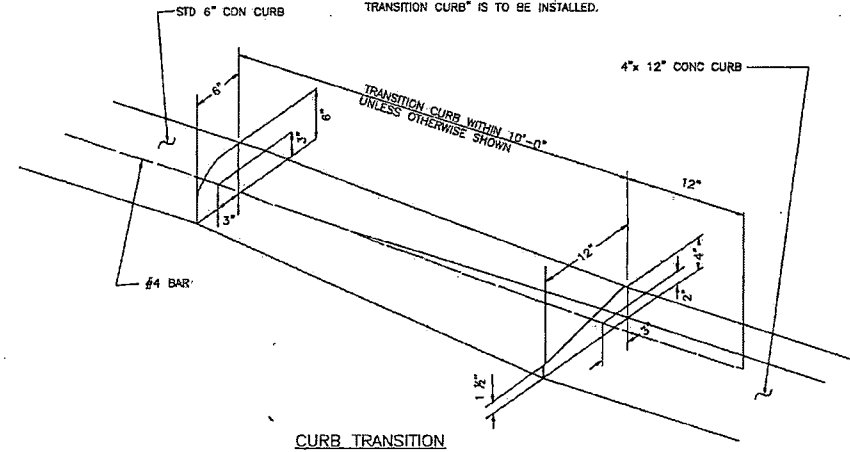
4-INCH x 12-INCH TRANSITION CURB



4-INCH x 12-INCH MONOLITHIC CURB

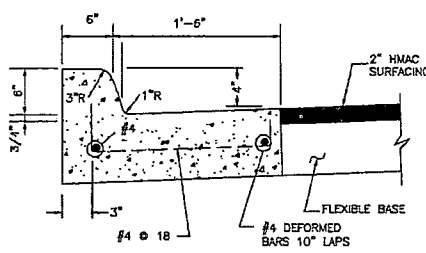
4" x 12" MONOLITHIC AND TRANSITION CURB NOTES:

- 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS NON-RESIDENTIAL STREETS, AND RESIDENTIAL STREETS.
- 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-FOOT 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.

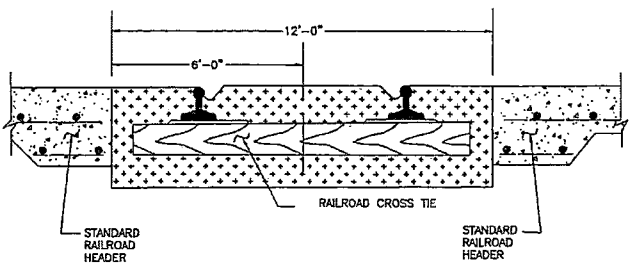


CURB TRANSITION

WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT. SET #4 DOWELS, 25" LONG AT 12" C-C WHEN PAVEMENT SECTION POURED.



MONOLITHIC CURB AND GUTTER



STANDARD RAILROAD CROSSING - SINGLE TRACK

CURB, CURB AND GUTTER AND HEADER DETAILS  
NTS

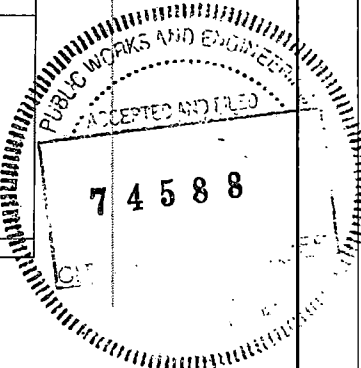
CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

STREET PAVING AND SIDEWALK  
02771-01

APPROVED BY: *[Signature]*  
CITY ENGINEER

APPROVED BY: *[Signature]*  
DIRECTOR OF HOUSTON PUBLIC WORKS

EFFECTIVE DATE: JUL-01-2020  
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NO.	REVISIONS	DATE	NAME
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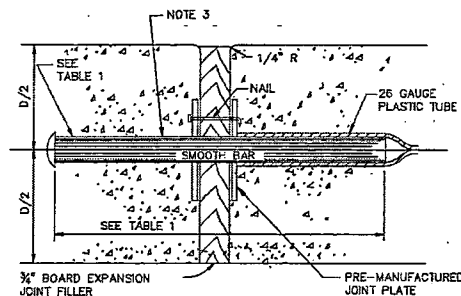
HARRIS COUNTY  
ENGINEERING DEPARTMENT



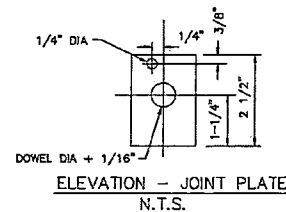
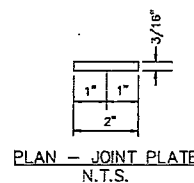
SCIENTECH  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET	
	ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:	ROADWAY STANDARD DETAILS	
DRAWN BY:	AD	SHEET 1 OF 15
CK'D BY:	DHS	DATE: 08-19-2022
	SCALE: NTS	SHEET NO: 61/

02752-02



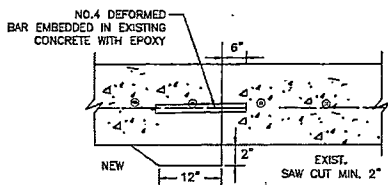
SECTION DOWEL TYPE EXPANSION JOINT N.T.S.



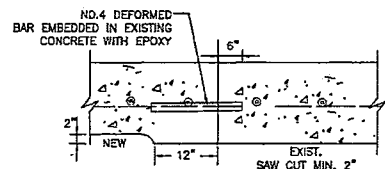
NOTES:

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.

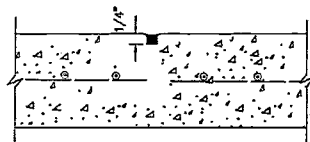
SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS N.T.S.



SECTION SIDEWALK TO EXISTING SIDEWALK N.T.S.



SECTION SIDEWALK TO EXISTING DRIVEWAY N.T.S.

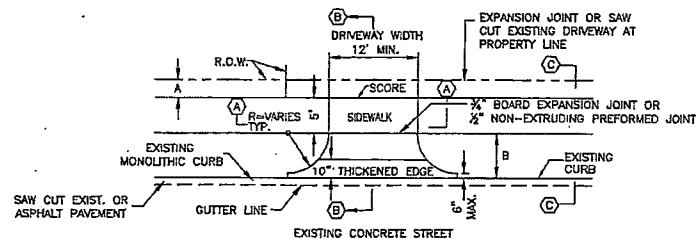


SECTION CONTROL JOINT N.T.S.

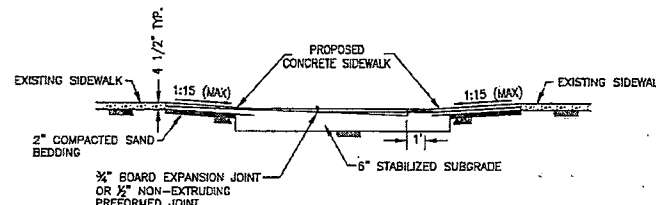
TABLE 1

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

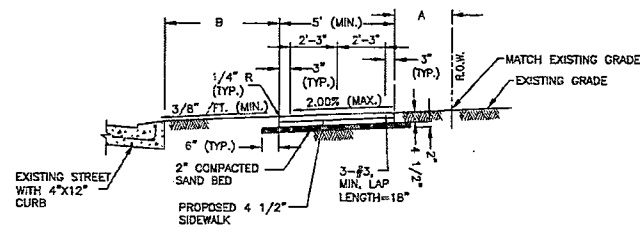
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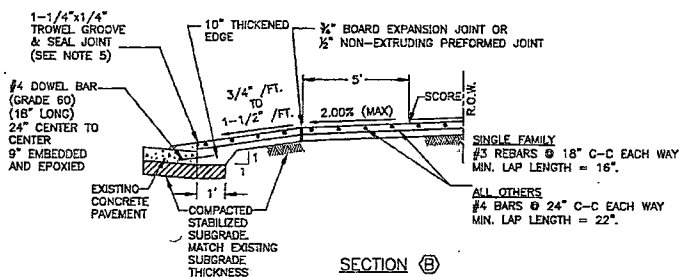
PLAN VIEW - DRIVEWAY



SECTION A PROPOSED SIDEWALK THROUGH DRIVEWAY WITH EXCESSIVE GRADES N.T.S.



SECTION C TYPICAL SIDEWALKS SECTION N.T.S.



SECTION B TYPICAL DRIVEWAY SECTION N.T.S.

DRIVEWAY / LOCAL RESIDENTIAL STREETS N.T.S.

NOTES:

1. IF AVAILABLE ROW IS NOT SUFFICIENT TO ACCOMMODATE SIDEWALK WIDTH (SW) ACCORDING TO IDN REQUIREMENT, ENGINEER SHALL OBTAIN A VARIANCE FROM THE CITY ENGINEER.
2. DRIVEWAYS SHALL BE 6" THICK FOR SINGLE FAMILY.
3. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE AND INCLUDE 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
4. THE OUTER DOWEL BARS ARE TO BE LOCATED 12" FROM END OF PROPOSED EDGE OF DRIVEWAY RETURN. EXTEND DOWEL 3" INCHES INTO PROPOSED DRIVEWAY AND BEND REMAINING BAR TO EXTEND TO RADIUS RETURN BOTH SIDES.
5. TROWEL GROOVE SEALANT SHALL BE LOW MODULUS SILICONE OR POLYURETHANE SEALANT.
6. EXPANSION & CONSTRUCTION JOINTS ALONG SIDEWALK SHALL BE ACCORDING TO DRAWING NO. 02752-02.
7. REFER CHAPTER 17 DESIGN REQUIREMENTS FOR A AND B.
8. CEMENT STABILIZED SAND 1.5 SACKS OF CEMENT PER TON OF DRY SAND.
9. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
10. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

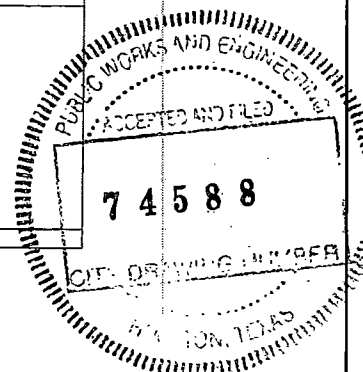
STREET PAVING AND SIDEWALK  
02752-02 THROUGH 02754-01A

APPROVED BY: [Signature]  
CITY ENGINEER

APPROVED BY: [Signature]  
DEPUTY DIRECTOR

APPROVED BY: [Signature]  
DIRECTOR OF HOUSTON PUBLIC WORKS

EFFECTIVE DATE: JUL-01-2020  
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8/21/2022 80B-Qui.tman-STD.RDY.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



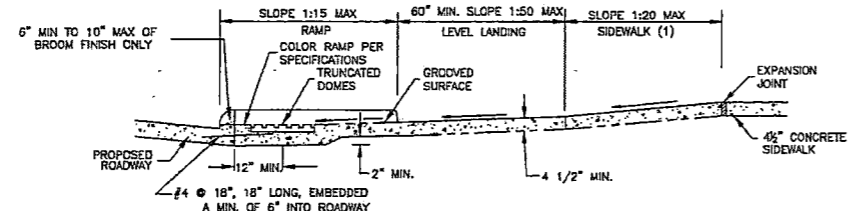
SCIENTECH  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 62 /
SCALE: NTS	SHEET 2 OF 15

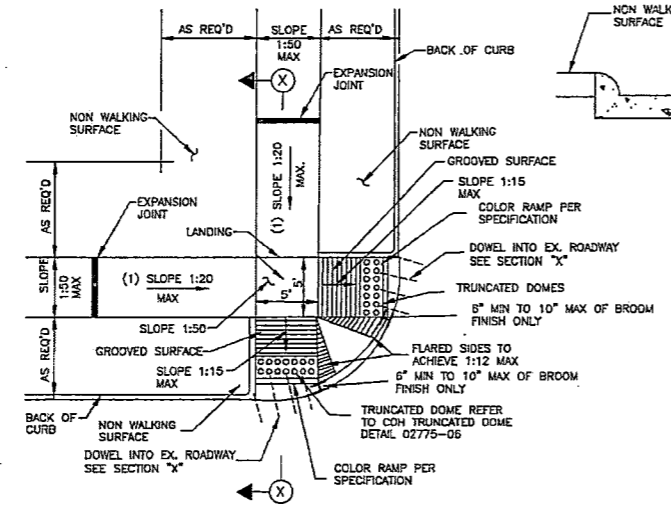


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02775-03



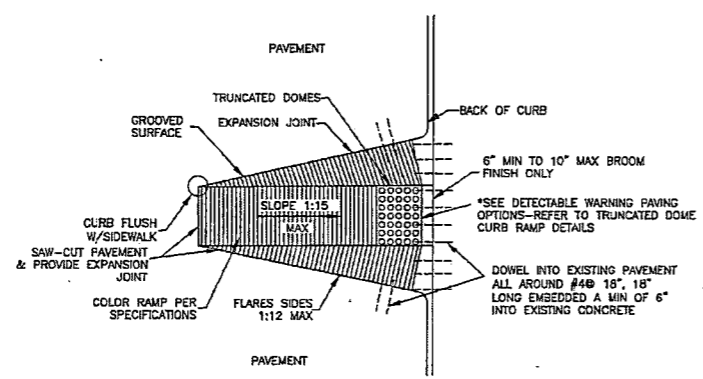
SECTION X



ELEVATION LOOKING UP RAMP N.T.S.

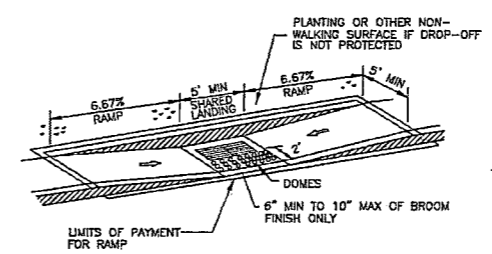
- NOTES:
1. REPLACE EXISTING SIDEWALK FROM LEVEL LANDING AS NECESSARY TO ACHIEVE 1:20 SLOPE
  2. SLOPES GREATER THAN 1:20 BUT LESS THAN 1:15 (MAX) REQUIRE GROOVES AND COLORING
  3. BROOM FINISH IS MEASURED FROM FACE OF CURB.
  4. ALL RAMP AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
  5. CURB RAMP THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

STREETS WITH NON-WALKING SURFACE BEHIND CURB N.T.S.

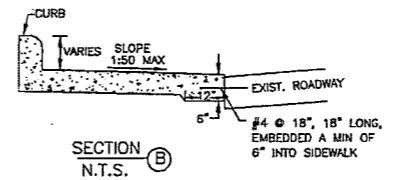


RAMP CONSTRUCTION FOR EXISTING PAVEMENT

WHEEL CHAIR RAMP DETAILS N.T.S.

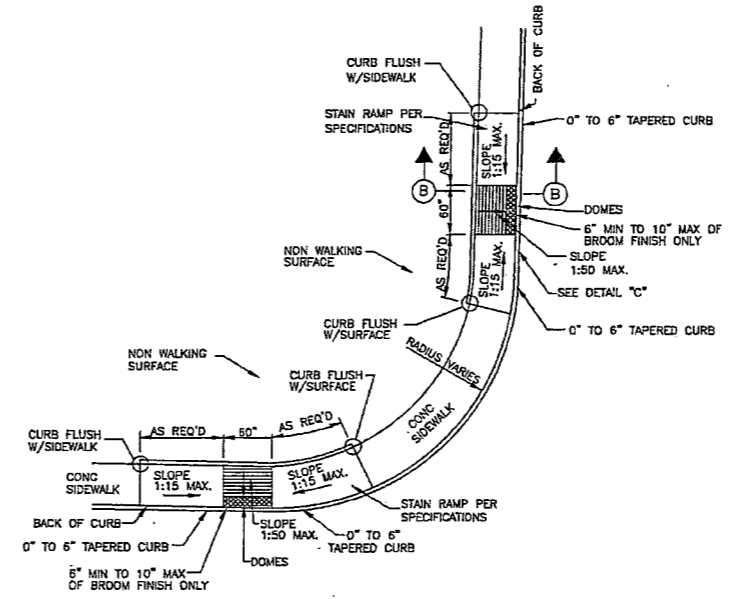


DETAIL "C"



SECTION B N.T.S.

- NOTES:
1. ALL RAMP AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
  2. CURB RAMP THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.



PARALLEL CURB RAMP N.T.S.

CITY OF HOUSTON HOUSTON PUBLIC WORKS

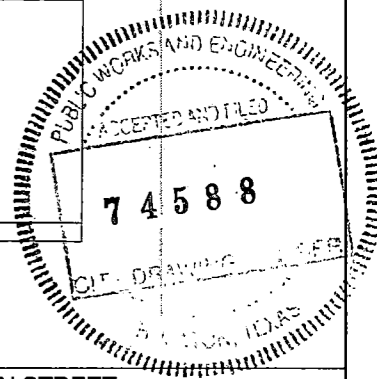
STREET PAVING AND SIDEWALK 02775-02 THROUGH 02775-03

APPROVED BY: *[Signature]*  
 CITY ENGINEER

APPROVED BY: *[Signature]*  
 DEPUTY DIRECTOR

APPROVED BY: *[Signature]*  
 DIRECTOR OF HOUSTON PUBLIC WORKS

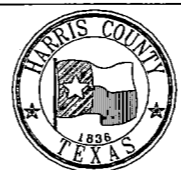
EFFECTIVE DATE: JUL-01-2020 FOR CITY OF HOUSTON USE ONLY



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NO.	REVISIONS	DATE	NAME
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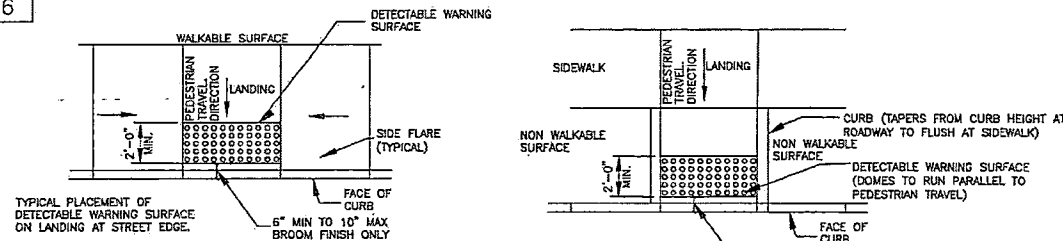
HARRIS COUNTY ENGINEERING DEPARTMENT



**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY STANDARD DETAILS	
DRAWN BY: AD	SHEET 3 OF 15
DATE: 08-19-2022	
CK'D BY: DHS	SCALE: N.T.S.
SHEET NO: 63	

02775-06

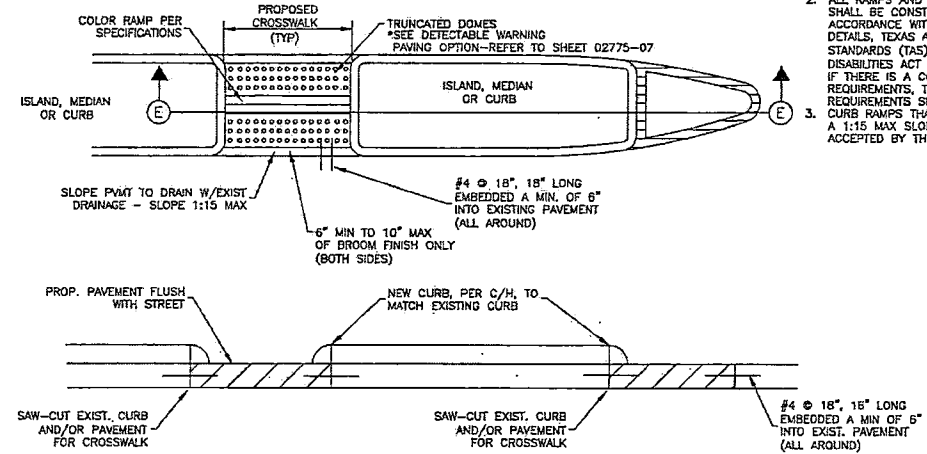


GENERAL NOTES FOR DETECTABLE WARNINGS

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. REFERENCE CURB RAMP DETAILS FOR RAMP GROOVED SURFACE.
10. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
11. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

DETECTABLE WARNING CURB RAMP DETAILS  
NTS

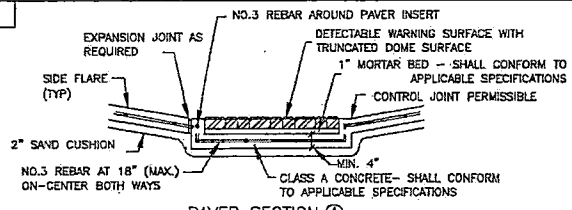
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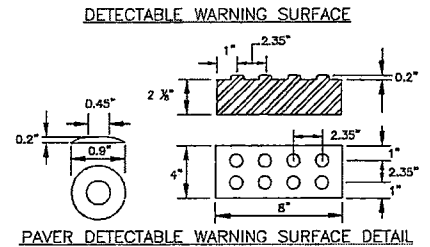
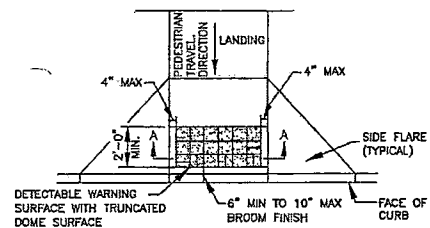
- NOTES:
1. SEE COH STANDARD DETAIL FOR PAVEMENT MARKING DETAILS.
  2. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
  3. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

FOR ISLAND, MEDIAN, OR CURB MODIFICATIONS FOR CROSSWALKS  
SECTION E  
CURB MODIFICATIONS FOR WHEEL CHAIR RAMPS & CROSSWALKS  
NTS

02775-07



PAVER SECTION (A)



DETECTABLE WARNING SURFACE (OPTIONS)  
NTS

NOTES

- GENERAL NOTES
1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
  2. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

PAVERS

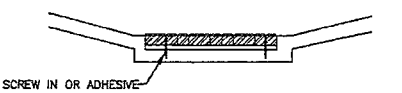
1. FURNISH DETECTABLE WARNING SURFACE UNITS MEETING ALL REQUIREMENTS OF ASTM C-936, C-33. LAY IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS DIRECTED.
2. LAY FULL-SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25 PERCENT OF A FULL UNIT. CUT DETECTABLE WARNING POWER UNITS USING A POWER SAW.

POLYMER CONCRETE

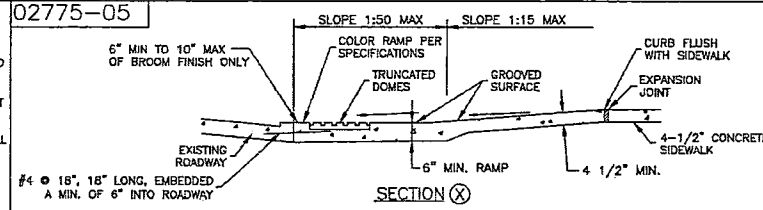
1. DETECTABLE WARNING TILES SHALL BE MADE OF POLYMER CONCRETE MATERIALS.
2. DETECTABLE WARNING TILES SHALL BE INSTALLED INTO FRESH CONCRETE (CAST-IN-PLACE) UTILIZING AN ANCHORING SYSTEM.
3. DETECTABLE WARNING TILES SHALL BE OF TERRACOTTA (BROWN-RED) COLOR AND COLORED THROUGHOUT TO GUARANTEE THE ADA REQUIRED COLOR CONTRAST.
4. DETECTABLE WARNING TILES SHALL MEET OR EXCEED THE FOLLOWING ASTM-BASED "STANDARDS" FOR CONCRETE MATERIALS:
  - A. COMPRESSION STRENGTH > 12,500 PSI PER ASTM C 39-04
  - E. WATER ABSORPTION < 0.25% PER ASTM C 97-09

PAVS

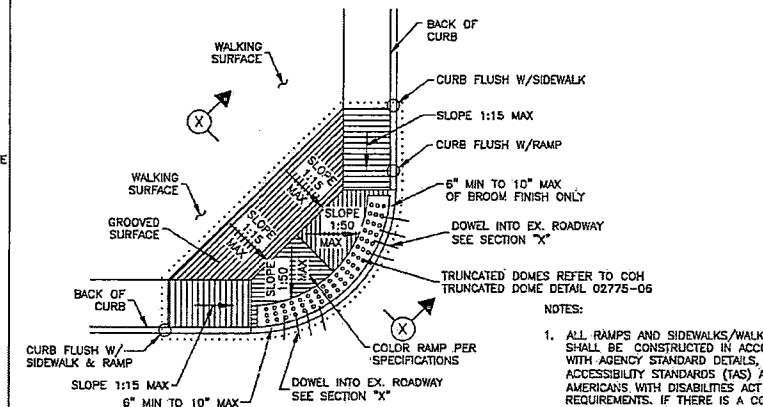
1. FURNISH REQUIREMENTS OF ADAAG (MARCH 2003).
2. OTHER MATERIALS MAY BE USED IF APPROVED BY THE CITY ENGINEER.



02775-05



SECTION X



COMMERCIAL & HIGH DENSITY CONDITIONS  
NTS  
COMMERCIAL CURB RAMP DETAILS  
NTS

- NOTES:
1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
  2. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

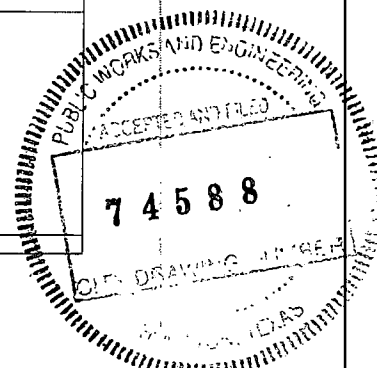
STREET PAVING AND SIDEWALK  
02775-04 THROUGH 02775-07

APPROVED BY: [Signature]  
CITY ENGINEER

APPROVED BY: [Signature]  
DEPUTY DIRECTOR

APPROVED BY: [Signature]  
DIRECTOR OF HOUSTON PUBLIC WORKS

EFFECTIVE DATE: JUL-01-2020  
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NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



SCIENTECH  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
ROADWAY STANDARD DETAILS	
DRAWN BY: AD	SHEET 4 OF 15
CK'D BY: DHS	DATE: 08-19-2022
SCALE: NTS	SHEET NO: 64/

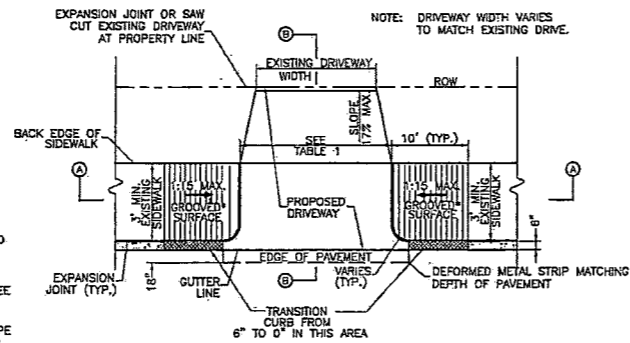
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NOTES:

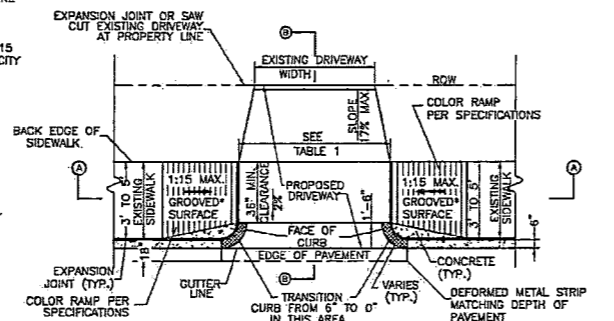
1. DRIVEWAY WIDTH VARIES TO MATCH EXISTING DRIVE.
2. DRIVEWAY DETAIL TO PROVIDE FOR SIDEWALK TRANSITION FROM EXISTING BACK OF CURB TO PROPOSED DRIVEWAY EDGE.
3. RAMPS WITH GROOVES AND CONTRAST COLOR REQUIRED ON SLOPES GREATER THAN 2% (SEE OPTION 1 AND OPTION 2 PLANS)
4. DRIVEWAY WITH WIDTH > 5' @ 2% CROSS SLOPE QUALIFIES AS PASSING SPACE. (SEE OPTION 1 AND OPTION 2 PLANS)
5. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
6. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

TABLE 1

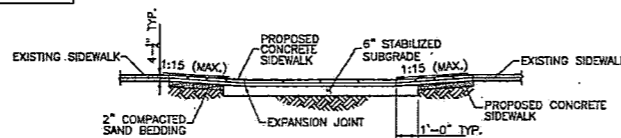
DRIVEWAY WIDTH	RESIDENTIAL	ALL OTHERS
ONE-WAY	12' MIN.-20' MAX.	15' MIN.-20' MAX.
TWO-WAY	12' MIN.-24' MAX.	24' MIN.-35' MAX.



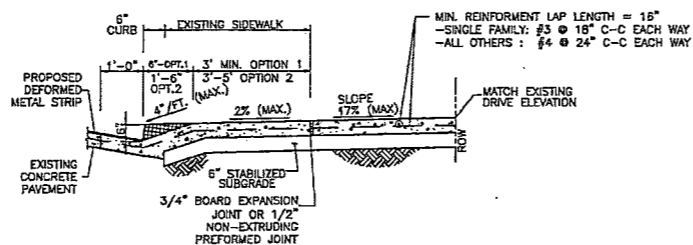
OPTION 1 - CURB LEVEL SIDEWALK  
PLAN VIEW - DRIVEWAY



OPTION 2 - CURB LEVEL SIDEWALK  
PLAN VIEW - DRIVEWAY



SECTION A  
PROPOSED SIDEWALK THROUGH DRIVEWAY  
WITH EXCESSIVE ELEVATION DIFFERENCE  
WITH EXISTING SIDEWALK

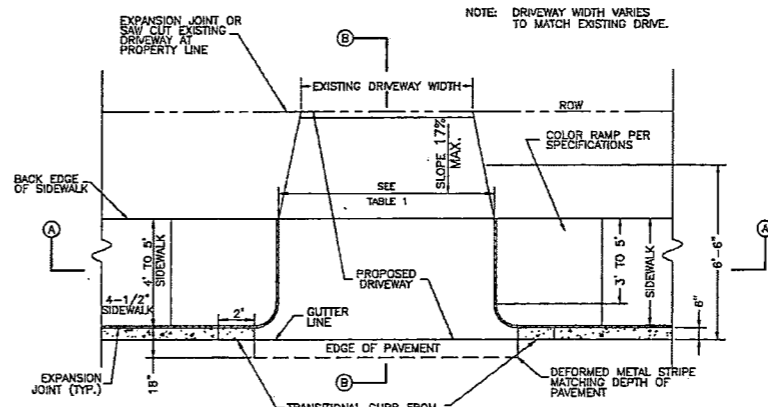


SECTION B  
TYPICAL DRIVEWAY SECTION

NOTE:  
1. DRIVEWAYS SHALL BE 6" THICK FOR SINGLE FAMILY USE AND 7" FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)

PROPOSED SIDEWALK THROUGH DRIVEWAY WITH EXCESSIVE ELEVATION DIFFERENCE  
NTS

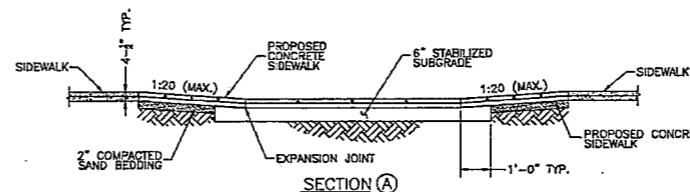
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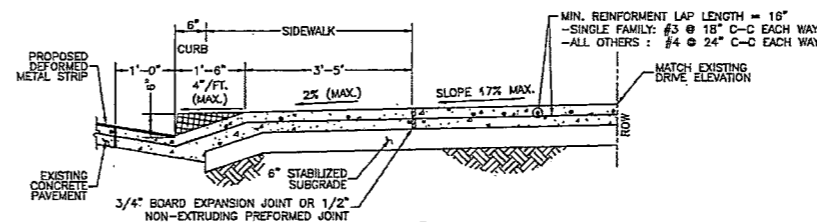
PLAN VIEW - DRIVEWAY  
NTS

TABLE 1

DRIVEWAY WIDTH	RESIDENTIAL	ALL OTHERS
ONE-WAY	12' MIN.-20' MAX.	15' MIN.-20' MAX.
TWO-WAY	12' MIN.-24' MAX.	24' MIN.-35' MAX.



SECTION A  
PROPOSED SIDEWALK THROUGH DRIVEWAY  
WITH MINIMAL ELEVATION DIFFERENCE  
WITH EXISTING SIDEWALK  
NTS



SECTION B  
TYPICAL DRIVEWAY SECTION  
NTS

NOTE:  
1. DRIVEWAYS SHALL BE 6" THICK FOR SINGLE FAMILY USE AND 7" FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)

EXISTING/PROPOSED CURB LEVEL SIDEWALK CONDITIONS  
NTS

NOTES:

1. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AGENCY STANDARD DETAILS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
2. CURB RAMPS THAT ARE STEEPER THAN A 1:15 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

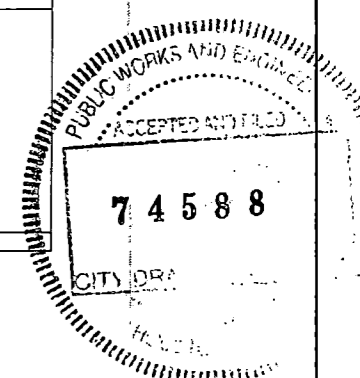
STREET PAVING AND SIDEWALK  
02754-03 THROUGH 02754-04

APPROVED BY: *[Signature]*  
CITY ENGINEER

APPROVED BY: *[Signature]*  
DEPUTY DIRECTOR

APPROVED BY: *[Signature]*  
DIRECTOR OF HOUSTON PUBLIC WORKS

EFFECTIVE DATE: JUL-01-2020  
FOR CITY OF HOUSTON USE ONLY



8/21/2022 80E-Qui.tman-STD.RDY.dgn

NO.	REVISIONS	DATE	NAME

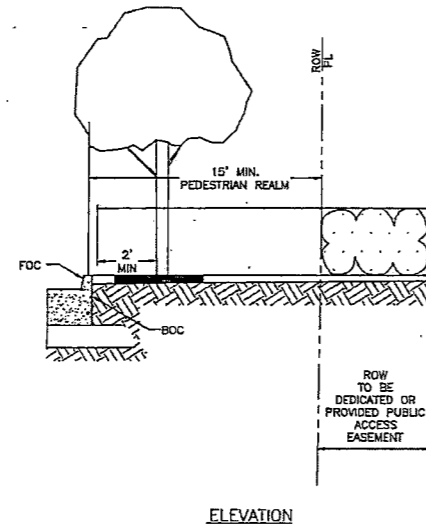
HARRIS COUNTY  
ENGINEERING DEPARTMENT



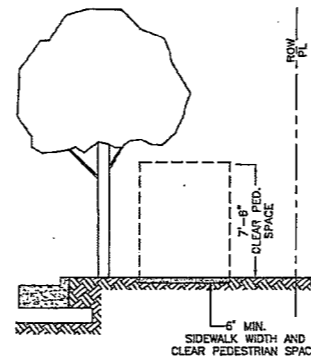
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY STANDARD DETAILS	
DRAWN BY: AD	SHEET 5 OF 15
DATE: 08-19-2022	SHEET NO: 65/
CK'D BY: DHS	SCALE: NTS

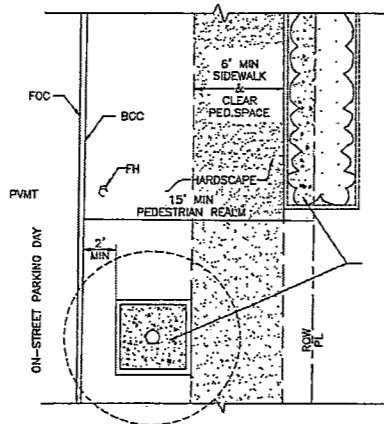
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ELEVATION



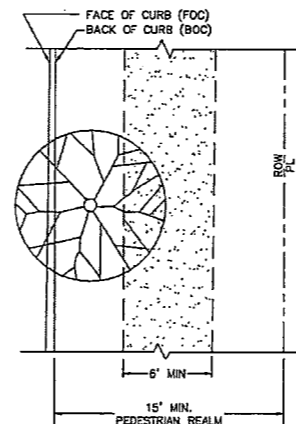
ELEVATION



PLAN

PEDESTRIAN REALM PERFORMANCE STANDARD

SOFTSCAPE  
(≥20% OF SURFACE AREA OF  
PEDESTRIAN REALM)



PLAN

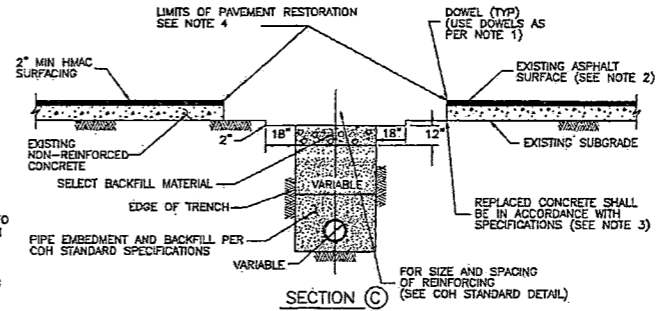
SIDEWALK & CLEAR PEDESTRIAN ZONE  
MANDATORY MINIMUM REQUIREMENT

NOTES  
1. REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES,  
ARTICLE IV - TRANSIT CORRIDOR DEVELOPMENT.

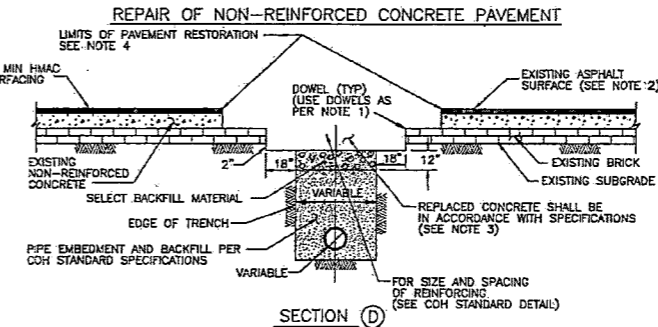
SIDEWALKS AND CLEAR ZONE TRANSIT CORRIDOR STREET  
NTS

02902-02

- NOTE:
1. EXPOSE 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.
  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 DETAIL 02951-01 FOR PAVEMENT RESTORATION LIMITS.



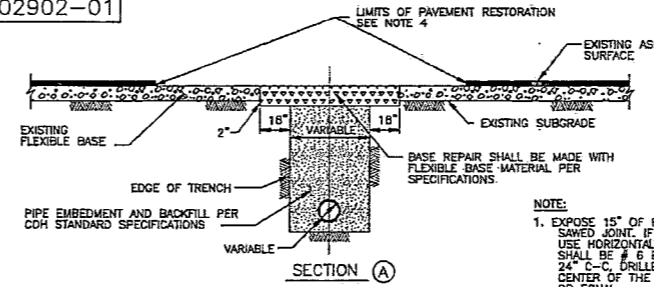
SECTION C



SECTION D

PAVEMENT REPAIR DETAILS FOR STREET CUTS - NON REINFORCED CONCRETE AND BRICK PAVEMENT  
NTS

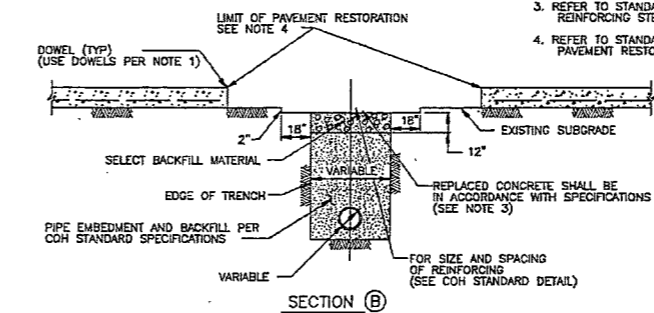
02902-01



SECTION A

REPAIR OF FLEXIBLE BASE PAVEMENT

- NOTE:
1. EXPOSE 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.
  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 FOR PAVEMENT RESTORATION LIMITS.



SECTION B

REPAIR OF REINFORCED CONCRETE PAVEMENT

PAVEMENT REPAIR DETAILS FOR STREET CUTS  
NTS

CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

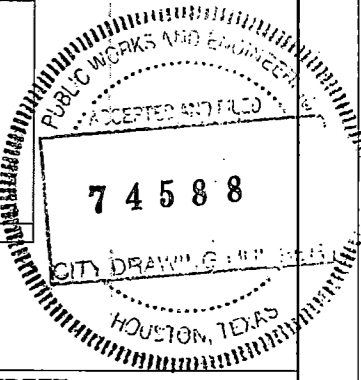
STREET PAVING AND SIDEWALK  
02775-08 THROUGH 02902-02

APPROVED BY: *[Signature]*  
CITY ENGINEER

APPROVED BY: *[Signature]*  
DIRECTOR OF HOUSTON PUBLIC WORKS

EFFECTIVE DATE: JUL-01-2020  
FOR CITY OF HOUSTON USE ONLY

SHEET NO.



8/21/2022 80F-Qui.tmon-STD\_RDY.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



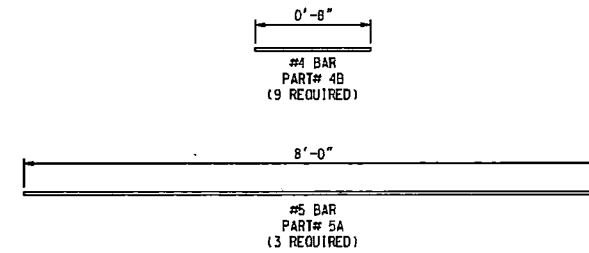
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 66 /
SCALE: NTS	
SHEET 6 OF 15	

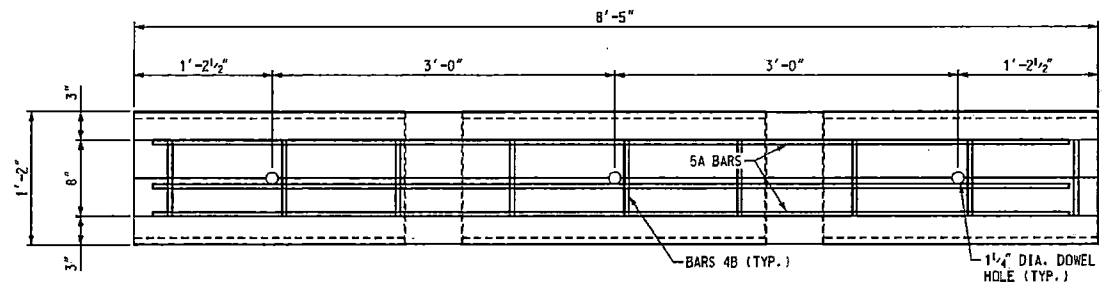
TEG REGISTRATION NUMBER: 10564

14" WIDE STANDARD PRECAST CONCRETE CURB SEGMENT QUANTITIES		
REBAR		
PART NAME	QTY	WEIGHT (lbs)
5A	3	25.0
4B	9	4.0
TOTAL STEEL		29.0
CONCRETE (cyd)	0.15	596
TOTAL WEIGHT		625

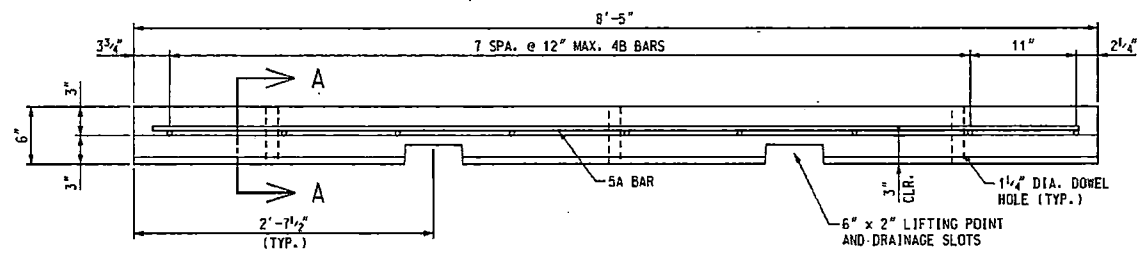
## TRI-Curb™ - Type A



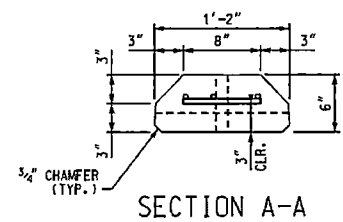
REBAR DETAILS



PLAN



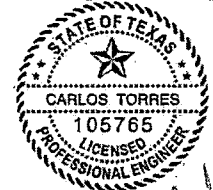
14" WIDE STANDARD PRECAST CONCRETE CURB SEGMENT ELEVATION



SECTION A-A



These drawings have been sealed on Mar 24, 2021



ENGINEER

**NOTICE:**  
 THE DESIGN CONTAINED IN THESE DRAWINGS IS BASED ON THE TRICON PRECAST, LTD. SPECIFICATIONS AND THE INFORMATION PROVIDED BY THE OWNER. TEG ENGINEERING, LLC. IS ONLY RESPONSIBLE FOR THE INTERNAL AND EXTERNAL STABILITY OF THE MSE WALL SYSTEM, GLOBAL STABILITY AND BEARING CAPACITY IS NOT THE RESPONSIBILITY OF TEG ENGINEERING, LLC. THESE DRAWINGS ARE FURNISHED ONLY FOR THE USE OF THIS PROJECT. THE PROPRIETARY INFORMATION SHOWN HEREIN IS NOT TO BE TRANSMITTED TO ANY OTHER ORGANIZATION WITHOUT AUTHORIZATION FROM TRICON PRECAST, LTD.



PROJECT NO.:	CSJ NO.:		
DESIGNED BY: ZS	STRUCTURE NO.:	TRICON JOB NO.:	DATE:
CHECKED BY: CT			SHEET 1 of 3

806-Quitman-STD.RDT.dgn 8/21/2022

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY  
 ENGINEERING DEPARTMENT



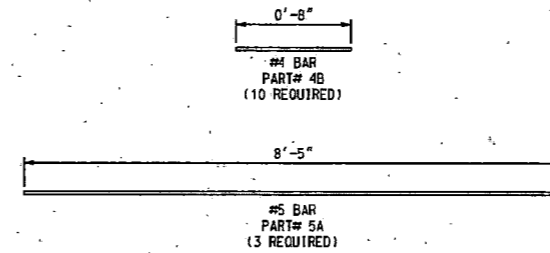
**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET		
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS		
DATE:	08-19-2022	SHEET NO.:	67 /
DRAWN BY: AD	SHEET 7 OF 15		
CK'D BY: DHS	SCALE:	NTS	

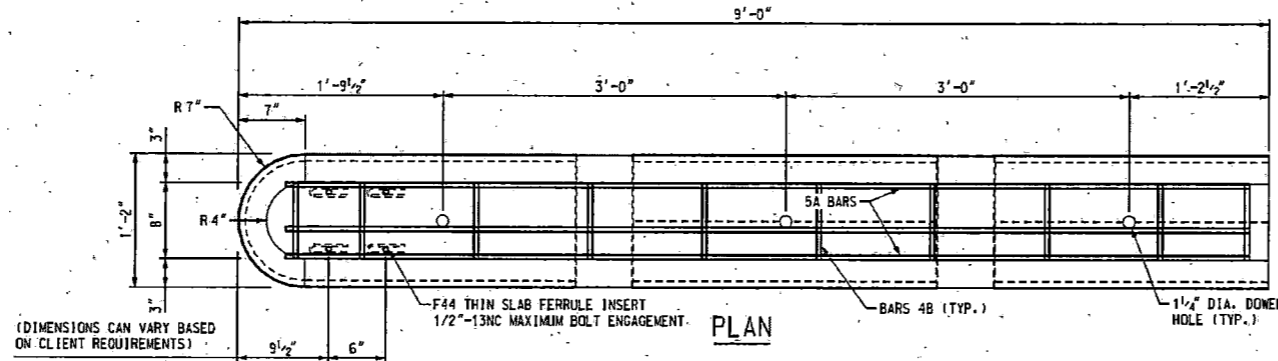
TEG REGISTRATION NUMBER: 10564

14" WIDE ONE END ROUNDED CAP PRECAST CONCRETE CURB SEGMENT QUANTITIES		
REBAR		
PART NAME	QTY	WEIGHT (lbs)
5A	3	26.3
4B	10	4.5
TOTAL STEEL		30.8
CONCRETE (cyd)	0.16	626
TOTAL WEIGHT		657

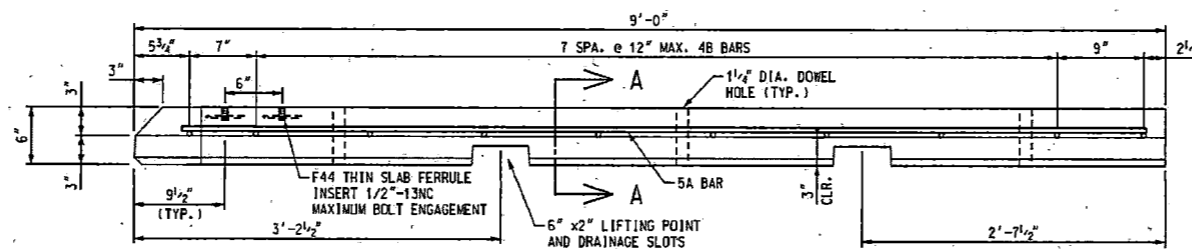
## TRI-Curb™ - Type B



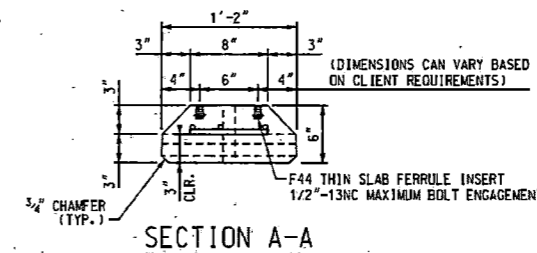
REBAR DETAILS



(DIMENSIONS CAN VARY BASED ON CLIENT REQUIREMENTS)



14" WIDE ONE END ROUNDED CAP PRECAST CONCRETE CURB SEGMENT ELEVATION



SECTION A-A

(DIMENSIONS CAN VARY BASED ON CLIENT REQUIREMENTS)

These drawings have been sealed on 13 Mar 24 2021



ENGINEER

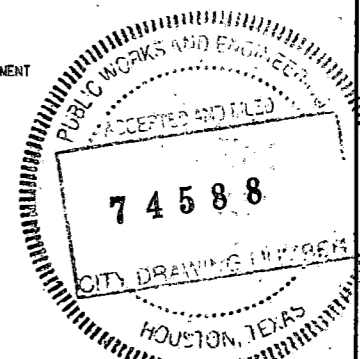
**NOTICE:**

THE DESIGN CONTAINED IN THESE DRAWINGS IS BASED ON THE TRICON PRECAST, LTD. SPECIFICATIONS AND THE INFORMATION PROVIDED BY THE OWNER. TEG ENGINEERING, LLC. IS ONLY RESPONSIBLE FOR THE INTERNAL AND EXTERNAL STABILITY OF THE MSE WALL SYSTEM, GLOBAL STABILITY AND BEARING CAPACITY IS NOT THE RESPONSIBILITY OF TEG ENGINEERING, LLC. THESE DRAWINGS ARE FURNISHED ONLY FOR THE USE OF THIS PROJECT. THE PROPRIETARY INFORMATION SHOWN HEREIN IS NOT TO BE TRANSMITTED TO ANY OTHER ORGANIZATION WITHOUT AUTHORIZATION FROM TRICON PRECAST, LTD.



REVIEWING ENGINEER

DRAWN BY: KC	PROJECT NO.:	CSJ NO.:
DESIGNED BY: ZS	STRUCTURE NO.:	TRICON JOB NO.:
CHECKED BY: CT	DATE:	SHEET 2 of 3



BOH-Quitman-STD\_RDY.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY ENGINEERING DEPARTMENT



**SCIENTECH ENGINEERS, INC.**

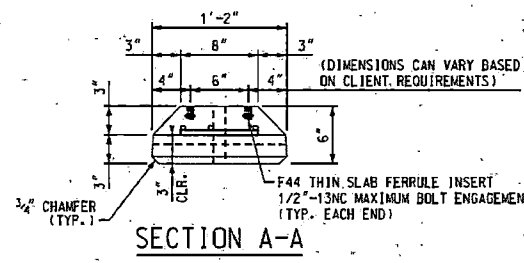
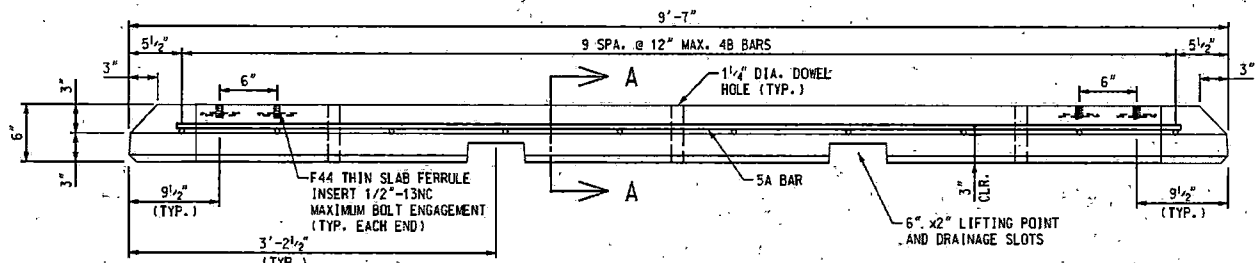
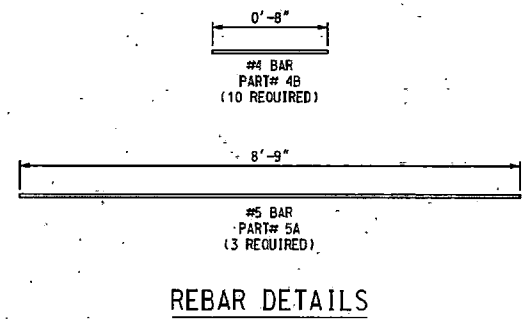
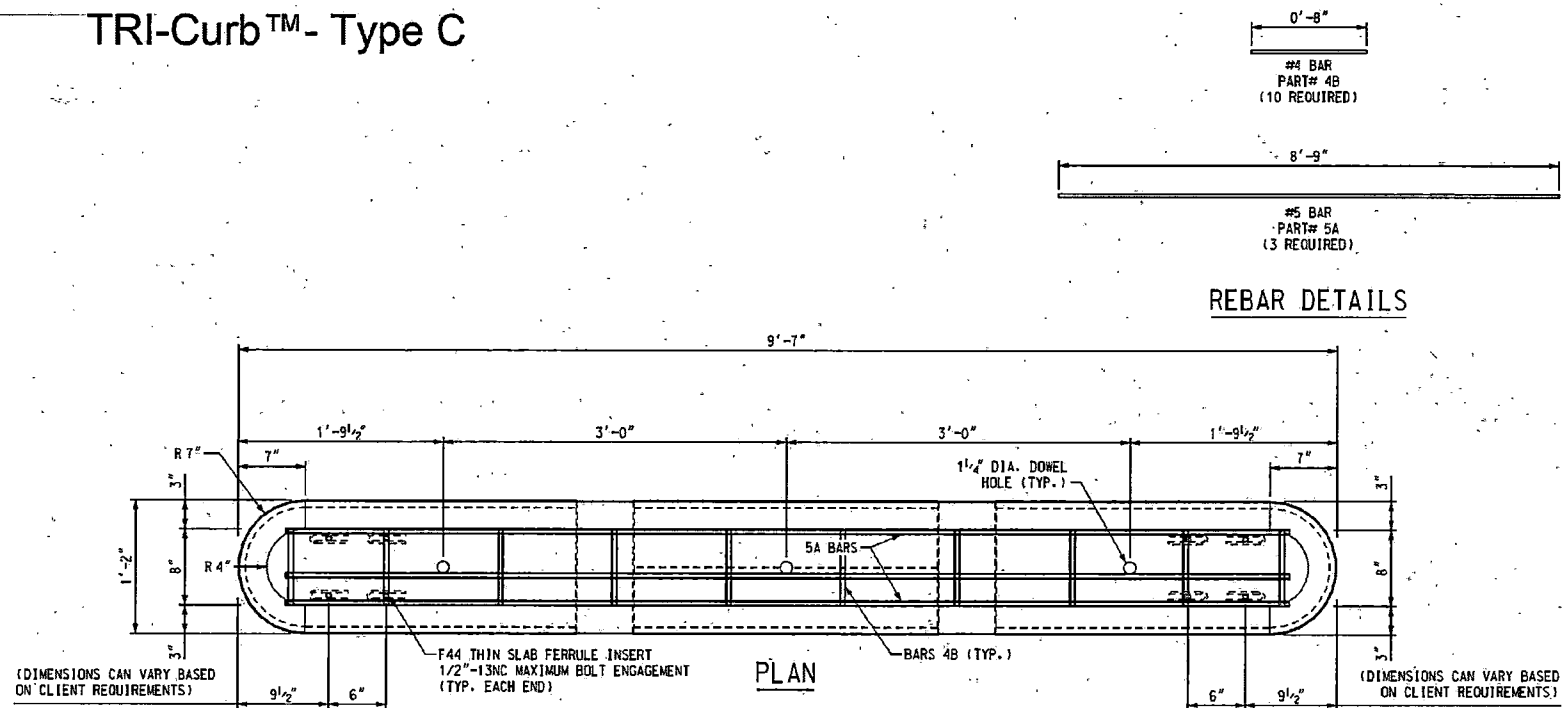
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:		QUITMAN STREET
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS
ROADWAY STANDARD DETAILS		
DRAWN BY: AD	SHEET 8 OF 15	
CK'D BY: DHS	SCALE: NTS	DATE: 08-19-2022
		SHEET NO: .68 /

TEG REGISTRATION NUMBER: 10564

14" WIDE TWO END ROUNDED CAP PRECAST CONCRETE CURB SEGMENT QUANTITIES		
REBAR		
PART NAME	QTY	WEIGHT (lbs)
5A	3	27.4
4B	10	4.5
<b>TOTAL STEEL</b>		<b>31.8</b>
CONCRETE(cyd)	0.17	657
<b>TOTAL WEIGHT</b>		<b>689</b>

## TRI-Curb™ - Type C



### 14" WIDE TWO END ROUNDED CAP PRECAST CONCRETE CURB SEGMENT ELEVATION

These drawings have been sealed on Mar 24, 2021

ENGINEER

**NOTICE:**  
 THE DESIGN CONTAINED IN THESE DRAWINGS IS BASED ON THE TRICON PRECAST, LTD. SPECIFICATIONS AND THE INFORMATION PROVIDED BY THE OWNER. TEG ENGINEERING, LLC, IS ONLY RESPONSIBLE FOR THE INTERNAL AND EXTERNAL STABILITY OF THE MSE WALL SYSTEM, GLOBAL STABILITY AND BEARING CAPACITY IS NOT THE RESPONSIBILITY OF TEG ENGINEERING, LLC. THESE DRAWINGS ARE FURNISHED ONLY FOR THE USE OF THIS PROJECT. THE PROPRIETARY INFORMATION SHOWN HEREIN IS NOT TO BE TRANSMITTED TO ANY OTHER ORGANIZATION WITHOUT AUTHORIZATION FROM TRICON PRECAST, LTD.

DRAWN BY: KC	PROJECT NO.:	CSJ NO.:
DESIGNED BY: ZS	STRUCTURE NO.:	DATE:
CHECKED BY: CT	TRICON JOB NO.:	SHEET 3 of 3



8/21/2022 801-Qui.tmon-STD.RDY.dgn

NO.	REVISIONS	DATE	NAME

# HARRIS COUNTY ENGINEERING DEPARTMENT



**SCIENTECH ENGINEERS, INC.**  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY: AD	SCALE: NTS	SHEET 9 OF 15	DATE: 08-19-2022
CK'D BY: DHS			SHEET NO: 69

CITY OF HOUSTON  
Houston Public Works

Street Paving Design Requirements  
Figure 10.14 – Standard Bus Pad and Landings

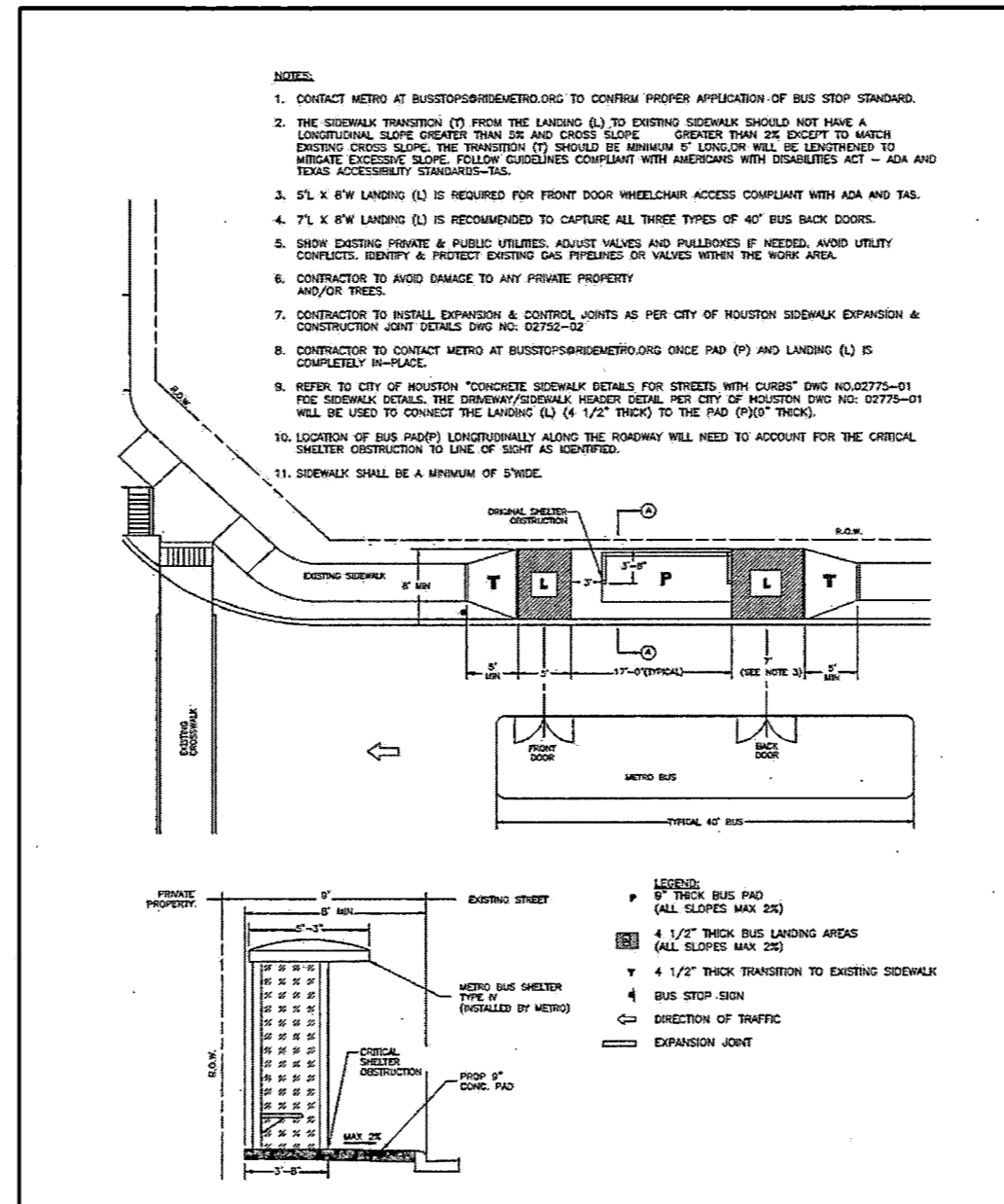


Figure 10.14 - STANDARD BUS PAD AND LANDINGS

10-52  
07-01-2020



8/21/2022 80J-Qui fman-STD RDY.dgn

NO.	REVISIONS	DATE	NAME
▲			
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▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 10 OF 15	
CK'D BY:		DATE: 08-19-2022	
DHS		SCALE: NTS	
		SHEET NO: 70 /	

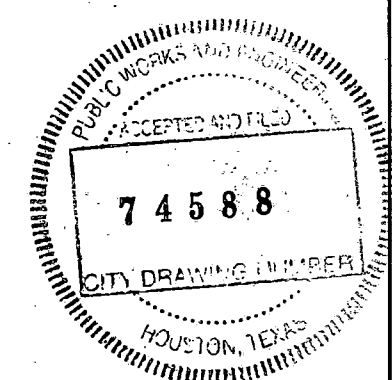


**GENERAL NOTES:**

1. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED IMPROVEMENTS. CONTRACTOR'S ATTENTION IS DIRECTED TO THESE VARIOUS UTILITIES SHOWN ON PLANS. EXTREME CARE SHALL BE EXERCISED WORKING IN THE VICINITY OF THESE OR ANY OTHER LINES OR FACILITIES THAT MAY NOT BE SHOWN ON PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE FACILITIES BY HIS WORK FORCES AND ANY NECESSARY RESTORATION AND REPAIR SHALL BE AT HIS OWN EXPENSE.
2. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL OBTAIN BUILDING PERMITS AT HIS EXPENSE.
3. UNLESS SHOWN OTHERWISE, DIMENSIONS ARE TO EDGE OF PAVEMENT OR FACE OF CURB.
4. CONTRACTOR SHALL DETERMINE IN THE FIELD THE LOCATION AND ELEVATION OF ALL UTILITIES.
5. WHERE CONNECTING TO EXISTING CONCRETE OR ASPHALT PAVEMENT, SAWCUT IF NECESSARY TO OBTAIN NEAT VERTICAL JOINT.
6. BUS STOP SIGNS AND BENCHES SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER
7. REWORK THE SITE ADJACENT TO SHELTER SLAB AND BOARDING PAD WITH BANK SAND, GRAVEL OR ST. AUGUSTINE SOD, AS DIRECTED BY THE ENGINEER.
8. AT LEAST 48-HOURS BEFORE EXCAVATING CALL UTILITY COORDINATING COMMITTEE - TELEPHONE NO. 223-4567 OR FOR CALLS GENERATED OUTSIDE AREA CODES 409 & 713 USE 1-800-669-8344.
9. CONTRACTOR SHALL PLAN AND PERFORM HIS WORK IN A MANNER THAT PERMITS SAFE PUBLIC TRAFFIC ON PUBLIC ROADS DURING THE CONSTRUCTION PERIOD. HE SHALL PROVIDE AND MAINTAIN THE NECESSARY UNIFORMED FLAGMEN, WARNING SIGNS AND FLASHERS, AS REQUIRED.
10. THE CONTRACTOR SHALL SET ELEVATIONS, IN ACCORDANCE WITH THE REMARKS ON EACH SITE DRAWING. THE CONTRACTOR SHALL OBTAIN THE ENGINEER'S APPROVAL OF THE FORMWORK INCLUDING ELEVATIONS & DIMENSIONS, PRIOR TO PLACING CONCRETE.
11. THE BOARDING PAD LENGTH SHALL MATCH THAT OF THE FOUNDATION SLAB UNLESS OTHERWISE INDICATED ON THE SITE DRAWING(S).
12. SLOPE REQUIREMENTS SPECIFIED BY THE AMERICANS WITH DISABILITIES ACT (ADA) ARE THE BASIS FOR DETERMINING THE ELEVATIONS OF THE PROPOSED WORK WHICH WILL BE SHOWN ON EACH SITE DRAWING.
13. SHELTER FOUNDATION DIMENSIONS (UNLESS NOTED OTHERWISE ON SITE DRAWING).
14. CONCRETE STRENGTH-3000 PSI, 5 SACK CONCRETE IS REQUIRED.

SHELTER TYPE	TYP. FOUNDATION WITHOUT RETAINING WALL	TYP. FOUNDATION WITH RETAINING WALL
I *(A & B)	8'-8" X 6'-10"	9'-4" X 7'-2"
II *(A & B)	12'-6" X 6'-10"	13'-2" X 7'-2"
III	6'-0" X 6'-0"	8'-0" X 7'-0"
IV *(A & B)	12'-6" X 5'-4"	13'-2" X 5'-8"
V	14'-0" X 6'-6"	15'-0" X 7'-0"

\*(A & B) DESIGNATION IS FOR METRO USE ONLY



NO.	DATE	REVISIONS	BY	CHK	APP



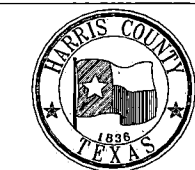
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 PLOT SCALE: 1/4"=1' PLOT DATE: 07-22-02

V.G.	1-30-88	STANDARD PASSENGER SHELTERS
R.H./N.B.	2-21-87	GENERAL NOTES
SCALE	N.T.S.	STD-002 A

8/21/2022 80K-Qui.tmon-STD.RDY.dgn

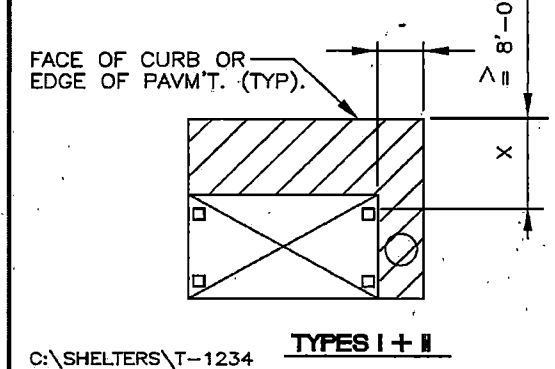
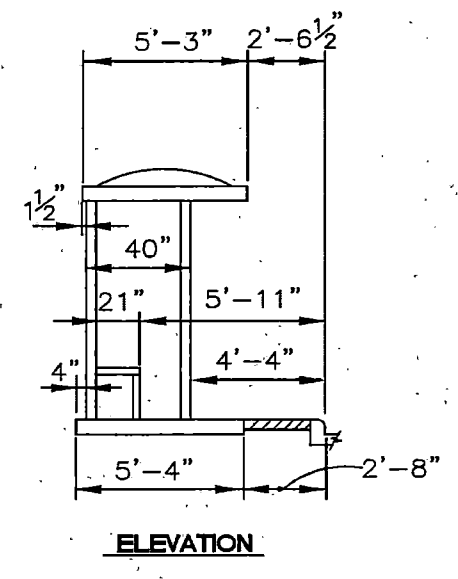
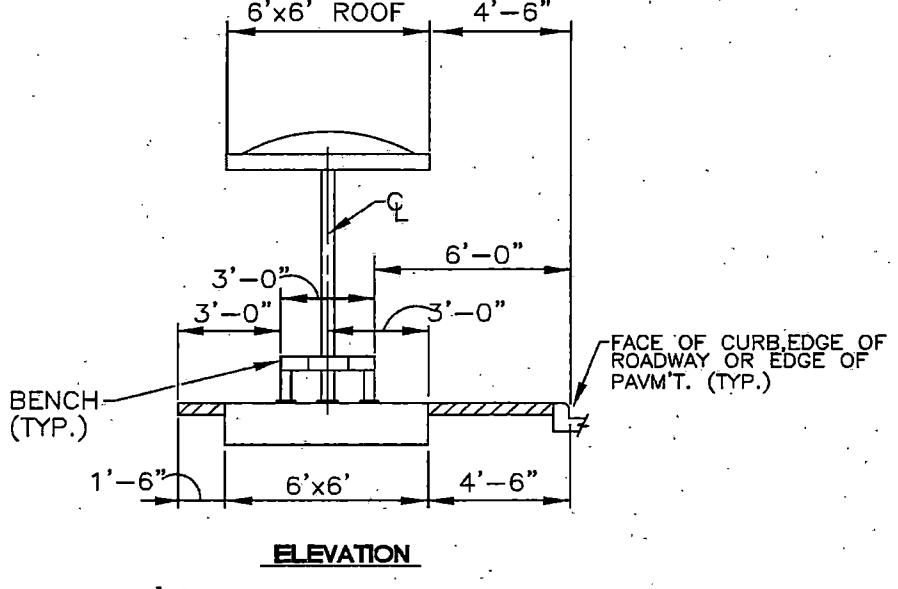
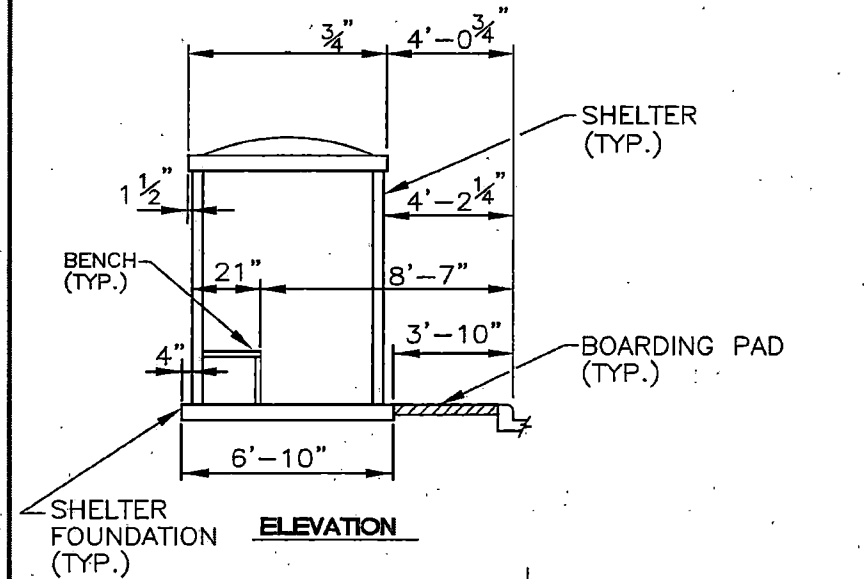
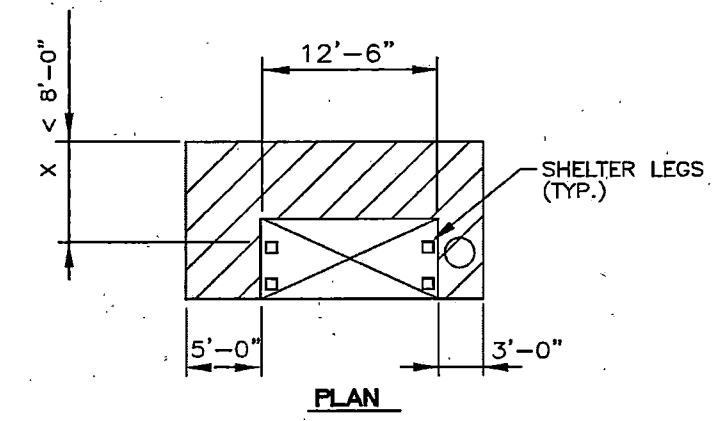
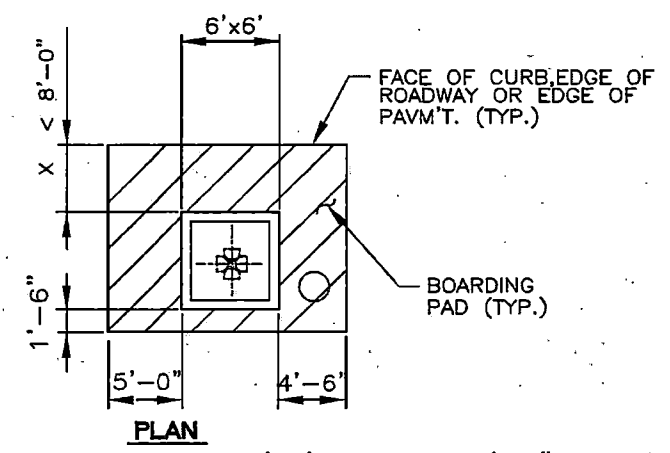
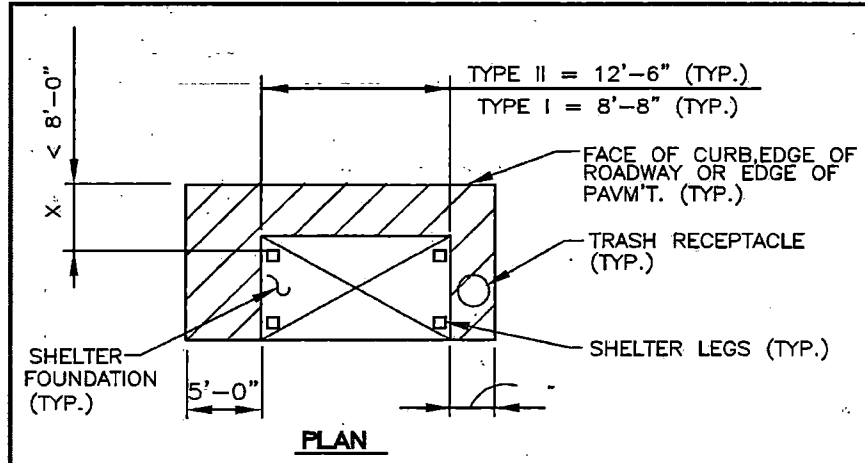
NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

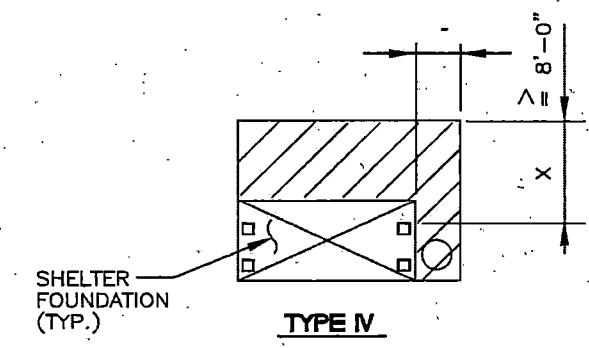
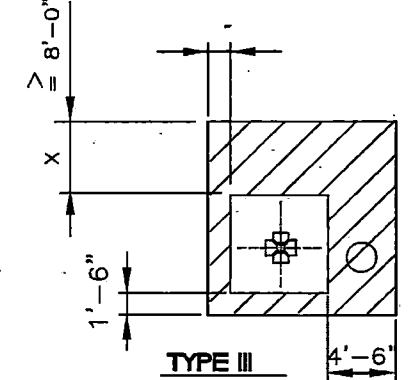


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET	
	ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:	ROADWAY STANDARD DETAILS	
DRAWN BY:	AD	SHEET 11 OF 15
CK'D BY:	DHS	DATE: 08-19-2022
SCALE:	NTS	SHEET NO: 71/



**NOTE:**  
THE VALUE OF "x" IS USED AS BASIS FOR DETERMINING WHEN ADDITIONAL SPACE ON THE SIDE OF THE SHELTER IS REQUIRED TO PLACE THE WHEEL CHAIR CARRIAGE & THEREBY ALLOWING ACCESS FOR THE HANDICAPPED.



C:\SHELTERS\T-1234

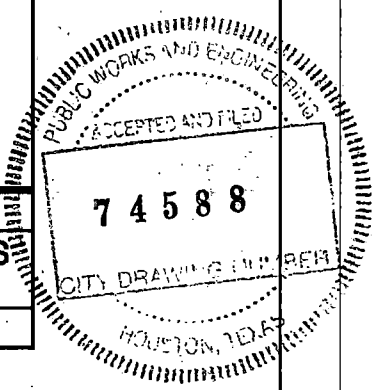
NO.	DATE	REVISIONS	BY/CK.	APP.

**METRO**  
Metropolitan Transit Authority of Harris County, Texas

L.D.J. DESIGNED	01-25-94
L.D.J. DATE	01-26-94
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE
SCALE	N.T.S.

**PASSENGER SHELTER DETAILS**  
**MINIMUM SPACE + OFFSET REQUIREMENTS**  
**TYPES I, II, III AND IV**

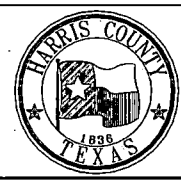
DRAWING NO. CEF-1005      PAGE



8/21/2022 80L-Quitman-STD.RDY.dgn

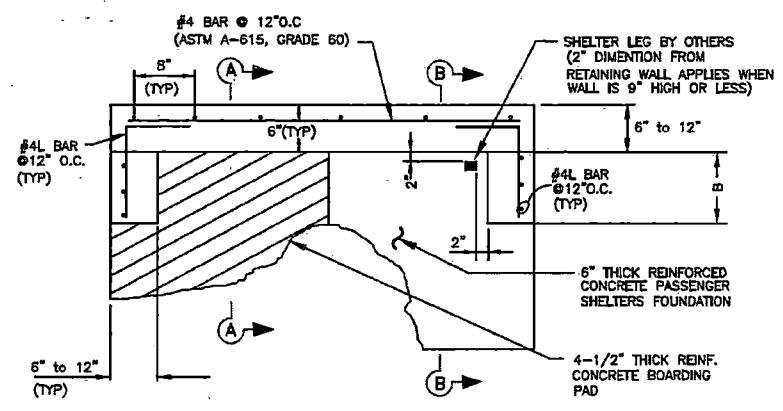
NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**

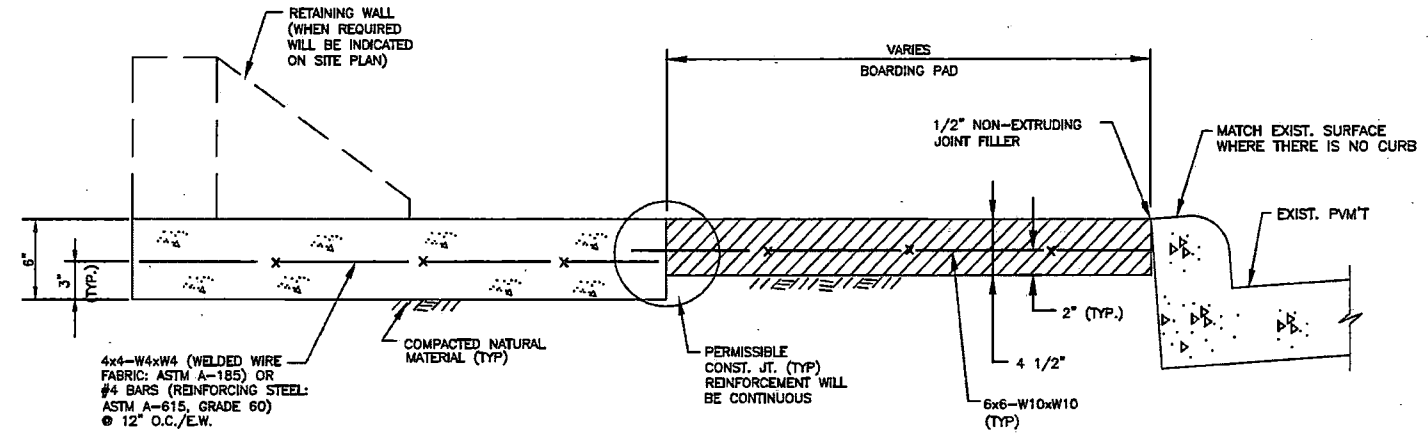


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

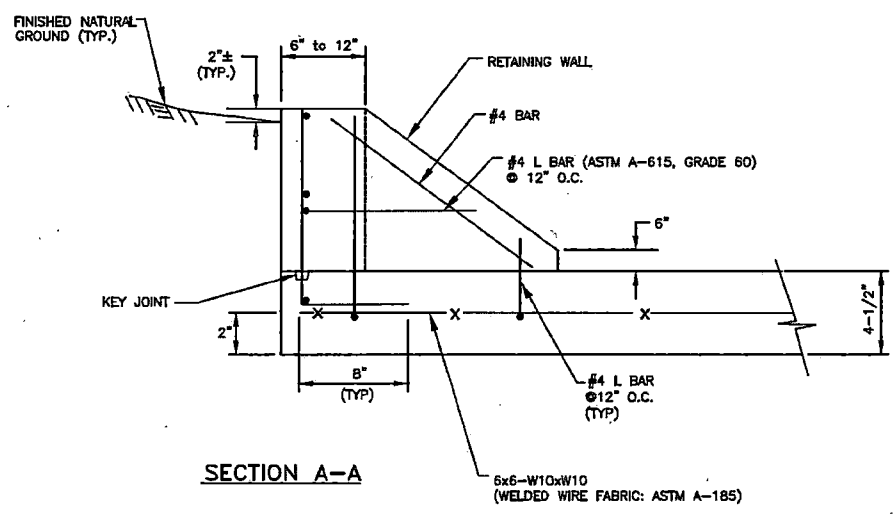
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SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	AD	DATE:
CK'D BY:	DHS	08-19-2022
SCALE:	NTS	SHEET NO:
		72 /



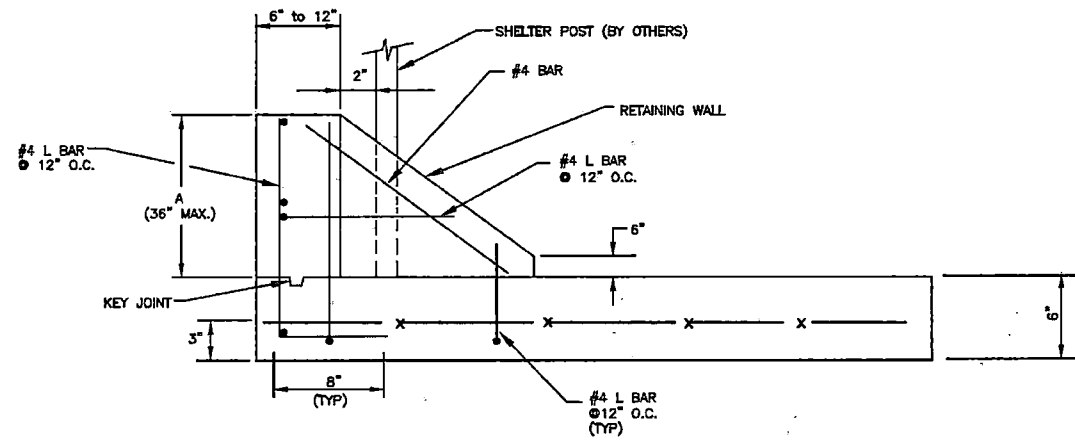
PLAN  
RETAINING WALL DETAIL



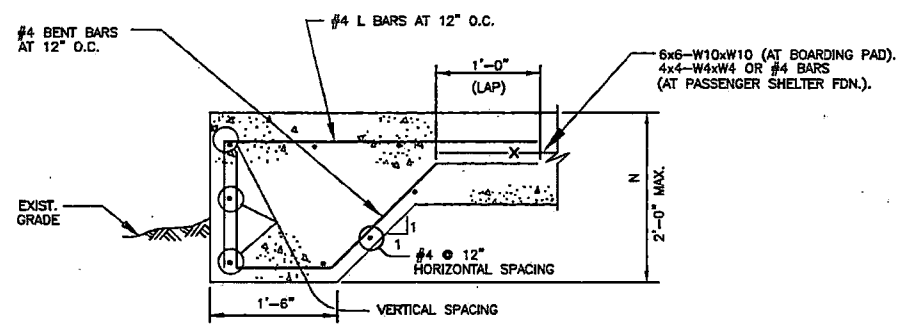
TYPICAL TRANSVERSE SECTION  
PERPENDICULAR TO ROADWAY



SECTION A-A



SECTION B-B



GRADE BEAM DETAIL (TYP.)

NOTES FOR RETAINING WALL:

- SEE SITE PLAN FOR VALUES OF A & B.
- USE 1" CHAMFER STRIP AROUND EXPOSED EDGES OF RETAINING WALL.
- FOR THICKNESS SEE SPECIFIC SITE DRAWING.



NO.	REVISIONS	DATE	NAME

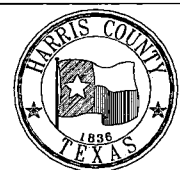


Metropolitan Transit Authority of Harris County, Texas

I.D.J. 01-19-93 DATE I.D.J./R.G. 01-20-93 DATE SCALE N.T.S.	STANDARD PASSENGER SHELTERS  FOUNDATION DETAILS TYPES I, II AND IV  STD-003 B-1
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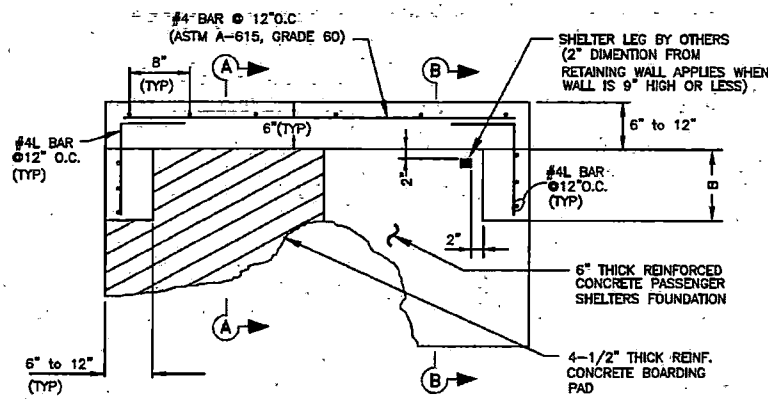
HARRIS COUNTY  
ENGINEERING DEPARTMENT



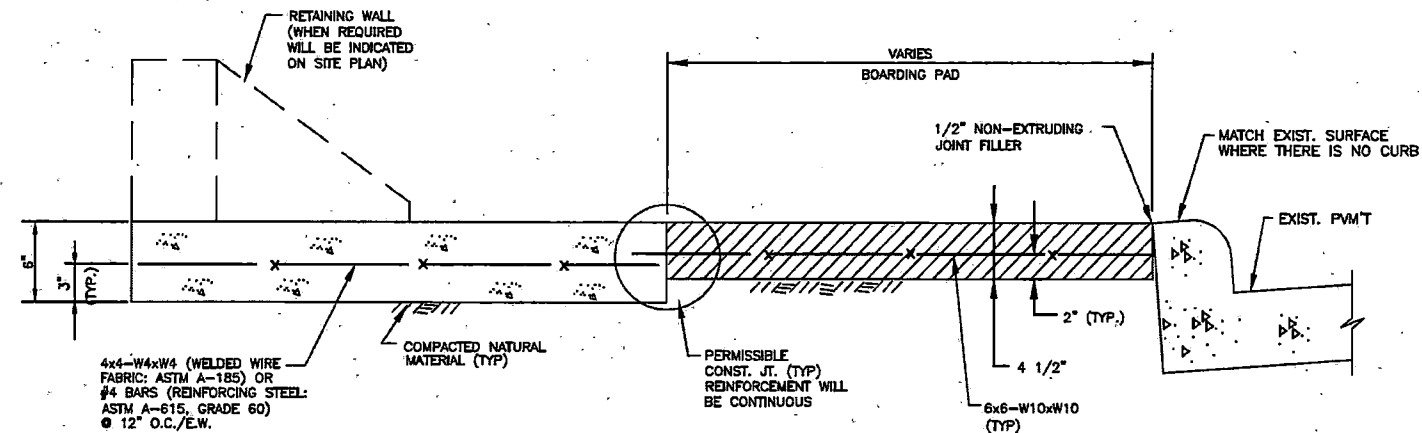
SCIENTECH  
ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

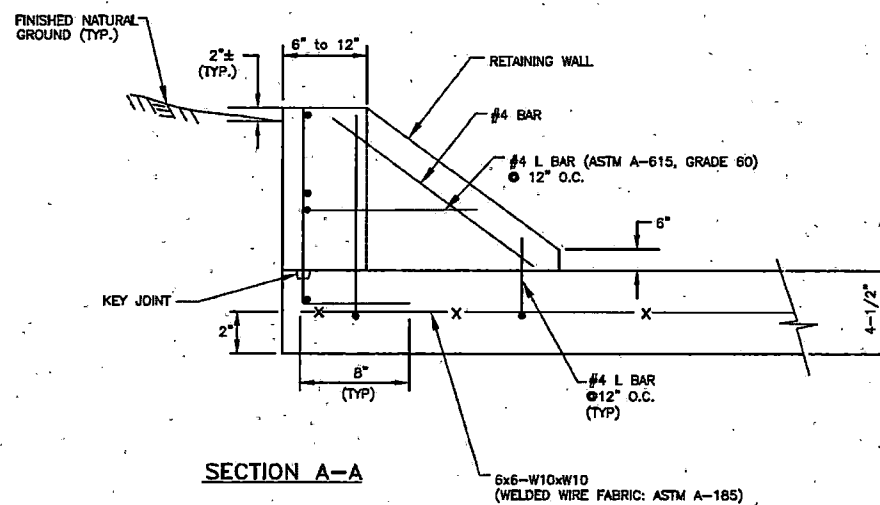
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 73 /
SCALE: NTS	SHEET OF: 13



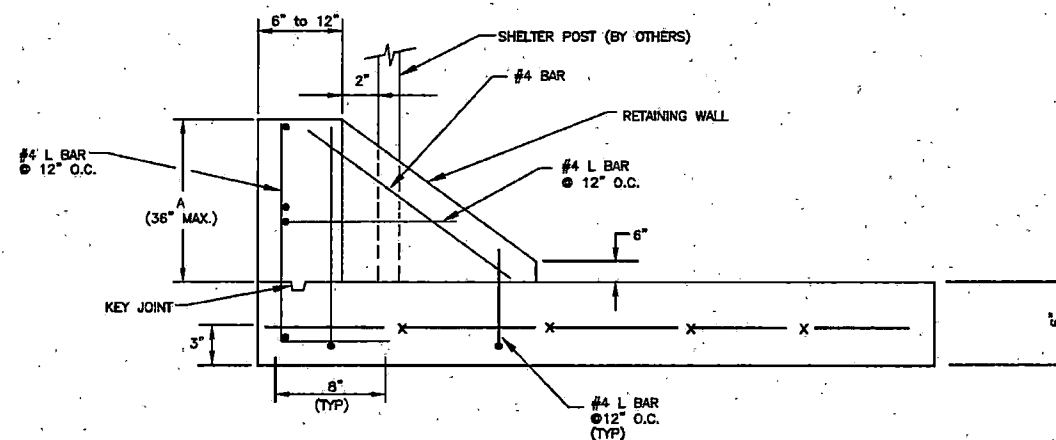
PLAN RETAINING WALL DETAIL



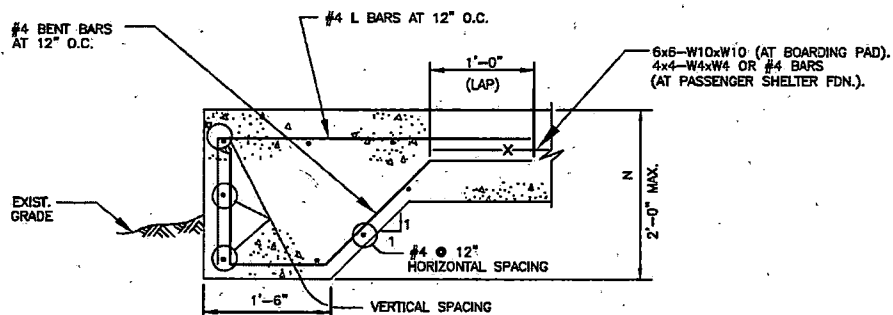
TYPICAL TRANSVERSE SECTION PERPENDICULAR TO ROADWAY



SECTION A-A



SECTION B-B

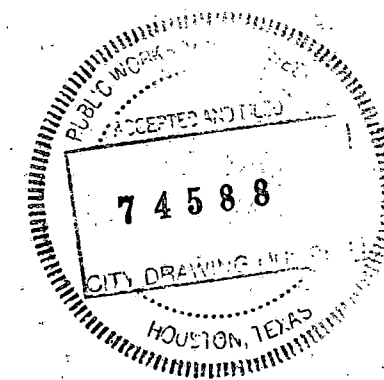


GRADE BEAM DETAIL (TYP.)

(WHEN REQUIRED WILL BE INDICATED ON SITE PLAN)

NOTES FOR RETAINING WALL:

1. SEE SITE PLAN FOR VALUES OF A & B.
2. USE 1" CHAMFER STRIP AROUND EXPOSED EDGES OF RETAINING WALL.
3. FOR THICKNESS SEE SPECIFIC SITE DRAWING.



NO.	DATE	REVISIONS	BY	CHK	APPR

**METRO**

Metropolitan Transit Authority of Harris County, Texas

H:\PE\EST\DRAWINGS\METRO\SHLTD-02\STD.DWG  
PLOT SCALE: 1=110 PLOT DATE: 07-26-02

L.D.:	01-19-93	STANDARD PASSENGER SHELTERS
L.D./R.O.:	01-20-93	FOUNDATION DETAILS
SCALE:	N.T.S.	TYPES I, II AND IV
CONTRACT NO.	STD-003	SHEET NO. B-1

8/21/2022 BON-Qui.tman-STD\_RDY.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**

ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

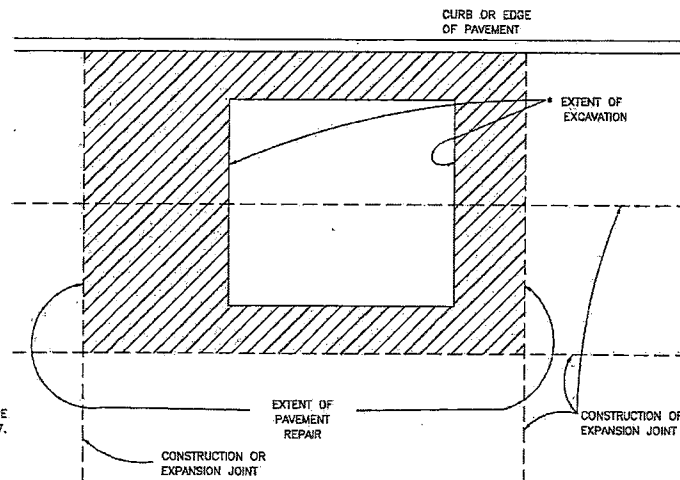
PROJECT TITLE:	QUITMAN STREET	
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	AD	SHEET 14 OF 15
CK'D BY:	DHS	DATE: 08-19-2022
SCALE:	NTS	SHEET NO: 74 /

02951-01

CONCRETE PAVEMENT RESTORATION  
AGE OF PAVEMENT  
LESS THAN OR EQUAL TO 5 YEARS

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 02902-01) 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 SPECIFICATIONS 02764 AND 02767.
8. (\*) EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02902-01.



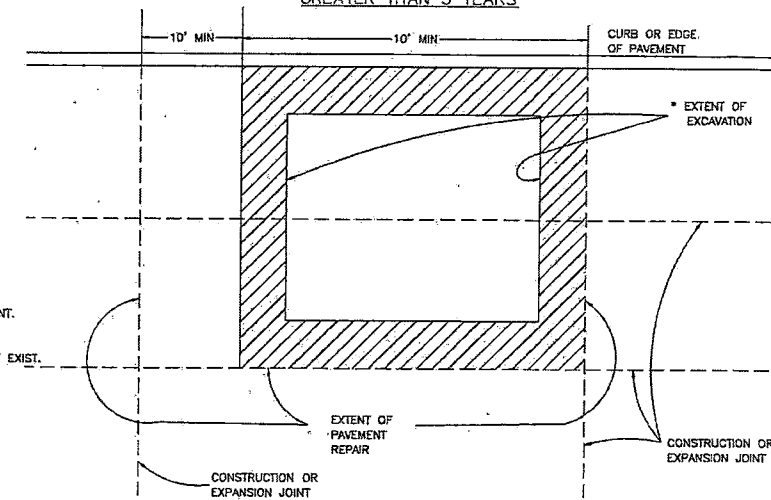
STREET CUT PAVEMENT REPLACEMENT - CONCRETE PAVEMENT LESS THAN 5 YEARS IN AGE  
NTS

02951-02

CONCRETE PAVEMENT RESTORATION  
AGE OF PAVEMENT  
GREATER THAN 5 YEARS

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 EDGE OF EXCAVATION IS LESS THAN 10' FROM EXISTING CONSTRUCTION OR EXPANSION JOINT, REPLACE PAVEMENT TO EXISTING JOINT.
4. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF PANEL REPLACEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02902-01) 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 SPECIFICATIONS 02764 AND 02767.
9. (\*) EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02902-01.



STREET CUT PAVEMENT REPLACEMENT - CONCRETE PAVEMENT OVER THAN 5 YEARS IN AGE  
NTS

02951-03

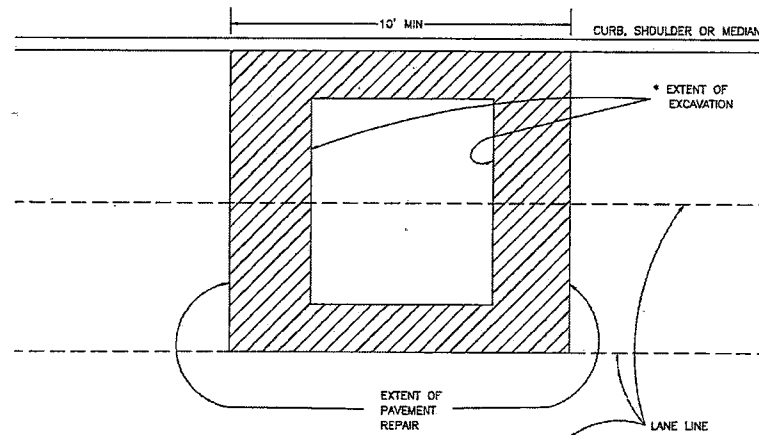
ASPHALT PAVEMENT RESTORATION  
PAVEMENT OF ALL AGES

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:
  - A. WIDTH: SURFACE MILL AND OVERLAY FULL WIDTH OF LANE(S) TO NEAREST LANE DIVIDER BEYOND EDGE OF EXCAVATION.
  - B. LENGTH: MINIMUM LENGTH OF SURFACE MILL ALONG TRAVEL WAY IS 10'.
  - C. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY SPECIFICATION 02764 & 02767.
4. (\*) EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02902-01.

ADDITIONAL REQUIREMENTS FOR ASPHALT OVERLAY ON CONCRETE PAVEMENT:

1. REPLACE CONCRETE FOR EXTENT OF EXCAVATION. REPLACE TO SAME THICKNESS PLUS TWO INCHES (2").
2. WIDTH: IF EXCAVATION EXTENDS MORE THAN HALF OF A LANE, REPLACE ENTIRE LANE OF CONCRETE. OTHERWISE USE STANDARD DETAIL 02902-01.
3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF CONCRETE REPLACEMENT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER SPECIFICATIONS SECTION 02902.
4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
5. MAINTAIN CONCRETE EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE APPROVED BY CITY ENGINEER.



STREET CUT PAVEMENT REPLACEMENT - ASPHALT PAVEMENT FOR PAVEMENT OF ALL AGES  
NTS

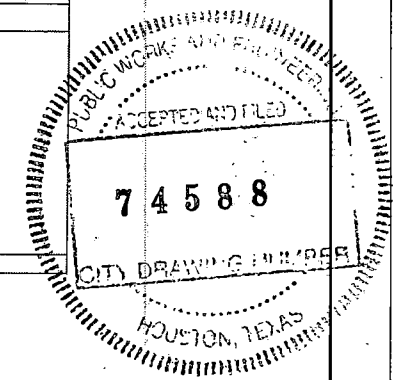
CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

STREET PAVING AND SIDEWALK  
02951-01 THROUGH 02951-03

APPROVED BY: *[Signature]* CITY ENGINEER  
 APPROVED BY: *[Signature]* DEPUTY DIRECTOR

APPROVED BY: *[Signature]*  
 DIRECTOR OF HOUSTON PUBLIC WORKS

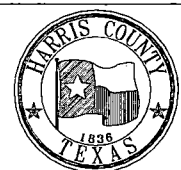
EFFECTIVE DATE: JUL-01-2020  
 FOR CITY OF HOUSTON USE ONLY



8/21/2022 80P-Quitman-STD\_RDY.dgn

NO.	REVISIONS	DATE	NAME
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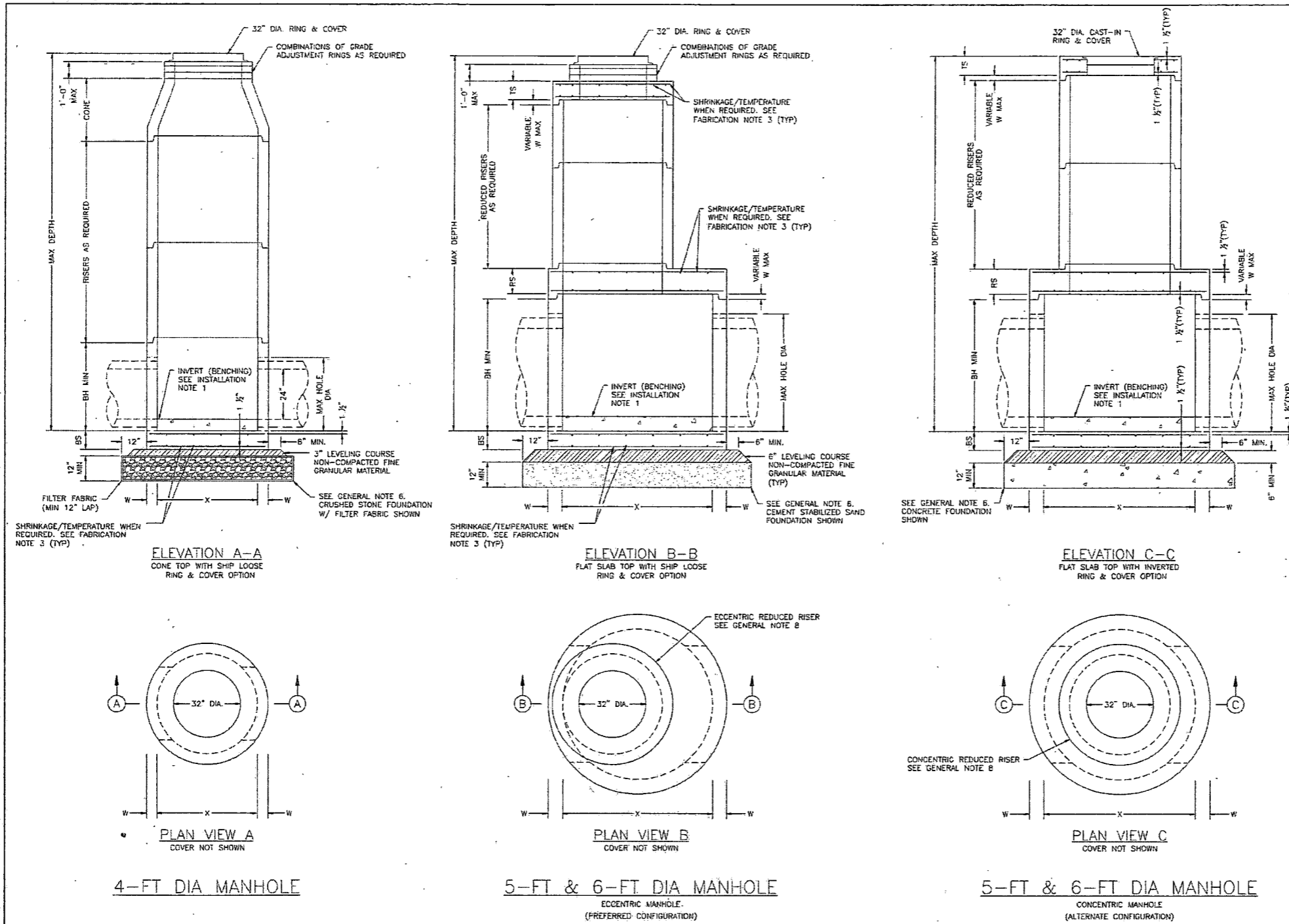
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: ROADWAY STANDARD DETAILS	
DRAWN BY: AD	SHEET 15 OF 15
CK'D BY: DHS	SCALE: NTS
DATE: 08-19-2022	SHEET NO: 75 /

THESE NOTES, THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PRECISELY 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.



**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 SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN<sup>2</sup>/FT EACH WAY.
4. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS 3".
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 SECTION 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 GROUDED NO MORE THAN 1" BETWEEN EACH SECTION, OR 1/2" THE JOINT DEPTH 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 (ALTERNATE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATE 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 BOB/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 ALTERNATE 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.



**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

**STORM SEWER TYPE 'C'  
PRECAST ROUND MANHOLE**

(NOT TO SCALE)

APPROVED BY: <i>Suhail Kanwar</i> CITY ENGINEER	APPROVED BY: <i>Carl Haddad</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-12

**TABLE 1**  
PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES.

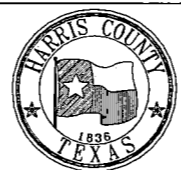
SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF BASE SLAB		MAX HEIGHT		MAX HOLE DIA
						MAX DEPTH	MIN DEPTH	MIN	MAX	
4	8	5	28	9	9	25	42	35	35	42
5	9	6	36	9	9	25	42	42	42	48
6	9	7	48/60*	12	9	25	42	42	42	56

(\*) 60-IN REDUCED RISER IS TO BE USED WHEN DEEMED NECESSARY TO SATISFY WALL PENETRATION SPACING REQUIREMENTS.

8/21/2022 82A-Qui.tmon-STD.DRN.dgn

NO.	REVISIONS	DATE	NAME

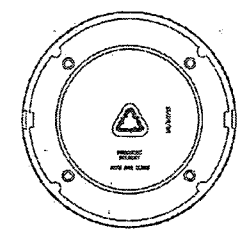
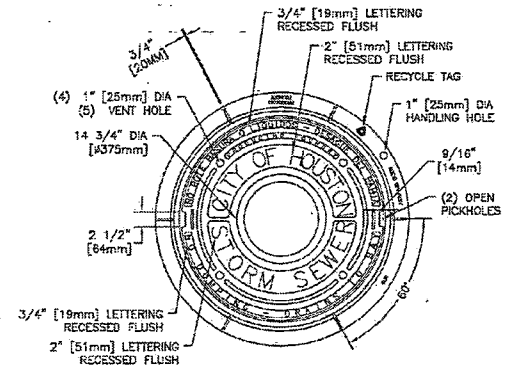
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



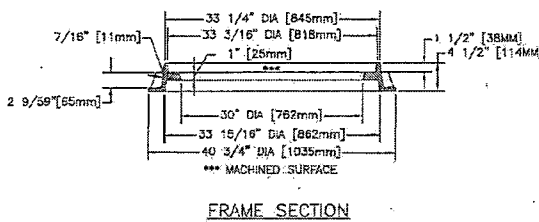
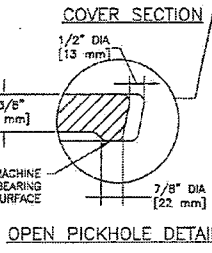
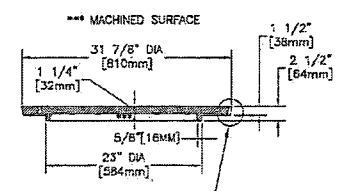
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: <b>DRAINAGE STANDARD DETAILS</b>	
DRAWN BY: AD	SHEET 1 OF 5
CK'D BY: DHS	DATE: 08-19-2022
SCALE: NTS	SHEET NO: 76 /

02084-02

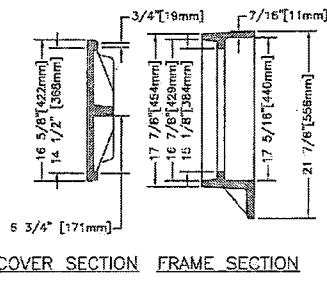
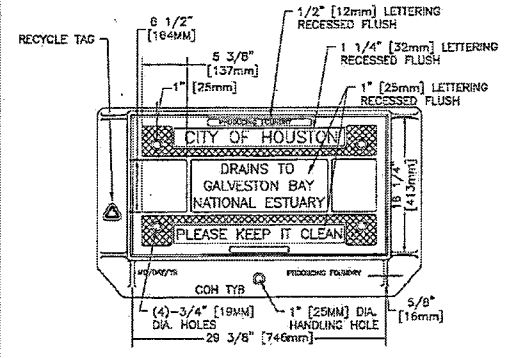


- NOTES:
- APPROXIMATE WEIGHTS:  
 FRAME - 170 LBS (77KGS)  
 COVER - 270 LBS (123KGS)  
 UNIT - 440 LBS (200KGS)
  - MATERIALS - GRAY IRON ASTM A48 CL35B
  - CASTING TO MEET M306 PROOF LOAD SPECIFICATION
  - EJW V-420 ASY OR APPROVED EQUAL

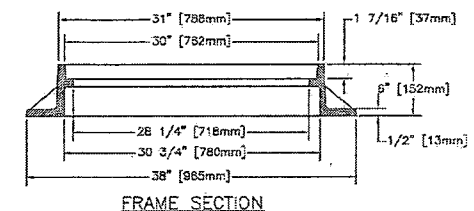
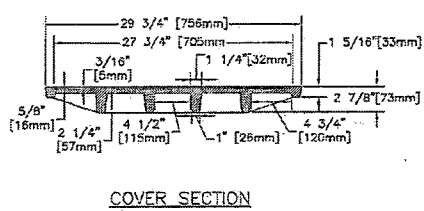


STORM SEWER MANHOLE FRAME AND COVER NTS

02084-03



- NOTES:
- APPROXIMATE WEIGHTS:  
 FRAME - 125 LBS (57KGS)  
 COVER - 130 LBS (59KGS)  
 UNIT - 225 LBS (102KGS)
  - MATERIALS - GRAY IRON ASTM A48 CL35B
  - CASTING TO MEET M306 PROOF LOAD SPECIFICATION
  - EJW V-424 ASY OR APPROVED EQUAL

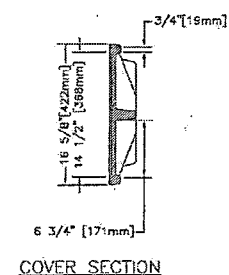
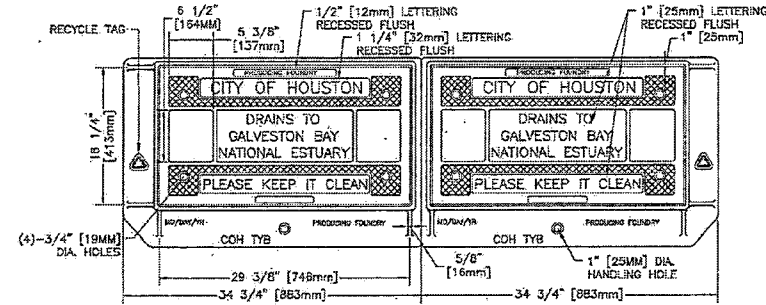


COVER SECTION

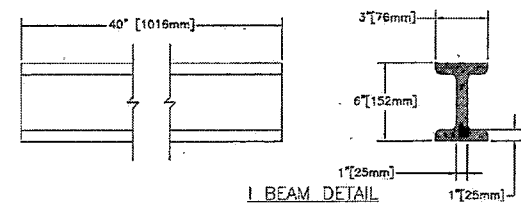
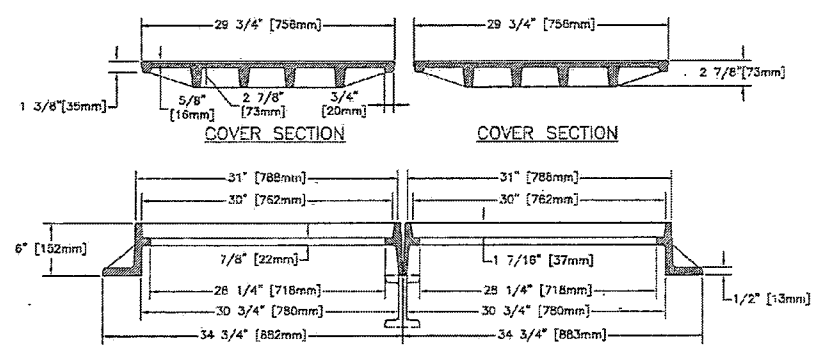
FRAME SECTION

STORM SEWER TYPE "B" INLET ASSEMBLY NTS

02084-04

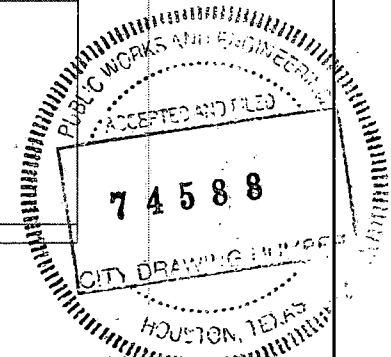


- NOTES:
- APPROXIMATE WEIGHTS:  
 FRAME - 125 LBS (57KGS)  
 COVER - 120 LBS (55KGS)  
 I BEAM - 107 LBS (49KGS)  
 UNIT - 597 LBS (271KGS)
  - MATERIALS - GRAY IRON ASTM A48 CL35B
  - CASTING TO MEET M306 PROOF LOAD SPECIFICATION
  - EJW V-424 ASY OR APPROVED EQUAL



STORM SEWER TYPE "BB" INLET DOUBLE ASSEMBLY NTS

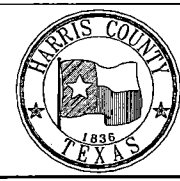
FIRM INFORMATION	ENGINEER'S SEAL
<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
STORM SEWER 02084-02 THROUGH 04	
APPROVED BY: <i>Michael T. M...</i> CITY ENGINEER	APPROVED BY: <i>[Signature]</i> DEPUTY DIRECTOR
APPROVED BY: <i>Carol Staddock</i> DIRECTOR	
EFFECTIVE DATE: JUL-01-2019	
FOR CITY OF HOUSTON USE ONLY	
SHEET NO.	



8/21/2022 82B-Qui.tmon-STD DRN.dgn

NO.	REVISIONS	DATE	NAME

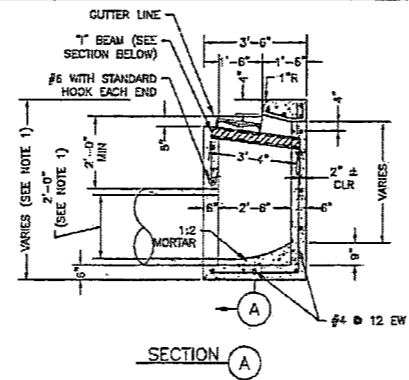
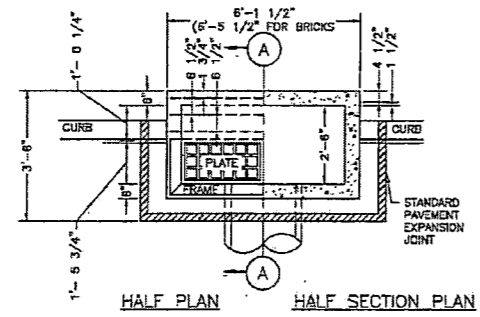
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET	
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS DRAINAGE STANDARD DETAILS	
DRAWN BY:	AD	DATE: 08-19-2022
CK'D BY:	DHS	SHEET NO: 77 /
	SCALE: NTS	
	SHEET 2 OF 5	

02632-04



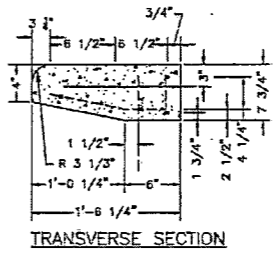
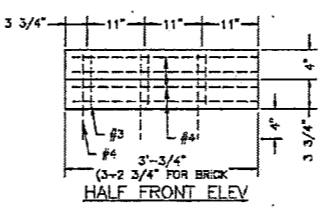
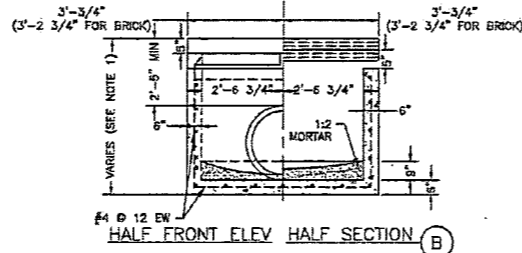
ACCEPTABLE ALTERNATE STEEL BEAM SIZES: 56X17.5 WSX16 (GALVANIZED)

NO	SIZE	LENGTH	SHAPE	LOC
4	#4	5'-10"	ST	HOR
7	#4	0'-10"	ST	VERT
7	#3	1'-6"	BT	

- NOTES:
1. DIMENSION VARIES BASED ON PIPE DIAMETER AND WALL THICKNESS.
  2. CENTER REINFORCING IN SLAB AND WALLS. CENTER STEEL BEAM ON INLET AND CAST INTO WALLS AS SHOWN.
  3. WHEN TOP OF CURB TO FLOWLINE IS GREATER THAN 8 FEET USE TYPE "C" INLET.

SECTION THRU BEAM

GENERAL NOTES:  
USE STANDARD CAST IRON FRAME & PLATES.  
LEAD SHALL LEAVE INLET AT LOCATION AND GRADE REQUIRED.

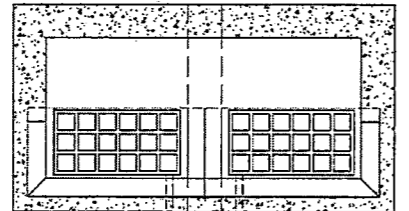


PRECAST CURB BEAM

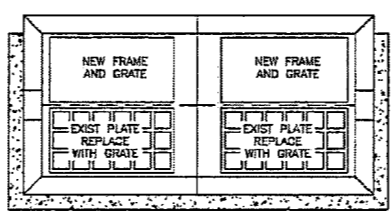
STORM SEWER TYPE "B-B" INLET NTS

02632-05

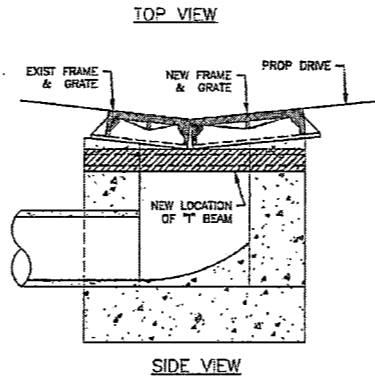
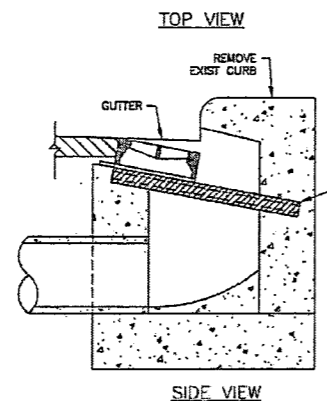
STEP 1: EXIST TYPE "B" INLET



STEP 2:

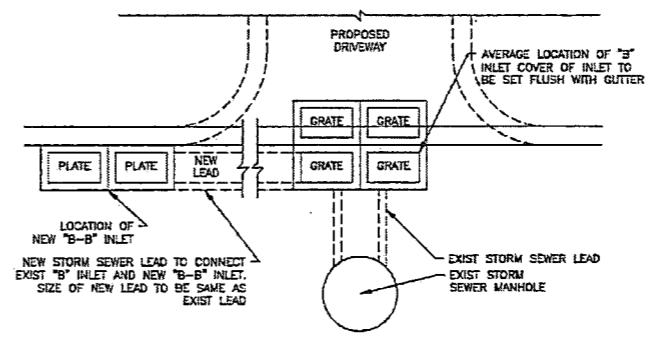


- NOTES:
1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
  2. REPLACE EXIST PLATE WITH A GRATE.
  3. ADD NEW FRAME AND GRATE NEXT TO EXIST FRAME.
  4. BACKFILL INLET TO A POINT ONE FOOT BEHIND THE CURB WITH 1 SACK/TON CEMENT STABILIZED SAND.

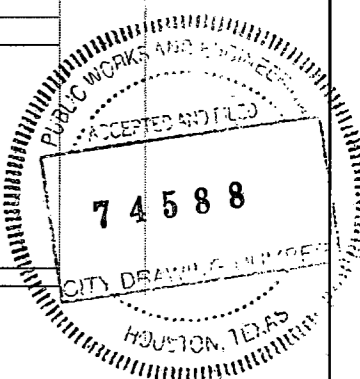


STORM SEWER TYPE "B" INLET RELOCATION NTS

STEP 3: CONSTRUCT NEW TYPE "B-B" INLET ON CURB RETURN OF PROPOSED DRIVEWAY



FIRM INFORMATION	ENGINEER'S SEAL
<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
STORM SEWER 02632-04 THROUGH 05	
APPROVED BY: <i>[Signature]</i> CITY ENGINEER	APPROVED BY: <i>[Signature]</i> DEPUTY DIRECTOR
APPROVED BY: <i>[Signature]</i> DIRECTOR	
EFFECTIVE DATE: JUL-01-2018 FOR CITY OF HOUSTON USE ONLY	
SHEET NO.	



8/21/2022 82C-Quitman-STD DRN.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

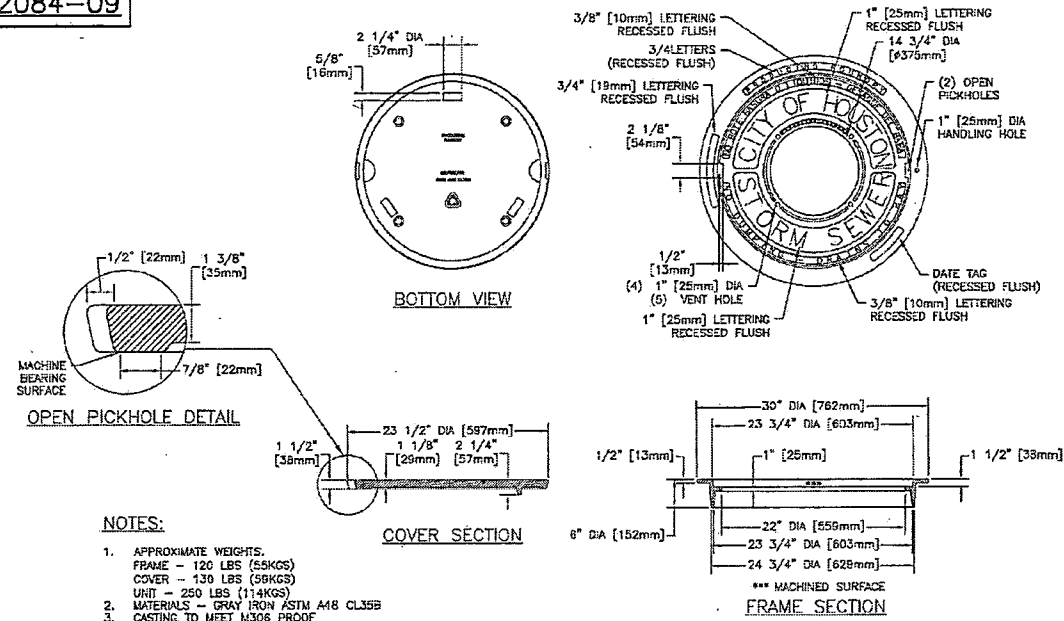


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET	
	ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:	DRAINAGE STANDARD DETAILS	
DRAWN BY:	AD	SHEET 3 OF 5
CK'D BY:	DHS	SCALE: NTS
DATE:	08-19-2022	SHEET NO: 78 /

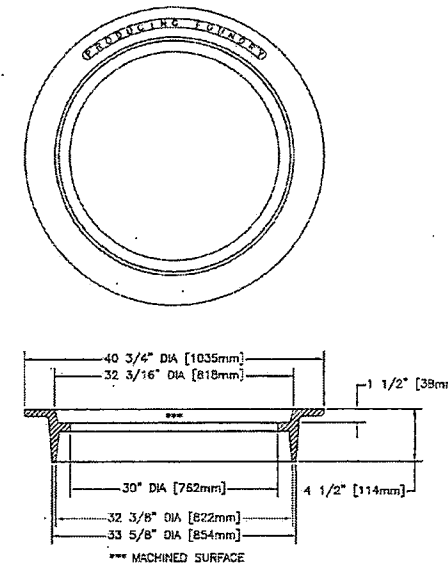


02084-09



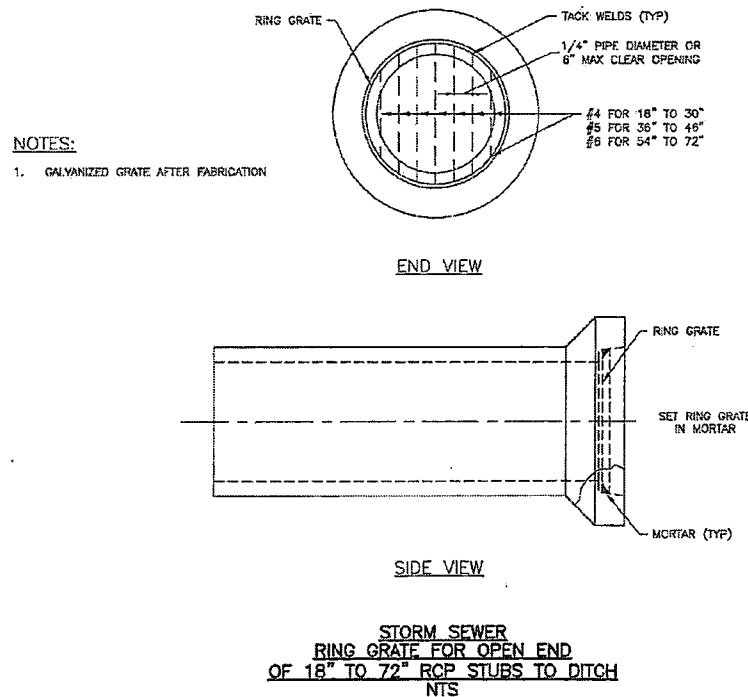
- NOTES:**
- APPROXIMATE WEIGHTS:  
FRAME - 120 LBS (54KGS)  
COVER - 130 LBS (59KGS)  
UNIT - 250 LBS (114KGS)
  - MATERIALS - GRAY IRON ASTM A18 CL35B
  - CASTING TO MEET M306 PROOF LOAD SPECIFICATION
  - EJW V-1814 ASY OR APPROVED EQUAL

02084-10



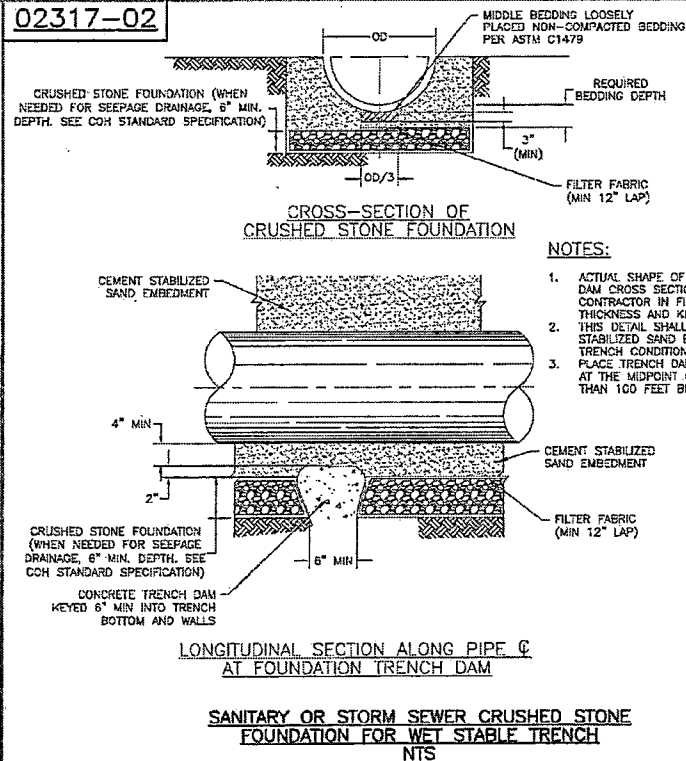
- NOTES:**
- APPROXIMATE WEIGHTS:  
FRAME - 180 LBS (80KGS)
  - MATERIALS - GRAY IRON ASTM A18 CL35B
  - CASTING TO MEET M306 PROOF LOAD SPECIFICATION
  - EJW V-1816 ASY OR APPROVED EQUAL

02084-11



- NOTES:**
- GALVANIZED GRATE AFTER FABRICATION

02317-02



- NOTES:**
- ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS. THIS DETAIL SHALL BE USED WITH CEMENT STABILIZED SAND EMBEDMENT, IN WET STABLE TRENCH CONDITIONS.
  - PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.

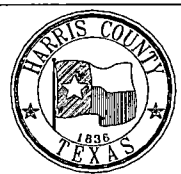
FIRM INFORMATION	ENGINEER'S SEAL
<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
STORM SEWER 02084-09 THROUGH 11 AND 02317-02	
APPROVED BY: <i>Paul J. ...</i> CITY ENGINEER	APPROVED BY: <i>...</i> DEPUTY DIRECTOR
APPROVED BY: <i>Carol ...</i> DIRECTOR	
EFFECTIVE DATE: JUL-01-2019 FOR CITY OF HOUSTON USE ONLY	
SHEET NO.	



8/21/2022 82D-Quitman-STD.DRN.dgn

NO.	REVISIONS	DATE	NAME

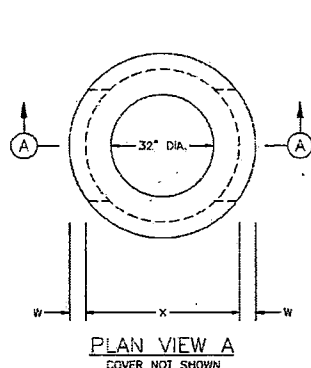
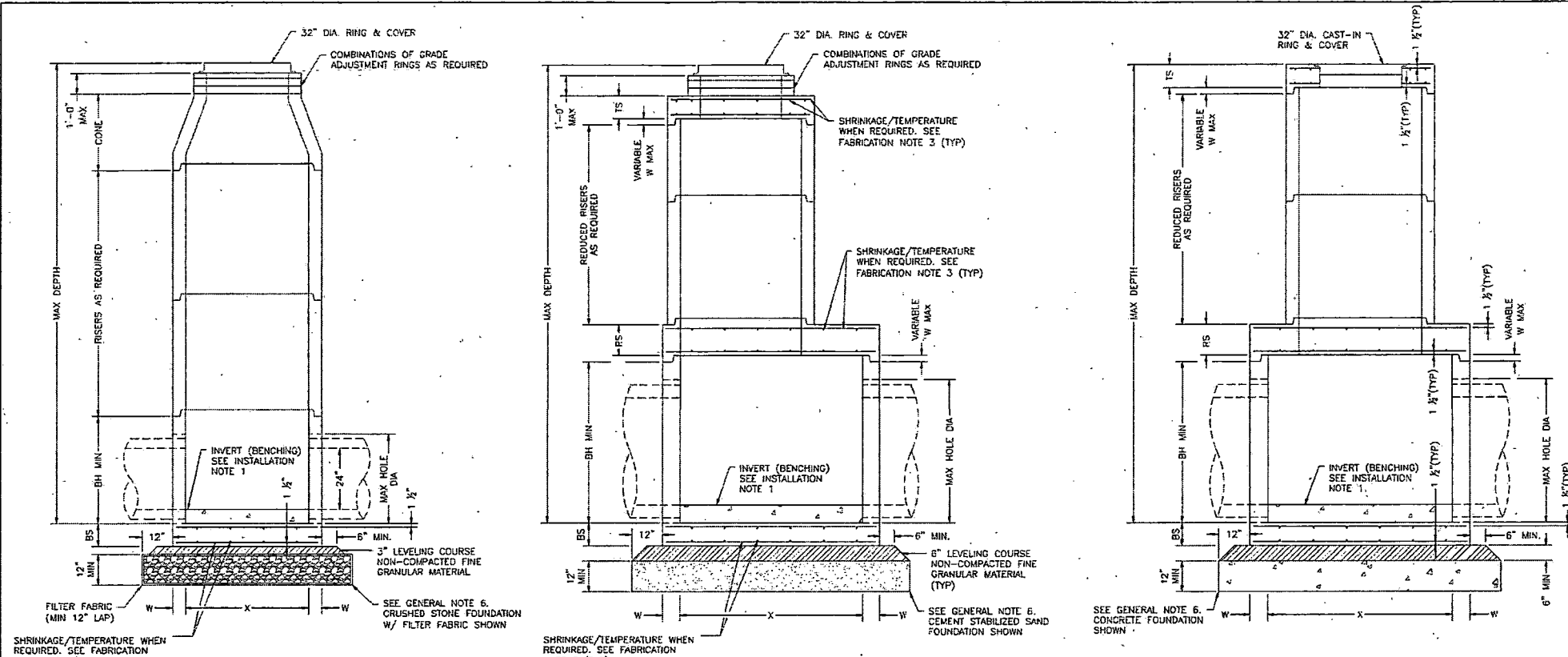
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



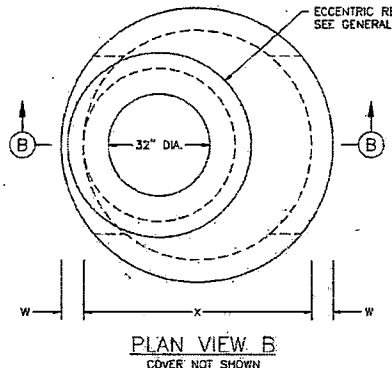
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET		
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS DRAINAGE STANDARD DETAILS		
DRAWN BY:	AD	SHEET 4 OF 5	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: NTS	SHEET NO.: 79 /

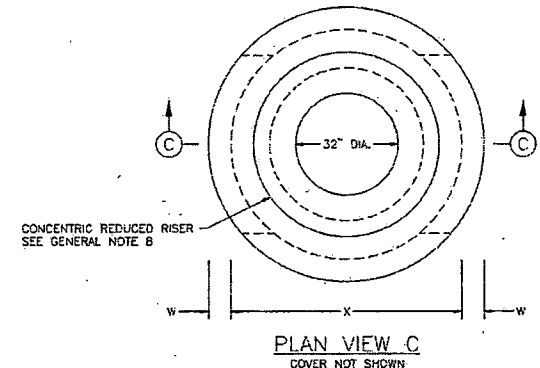
DESIGNER: THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT SUPERSEDE THE DESIGN REQUIREMENTS AND BY THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY ADDRESSING ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY ADDRESSING ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY ADDRESSING ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY ADDRESSING ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OF DAMAGES RESULTING FROM ITS USE.



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  
CONCENTRIC 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
4	8	5	10	8	8	25	42	35
5	9	6	12	9	9	25	42	42
6	9	7	12	9	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 "1" 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<sup>2</sup>/FT EACH WAY.
  4. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
  5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SIDES. MINIMUM SPOT DEPTH IS 3/4".
  6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  7. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
  8. 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 SECTION 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 1/2 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.

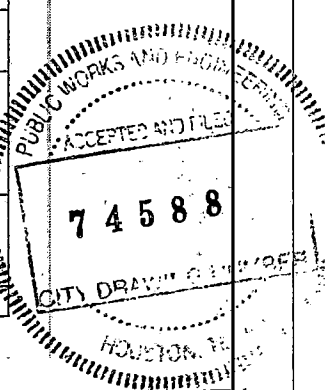
- GENERAL NOTES:**
1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATE CONFIGURATION IS USED.
  2. 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 BOD/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.

**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

**STORM SEWER TYPE 'C'**  
**PRECAST ROUND MANHOLE**

(NOT TO SCALE)

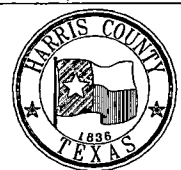
APPROVED BY: <i>Suhail Karwar</i> CITY ENGINEER	APPROVED BY: <i>Carl Stalder</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-12



8/21/2022 82E-Qui fmon-STD DRN.dgn

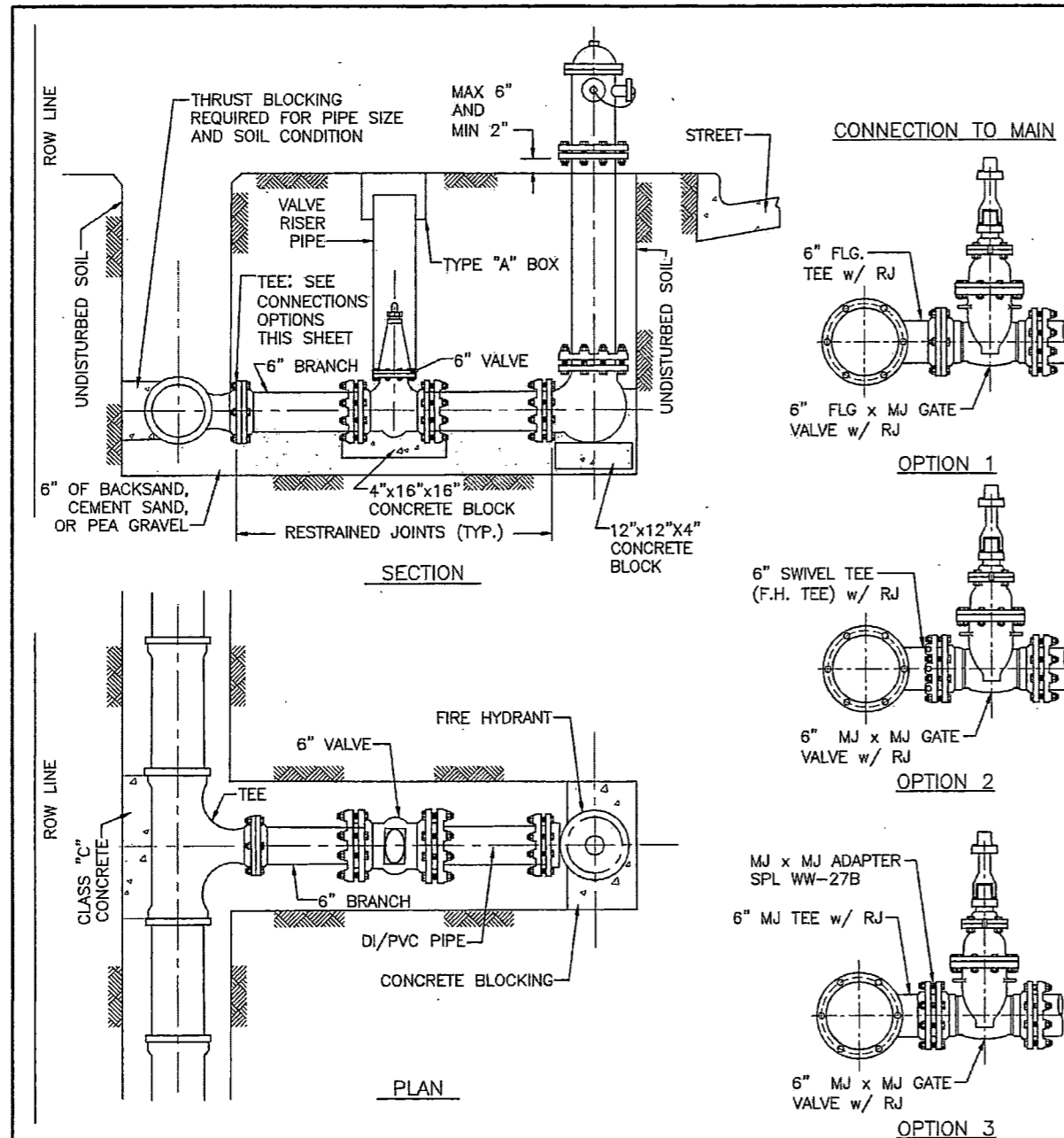
NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

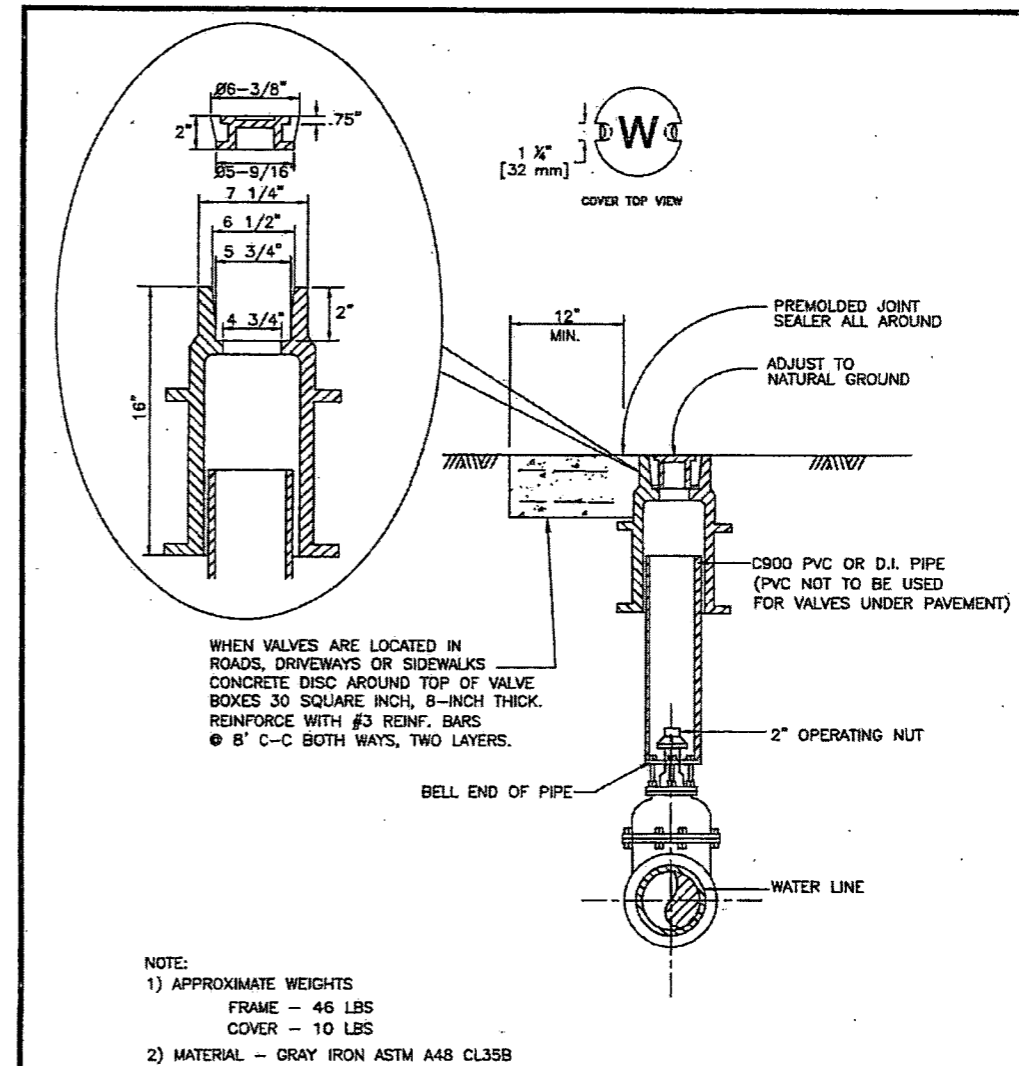
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: DRAINAGE STANDARD DETAILS	
DRAWN BY: AD	SHEET 5 OF 5
CK'D BY: DHS	SCALE: NTS
DATE: 08-19-2022	SHEET NO: 80 /



**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.

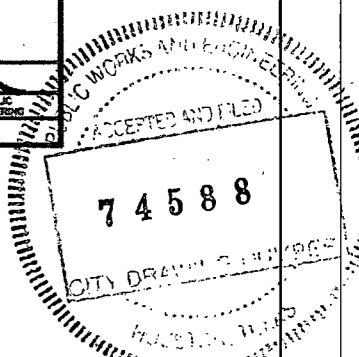
<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
<b>STANDARD</b> <b>FIRE HYDRANT DETAIL</b>	
(NOT TO SCALE)	
APPROVED BY: <i>Sehail Kamran</i> CITY ENGINEER	APPROVED BY: <i>Paul Stalder</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL -01 -2021	DWG NO: 02520-01



**NOTE:**

- 1) APPROXIMATE WEIGHTS  
FRAME - 46 LBS  
COVER - 10 LBS
- 2) MATERIAL - GRAY IRON ASTM A48 CL35B

<b>CITY OF HOUSTON</b> DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
<b>VALVE BOX DETAIL</b> (NOT TO SCALE)	
APPROVED BY: <i>[Signature]</i> CITY ENGINEER	APPROVED BY: <i>[Signature]</i> DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF. DATE: JULY 01, 2010	DWG. NO: 02085-03



8/21/2022 84A-Qui.tmon-STD WTR.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: <b>WATER STANDARD DETAILS</b>	
DRAWN BY: <b>AD</b>	DATE: <b>08-19-2022</b>
CK'D BY: <b>DHS</b>	SHEET NO: <b>81/</b>
SCALE: <b>NTS</b>	

GENERAL CONSTRUCTION NOTES

- 1. CONTRACTOR SHALL VERIFY ALL EXISTING BENCHMARKS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. IF NO VERIFICATION IS CONDUCTED CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY.
2. WATER LINES, WASTEWATER COLLECTIONS SYSTEMS AND DRAINAGE SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HOUSTON, HOUSTON PUBLIC WORKS 'STANDARD CONSTRUCTION SPECIFICATIONS' DATED JANUARY 2011, AND 'STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING' DATED JANUARY 2011 WITH ALL SUBSEQUENT AMENDMENTS ADDED THERETO UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN MUST AGREE WITH THE MINIMUM STANDARDS ESTABLISHED IN THE 'INFRASTRUCTURE DESIGN MANUAL' DATED JANUARY 2011. NOTE THAT PLAN SIGNATURES EXPIRE AFTER 1 YEAR AND THE LATEST EDITIONS OF DESIGN RULES, SPECIFICATIONS & MANUALS SHALL GOVERN AS OF THE RESIGNING.
3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO WATER LINES, WASTEWATER COLLECTION SYSTEMS AND STORM SEWERS, DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH CITY OF HOUSTON, HOUSTON PUBLIC WORKS 'STANDARD CONSTRUCTION SPECIFICATIONS' WITH LATEST ADDENDA AND AMENDMENTS THERETO, WITH NO COST TO THE PUBLIC.
4. EXISTING UTILITY INFORMATION SHOWN IS NOT GUARANTEED TO BE ACCURATE AND ALL INCLUSIVE. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND OTHER FACILITIES PRIOR TO CONSTRUCTION. ANY CONFLICT OR DISCREPANCY DISCOVERED MUST BE IMMEDIATELY BROUGHT TO THE ENGINEER'S ATTENTION.
5. THE CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, ENGINEERING DEPARTMENT HARRIS COUNTY ENGINEERING DEPARTMENT, CENTERPOINT ENERGY AND ALL OTHER APPLICABLE AGENCIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK. NOTIFICATIONS SHALL BE FOLLOWED WITH A LETTER, COPIES OF WHICH SHALL BE SENT TO THE ENGINEER.
6. THE CONTRACTOR, ON BEHALF OF THE OWNER, IS TO OBTAIN ALL NECESSARY PERMITS REQUIRED BY THE CITY OF HOUSTON OR HARRIS COUNTY, PRIOR TO STARTING CONSTRUCTION.
7. GUIDELINES SET FORTH IN THE TEXAS 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES', AS CURRENTLY AMENDED, SHALL BE OBSERVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAG MEN, SIGNAGE, STRIPING, AND WARNING DEVICES, ETC... DURING CONSTRUCTION - BOTH DAY AND NIGHT.
8. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES, AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDED PRACTICES AND SHALL AT ALL TIMES BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. THE CONTRACTOR SHALL LOCATE AND PROVIDE THE NECESSARY STORAGE AREAS FOR THE MATERIALS AND EQUIPMENT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING AND STORING OF ALL MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. ANY DEFECTIVE MATERIAL INCORPORATED INTO THE WORK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THERE SHALL BE NO PAYMENT MADE FOR STORED MATERIAL.
10. ALL PIPE AND REINFORCEMENT STEEL SHALL BE KEPT FREE OF DIRT AND OTHER DEBRIS. ANY DAMAGE TO THE COATING OF THE VARIOUS MATERIALS MUST BE REPAIRED.
11. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE FINAL DRAFT OF STORMWATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES AS PREPARED BY HARRIS COUNTY/HCFCD, AND THE CITY OF HOUSTON ALL IN COMPLIANCE WITH THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) REQUIREMENTS.
12. ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
13. CONTRACTOR IS TO MAINTAIN A CLEAN PROJECT AREA, FREE FROM WORKMAN TRASH AND REFUSE, AT ALL TIMES.
14. THE CONTRACTOR IS REQUIRED TO FOLLOW ALL APPLICABLE OSHA RULES AND REGULATIONS. TRENCH SAFETY SHALL BE DONE IN ACCORDANCE WITH OSHA STANDARDS.
15. ALL STATIONS ARE CENTERLINE OF STREET RIGHT-OF-WAY UNLESS OTHERWISE NOTED.
16. ALL GEOTECHNICAL REPORTS (IF ANY) FOR THIS PROJECT ARE AVAILABLE FOR REFERENCE AT THE OFFICE OF THE ENGINEER.
17. SURFACE RESTORATION: AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES, I.E. THE PROPERTY, EQUAL TO OR BETTER THAN EXISTING SITE CONDITIONS PRIOR TO THE CONSTRUCTION. ALL FINISHED GRADES SHALL VARY UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.
18. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH PROPOSED CURB FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.

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.
PAVING CONSTRUCTION NOTES
1. CONTRACTOR SHALL OBTAIN ENGINEERS OR OWNERS APPROVAL OF GRADES PRIOR TO PLACEMENT OF ANY PAVEMENT. IF APPROVAL IS NOT OBTAINED CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT PLACED.
2. ALL TEMPORARY AND PERMANENT SIGNAGE MUST COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, MOST RECENT EDITION WITH REVISIONS.
3. ALL PAVING WIDTHS, CURB RADI, AND CURB ALIGNMENT SHOWN INDICATE FACE OF CURB. T.C. INDICATES TOP OF CURB. T.P. INDICATES TOP OF PAVEMENT ELEVATIONS.
4. THE CONTRACTOR SHALL PROTECT ALL UTILITIES, SIDEWALKS, PAVEMENT, ETC. AND SHALL REPAIR OR REPLACE AT HIS EXPENSE ANY FACILITIES DAMAGED DURING PAVING OR GRADING OPERATIONS.
5. DRIVEWAY CONNECTIONS IN CITY OF HOUSTON STREET RIGHT-OF-WAY SHALL COMPLY WITH CITY OF HOUSTON DRAWING NO. 17201-1 AND DRIVEWAY DETAILS ON THESE PLANS.
6. AREAS TO BE FILLED SHALL BE SCARIFIED AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD PROCTOR DENSITY (+3% OF OPTIMUM MOISTURE) PER ASTM D-698 TO A DEPTH OF 6" PRIOR TO FILL PLACEMENT. FILL MATERIAL SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS (MEASURED LOOSE) AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD PROCTOR DENSITY (+3% OF OPTIMUM MOISTURE) PER ASTM D-698. FILL SHALL BE CLEAN EARTH AND BE FREE FROM TRASH, VEGETATION AND LARGE STONES. TEST REPORTS SHALL BE SUBMITTED PRIOR TO PLACEMENT OF PAVEMENT.
7. NECESSARY TESTING OF SUBGRADE AND PAVEMENT TO PROVE THAT THESE ITEMS MEET REQUIREMENTS SHALL BE DONE BY A COMMERCIAL TESTING LABORATORY ENGAGED BY THE CONTRACTOR.
8. WHERE PROPOSED PAVEMENT IS TO MEET EXISTING PAVEMENT, THE EXISTING REBAR OR DOWELS SHALL BE CLEANED AND TIED INTO THE PROPOSED PAVEMENT, USING A MINIMUM OF 30 BAR DIAMETERS LAPS. WHERE PROPOSED CONCRETE ENDS AT A CONSTRUCTION JOINT OR EXPANSION JOINT, THE REBAR SHALL BE EXTENDED A MINIMUM LENGTH OF 30 BAR DIAMETERS, COATED WITH ASPHALT AND WRAPPED WITH BURLAP.
9. ALL CONCRETE PAVEMENT SHALL BE OF SPECIFIED THICKNESS SHOWN. ALL CONCRETE SHALL BE A 5 1/2 SACK MIX WITH A MINIMUM 500 P.S.I. FLEXURAL STRENGTH AT 7 DAYS AND A MINIMUM 3500 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS. REINFORCING STEEL SHALL CONFORM TO ASTM A-616, GRADE 60.
10. ALL CUL-DE-SAC ISLANDS AND MEDIANS SHALL HAVE STANDARD 6" CONCRETE CURBS.
11. SIDEWALKS SHALL BE BUILT IN ACCORDANCE WITH CITY OF HOUSTON AND HARRIS COUNTY DESIGN STANDARDS. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH WHEELCHAIR RAMPS, IN CONFORMANCE WITH THE GOVERNOR'S OFFICE OF TRAFFIC SAFETY MEMORANDUM DATED MAY 6, 1976 (HIGHWAY SAFETY ACT, 1973, SEC 288). AMERICANS WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS) SHALL BE COMPLIED WITH IN ALL SIDEWALK CONSTRUCTION.
12. CONCRETE WASH-OUT AREAS ARE TO BE PROVIDED BY THE CONTRACTOR AT A LOCATION ACCEPTABLE TO THE OWNER UNDER NO CIRCUMSTANCES IS THE CONTRACTOR TO PERMIT CONCRETE TRUCKS TO WASH AT ANY AREA OTHER THAN THAT DESIGNATED.
13. STREET NAME SIGNS SHALL BE BUILT IN ACCORDANCE WITH CITY OF HOUSTON REQUIREMENTS AND SPECIFICATIONS, AND BEAR STREET NAMES AS PER RECORDED PLAT.

GENERAL STRUCTURAL NOTES

- 1) THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC 2015) AS ADOPTED AND AMENDED BY THE CITY OF HOUSTON.
2) STRUCTURES WERE DESIGNED FOR
a. WINDS SPEEDS (3 SEC GUST): 130 MPH WIND SPEEDS (3 SEC GUST)
b. RISK CATEGORY: II
c. COMPONENTS AND CLADDING: -/+ 42 PSF.

STEEL FRAMING NOTES

- 1) STRUCTURAL STEEL FRAMING MEMBERS SHALL CONFORM TO THE FOLLOWING STANDARDS:
A. WIDE FLANGES, CHANNELS, TEES, ANGLES: ASTM A50
B. HOLLOW STRUCTURAL STEEL: ASTM A500, GRADE B
C. PIPES: ASTM A501, TYPE E OR S, GRADE B
2) STRUCTURAL STEEL FRAMING CONNECTIONS SHALL BE SEATED COLUMN CAPS, CLIP, ANGLES OR WEB PLATES AS INDICATED ON DETAILS. USE A325 HIGH STRENGTH BOLTS OR WELDS SUFFICIENT TO DEVELOP REACTION CAPACITY W/2L AS SHOWN IN DISC MANUAL SECTION 2, (8TH EDITION) OR ALLOWABLE UNIFORM LOAD/SPAN DIVIDED BY TWO (9TH EDITION).

CONCRETE/REINFORCING NOTES

- 1) CONCRETE SHALL BE LABORATORY DESIGNED TO DEVELOP A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI FOR PIERS AND SLABS. USE OF FLY ASH WILL BE PERMITTED UP 20% CEMENT REPLACEMENT BY WEIGHT.
2) REINFORCING STEEL SHALL BE FROM DOMESTIC, NEW BILLET AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A616. ALL REINFORCING STEEL SHALL BE GRADE 60, EXCEPT BEAM STIRRUPS MAY BE GRADE 40. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 (FLAT SHEETS ONLY).
3) DETAILING OF REINFORCEMENT BARS AND ACCESSORIES SHALL BE IN ACCORDANCE WITH LATEST ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI318). BAR SPLICES SHALL BE A LENGTH EQUAL TO A MINIMUM OF 55 BAR DIAMETERS.
4) LOCATIONS OF CONSTRUCTION JOINTS IN MONOLITHIC CONCRETE SHALL BE APPROVED BY THE STRUCTURAL ENGINEER BUT SHALL GENERALLY OCCUR AT OR NEAR MID-SPANS OF SLAB AND BEAM AND SHALL BE LOCATED SO THAT NO SINGLE FOUR EXCEEDS 400 CUBIC YARDS. CONTINUOUS KEYS SHALL BE PROVIDED (REFER TO EXCEEDS 400 CUBIC YARDS).

FOUNDATION NOTES

- 1) FOUNDATION SLAB SHALL BE 6" THICK AND REINFORCED WITH #4 @ 12" O.C. EACH WAY PLACED 1-1/2" CLR. FROM TOP. REINFORCING SHALL BE SUPPORTED AT 4" O.C. EACH WAY.
2) GRADE BEAM DEPTH SCHEDULED IS A MINIMUM. INCREASE BEAM DEPTH AT BUILDING PERIMETER SO THAT THE BEAM SOFFIT BEARS A MINIMUM OF 18" BELOW FINAL GRADE. GRADE BEAM REINFORCING SHALL BE SUPPORTED AT BOTTOM USING CONCRETE BLOCK OR BRICKS @ 4" O.C.
3) EXPOSED FACES OF FOUNDATION SHALL BE WOOD FORMED TO A DEPTH OF 8" BELOW FINAL GRADE.
4) PROVIDE A 4-H 7X 6'-0" CORNER BARS (2 TOP, 2 BOTTOM) AT ALL BEAM CORNERS AND T - INTERSECTIONS.
5) IN LOCATIONS WHERE GRADE BEAM DEPTH EXCEEDS 36", ADD CONTINUOUS #4 @ 12" O.C. HORIZONTALLY IN EACH BEAM FACE.

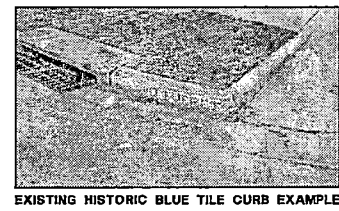
PIER NOTES

- 1) CENTER PIER UNDER BEAMS UNLESS DIMENSIONED OTHERWISE ON PLAN.
2) PROVIDE 4-#7 DOWELS INTO FOOTING AND BEAM WHERE BEAM DEPTH DOES NOT ALLOW STRAIGHT BARS PROVIDE HOOKED BARS.
3) CENTER CAGE IN HOLE WITH 3 CONC. SPACER BLOCKS EVERY 6 FT. SUPPORT CAGE ON 3 CONCRETE SEAT BLOCKS.
4) DO NOT RAISE CAGE OFF FOOTING BOTTOM.
5) EXTEND PIER SHAFTS & REINFORCING TO BEAM OR PLINTH SOFFIT USING FIBER FORM ABOVE WORKING GRADE. USE FIBER FORM TO AN ELEVATION 2'-0" BELOW WORKING GRADE AT TIME OF DRILLING REFER TO SPECS, FOR CONDITIONS REQUIRING ADDITIONAL FIBER FORM AND FOR CONSTRUCTION JOINT.
6) PLACEMENT OF CONCRETE IN SHAFT SHALL BE THE SAME DAY OF DRILLING.
7) EACH FOOTING SHALL BE OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

FOUNDATION EARTHWORK NOTES

- 1) CONTRACTOR SHALL ROUGH GRADE AND CUT SHALES SO THAT SURFACE WATER WILL DRAIN AWAY FROM BUILDING SITE. MAINTAIN DRAINAGE PROGRAM SO THAT WATER WILL DRAIN AWAY FROM BUILDING SITE DURING ALL PHASES OF CONSTRUCTION. WATER WHICH ACCUMULATES IN TRENCHES AND EXCAVATIONS SHALL BE IMMEDIATELY PUMPED OUT.
2) IN THE CONSTRUCTION AREA AND 2'-0" BEYOND STRUCTURE FOOTPRINT:
a) REMOVE ALL ORGANICS (I.E. ROOTS, TREES, GRASS, AND OTHER HUMUS MATERIALS) AND ANY OTHER DELETERIOUS MATERIALS. REMOVE A MINIMUM OF 0'-6" FT. OF THE EXISTING MATERIAL AND ANY ADDITIONAL AMOUNT OF MATERIAL TO ENSURE THAT THE INERT PAD THICKNESS IS A MINIMUM OF MATERIAL TO ENSURE THAT THE INERT PAD THICKNESS IS A MINIMUM OF 0'-6" (COMPRISED OF THE FLOOR SLAB AND SELECT FILL COMPONENTS OUTLINED SUBSEQUENTLY).
b) SCARIFY AT LEAST 6 INCHES OF THE CUT SOIL SUBGRADE, AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD DRY DENSITY (ASTM D 698) AT A MOISTURE CONTENT OF WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT.
c) THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED WITH A 15 TON ROLLER, OBSERVING THE SOILS DURING PROOF ROLLING SO AS TO DETECT ANY WET, SOFT, OR UNSTABLE SOILS. WET, SOFT, OR UNSTABLE SOILS SHOULD BE REMOVED AND REPLACED WITH SELECT FILL.
d) SELECT FILL SHOULD BE PLACED IN 8 INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD DRY DENSITY (ASTM D 698) AT A MOISTURE CONTENT OF WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT. SELECT FILL SHALL CONSIST OF A CLAYEY SAND OR INACTIVE LEAN CLAY WITH A MAXIMUM LIQUID LIMIT OF 35 AND A PLASTICITY INDEX RANGE OF 8 TO 20.
3) TRENCHING FOR GRADE BEAMS AND MECHANICAL LINES SHALL BE PERFORMED AFTER ALL EARTHWORK ABOVE HAS BEEN COMPLETED. TRENCHING SHALL BE CONDUCTED USING A SMOOTH-MOUTHED BUCKET. IF A TOOTHED BUCKET IS USED, EXCAVATION SHALL BE STOPPED AT 12" ABOVE FINAL GRADE AND THE REMAINING EXCAVATION ACCOMPLISHED WITH A SMOOTH-MOUTHED BUCKET OR BY HAND LABOR TO REMOVE ALL LOOSE SOILS DISTURBED BY THE BUCKET TEETH. TRENCHES SHALL BE VERIFIED FOR SIZE TO MAINTAIN CLEARANCES AROUND REINFORCEMENT.
4) PLACE A POLYETHYLENE VAPOR BARRIER, MINIMUM 8 MIL IN THICKNESS. VAPOR BARRIER SHALL NOT EXTEND BELOW MID-DEPTH OF BEAM TRENCHES.
5) EMPLOY AN INDEPENDENT TESTING LABORATORY TO TAKE 1 DENSITY TEST OF RECOMPACTED ON SITE MATERIAL AND 1 DENSITY OF EACH LIFT OF FILL FOR EACH 5000 SQUARE FEET (MINIMUM OF THREE/LIFT)

811 logo with text: NOTE: CONTRACTOR TO CALL 811 AT A MINIMUM THREE DAYS PRIOR TO THE START OF ANY SITEWORK CONSTRUCTION.



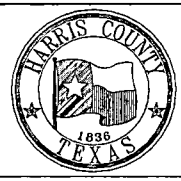
NOTE: REF. CIVIL FOR ALL UTILITY ADJUSTMENTS AND RELOCATIONS.

NOTE: CONTRACTOR TO CUT AND SALVAGE ALL EXISTING HISTORIC BLUE TILE CURBS AND DELIVER TO COH BUILDING MATERIAL REUSE WAREHOUSE 1866 CONTACT INFORMATION BELOW OR LOCAL ARTIST. COORDINATE WITH GRND PRIOR TO SALVAGE. REF. BID FORM FOR QTY. SALVAGE EXISTING TILE AND +/- 24" OF CURB IN EITHER DIRECTION FROM TILE.
City of Houston Building Materials Reuse Warehouse
8003 North Main St., Houston, TX 77022
Keith A. Kookl, Manager
kookl.k@houston.tx.gov
281-614-5324



Table with columns: NO., REVISIONS, DATE, NAME. Contains revision symbols (triangles) in the first column.

HARRIS COUNTY ENGINEERING DEPARTMENT



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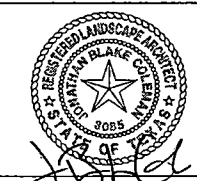


Table with project information: PROJECT TITLE: QUITMAN STREET, ON-STREET BIKEWAY AND SIDEWALKS, SHEET DESCRIPTION: GENERAL NOTES, DRAWN BY: MF, DATE: 10-31-2022, CK'D BY: LP, BC, JL, SCALE: SHEET NO: 82 (LC 1.00)

Handwritten signature and date: 10.31.2022

**MATERIALS SCHEDULE**

**PAVING / CONCRETE**

KEY	DESCRIPTION /MODEL NUMBER	COLOR	FINISH	CONTACT	REMARKS
P.1	CONCRETE	GRAY	MEDIUM BROOM FINISH- PERPENDICULAR TO DIRECTION OF WALK	LOCAL SOURCE	**CONTRACTOR SHALL SUBMIT MIX DESIGN AND 5'x5' MOCK UP FOR L.A. APPROVAL PRIOR TO INSTALLATION.
P.2	ENHANCED CONCRETE -REFUGE PLAZA	INTEGRAL COLOR CONCRETE COLOR: CASTLE GRAY	SANDSCAPE REFINED	COMPANY: BOMANITE PHONE: 713-722-0480	**CONTRACTOR SHALL SUBMIT MIX DESIGN AND 5'x5' MOCK UP OF EACH NOTED COLOR NEXT TO REGULAR CONCRETE FOR L.A. REVIEW & APPROVAL PRIOR TO INSTALLATION. **CAULKED JOINTS SHALL MATCH SELECTED COLOR. PROVIDE SAMPLES OF FULL RANGE OF COLORS FOR L.A. SELECTION.
P.3A	ACCENT BAND, SANDBLASTED & PAINTED STREET NAME -REF. DETAILS	INTEGRAL COLOR CONCRETE COLOR: GUNMETAL GRAY  STREET NAME PAINT COLOR: BELL PEPPER GREEN	LIGHT BROOM FINISH	COMPANY: BOMANITE PHONE: 713-722-0480	**REF. PLAN FOR STREET NAME BAND LOCATIONS. **CONTRACTOR SHALL SUBMIT FULL SIZE MOCK UP OF SINGLE ACCENT BAND IN EACH NOTED COLOR NEXT TO REGULAR CONCRETE FOR L.A. REVIEW & APPROVAL PRIOR TO INSTALLATION. **CAULKED JOINTS SHALL MATCH SELECTED COLOR. PROVIDE SAMPLES OF FULL RANGE OF COLORS FOR L.A. SELECTION.
P.3B	ACCENT BAND, BLUE TILE STREET NAME -3/4" X 3/4" X 1/4" TILE SIZE -REF. DETAILS	INTEGRAL COLOR CONCRETE COLOR: GUNMETAL GRAY  WITH HISTORIC HOUSTON BLUE TILE INSET	UNGLAZED PORCELAIN	CONTACT: ERIC MAIER COMPANY: CURB APPEAL BLUES / AMERICAN RESTORATION TILE PHONE: 713-296-0656 www.ihearthouston.com	**REF. PLAN FOR STREET NAME BAND LOCATIONS. **CONTRACTOR SHALL SUBMIT CUTSHEET AND SHOP DRAWINGS OF TILE STREET NAMES FOR L.A. REVIEW & APPROVAL PRIOR TO ORDERING. **CONTRACTOR SHALL SUBMIT FULL SIZE MOCK UP OF SINGLE ACCENT BAND FOR L.A. REVIEW & APPROVAL PRIOR TO INSTALLATION. **CAULKED JOINTS SHALL MATCH SELECTED COLOR. PROVIDE SAMPLES OF FULL RANGE OF COLORS FOR L.A. SELECTION. **RECESS TO BE CUT BY TILE INSTALLER, CONTACT PRIOR TO CONSTRUCTION.
P.4	TRUNCATED DOME TILE, WET SET -RADIUS & STRAIGHT TILE	CHARCOAL	NATURAL	COMPANY: TEKWAY BY STRONGGO INDUSTRIES PHONE: 866-439-3216	**INSTALL PER MANF. SPECIFICATIONS USING WET SET METHOD IN FRESH CONCRETE. **CONTRACTOR SHALL SUBMIT PRODUCT DATA & SAMPLES FOR L.A. APPROVAL PRIOR TO ORDERING. **CONTRACTOR SHALL SUBMIT SHOP DRAWINGS W/FIELD VERIFIED RADIUS FOR L.A. APPROVAL PRIOR TO INSTALLATION. **CONTRACTOR SHALL SUBMIT MOCK UP FOR L.A. APPROVAL PRIOR TO INSTALLATION.
P.5	CONCRETE SEATWALL -REF. DETAILS	GRAY	SMOOTH RUBBED	LOCAL SOURCE	**REF. DETAILS FOR ADDITIONAL INFO. **CONTRACTOR SHALL SUBMIT 4' LENGTH X FULL HEIGHT WITH TOP, END, AND FACE FINISH SHOWN MOCK UP FOR L.A. APPROVAL PRIOR TO INSTALLATION.
P.6	MORTARED AGGREGATE -2-4" DIA.  WET SET IN THE FOLLOWING MIX: -TEC FLOOR MUD -TEC LATEX ADDITIVE -ACRYLBOND AMA	ANTIQUE GRANITE, TUMBLED 1x, SMOOTH EDGES EXPOSED ONLY	N/A	CONTACT: BRYAN MOORE COMPANY: ALAMO STONE PHONE: 281-240-4600  COMPANY: TEC ADHESIVE PHONE: 800-552-6225	**MIX FLOOR MUD & ADDITIVE AND INSTALL ON TOP OF CONC. SUBBASE. WET SET ROCK WITHIN MIX, REF. DETAILS. **KNOCK DOWN OR TURN DOWN SHARP EDGES INTO FLOOR MUD. NO SHARP EDGES ON SURFACE WILL BE ACCEPTED. **CONTRACTOR SHALL SUBMIT PRODUCT DATA & SAMPLES FOR L.A. APPROVAL PRIOR TO ORDERING. **CONTRACTOR SHALL SUBMIT MOCK UP WITHIN CURB FOR L.A. APPROVAL PRIOR TO INSTALLATION. **REF. SPECIFICATIONS FOR ADDITIONAL INFORMATION.
<b>WOOD</b>					
W.1	THERMALLY MODIFIED ASH -REF. DETAILS FOR SIZES	NATURAL	OILED AND SEALED	LOCALLY SOURCED WOOD, IPE OIL BRAND OR APPROVED ALTERNATE	**CONTRACTOR SHALL PROVIDE MOCK UP WITH CONCRETE SEATWALL FOR L.A. REVIEW & APPROVAL PRIOR TO INSTALLATION.

**MISCELLANEOUS**

Z.1	PEDESTRIAN LIGHTING MODEL: EVERGEN M1 SERIES SOLAR LIGHTING SYSTEM WITH REMOTE MONITORING AND SOLAR PANEL AND BATTERY -ACUITY DSXO FIXTURE, 3000K, 35W POWER, 14' HT. POLE	BLACK	POWDERCOAT	CONTACT: EMILY BUDD COMPANY: LESCO LIGHTING / SOL BY SUNNA DESIGN PHONE: 713-923-7781	**REF. SITEWORK PLAN FOR LOCATIONS. **INSTALL PER MANF. SPECS AND DETAILS. **CONTRACTOR SHALL SUBMIT CUTSHEET W/ALL SELECTED PRODUCT DATA & COLOR SAMPLES FOR L.A. APPROVAL PRIOR TO ORDERING. **PLACEMENT TO BE FIELD LOCATED AND APPROVED BY L.A. PRIOR TO INSTALLATION.
Z.2	TRASH BIN MODEL: CHASE PARK -36 GAL., SINGLE STREAM -24" DIA., 39" HT.	BLACK	POWDERCOAT	CONTACT: CATHY COMEAUX-WRIGHT COMPANY: LANDSCAPE FORMS PHONE: 269-337-1816	**TRASH BIN TO BE LOCATED AT EACH FLOATING BUS STOP AND CYCLE TRACK. **SURFACE MOUNT TO CONCRETE WALK. **CONTRACTOR SHALL SUBMIT CUTSHEET W/ALL SELECTED PRODUCT DATA & COLOR SAMPLES FOR L.A. APPROVAL PRIOR TO ORDERING. **PLACEMENT TO BE FIELD LOCATED AND APPROVED BY L.A. PRIOR TO INSTALLATION. **INSTALL PER MANF. SPECIFICATIONS.
Z.3	BIO-BARRIER ROOT CONTROL FABRIC	BLACK	N/A	COMPANY: TYPAR CONTACT: KEITH MISUKANIS PHONE: 612-704-1222	**CONTRACTOR SHALL SUBMIT CUTSHEET W/ALL SELECTED PRODUCT DATA FOR L.A. APPROVAL PRIOR TO ORDERING. **PLACEMENT TO BE FIELD LOCATED AND APPROVED BY L.A. PRIOR TO INSTALLATION. **INSTALL PER MANF. SPECIFICATIONS.

**SYMBOLS AND LINETYPES**

SYMBOL	EXPLANATION
	DETAIL REFERENCE
	MATERIALS & FINISHES SYMBOLS
	SECTION SYMBOL
	DETAIL ELEVATION
	PROPOSED SPOT GRADE
	EXISTING SPOT GRADE
	SWALE
	SWALE LINETYPE
	ENLARGEMENT AREA WITH REFERENCE
	EXPANSION JOINT

**SITWORK LEGEND**

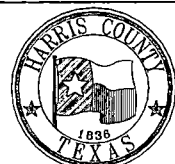
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER

**GENERAL LEGEND**

ABBREVIATIONS	
SYMBOL	EXPLANATION
B.O.C.	BACK OF CURB
B.P.	BOTTOM OF PIPE
B.S.	BOTTOM OF STAIRS
B.W.	BOTTOM OF WALL = F.G.
C.J.	CONTROL JOINT
C.L.	CENTERLINE
CMU	CONCRETE MASONRY UNIT
CONC.	CONCRETE
DWG.	DRAWING
E.J.	EXPANSION JOINT
ESMT.	EASEMENT
F.G.	FINISH GRADE
H.P.	HIGH POINT
I.E.	INVERT ELEVATION
N.I.C.	NOT IN CONTRACT
O.C.	ON CENTER
O.C.E.H.	ON CENTER EACH WAY
O.D.	OUTSIDE DIAMETER
P.A.	PLANTING AREA
P.O.B.	POINT OF BEGINNING
P.O.T.	POINT OF TANGENCY
PVC R.	POLYVINYL CHLORIDE RADIUS
REF.	REFERENCE
R.O.W.	RIGHT OF WAY
SAN S.	SANITARY SEWER
SBK.	SETBACK
S.S.	STAINLESS STEEL
STRM. S.	STORM SEWER
T.O.D.	TOP OF AREA DRAIN
T.O.S.	TOP OF STEEL
T.B.	TOP OF BEAM
T.C.	TOP OF CURB
TCL	TOP OF COLUMN
T.F.	TOP OF FOUNDATION
T.S.	TOP OF STAIRS
T.W.	TOP OF WALL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VAR.	VARIES
W/	WITH

NO.	REVISIONS	DATE	NAME

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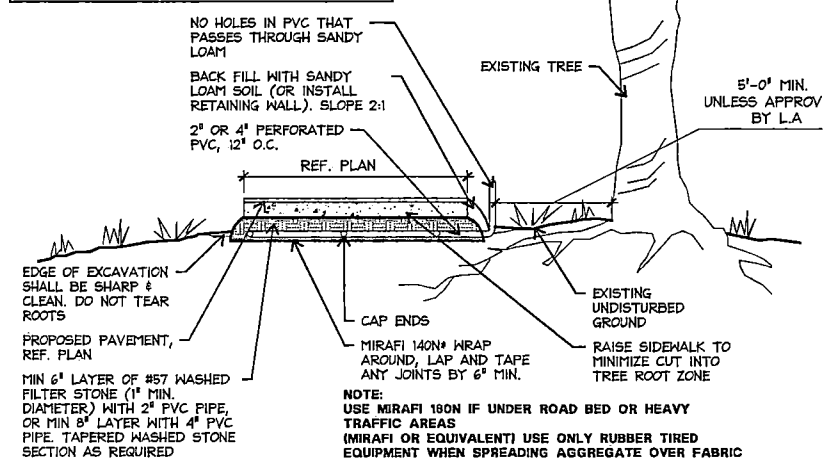
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:		MATERIALS, NOTES, AND LEGENDS	
DRAWN BY:	MF	DATE:	10-31-2022
CHECKED BY:	LP, BC, JL	SCALE:	SHEET NO: 83 (LC 1.01)

10.31.2022

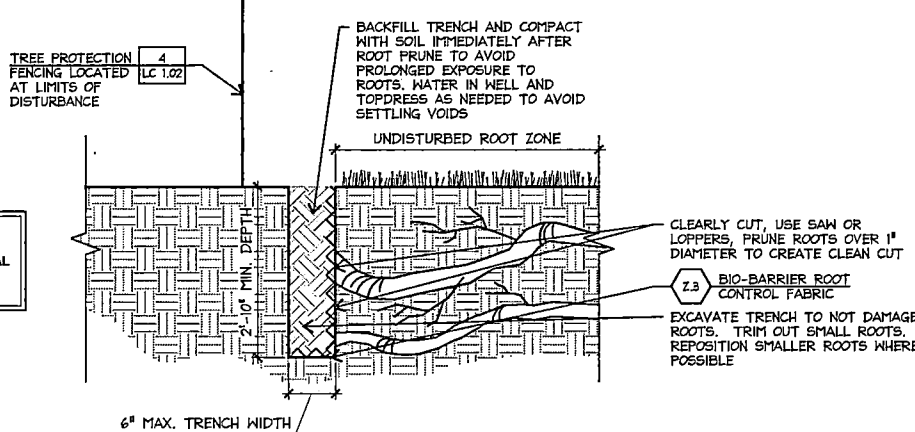
**TREE PROTECTION NOTES:**

- 1.) ALL TREES SHOWN ON THIS PLAN TO BE RETAINED OR REPLANTED SHALL BE PROTECTED DURING CONSTRUCTION.
- 2.) TREE PROTECTION FENCES SHALL BE ERECTED ACCORDING TO HARRIS COUNTY, 15A STANDARDS AND THE GUIDELINES TO FOLLOW FOR TREE PROTECTION.
- 3.) TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
- 4.) FENCES SHALL COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES; SHALL BE LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIPLINE); AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
  - A.) SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS.
  - B.) ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ARBORIST OR LANDSCAPE ARCHITECT.
  - C.) WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT.
  - D.) OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING, AND FIRES.
- 5.) EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
  - A.) WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
  - B.) WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING.
  - C.) WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE LANDSCAPE ARCHITECT.
- 6.) WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE THAT IS CLOSER THAN 5 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
- 7.) ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA.
- 8.) ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
- 9.) PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, A CLEAN CUT SHALL BE MADE BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS. REF. DETAIL 4
- 10.) TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES WILL BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS ARE TO BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- 11.) WHEN INSTALLING CONCRETE UNDER THE DRIP LINE OF EXISTING TREES OR ADJACENT TO THE ROOT ZONE OF A TREE USE A PLASTIC VAPOR BARRIER UNDER THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE ROOT ZONE.
- 12.) ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION AND UTILITIES SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE. CONTACT LANDSCAPE ARCHITECT PRIOR TO EXCAVATION UNDER EXISTING TREE DRIPLINES
- 13.) PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND CONSTRUCTION EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS (BEFORE DAMAGE OCCURS). ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY; REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES, CLASS IV OF PRUNING (AVAILABLE ON REQUEST FROM THE CITY ARBORIST).
- 14.) ALL WOUNDS WHICH OCCUR TO TREE TRUNKS AND LIMBS MUST BE REPAIRED WITHIN 24 HOURS OF OCCURRENCE BY BARK TRACING TO REMOVE DAMAGED WOOD AND BARK. THIS SPECIFICALLY APPLIES TO WOUNDS CREATED BY CONSTRUCTION VEHICLES AND EQUIPMENT, INSTALLATION OF TOWERS AND PIERS, AND STRINGING OF ELECTRICAL LINES. ANY TREE WITH ANY VISIBLE DAMAGE SHALL RECEIVE ADDITIONAL HOLSANIX BIO 800 TREATMENT WITHIN DRIPLINE.
- 15.) TREES APPROVED FOR REMOVAL OR REPLANTING SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
- 16.) TREES MARKED ON PLANS TO BE REMOVED SHALL BE TAKEN DOWN IN SUCH A MANNER AS NOT TO DAMAGE SURROUNDING TREES, PLANTS, UTILITIES, FENCES, STRUCTURES, OR ANY OTHER GOVERNMENT OR PERSONAL PROPERTY. NO HEAVY EQUIPMENT SHALL BE USED FOR PINE REMOVALS WITHIN TREE SAVE AREAS. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR OR THE COST OF REPAIR OF ANY DAMAGE INCURRED.
- 17.) ALL EXISTING NOXIOUS WEEDS & TREES, INCLUDING POISON IVY, PRIVET, TALLOW, ETC., SHALL BE TREATED WITH HERBICIDE AND REMOVED FROM THE SITE AS DIRECTED. CONTACT LANDSCAPE ARCHITECT FOR LIST OF NOXIOUS WEED SPECIES. ANY WOODY INVASIVE SPECIES SHALL BE REMOVED ENTIRELY, INCLUDING ROOT BALL GRINDING/REMOVAL. BACKFILL HOLES WITH CLEAN TOPSOIL.
- 18.) IF TREES TO BE PRESERVED ARE DAMAGED, CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATION AND REFORESTATION PER THE TREE PRESERVATION SPECIFICATIONS.
- 19.) CONTRACTOR TO STAKE ALL SITE WORK IN FIELD FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO ANY DISTURBANCE.
- 20.) WALK LAYOUT IS BASED ON EXISTING TREE PROTECTION AREAS THAT NEED TO BE VERIFIED ON SITE.
- 21.) MINIMIZE DISTURBANCE OF EXISTING GRADE. CONTRACTOR IS NOT TO DISTURB ROOTS OF EXISTING TREES THAT ARE TO REMAIN. NO HEAVY EQUIPMENT IS TO BE USED IN TREE PRESERVATION AREAS OR SELECT CLEARING AREAS.
- 22.) CLEARING AND GRUBBING IS REQUIRED FOR ALL TREES THAT CONFLICT WITH WALK LAYOUT, WITHIN 3'-0" FROM EITHER SIDE OF WALK. TAG TREES FOR REMOVAL FOR LA APPROVAL PRIOR TO CONSTRUCTION.
- 23.) SELECT CLEARING AND GRUBBING IS REQUIRED IN ANY EXISTING TREE AREAS WITHIN 5'-0" FROM EDGE OF WALK. SELECT CLEARING SHALL INCLUDE CLEARING ALL TREES LESS THAN 2" CALIPER, LIMBING UP TREES TO 7'-0", AND REMOVING ANY NOXIOUS VINES. ALL CLEARING SHALL BE DONE BY HAND HELD EQUIPMENT WHEN WITHIN LIMITS OF TREE PRESERVATION AREAS. NO HEAVY MACHINERY IN TREE PRESERVATION AREAS. CONTRACTOR SHALL MOCKUP 10x10 SELECT CLEARING AREA FOR LA APPROVAL PRIOR TO CONSTRUCTION.

**NOTE:**  
3" THICK MIRAFI GEO GRID STRUCTURAL MAT WITH FILTER FABRIC IS TO BE UTILIZED INSTEAD OF THE PVC PIPE AND WASHED STONE LAYER WITHIN ALL AREAS OF THE CRITICAL ROOT ZONE TO BE COVERED WITH SOIL OR PAVEMENT. REFER TO PLAN FOR AERATION ZONE LIMITS.

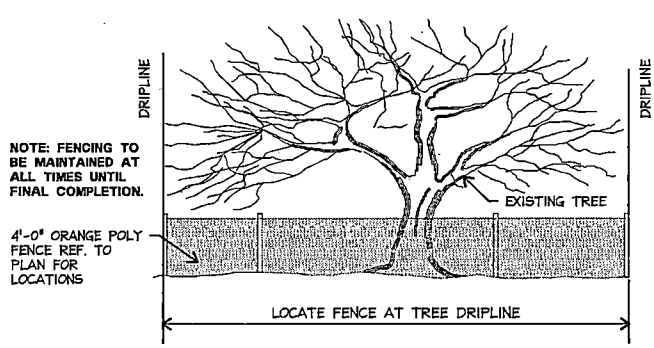


**5 WALK WITH AERATION**  
SECTION NOT TO SCALE

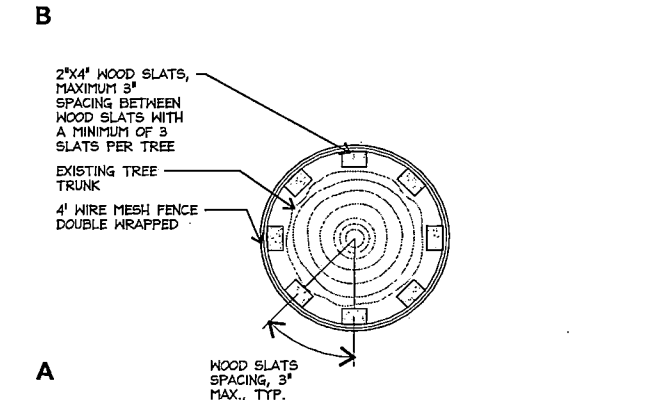
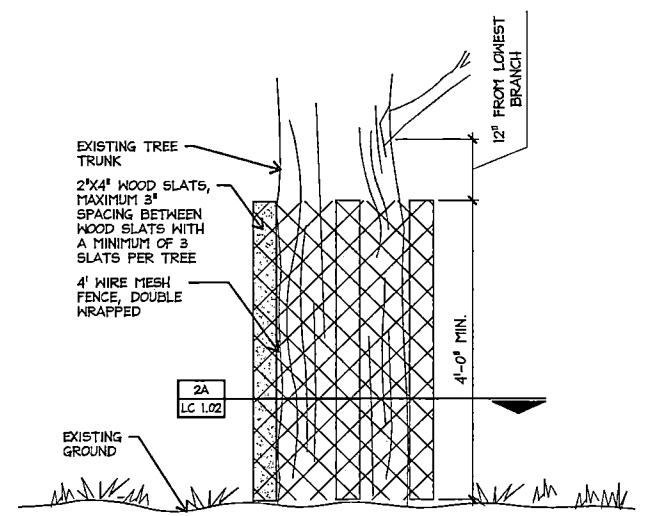


**NOTE:**  
DO NOT PERFORM ANY ROOT PRUNING WITHOUT PRIOR APPROVAL BY THE LANDSCAPE ARCHITECT & PROJECT ARBORIST.

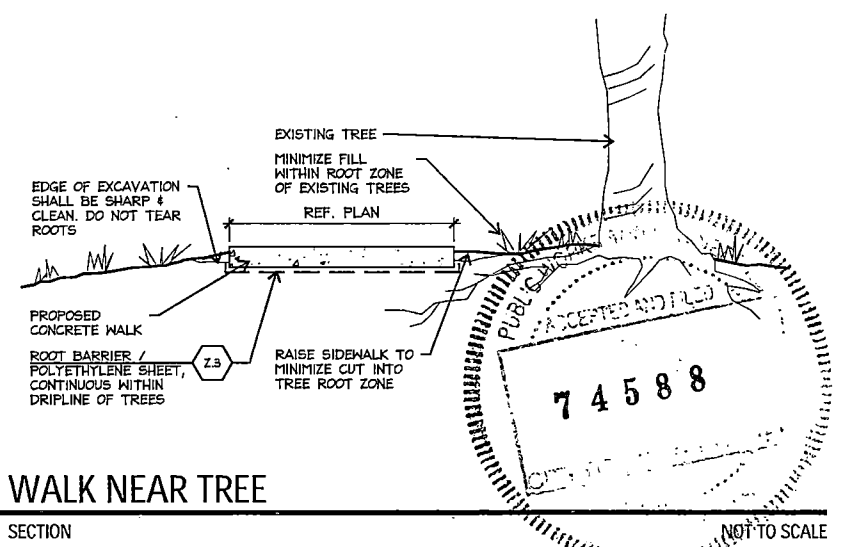
**4 ROOT PRUNE TRENCH**  
SECTION NOT TO SCALE



**3 TREE PROTECTION FENCING**  
SECTION NOT TO SCALE



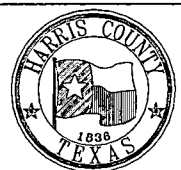
**2 TRUNK PROTECTION WRAP**  
PLAN/ELEVATION NOT TO SCALE



**1 WALK NEAR TREE**  
SECTION NOT TO SCALE

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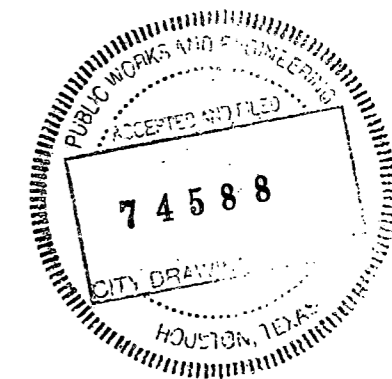
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TREE PROTECTION NOTES AND DETAILS	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 84 (LC 1.02)

10.31.2022

TREE MITIGATION LIST							
Tree No.	Caliper Inches	Tree Type	Location	Condition	Preserve	Remove	Required Mitigation Inches
1	10	OAK	R.O.W.	FAIR	X		0
2	10	OAK	R.O.W.	FAIR	X		0
3	10	OAK	R.O.W.	FAIR	X		0
4	10	OAK	R.O.W.	FAIR	X		0
5	10	OAK	R.O.W.	FAIR	X		0
6	10	OAK	R.O.W.	FAIR	X		0
7	10	OAK	R.O.W.	FAIR	X		0
8	10	OAK	R.O.W.	FAIR	X		0
9	4	OAK	R.O.W.	GOOD	X		0
10	4	OAK	R.O.W.	GOOD	X		0
11	4	OAK	R.O.W.	GOOD	X		0
12	18	ELM	R.O.W.	POOR		X	0
13	32	HACKBERRY	R.O.W.	FAIR		X	32
14	15	TREE	R.O.W.	GOOD	X		0
15	19	TREE	R.O.W.	GOOD	X		0
16	29	OAK	R.O.W.	GOOD	X		0
17	17	HACKBERRY	R.O.W.	POOR		X	0
18	10	HACKBERRY	R.O.W.	GOOD		X	0
19	18	COTTONWOOD	R.O.W.	DEAD		X	0
20	16	TREE	R.O.W.	GOOD	X		0
21	20	TREE	R.O.W.	GOOD	X		0
22	12	ELM	R.O.W.	GOOD	X		0
23	42	COTTONWOOD	R.O.W.	FAIR	X		0
24	3	TREE	R.O.W.	POOR		X	0
25	20	TREE	R.O.W.	POOR		X	0
26	14	TREE	R.O.W.	GOOD	X		0
27	7	TREE	R.O.W.	POOR	X		0
28	3	TREE	R.O.W.	FAIR	X		0
29	18	HACKBERRY	R.O.W.	FAIR	X		0
30	4	TREE	R.O.W.	FAIR	X		0
31	4	TREE	R.O.W.	FAIR	X		0
32	4	TREE	R.O.W.	FAIR	X		0
33	22	CRAPE MYRTLE	R.O.W.	POOR		X	0
34	7	OAK	R.O.W.	GOOD	X		0
35	7	TREE	R.O.W.	FAIR	X		0
36	12	CRAPE MYRTLE	R.O.W.	POOR		X	0
37	20	TREE	R.O.W.	POOR		X	0
38	1	OAK	R.O.W.	FAIR	X		0
39	1	OAK	R.O.W.	GOOD	X		0
40	24	ELM	R.O.W.	GOOD	X		0
41	36	OAK	R.O.W.	FAIR	X		0
42	8	CRAPE MYRTLE	R.O.W.	GOOD		X	0
43	6	CRAPE MYRTLE	R.O.W.	GOOD		X	0
44	6	CRAPE MYRTLE	R.O.W.	GOOD		X	0
45	3	OAK	R.O.W.	FAIR		X	3
46	6	OAK	R.O.W.	GOOD	X		0
47	4	OAK	R.O.W.	GOOD	X		0
48	4	OAK	R.O.W.	GOOD	X		0
49	3	OAK	R.O.W.	GOOD	X		0
50	6	TREE	R.O.W.	FAIR		X	6
51	6	ELM	R.O.W.	FAIR		X	6
52	6	ELM	R.O.W.	FAIR		X	6
53	6	ELM	R.O.W.	FAIR		X	6
54	6	TREE	R.O.W.	GOOD		X	6
55	24	OAK	R.O.W.	POOR		X	0
56	6	TREE	R.O.W.	FAIR	X		0
57	7	TREE	R.O.W.	FAIR	X		0
58	12	TREE	R.O.W.	GOOD	X		0
59	6	TREE	R.O.W.	FAIR		X	6
60	22	OAK	R.O.W.	GOOD	X		0
61	20	OAK	R.O.W.	FAIR	X		0
62	12	TREE	R.O.W.	DEAD		X	0
63	32	OAK	R.O.W.	GOOD	X		0
64	12	CYPRESS	R.O.W.	GOOD	X		0
65	12	CYPRESS	R.O.W.	GOOD	X		0
66	12	CYPRESS	R.O.W.	GOOD	X		0
67	12	CYPRESS	R.O.W.	GOOD	X		0
68	12	CYPRESS	R.O.W.	GOOD	X		0
69	12	CYPRESS	R.O.W.	GOOD	X		0
70	36	OAK	R.O.W.	GOOD	X		0

TREE MITIGATION LIST							
Tree No.	Caliper Inches	Tree Type	Location	Condition	Preserve	Remove	Required Mitigation Inches
71	6	OAK	R.O.W.	GOOD	X		0
72	6	OAK	R.O.W.	GOOD	X		0
73	6	OAK	R.O.W.	GOOD	X		0
74	6	OAK	R.O.W.	GOOD	X		0
75	12	OAK	R.O.W.	GOOD	X		0
76	12	OAK	R.O.W.	GOOD	X		0
77	10	OAK	R.O.W.	GOOD	X		0
78	12	OAK	R.O.W.	GOOD	X		0
79	2	OAK	R.O.W.	GOOD	X		0
80	2	OAK	R.O.W.	GOOD	X		0
81	2	OAK	R.O.W.	POOR		X	0
82	9	ELM	R.O.W.	FAIR		X	9
83	9	ELM	R.O.W.	FAIR		X	9
84	18	TREE	R.O.W.	FAIR		X	18
85	14	ELM	R.O.W.	FAIR		X	14
86	23	OAK	R.O.W.	FAIR	X		0
87	12	TREE	R.O.W.	FAIR	X		0
88	24	TREE	R.O.W.	FAIR	X		0
89	18	COTTONWOOD	R.O.W.	GOOD	X		0
90	24	TREE	R.O.W.	GOOD		X	24
91	36	TREE	R.O.W.	GOOD	X		0
92	12	TREE	R.O.W.	GOOD		X	12
93	7	OAK	R.O.W.	GOOD	X		0
94	5	OAK	R.O.W.	GOOD	X		0
95	7	OAK	R.O.W.	GOOD		X	7
96	8	OAK	R.O.W.	POOR		X	0

TOTALS		
1	Total inches of required mitigation	164
2	Total inches of required new trees (quantity of new street trees + quantity of new parking lot trees x 1.5*)	0
3	Total required inches (line 1 + line 2)	164
4	Total inches preserved in R.O.W.	169
5	Total new inches on site	364
6	Inches above required (line 5) - (line 3 - line 4)	200



NO.	REVISIONS	DATE	NAME
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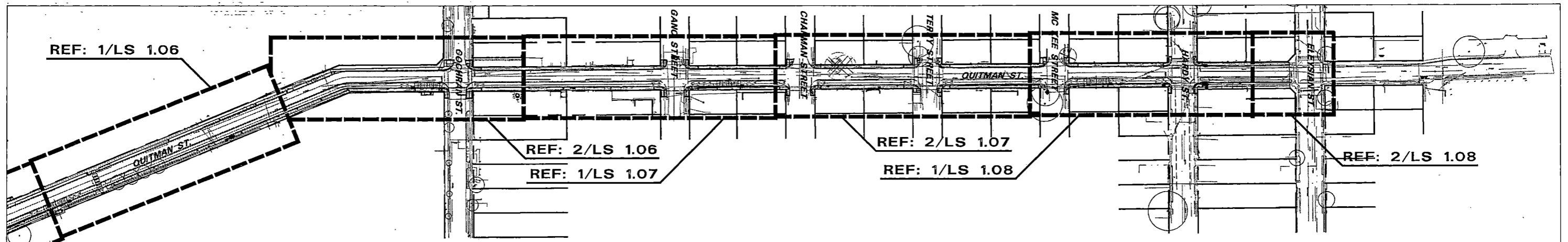


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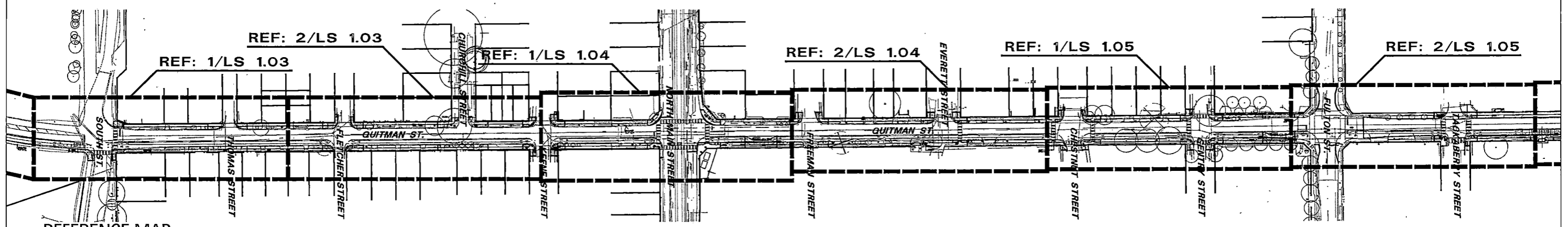
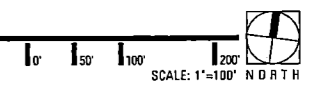


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	MF	DATE:	10-31-2022
CK'D BY:	LP, BC, JL	SHEET NO.:	85 (LC 1.03)
SCALE:			

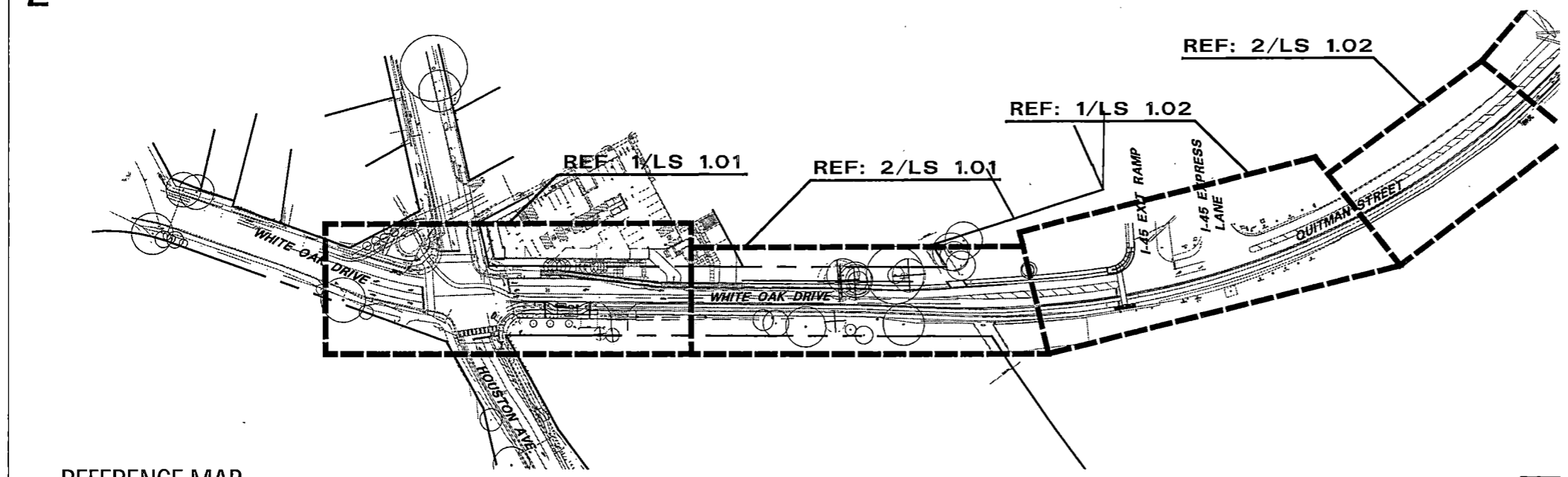
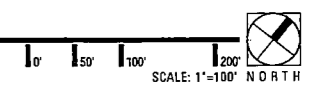
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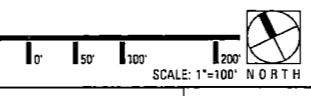
3 REFERENCE MAP



2 REFERENCE MAP

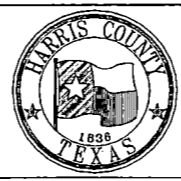


1 REFERENCE MAP

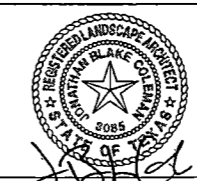


NO.	REVISIONS	DATE	NAME
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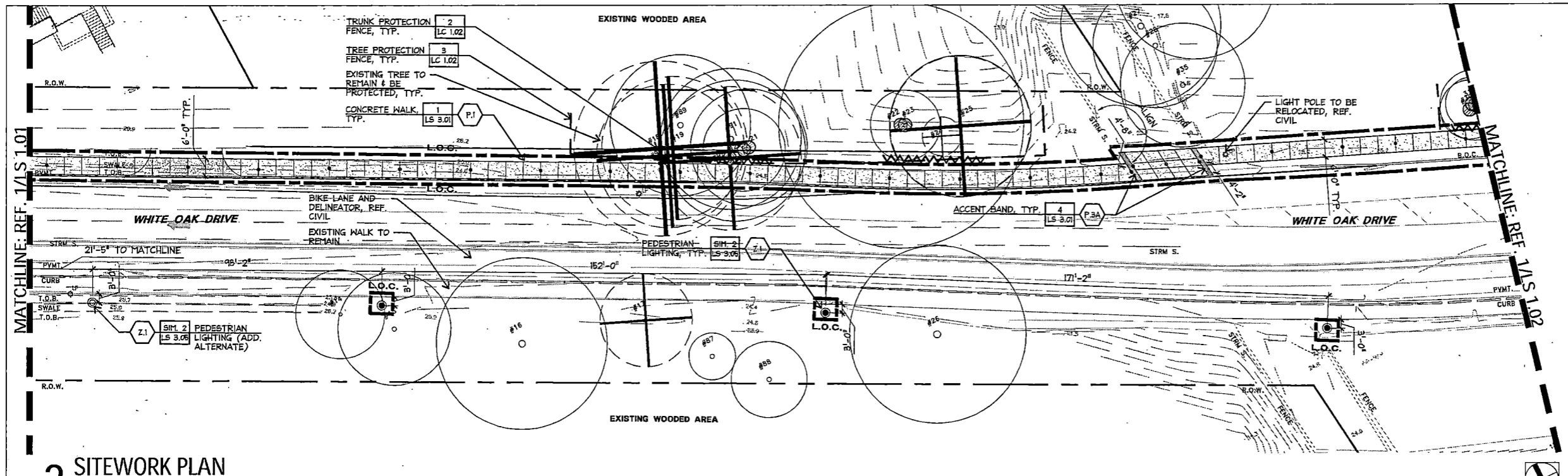


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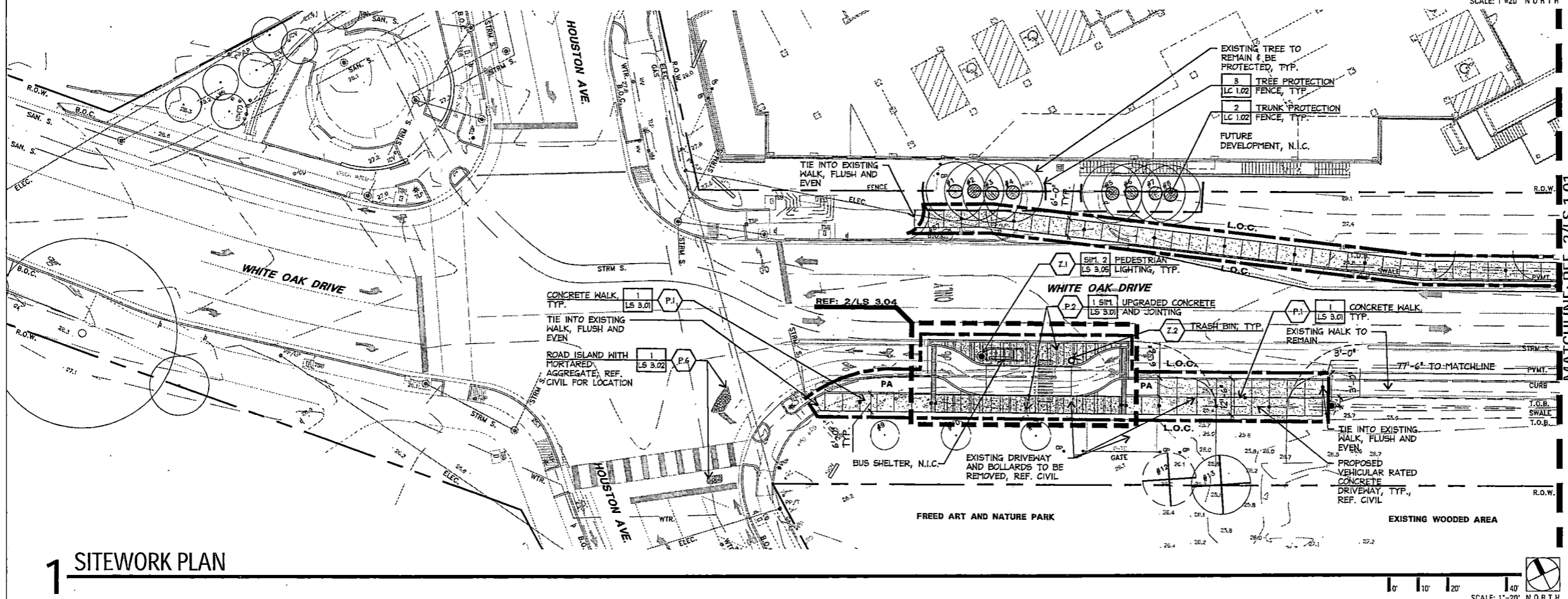


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
MF		10-31-2022	
CHECKED BY:		SHEET NO.:	
LP, BC, JL		86 (LC 1.04)	



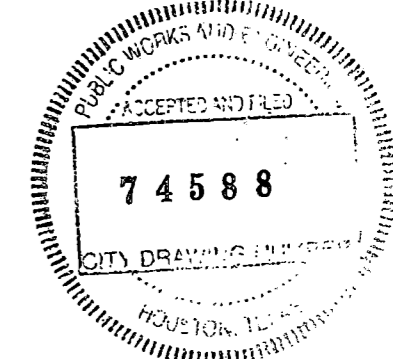


2 SITEWORK PLAN



1 SITEWORK PLAN

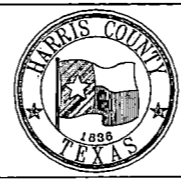
SITEWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER



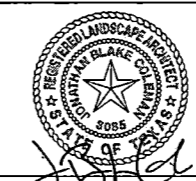
NOTE:  
LIMB UP ALL TREE LIMBS TO 5'-0" HEIGHT THAT FALL WITHIN 5'-0" OF EDGE OF WALK. PROVIDE CLEARING AND GRUBBING FOR ANY EXISTING VEGETATION THAT FALLS WITHIN 5'-0" OF EDGE OF WALK.

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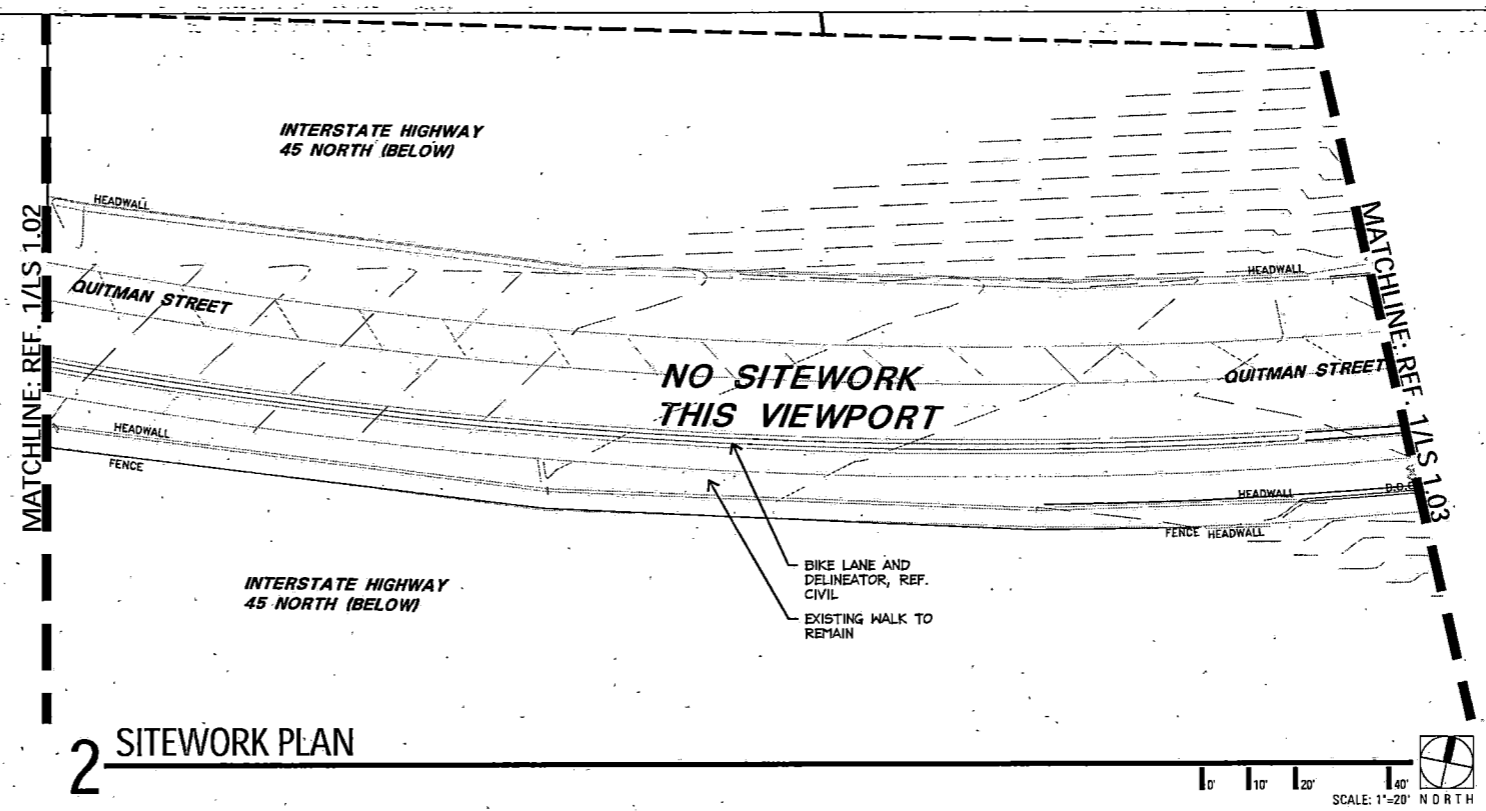


PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SITEWORK PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SCALE: 87 (LS 1.01)

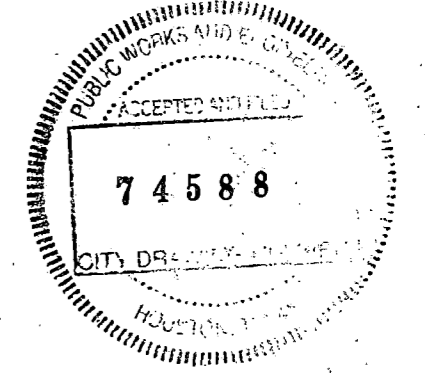
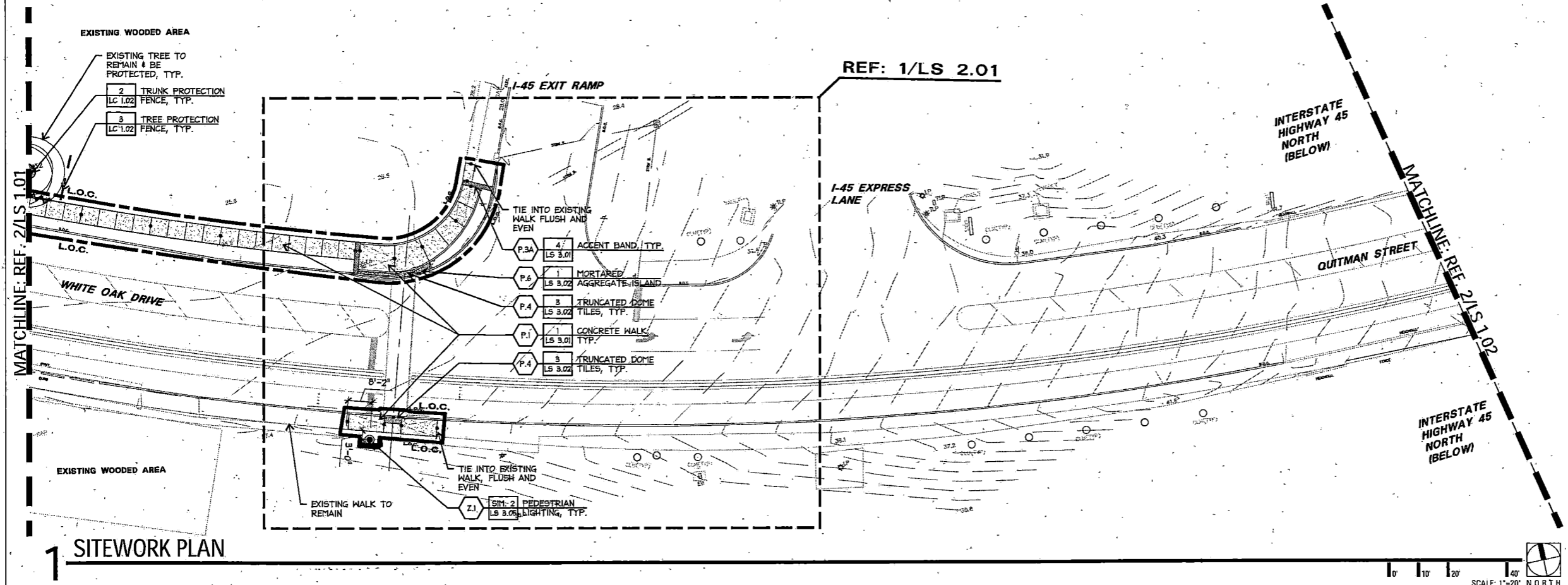
10.31.2022

SITEWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER

## 2 SITEWORK PLAN



## 1 SITEWORK PLAN

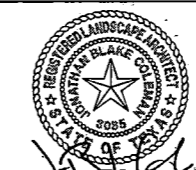


NO.	REVISIONS	DATE	NAME

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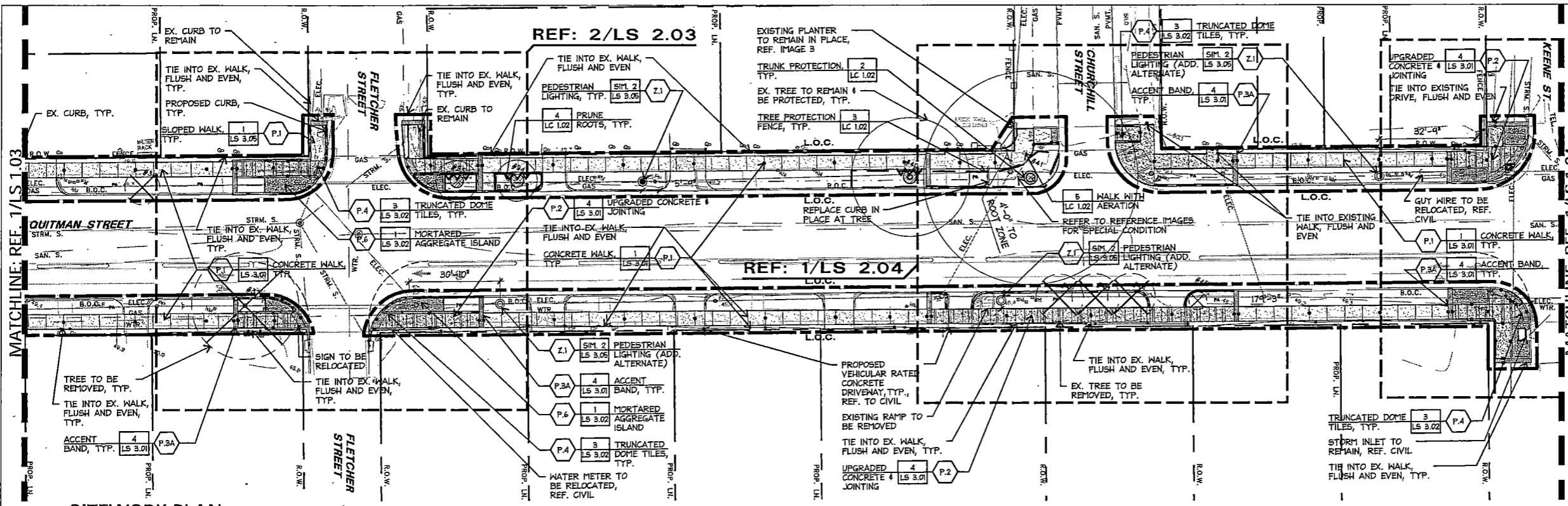


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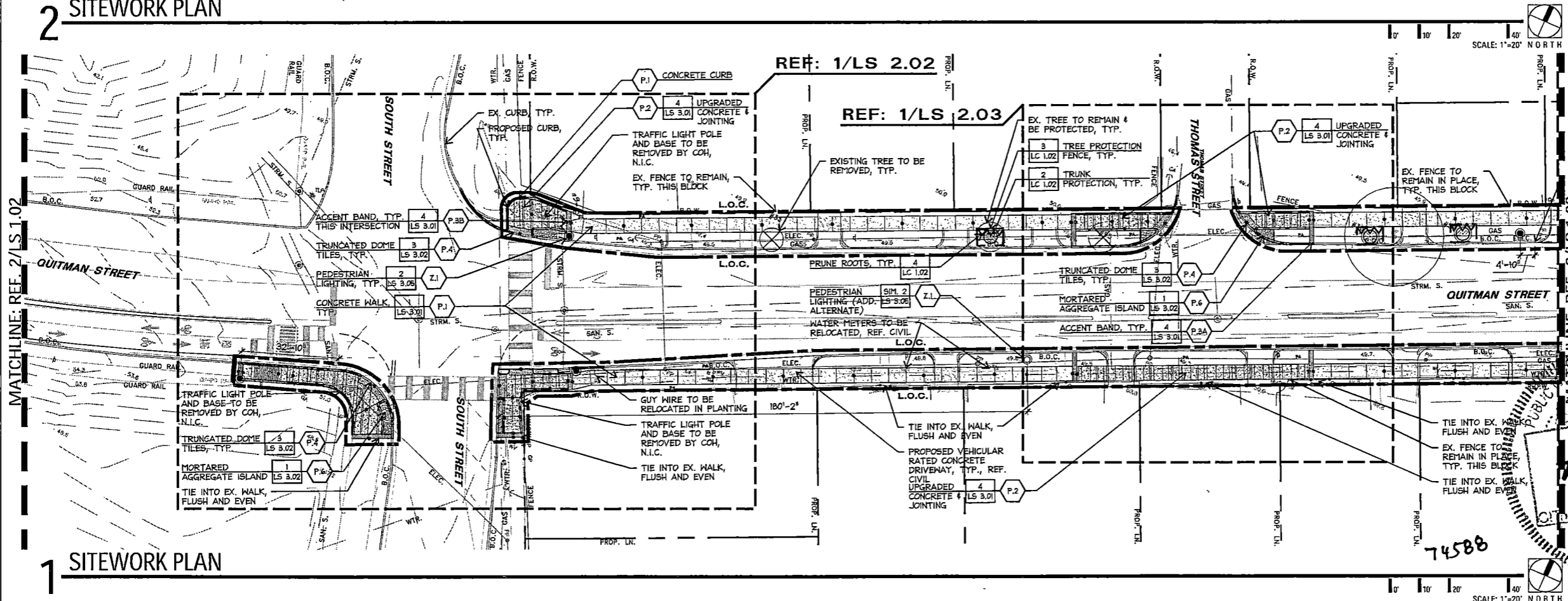


PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SITEWORK PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 88 (LS 1.02)
SCALE:	

10.31.2022

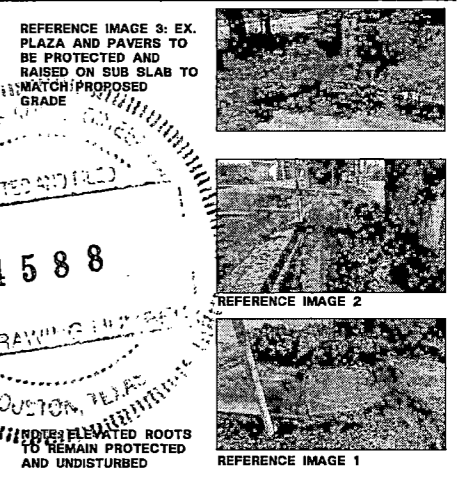


2 SITEWORK PLAN



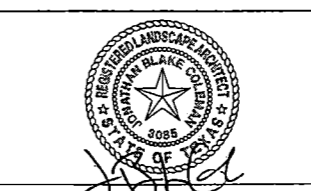
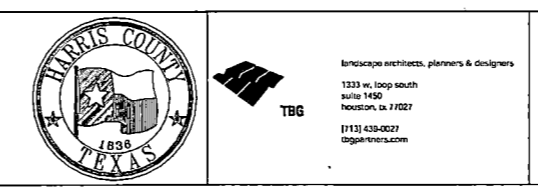
1 SITEWORK PLAN

SITEWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER



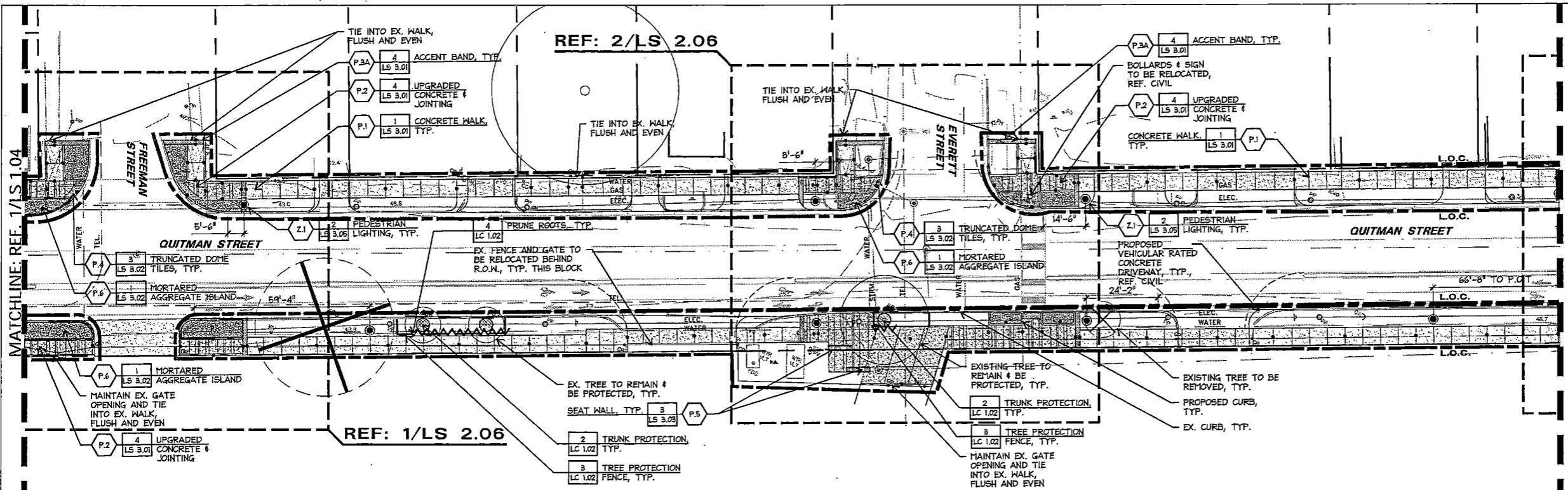
NO.	REVISIONS	DATE	NAME

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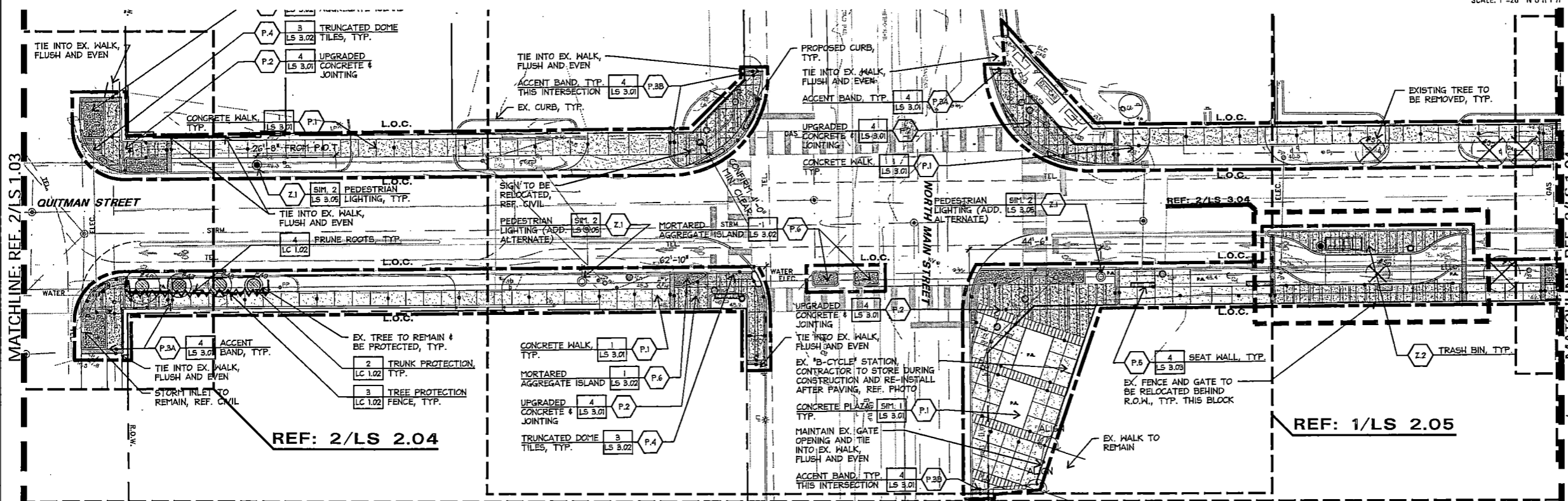


PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SITEWORK PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 89 (LS 1.03)

10.31.2022

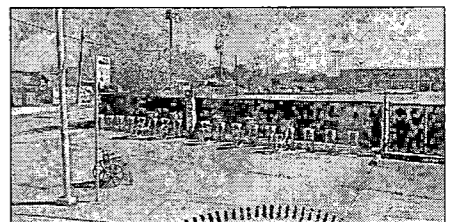


2 SITWORK PLAN

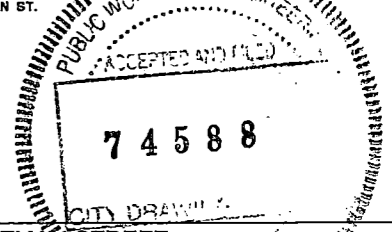


1 SITWORK PLAN

SITWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER



REFERENCE IMAGE: BICYCLE STATION AT SW CORNER OF MAIN ST.



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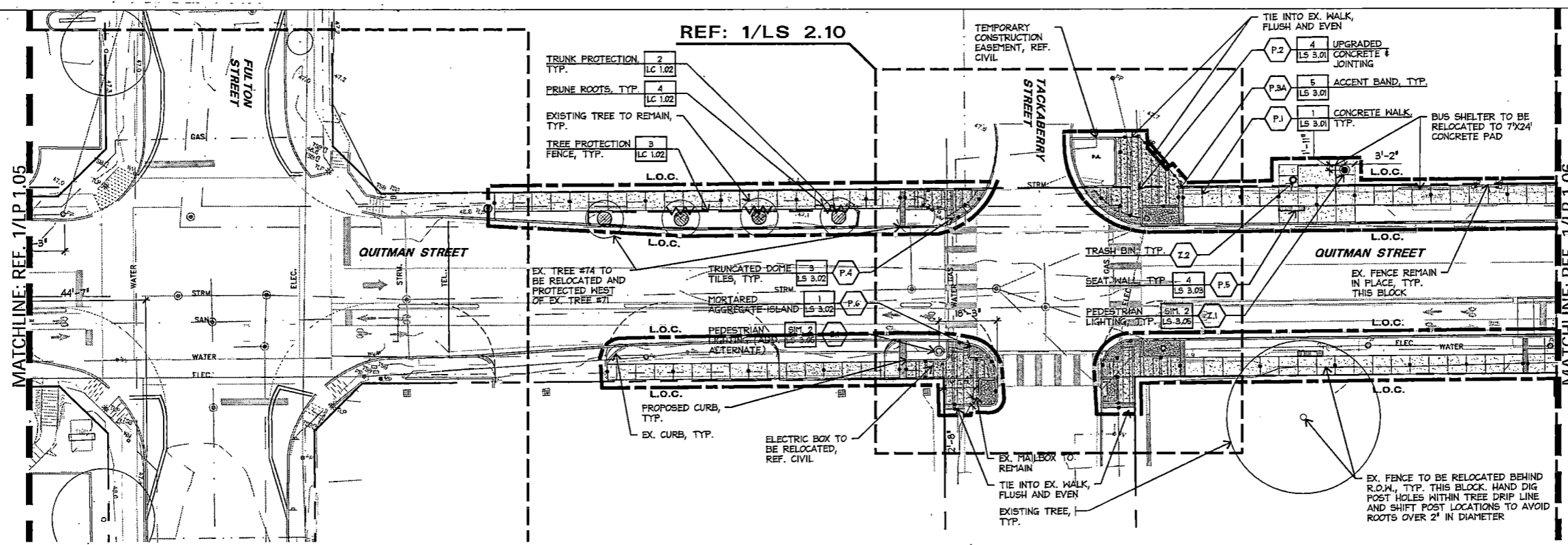


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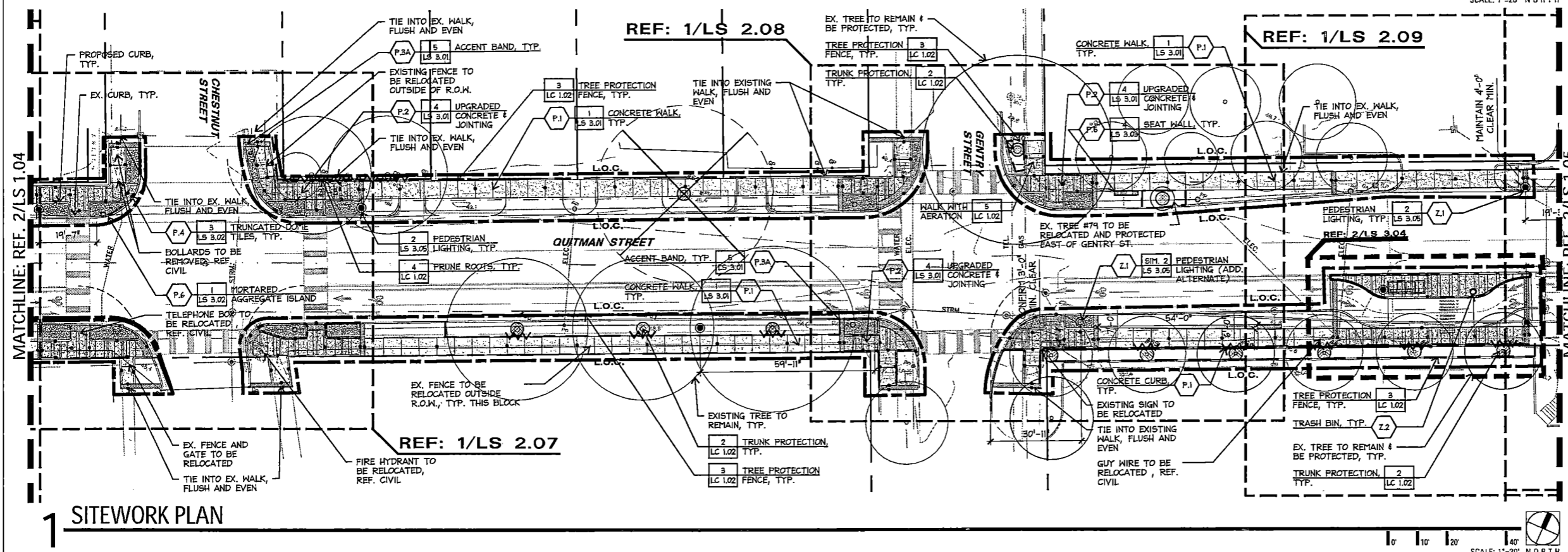


PROJECT TITLE: QUITMAN STREET		DATE: 10-31-2022
SHEET DESCRIPTION: SITWORK PLAN		SHEET NO: 90 (LS 1.04)
DRAWN BY: MF	SCALE:	
CK'D BY: LP, BC, JL		

10.31.2022



2 SITWORK PLAN



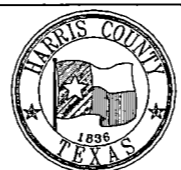
1 SITWORK PLAN

SITWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER

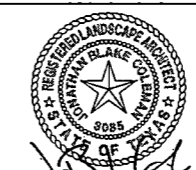


NO.	REVISIONS	DATE	NAME

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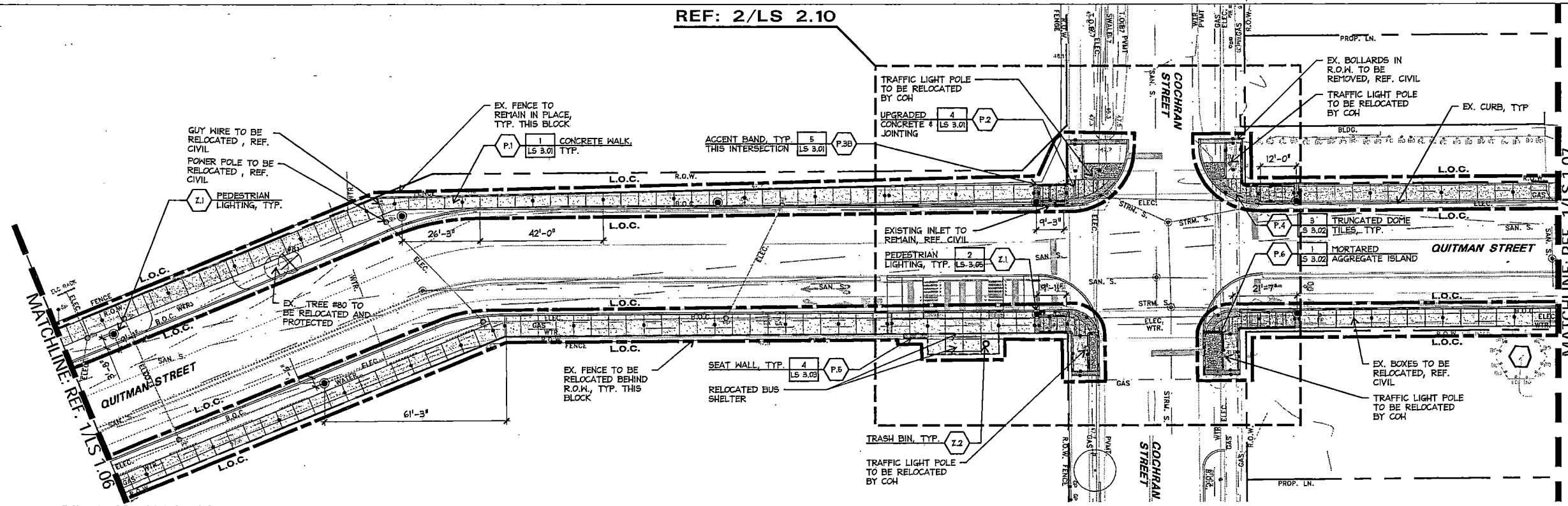
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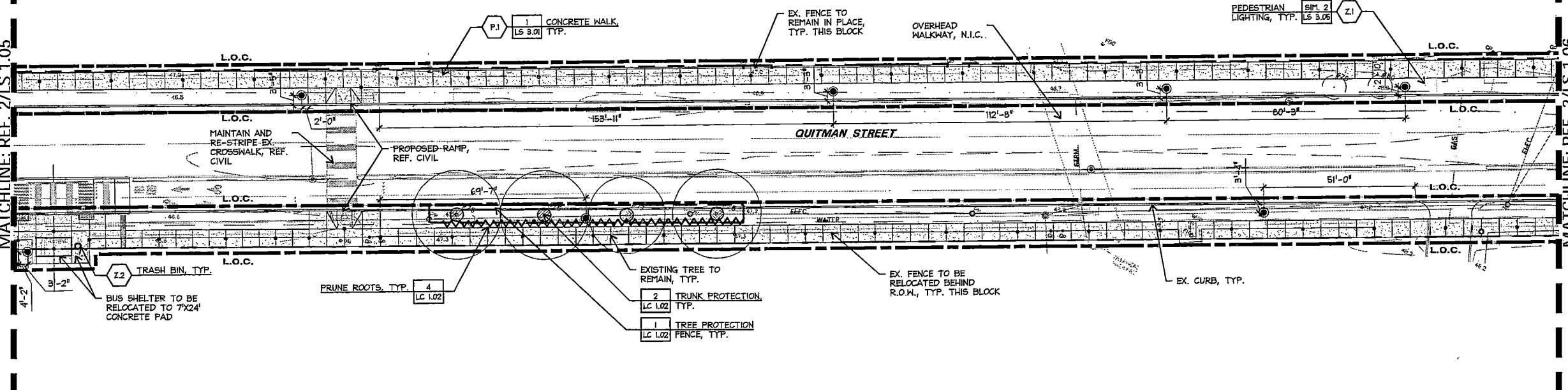
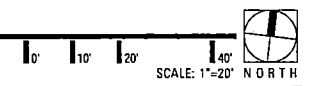
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SITWORK PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 91 (LS 1.05)

10.31.2022

REF: 2/LS 2.10



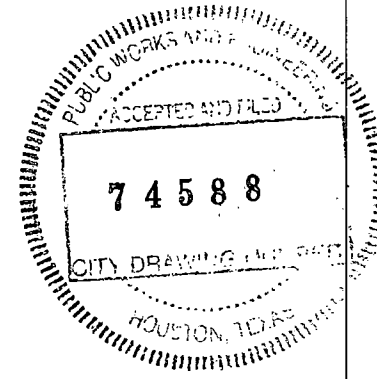
2 SITWORK PLAN



1 SITWORK PLAN

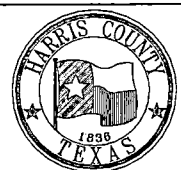


SITWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER

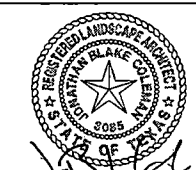


NO.	REVISIONS	DATE	NAME

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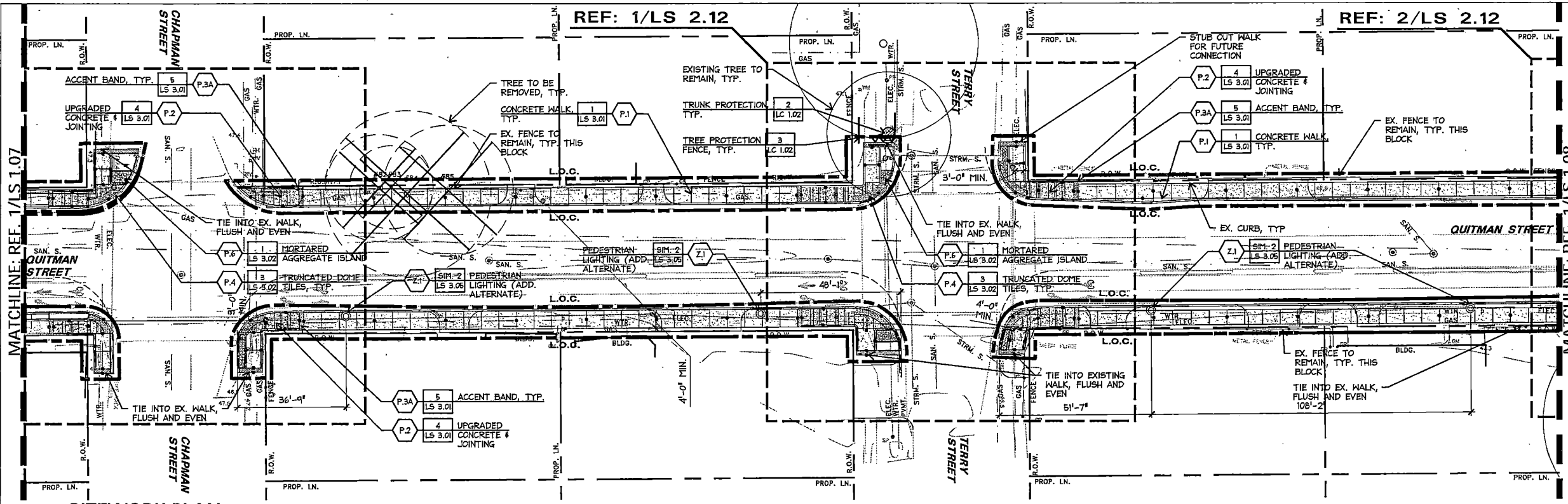


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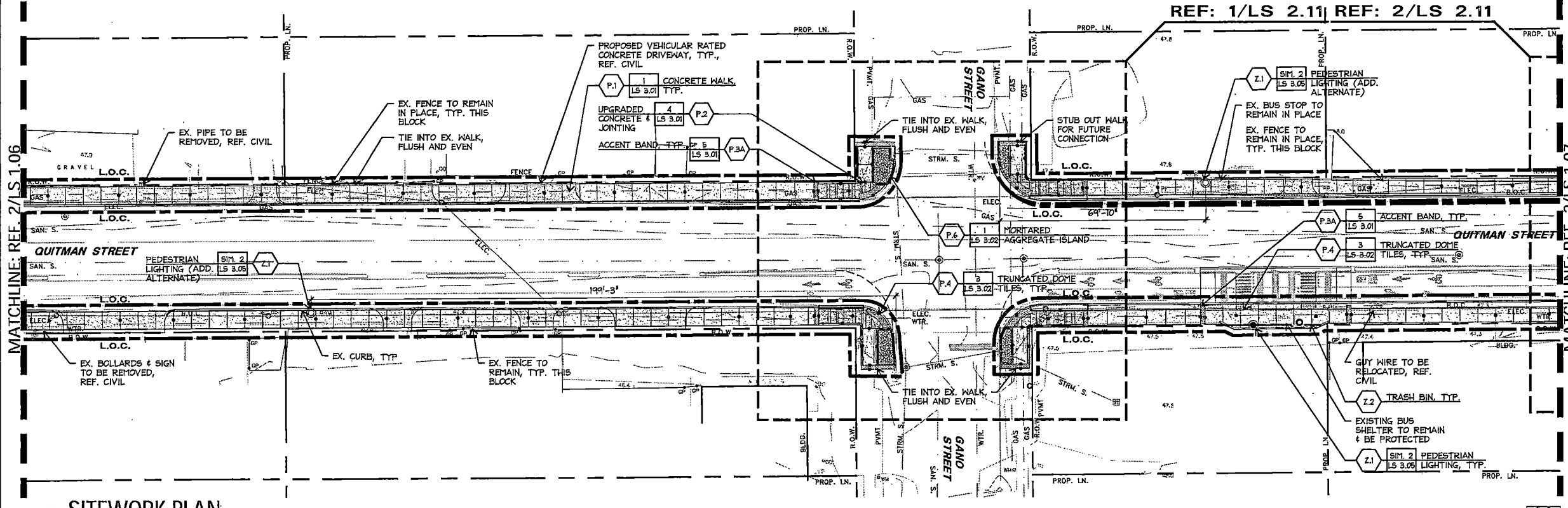


PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SITWORK PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 92 (LS 1.06)

10.31.2022



2 SITWORK PLAN



1 SITWORK PLAN

SITWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/ STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET - RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER



NO.	REVISIONS	DATE	NAME

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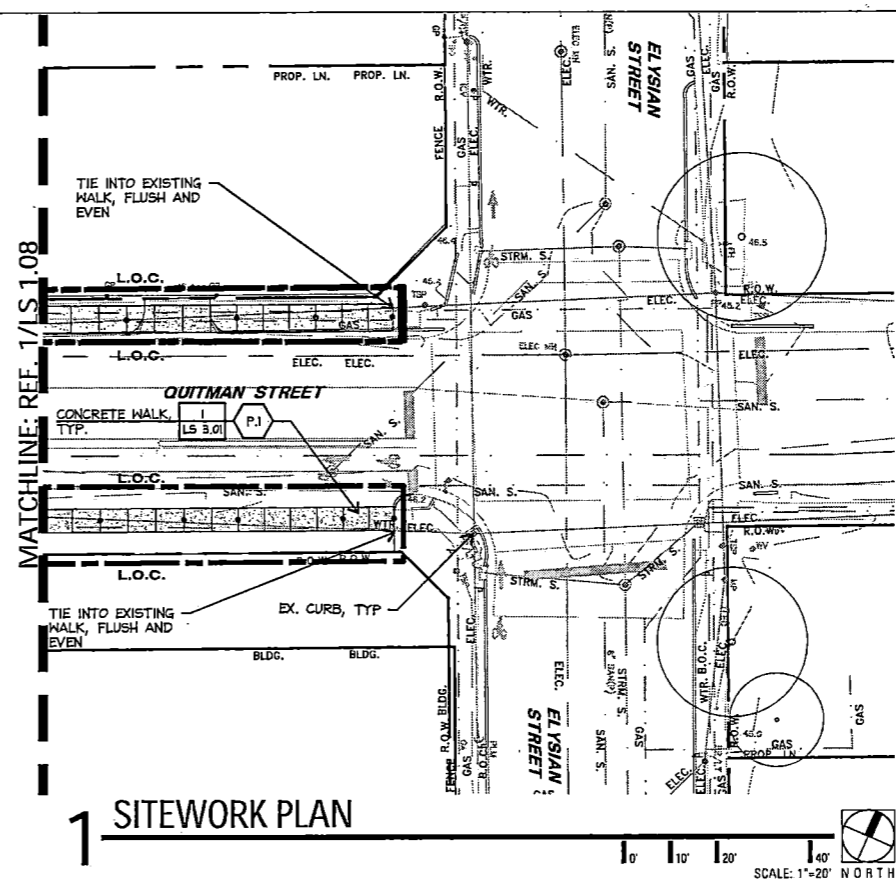


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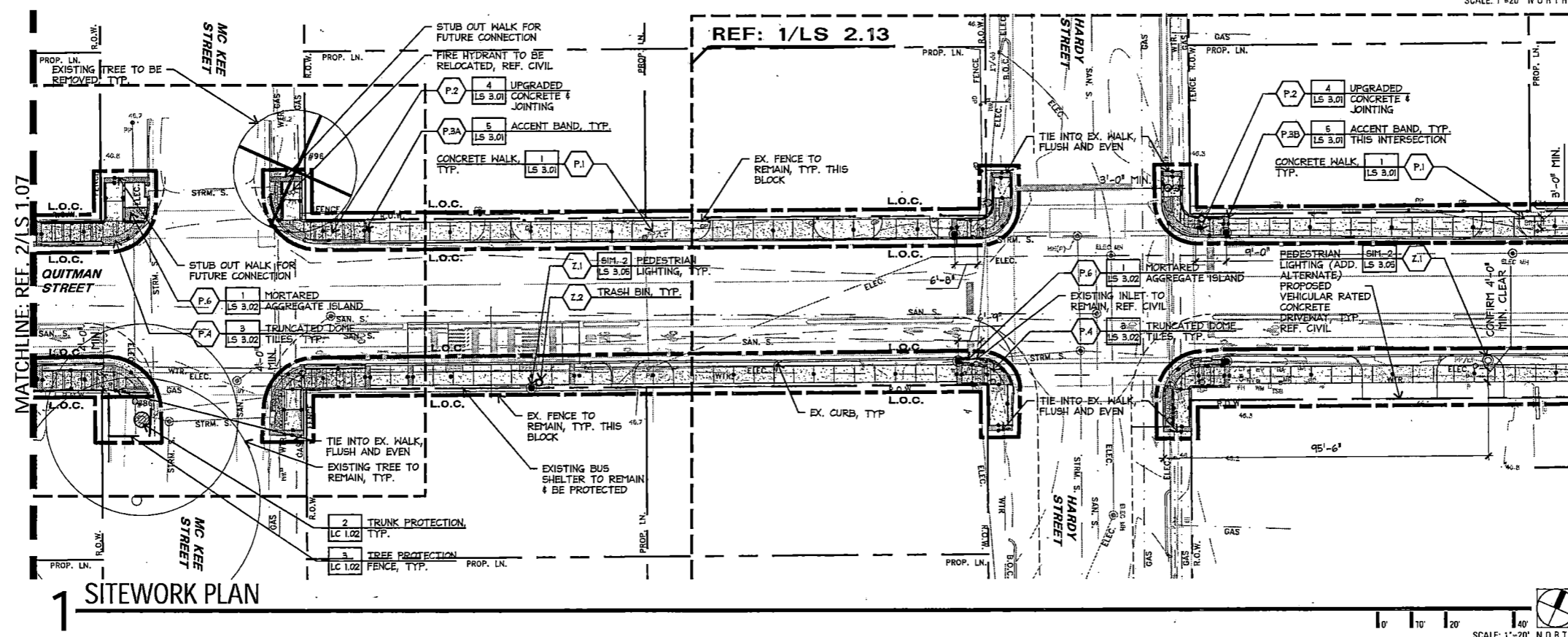
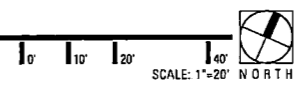


PROJECT TITLE: QUITMAN STREET		DATE: 10-31-2022
SHEET DESCRIPTION: SITWORK PLAN		SHEET NO: 93 (LS 1.07)
DRAWN BY: MF	SCALE:	
CK'D BY: LP, BC, JL		

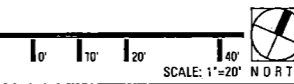
10.31.2022



1 SITWORK PLAN



1 SITWORK PLAN

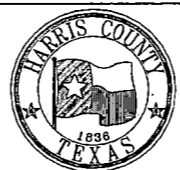


SITWORK LEGEND		
LINETYPES	KEY	DESCRIPTION / MODEL NUMBER
	P.1	TYP. CONCRETE WALK
	P.2	UPGRADED ACCENT BAND / REFUGE PLAZA
	P.3	ACCENT BAND W/STREET NAME
	P.4	TRUNCATED DOME TILE, WET SET -RADIUS TILE, REF. DETAILS
	P.5	CONCRETE SEATWALL
	P.6	MORTARED AGGREGATE PAVEMENT
	Z.1	PEDESTRIAN LIGHT
	Z.1	PEDESTRIAN LIGHT (ADD. ALTERNATE)
		EXISTING TREE TO BE DEMOLISHED AND REMOVED, TYP.
		4' TREE PROTECTION POLY FENCE
		TRUNK PROTECTION
		ROOT PRUNE
	Z.3	VERTICAL ROOT BARRIER

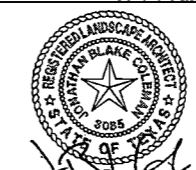


NO.	REVISIONS	DATE	NAME
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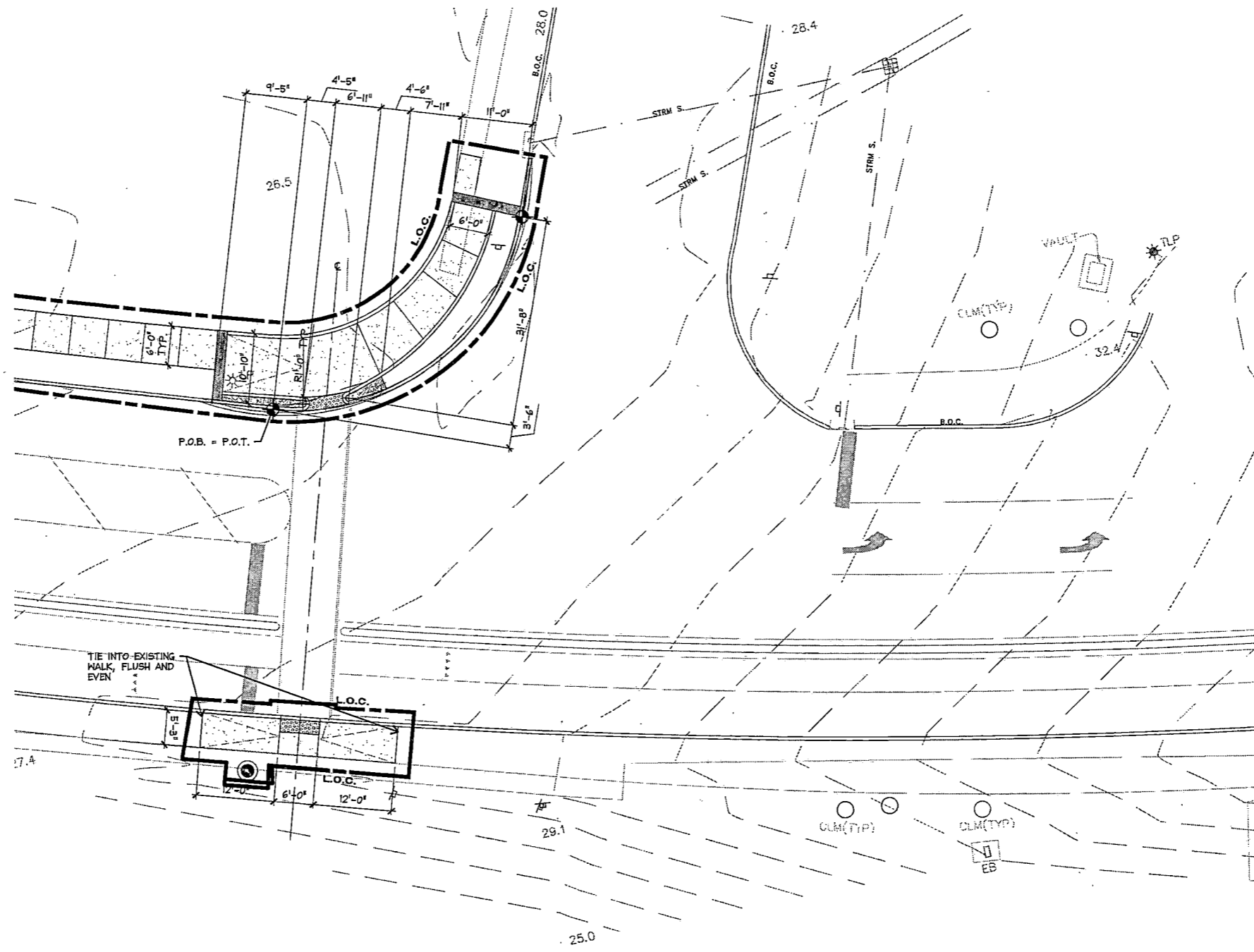
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suite 1450  
Houston, tx 77027  
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PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SITWORK PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 94 (LS 1.08)

10.31.2022



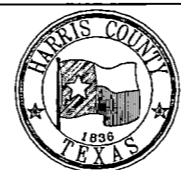


**1** SITEWORK PLAN: I-45 FEEDER RD  
ENLARGEMENT

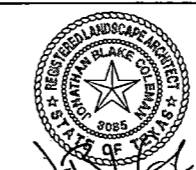
1" = 10' NORTH

NO.	REVISIONS	DATE	NAME
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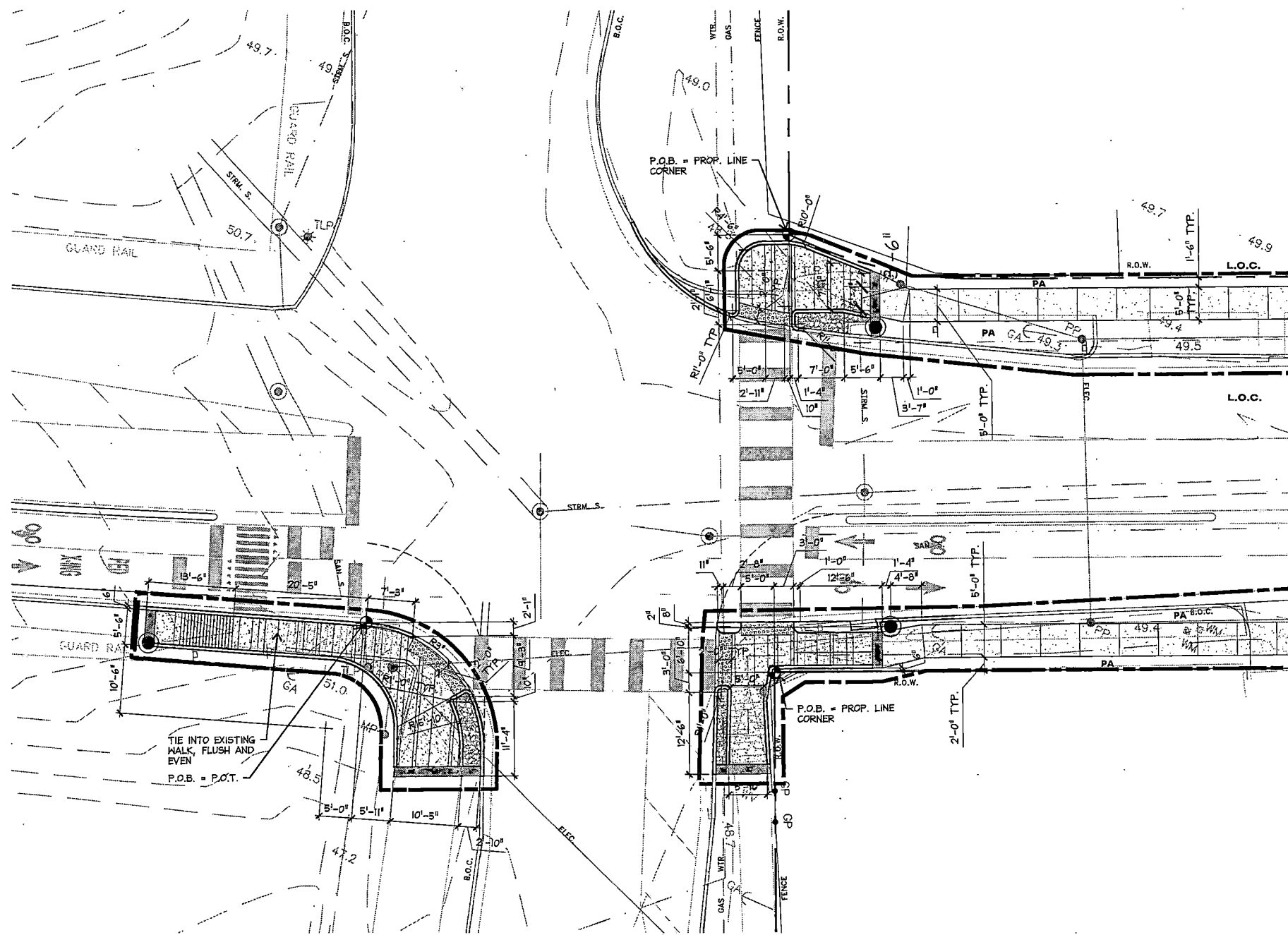


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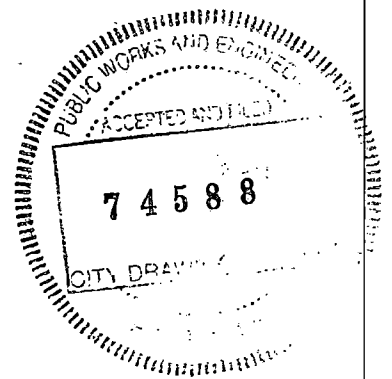
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	DATE:	SCALE:	SHEET NO.:
MF	10-31-2022		95 (LS 2.01)
CHK'D BY:			
LP, BC, JL			

10.31.2022



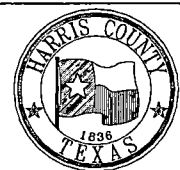
**1 SITEWORK PLAN: SOUTH ST**

SCALE: 1"=10' NORTH



NO.	REVISIONS	DATE	NAME
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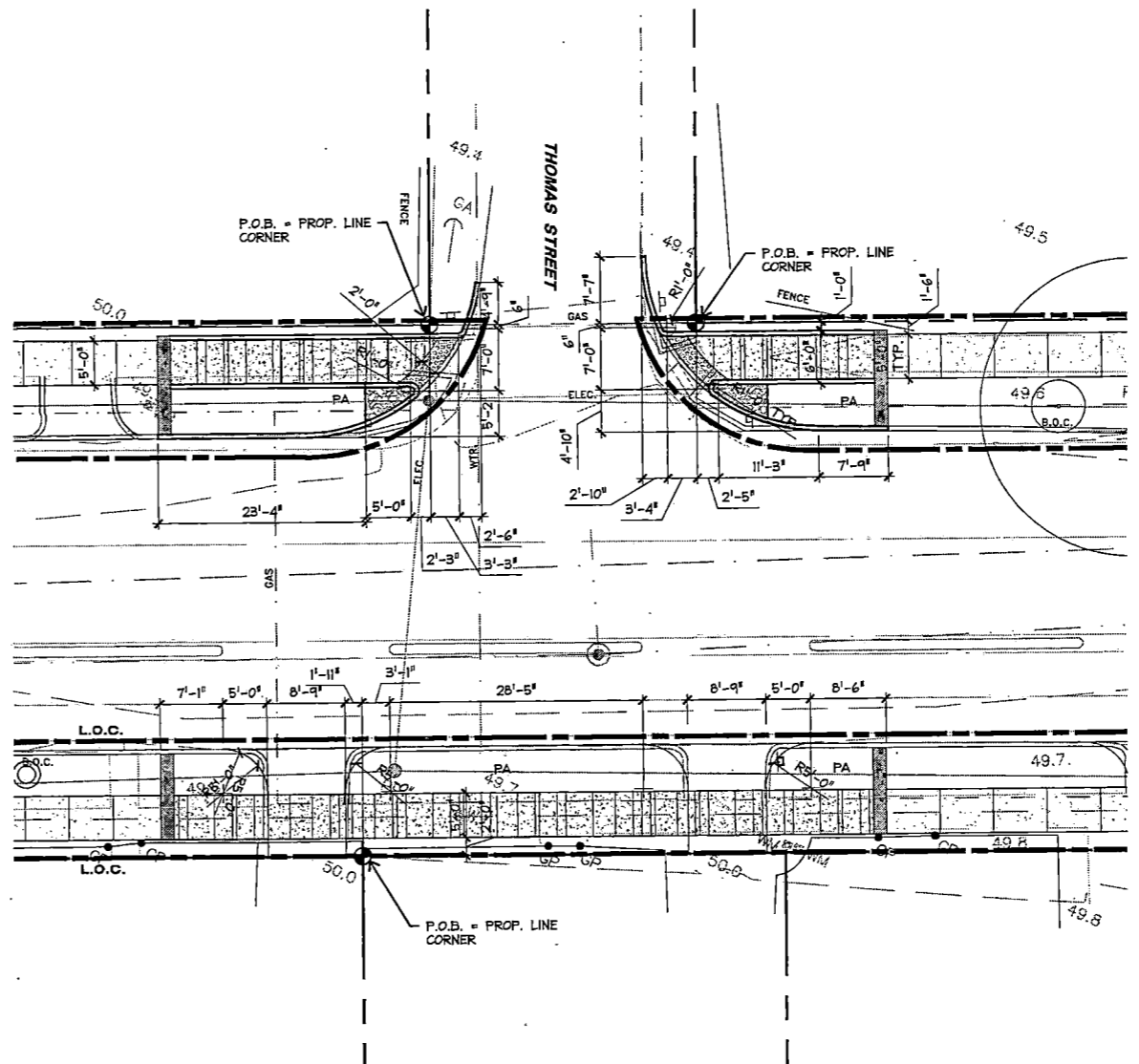
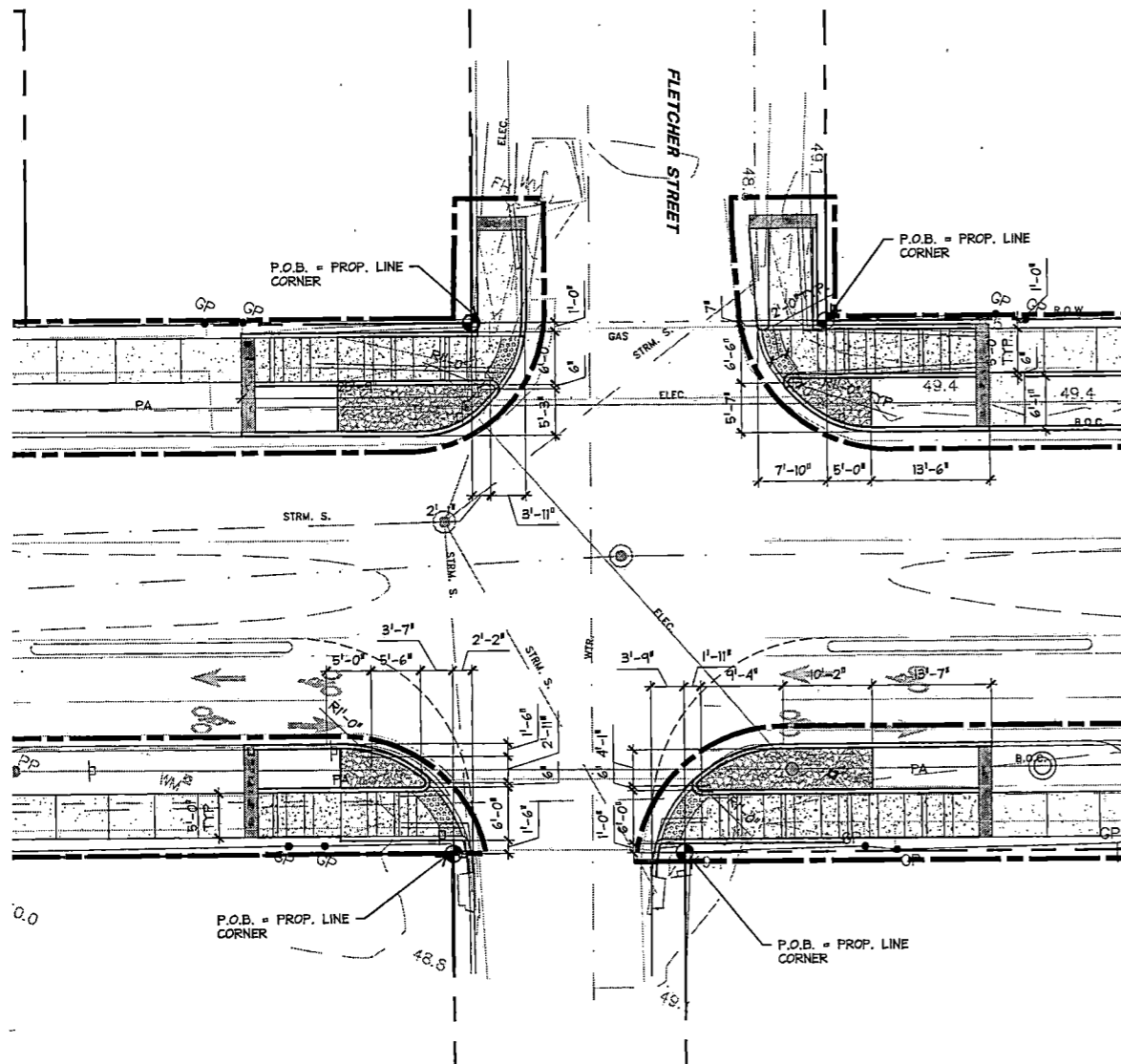


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PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: LAYOUT ENLARGEMENT	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 96 (LS 2.02)

10.31.2022



**2** SITEWORK PLAN: FLETCHER  
ENLARGEMENT

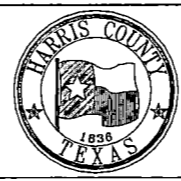
SCALE: 1"=10' NORTH

**1** SITEWORK PLAN: THOMAS ST  
ENLARGEMENT

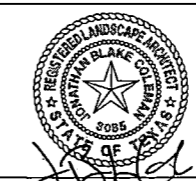
SCALE: 1"=10' NORTH

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
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HARRIS COUNTY  
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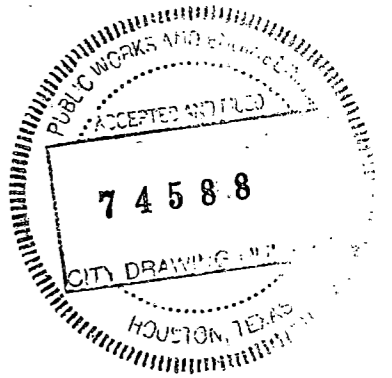


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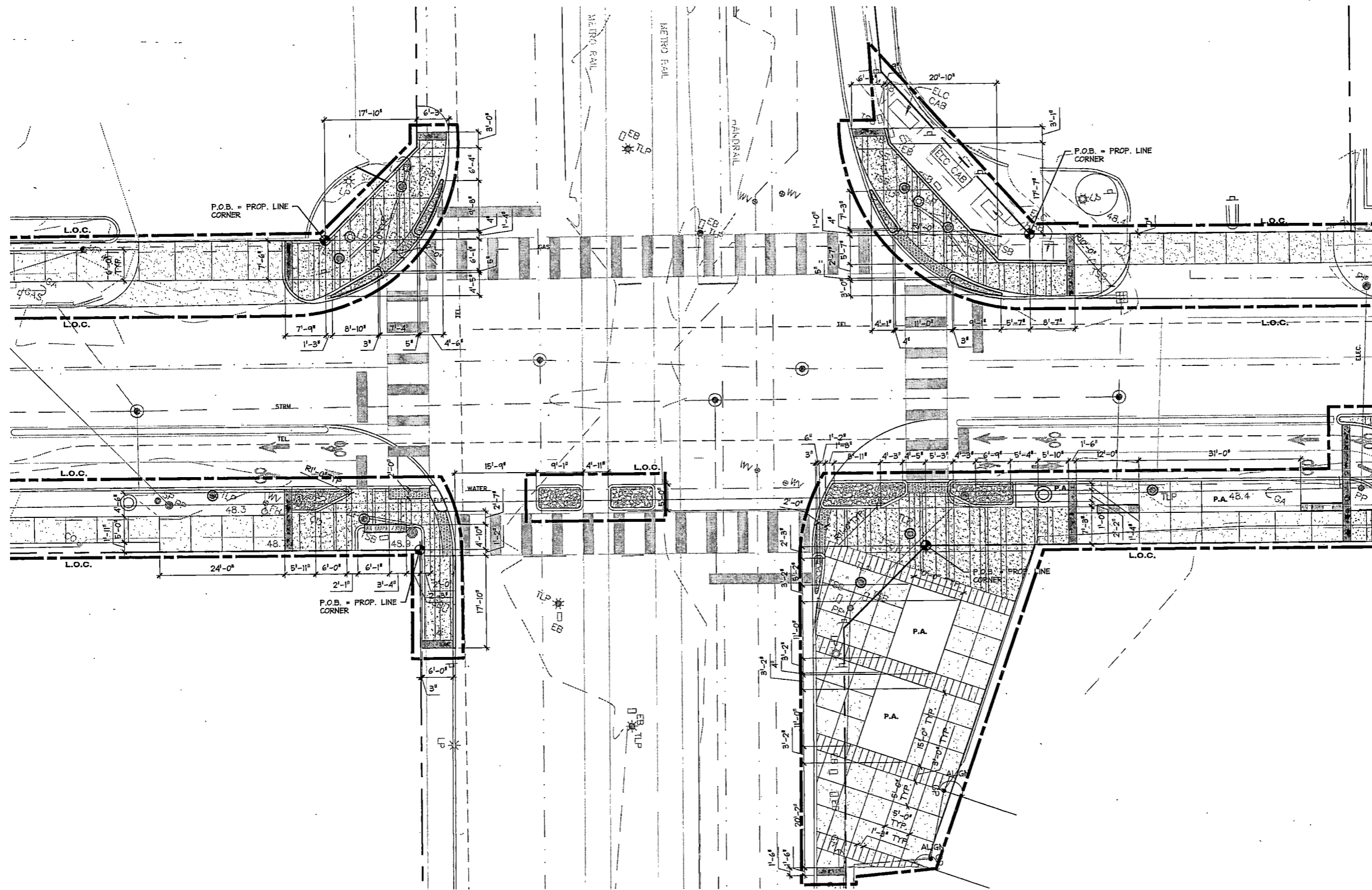


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS LAYOUT ENLARGEMENT	
DRAWN BY: MF	SCALE:	DATE: 10-31-2022	SHEET NO: 97 (LS 2.03)
CK'D BY: LP, BC, JL			

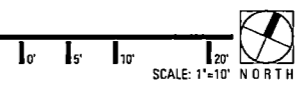
10.31.2022







**1 SITEWORK PLAN: NORTH MAIN ST**  
ENLARGEMENT



NO.	REVISIONS	DATE	NAME
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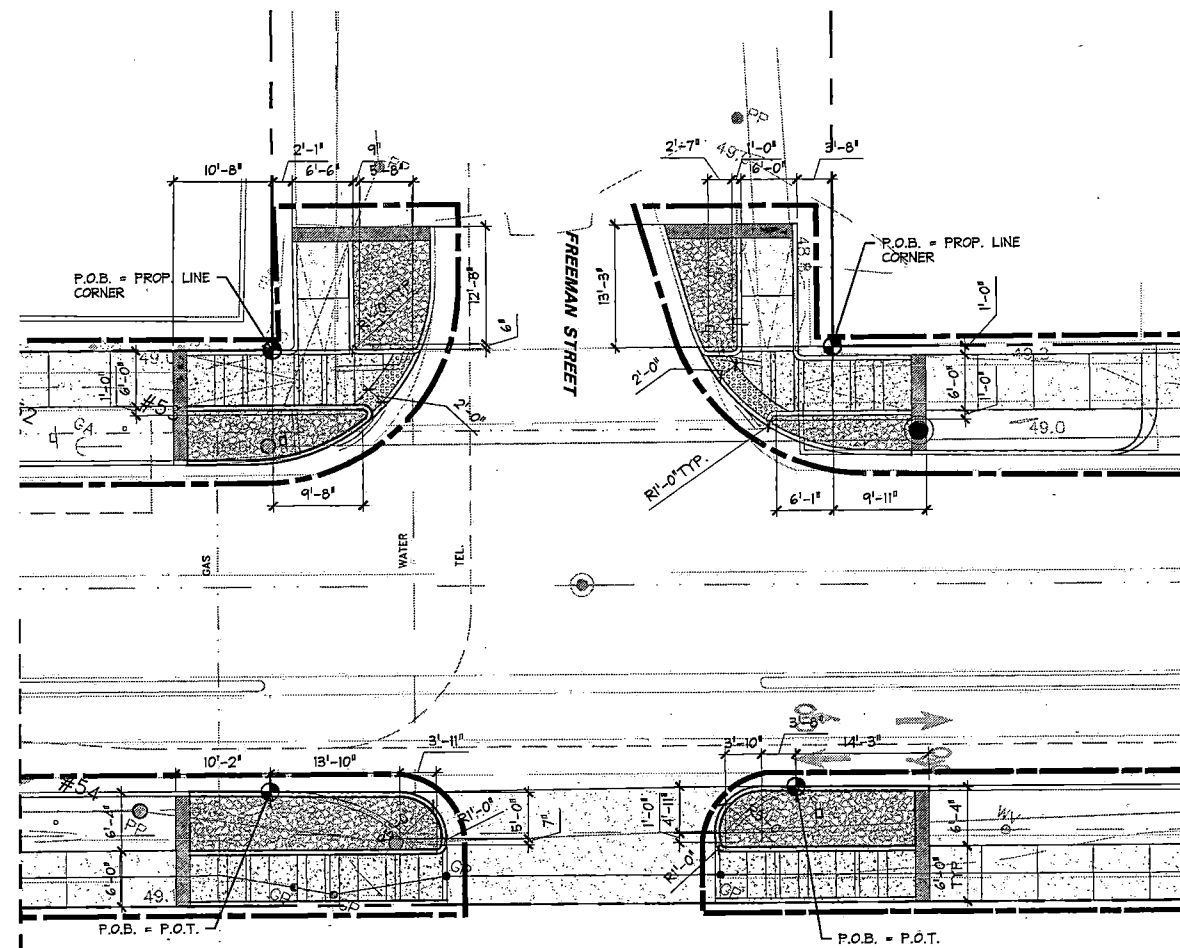
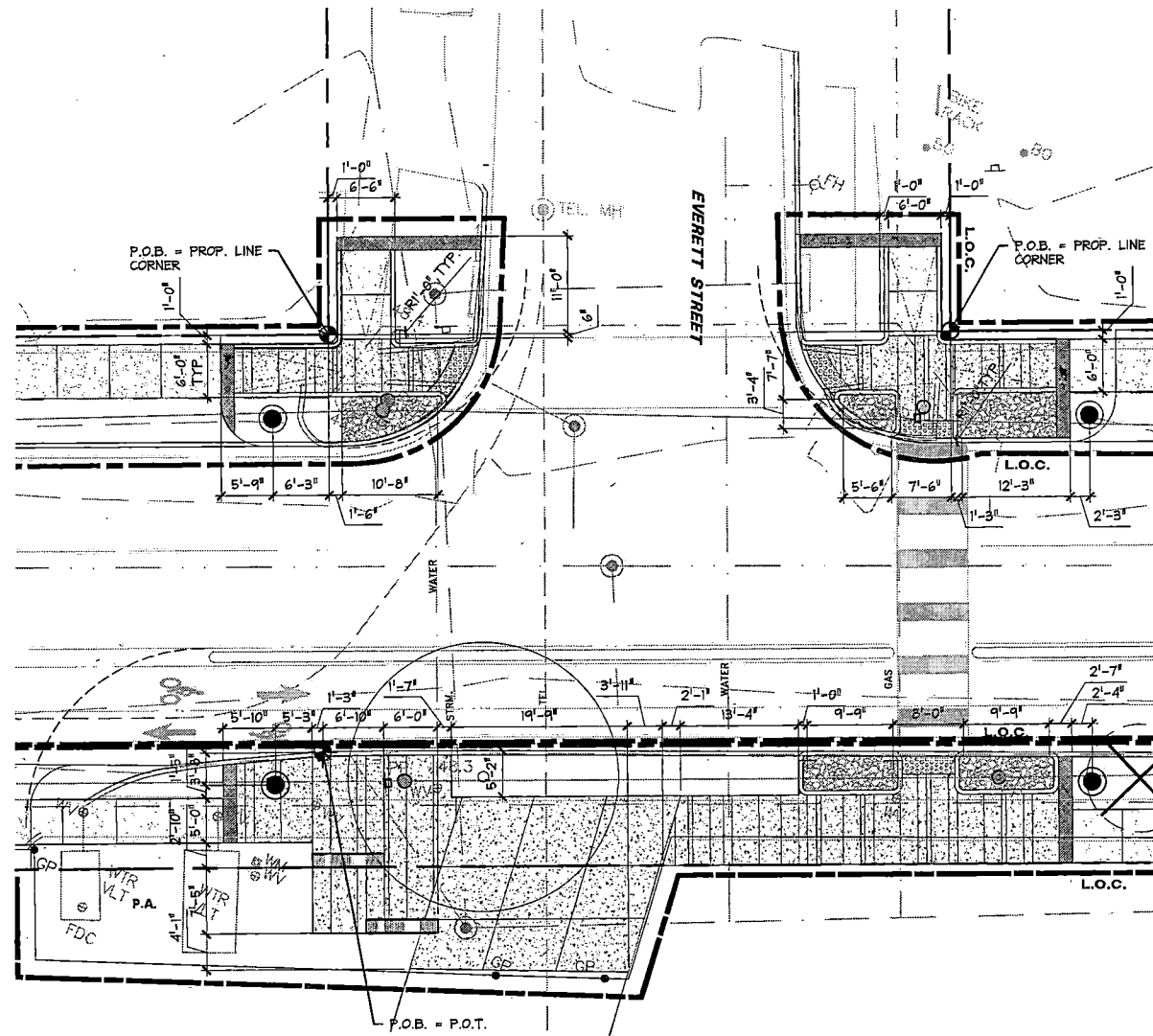


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PROJECT TITLE: QUITMAN STREET		DATE: 10-31-2022
ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 99 (LS 2.05)
SHEET DESCRIPTION: LAYOUT ENLARGEMENT		
DRAWN BY: MF	SCALE:	
CK'D BY: LP, BC, JL		

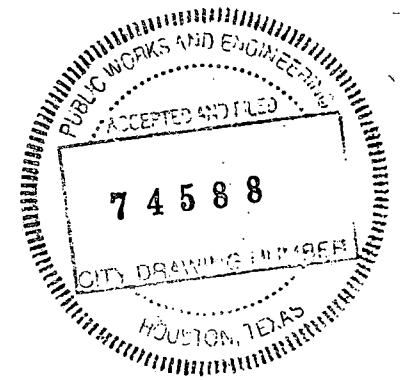
10.31.2022



**2** SITEWORK PLAN: EVERETT ST  
ENLARGEMENT

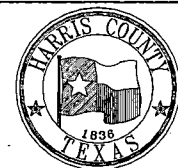


**1** SITEWORK PLAN: FREEMAN ST  
ENLARGEMENT

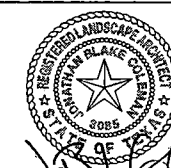


NO.	REVISIONS	DATE	NAME

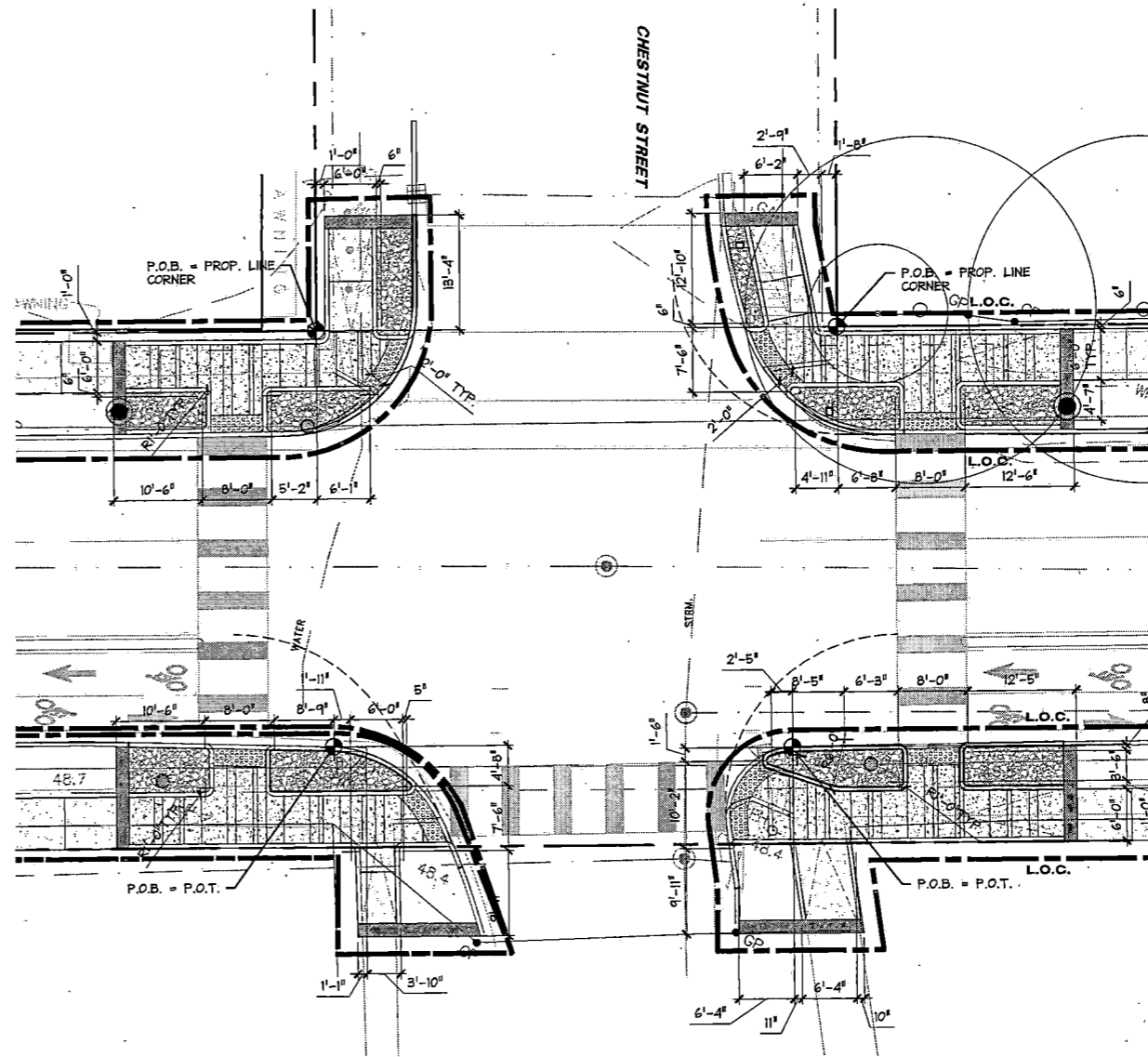
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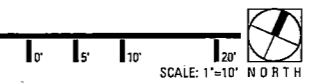
landscape architects, planners & designers  
1333 w. loop south  
suite 1400  
houston, tx 77027  
(713) 439-0027  
tbga@tms.com



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		LAYOUT ENLARGEMENT	
DRAWN BY:	MF	DATE:	10-31-2022
CR'D BY:	LP, BC, JL	SHEET NO.:	100 (LS 2.06)
SCALE:		DATE:	10.31.2022



**1 SITEWORK PLAN: CHESTNUT ST**  
ENLARGEMENT



NO.	REVISIONS	DATE	NAME
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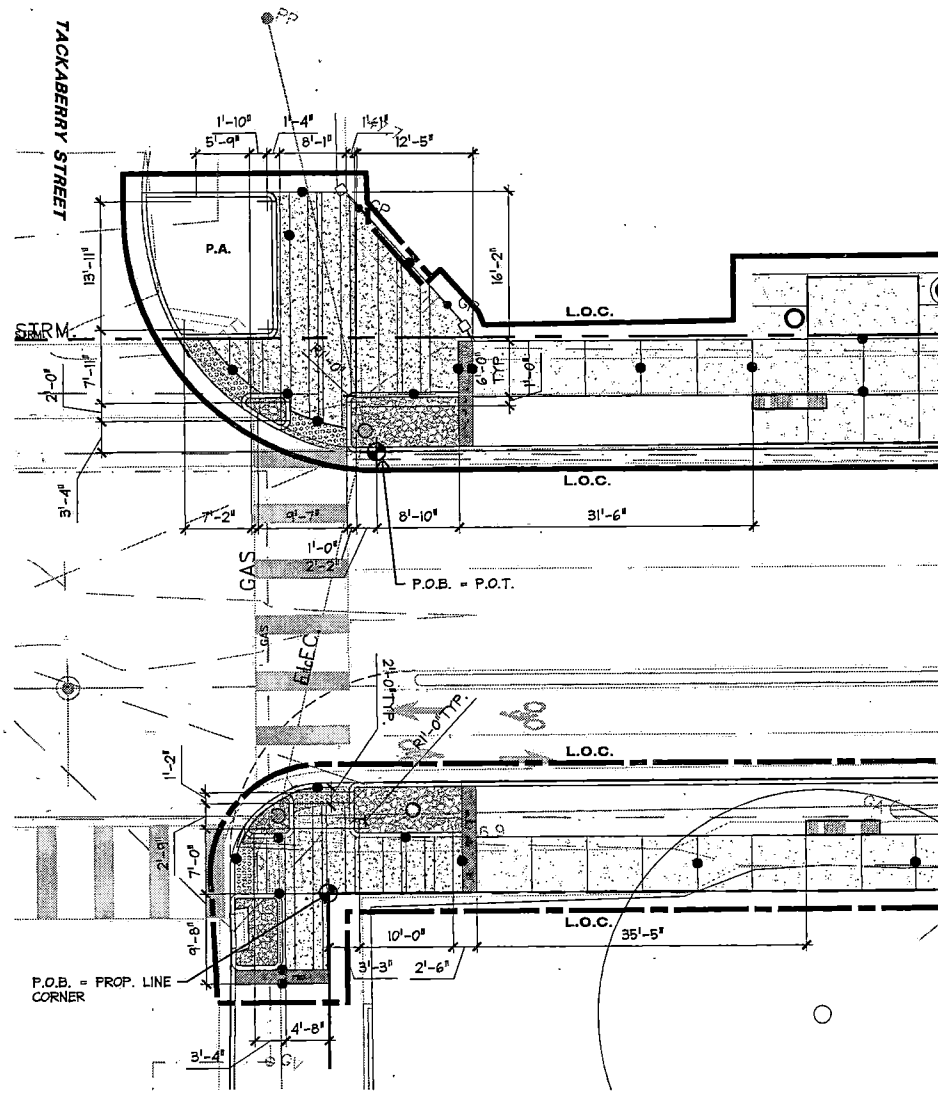


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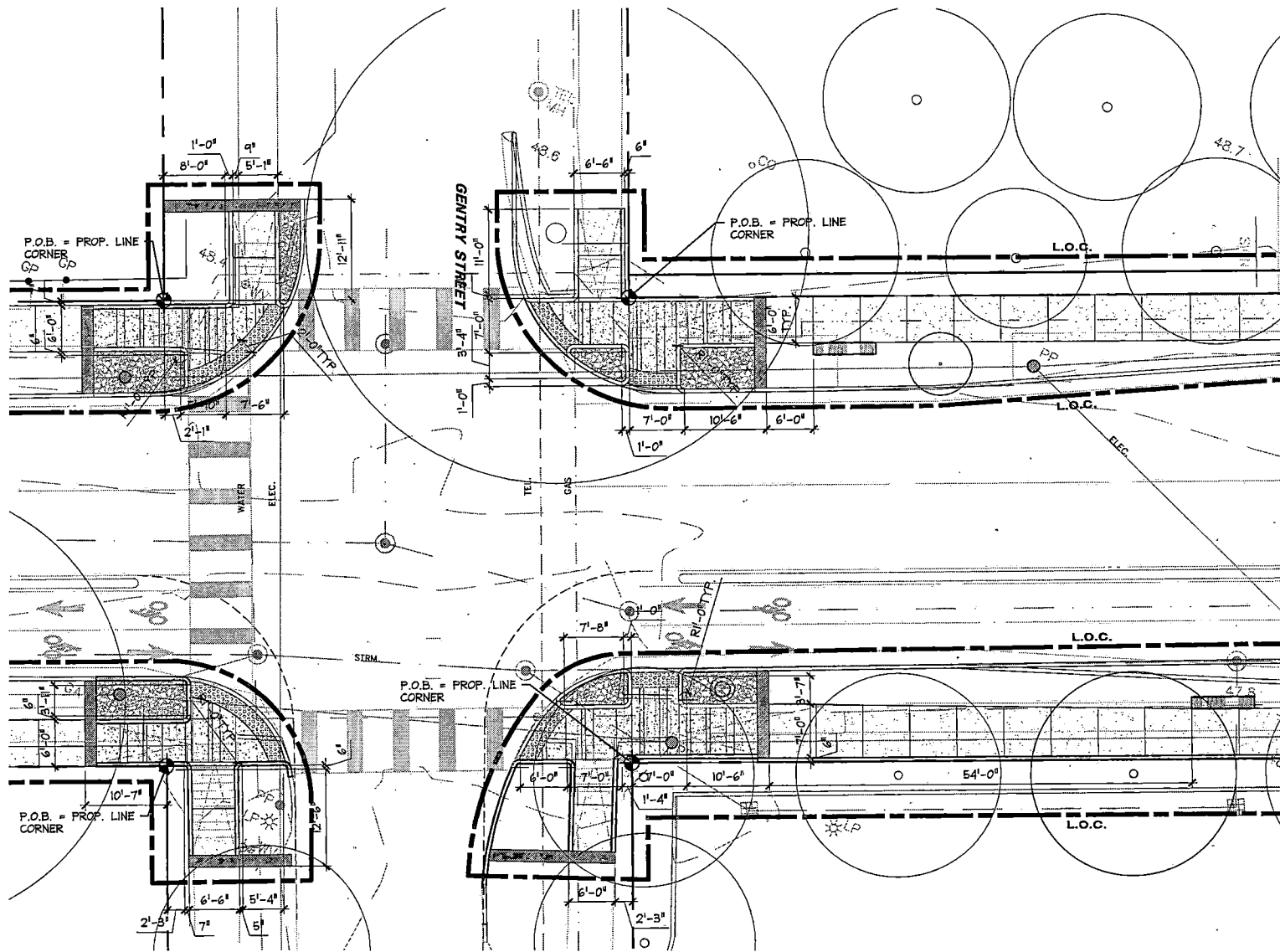
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: LAYOUT ENLARGEMENT	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 101 (LS 2.07)

10.31.2022



**2** SITework PLAN: EAST OF TACKABERRY  
ENLARGEMENT

1" 1/2" 1" 1/4" 1" 2" SCALE: 1"=10' NORTH



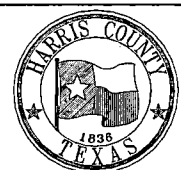
**1** SITework PLAN: GENTRY ST  
ENLARGEMENT

1" 1/2" 1" 1/4" 1" 2" SCALE: 1"=10' NORTH

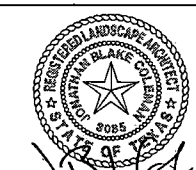


NO.	REVISIONS	DATE	NAME

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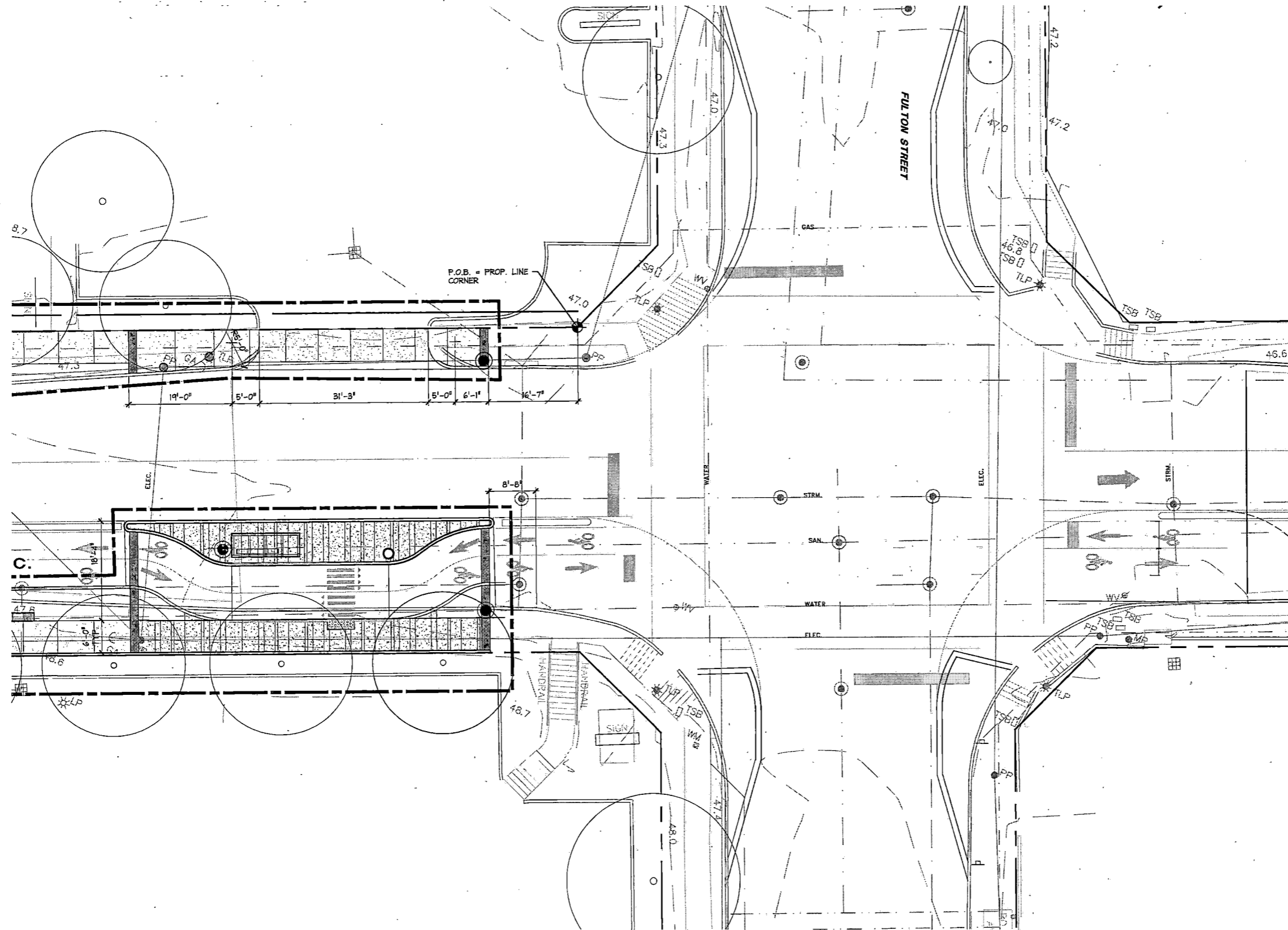


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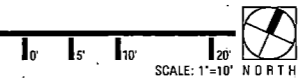


PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: LAYOUT ENLARGEMENT	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 102 (LS 2.08)
SCALE:	DATE: 10.31.2022



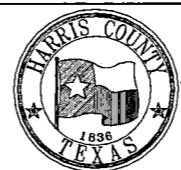


**1** SITEWORK PLAN: GENTRY ST & BUS STOP @ FULTON  
ENLARGEMENT



NO.	REVISIONS	DATE	NAME
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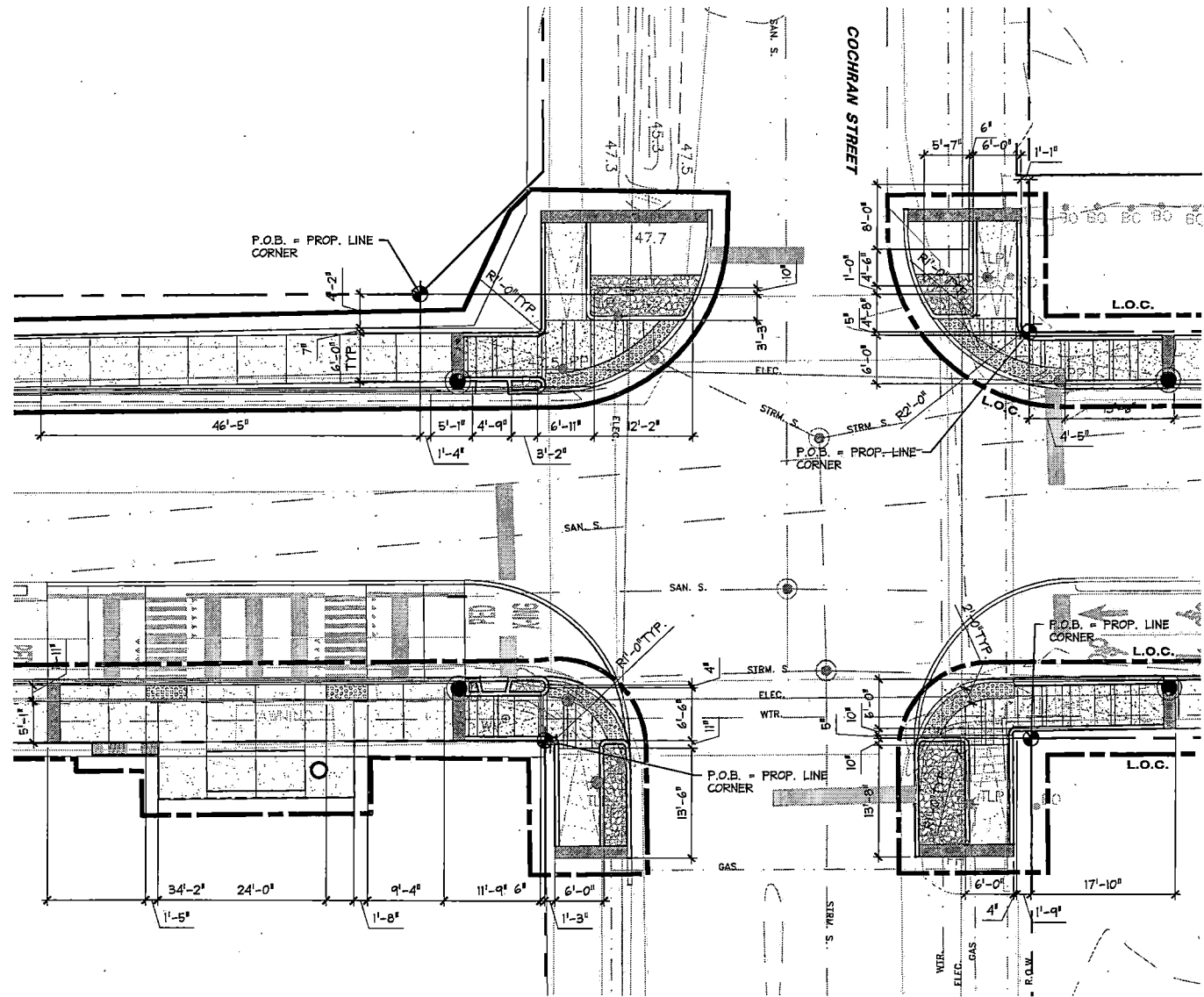
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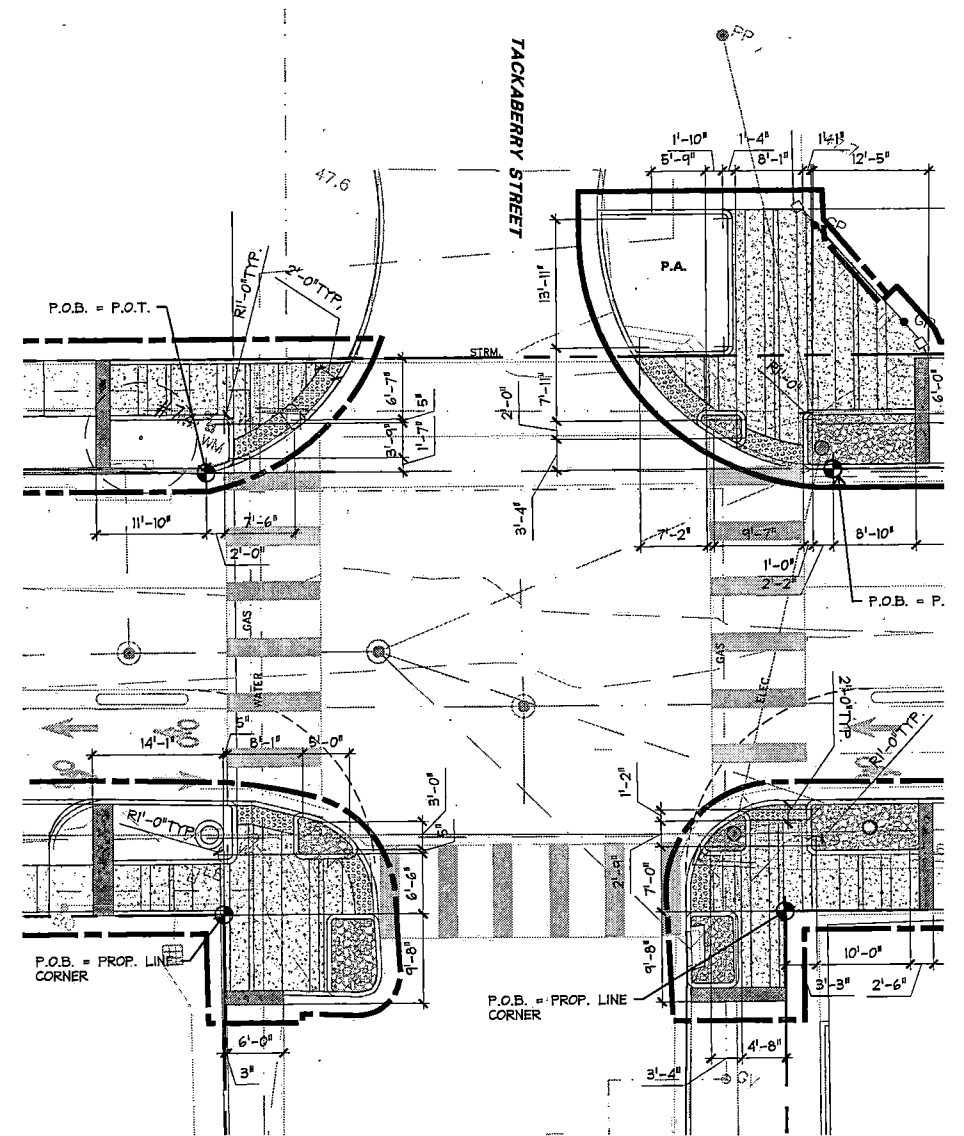
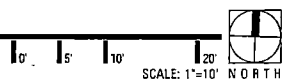
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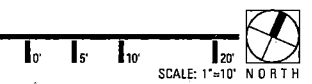
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
MF		10-31-2022	
CK'D BY:	SCALE:	SHEET NO.:	
LP, BC, JL		103 (LS 2.09)	



**2** SITEWORK PLAN: COCHRAN ST  
ENLARGEMENT

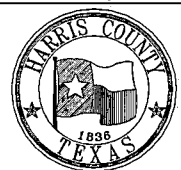


**1** SITEWORK PLAN: TACKABERRY ST  
ENLARGEMENT

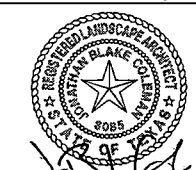


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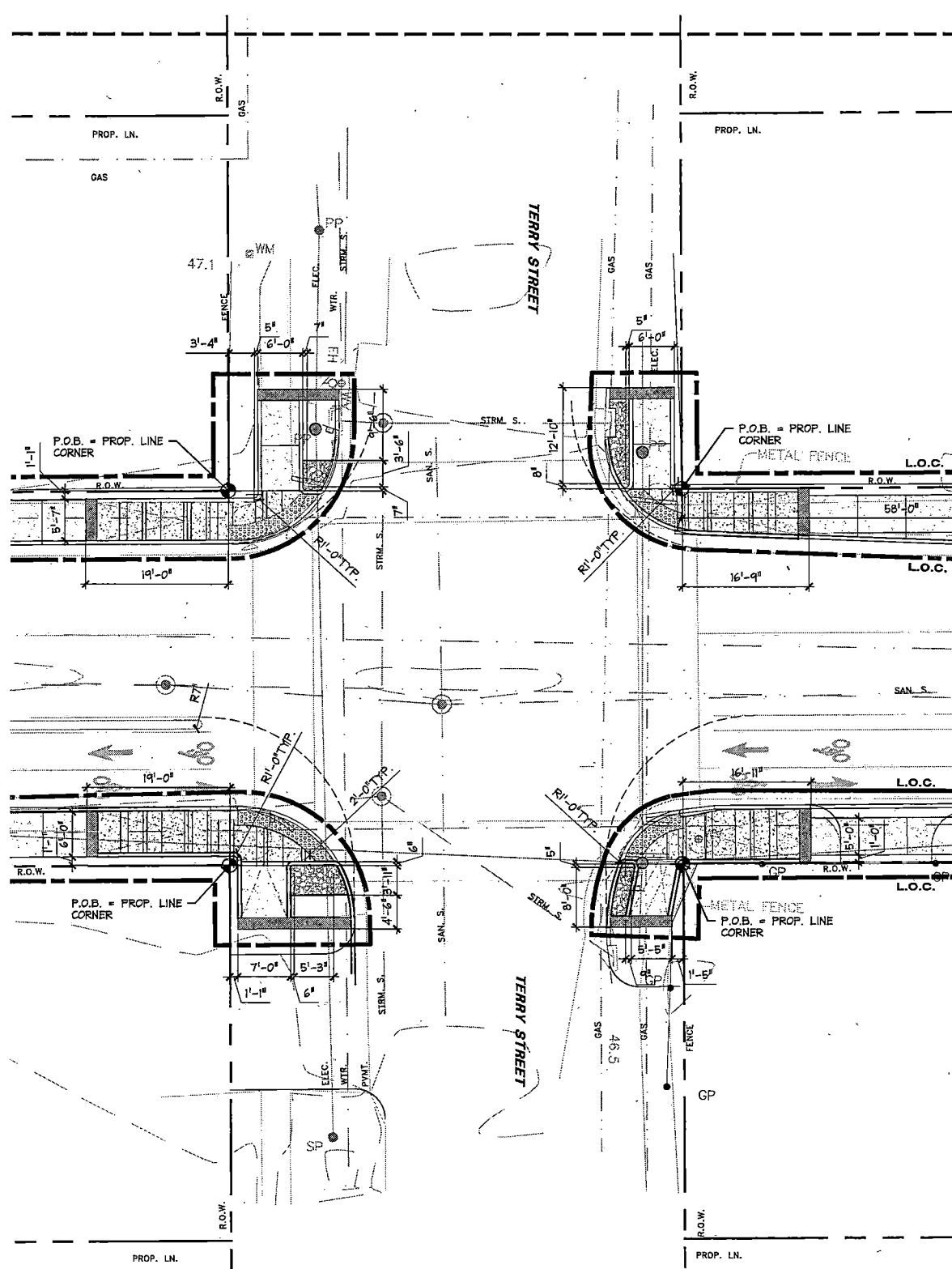
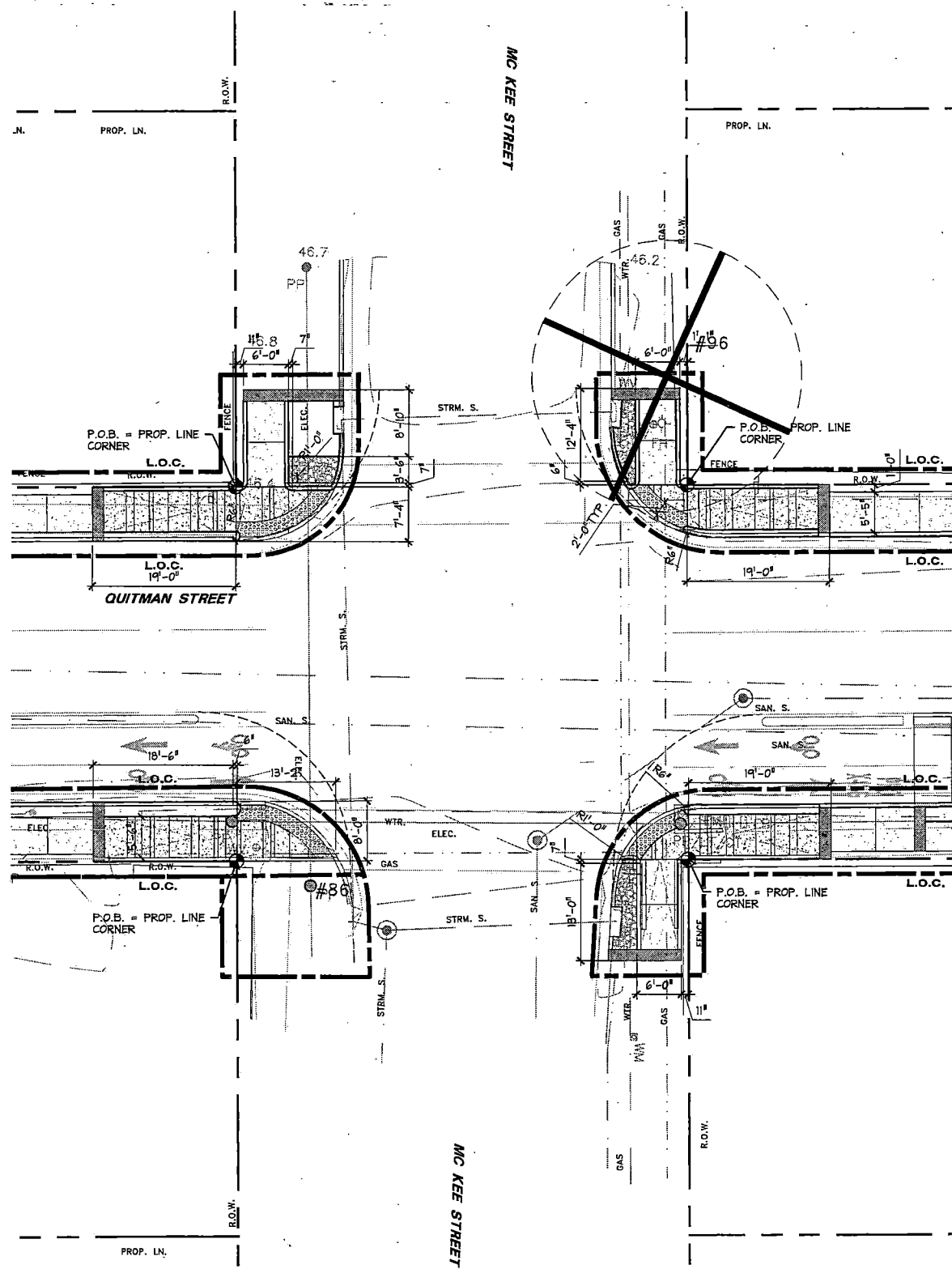
landscape architects, planners & designers  
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suite 1450  
Houston, tx 77027  
(713) 439-0027  
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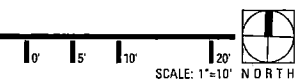
PROJECT TITLE: QUITMAN STREET		DATE: 10-31-2022
ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 104 (LS 2.10)
SHEET DESCRIPTION: LAYOUT ENLARGEMENT		SCALE: 1"=10'
DRAWN BY: MF	SCALE: 1"=10'	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SCALE: 1"=10'	SHEET NO: 104 (LS 2.10)

10.31.2022

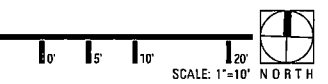




**2** SITEWORK PLAN: Mc KEE ST  
ENLARGEMENT

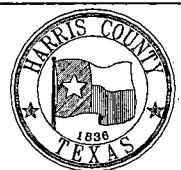


**1** SITEWORK PLAN: TERRY ST  
ENLARGEMENT



NO.	REVISIONS	DATE	NAME
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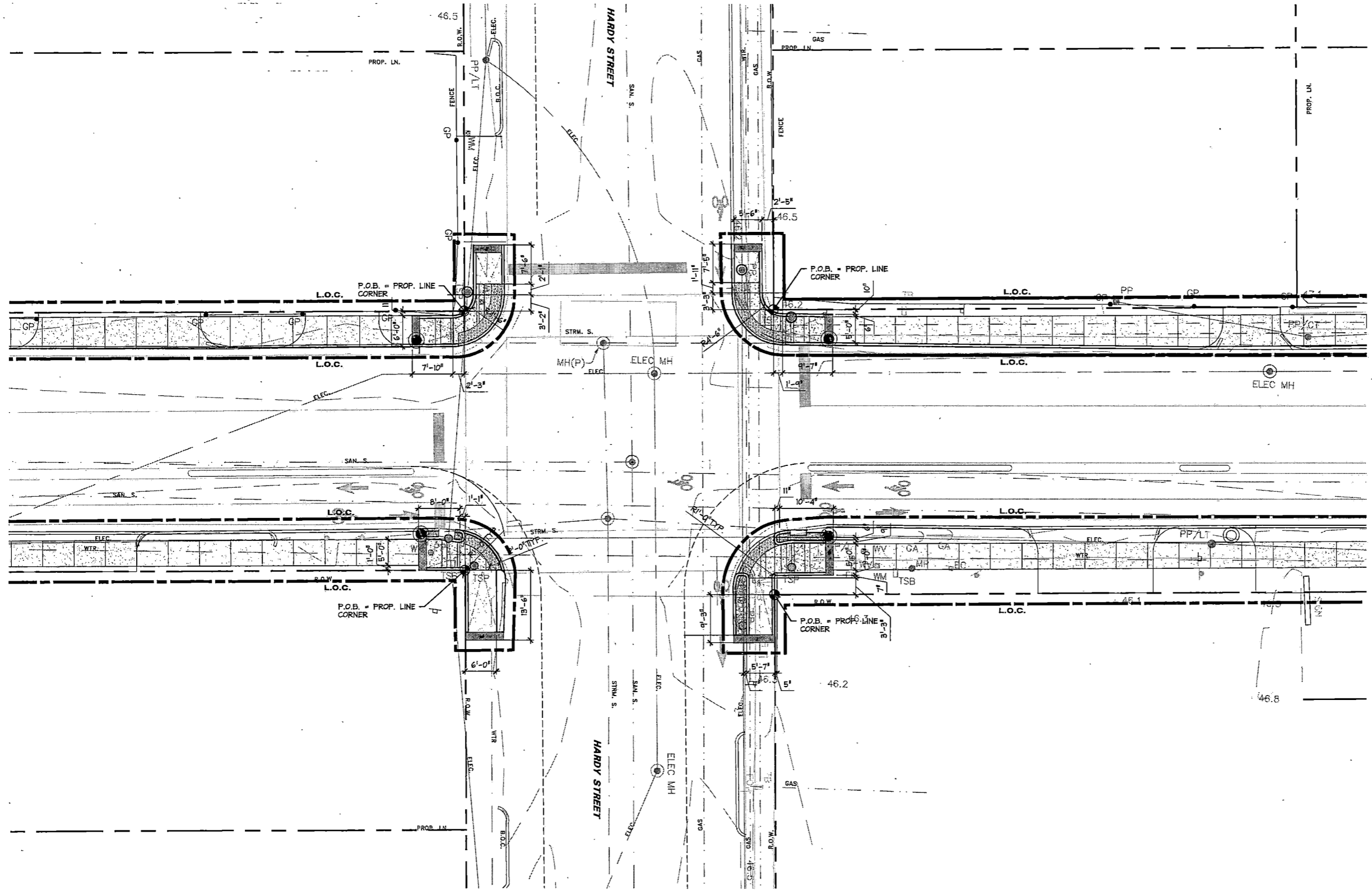
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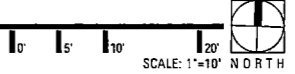
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: LAYOUT ENLARGEMENT	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SCALE: 106 (LS 2.12)



10.31.2022



**1** SITEWORK PLAN: HARDY ST  
ENLARGEMENT



NO.	REVISIONS	DATE	NAME
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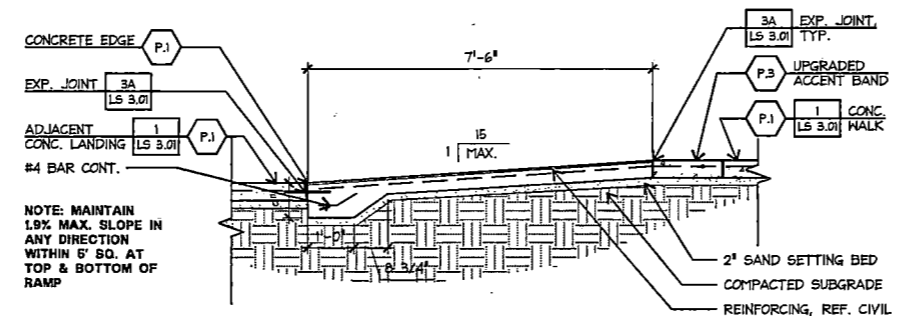


*J. Lopez*  
10.31.2022

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: LAYOUT ENLARGEMENT	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 107 (LS 2.13)

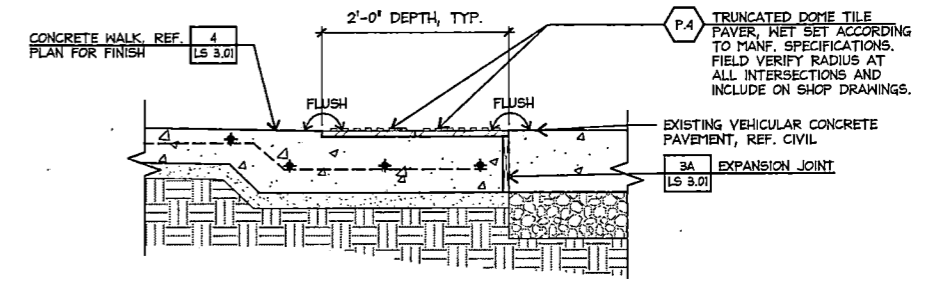


NOTE: REF. CIVIL FOR ADDITIONAL NOTES



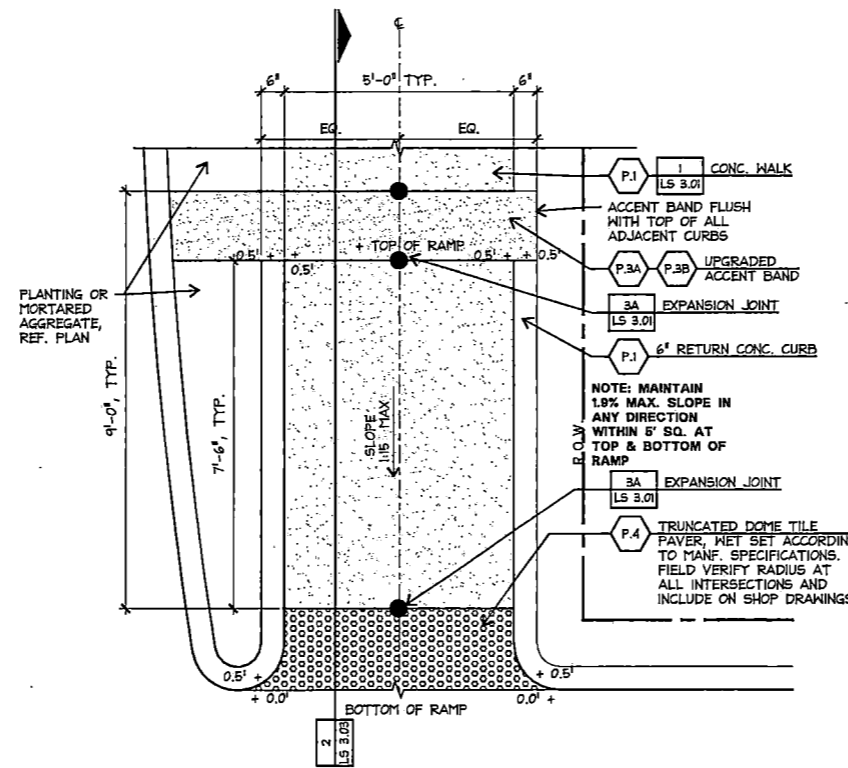
**5** ACCESSIBLE RAMP  
SECTION

SCALE: 1/2"=1'-0"



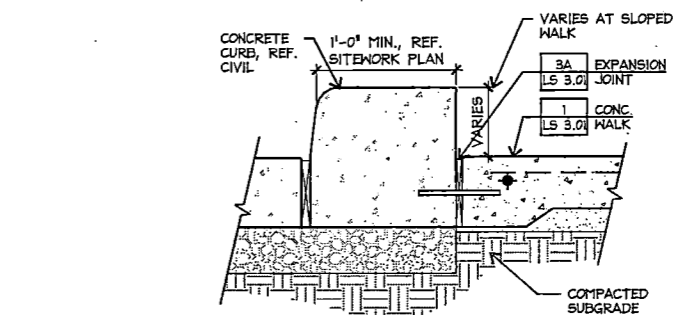
**3** TRUNCATED DOME PAVERS  
SECTION

SCALE: 1"=1'-0"



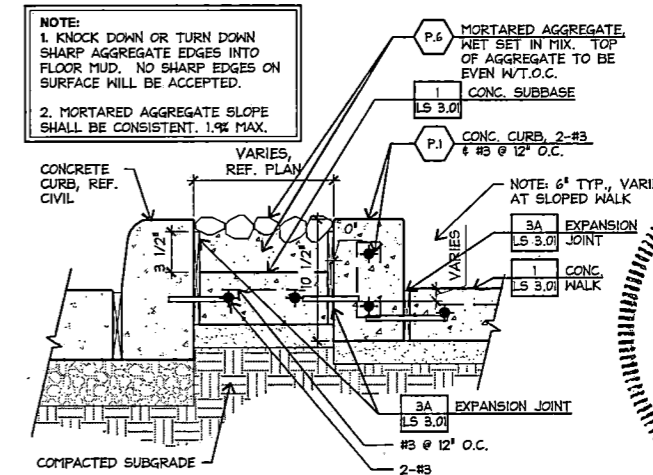
**4** ACCESSIBLE RAMP  
PLAN

SCALE: 1/2"=1'-0"



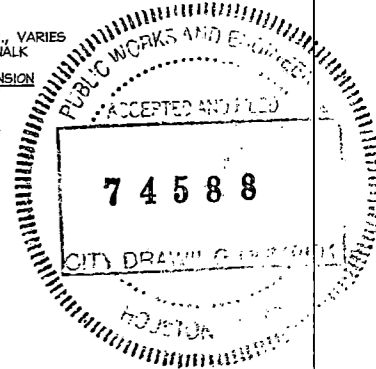
**2** WIDE CURB  
SECTION

SCALE: 1-1/2"=1'-0"



**1** CURB TO MORTARED AGGREGATE TO CURB  
SECTION

SCALE: 1-1/2"=1'-0"

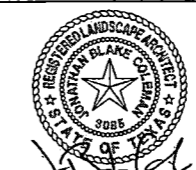


NO.	REVISIONS	DATE	NAME

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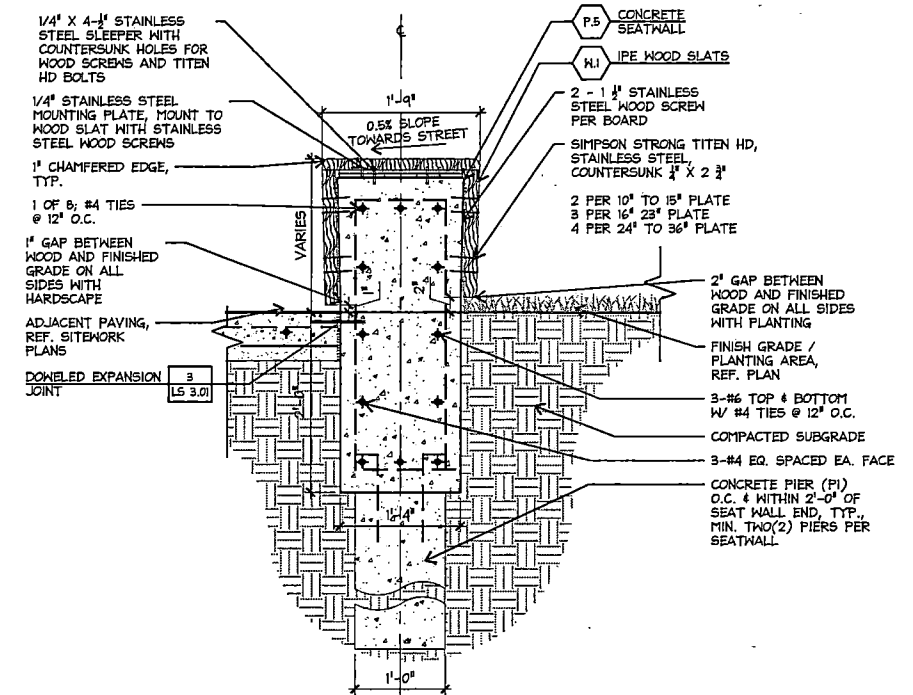


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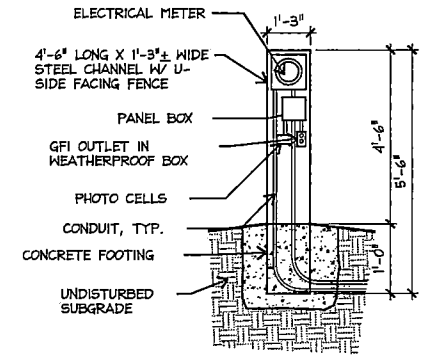


PROJECT TITLE: QUITMAN STREET		DATE: 10-31-2022
ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 109 (LS 3.02)
SHEET DESCRIPTION: SITEWORK DETAILS		
DRAWN BY: MF	SCALE:	
CK'D BY: LP, BC, JL		

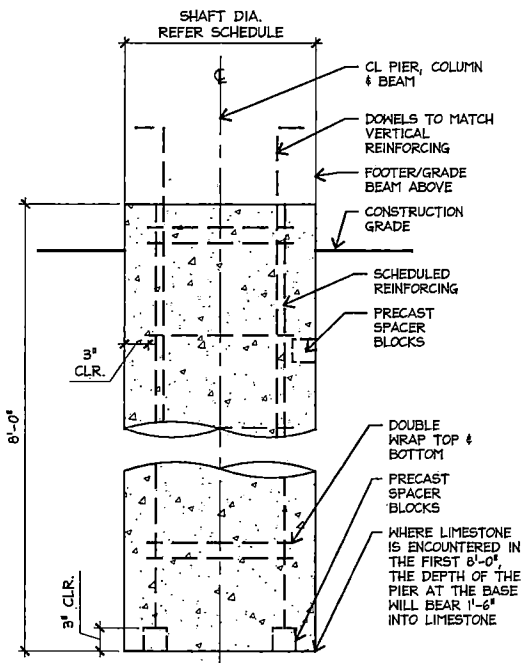
10.31.2022



NOTE: CONTRACTOR TO INSTALL METER WITHIN 60 FEET OF TRANSFORMER. CONTRACTOR TO INCLUDE 400 LINEAR FEET OF WIRING AND CONDUIT FROM THE PIER TO THE CHANGE EQUIPMENT. THE CONNECTION FROM THE TRANSFORMER TO THE METER IS NOT INCLUDED IN THIS SCOPE OF WORK.  
PAINT STEEL CHANNEL TYP. GRAY; LANDSCAPE ARCHITECT TO APPROVE STAKED FIELD LOCATION PRIOR TO INSTALLATION

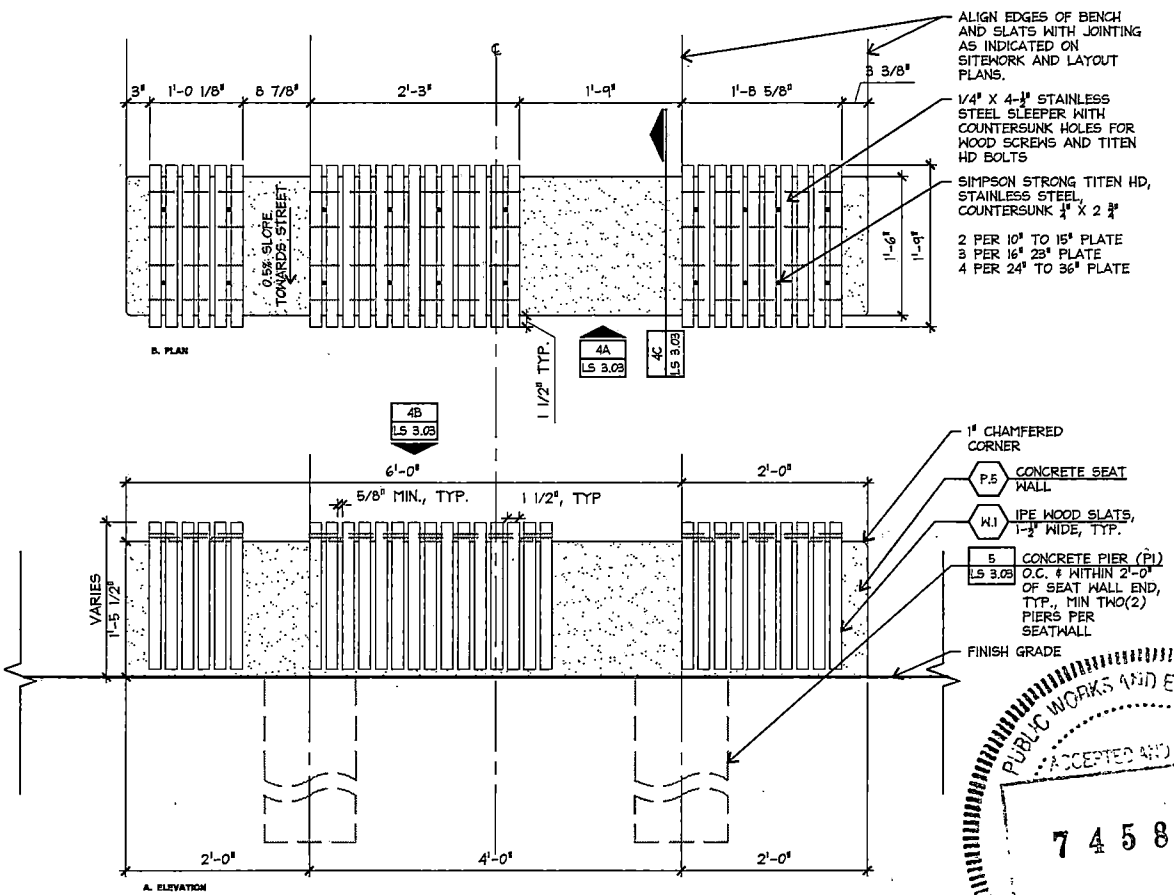


**3 ELECTRIC PANEL RISER**  
SECTION SCALE: 3/4"=1'-0"



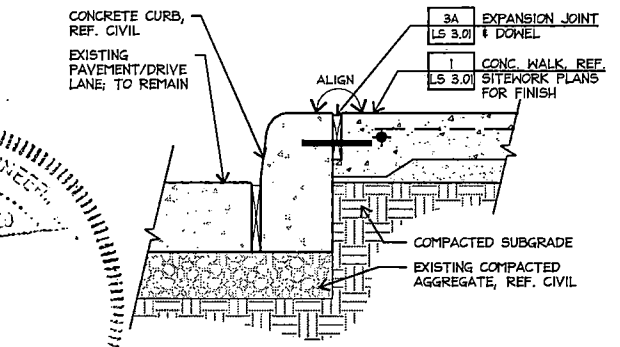
MK	PIER SCHEDULE			DEPTH
	SHAFT DIA.	VERT. BARS	TIES	
P1	12"	4-#5	#3 @12" O.C.	8'-0"
P2	18"	5-#6	#3 @12" O.C.	8'-0"
P3	24"	6-#6	#3 @12" O.C.	8'-0"

**5 PIER SCHEDULE**  
SECTION SCALE: 1"=1'-0"

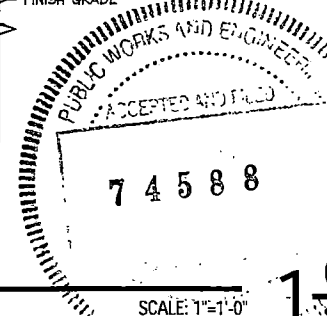


**4 SEATWALL**  
ELEVATION/PLAN/SECTION

**2 CONCRETE CURB AT PLANTING**  
SECTION SCALE: 1-1/2"=1'-0"

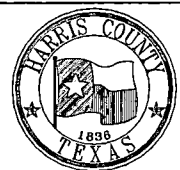


**1 CONCRETE CURB AT PAVING**  
SECTION SCALE: 1-1/2"=1'-0"

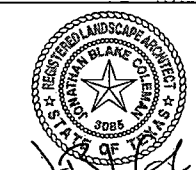


NO.	REVISIONS	DATE	NAME

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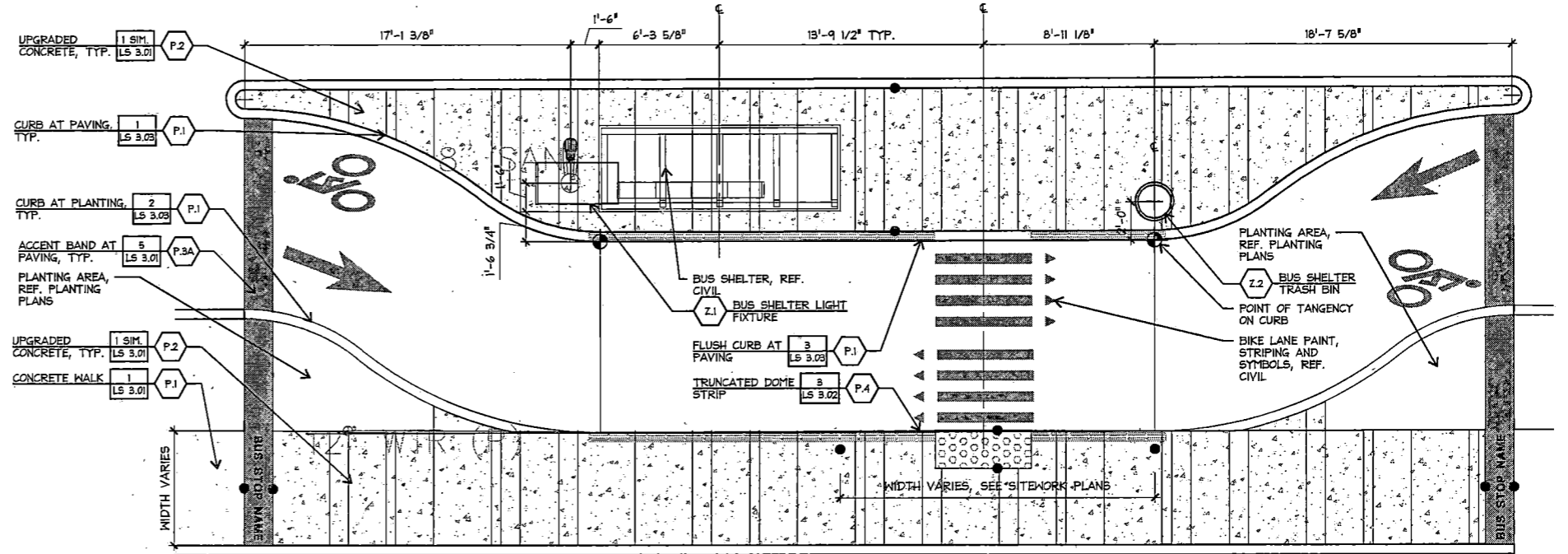
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suite 1450  
houston, tx 77027  
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PROJECT TITLE: QUITMAN STREET		DATE: 10-31-2022
ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 110 (LS 3.03)
SHEET DESCRIPTION: SITEMARK DETAILS		
DRAWN BY: MF	SCALE:	
CK'D BY: LP, BC, JL		

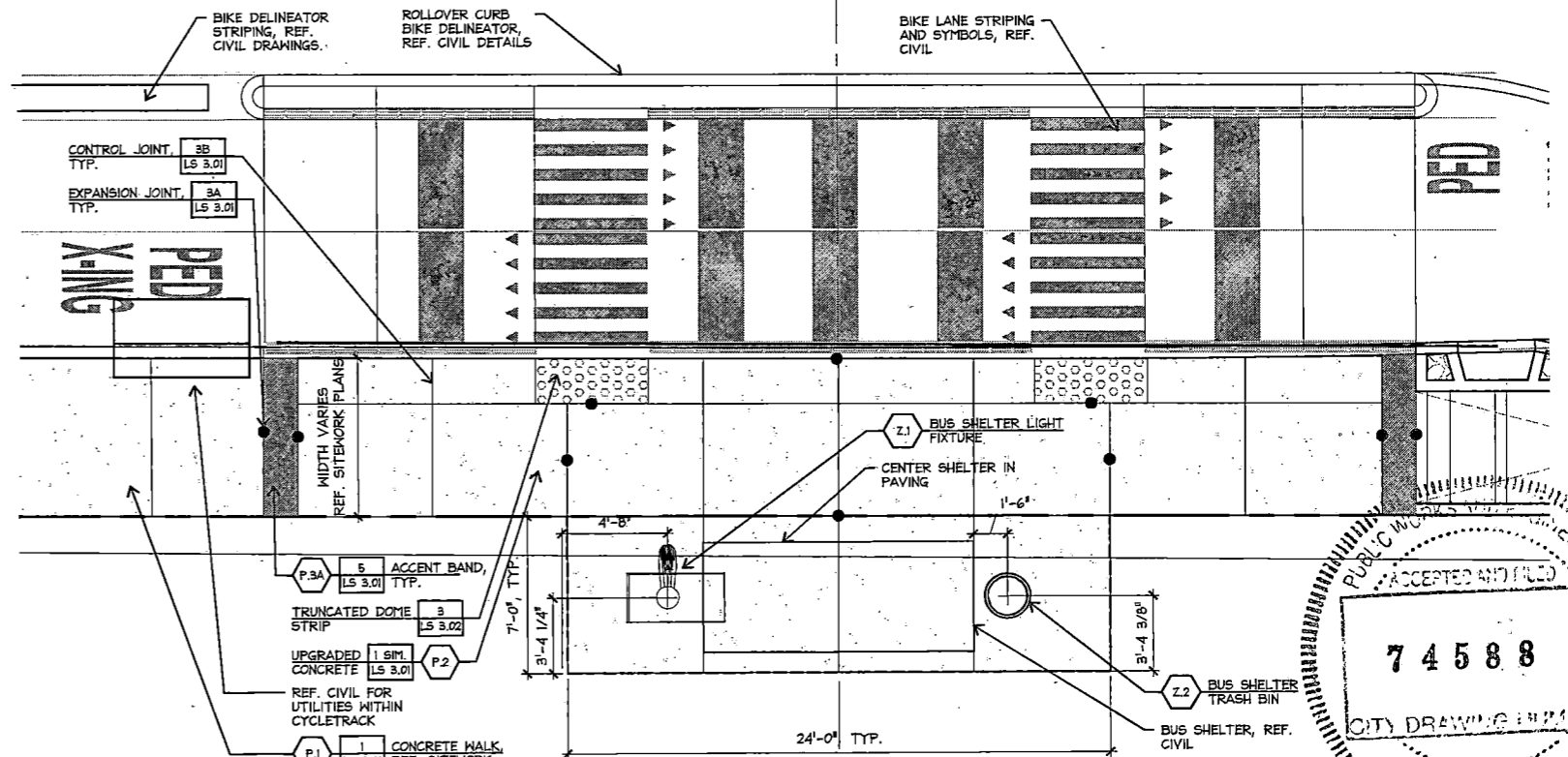
10.31.2022





**2** FLOATING SHELTER AT BUS STOP, TYP.  
PLAN

SCALE: 1/4"=1'-0"



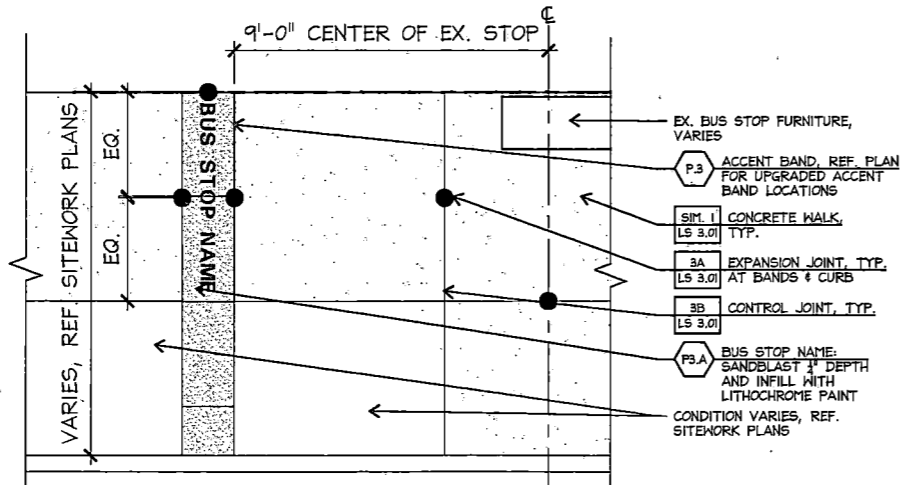
**1** CYCLE TRACK AT BUS STOP, TYP.  
PLAN

SCALE: 1/4"=1'-0"

NOTE:  
ACCENT BAND SLOPE TO BE CONSISTENT FROM EDGE OF WALK TO B.O.C.

ACCENT BAND - BUS STOPS:  
WHITE OAK DR. AT HOUSTON AVE.  
WHITE OAK DR. AT SOUTH ST.  
QUITMAN PARK AND RIDE  
QUITMAN ST. AT EVERETT ST.  
QUITMAN ST. AT FULTON ST.  
QUITMAN ST. AT TACKBERRY ST.  
QUITMAN ST. AT COCHRAN ST.  
QUITMAN ST. AT GAND ST.  
QUITMAN ST. AT MCKEE ST.

NOTE:  
CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR L.A. REVIEW AND APPROVAL PRIOR TO FABRICATION

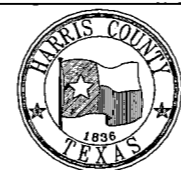


**3** ACCENT BAND AT BUS STOP - SANDBLASTED STOP NAME  
PLAN

SCALE: 3/8"=1'-0"

NO.	REVISIONS	DATE	NAME
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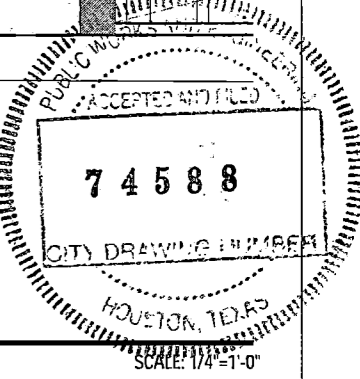
HARRIS COUNTY  
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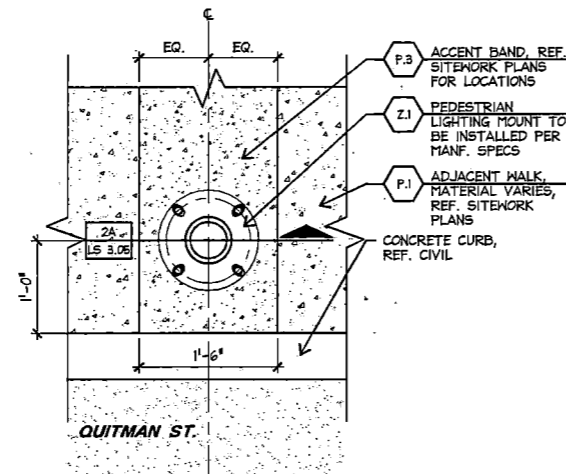
landscape architects, planners & designers  
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houston, tx 77027  
(713) 439-0027  
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PROJECT TITLE:		QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS			
SHEET DESCRIPTION: SITEMARK DETAILS			
DRAWN BY:	MF	DATE:	10-31-2022
CK'D BY:	LP, BC, JL	SCALE:	SHEET NO: 111 (LS 3.04)

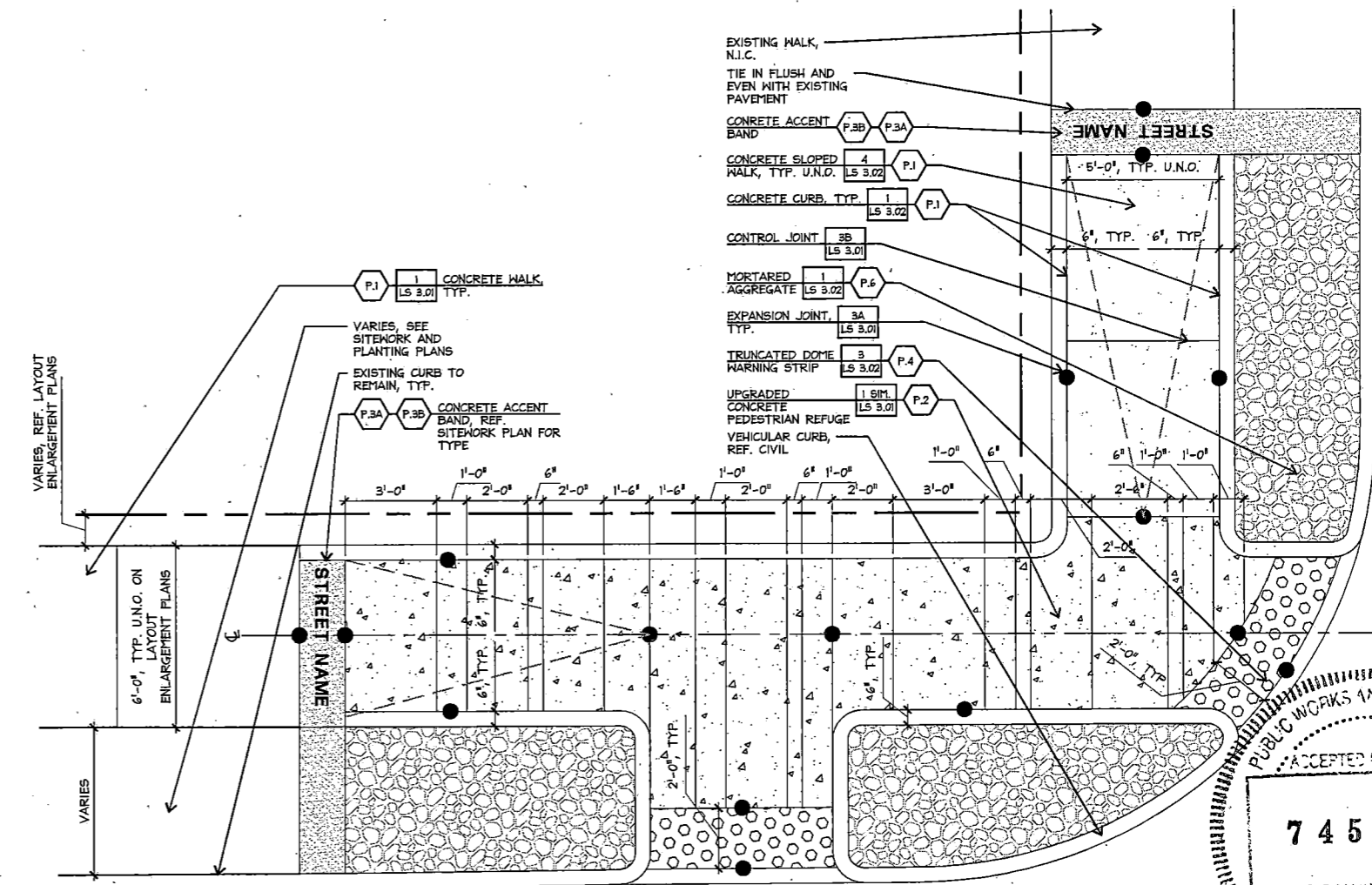
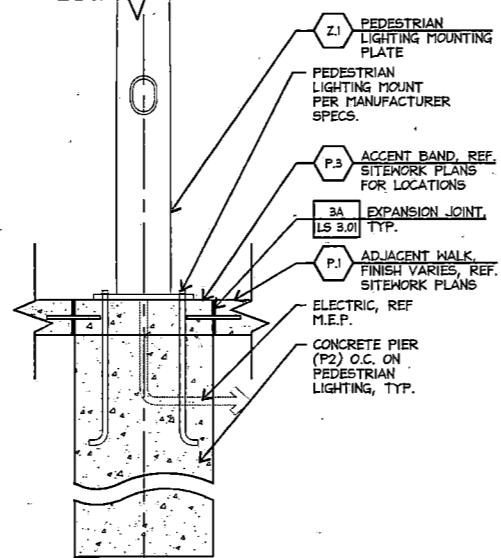


10.31.2022



**2 PEDESTRIAN LIGHT, TYP.**  
SECTION/PLAN

SCALE: 1"=1'-0"



**1 PEDESTRIAN REFUGE AT TIE IN STREET, TYP.**  
PLAN



NO.	REVISIONS	DATE	NAME
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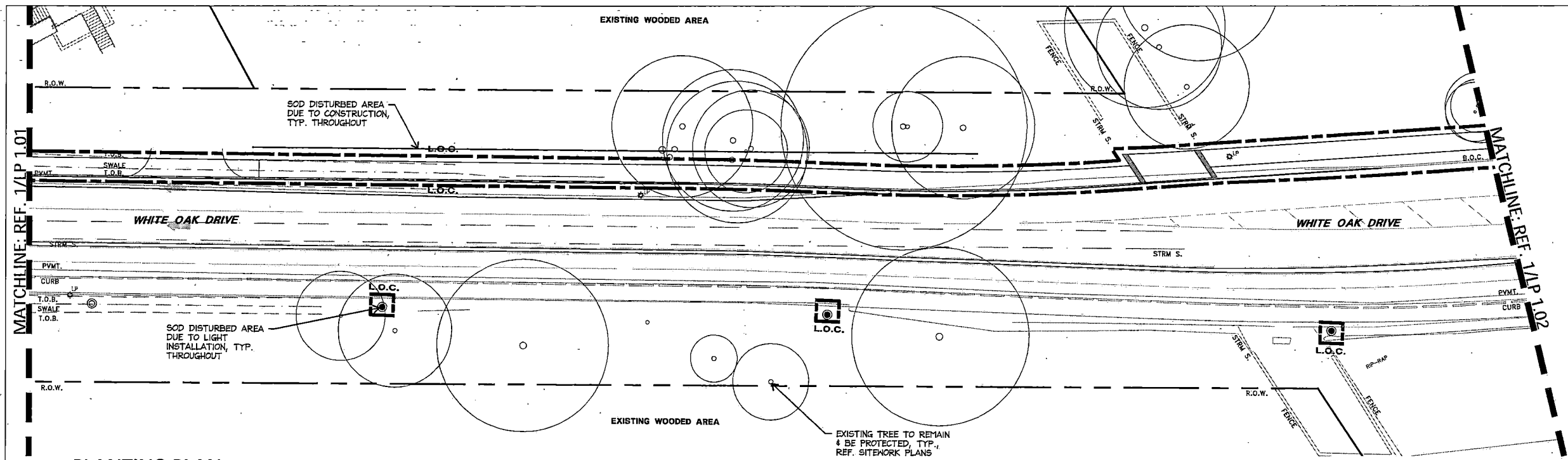


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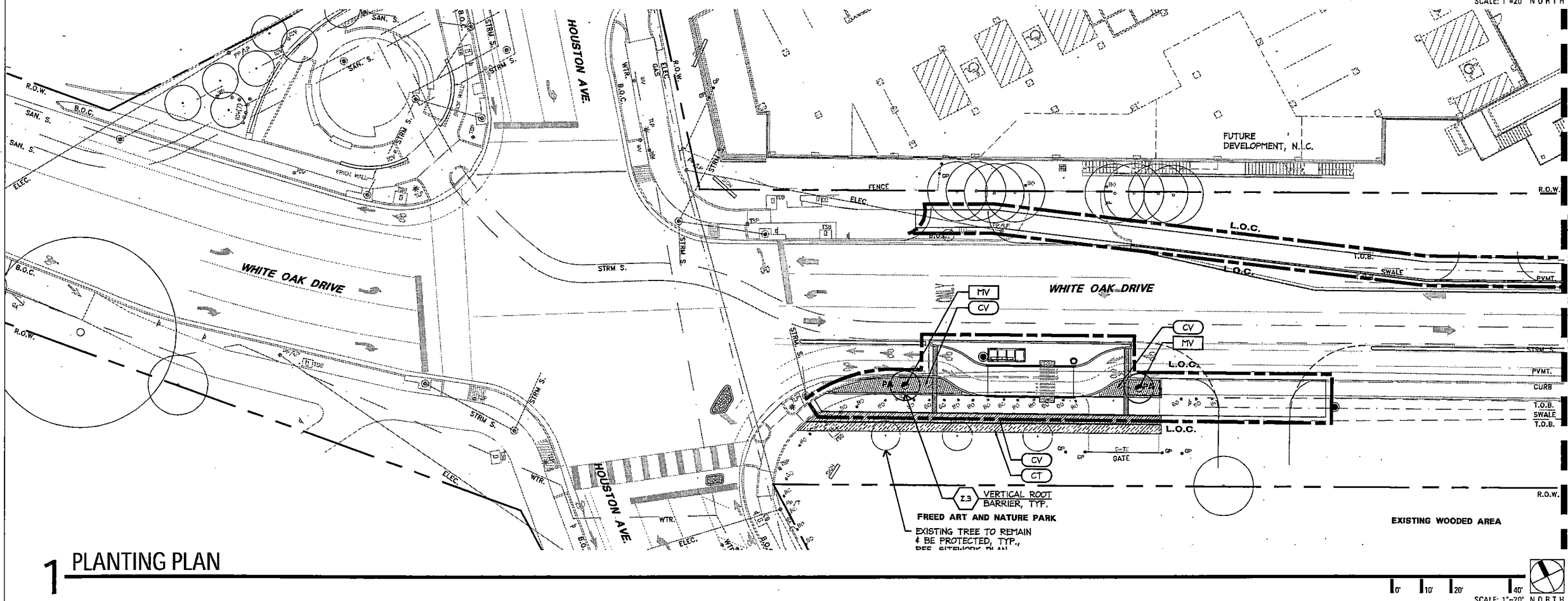


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	MF	DATE:	10-31-2022
CK'D BY:	LP, BC, JL	SCALE:	SHEET NO: 112 (LS 3.05)

10.31.2022

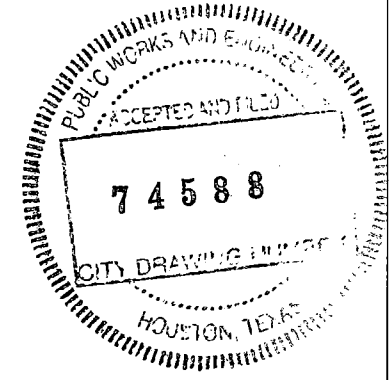


2 PLANTING PLAN



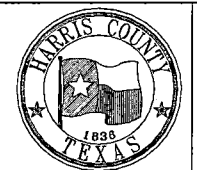
1 PLANTING PLAN

SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	GV	LIVE OAK
	UP	BOSQUE ELM
ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SHEETBAY MAGNOLIA
PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY
TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD



NO.	REVISIONS	DATE	NAME

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PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: PLANTING PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CR'D BY: LP, BC, JL	SHEET NO: 113 (LP 1.01)

10.31.2022

SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	QV	LIVE OAK
	UP	BOSQUE ELM

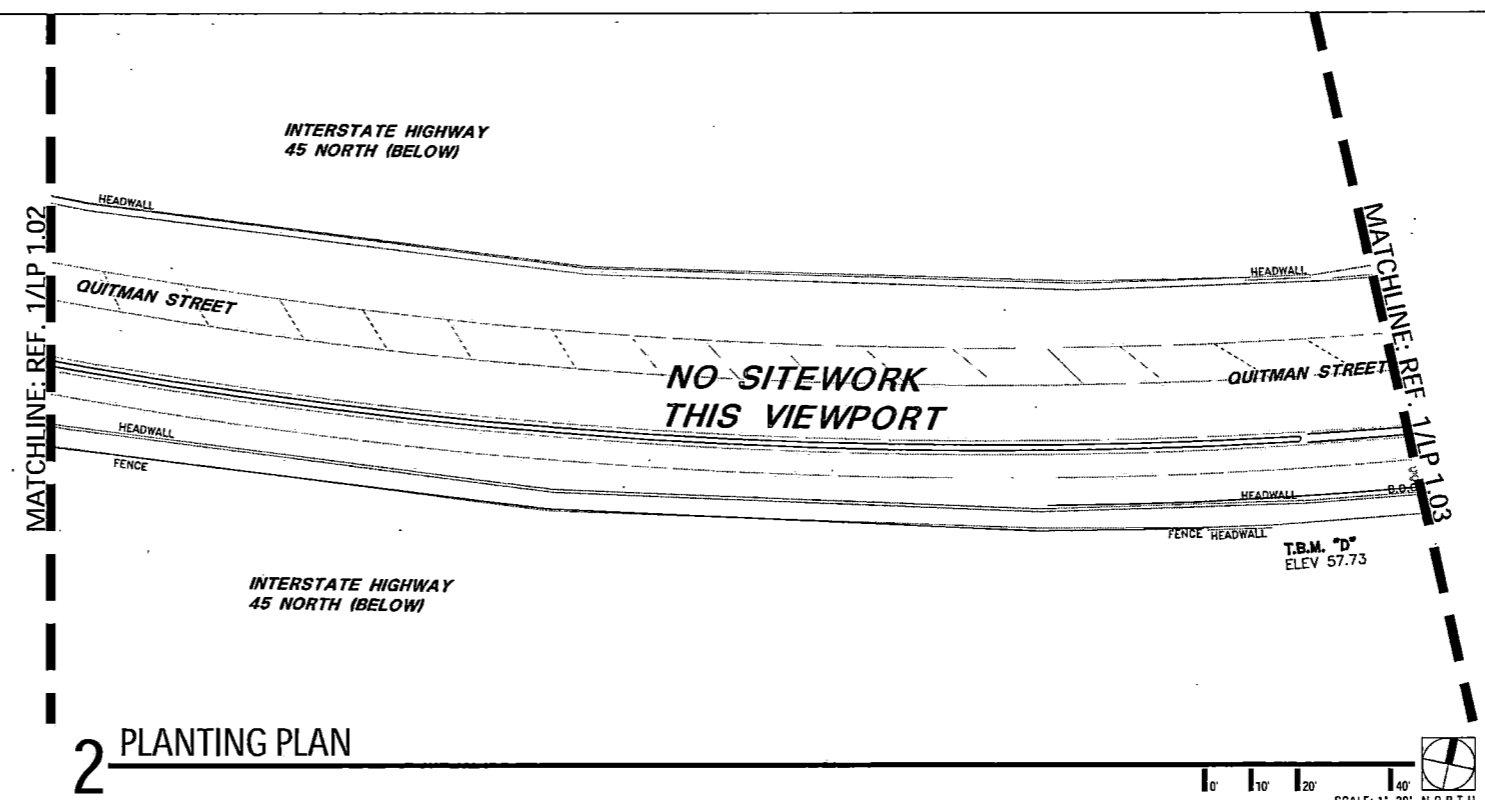
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GRAPHIC	KEY	COMMON NAME
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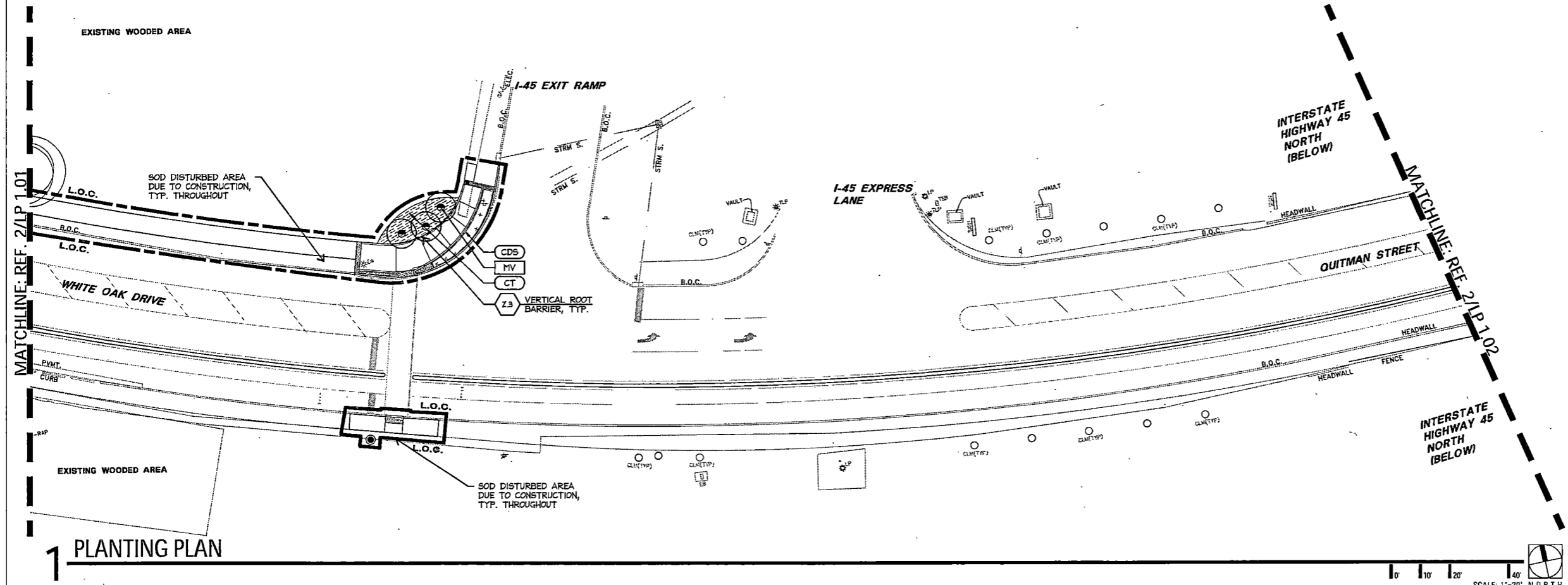
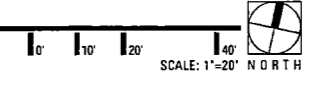
PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY

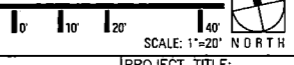
TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD



2 PLANTING PLAN

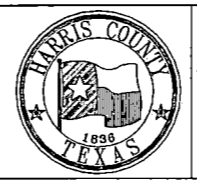


1 PLANTING PLAN



NO.	REVISIONS	DATE	NAME

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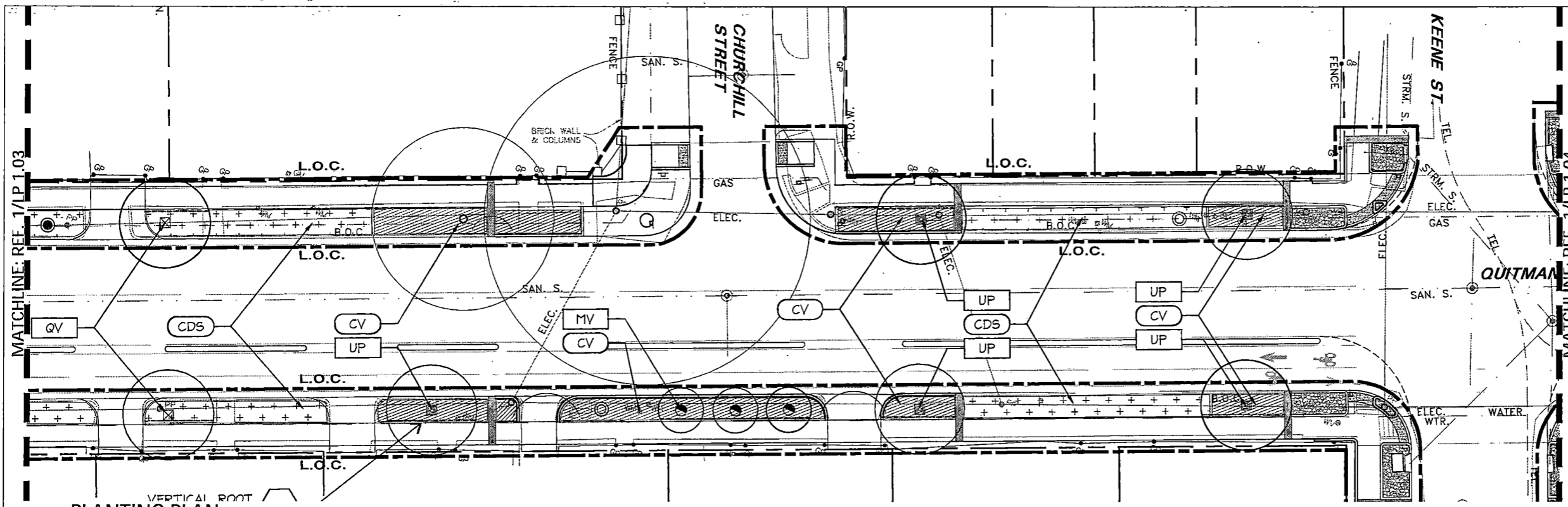


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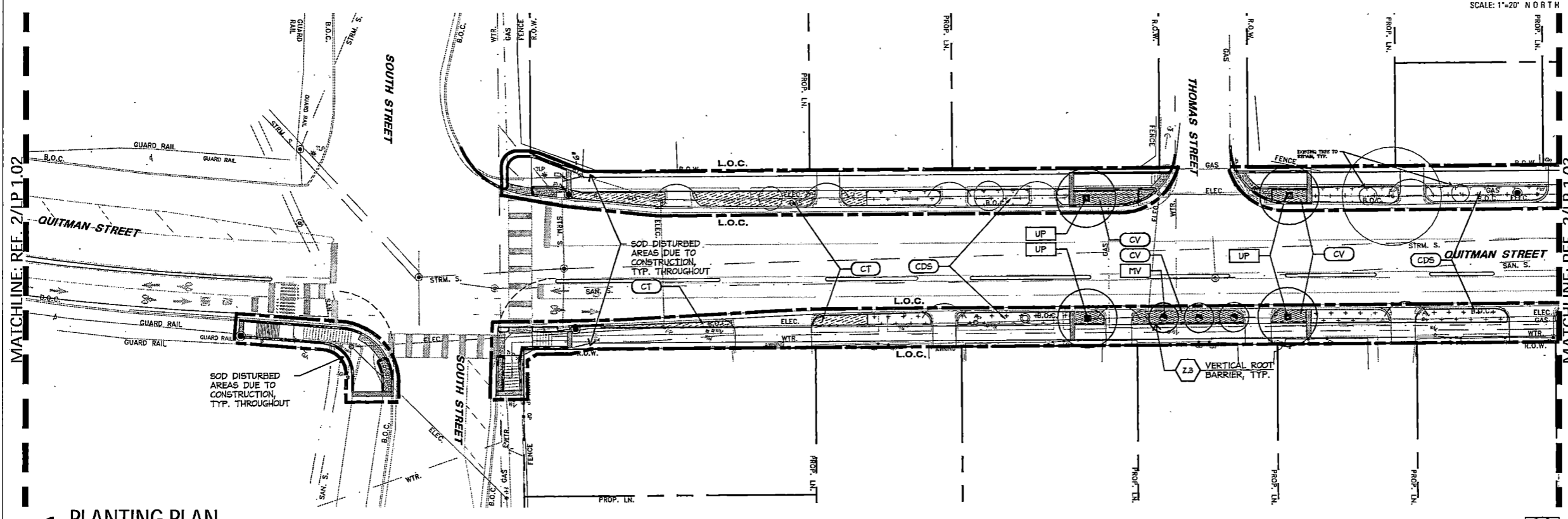
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SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 114 (LP 1.02)

10.31.2022



2 PLANTING PLAN

SCALE: 1"=20' NORTH



1 PLANTING PLAN

SCALE: 1"=20' NORTH

SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	QV	LIVE OAK
	UP	BOSQUE ELM

ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SWEETBAY MAGNOLIA

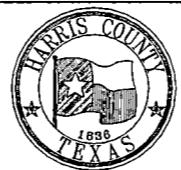
PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY

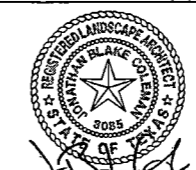
TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



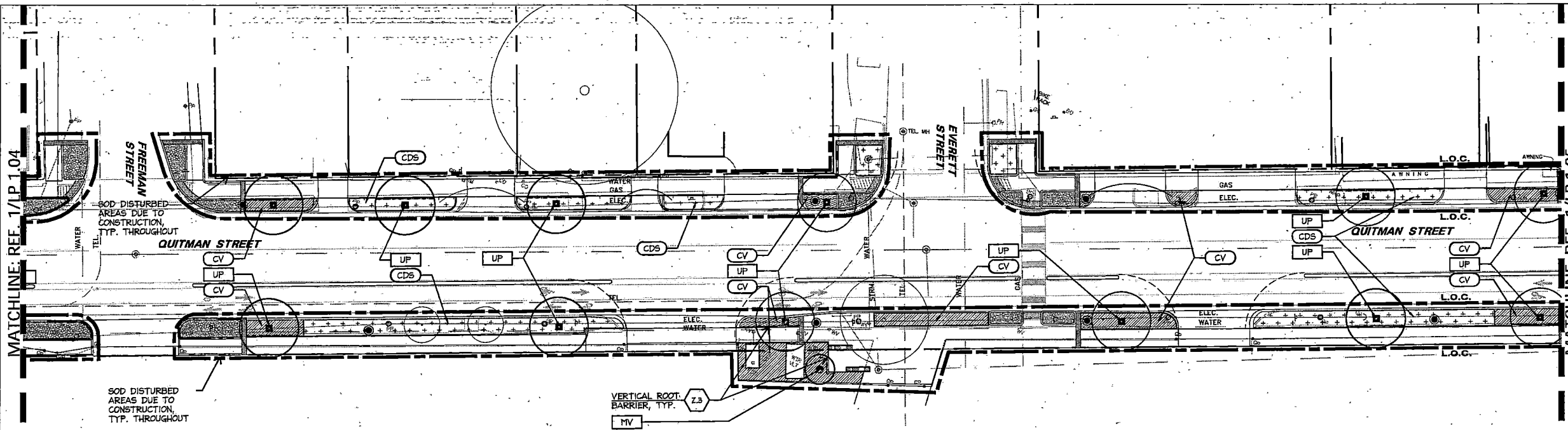
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PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: PLANTING PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 115 (LP 1.03)



10.31.2022



SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	GV	LIVE OAK
	UP	BOSQUE ELM

ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SWEETBAY MAGNOLIA

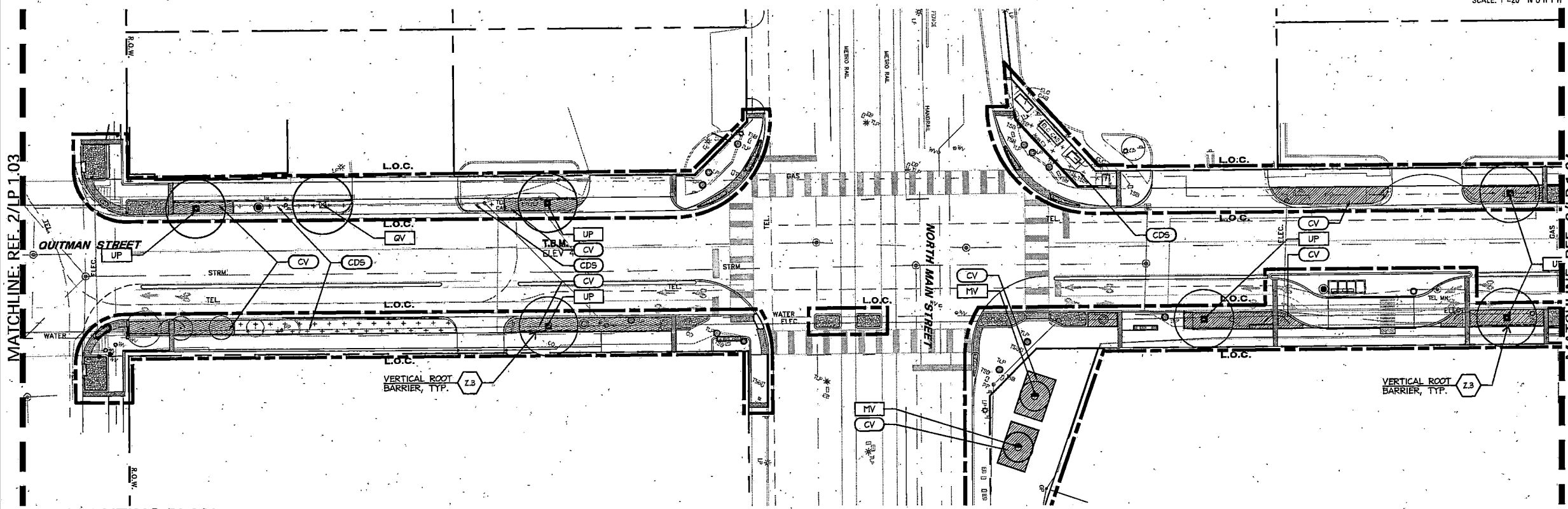
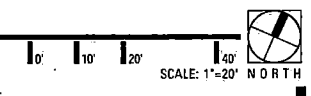
  

PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY

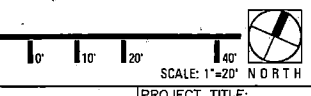
  

TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD

## 2 PLANTING PLAN

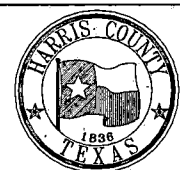


## 1 PLANTING PLAN



NO.	REVISIONS	DATE	NAME
▲			
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HARRIS COUNTY  
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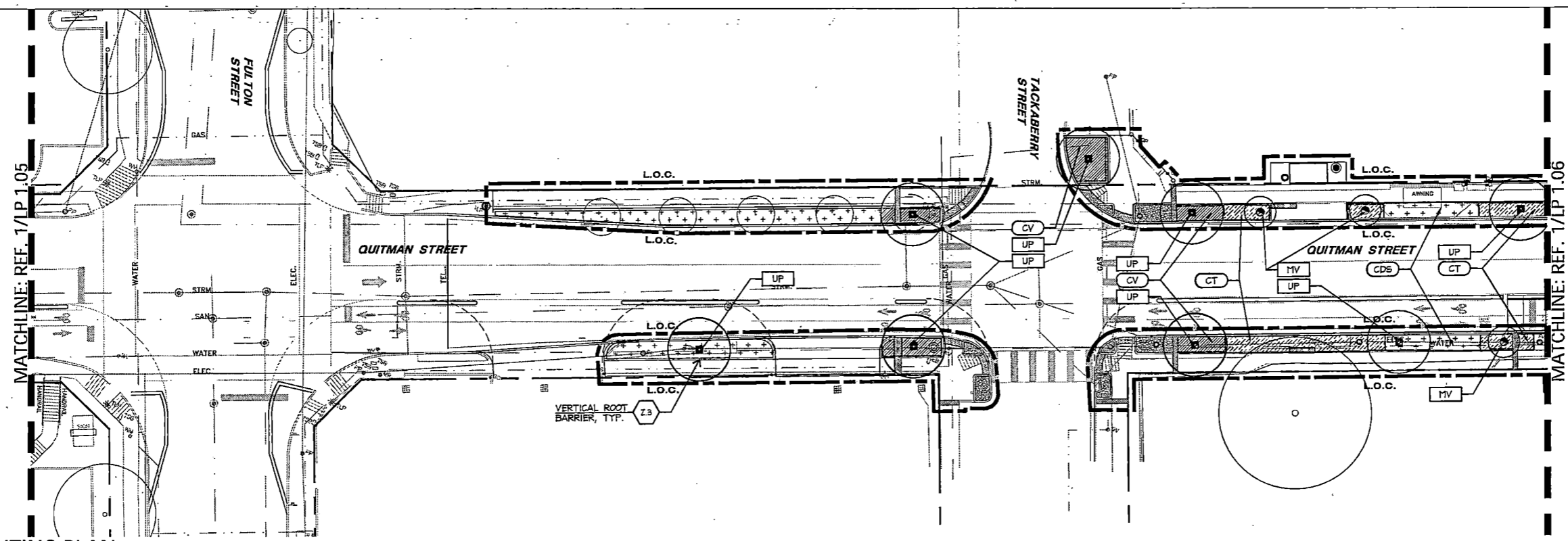


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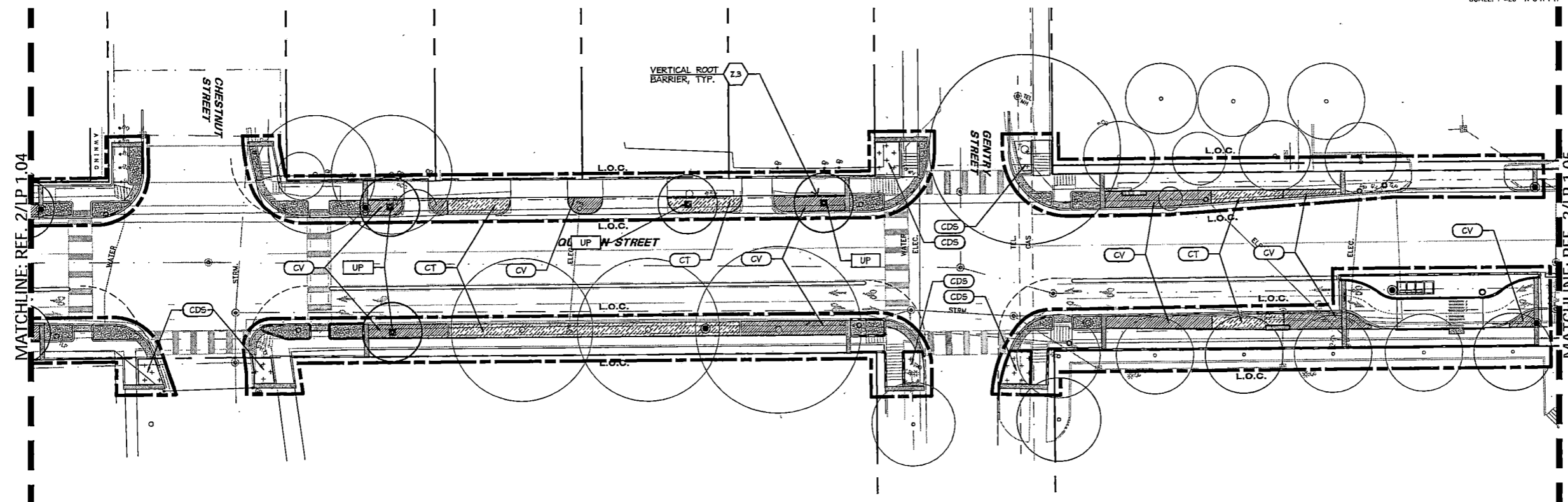
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ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: PLANTING PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SCALE: 116 (LP 1.04)

10.31.2022



2 PLANTING PLAN

SCALE: 1"=20' NORTH



1 PLANTING PLAN

SCALE: 1"=20' NORTH

SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	QV	LIVE OAK
	UP	BOSQUE ELM

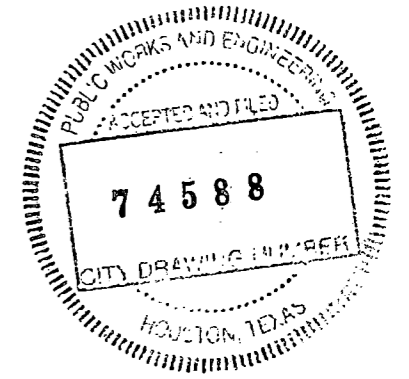
ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SWEETBAY MAGNOLIA

PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY

TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD



NO.	REVISIONS	DATE	NAME
▲			
▲			
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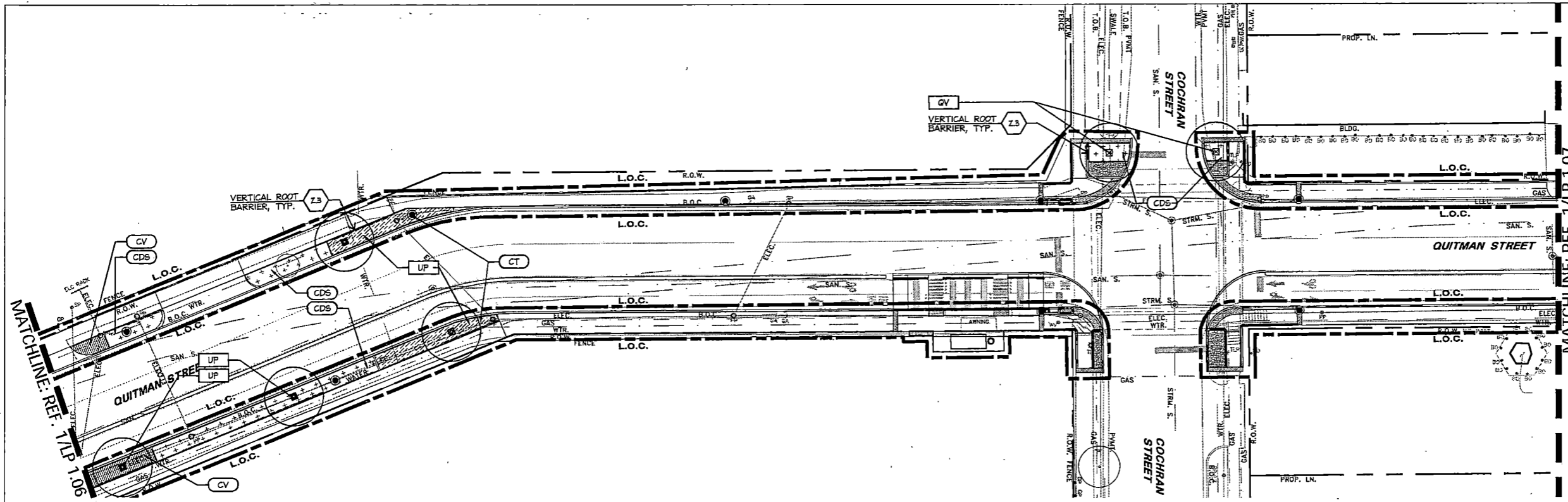


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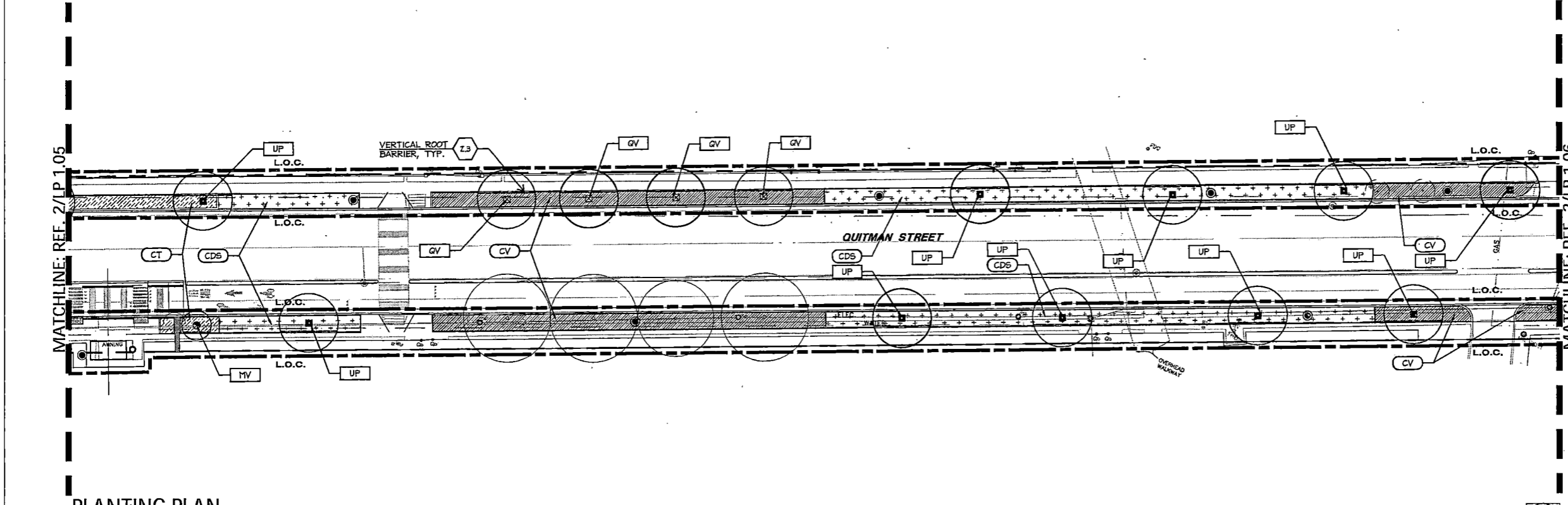
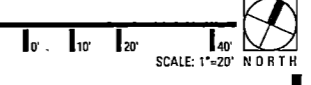
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: PLANTING PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 117 (LP 1.05)

10.31.2022

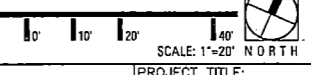


SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	QV	LIVE OAK
	UP	BOSQUE ELM
ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SWEETBAY MAGNOLIA
PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY
TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD

2 PLANTING PLAN



1 PLANTING PLAN

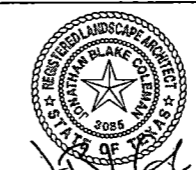


NO.	REVISIONS	DATE	NAME
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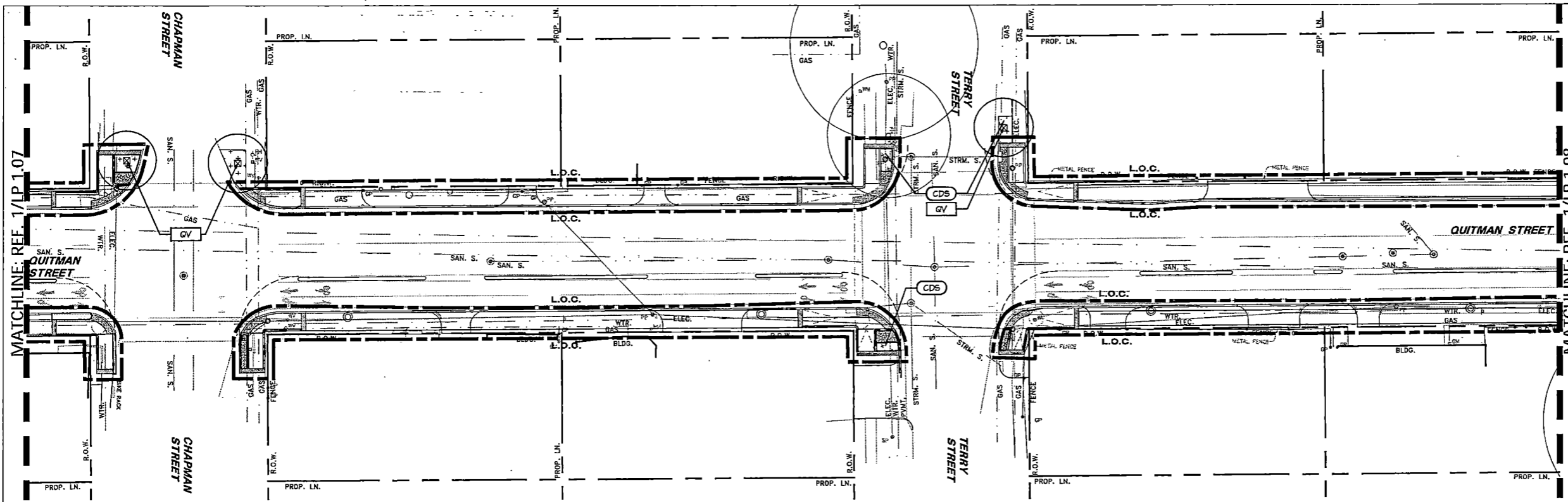
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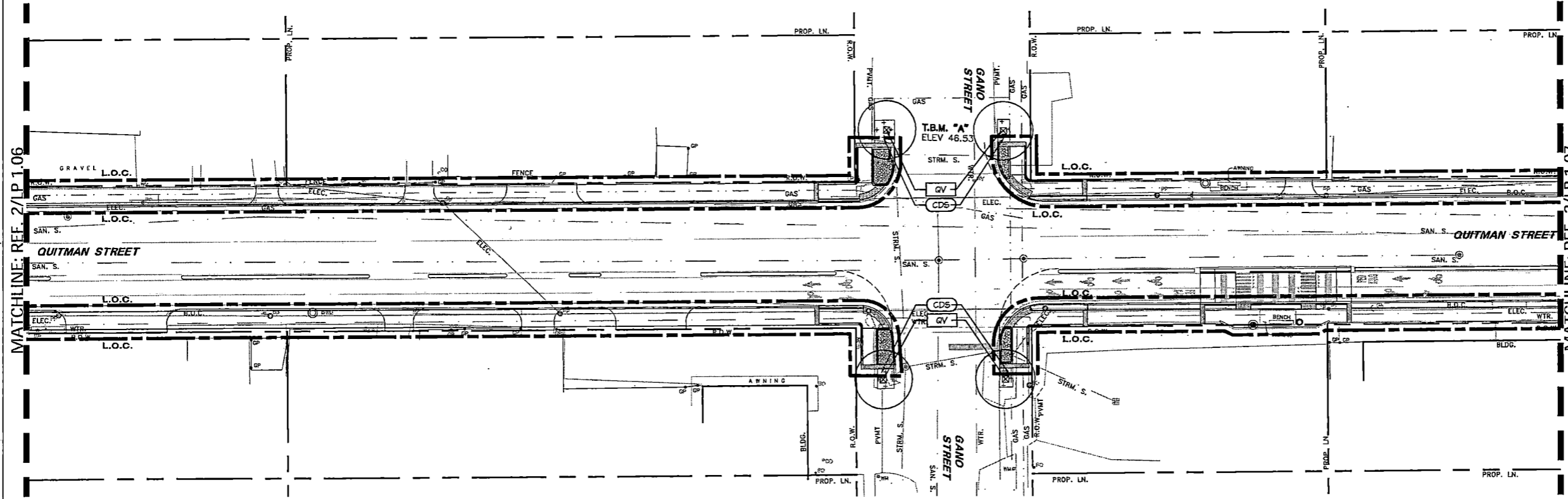
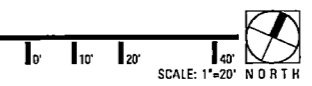
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	MF	DATE:	10-31-2022
CK'D BY:	LP, BC, JL	SHEET NO.:	116 (LP 1.06)
SCALE:			

10.31.2022

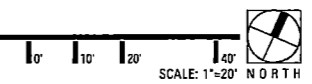




2 PLANTING PLAN



1 PLANTING PLAN



SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	QV	LIVE OAK
	UP	BOSQUE ELM

ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SHEETBAY MAGNOLIA

PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY SEDGE
	CV	STRAGGLER DAISY

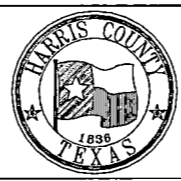
  

TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD



NO.	REVISIONS	DATE	NAME

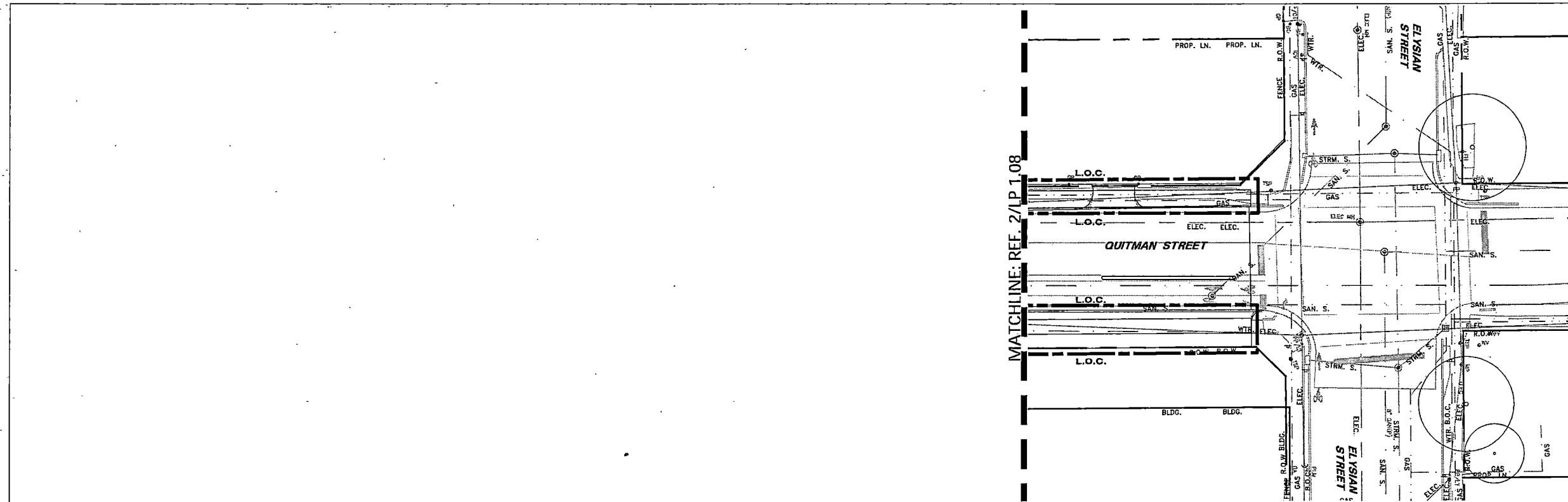
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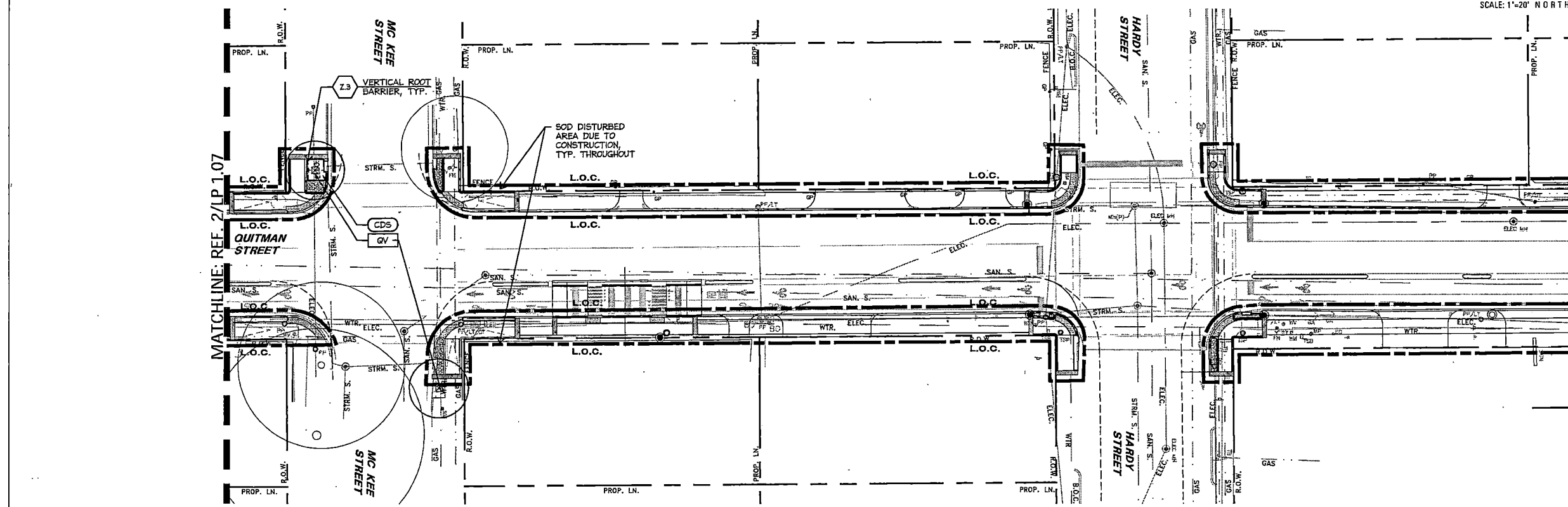


PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: PLANTING PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CR'D BY: LP, BC, JL	SCALE: SHEET NO: 119 (LP 1.07)

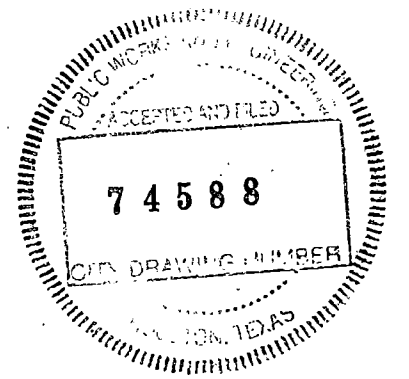


2 PLANTING PLAN  
SCALE: 1"=20' NORTH

SHADE TREES		
GRAPHIC	KEY	COMMON NAME
	QV	LIVE OAK
	UP	BOSQUE ELM
ORNAMENTAL TREES		
GRAPHIC	KEY	COMMON NAME
	MV	SWEETBAY MAGNOLIA
PERENNIALS, GROUNDCOVERS, AND ANI		
GRAPHIC	KEY	COMMON NAME
	CT	BERKELEY BEDGE
	CV	STRAGGLER DAISY
TURF GRASS AND SEED MIXES		
GRAPHIC	KEY	COMMON NAME
	CDS	COMMON BERMUDA SOD

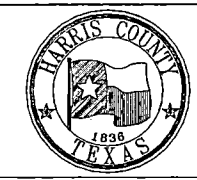


1 PLANTING PLAN  
SCALE: 1"=20' NORTH



NO.	REVISIONS	DATE	NAME

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PROJECT TITLE:	QUITMAN STREET	
	ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:	PLANTING PLAN	
DRAWN BY:	MF	DATE:
CK'D BY:	LP, BC, JL	10-31-2022
SCALE:		SHEET NO.:
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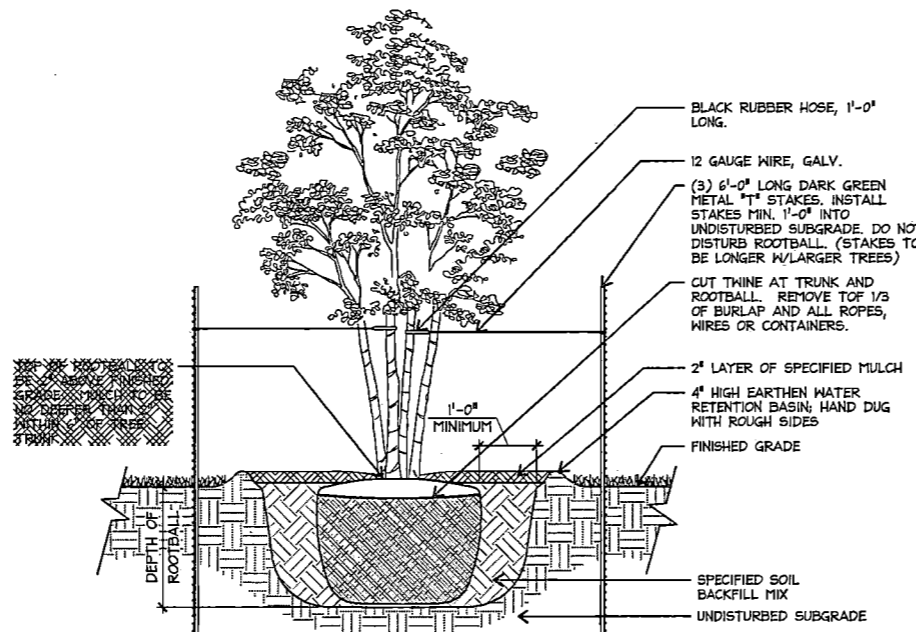
PLANT LIST					
SHADE TREES					
GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	QV	LIVE OAK	QUERCUS VIRGINIANA	100 GAL.; 4" CAL.; 12-14' HT.; 8' SPR.	SINGLE, STRAIGHT LEADER; FULL CANOPY; DARK GREEN; CLEAR TRUNK TO 5'-0"
	LP	BOSQUE ELM	ULMUS PARVIFOLIA 'BOSQUE'	100 GAL.; 4" CAL.; 12-14' HT.; 8' SPR.	SINGLE, STRAIGHT LEADER; FULL CANOPY; DARK GREEN; CLEAR TRUNK TO 5'-0"
ORNAMENTAL TREES					
GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	MV	SWEETBAY MAGNOLIA	MAGNOLIA VIRGINIANA	65 GAL.; 10" HT.; 5-6' SPRD. MIN.	MULTI; 4-5 CANES; 1" MIN CANE CAL.; FULL CANOPY; DARK GREEN; FTG
PERENNIALS, GROUNDCOVERS, AND ANNUALS					
GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	CT	BERKELEY SEDGE	CAREX TUMULICOLA	1 GAL.; 12" HT. & SPRD.	PLANT 15" O.C.
	CV	STRAGGLER DAISY	CALYPTOCARPUS VIALIS	1 GAL.; 6" HT.; 10" MIN SPRD. FULL	PLANT 18" O.C.
TURF GRASS AND SEED MIXES					
GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	CDS	COMMON BERMUDA SOD	CYNODON DACTYLON	SOD	PROVIDE CONTINUOUS 2' WIDE SOLID SOD STRIP AT BACK OF CURB AND EDGE OF SIDEWALK. CONTRACTOR TO FIELD VERIFY QUANTITY OF SOD REQUIRED.

**LANDSCAPE PLANTING NOTES:**

- CONTRACTOR SHALL RECEIVE SITE AT APPROXIMATELY FINAL GRADE. LANDSCAPE CONTRACTOR SHALL FILL AREA AROUND WALLS PER TYPICAL WALL SECTION, PLAN AND LANDSCAPE GRADING NOTES WITH BACKFILL PROVIDED BY CONTRACTOR. ALL SLOPES SHALL BE SMOOTH AND UNIFORM WITH A MAXIMUM SLOPE OF 3:1 UNLESS OTHERWISE NOTED. TIE INTO EXISTING ADJACENT GRADES SMOOTHLY AND FINE GRADE FOR POSITIVE DRAINAGE AND TO PREVENT WATER FROM STANDING. CUT SWALES TO DIRECT WATER AWAY FROM ALL STRUCTURES AND PROPERTY LINES, AND TOWARDS STORM SEWER INLETS. DO NOT DRAIN ANY WATER TOWARDS LOTS/EASEMENTS. FINAL LOCATION AND HEIGHT OF BERMS TO BE APPROVED BY LANDSCAPE ARCHITECT IN FIELD.
- PROVIDE MINIMUM 8" OF GRANULAR FILL WRAPPED IN FILTER FABRIC BEHIND WALLS AND TO A DEPTH BELOW WEEP HOLES TO ALLOW FOR PROPER DRAINAGE (REFERENCE TYPICAL WALL SECTION, PLANTING DETAIL SHEET).
- SHRUB BEDS: REFERENCE SPECIFICATIONS AND DETAILS FOR PLANTING REQUIREMENTS, MATERIALS, AND EXECUTION, INCLUDING PLANT PIT DIMENSIONS AND BACKFILL REQUIREMENTS. SHRUBS AND GROUNDCOVER TO BE TRIANGULARLY SPACED (SPACING PER PLANS AND PLANT LIST). RYERSON 3/16" X 4" STEEL EDGING (DARK GREEN) SHALL BE INSTALLED TO SEPARATE ALL BEDS FROM TURF AREAS. REFERENCE PLANTING BED DETAIL FOR DRAINAGE REQUIREMENT OF ALL BEDS OCCURRING DIRECTLY AT THE BACK OF CURB. NOTE: BACKFILL ALL SHRUB PITS WITH SPECIFIED PLANTING MIX. INCORPORATE 5 LBS OF 13-13-13 FERTILIZER PER CU. YD. OF MIX INTO ALL PLANTING BEDS. ALL BEDS SHALL RECEIVE MIN. 2" DEEP COMPOSTED HARDWOOD BARK MULCH.
- TREE PLANTING: REFERENCE SPECIFICATIONS AND DETAILS FOR PLANTING REQUIREMENTS, MATERIALS, AND EXECUTION, INCLUDING STAKING METHODS, PLANT PIT DIMENSIONS, AND BACKFILL REQUIREMENTS. GUY ALL TREES 4" CALIPER AND GREATER, AND STAKE ALL TREES SMALLER THAN 4" CALIPER UNLESS MACHINE MOVED. STAKE ALL MACHINE MOVED TREES WITH THREE (3) METAL T STAKES PER DETAIL. NOTE: BACKFILL ALL TREE PITS WITH SPECIFIED PLANTING MIX AND INCORPORATE 5 LBS OF 13-13-13 FERTILIZER PER CU. YD. OF MIX INTO ALL TREE PITS. ALL TREE WATER RETENTION BASINS SHALL RECEIVE MIN. 2" DEEP COMPOSTED HARDWOOD BARK MULCH.
- TREES SHALL BE LOCATED MINIMUM OF 5' - 0" FROM WALLS, OVERHEADS, WALKS, EDGING, CURBS AND OTHER TREES WITHIN THE PROJECT. IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR TO CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE LANDSCAPE ARCHITECT MAY RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE MATERIALS.
- ALL PLANT MATERIALS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 5 DAYS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
- LAWN INSTALLATION: PRIOR TO APPLICATION OF SOD, CONTRACTOR SHALL APPLY CONTACT HERBICIDE (RECOMMENDED MIXTURE OF IMAGE AND ROUNDUP) TO REMOVE ALL EXISTING WEEDS AS NECESSARY, SCARIFY EXISTING SOIL TO SPECIFIED DEPTHS. REMOVE ALL LUMPS, CLODS, TRASH AND STICKS GREATER THAN 1". FINE GRADE TO PROVIDE POSITIVE DRAINAGE AND SMOOTH LAWN AREAS AND CUT SWALES AS NECESSARY TO ENSURE NO PONDING OF WATER. LAY BERMUDA SOD STRIP ALONG BACK OF CURB AND EDGE OF WALK WITHIN APPROXIMATE LIMITS SHOWN ON PLANS. FINISHED GRADE OF LAWN AND PLANTING BED AREAS TO BE MINIMUM 1/2" BELOW FINISHED GRADE OF ADJACENT PAVEMENT. NOTE: CONTRACTOR SHALL APPLY RECOMMENDED PRE-EMERGENT HERBICIDE FOR PREVENTION OF NUTGRASS AND WEEDS UPON ESTABLISHMENT OF BERMUDA LAWN APPROXIMATELY ONE MONTH AFTER HYDROMULCH APPLICATION. FERTILIZE AT SPECIFIED RATES MONTHLY DURING 90 DAY MAINTENANCE PERIOD.

**NOTE:**

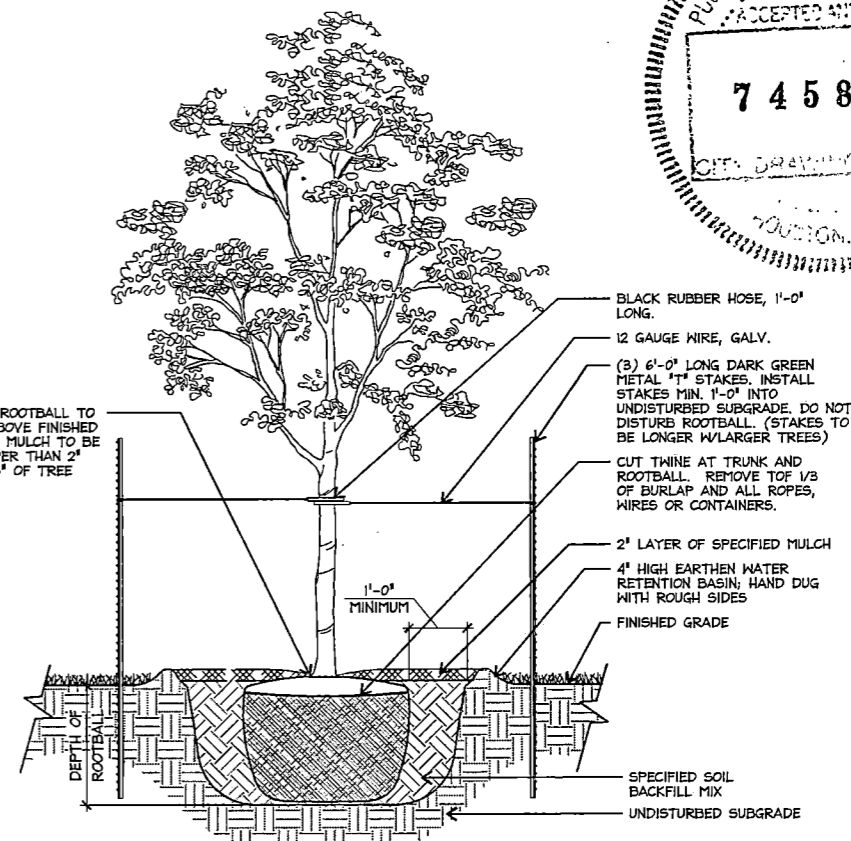
- CONTRACTOR TO VERIFY QUANTITIES REQUIRED TO CARRY OUT DESIGN INTENT AS SHOWN ON PLANS.
- ALL DISTURBED AREAS WITHIN LIMITS OF CONSTRUCTION ARE TO RECEIVE BERMUDA SOD UNLESS OTHERWISE SPECIFIED
- HYDROMULCHING BETWEEN SEPTEMBER 15 AND APRIL 15, SEED WITH ANNUAL RYE GRASS, SCALP RYE AND RE-APPLY COMMON BERMUDA HYDROMULCH IN LATE APRIL. ENSURE BERMUDA TURF IS ESTABLISHED.



- NOTE:**
- REFERENCE TECHNICAL SPECIFICATION SECTION "LANDSCAPE PLANTING" FOR ADDITIONAL REQUIREMENTS
  - TREES LESS THAN 4" CALIPER = (2) T-POSTS
  - TREES 4" CALIPER AND GREATER = (3) T-POSTS
- NOTE:** SECURE TREE TO STAKES WITH HOSE AND WIRE AT LOWEST CROTCH OF LOWEST BRANCH.
- NOTE:** DO NOT MULCH TREE PRIOR TO INSPECTION

**2 TREE PLANTING - MULTI TRUNK SECTION**

SCALE: 1/2"=1'-0"



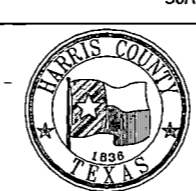
- NOTE:** SECURE TREE TO STAKES WITH HOSE AND WIRE AT LOWEST CROTCH OF LOWEST BRANCH.
- NOTE:** DO NOT MULCH TREE PRIOR TO INSPECTION
- NOTE:**
- REFERENCE TECHNICAL SPECIFICATION SECTION "LANDSCAPE PLANTING" FOR ADDITIONAL REQUIREMENTS
  - TREES LESS THAN 4" CALIPER = (2) T-POSTS
  - TREES 4" CALIPER AND GREATER = (3) T-POSTS

**1 TREE PLANTING - STANDARD TRUNK SECTION**

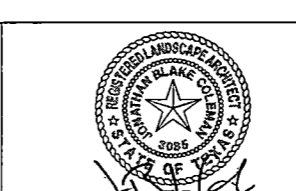
SCALE: 1/2"=1'-0"

NO.	REVISIONS	DATE	NAME
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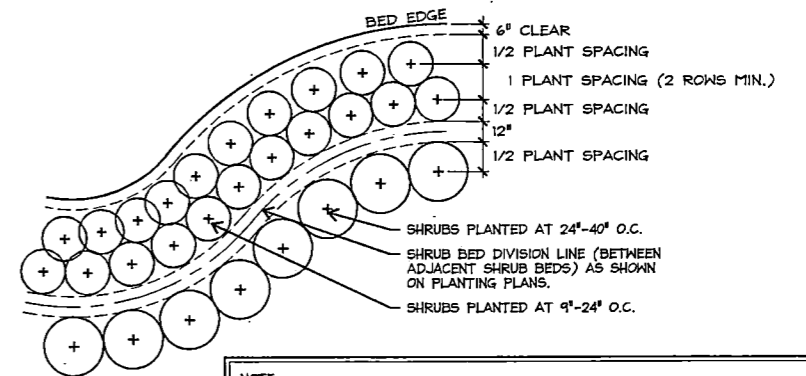


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HOUSTON, TX 77027  
713.439-0027  
tsgpartners.com



PROJECT TITLE:	QUITMAN STREET		
	ON-STREET BIKEWAY AND SIDEWALKS		
SHEET DESCRIPTION:	PLANTING DETAILS		
DRAWN BY:	MF	DATE:	10-31-2022
CK'D BY:	LP, BC, JL	SCALE:	SHEET NO: 121 (LP 3.01)

10.31.2022

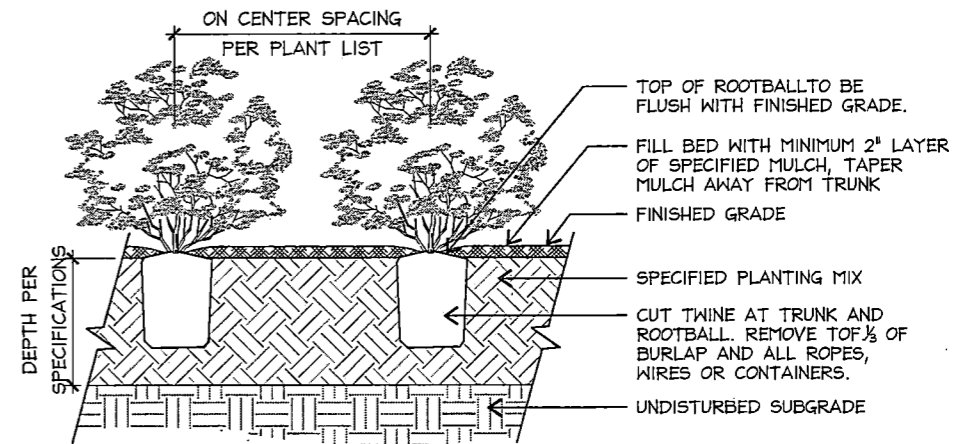


**NOTE:**  
 THIS DETAIL IS DRAWN TO SHOW THE INTENDED PLANTING LAYOUT OF ADJACENT SHRUB BEDS ALONG CURVES. CONTRACTOR TO PLANT ALL PERIMETERS OF BED AREAS AS SHOWN AND THEN PLANT THE REMAINDER OF THE BED TRIANGULARLY AT THE SPECIFIED SPACING. CONTRACTOR TO VERIFY QUANTITIES REQUIRED TO CARRY OUT DESIGN INTENT AS SHOWN ON PLANS. VOIDS INDICATED BETWEEN PLANT MASS HATCHING FOR GRAPHIC CLARITY ONLY. REFER TO PLANT LIST FOR SPACING.

## 2 SHRUB LAYOUT

PLAN

SCALE: 1/2"=1'-0"



## 1 SHRUB BED PLANTING

SECTION

SCALE: 1/2"=1'-0"



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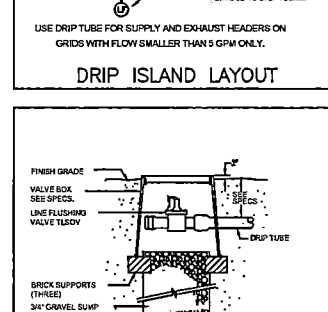
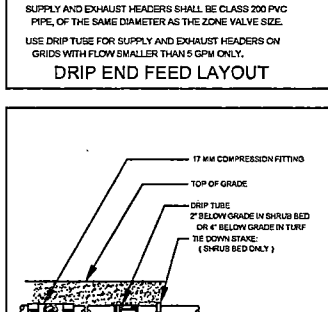
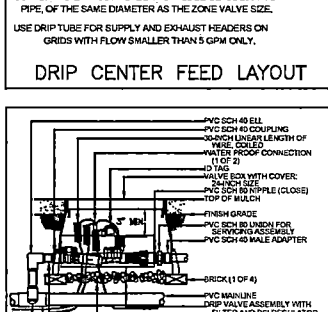
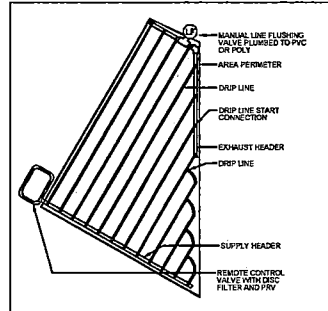
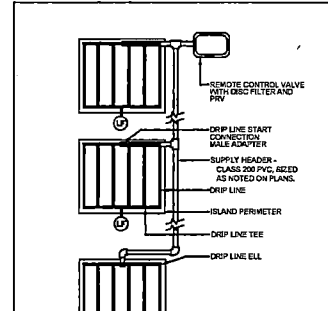
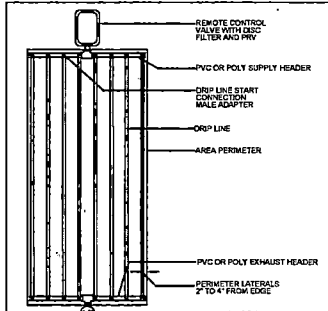
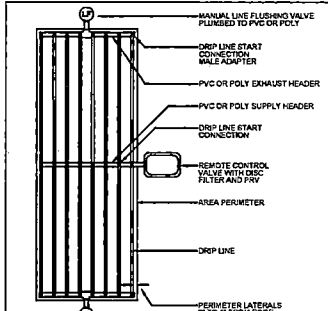
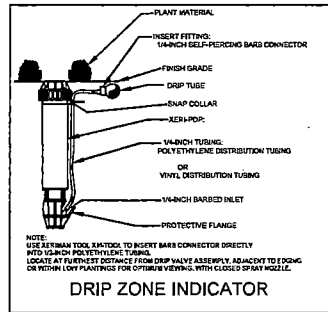
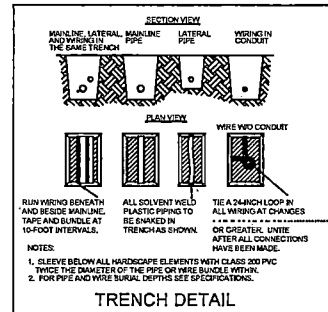
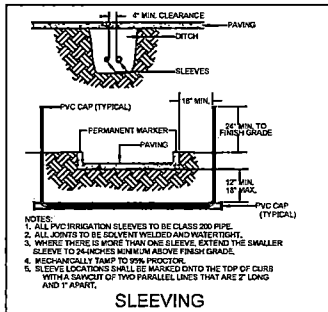
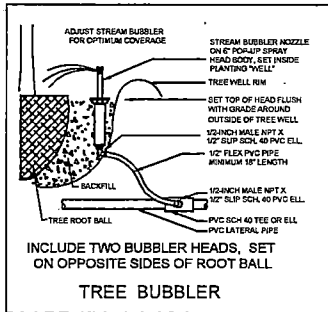
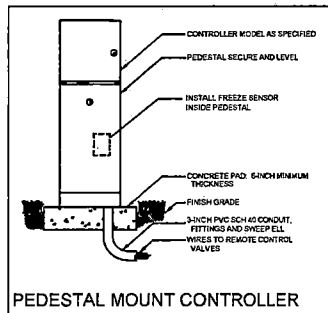
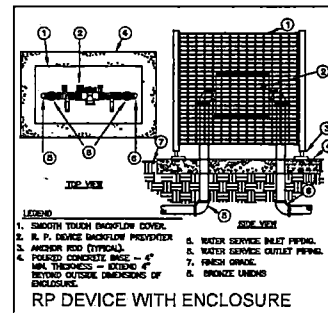
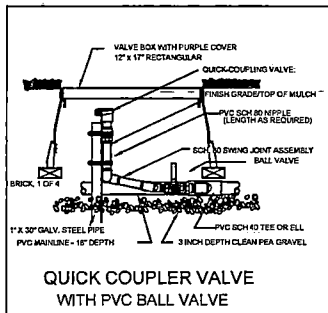
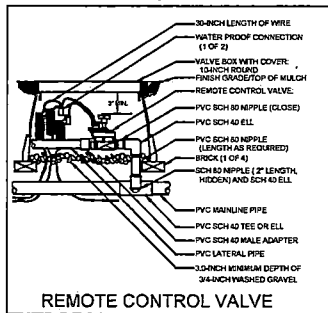


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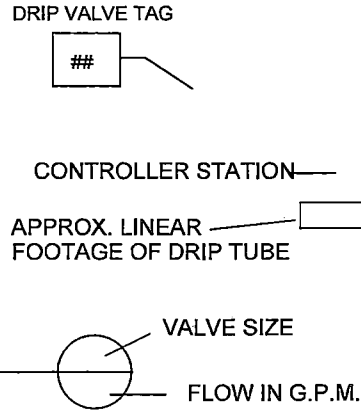
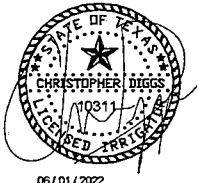
*J. J. J.*  
 10.31.2022

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DATE:	10-31-2022	SHEET NO.:	122 (LP 3.02)
DRAWN BY:	MF	SCALE:	
CK'D BY:	LP, BC, JL		



### INSTALLATION NOTES

- COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE COVERAGE WITH MINIMUM OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES, AND WILL SECURE ALL REQUIRED PERMITS. L.I.C. SHALL PAY ANY ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN AND SHALL BE ADDRESSED BEFORE ANY CONSTRUCTION BEGINS.
- NO MACHINE TRENCHING SHALL BE PERMITTED WITHIN THE ROOT ZONE OF EXISTING TREES. HAND-DIG ONLY, WITHIN THE ROOT ZONES OF EXISTING TREES. NO ROOTS OVER 1" DIAMETER SHALL BE CUT. STAKE ALL PROPOSED TRENCH ROUTES NEAR EXISTING TREES FOR APPROVAL BY THE LANDSCAPE ARCHITECT BEFORE DIGGING BEGINS. CONFIRM MINIMUM STATIC WATER PRESSURE OF 65 PSI AT THE HIGHEST ELEVATION OF THE SYSTEM LIMITS, AND MAXIMUM STATIC WATER PRESSURE OF 90 P.S.I. AT THE LOWEST ELEVATION OF THE SYSTEM LIMITS AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS OUTSIDE THE RANGE STATED ABOVE, DO NOT PROCEED UNTIL DIRECTED BY THE LANDSCAPE ARCHITECT.
- LATERAL PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES. MAINLINE PIPE AND WIRES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18 INCHES. NO MACHINE TRENCHING SHALL BE PERMITTED WITHIN EXISTING TREE ROOT ZONES. WHEN HAND-TRENCHING WITHIN EXISTING TREE ROOT ZONES, NO ROOTS LARGER THAN 1" DIAMETER SHALL BE CUT.
- UNSLIEVED PIPES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY ONLY. INSTALL THESE PIPES IN ADJACENT LANDSCAPED AREAS.
- ELECTRIC POWER SHALL BE PROVIDED WITHIN FIVE FEET OF CONTROLLER LOCATION BY GENERAL CONTRACTOR. L.I.C. TO PROVIDE FINAL HARD-WIRE TO CONTROLLER.
- 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR "IRRIGATION WIRE". WIRE SPLICES SHALL INCLUDE DBY CONNECTORS AS MANUFACTURED BY 3M COMPANY. ALL FIELD SPLICES SHALL BE LOCATED IN A ROUND VALVE BOX OF SUFFICIENT SIZE TO ALLOW INSPECTION.
- VALVE BOXES SHALL BE INSTALLED FLUSH WITH GRADE, SUPPORTED BY BRICKS IF NEEDED, WITH 3 INCHES OF CLEAN PEA GRAVEL LOCATED BELOW THE VALVE. USE 12" x 17" RECTANGULAR VALVE BOXES WITH PURPLE LID FOR QUICK COUPLING VALVES, AND 10" ROUND BOXES FOR ELECTRIC VALVES UNLESS NOTED OTHERWISE.
- USE RIGID SCH. 80 PVC SWING JOINT ASSEMBLIES TO CONNECT ALL ROTARY HEADS AND QUICK COUPLERS.
- ALL SPRAY HEADS SHALL BE CONNECTED WITH A 12" MINIMUM LENGTH OF 1/2" FLEX PVC. THE FLEX PVC SHALL BE SOLVENT WELDED TO SCHEDULE 40 PVC FITTINGS WITH WELD-ON #795 SOLVENT AND #P-70 PRIMER.
- PROVIDE ONE QUICK COUPLER KEY WITH SWIVEL HOSE ELL FOR EVERY SIX Q.C. VALVES. (MINIMUM ONE SET).
- CONTRACTOR IS TO CONTACT APPROPRIATE AUTHORITIES AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
- LATERAL PIPE TO TREE STREAM BUBBLER HEADS IS OMITTED FOR GRAPHIC CLARITY. CONNECT TREE BUBBLER HEADS TO VALVES AS SHOWN WITH CLASS 200 PVC PIPE SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF 5 FEET PER SECOND
- THE PROPOSED LOCATIONS OF ALL ABOVE-GROUND EQUIPMENT INCLUDING BACKFLOW PREVENTORS, CONTROLLERS AND WEATHER SENSORS SHALL BE STAKED BY THE CONTRACTOR FOR APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE BEFORE THESE ITEMS ARE INSTALLED.
- ALL HEADS SHALL BE INSTALLED A MINIMUM OF 4" FROM PAVEMENT EDGES. (6" OR GREATER WHERE REQUIRED BY LOCAL CODE) FINAL HEAD ADJUSTMENTS BY THE CONTRACTOR SHALL INCLUDE THE ADDITION OF CHECK VALVES WHERE NEEDED TO PREVENT EXCESSIVE LOW HEAD DRAINAGE. THE CONTRACTOR SHALL BUDGET FOR, AND INSTALL CHECK VALVES FOR UP TO 10% OF THE TOTAL NUMBER OF HEADS WHEN NEEDED, WITH NO ADDITIONAL COST TO THE OWNER.
- WHERE SHOWN ON THE PLANS, MASS SHRUB / GROUND COVER BEDS SHALL INCLUDE NETAFIM TECHLINE TLHCVXR SERIES DRIP TUBE WITH PRE-INSTALLED .55 GPH DRIP EMITTERS AT 12" INTERVALS (TLHCVXR-12), INSTALLED IN CENTER-FED GRIDS WITH ROWS SPACED 18" APART. INDIVIDUAL DRIP TUBE RUNS SHALL NOT EXCEED 150 L.F. PVC LATERAL "TRUNK" LINES SHALL BE INSTALLED 10" DEEP. DRIP TUBE SHALL BE SET 2" BELOW FINISHED SOIL GRADE (NOT INCLUDING MULCH LAYER), SECURELY STAKED EVERY 18". NETAFIM #TL050MF-1 FLUSH VALVES SHALL BE INSTALLED AT THE FARTHEST POINTS FROM THE ZONE VALVE. USE 17 MM BARBED FITTINGS FOR DRIP LINE CONNECTIONS, SET THE MAXIMUM OPERATING PRESSURE AT 50 PSI. TECHLINE CV SHALL BE INSTALLED PERPENDICULAR TO SLOPE FACE. INSTALL TLCV IN-LINE CHECK VALVES FOR EVERY 4.5 FEET OF DRIP LINE ELEVATION CHANGE WITHIN THE ZONE. USE NETAFIM STAPLES (#TL6S) TO SECURE TUBING EVERY 18" EACH DRIP ZONE SHALL INCLUDE ONE MAINTENANCE "FLAG" WHICH SHALL CONSIST OF A 12" POP-UP SPRAY HEAD AND COMPLETELY CLOSED SPRAY NOZZLE. THE POP-UP HEAD SHALL BE CONNECTED TO THE DRIP ZONE PIPE, SET FLUSH WITH GRADE, AND LOCATED AT THE FARTHEST DISTANCE FROM THE DRIP VALVE ASSEMBLY. INSTALL THE "FLAG" HEAD ADJACENT TO EDGING OR IN LOW PLANTINGS FOR EASE OF VIEWING. SPARSLEY SPACED, INDIVIDUAL SHRUB PLANTINGS MAY INCLUDE RAINBIRD #B1-10 SINGLE-OUTLET EMITTERS OR RAINBIRD #B1-10-6 MULTI-OUTLET EMITTERS INSTALLED AS DETAILED. PROVIDE MINIMUM TWO, 1 G.P.H. OUTLETS PER INDIVIDUAL SHRUB. SINGLE / MULTI-OUTLET EMITTERS MAY BE CONNECTED TO THE SAME DRIP ZONE VALVE WHICH SERVES ADJACENT DRIP TUBE GRIDS, UNLESS NOTED OTHERWISE.
- WHERE SHOWN ON THE PLANS, SPECIFIC TURF AREAS SHALL INCLUDE NETAFIM TECHLINE TLHCVXR SERIES DRIP TUBE WITH PRE-INSTALLED .5 GPH DRIP EMITTERS AT 12" INTERVALS (TLHCVXR-12), INSTALLED IN CENTER-FED GRIDS WITH ROWS SPACED 12" APART. INDIVIDUAL DRIP TUBE RUNS SHALL NOT EXCEED 150 L.F. PVC LATERAL "TRUNK" LINES SHALL BE INSTALLED 10" DEEP. DRIP TUBE SHALL BE SET 4" BELOW FINISHED SOIL GRADE. NETAFIM #TL050MF-1 FLUSH VALVES SHALL BE INSTALLED AT THE FARTHEST POINTS FROM THE ZONE VALVE. USE 17 MM BARBED FITTINGS FOR DRIP LINE CONNECTIONS, SET THE MAXIMUM OPERATING PRESSURE AT 50 PSI. TECHLINE CV SHALL BE INSTALLED PERPENDICULAR TO SLOPE FACE. INSTALL TLCV IN-LINE CHECK VALVES FOR EVERY 4.5 FEET OF DRIP LINE ELEVATION CHANGE WITHIN THE ZONE. EACH DRIP ZONE SHALL INCLUDE ONE MAINTENANCE "FLAG" WHICH SHALL CONSIST OF A 12" POP-UP SPRAY HEAD AND COMPLETELY CLOSED SPRAY NOZZLE. THE POP-UP HEAD SHALL BE CONNECTED TO THE DRIP ZONE PIPE, SET FLUSH WITH GRADE, AND LOCATED AT THE FARTHEST DISTANCE FROM THE DRIP VALVE ASSEMBLY. INSTALL THE "FLAG" HEAD ADJACENT TO EDGING OR IN LOW PLANTINGS FOR EASE OF VIEWING. TEMPORARY SUPPLEMENTAL OVERHEAD WATERING MAY BE REQUIRED FOR INITIAL ESTABLISHMENT OF NEW SOD, SEEDED TURF, OR SEEDED NATIVE MIX AREAS SERVED BY SUB-SURFACE DRIP EQUIPMENT.



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**James Pole**  
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james@jamespoleirrigation.com james@jamespoleirrigation.com

### IRRIGATION LEGEND

- ▲ GATOR BAG FOR ESTABLISHMENT OF TREES WITHOUT WATER METER
- HUNTER PROS-06-PR330 SERIES POP UP SPRAY HEADS WITH HUNTER MSBN-50H STREAM BUBBLER NOZZLES. (TWO PER TREE) SEE INSTALLATION NOTE #13 REGARDING TREE BUBBLER LATERAL PIPE
- ▨ NETAFIM TECHLINE TLHCVXR-12 SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2" DEPTH SEE INSTALLATION NOTE #16 REGARDING DRIP TUBE LAYOUT IN SHRUB BEDS.
- ▨ NETAFIM TECHLINE TLHCVXR-12 SERIES DRIP TUBE IN NARROW TURF AREAS INSTALLED AT 4" DEPTH SEE INSTALLATION NOTE #17 REGARDING DRIP TUBE LAYOUT IN TURF.
- ⊕ HUNTER ICV SERIES ELECTRIC REMOTE CONTROL, "TREE BUBBLER ZONE" VALVE WITH (EZ-1) SINGLE STATION DECODER SEE INSTALLATION NOTE #13 REGARDING TREE BUBBLER LATERAL PIPE
- ⊕ NETAFIM CONTROL ZONE KIT MODEL #NCZ-1S SERIES WITH 50 PSI PRESSURE REGULATOR AND SCREEN FILTER AND (EZ-1) SINGLE STATION DECODER
- ▲ HUNTER HQ-33DLRC-R QUICK COUPLING VALVE WITH LOCKING PURPLE COVER AND 3/4" PVC BALL VALVE
- ZURN / WILKINS 375XLB SERIES REDUCED PRESSURE TYPE BACKFLOW PREVENTOR INSTALLED PER CITY CODE WITH SMOOTH TOUCH BACKFLOW ENCLOSURE AND SAME SIZE BRONZE BALL VALVE INSTALLED ON THE UP-STREAM SIDE.
- IRRIGATION WATER METER AND TAP, SIZE AS NOTED ON THE PLAN
- HUNTER HYDRAWISE HCC SERIES AUTOMATIC CONTROLLER MODEL #HCC-800-M-ICC-PED WITH WIFI-EXT-KIT, EZ-DM SERIES DECODER MODULE, AND RAIN / FREEZE SENSOR. LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
- SCHEDULE 40 PVC MAINLINE PIPE
- CLASS 200 (EXCEPT 1/2 INCH #315) PVC LATERAL PIPE
- ONE 4" CLASS 200 SLEEVE PIPES
- TWO 4" CLASS 200 SLEEVE PIPES
- 1 1/2" PVC CONDUIT WITH LONG RADIUS SWEEP FITTINGS

L.I.C. SHALL SELECT SPRAY NOZZLES FOR "HEAD-TO-HEAD" COVERAGE, ADJUSTED FOR NO OVERSPRAY ONTO WALLS AND WALKS. NO OVERSPRAY INTO STREETS IS PERMITTED. ALL CONTROL WIRE SHALL BE HUNTER IDWIRE.

NO.	REVISIONS	DATE	NAME
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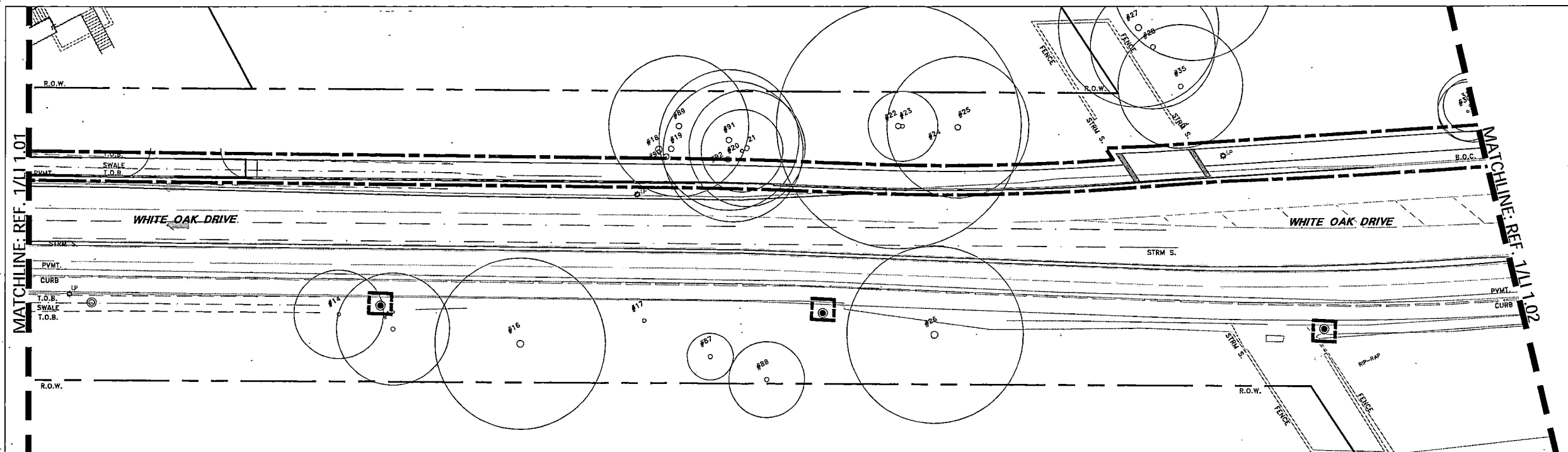
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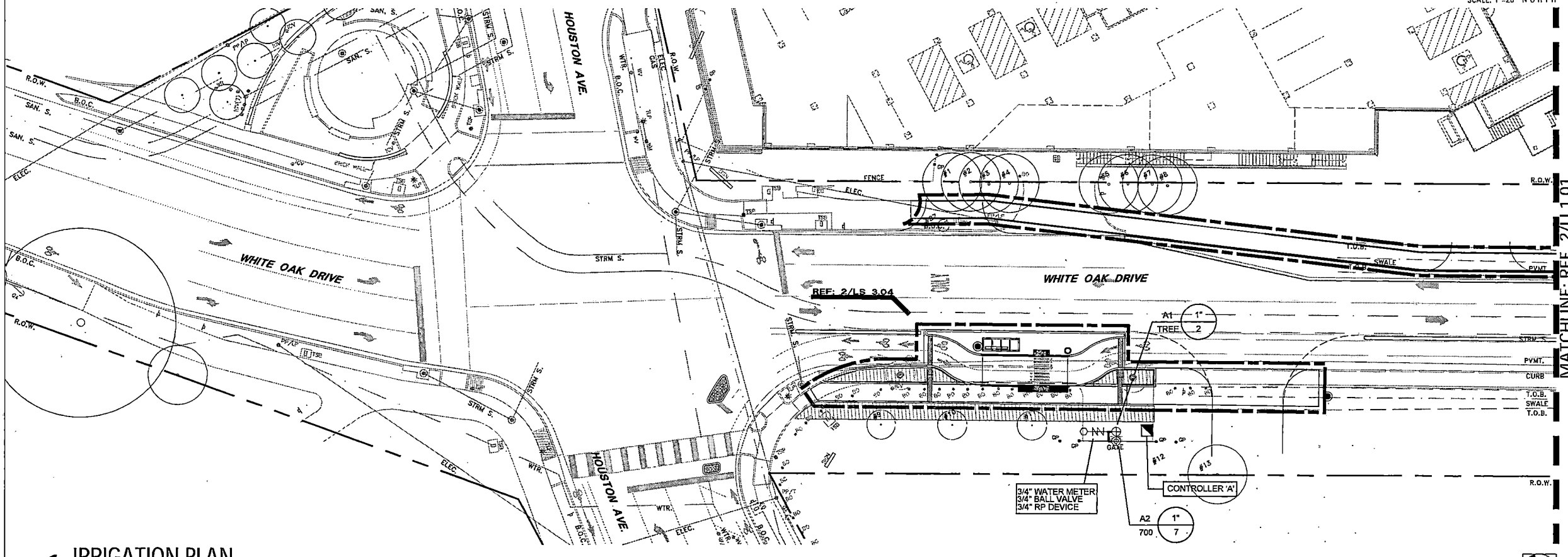
J.P. Pole  
10.31.2022

PROJECT TITLE:	QUITMAN STREET
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS
DATE:	10-31-2022
DRAWN BY:	MF
CK'D BY:	LP, BC, JL
SCALE:	N.T.S.
SHEET NO.:	123 (LI 1.00)



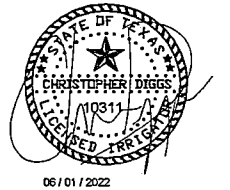
**2 IRRIGATION PLAN**

SCALE: 1"=20' NORTH



**1 IRRIGATION PLAN**

SCALE: 1"=20' NORTH



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james@jamespoleirrigation.com

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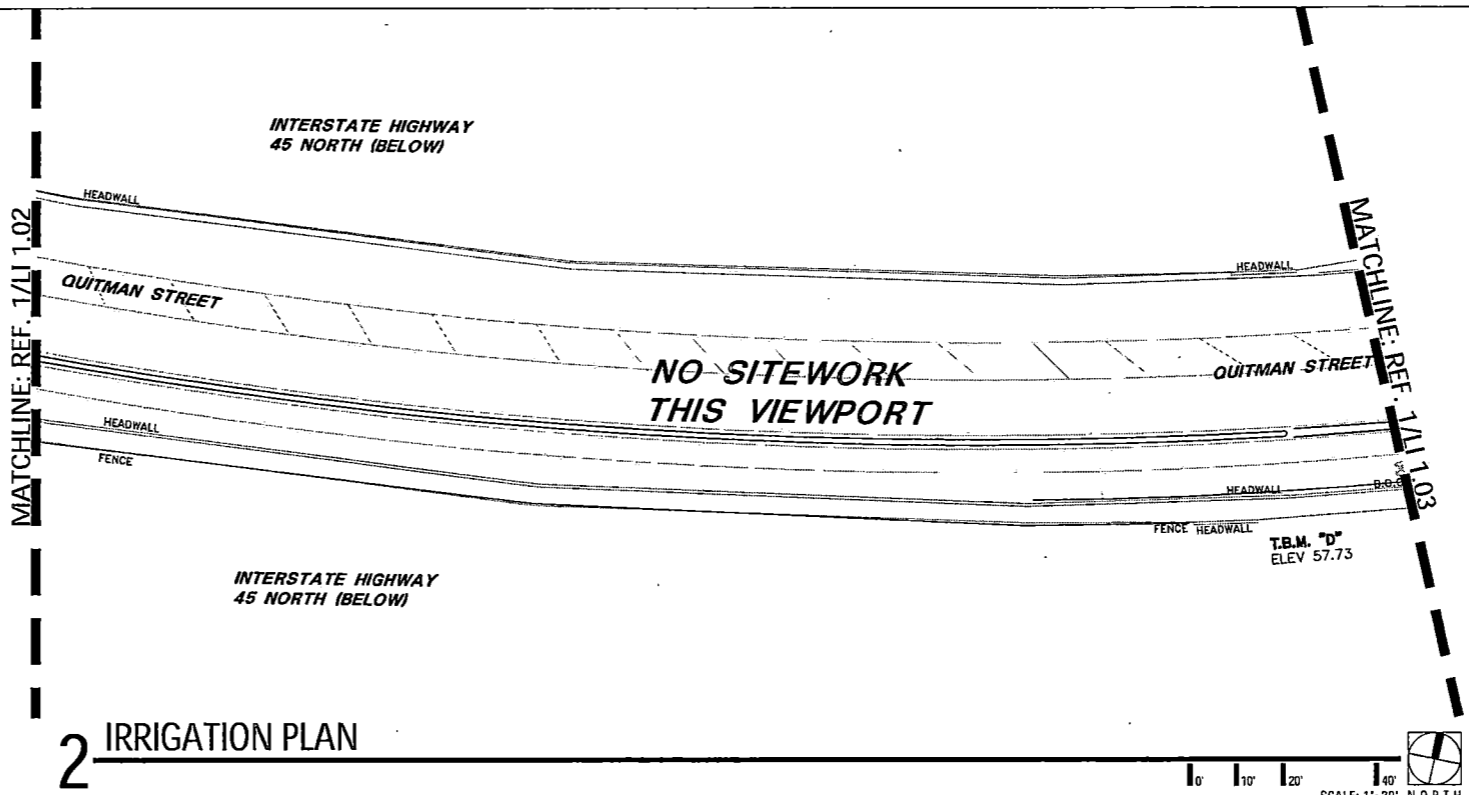
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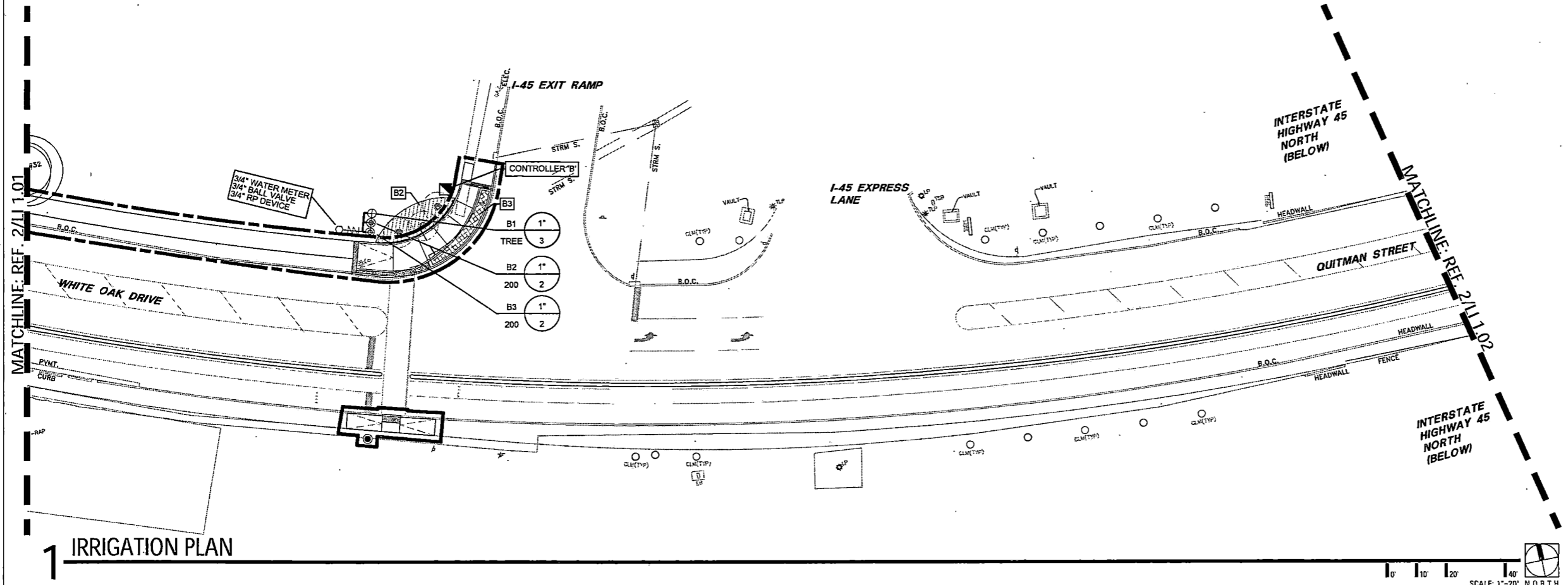
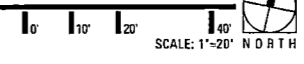
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J.P. 10.31.2022

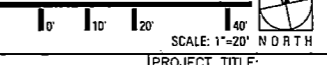
PROJECT TITLE:	QUITMAN STREET
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS IRRIGATION PLAN
DRAWN BY:	MF
CK'D BY:	LP, BC, JL
SCALE:	
DATE:	10-31-2022
SHEET NO.:	124 (LI 1.01)



2 IRRIGATION PLAN



1 IRRIGATION PLAN



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james@jamespoleirrigation.com

NO.	REVISIONS	DATE	NAME
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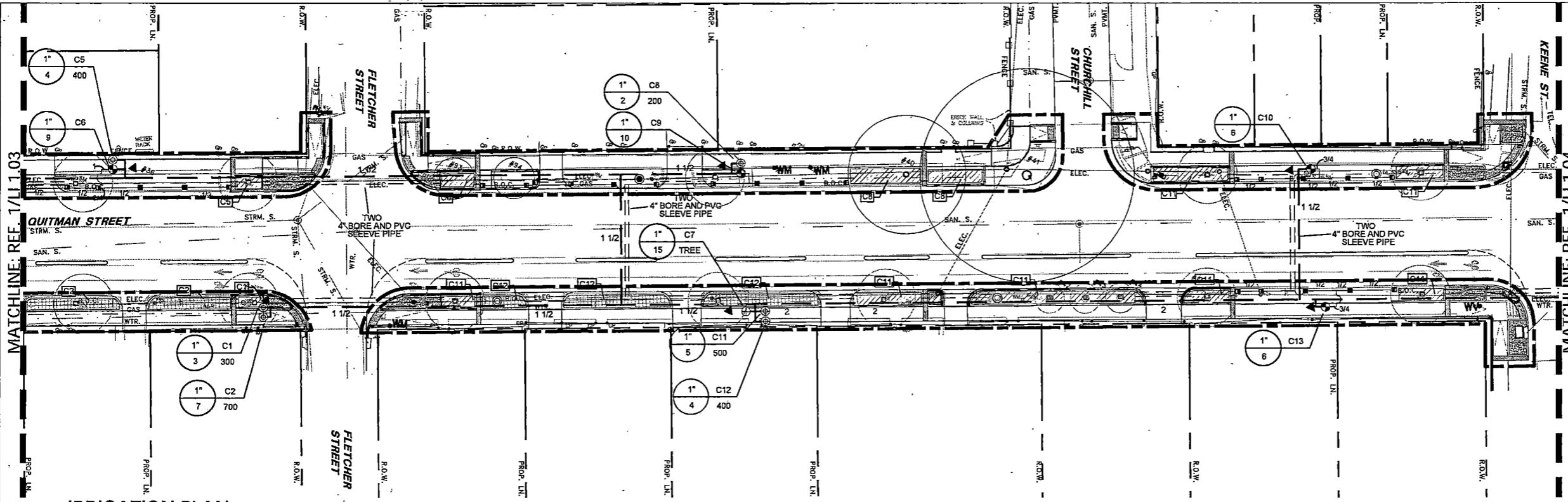
HARRIS COUNTY  
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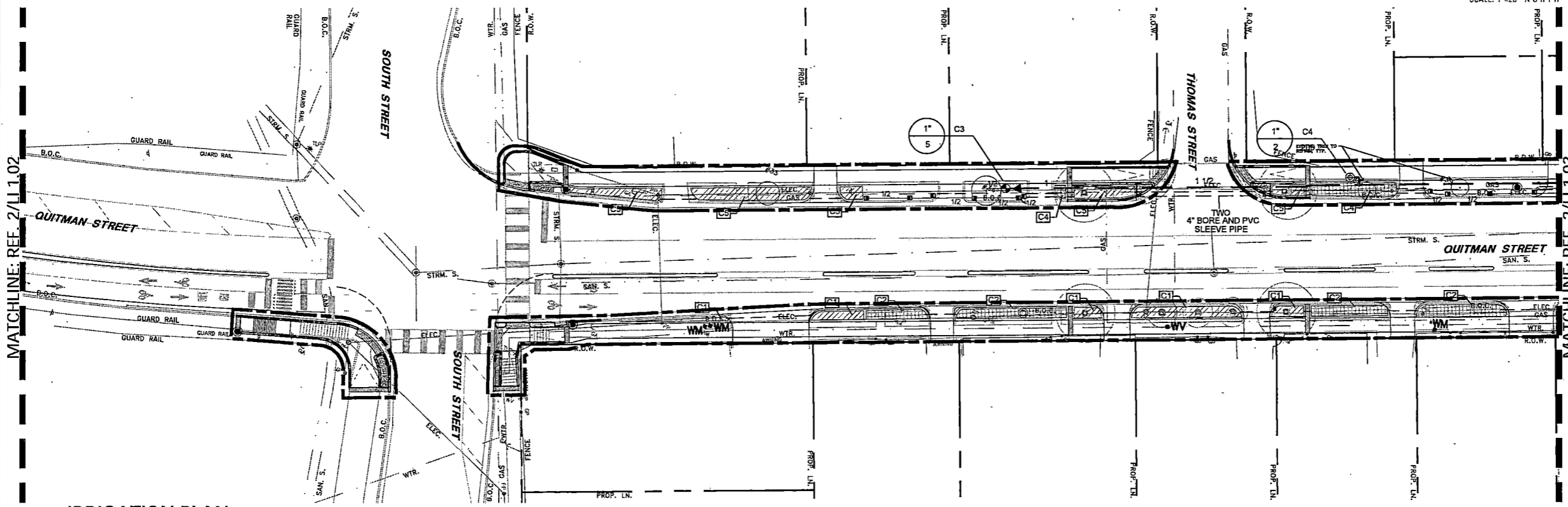
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tbgpartners.com

J. Bl...  
10.31.2022

PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: IRRIGATION PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 125 (LI 1.02)



2 IRRIGATION PLAN



1 IRRIGATION PLAN

SCALE: 1"=20' NORTH

SCALE: 1"=20' NORTH

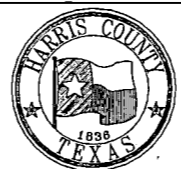


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NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
 ENGINEERING DEPARTMENT

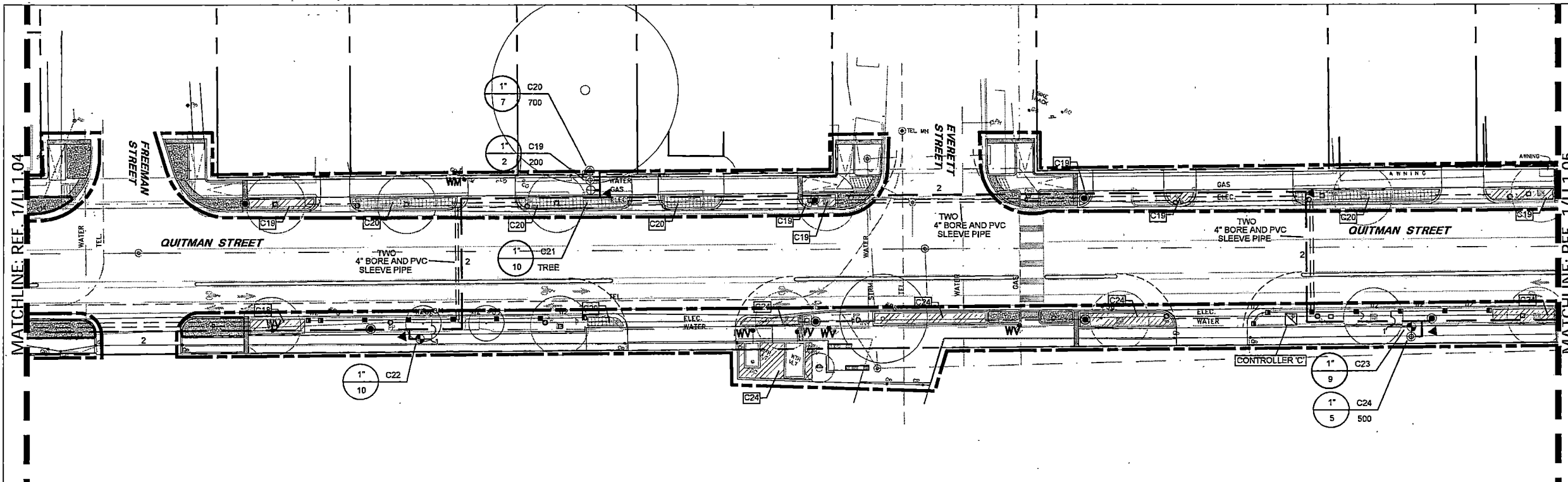


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 landscape architects, planners & designers  
 1333 w. loop south  
 Houston, tx 77027  
 (713) 439-0027  
 tbgpartners.com

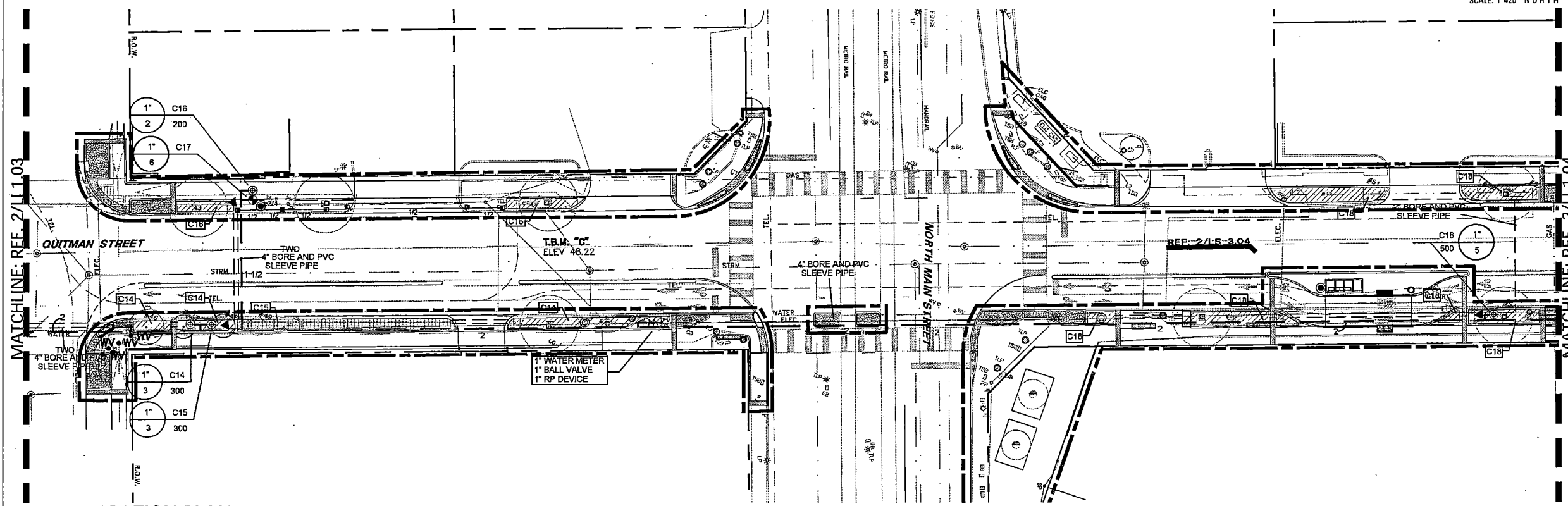
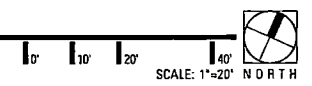
*J.P. Diggs*  
 10.31.2022

PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: IRRIGATION PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 126 (LI 1.03)

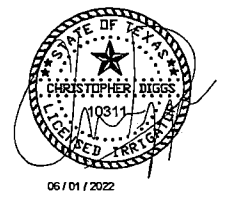
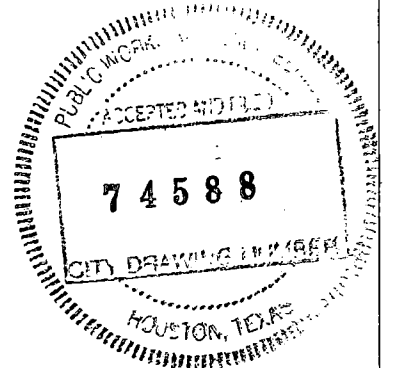
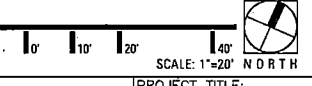




2 IRRIGATION PLAN



1 IRRIGATION PLAN

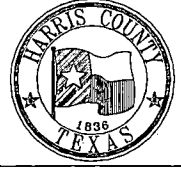


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**James Pole**  
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IRRIGATION DESIGN, CONSULTING, AND LANDSCAPE WATER MANAGEMENT  
TEXAS L.L.C. #10311 OFFICE: 940.343.2364  
100 N. LOCUST ST., SUITE 3 DENTON, TEXAS 76201 FAX: 940.382.2475  
james@jamespoleirrigation.com

NO.	REVISIONS	DATE	NAME
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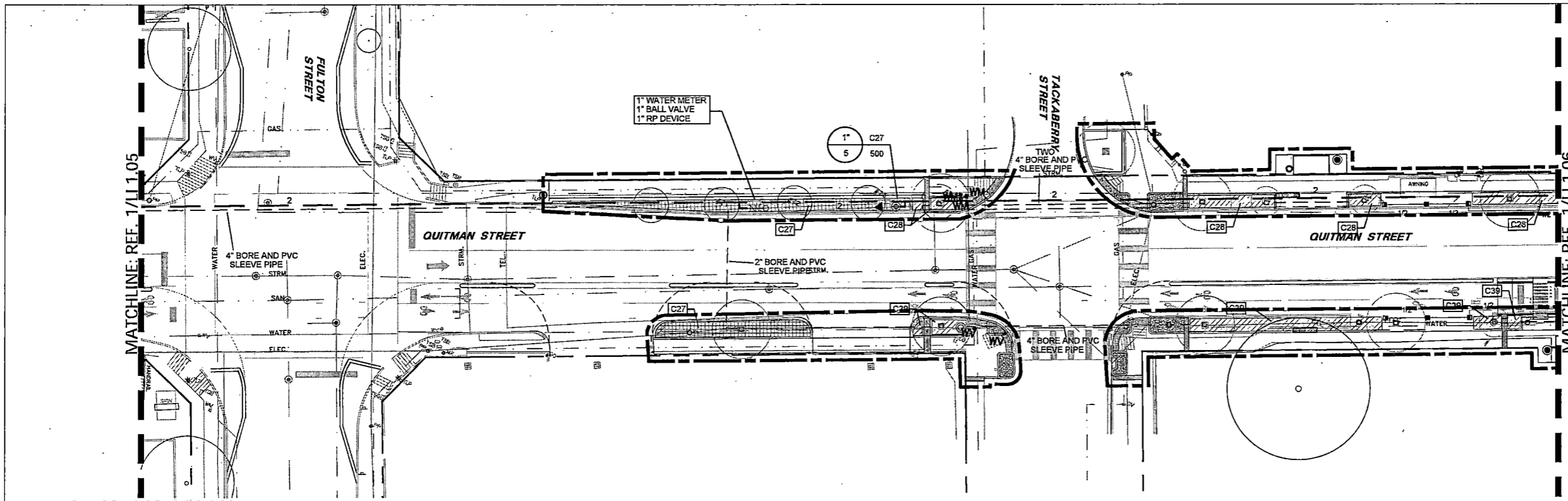
HARRIS COUNTY  
ENGINEERING DEPARTMENT



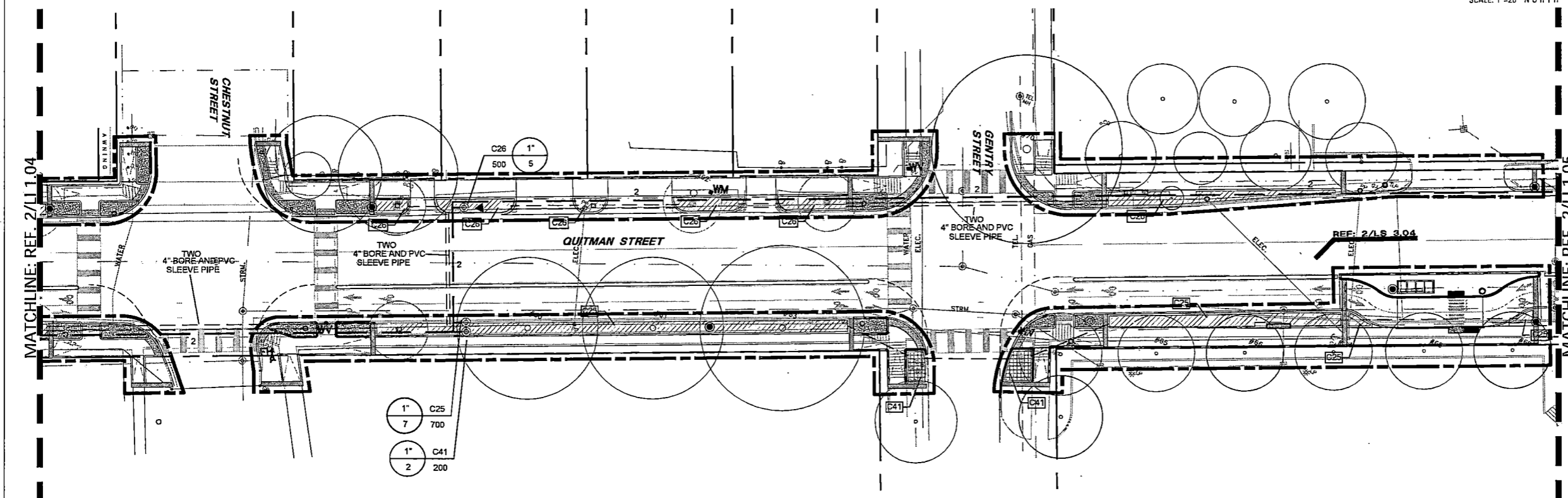
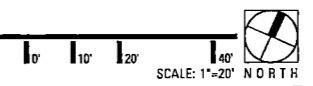
TBG  
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1333 w. loop south  
suite 1450  
Houston, tx 77027  
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J.P. Biggs  
10.31.2022

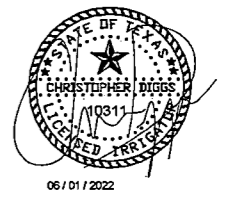
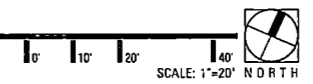
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SHEET DESCRIPTION: IRRIGATION PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 127 (LI 1.04)



2 IRRIGATION PLAN



1 IRRIGATION PLAN

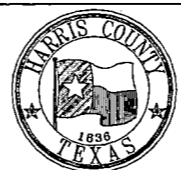


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TEXAS L.L.C. #10311 100 N. LOCUST ST., SUITE 3 DENTON, TEXAS 76201  
OFFICE: 940.343.2364 FAX: 940.382.2475 james@jamespoleirrigation.com

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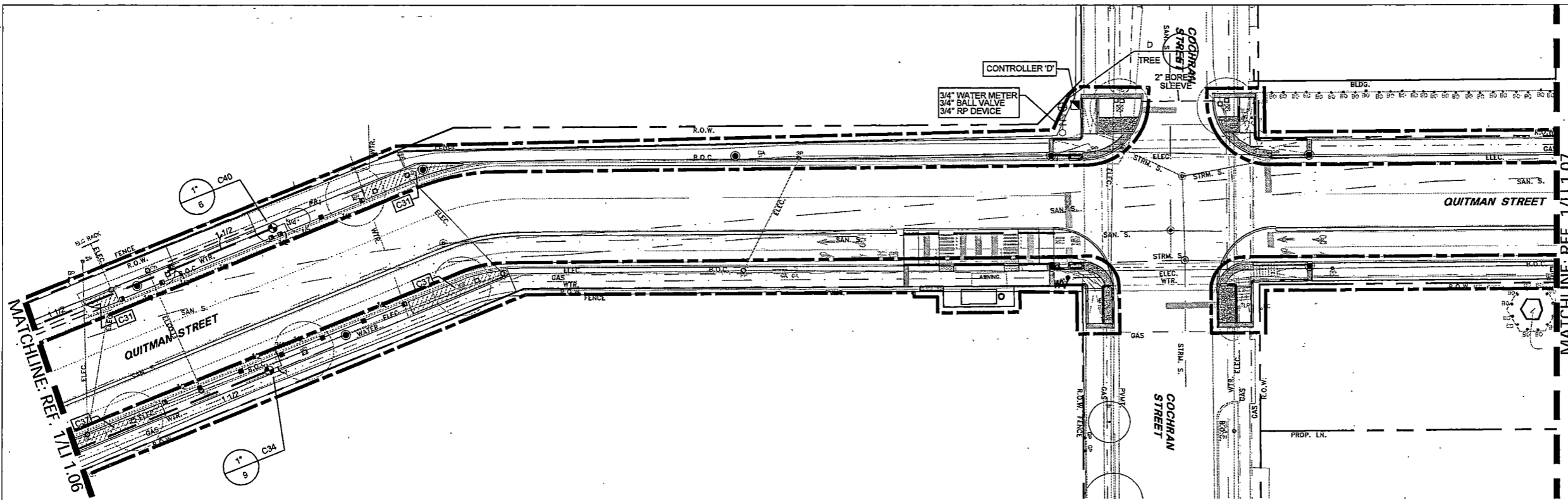
HARRIS COUNTY  
ENGINEERING DEPARTMENT



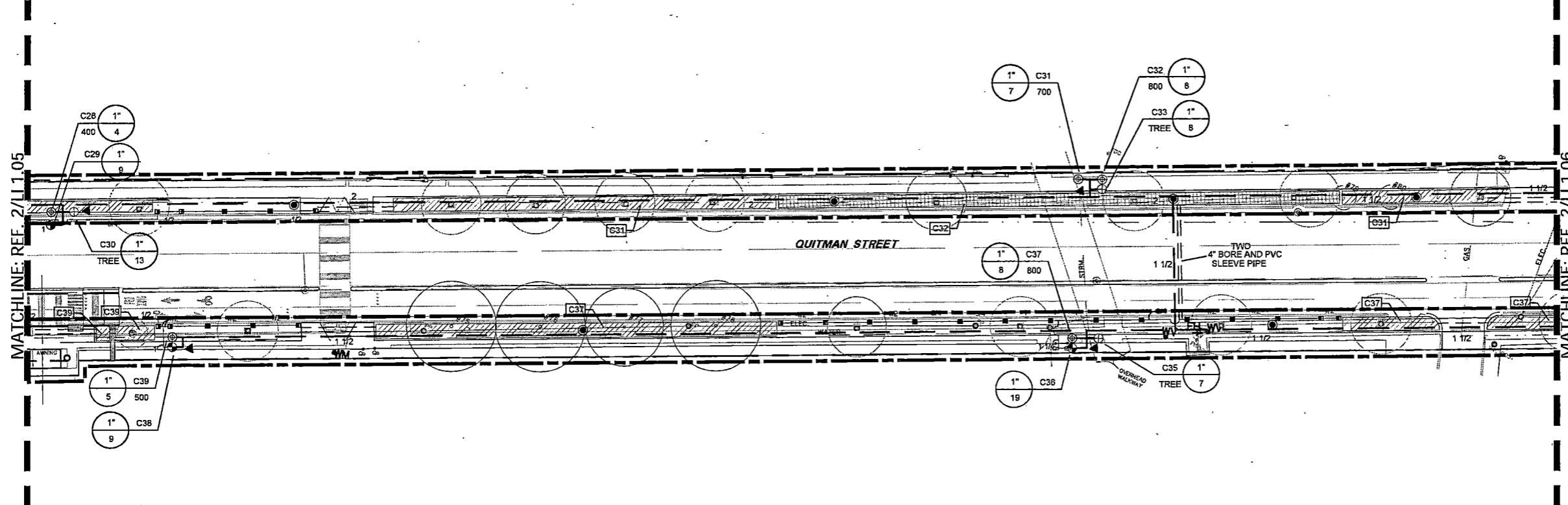
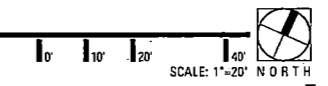
TBG  
landscape architects, planners & designers  
1323 W. Loop South  
Suite 1150  
Houston, TX 77027  
(713) 439-0027  
tbg@tbg.com

*J.P. Biggs*  
10.31.2022

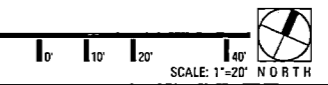
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ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: IRRIGATION PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 128 (LI 1.05)



2 IRRIGATION PLAN



1 IRRIGATION PLAN



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TEXAS L.L.C. #10311 OFFICE: 940.243.2364  
100 N. LOCUST ST., SUITE 3 HOUSTON, TX 77027 FAX: 940.282.2476  
DENTON, TEXAS 76201 james@jamespoleirrigation.com

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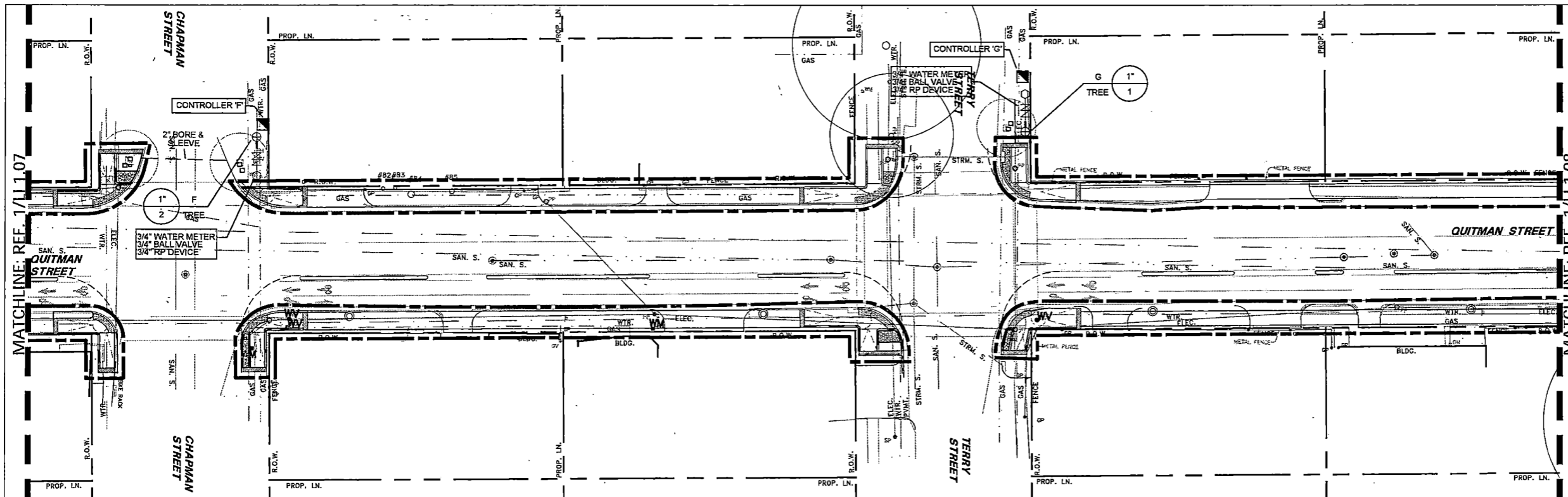
HARRIS COUNTY  
ENGINEERING DEPARTMENT



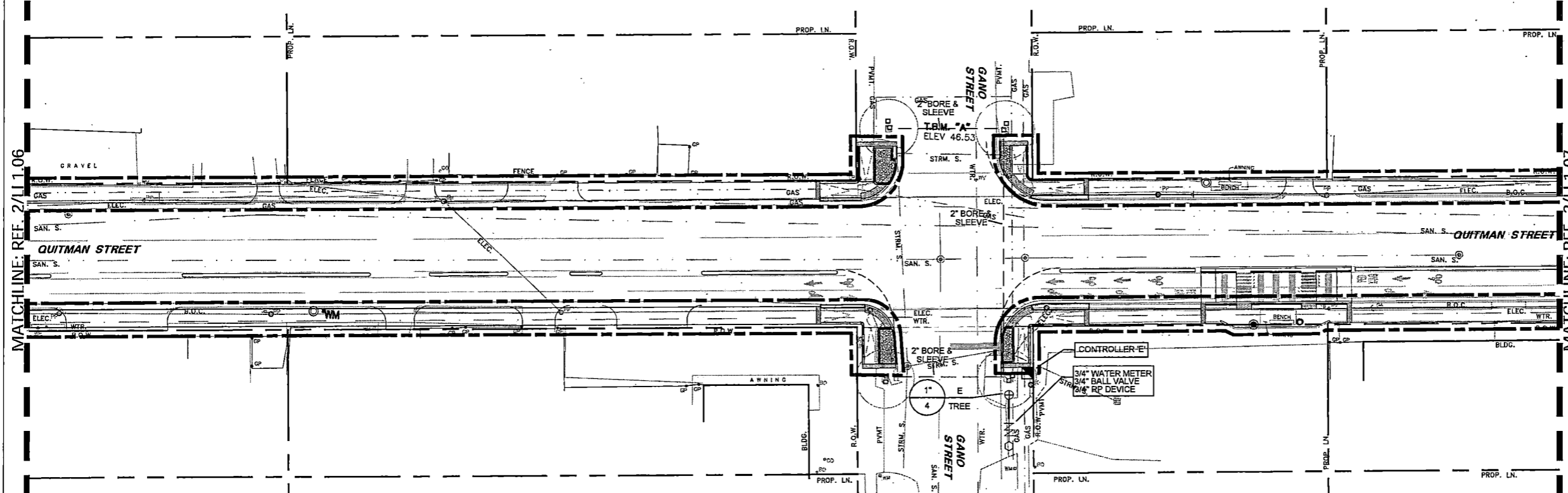
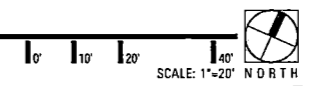
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1323 W. LOOP SOUTH  
SUITE 1450  
HOUSTON, TX 77027  
(713) 436-0027  
tbgpartners.com

J.B.L.C.  
10.31.2022

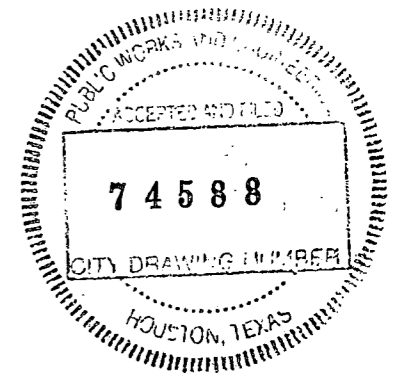
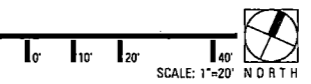
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SHEET DESCRIPTION: IRRIGATION PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 129 (LI 1.06)



2 IRRIGATION PLAN



1 IRRIGATION PLAN

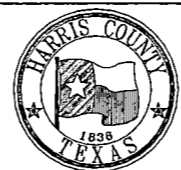


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**James Pole**  
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 TEXAS LLC #10311 100 N. LOCUST ST., SUITE 3 DENTON, TEXAS 76201  
 OFFICE: 940.343.2364 FAX: 940.382.2475  
 james@jamespoleirrigation.com

NO.	REVISIONS	DATE	NAME

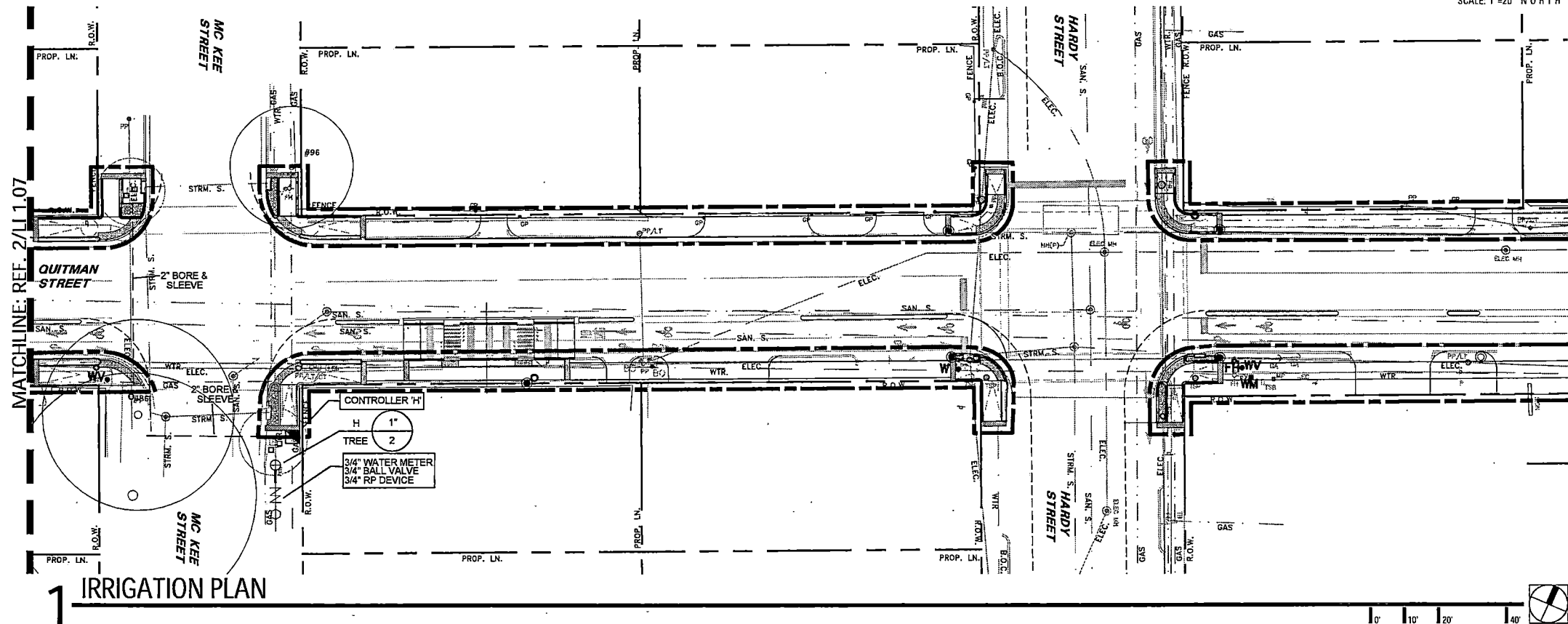
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



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 landscape architects, planners & designers  
 1333 W. 180th South Suite 1450 Houston, TX 77027  
 (713) 439-0027 tbgs@tbg.com

*JBL*  
 10.31.2022

PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: IRRIGATION PLAN	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 130 (LI 1.07)

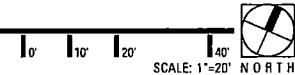


MATCHLINE: REF. 2/11.07

**1 IRRIGATION PLAN**

MATCHLINE: REF. 1/11.08

**2 IRRIGATION PLAN**

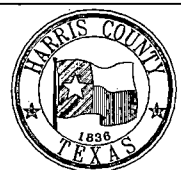


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**James Pole**  
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james@jamespoleirrigation.com

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landscape architects, planners & designers  
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suite 1450  
Houston, tx 77027  
(713) 439-0027  
tbgpartners.com

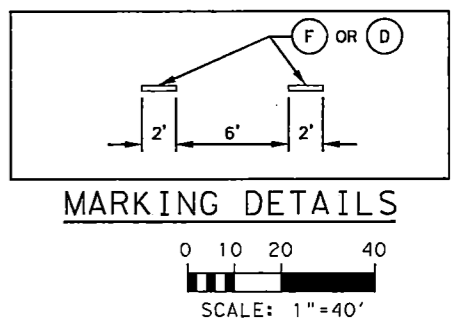
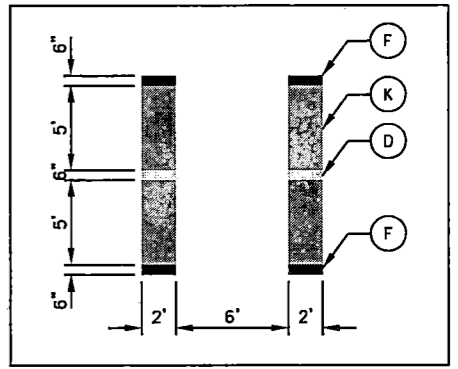
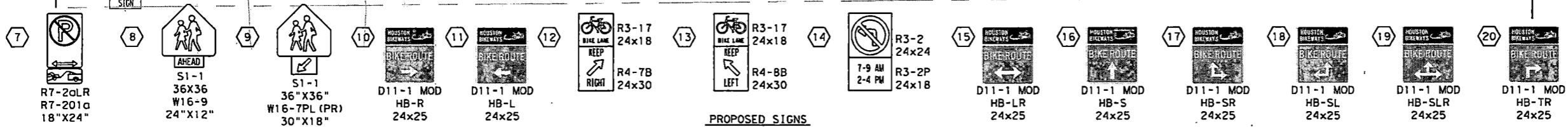
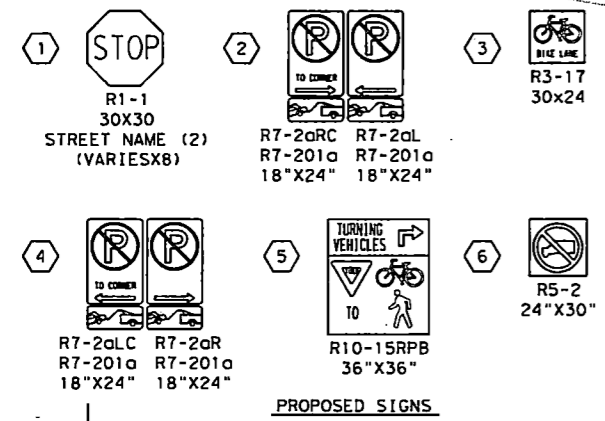
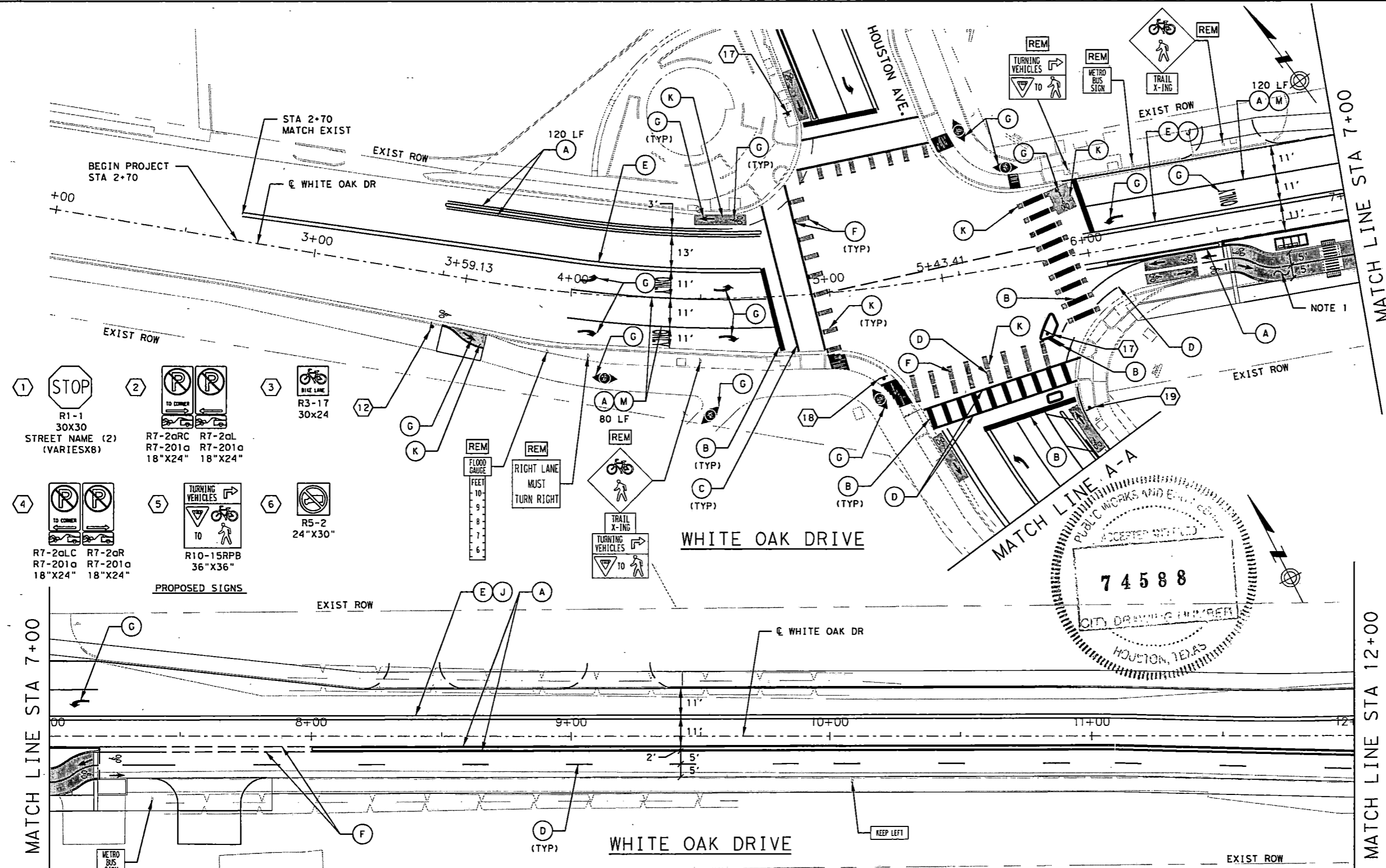
*J.P. Duggs*  
10.31.2022

PROJECT TITLE: <b>QUITMAN STREET</b>	
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
DRAWN BY: MF	DATE: 10-31-2022
CK'D BY: LP, BC, JL	SHEET NO: 131 (LI 1.08)

**PAVEMENT MARKING LEGEND**

- (A) TYPE 1-6" SOLID WHITE
- (B) TYPE 1-24" SOLID WHITE
- (C) TYPE 1-12" SOLID WHITE
- (D) TYPE 1-6" SOLID GUIDE YELLOW
- (E) TYPE 1-4" SOLID YELLOW (DBL)
- (F) TYPE 1-6" SOLID GUIDE WHITE
- (G) TYPE 1 - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
- (J) REFL PAV MRKR TYPE II-A-A
- (L) TYPE 1-24" SOLID YELLOW @ 20'
- (M) RELF PAV MRKR TYPE I-C @ 20'
- (N) TYPE 1-YIELD LINE
- [RMV] REMOVE EXIST SIGN
- [REM] EXIST SIGN TO REMAIN
- [P] PROP SIGN

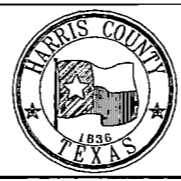
- NOTES:**
- SEE FLOATING BUS STATION AND CYCLE TRACT AT BUS STATION DETAILS FOR PAVEMENT MARKING AND SIGNING DETAILS.
  - SEE STANDARD AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
  - PRECAST CONCRETE CURB (TRI-CURB) TO BE PAINTED YELLOW.
  - ALL EXISTING PAVEMENT MARKINGS TO BE REMOVED WITHIN LIMITS OF PROPOSED PAVEMENT MARKINGS.



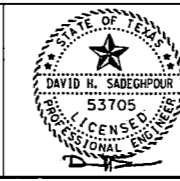
11/17/2022 90-001.tmon-PMS.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

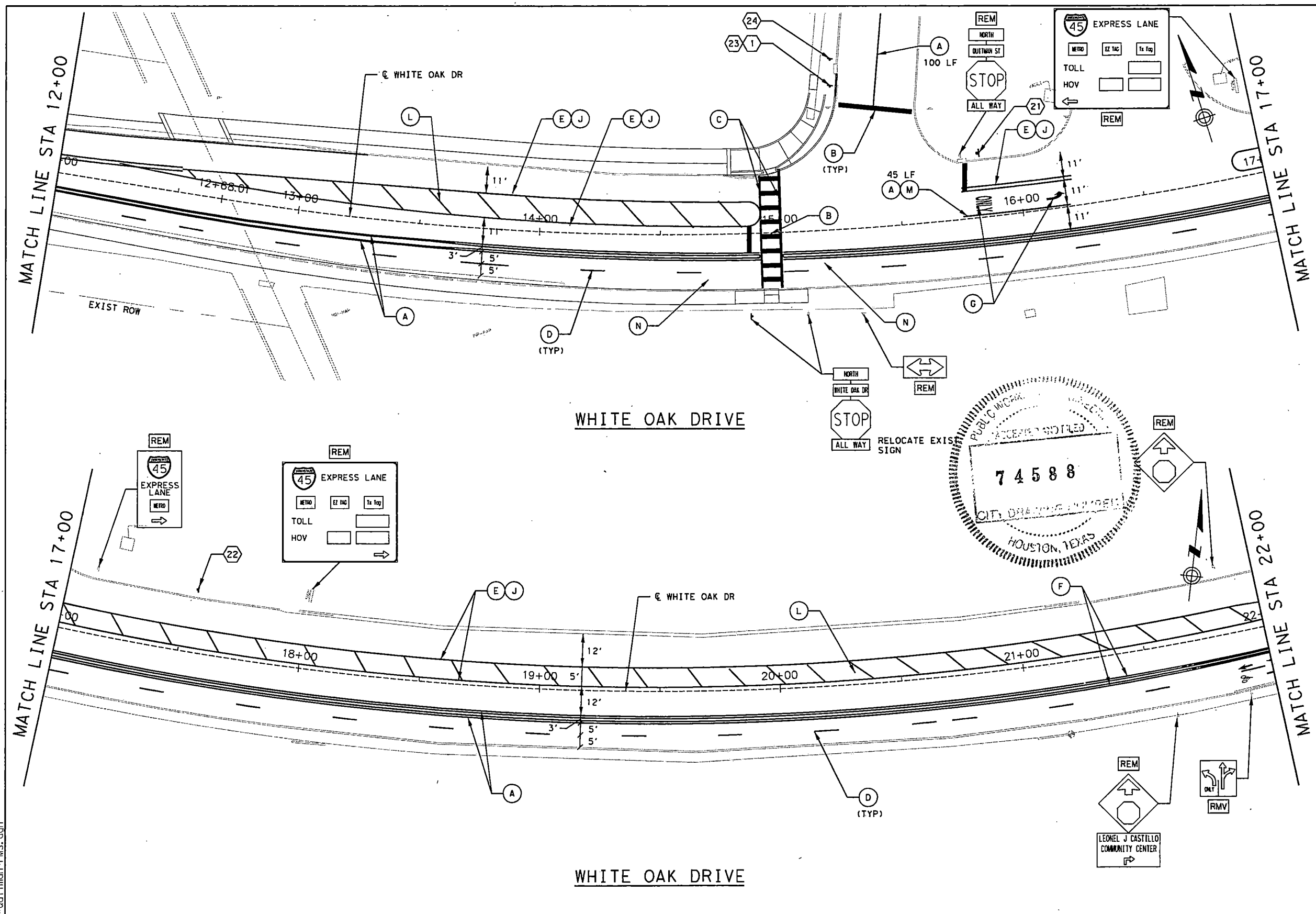


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



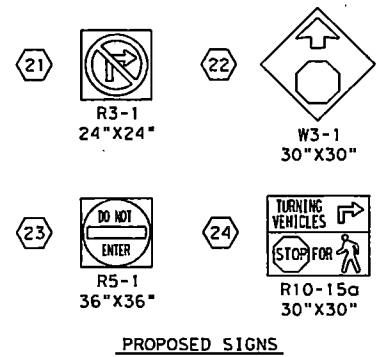
08-19-22  
FIRM#: F-4014

PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SIGNING AND PAVEMENT MARKINGS LAYOUT	
DRAWN BY: AD	SHEET 1 OF 9
DATE: 08-19-2022	SHEET NO: 132 /
CK'D BY: DHS	SCALE: 1"=40'



- PAVEMENT MARKING LEGEND**
- (A) TYPE I-6" SOLID WHITE
  - (B) TYPE I-24" SOLID WHITE
  - (C) TYPE I-12" SOLID WHITE
  - (D) TYPE I-6" SOLID GUIDE YELLOW
  - (E) TYPE I-4" SOLID YELLOW (DBL)
  - (F) TYPE I-6" SOLID GUIDE WHITE
  - (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
  - (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
  - (J) REFL PAV MRKR TYPE II-A-A
  - (L) TYPE I-24" SOLID YELLOW @ 20'
  - (M) REFL PAV MRKR TYPE I-C @ 20'
  - (N) TYPE I-YIELD LINE
  - [RMV] REMOVE EXIST SIGN
  - [REM] EXIST SIGN TO REMAIN
  - ‡ PROP SIGN

- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  2. ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.



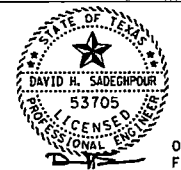
10/13/2022 91-Qui11man-PMS.dgn

NO.	REVISIONS	DATE	NAME

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TEXAS FIRM REGISTRATION NO. 4014



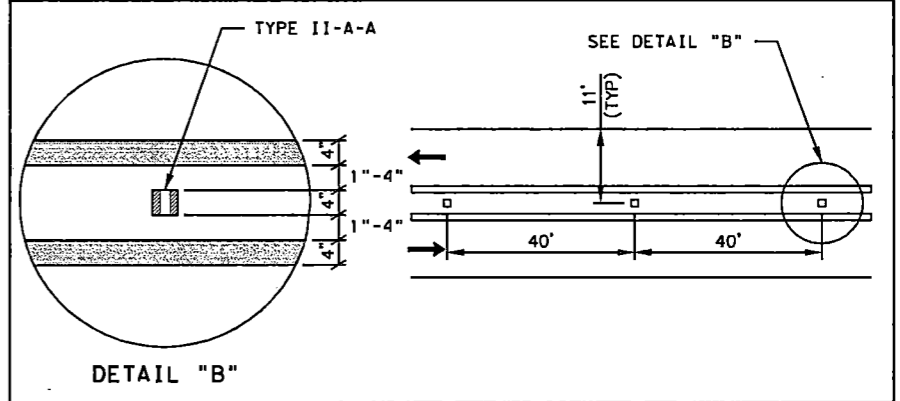
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FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 2 OF 9	
AD	DATE:	08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	1"=40'	133 /	

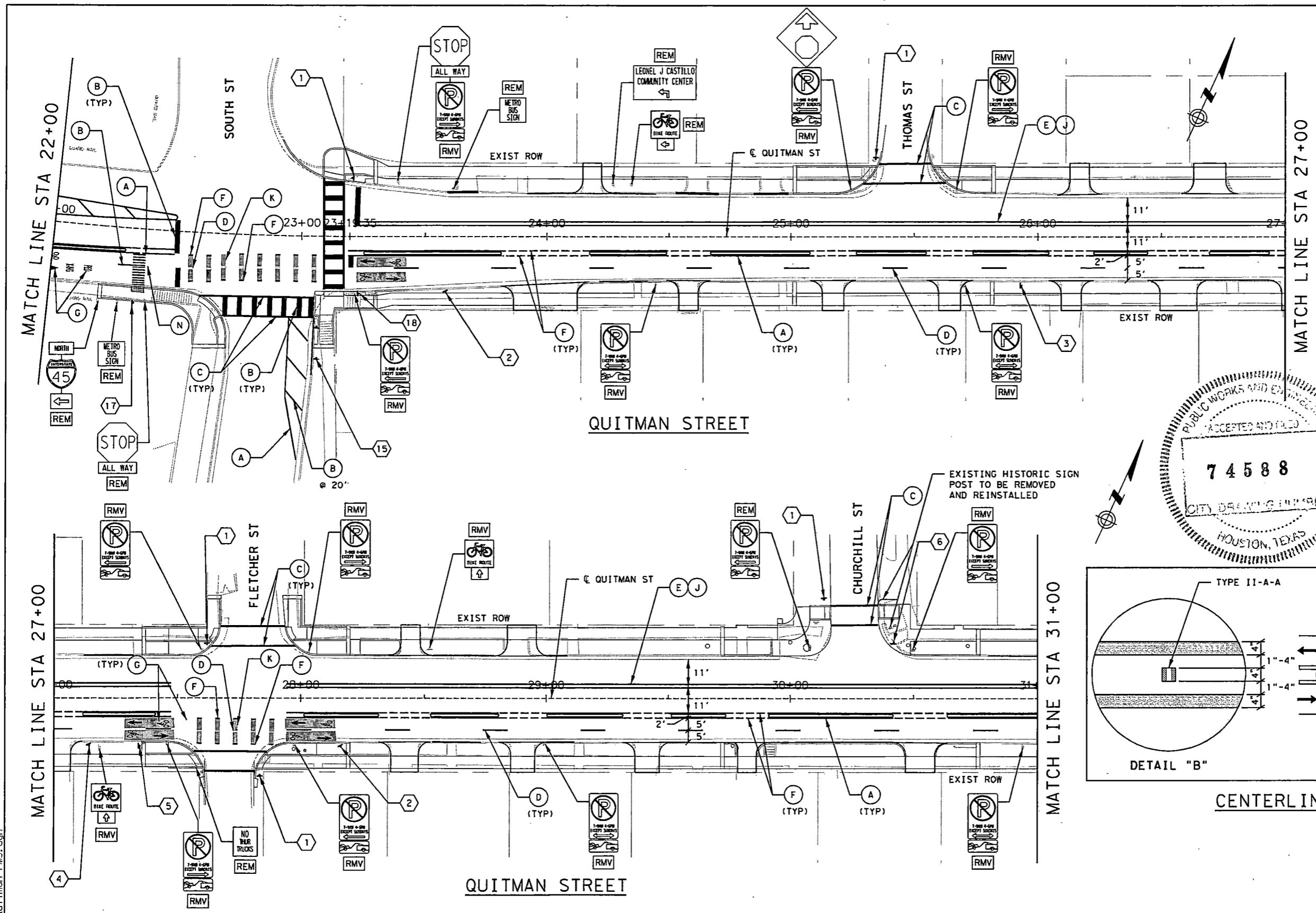
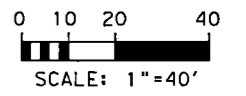
**PAVEMENT MARKING LEGEND**

- (A) TYPE I-6" SOLID WHITE
- (B) TYPE I-24" SOLID WHITE
- (C) TYPE I-12" SOLID WHITE
- (D) TYPE I-6" SOLID GUIDE YELLOW
- (E) TYPE I-4" SOLID YELLOW (DBL)
- (F) TYPE I-6" SOLID GUIDE WHITE
- (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
- (J) REFL PAV MRKR TYPE II-A-A
- (L) TYPE I-24" SOLID YELLOW @ 20'
- (M) RELF PAV MRKR TYPE I-C @ 20'
- (N) TYPE I-YIELD LINE
- RMV REMOVE EXIST SIGN
- REM EXIST SIGN TO REMAIN
- PROP SIGN

- NOTES:**
- SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  - ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.



**CENTERLINE MARKING**



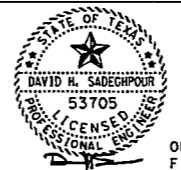
10/13/2022 92-Quitman-PMS.dgn

NO.	REVISIONS	DATE	NAME

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TEXAS FIRM REGISTRATION NO. 4014



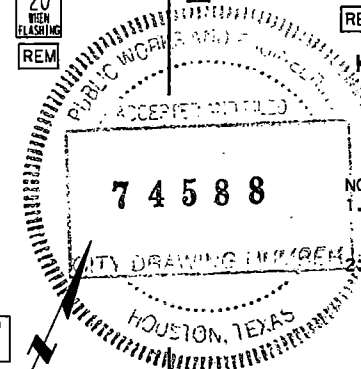
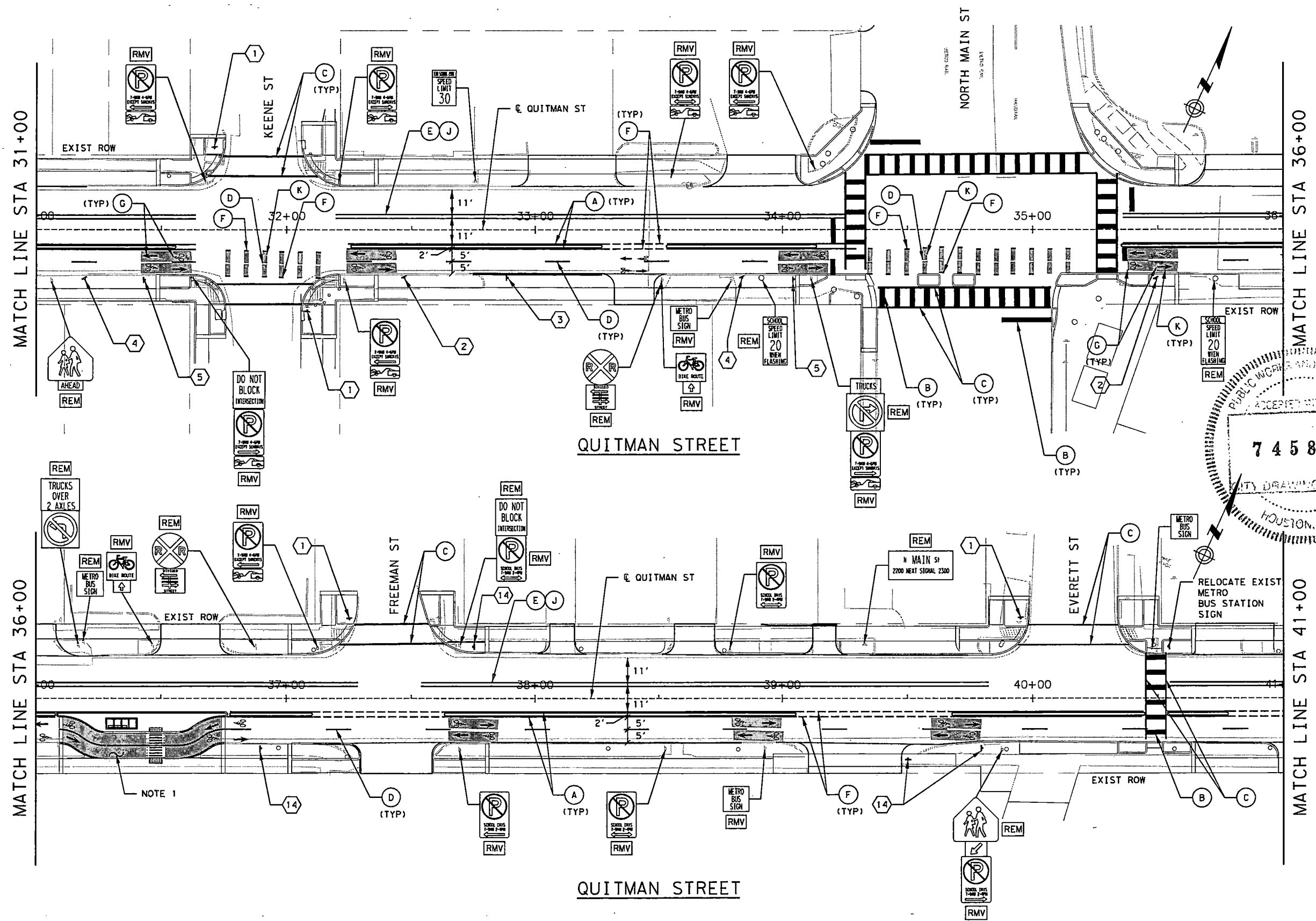
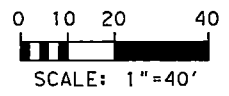
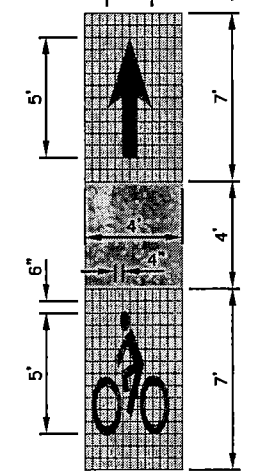
08-19-22  
FIRM#: F-4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND PAVEMENT MARKINGS LAYOUT	
DRAWN BY: AD	SHEET 3 OF 9
DATE: 08-19-2022	SHEET NO: 134 /
CK'D BY: DHS	SCALE: 1"=40'



- PAVEMENT MARKING LEGEND**
- (A) TYPE I-6" SOLID WHITE
  - (B) TYPE I-24" SOLID WHITE
  - (C) TYPE I-12" SOLID WHITE
  - (D) TYPE I-6" SOLID GUIDE YELLOW
  - (E) TYPE I-4" SOLID YELLOW (DBL)
  - (F) TYPE I-6" SOLID GUIDE WHITE
  - (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
  - (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
  - (J) REFL PAV MRKR TYPE II-A-A
  - (L) TYPE I-24" SOLID YELLOW @ 20'
  - (M) RELF PAV MRKR TYPE I-C @ 20'
  - (N) TYPE I-YIELD LINE
  - RMV REMOVE EXIST SIGN
  - REM EXIST SIGN TO REMAIN
  - PROP SIGN

**NOTES:**  
 1. SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT. ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.



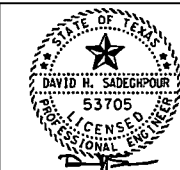
10/13/2022 93-Quitman-PMS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



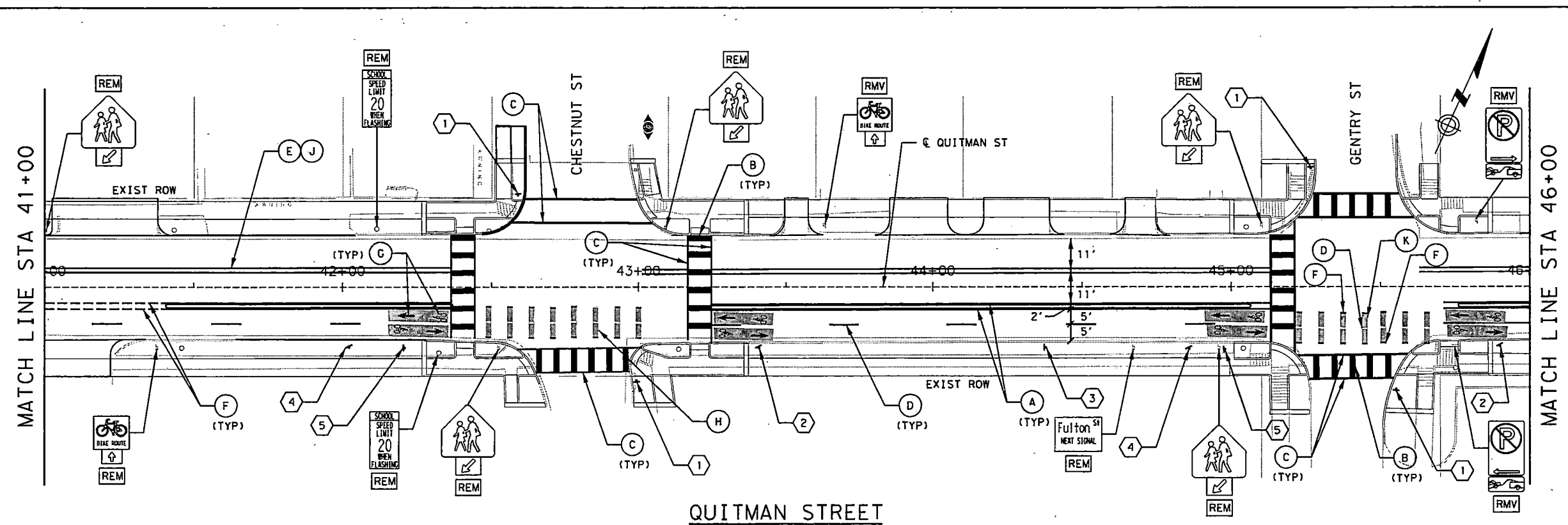
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

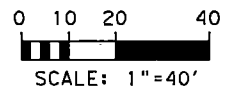
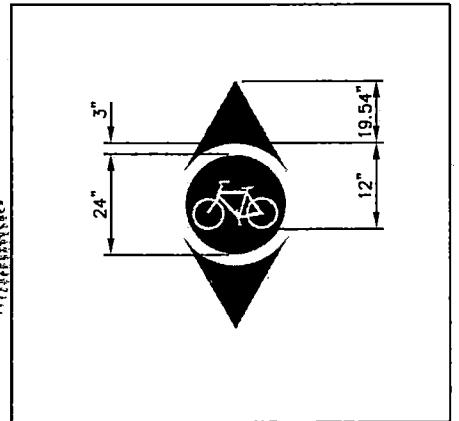
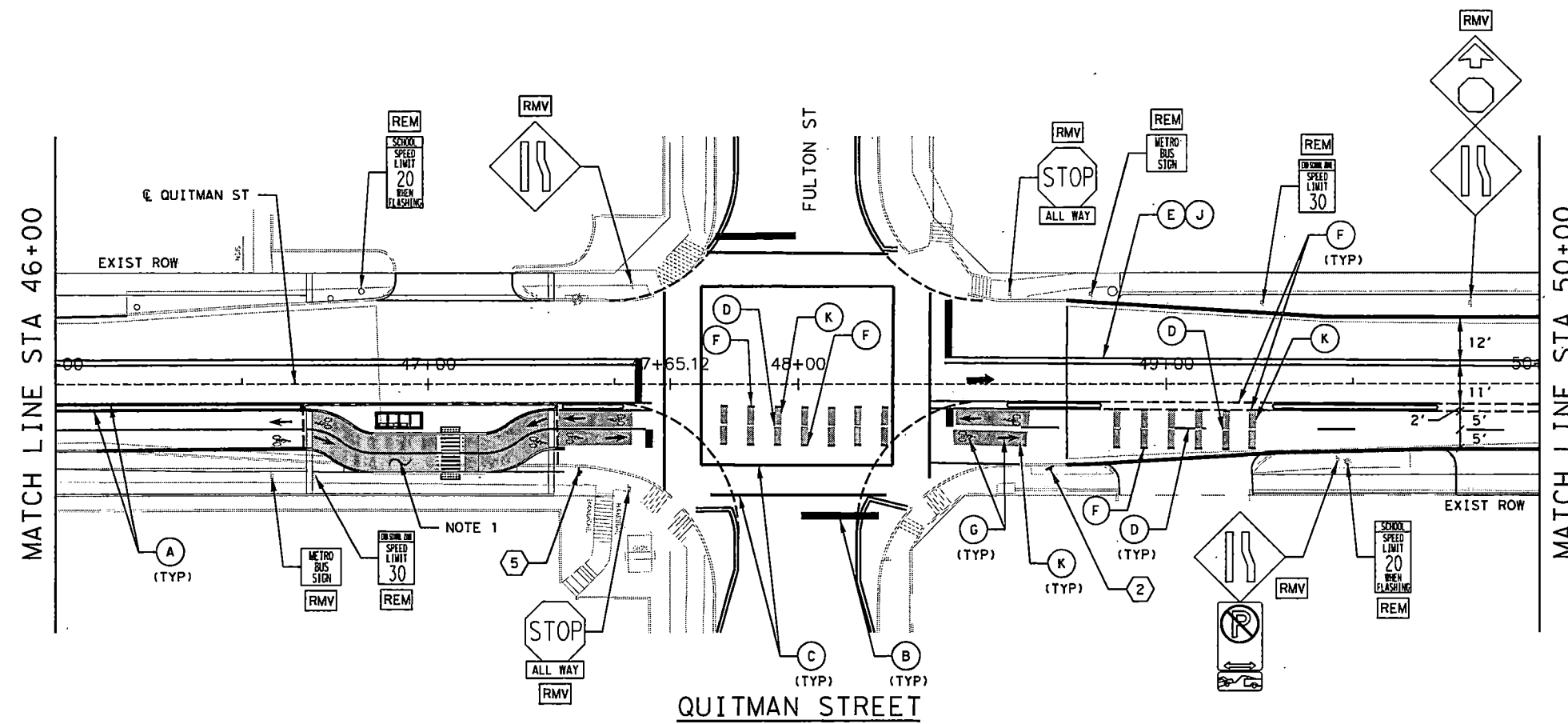
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND PAVEMENT MARKINGS LAYOUT	
DRAWN BY: AD	SHEET 4 OF 9
CK'D BY: DHS	DATE: 08-19-2022
SCALE: 1"=40'	SHEET NO: 135 /

10/13/2022 94-Quitman-PMS.dgn



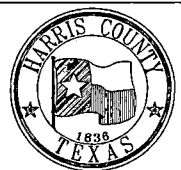
- PAVEMENT MARKING LEGEND**
- (A) TYPE I-6" SOLID WHITE
  - (B) TYPE I-24" SOLID WHITE
  - (C) TYPE I-12" SOLID WHITE
  - (D) TYPE I-6" SOLID GUIDE YELLOW
  - (E) TYPE I-4" SOLID YELLOW (DBL)
  - (F) TYPE I-6" SOLID GUIDE WHITE
  - (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
  - (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
  - (J) REFL PAV MRKR TYPE II-A-A
  - (L) TYPE I-24" SOLID YELLOW @ 20'
  - (M) RELF PAV MRKR TYPE I-C @ 20'
  - (N) TYPE I-YIELD LINE
  - RMV REMOVE EXIST SIGN
  - REM EXIST SIGN TO REMAIN
  - PROP SIGN

- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  2. ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.

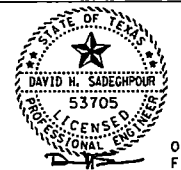


NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 5 OF 9	
AD	DATE:	08-19-2022	SHEET NO:
CK'D BY:	DHS	SCALE:	1"=40'
		136 /	

**PAVEMENT MARKING LEGEND**

- (A) TYPE 1-6" SOLID WHITE
- (B) TYPE 1-24" SOLID WHITE
- (C) TYPE 1-12" SOLID WHITE
- (D) TYPE 1-6" SOLID GUIDE YELLOW
- (E) TYPE 1-4" SOLID YELLOW (DBL)
- (F) TYPE 1-6" SOLID GUIDE WHITE
- (G) TYPE 1 - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
- (J) REFL PAV MRKR TYPE II-A-A
- (L) TYPE 1-24" SOLID YELLOW @ 20'
- (M) RELF PAV MRKR TYPE I-C @ 20'
- (N) TYPE 1-YIELD LINE
- RMV REMOVE EXIST SIGN
- REM EXIST SIGN TO REMAIN
- ‡ PROP SIGN

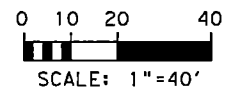
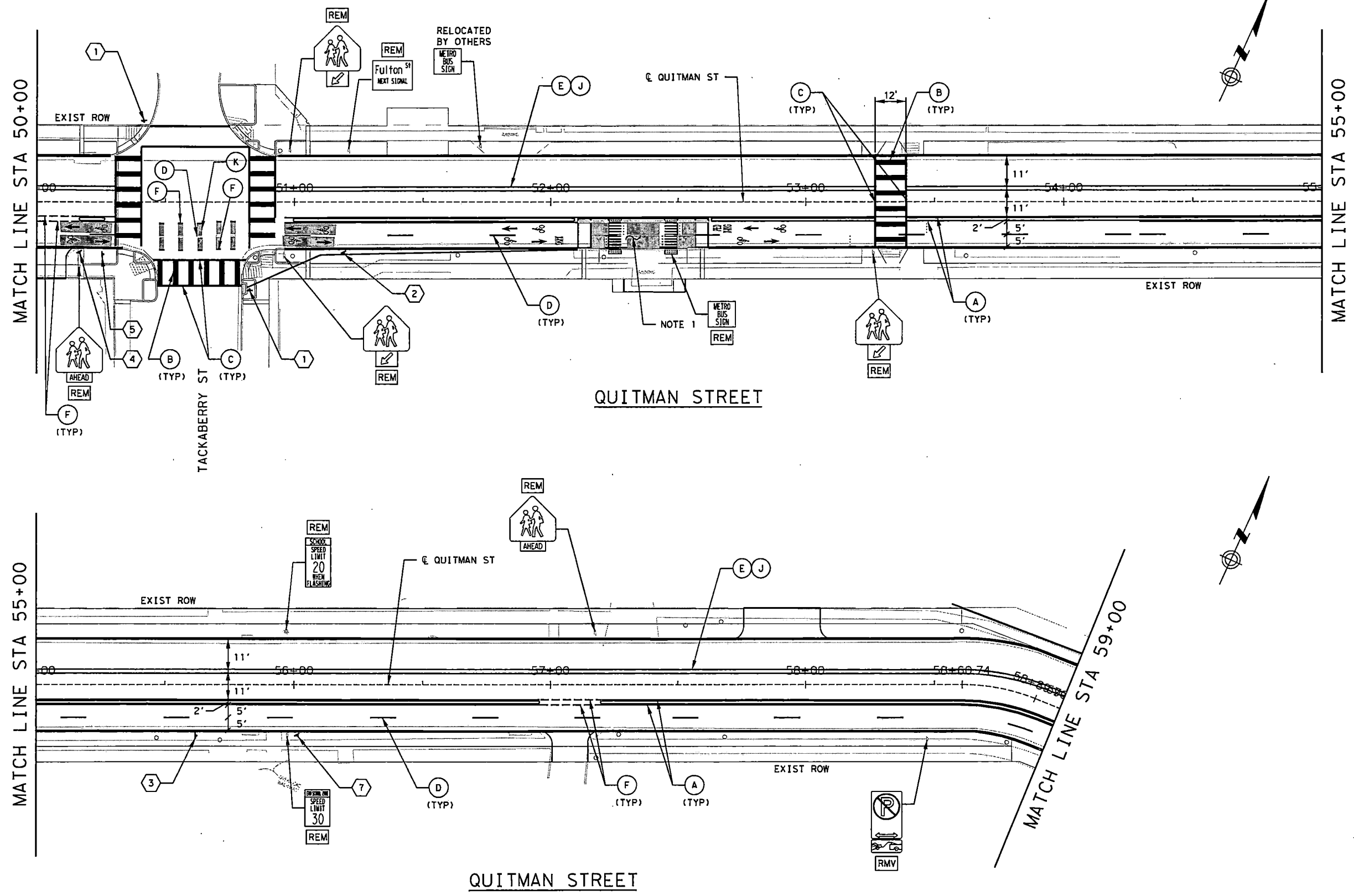
- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  2. ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.

MATCH LINE STA 50+00

MATCH LINE STA 55+00

MATCH LINE STA 55+00

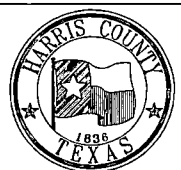
MATCH LINE STA 59+00



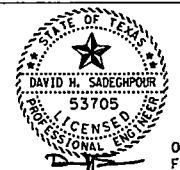
10/13/2022 95-Quitman-PWS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



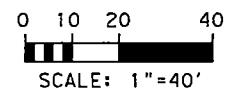
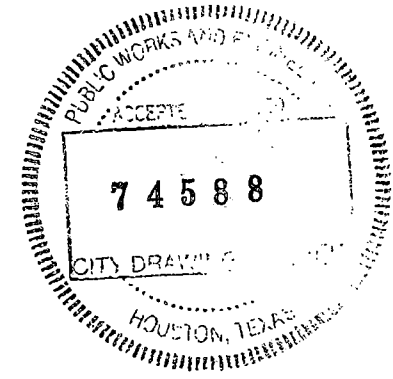
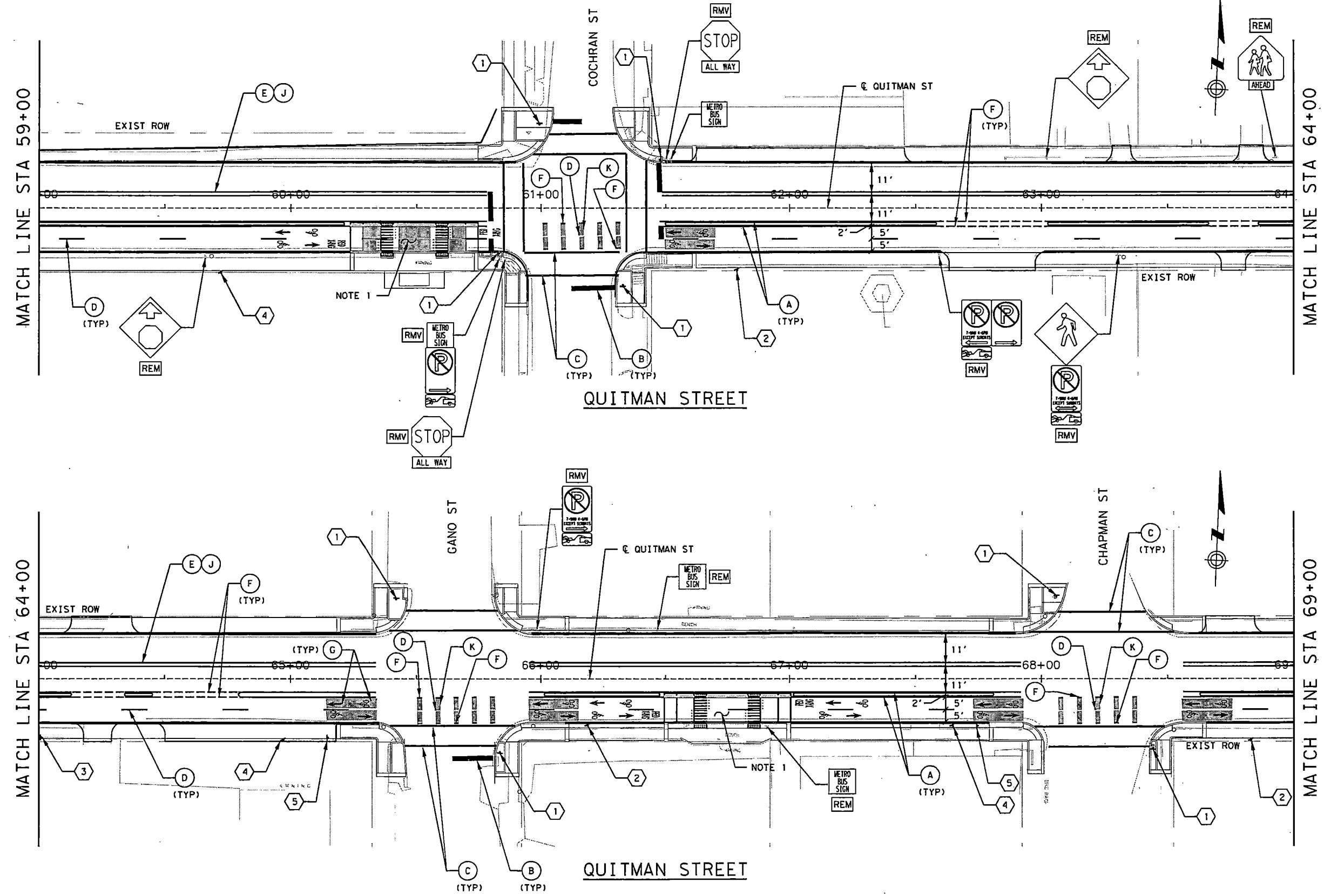
08-19-22  
FIRM#: F-4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND PAVEMENT MARKINGS LAYOUT	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 137 /
SCALE: 1"=40'	SHEET 6 OF 9

**PAVEMENT MARKING LEGEND**

- (A) TYPE I-6" SOLID WHITE
- (B) TYPE I-24" SOLID WHITE
- (C) TYPE I-12" SOLID WHITE
- (D) TYPE I-6" SOLID GUIDE YELLOW
- (E) TYPE I-4" SOLID YELLOW (DBL)
- (F) TYPE I-6" SOLID GUIDE WHITE
- (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
- (J) REFL PAV MRKR TYPE II-A-A
- (L) TYPE I-24" SOLID YELLOW @ 20'
- (M) RELF PAV MRKR TYPE I-C @ 20'
- (N) TYPE I-YIELD LINE
- RMV REMOVE EXIST SIGN
- REM EXIST SIGN TO REMAIN
- PROPSIGN PROP SIGN

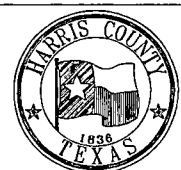
- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  2. ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.



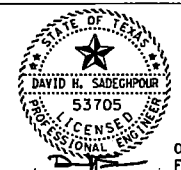
10/13/2022 96-Quitman-PMS.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



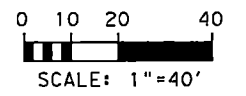
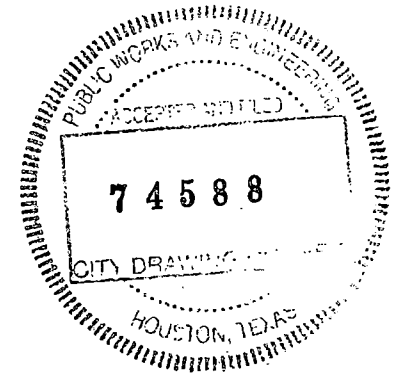
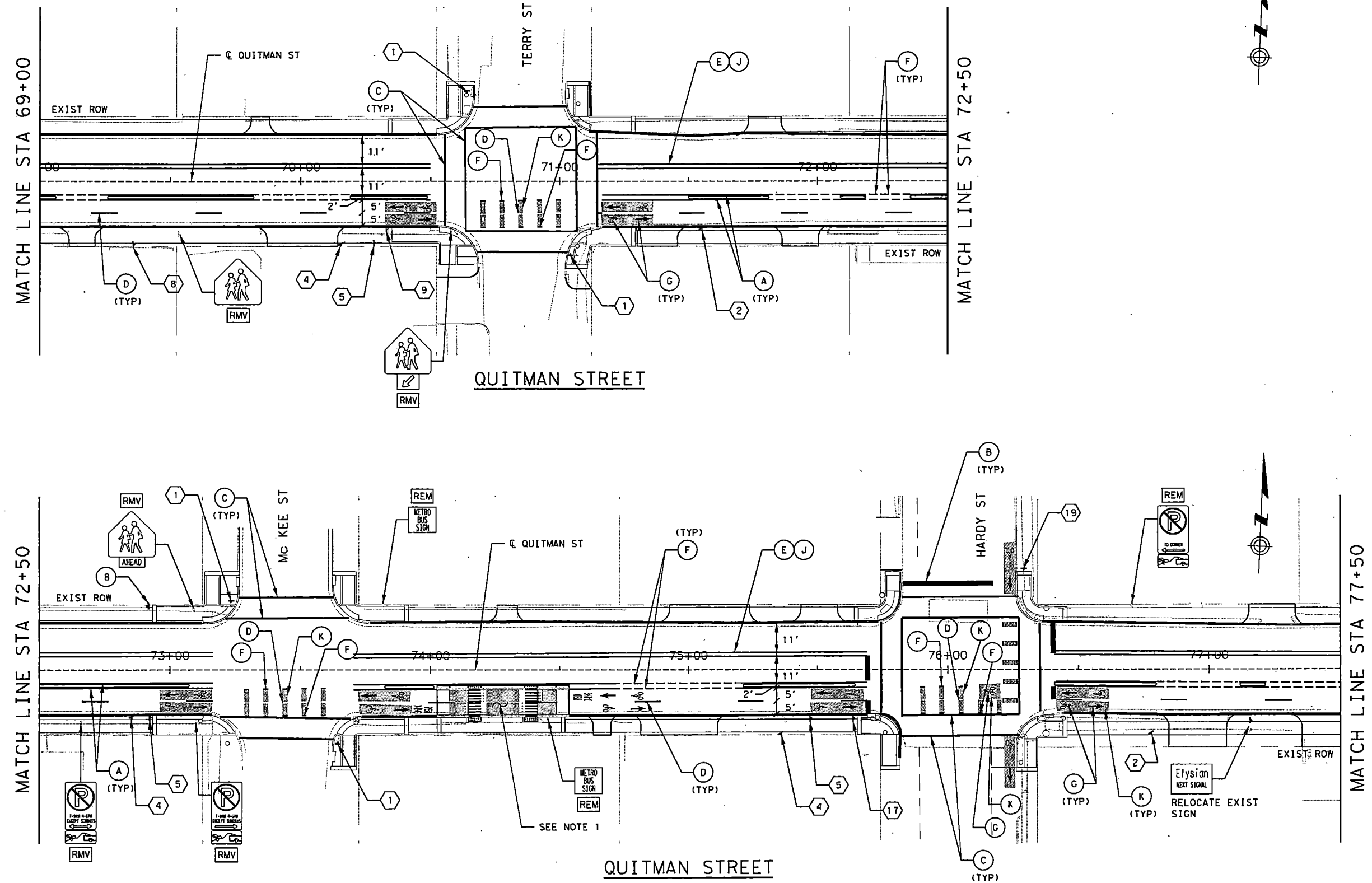
08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 7 OF 9	
AD	DATE:	08-19-2022	
DHS	SCALE:	1"=40'	
		SHEET NO: 138 /	

**PAVEMENT MARKING LEGEND**

- (A) TYPE I-6" SOLID WHITE
- (B) TYPE I-24" SOLID WHITE
- (C) TYPE I-12" SOLID WHITE
- (D) TYPE I-6" SOLID GUIDE YELLOW
- (E) TYPE I-4" SOLID YELLOW (DBL)
- (F) TYPE I-6" SOLID GUIDE WHITE
- (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
- (J) REFL PAV MRKR TYPE II-A-A
- (L) TYPE I-24" SOLID YELLOW @ 20'
- (M) REFL PAV MRKR TYPE I-C @ 20'
- (N) TYPE I-YIELD LINE
- [RMV] REMOVE EXIST SIGN
- [REM] EXIST SIGN TO REMAIN
- ▬ PROP SIGN

- NOTES:**
- SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  - ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.



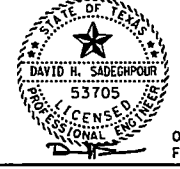
10/13/2022 97-Quitman-PMS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

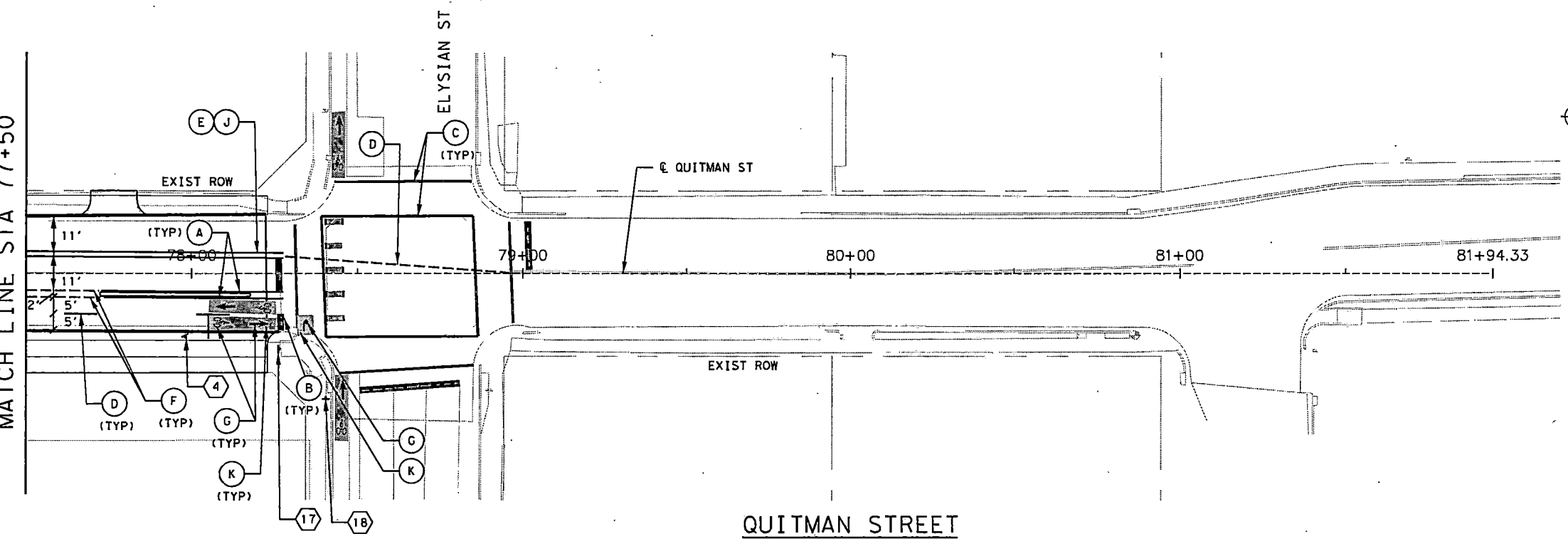
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND PAVEMENT MARKINGS LAYOUT	
DRAWN BY: AD	DATE: 08-19-2022
CHECKED BY: DHS	SHEET NO: 139 /
SCALE: 1"=40'	SHEET 8 OF 9

**PAVEMENT MARKING LEGEND**

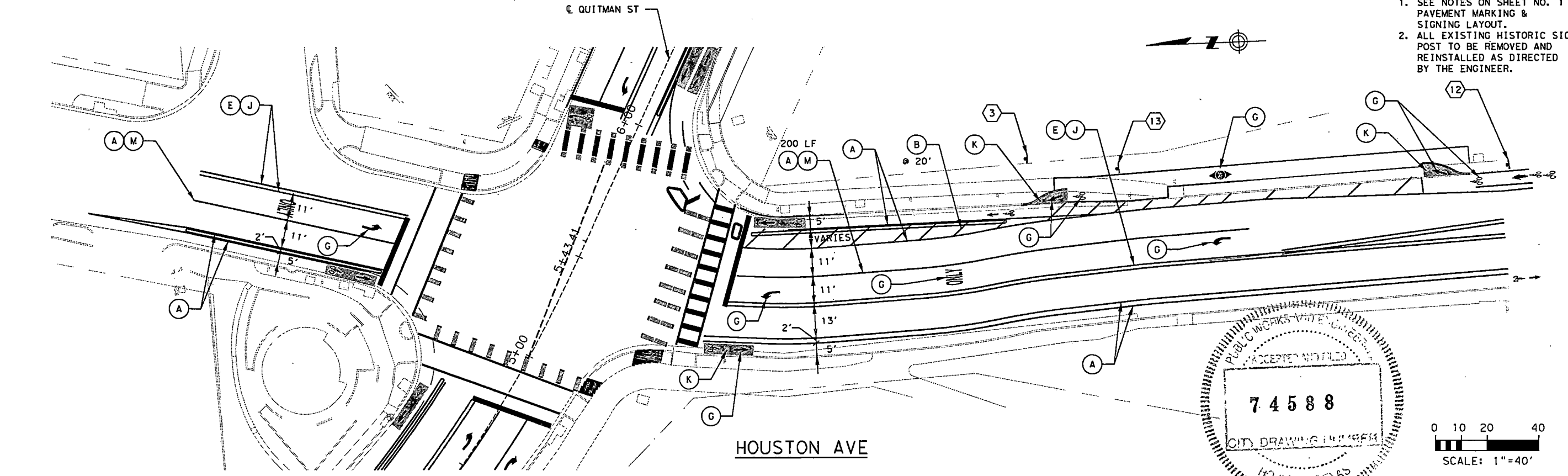
- (A) TYPE I-6" SOLID WHITE
- (B) TYPE I-24" SOLID WHITE
- (C) TYPE I-12" SOLID WHITE
- (D) TYPE I-6" SOLID GUIDE YELLOW
- (E) TYPE I-4" SOLID YELLOW (DBL)
- (F) TYPE I-6" SOLID GUIDE WHITE
- (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) REFLECTIVE PM TY C PREFORM SOLID GREEN
- (J) REFL PAV MRKR TYPE II-A-A
- (L) TYPE I-24" SOLID YELLOW @ 20'
- (M) RELF PAV MRKR TYPE I-C @ 20'
- (N) TYPE I-YIELD LINE
- [RMV] REMOVE EXIST SIGN
- [REM] EXIST SIGN TO REMAIN
- ‡ PROP SIGN

- NOTES:**
1. SEE NOTES ON SHEET NO. 1 OF 9 PAVEMENT MARKING & SIGNING LAYOUT.
  2. ALL EXISTING HISTORIC SIGNS POST TO BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.

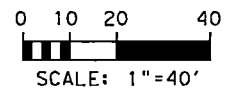
MATCH LINE STA 77+50



**QUITMAN STREET**



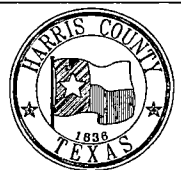
**HOUSTON AVE**



10/13/2022 98-Quitman-PMS.dgn

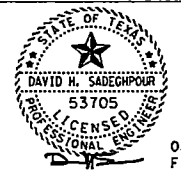
NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**SCIENTECH**  
ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

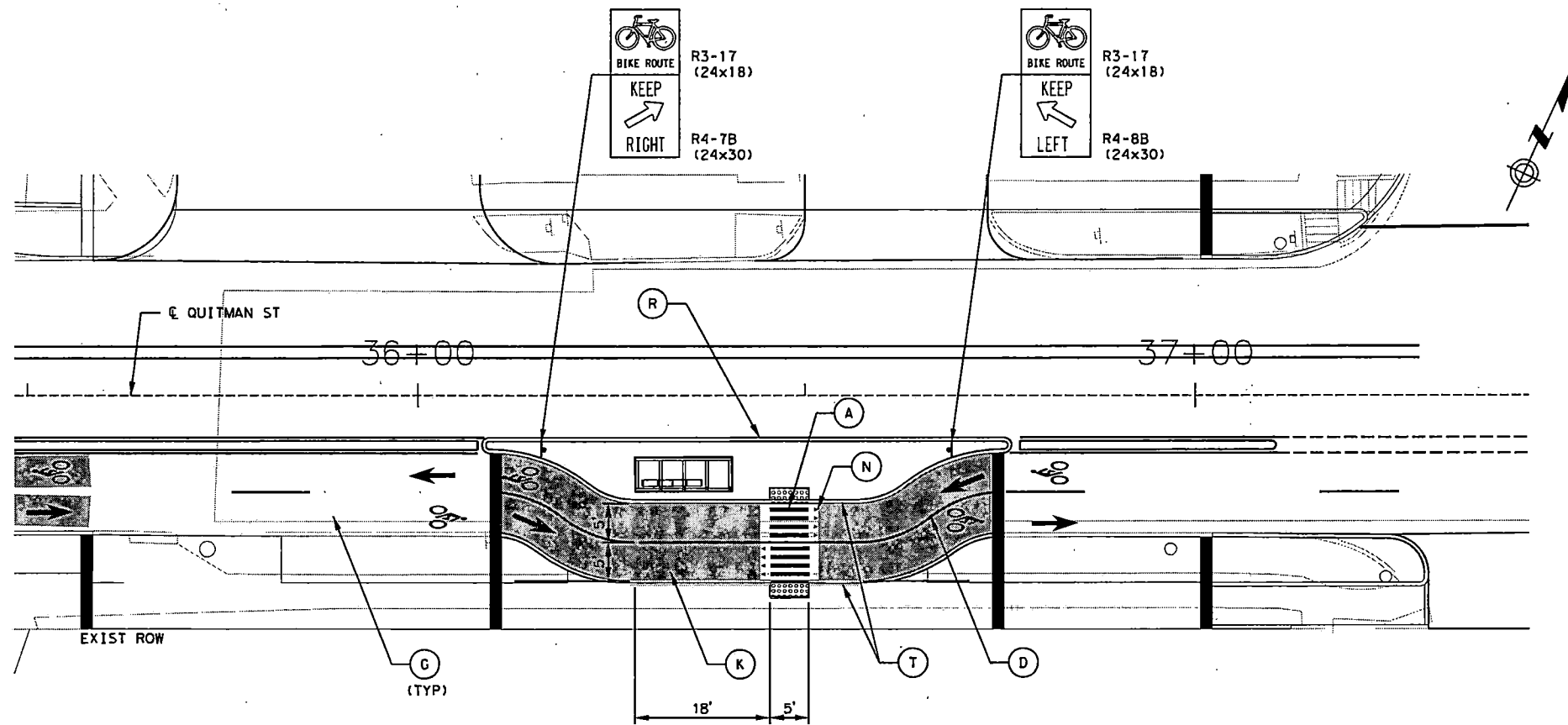


08-19-22  
FIRM#: F-4014

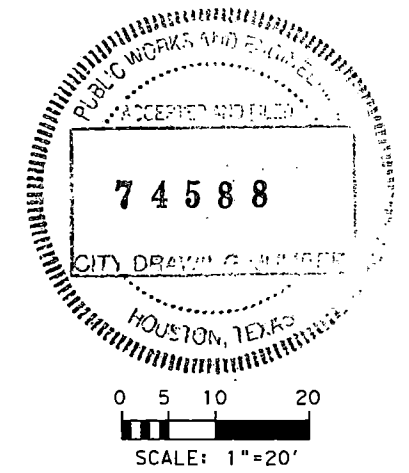
PROJECT: <b>QUITMAN STREET</b>		DATE: 08-19-2022
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>		SHEET NO: 140 /
DRAWN BY: AD		SCALE: 1"=40'
C'D'D BY: DHS		
SHEET 9 OF 9		

**PAVEMENT MARKING LEGEND**

- (A) TYPE I-6" SOLID WHITE
- (D) TYPE I-6" SOLID GUIDE YELLOW
- (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (K) TYPE I-SOILD GREEN
- (N) TYPE I-YIELD LINE
- (R) TYPE I-6" YELLOW (CURB)
- (T) DETECTABLE WARNING STRIP (ARMOR TILE 6 INCH WIDE, FEDERAL YELLOW)
- ‡ PROP SIGN



NOTES:  
1. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



10/13/2022 99A-Quitman-FBS\_PMS.dgn

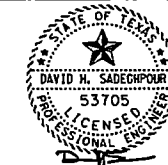
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.

701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

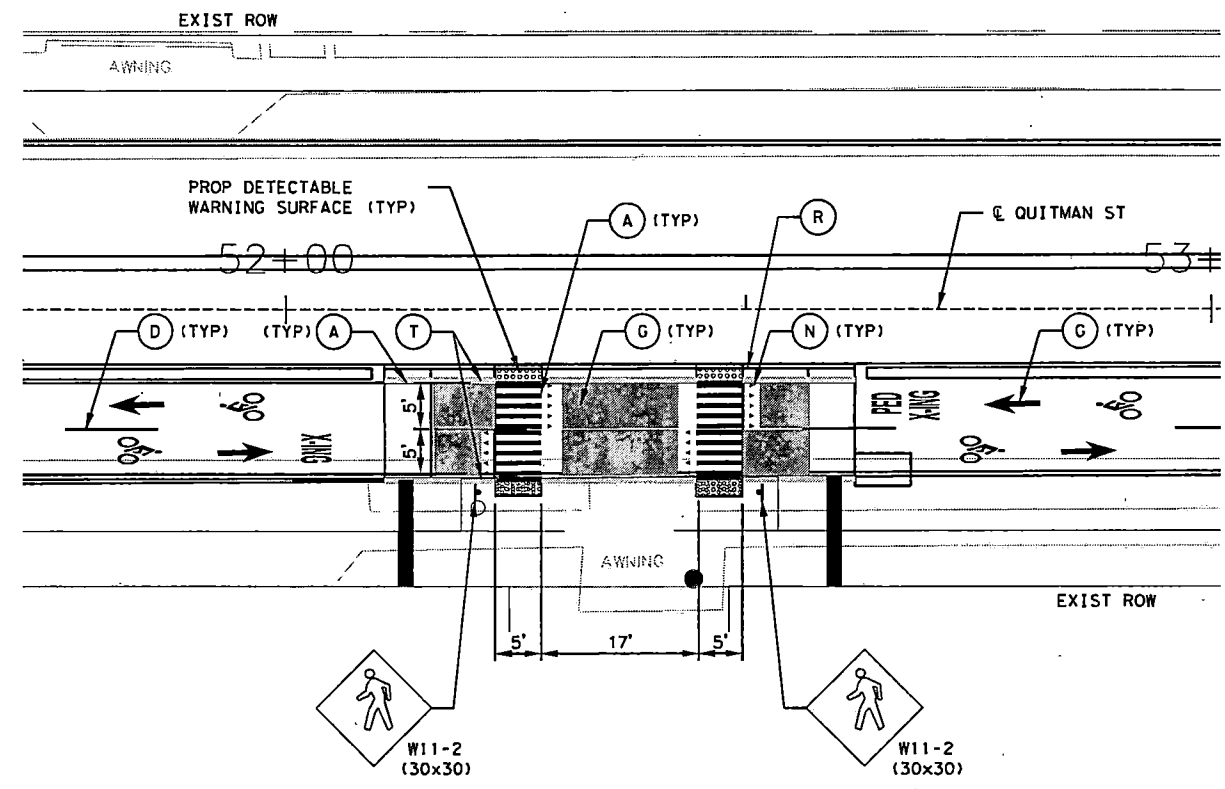


08-19-22  
FIRM#: F-4014

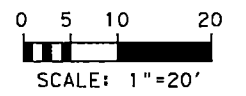
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CK'D BY:		DHS	
SCALE:		1"=20'	
DATE:	08-19-2022	SHEET NO.:	141/

**PAVEMENT MARKING LEGEND**

- (A) TYPE I-6" SOLID WHITE
- (D) TYPE I-6" SOLID GUIDE YELLOW
- (G) TYPE I - WHITE WORD, SYMBOL, ARROW, RR CROSSING OR SHADOW
- (N) TYPE I-YIELD LINE
- (P) TYPE I-RED 2' SOLID
- (R) TYPE I-6" YELLOW (CURB)
- (T) DETECTABLE WARNING STRIP (ARMOR TILE 6 INCH WIDE, FEDERAL YELLOW)
- ▬ PROP SIGN



NOTES:  
1. SEE STANDARD DETAILS FOR ADDITIONAL INFORMATION.



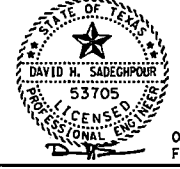
10/13/2022 99B-Quitman-Cycle Track PMS.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		AD	
CK'D BY:		DHS	
SCALE:		DATE:	
		08-19-2022	
		SHEET NO:	
		142 /	



GENERAL PAVEMENT MARKING NOTES:

- 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.
- 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).
- THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
- THE DESIGN SPEED FOR THE ROAD IS: \_\_\_\_\_. THE POSTED SPEED LIMIT IS: \_\_\_\_\_.
- ALL LANE DIMENSIONS ARE FROM CENTER OF LANE LINE, CENTER OF DOUBLE LANE LINE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT MARKINGS AND SYMBOLS.
- THE FINAL LONGITUDINAL STRIPINGS SHALL BE 80 MIL (0.080") 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE ENGINEER OF RECORD SHALL BE REQUIRED TO PRODUCE AS-BUILT OF PAVEMENT MARKING PLANS WITHIN 30 DAYS AFTER COMPLETION OF PAVEMENT MARKING IMPLEMENTATION.
- BLUE RPMs MAY BE PLACED ADJACENT TO FIRE HYDRANTS WITH THE APPROVAL OF THE CITY TRAFFIC ENGINEER.
- FOR ALL CONSTRUCTION, ALL PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED AND SHALL BE PAID BY THE PROJECT OWNER/DEVELOPER.
- FINAL INSPECTION AND ACCEPTANCE OF PAVEMENT MARKINGS SHALL BE PERFORMED BY TRANSPORTATION & DRAINAGE OPERATION REPRESENTATIVE (713-803-3054).

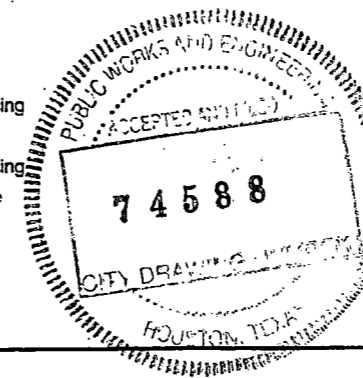
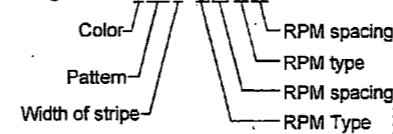
Description and Application of Pavement Marking Lines

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"	- Edge lines to delineate the right edge of the roadway.
			6"	- Left edge of bicycle lane and lane lines between travel lanes in the same direction where changing of lanes is discouraged.
			12"	- Perpendicular crosswalk lines.
			24"	- Stop bars at intersections (signalized and unsignalized). - Hatching at high visibility crosswalks.
			12", 24"	- Diagonal hatching used in gores between same direction of travel lanes.
WG	White	Guide (2' stripe w/6' gap)	6"	- Guide lines through intersections. - Taper lines for turn lanes. - Guide lines for bicycle lanes.
YS	Yellow	Solid	4"	- Edge lines to delineate the left edge of a divided roadway, a one-way road, or ramp.
			12", 24"	- Diagonal hatching used in gores between opposing direction of travel lanes.
YDS	Yellow	Double Solid	4" - (4") - 4" (gap)	- Centerline that separates opposing travel lanes and delineation of median islands.
YDB	Yellow	Double Broken	4" - (4") - 4" (gap)	- Defines the edges of center reversible lanes that are used as TWLTLs during intermittent periods.
YB	Yellow	Broken (10' stripe w/ 30' gap)	4"	- Separates travel lanes in opposite directions where passing is permitted in both directions of travel.
YB (BIKE)	Yellow	Broken (3' stripe w/ 9' gap)	4"	- Separates bicycle travel lanes in opposite directions where passing is permitted in both directions of travel.
YSB	Yellow	Solid & Broken Broken (10' stripe w/ 30' gap)	4" - (4") - 4" (gap)	- Separates travel lanes in opposite directions where passing is permitted in one direction and prohibited in the opposite direction. - Used for edge of two-way left-turn lanes (TWLTL).
BICYCLE GREEN	Green	Solid Colored Pavement	Varies	- Ped/Bike crossing - Vehicle / Bike/ Conflict Area
YIELD LINE	White	Triangle	16" x 24"	- Mid-Block crossing.

Description and Application of Reflective Raised Pavement Markers (RPM)

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

Line Style Designation : YSB4 - A40/A40



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
GENERAL NOTES AND LEGENDS (NOT TO SCALE)	
 CITY TRAFFIC ENGINEER	 DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-01

8/21/2022 200-Qui.tmon-STD PMS.dgn

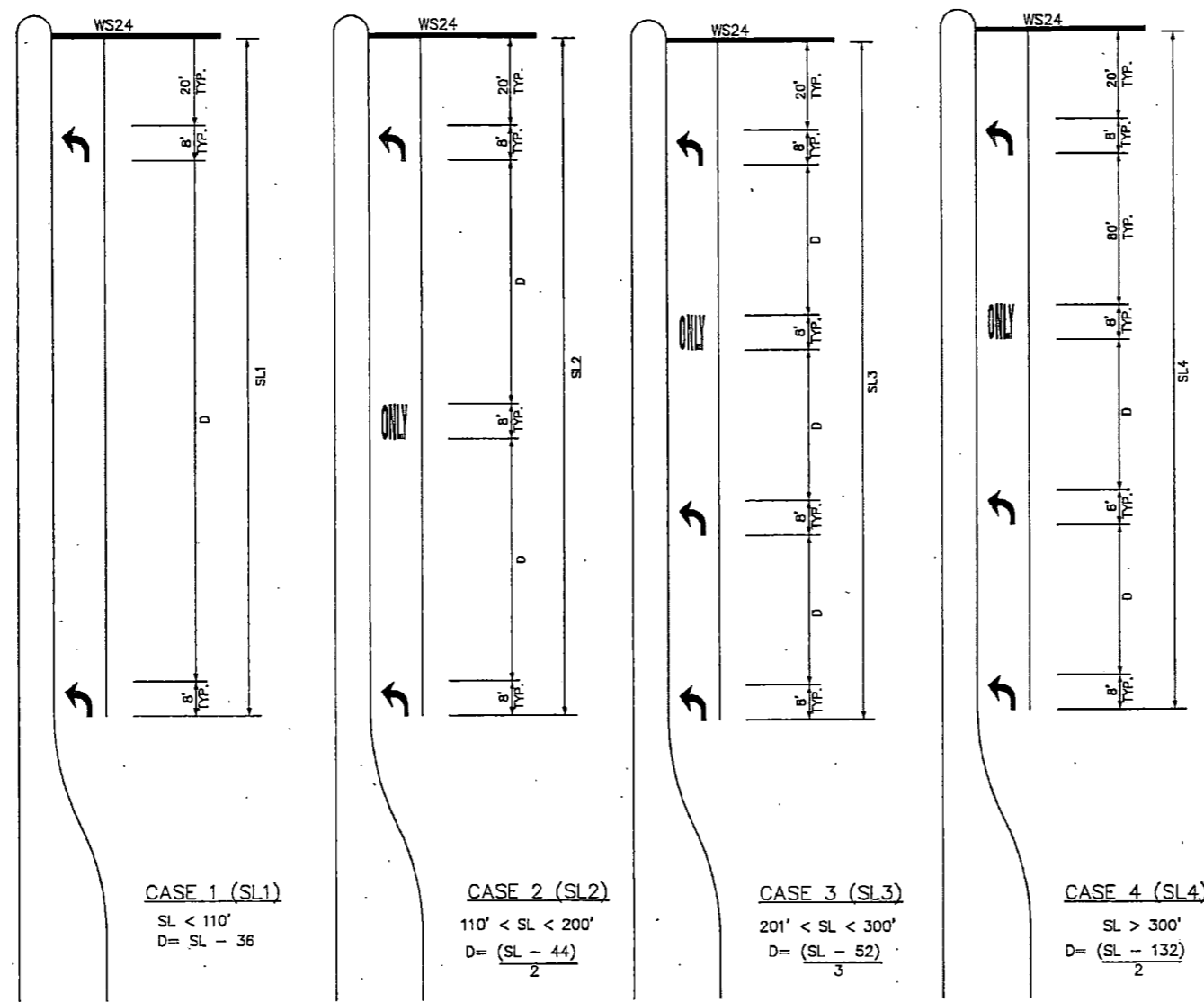
NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	SHEET 1 OF 17.
CK'D BY: DHS	DATE: 08-19-2022 SHEET NO: 143 /



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.

CASE 1 (SL1)  
 SL < 110'  
 D= (SL - 36)

CASE 2 (SL2)  
 110' < SL < 200'  
 D= (SL - 44) / 2

CASE 3 (SL3)  
 201' < SL < 300'  
 D= (SL - 52) / 3

CASE 4 (SL4)  
 SL > 300'  
 D= (SL - 132) / 2



CITY OF HOUSTON HOUSTON PUBLIC WORKS	
LEFT/RIGHT-TURN "ONLY" AND ARROW SPACING (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-02

8/21/2022 201-Quitman-STD\_PMS.dgn

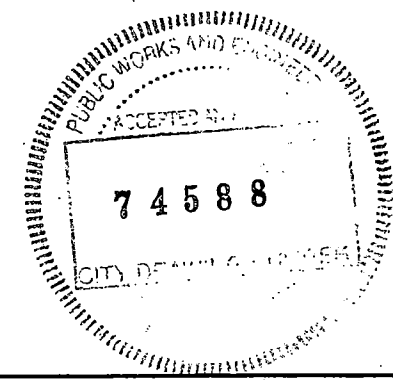
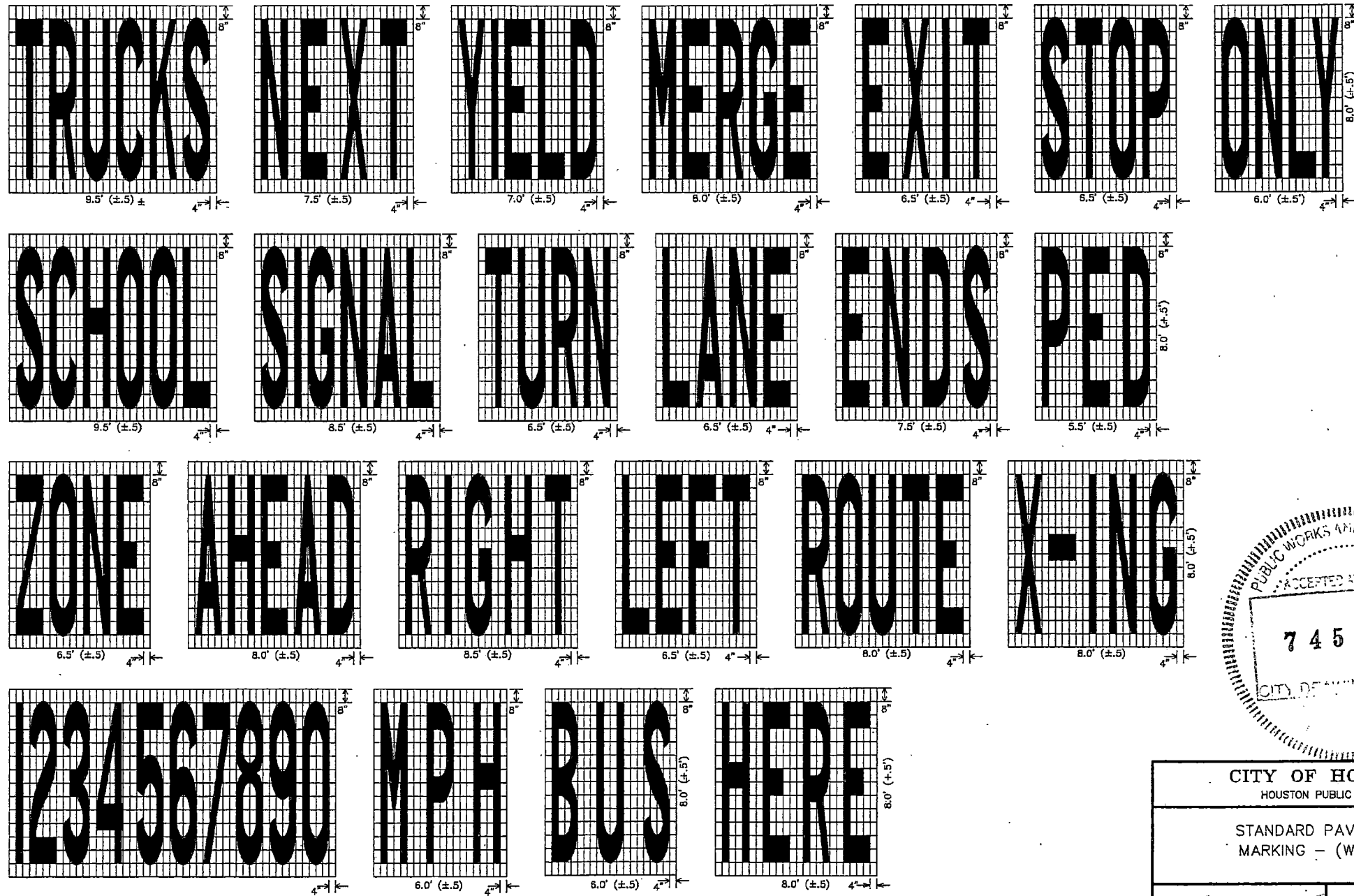
NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	SHEET 2 OF 17
DATE: 08-19-2022	SHEET NO: 144 /
CK'D BY: DHS	SCALE: NTS

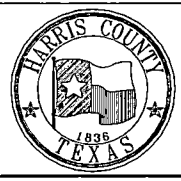


CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STANDARD PAVEMENT MARKING - (WORDS)	
(NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-03

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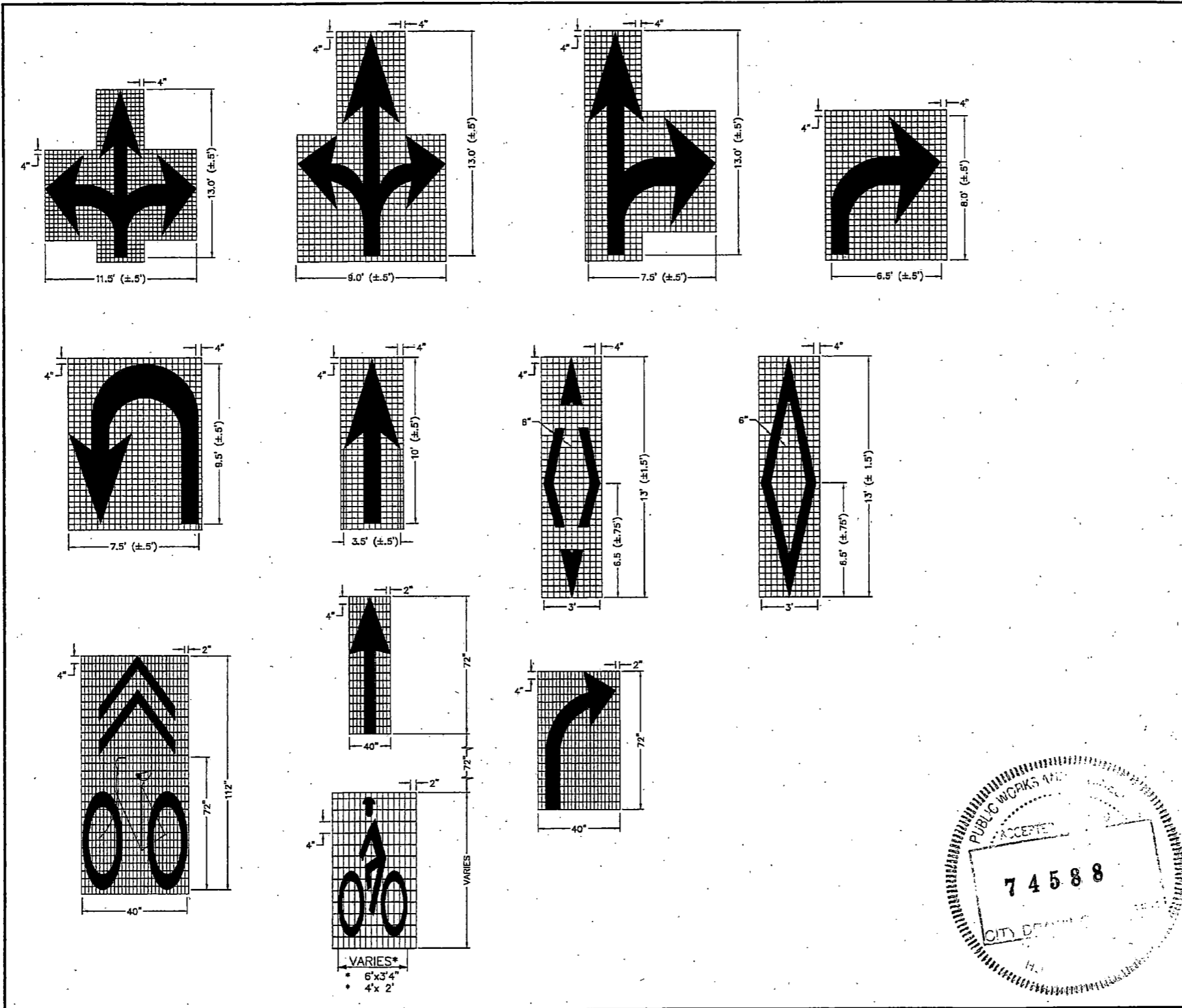
NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



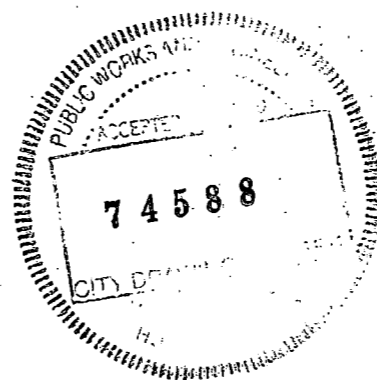
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	SHEET 3 OF 17
DATE: 08-19-2022	SHEET NO: 145 /
CK'D BY: DHS	SCALE: NTS



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

1. MINIMUM 8 FOOT WHITE MARKINGS SHALL BE USED, UNLESS OTHERWISE NOTED. IF MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD BE PLACED WITH FIRST WORD NEAREST THE DRIVER.
2. THESE DETAILS ARE STANDARD SIZE FOR NORMAL INSTALLATION; SIZES MAY BE REDUCED APPROXIMATELY ONE-THIRD DEPENDING ON CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR REDUCTION BELOW ONE-THIRD OF STANDARD SIZES.
3. THE LONGITUDINAL SPACE BETWEEN MARKINGS SHOULD BE 30 FEET, OR AS INDICATED ON THE PLANS.
4. MARKINGS CONSIDERED APPROPRIATE FOR USE WHEN WARRANTED INCLUDE THE FOLLOWING:
  - A. REGULATORY
    - STOP
    - RIGHT (LEFT) TURN ONLY, SYMBOL ARROWS.
  - B. WARNING
    - STOP AHEAD
    - SIGNAL AHEAD
    - SCHOOL
    - SCHOOL X-ING
    - PEDESTRIAN 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.



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
STANDARD PAVEMENT MARKING - SYMBOLS (NOT TO SCALE)	
 CITY TRAFFIC ENGINEER CITY ENGINEER	 DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-04

8/21/2022 203-Quitman-STD\_PWS.dgn

NO.	REVISIONS	DATE	NAME

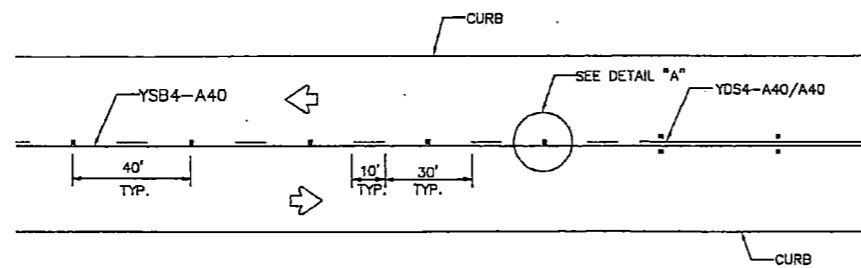
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

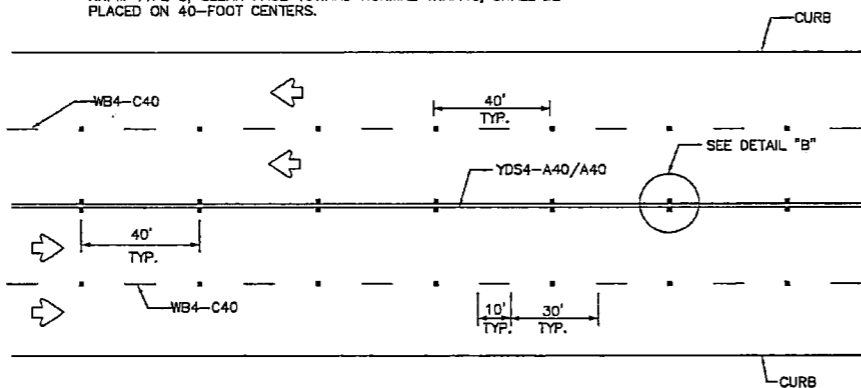
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ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 146 /
SCALE: NTS	SHEET 4 OF 17

**CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE**

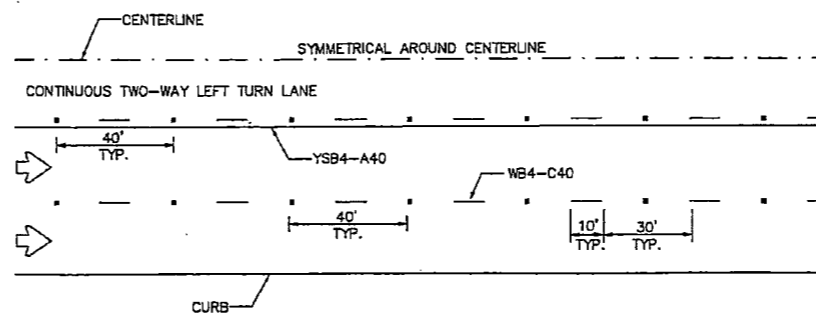


**CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY STREETS**

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

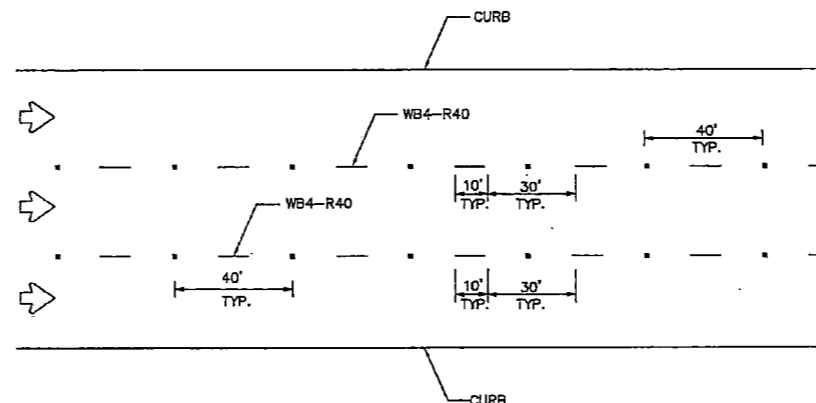


**CENTERLINE & LANE LINES FOR TWO-WAY LEFT TURN LANE**



**LANE LINES FOR ONE-WAY MULTILANE STREET**

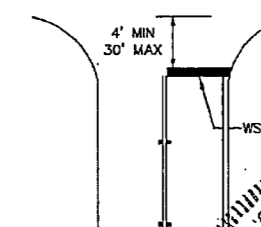
RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG-WAY TRAFFIC.



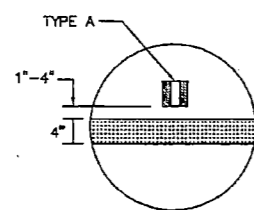
**GENERAL NOTES:**

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.

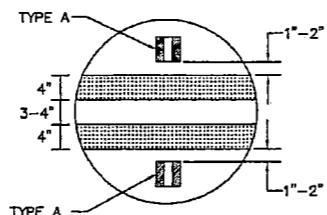
**GUIDE FOR PLACEMENT OF STOP LINES & CENTERLINE**



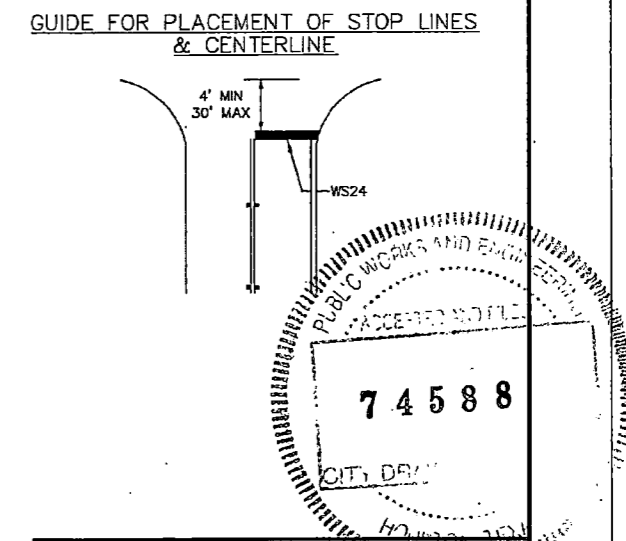
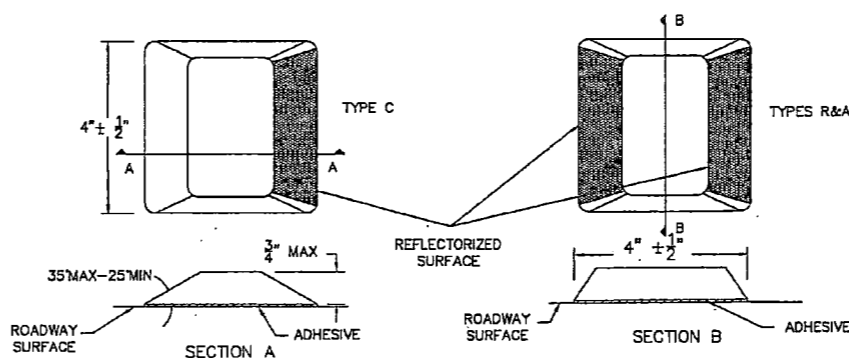
**DETAIL "A"**



**DETAIL "B"**



**REFLECTIVE RAISED PAVEMENT MARKERS**

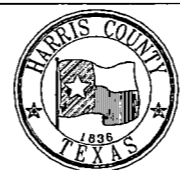


<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-05

8/21/2022 204-Qu:imon-STD PWS.dgn

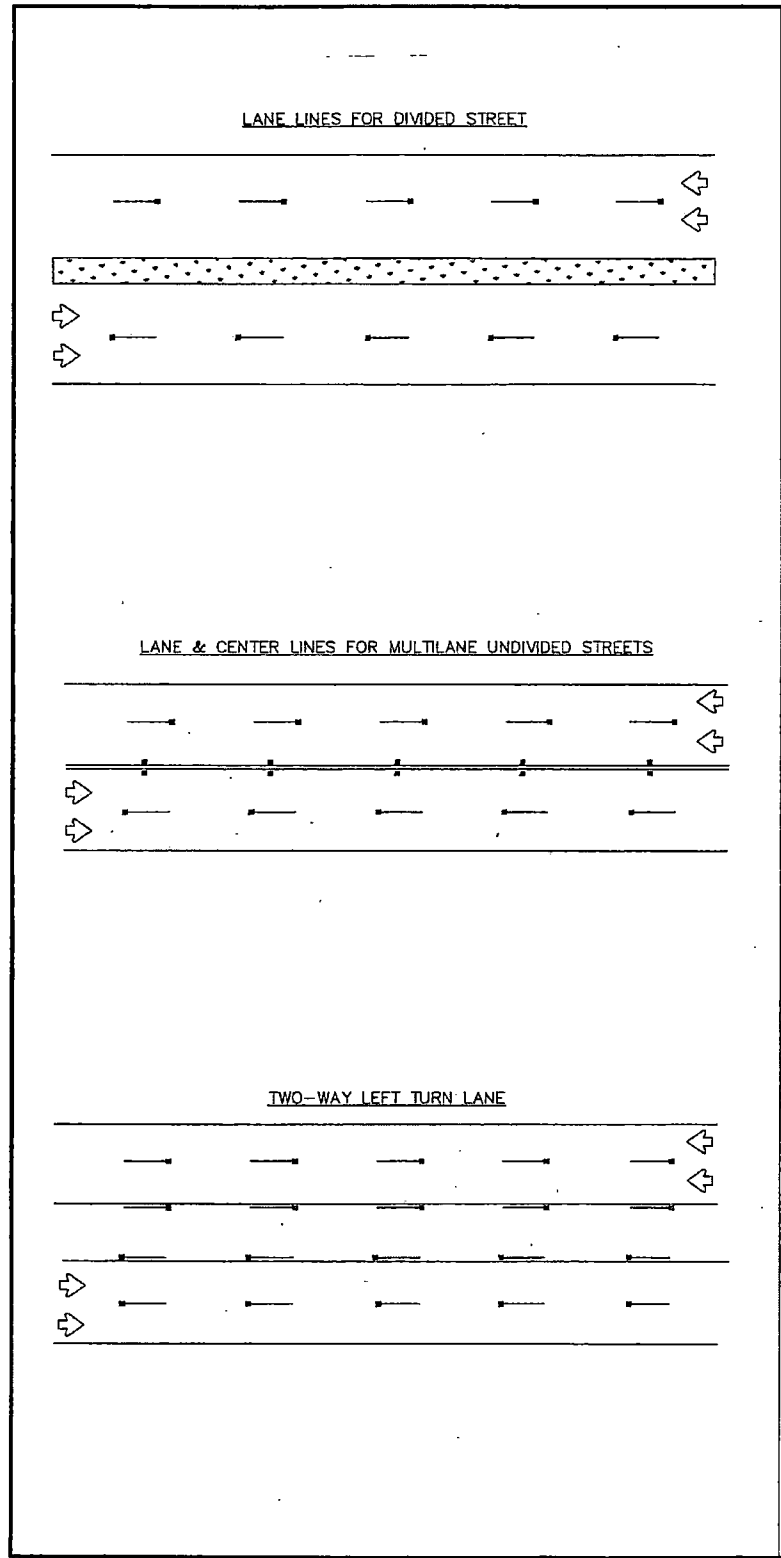
NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**

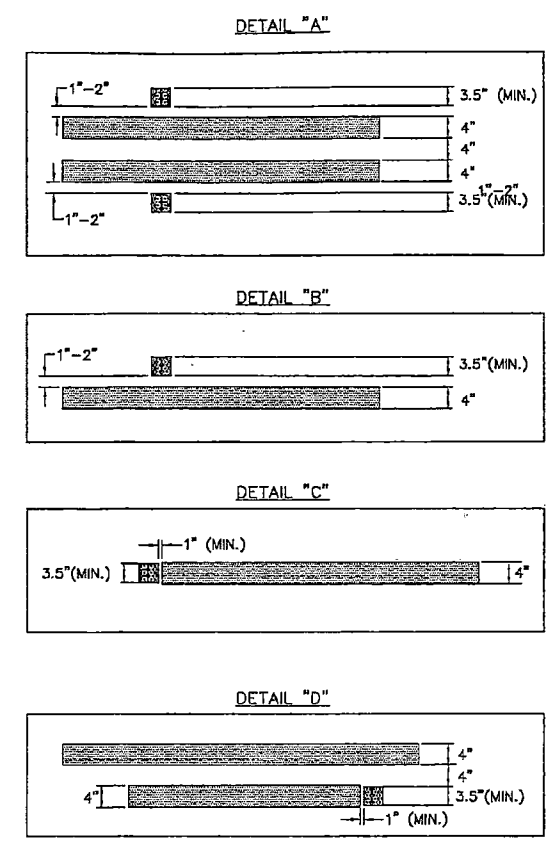
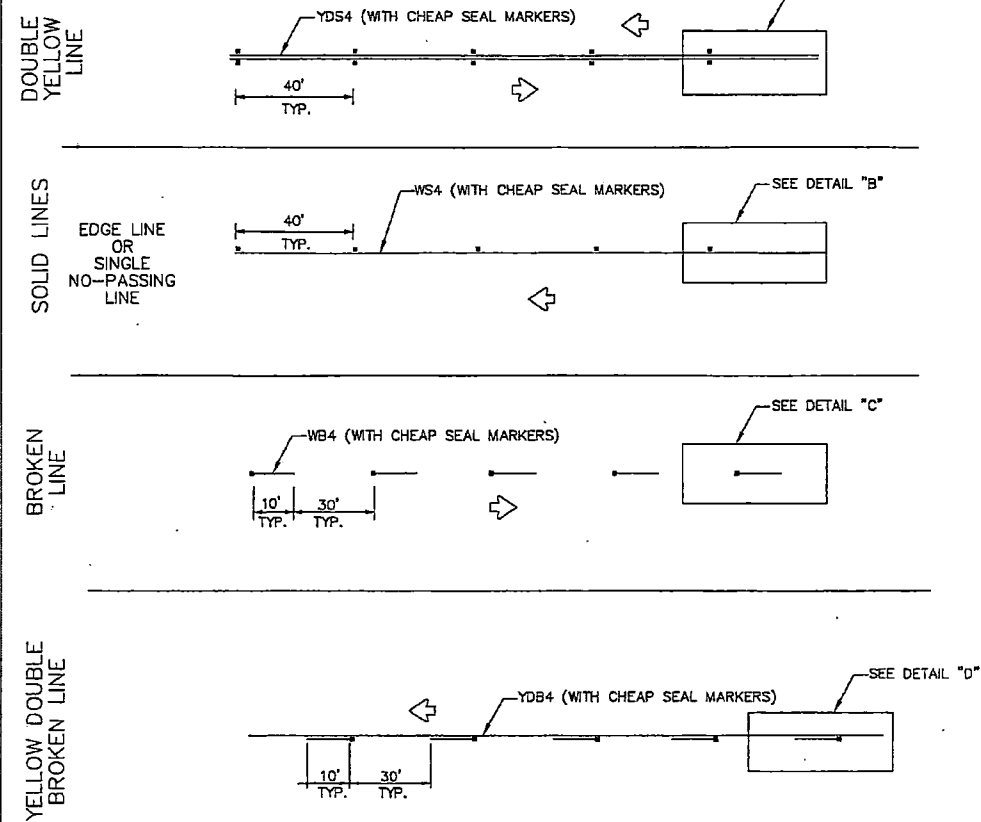


**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

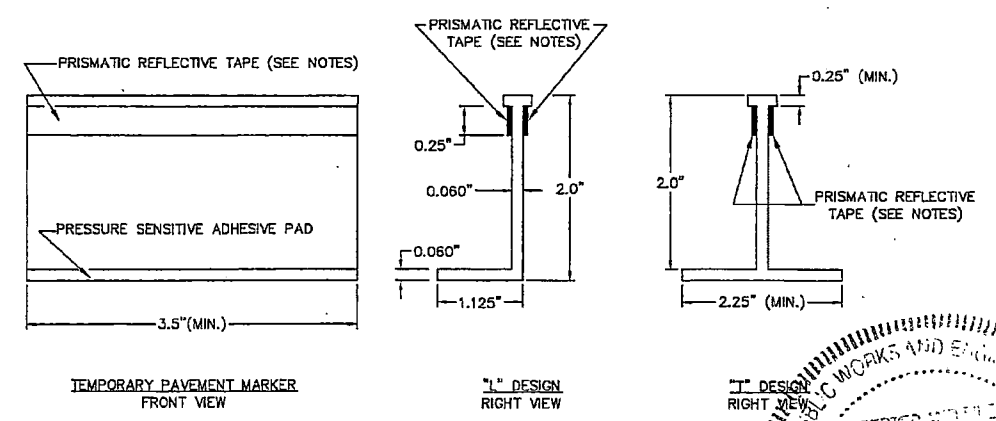
PROJECT TITLE: <b>QUITMAN STREET</b>	
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
<b>SIGNING AND MARKING STANDARD DETAILS</b>	
DRAWN BY: <b>AD</b>	DATE: <b>08-19-2022</b>
CK'D BY: <b>DHS</b>	SHEET NO: <b>147 /</b>
SCALE: <b>NTS</b>	
SHEET 5 OF 17	



**TEMPORARY PAVEMENT MARKINGS PLACEMENT DETAILS**



**TEMPORARY CHIP SEAL MARKER DETAIL**

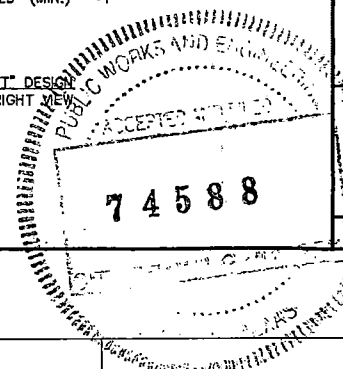


- NOTES:**
1. YELLOW MARKERS SHALL HAVE YELLOW BODIES AND YELLOW REFLECTIVE TAPE.
  2. WHITE MARKERS SHALL HAVE WHITE BODIES AND WHITE REFLECTIVE TAPE.
  3. ONE-WAY OR TWO-WAY REFLECTIVE SHALL BE USED AS NECESSARY FOR APPLICATION.
  4. THE CLEAR PLASTIC COVER MAY VARY FROM ONE MANUFACTURER TO ANOTHER 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**  
HOUSTON PUBLIC WORKS

REFLECTIVE CHIP SEAL MARKER  
USE FOR TEMPORARY MARKINGS  
(NOT TO SCALE)

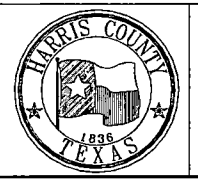
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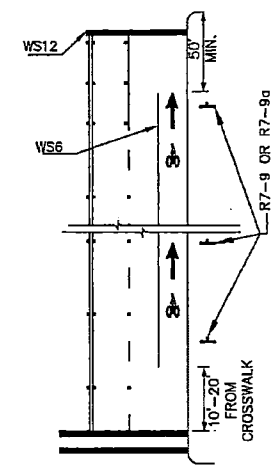
NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY ENGINEERING DEPARTMENT**

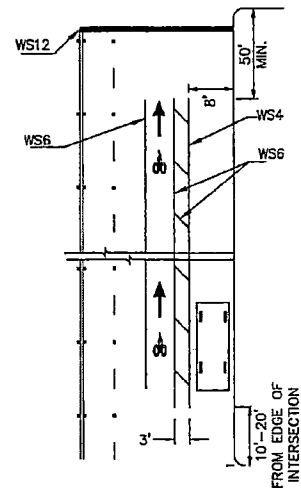


**SCIENTECH ENGINEERS, INC.**  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

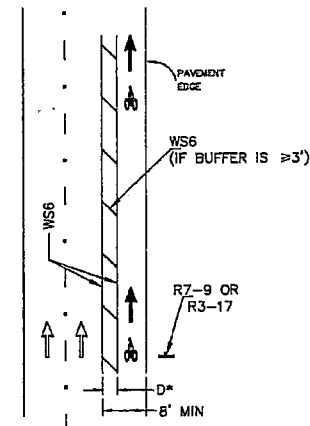
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 148 /
SCALE: NTS	



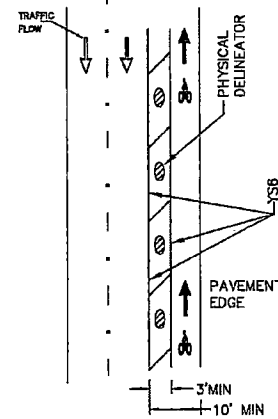
STANDARD BIKE LANES  
NO ON-STREET PARKING  
ALONG BICYCLE LANE



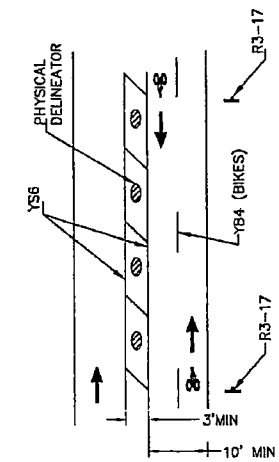
STANDARD BIKE LANES  
ON-STREET PARKING  
ALONG BICYCLE LANE



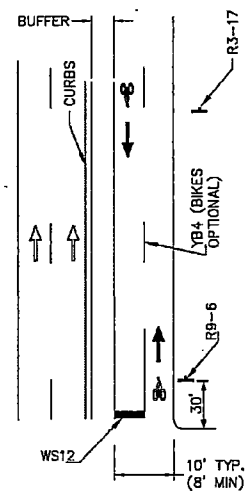
BUFFERED BIKE LANES  
\*DELINEATOR REQUIRED IF  $D < 2$ \*



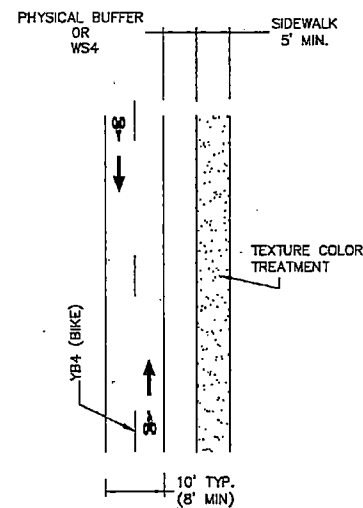
SEPARATED BIKE LANES  
ONE-WAY (CONTRA-FLOW)



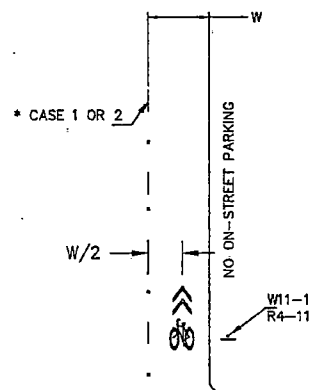
SEPARATED BIKE LANES  
TWO-WAY



TWO-WAY SIDE PATH

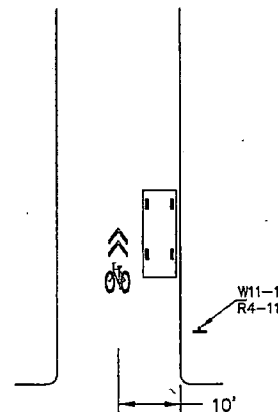


SIDEPATH WITH DEDICATED  
SIDEWALK



ROADWAY WITH SHARED LANE

- NEIGHBORHOOD BIKEWAY
- COLLECTOR/ THOROUGHFARE
- NO ON-STREET PARKING



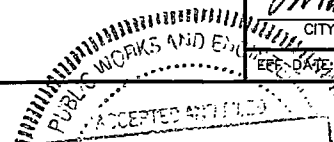
ROADWAY WITH SHARED LANE

- NEIGHBORHOOD STREET
- NO CENTER LINE OR LANE MARKING
- ON STREET PARKING

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, LATEST EDITION.
5. SHARED LANE MARKING SHALL BE IMPLEMENTED ONLY ON ROADWAY SEGMENT BUT NOT WITHIN THE FUNCTIONAL LIMITS OF AN INTERSECTION.

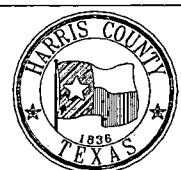
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
BICYCLE LANE PAVEMENT MARKINGS (NOT TO SCALE)	
 CITY TRAFFIC ENGINEER CITY ENGINEER	 DIRECTOR OF HOUSTON PUBLIC WORKS
DATE: JUL-01-2018	DWG NO: 01510-09



8/21/2022 206-Qui.tman-STD\_PWS.dgn

NO.	REVISIONS	DATE	NAME
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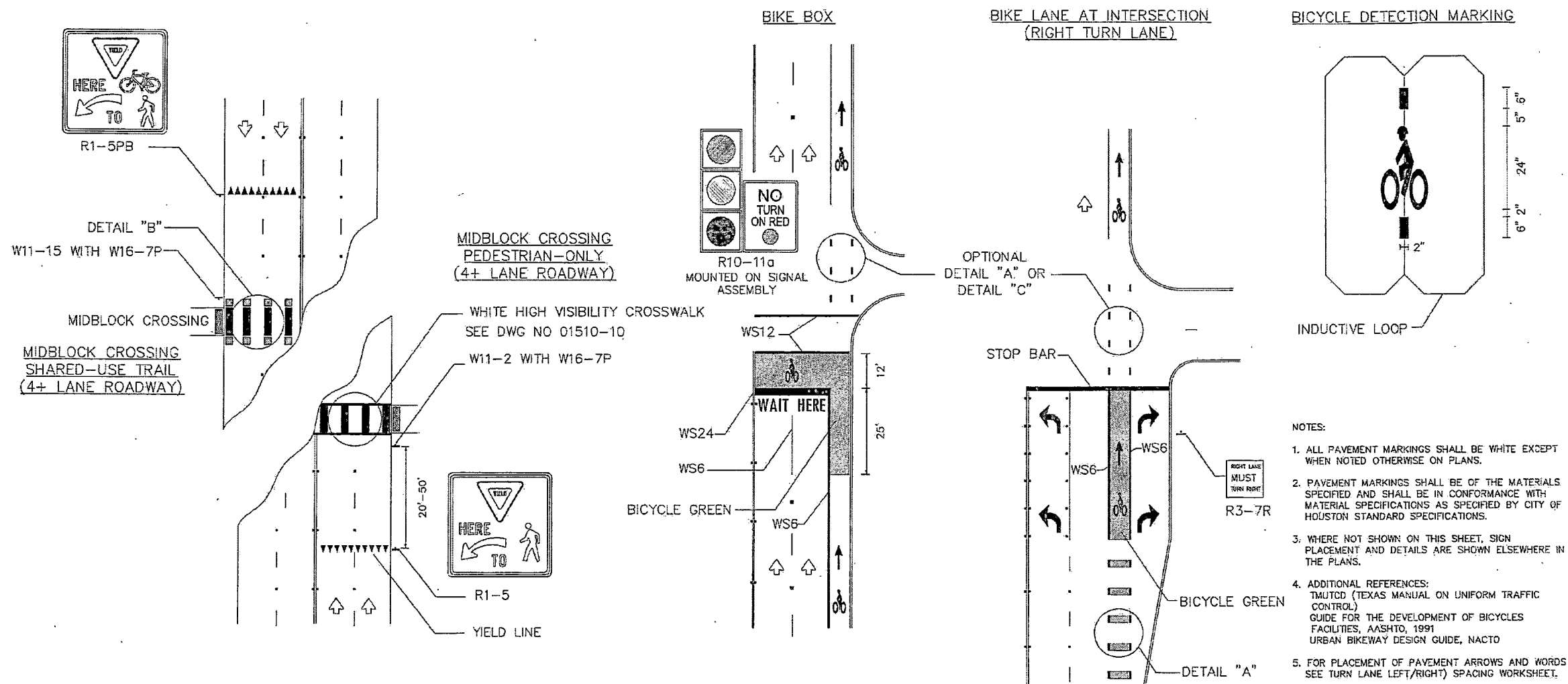
HARRIS COUNTY  
ENGINEERING DEPARTMENT



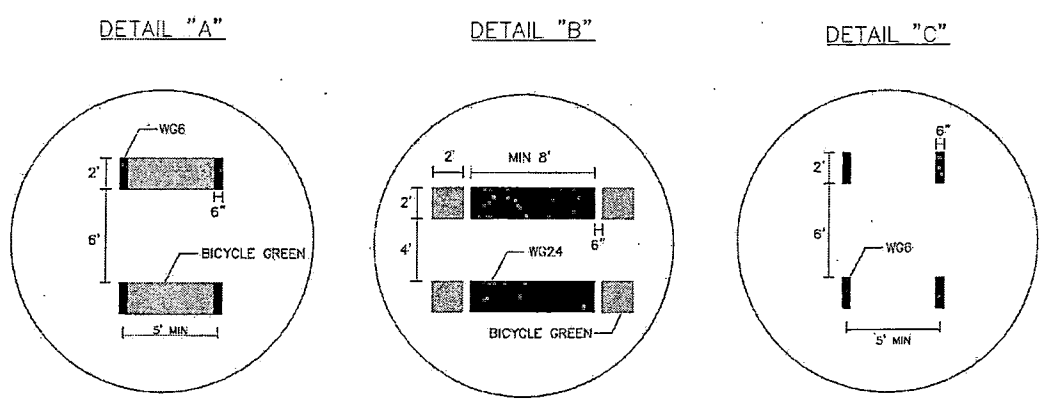
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77001  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET		
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS		
DRAWN BY:	AD	SHEET 7 OF 17	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: NTS	SHEET NO: 149 /

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



- 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. WHERE NOT SHOWN ON THIS SHEET, 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  
 URBAN BIKEWAY DESIGN GUIDE, NACTO
  5. FOR PLACEMENT OF PAVEMENT ARROWS AND WORDS SEE TURN LANE LEFT/RIGHT) SPACING WORKSHEET.



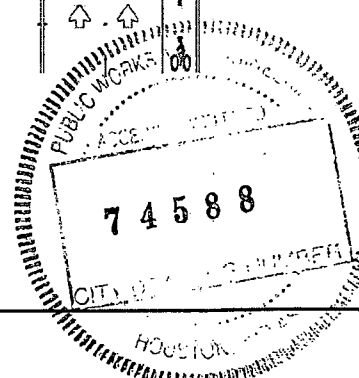
CITY OF HOUSTON  
 HOUSTON PUBLIC WORKS

BICYCLE INTERSECTION TREATMENTS  
 (NOT TO SCALE)

*[Signature]*  
 CITY TRAFFIC ENGINEER

*[Signature]*  
 DIRECTOR OF HOUSTON PUBLIC WORKS

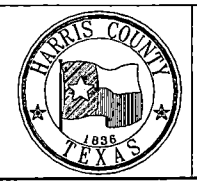
EFF DATE: JUL-01-2018 DWG NO: 01510-09A



8/21/2022 207-Qui.tman-STD PMS-COLOR.dgn

NO.	REVISIONS	DATE	NAME

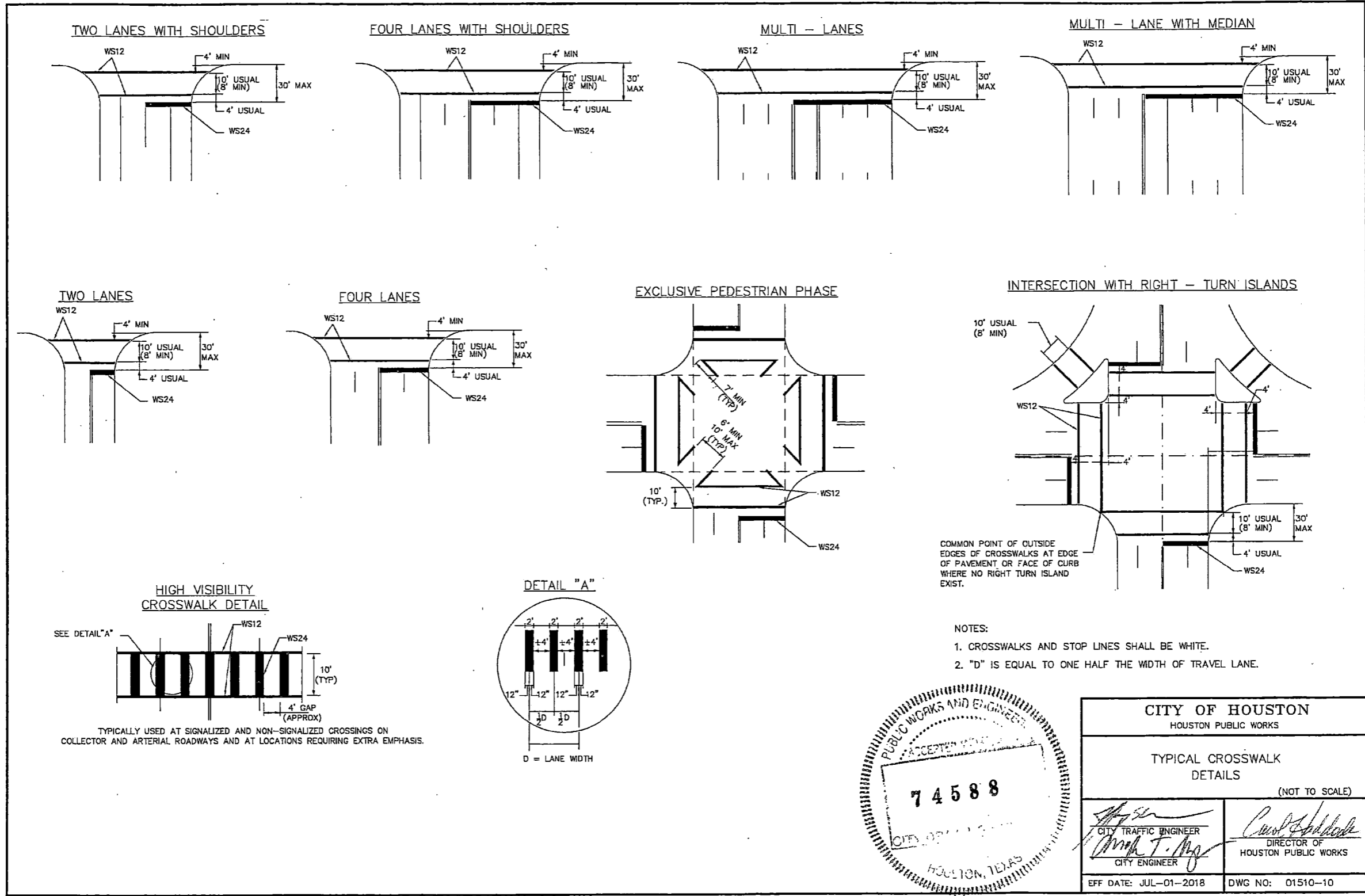
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 8 OF 17	
CK'D BY:		DATE: 08-19-2022	
SCALE:		SHEET NO: 150 /	
NTS			





CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TYPICAL CROSSWALK DETAILS (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-10

8/21/2022 208-Qu: fman-STD\_PWS.dgn

NO.	REVISIONS	DATE	NAME
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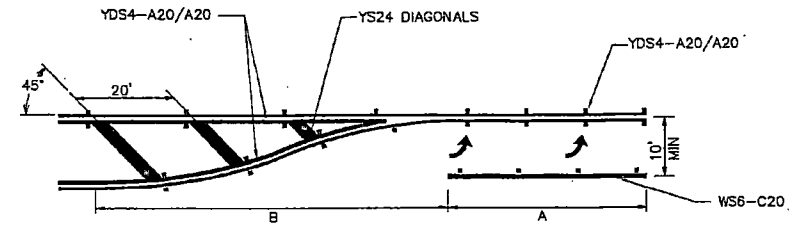
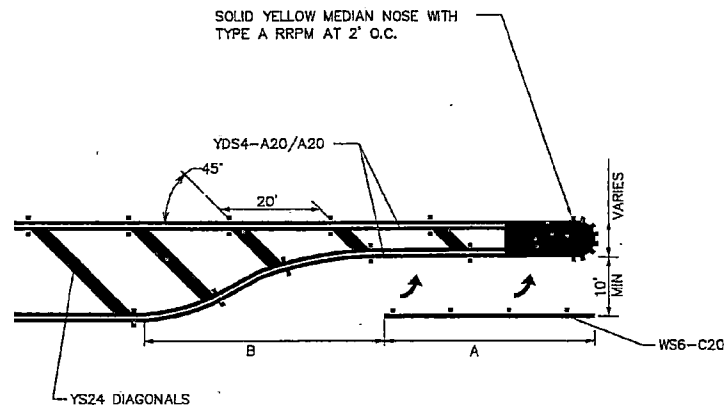
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CK'D BY: DHS	SHEET NO: 151/
SCALE: NTS	

**PAINTED MEDIAN LEFT TURN BAY DETAILS**



**LEFT TURN BAY DIMENSIONS**

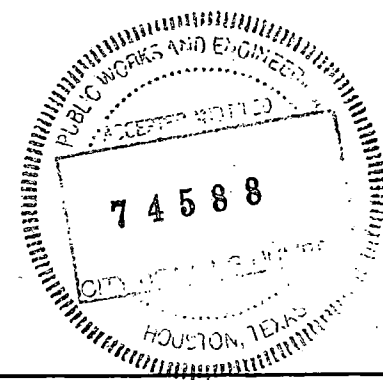
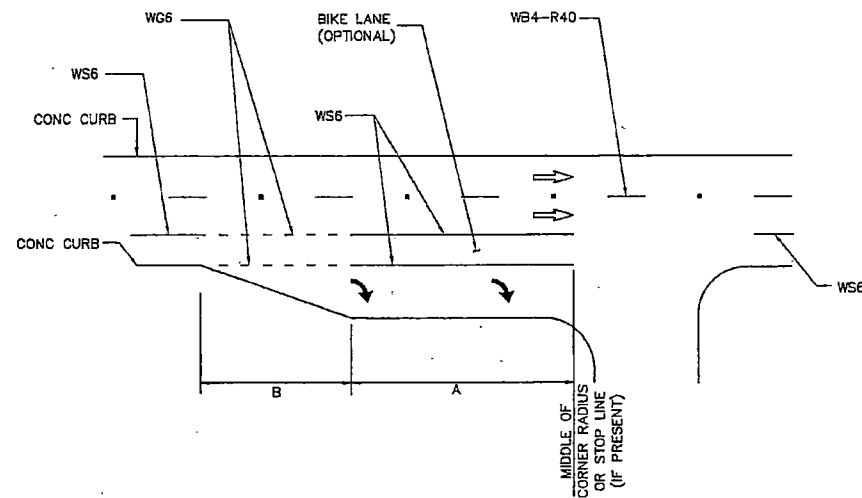
A = 150' MINIMUM AT INTERSECTION OF TWO (2) MAJOR STREETS WHEN PRACTICAL.  
 = 100' MINIMUM AT ALL OTHER INTERSECTIONS.

B = 100' MINIMUM ON STRAIGHT ROADWAYS.  
 \*TAPER LENGTH MAY BE SHORTER IF IT IS ON A HORIZONTAL CURVE TO THE LEFT.  
 \*TAPER LENGTH MAY BE LONGER IF CURVE IS TO THE RIGHT.

NOTE:  
 1. DIMENSIONS SHALL BE ADJUSTED AS DETERMINED BY CITY OF HOUSTON TRAFFIC ENGINEER.  
 2. REFER TO CITY OF HOUSTON DESIGN MANUAL (DWG No. 10.06-07) FOR DETAILS.

- NOTES:
1. STORAGE LENGTHS LONGER THAN THE MINIMUMS LISTED ON THIS DRAWING MAY BE DETERMINED USING TRAFFIC ENGINEERING ANALYSIS OR APPROXIMATE CALCULATIONS.
  2. FOR THE PLACEMENT OF PAVEMENT ARROWS AND WORDS SEE LEFT-TURN "ONLY" AND ARROW SPACING WORKSHEET.
  3. REFER TO APPLICABLE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE AND LEFT-TURN & RIGHT-TURN LANE STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKINGS.
  4. REFER TO BICYCLE LANE PAVEMENT MARKINGS STANDARD FOR TYPE AND PLACEMENT.

**UNSIGNALIZED RIGHT-TURN LANE**



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
LEFT-TURN LANE & RIGHT-TURN LANE DESIGN WORKSHEET 2 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
<i>[Signature]</i> CITY ENGINEER	<i>[Signature]</i> CITY ENGINEER
EFF DATE: JUL-01-2018	DWG NO: 01510-12

8/21/2022 209-Qui.tman-STD\_PMS.dgn

NO.	REVISIONS	DATE	NAME
▲			
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▲			
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



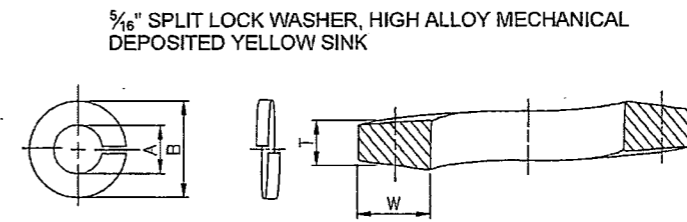
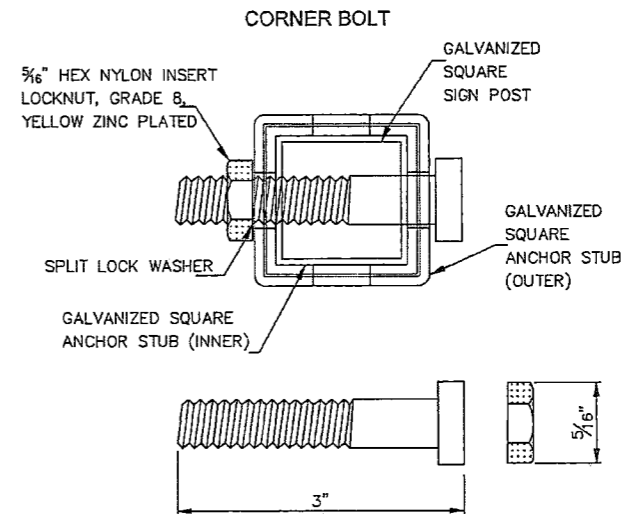
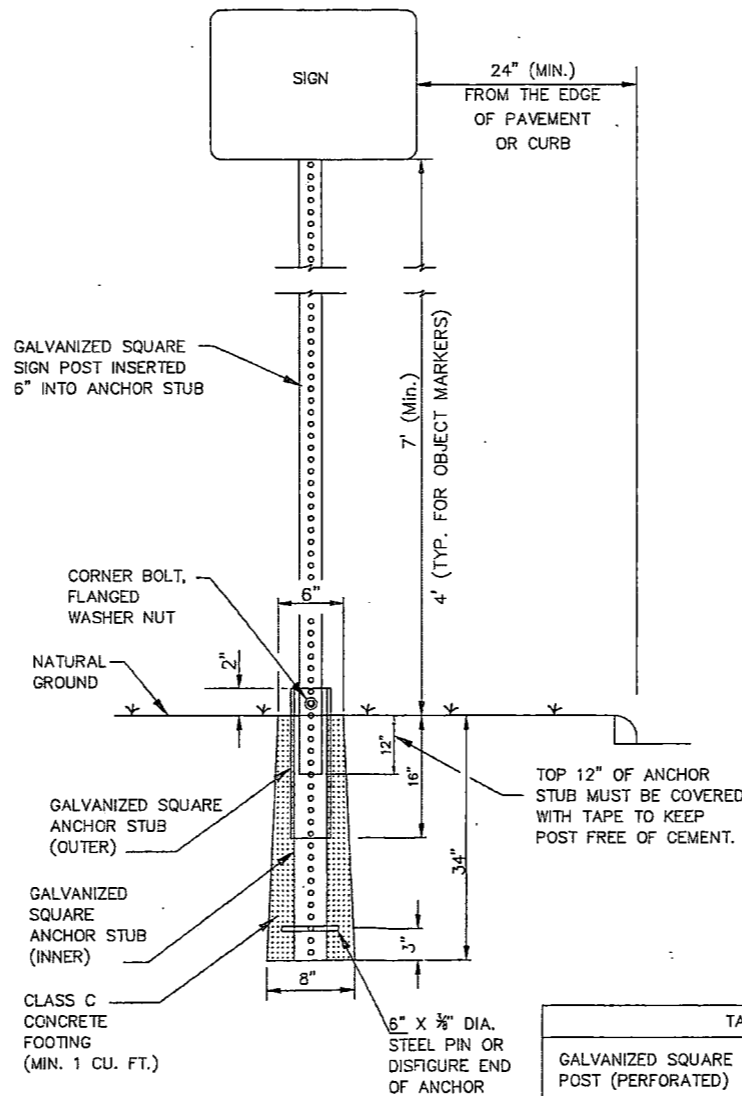
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: <b>QUITMAN STREET</b>	
<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
SHEET DESCRIPTION: <b>SIGNING AND MARKING STANDARD DETAILS</b>	
DRAWN BY: <b>AD</b>	<b>SHEET 10 OF 17</b>
DATE: <b>08-19-2022</b>	DATE:
CK'D BY: <b>DHS</b>	SCALE: <b>NTS</b>
	SHEET NO: <b>152 /</b>

**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 YIELD STRENGTH OF 3003-H14 ALLOY.
8. "T" DENOTES THICKNESS OF SIGN BLANKS.
9. ALL HOLES SHALL BE 3/8" 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**



NOMINAL WASHER SIZE	A		B		T	W
	INSIDE DIAMETER	OUTSIDE DIAMETER	MEAN SECTION THICKNESS	SECTION WIDTH		
5/16"	0.322"	0.314"	0.583"	0.078"	0.125"	

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

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)	2 1/4" x 2 1/4" x 18" (14 GAUGE)

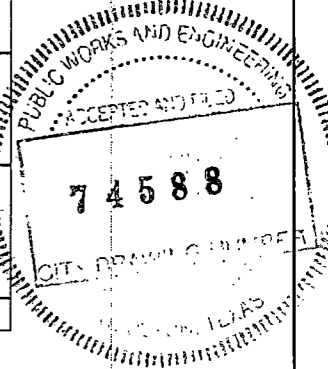
**CITY OF HOUSTON**  
 HOUSTON PUBLIC WORKS

GENERAL NOTES AND  
 GROUND MOUNTING SIGN  
 (NOT TO SCALE)

*[Signature]*  
 CITY TRAFFIC ENGINEER

*[Signature]*  
 DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: JUL-29-2019    DWG NO: 01509-01



8/21/2022 210-Qui:man-STD PMS.dgn

NO.	REVISIONS	DATE	NAME

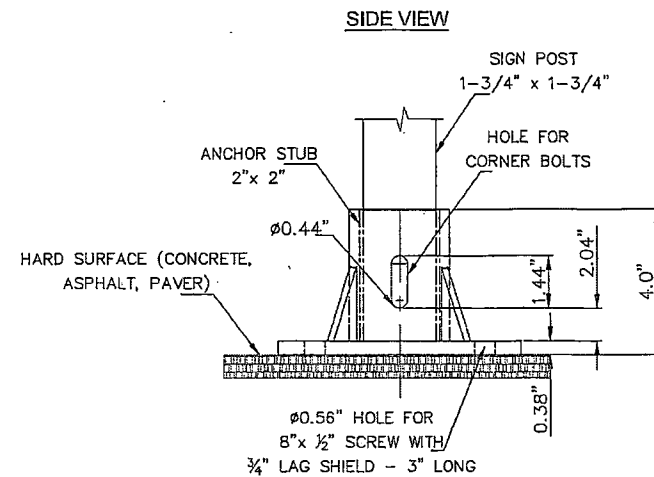
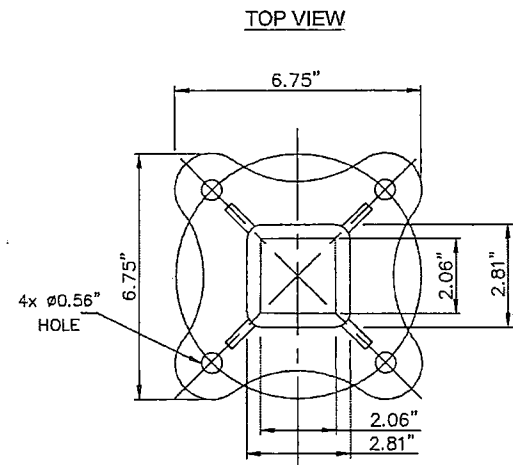
**HARRIS COUNTY ENGINEERING DEPARTMENT**



**SCIENTECH ENGINEERS, INC.**  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

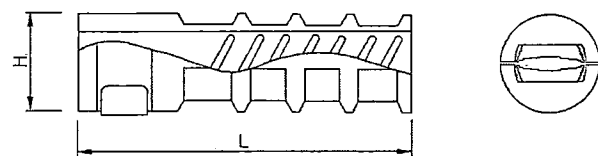
PROJECT TITLE:	QUITMAN STREET		
	ON-STREET BIKEWAY AND SIDEWALKS		
SHEET DESCRIPTION:	SIGNING AND MARKING STANDARD DETAILS		
DRAWN BY:	AD	SHEET 11 OF 17	DATE: 08-19-2022
CK'D BY:	DHS	SCALE: NTS	SHEET NO: 153 /

TYPICAL HARD SURFACE INSTALLATION GALVANIZED SIGN BASE



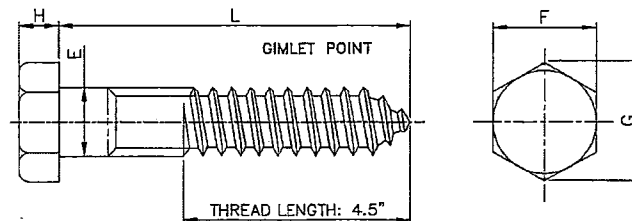
- NOTES:
1. MATERIAL: ASTM A-536 GRADE 65-45-12 DUCTILE IRON
  2. HOT DIP GALVANIZE PER ASTM A-153
  3. ALL DIMENSIONS ARE IN INCHES

ANCHOR LAG SHIELD - ZINC ALLOY



LAG THREAD SIZE	L	H
1/2"	2"	3/4"

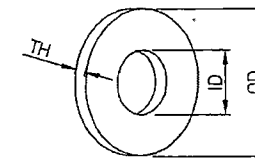
8" HEX LAG SCREWS, HOT DIPPED GALVANIZED



DIAMETER	E		F		G		H		L
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	
1/2"	0.515"	0.482"	0.750"	0.725"	0.866"	0.826"	0.364"	0.302"	8"

MATERIAL: PER A307 GRADE A  
 COATING: HOT DIP ZINC PER ASTM F2329 OR IN ACCORDANCE WITH CLASS C OF ASTM A153 AND CLASS D FOR 3/8" DIAMETER AND LESS

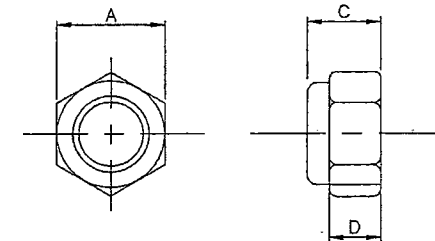
1/2" FLAT WASHERS, LOW CARBON, SAE, ZINC PLATED



SIZE	SAE FLAT WASHERS								
	BASIC	TOLERANCE		BASIC	TOLERANCE		THICKNESS-TH		
		PLUS	MINUS		PLUS	MINUS	BASIC	PLUS	MINUS
1/2"	0.515"	0.015"	0.005"	1.062"	0.030"	0.007"	0.095"	0.121"	0.074"

DIMENSIONS: ASME B18.21.1, TYPE A PLAIN WASHERS  
 MATERIAL: CARBON STEEL  
 FINISH: Fe/Zn 3AT PER ASTM F1941

HEX NYLON INSERT LOCKNUTS (NE), GRADE 8, YELLOW ZINC PLATED



SIZE	C		A		D
	MAX	Min	MAX	Min	Min
1/2"	0.359"	0.329"	0.502"	0.489"	0.250"

DIMENSIONS: ASME B18.16.6  
 MATERIAL: CARBON STEEL, GRADE 8 PER ASME B18.16.6, NYLON 6/6  
 THREAD REQUIREMENTS: ASME B1.1 UNC& UNF CLASS 2B

CITY OF HOUSTON  
 HOUSTON PUBLIC WORKS

SIGN BASE  
 MOUNTING DETAILS

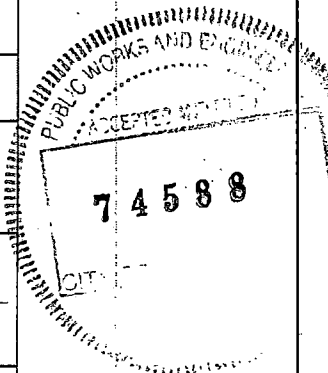
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*[Signature]*  
 CITY TRAFFIC ENGINEER  
 CITY ENGINEER

*[Signature]*  
 DIRECTOR OF  
 HOUSTON PUBLIC WORKS

EFF DATE: JULY-29-2019

DWG NO: 01509-01A



8/21/2022 211-Quitman-STD PWS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
 ENGINEERING DEPARTMENT

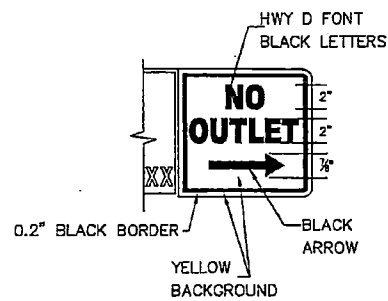


SCIENTECH  
 ENGINEERS, INC.

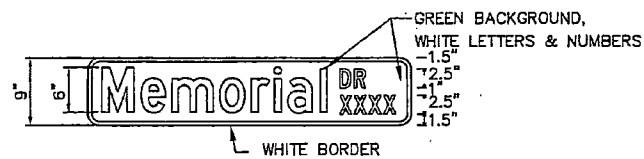
701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SHEET 12 OF 17	
DATE:		08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	NTS	154 /	

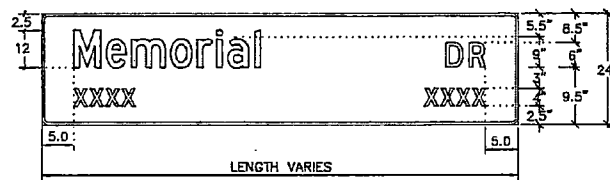
**POST MOUNTED STREET NAME SIGN  
W/ NO OUTLET SIGN**



**D3 - POST MOUNTED STREET NAME SIGN**



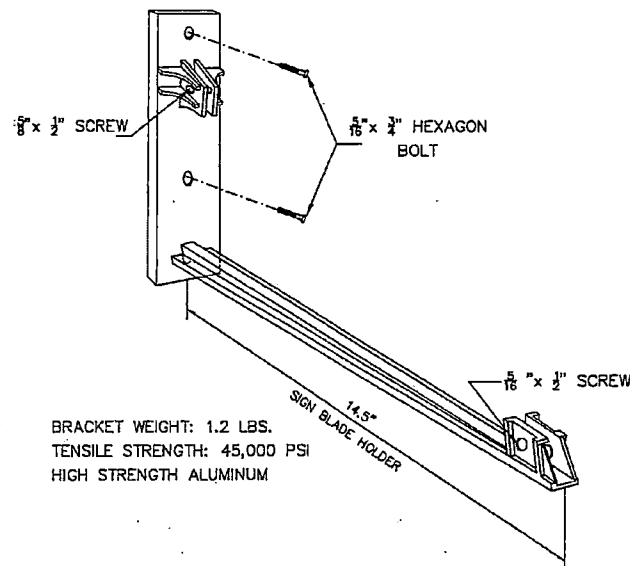
**OVERHEAD STREET NAME SIGN DETAIL**



**D3 - STREET NAME SIGN**

	POST-MOUNTED SIGN	OVERHEAD SIGN
HEIGHT	9"	24"
LENGTH	30" MIN. 48" MAX. 6" INCREMENTS OF LENGTH	10' MAX. 2' INCREMENT OF LENGTH
THICKNESS	0.125"	0.080"
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209)	
SIGN FACE MATERIALS	GREEN FILM OVER DIAMOND GRADE VIP SHEETING	
LEGENDS AND SYMBOLS	HIGHWAY GOTHIC SERIES D (USUAL) HIGHWAY GOTHIC SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK	
COLOR	LETTERS-WHITE REFLECTIVE BORDER-WHITE REFLECTIVE BACKGROUND-GREEN REFLECTIVE	

**SIGNAL POLE MOUNTING DETAIL**

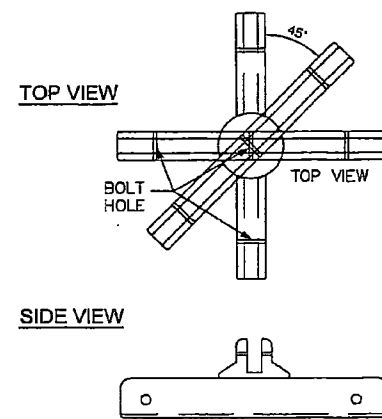


BRACKET WEIGHT: 1.2 LBS.  
TENSILE STRENGTH: 45,000 PSI  
HIGH STRENGTH ALUMINUM

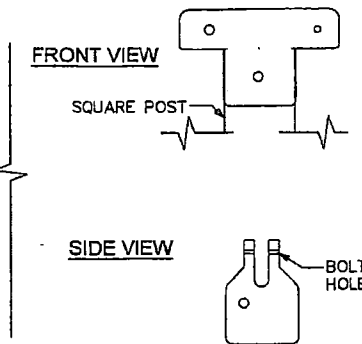
**NOTES:**

- TYPICAL SIGN PLATE SHOULD BE 30" MAX.
- LONGER SIGN PLATE MUST BE APPROVED BY THE CITY TRAFFIC ENGINEER.

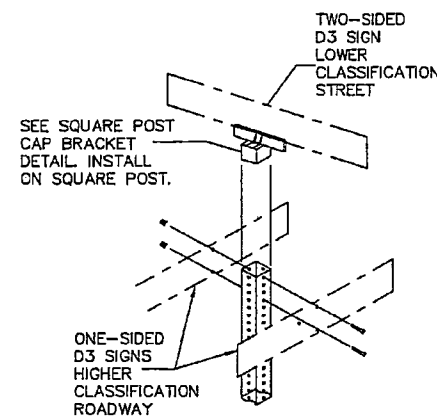
**45°/90° CROSS PIECE  
SIGN BRACKET**



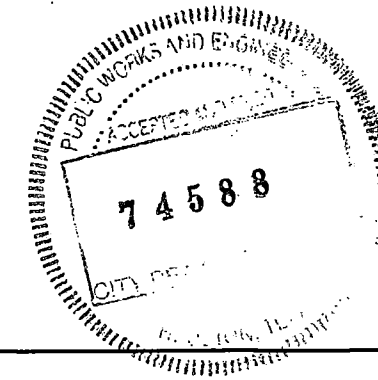
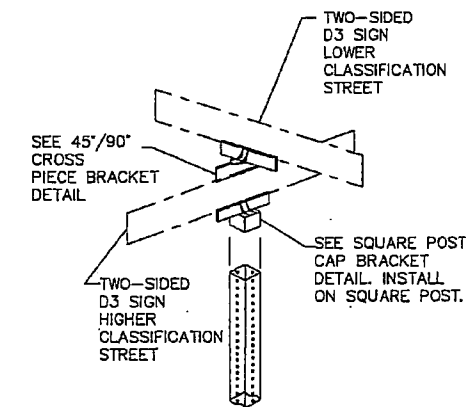
**SQUARE POST CAP  
BRACKET DETAILS**



**D3 SIGNS GREATER THAN 42"  
PLATES IN LENGTH**



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



**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

STREET NAME SIGN  
AND SIGN MOUNTING

(NOT TO SCALE)

*[Signature]*  
CITY TRAFFIC ENGINEER  
*[Signature]*  
CITY ENGINEER

*[Signature]*  
DIRECTOR OF  
HOUSTON PUBLIC WORKS

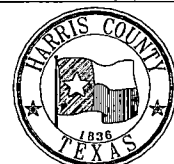
EFF DATE: JUL-01-2018

DWG NO: 01509-02

8/21/2022 212-Qui.tmon-STD PMS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

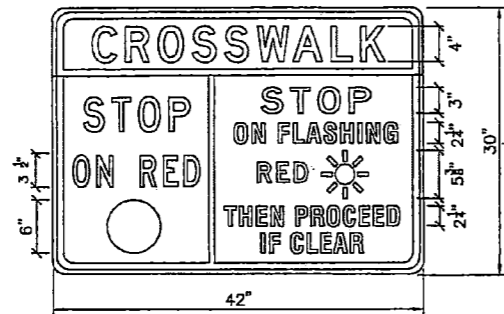


**SCIENTECH**  
ENGINEERS, INC.

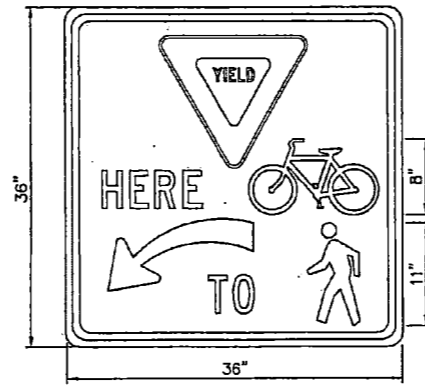
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	SHEET 13 OF 17
DATE: 08-19-2022	SHEET NO: 155 /
CK'D BY: DHS	SCALE: NTS

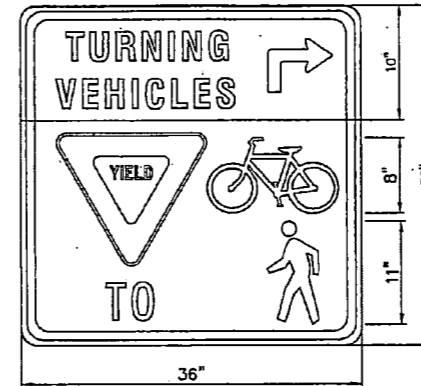
USE OF CUSTOM SIGNS MUST BE PRE-APPROVED BY THE CITY TRAFFIC ENGINEER



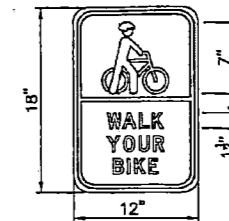
R10 - 23 (CoH)



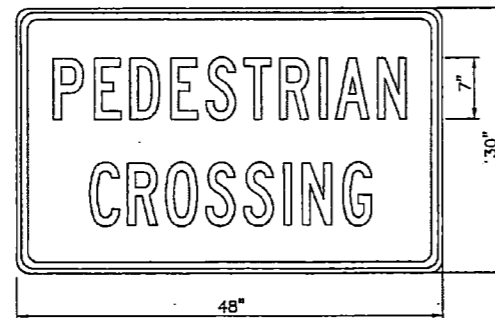
R1-5PB



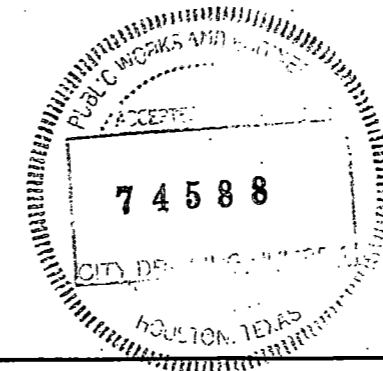
R10 - 15PB



R9-8 (CoH)



W11 - 2 (HAWK)  
FLUORESCENT YELLOW/GREEN



CITY OF HOUSTON HOUSTON PUBLIC WORKS	
CUSTOM SIGNS (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01509-02A

8/21/2022 213-Quitman-STD\_PWS.dgn

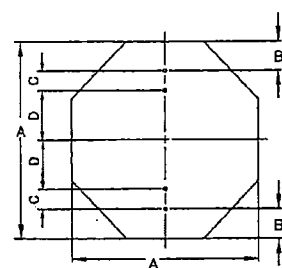
NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



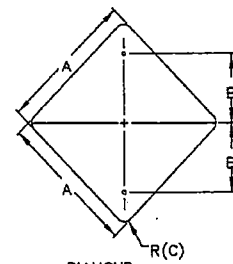
**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	SHEET 14 OF 17
DATE: 08-19-2022	
CK'D BY: DHS	SCALE: NTS
	SHEET NO: 156 /



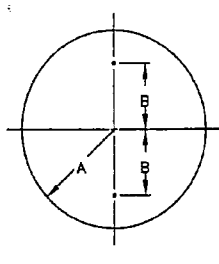
OCTAGONAL

A	B	C	D	T
24	3	3	12	0.080
36	3	3	24	0.080



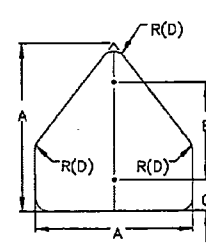
DIAMOND

A	B	C	T
24	12	1 1/2	0.080
30	15	1 1/2	0.080
36	18	1 1/2	0.080



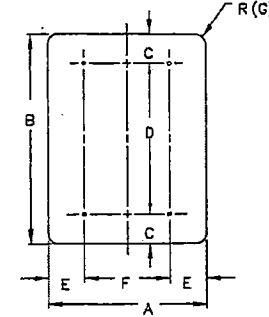
CIRCLE

A	B	T
15	15	0.080
18	12	0.080



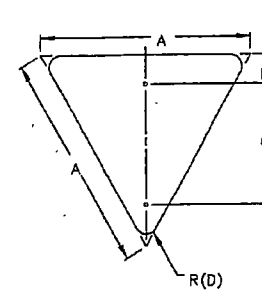
PENTAGON (SCHOOL)

A	B	C	D	T
36	24	3	1 1/2	0.080



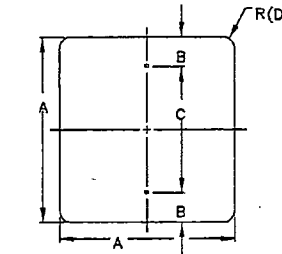
VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
36	48	6	36	6	24	1 1/2	0.080
48	60	6	48	9	30	1 1/2	0.080
18	30	3	24			1 1/2	0.080



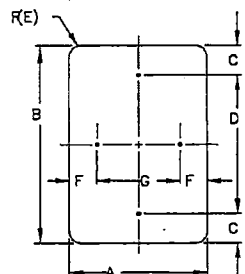
EQUILATERAL TRIANGLE

A	B	C	D	T
36	3	21	1 1/2	0.080



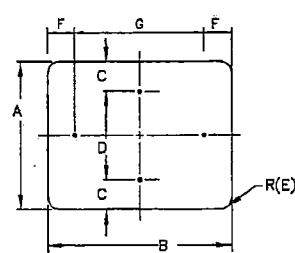
SQUARE (A)

A	B	C	D	T
18	3	12	1 1/2	0.080
24	3	18	1 1/2	0.080
30	3	24	1 1/2	0.080



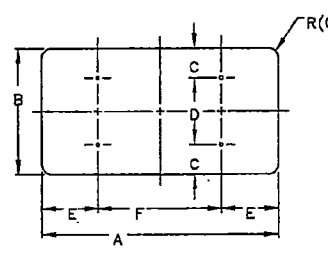
VERTICAL/HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
12	18	1 1/2	15	1 1/2	9		0.080
12	36	3	30	1 1/2	1 1/2	9	0.080
18	24	3	18	1 1/2	1 1/2	15	0.080
24	30	3	24	1 1/2	3	18	0.080
24	36	3	30	1 1/2	3	18	0.080
24	48	3	36	1 1/2	3	18	0.080
30	36	3	30	1 1/2	3	24	0.080



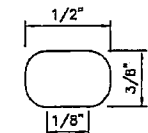
HORIZONTAL/VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
12	6		1 1/2	1	4		0.080
18	6		1 1/2	1	4		0.080
12	9	1	10	1 1/2			0.080
24	12	1 1/2	9	1 1/2	2	8	0.080
24	18	3	12	1 1/2	2	14	0.080
30	24	3	18	1 1/2	3	18	0.080
36	12	1 1/2	9	1 1/2	2	8	0.080



HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
36	24	3	18	6	24	1 1/2	0.080
48	24	3	18	9	30	1 1/2	0.080
48	36	6	24	9	30	1 1/2	0.080
60	24	3	18	12	36	1 1/2	0.080
60	36	6	24	12	36	1 1/2	0.080



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.
3. ALL PUNCHED HOLES ARE 3/8"x 1/2" OVAL.
4. ALL CORNER RADII ARE 1 1/2".

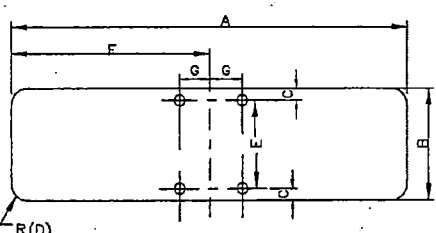
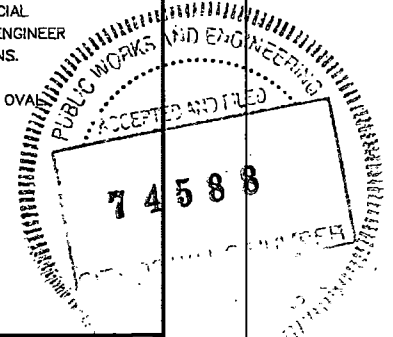


TABLE - D3 SIGNS (BRACKETS)

A	B	C	D	E	F	G	T
30	9	3/8	1 1/2	8 3/8	15	1 1/2	0.125
36	9	3/8	1 1/2	8 3/8	18	1 1/2	0.125
42	9	3/8	1 1/2	8 3/8	21	1 1/2	0.125
48	9	3/8	1 1/2	8 3/8	24	1 1/2	0.125

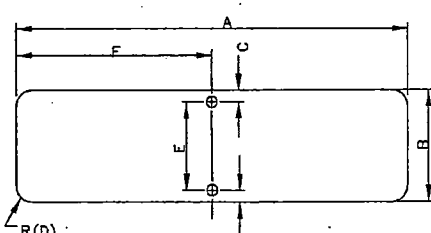


TABLE - D3 SIGNS

A	B	C	D	E	F	T
30	9	1 1/2	1 1/2	6	15	0.125
36	9	1 1/2	1 1/2	6	18	0.125
42	9	1 1/2	1 1/2	6	21	0.125
48	9	1 1/2	1 1/2	6	24	0.125

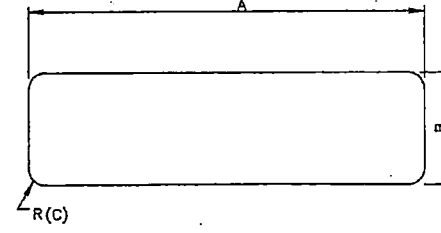


TABLE - D1 SIGNS

A	B	C	T
60	24	1 1/2	0.080
72	24	1 1/2	0.080
84	24	1 1/2	0.080
96	24	1 1/2	0.080

CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

GROUND MOUNTED  
SIGN SIZES  
(NOT TO SCALE)

*[Signature]*  
CITY TRAFFIC ENGINEER

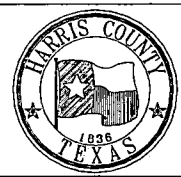
*[Signature]*  
DIRECTOR OF  
HOUSTON PUBLIC WORKS

EFF DATE: JUL-01-2018 DWG NO: 01509-03

8/21/2022 2:14-Qui:tmom-STD PWS.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
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▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



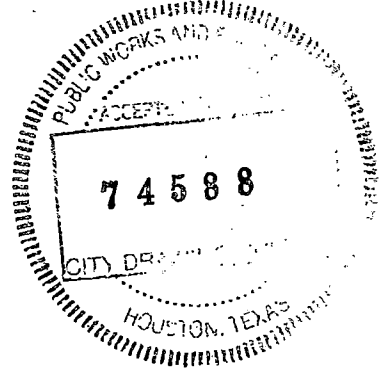
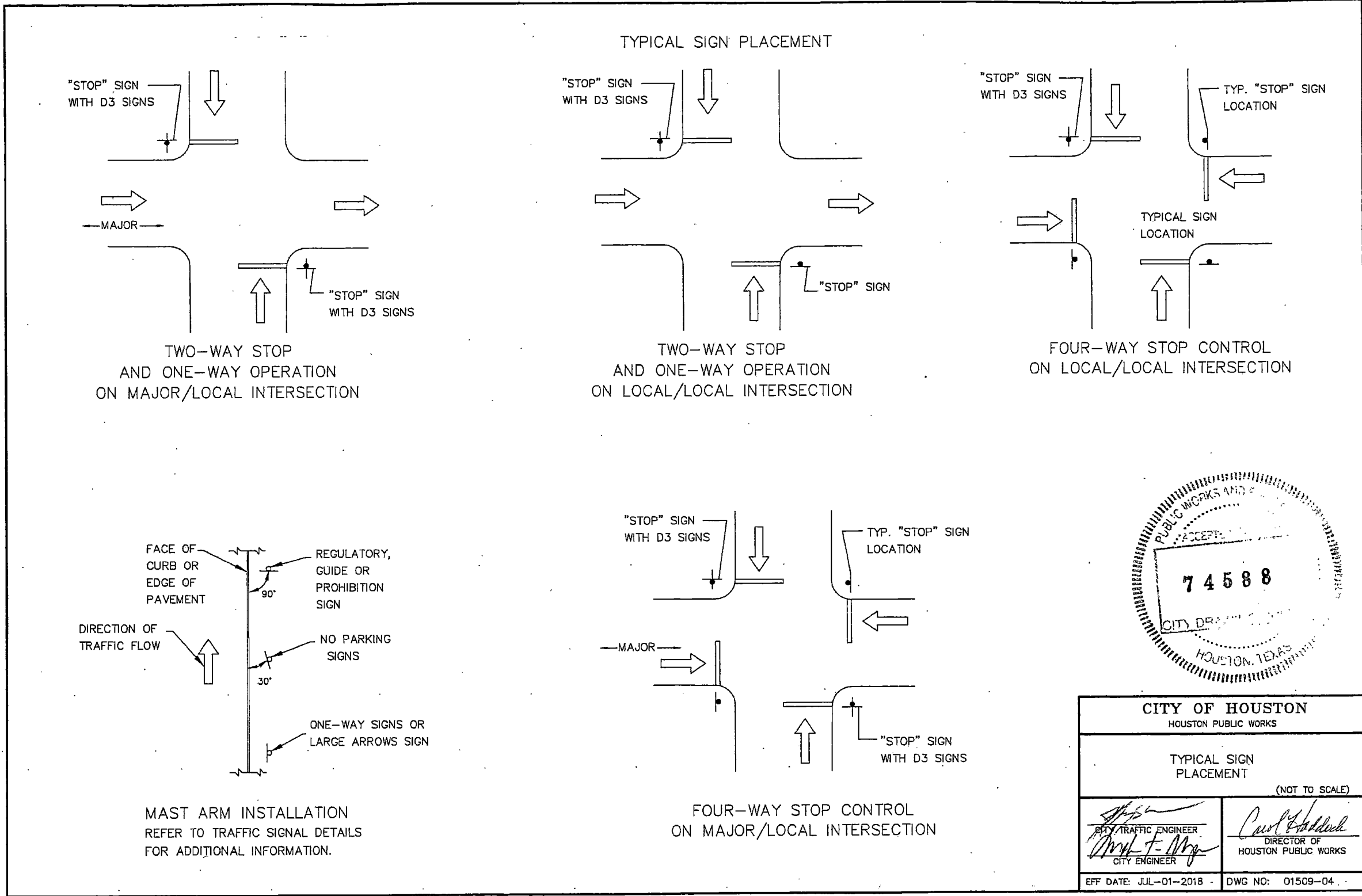
SCIENTECH  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET  
ON-STREET BIKEWAY AND SIDEWALKS

SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS

DRAWN BY: AD  
DATE: 08-19-2022

CHECKED BY: DHS  
SCALE: NTS  
SHEET NO: 157 /



CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TYPICAL SIGN PLACEMENT (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01509-04

8/21/2022 215-Qui.tman-STD PMS.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	DATE: 08-19-2022
CR'D BY: DHS	SHEET NO: 158 /
SCALE: NTS	



PENTABLE: HC-Bikeways.tb  
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 DATE: 4/12/2019 12:47:24 PM  
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TMUTCD/SHSD ID	R1-1	R1-2	R1-3P	R2-1	R3-4	R3-5R (L)	R3-7L (R)	R3-8	R4-7	R6-1R, R6-1L	R6-2R (L)
LOCAL	30x30*	30x30	18x6	24x30	24x24	30x36	30x30	Varies x 30	24x30	36x12	24x30
COLLECTOR	36x36	36x36	18x6	24x30	30x30	30x36	36x36	Varies x 30	24x30	36x12	30x36
THOROUGHFARE	36x36	36x36	18x6	24x30	30x30	30x36	36x36	Varies x 36	24x30	36x12	30x36
TMUTCD/SHSD ID	NO PARKING (ALL TYPES)	R8-8	R10-6R (L)	R10-17T	W1-1R (L)	W1-2R (L)	W1-3R (L)	W1-4R (L)	W1-6R (L), W1-7	W1-7T	W1-8R (L)
LOCAL	18x24	24x30	24x36	30x30	30x30	30x30	30x30	30x30	48x24	48x24	18x24
COLLECTOR	18x24	24x30	24x36	30x30	36x36	36x36	36x36	36x36	48x24	48x24	18x24
THOROUGHFARE	18x24	24x30	24x36	30x30	36x36	36x36	36x36	36x36	48x24	48x24	30x36
TMUTCD/SHSD ID	W2-1	W2-2R (L)	W3-1	W3-3	W4-2R (L)	W6-2	W6-3	WB-13aT	W9-1R (L)	W9-2R (L)	W10-1
LOCAL	30x30	30x30	30x30	30x30	36x36	36x36	36x36	36x36	36x36	36x36	30 dia.
COLLECTOR	30x30	30x30	30x30	30x30	36x36	36x36	36x36	36x36	36x36	36x36	30 dia.
THOROUGHFARE	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	30 dia.
TMUTCD/SHSD ID	W11-1 through W11-12	W13-1P	W14-1	W14-2	W16-2aP	W16-7PL (PR)	W16-9	S1-1	S4-3P		I-3
LOCAL	30x30	18x18	30x30	24x24	24x12	30x18	24x12	36x36	24x8		VARIES X 18
COLLECTOR	36x36	18x18	36x36	24x24	24x12	30x18	24x12	36x36	24x8		VARIES X 18
THOROUGHFARE	36x36	18x18	36x36	N/A	24x12	30x18	24x12	36x36	24x8		VARIES X 18
TMUTCD/SHSD ID	OM-3R, OM-3L	GROUND MOUNTED STREET NAME SIGN		TYPES D-DY, D-DW							
LOCAL	12X36	VARIES X 8		36" TALL							
COLLECTOR	12X36	VARIES X 8		36" TALL							
THOROUGHFARE	12X36	VARIES X 8		36" TALL							

NO.	REVISIONS	DATE	NAME

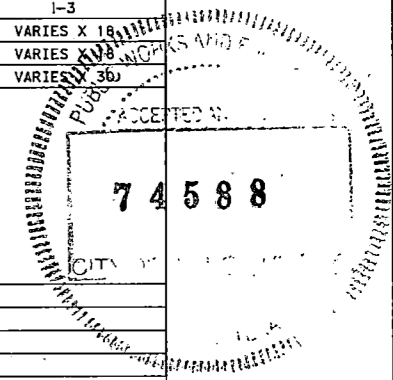
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**TEI TRAFFIC ENGINEERS, INC.**  
 INNOVATIVE TRANSPORTATION SOLUTIONS  
 801 Congress Avenue, Suite 325, Houston, TX 77002  
 TEL (713) 270-8145/FAX (281) 809-0807  
 TSP# Registration No. F-3158

PROJECT TITLE: POLK ST/CULLEN BLVD ON-STREET BIKEWAYS  
 DRAWN BY: AD  
 CK'D BY: SHEET DESCRIPTION: STANDARD SMALL SIGN DETAILS  
 SCALE: NONE  
 DATE: 4/12/2019  
 APPROVED BY: [Signature]

HCD STANDARD	
SHEET NO:	210



8/21/2022 216-Qui:man-STD PMS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
 ENGINEERING DEPARTMENT

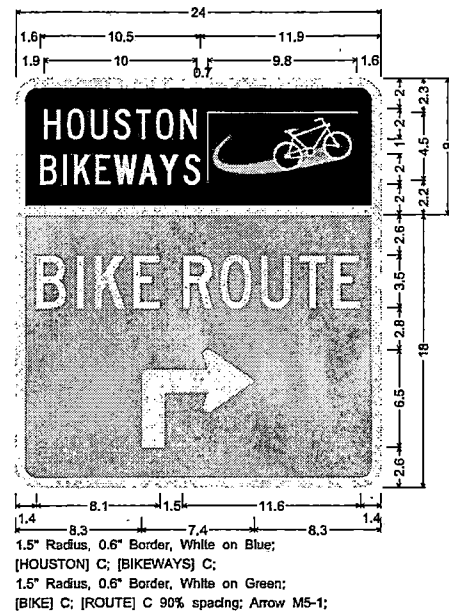


**SCIENTECH ENGINEERS, INC.**  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

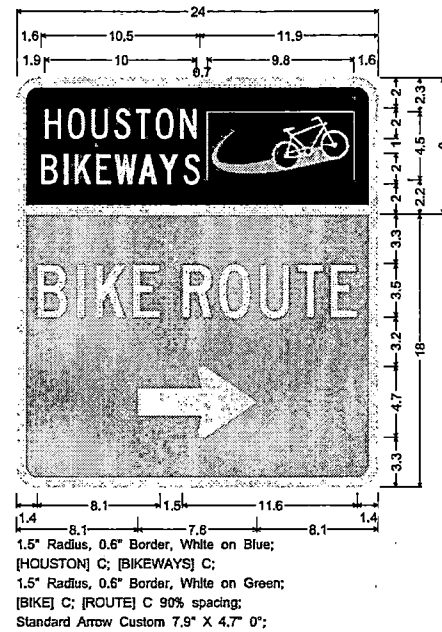
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SIGNING AND MARKING STANDARD DETAILS	
DRAWN BY: AD	SHEET 17 OF 17
DATE: 08-19-2022	SHEET NO: 159 /
CK'D BY: DHS	SCALE: NTS

DATE: 4/12/2019 12:47:23 PM USER: \USER\ FILE: E:\ndr\pobox (Traffic Engineers)\C:\lents\Harris County\Pracinct 1 Design 2018\Bikeways\04 Polk Cullen\Design\209 Houston Bikeways Sign Detail.s.dgn

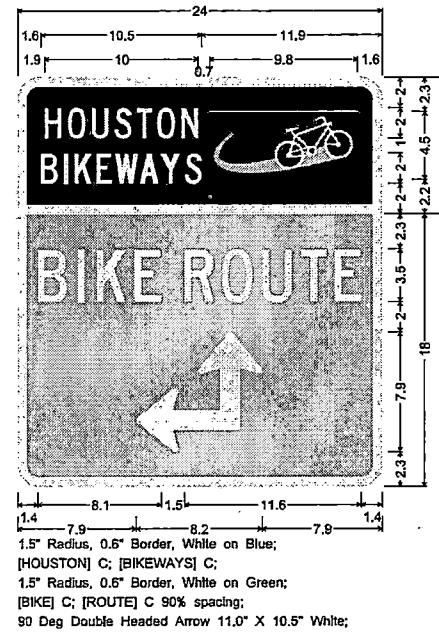
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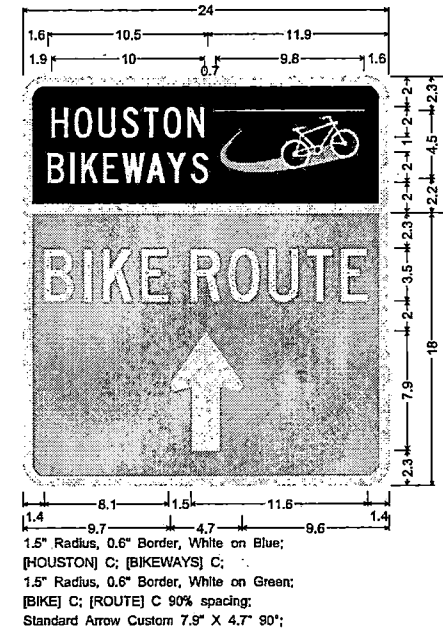
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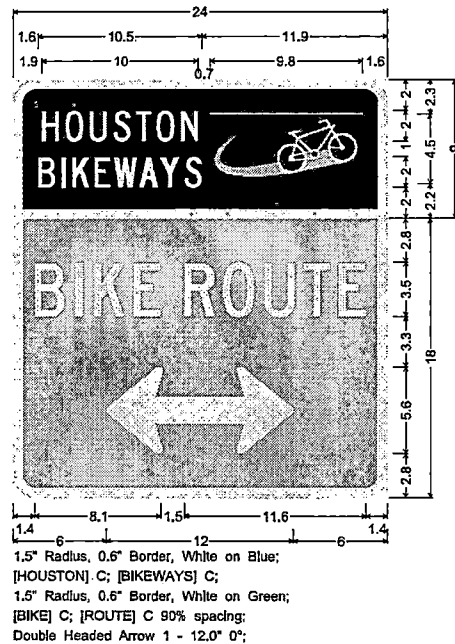
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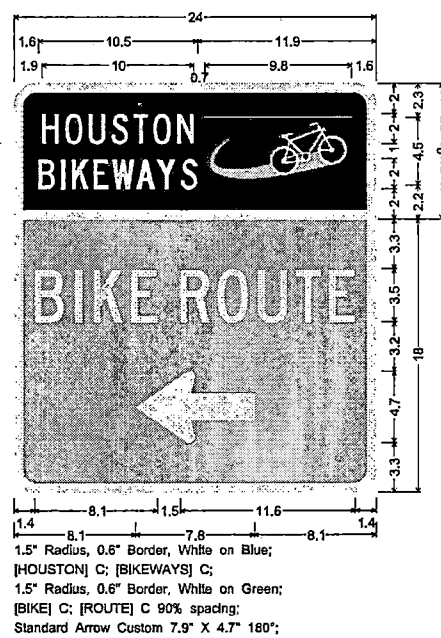
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D11-1 MOD HB-LR



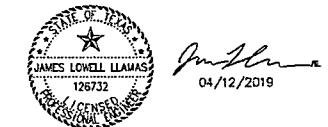
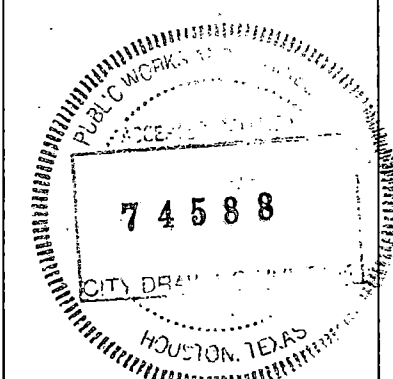
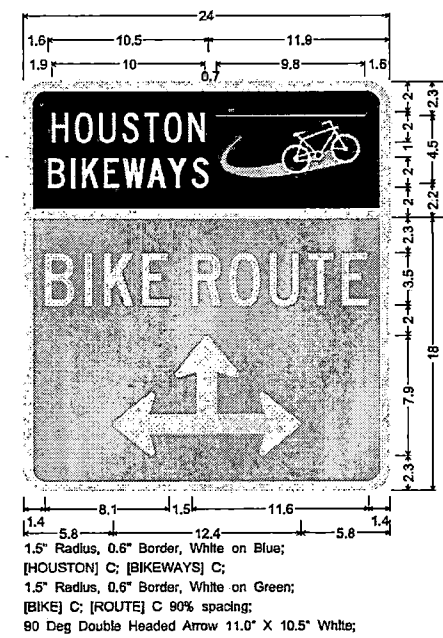
D11-1 MOD HB-L



D11-1 MOD HB-SR



D11-1 MOD HB-SLR



NO.	REVISIONS	DATE	NAME

**TEI** TRAFFIC ENGINEERS, INC.  
 801 Congress Avenue, Suite 325, Houston, TX 77002  
 TEL (713) 270-6145/FAX (281) 809-0907  
 TBPPE Registration No. F-3158



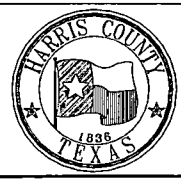
HARRIS COUNTY  
 ENGINEERING DEPARTMENT

PROJECT TITLE:	POLK STREET ON-STREET BIKEWAY
DRAWN BY:	AD
CK'D BY:	DHS
SCALE:	NONE
DATE:	4/12/2019
APPROVED BY:	
SHEET NO.:	209

8/21/2022 2:17-Quitman-STD PMS.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**SCIENTECH**  
 ENGINEERS, INC.  
 701 SHEPHERD DRIVE, SUITE 200  
 HOUSTON, TX 77007  
 TEXAS FIRM REGISTRATION NO. 4014

PROJECT TITLE:	QUITMAN STREET
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS
DRAWN BY:	AD
CK'D BY:	DHS
SCALE:	NONE
DATE:	08-19-2022
APPROVED BY:	
SHEET NO.:	160 /

# SEQUENCE OF CONSTRUCTION

## PHASE 1 STEP 1

1. INSTALL TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC BETWEEN HOUSTON AVENUE AND SOUTH STREET TO MAINTAIN TWO 11' LANES FOR EB AND WB TRAFFIC ALONG QUITMAN STREET.
3. CONSTRUCT PROPOSED WB QUITMAN ST PAVEMENT FROM STA 7+18 TO STA 11+59.
4. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING SIDEWALK AND DRAINAGE ALONG THE WB SIDE OF QUITMAN ST FROM STA 9+38 TO STA 15+26. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).

## PHASE 1 STEP 2

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC BETWEEN HOUSTON AVENUE AND SOUTH STREET TO MAINTAIN TWO 11' LANES FOR EB AND WB TRAFFIC ALONG QUITMAN STREET.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING SIDEWALK, CURB & GUTTER, PEDESTRIAN CURB RAMPS, FLOATING BUS STATION, AND DRIVEWAYS ALONG THE EB SIDE OF QUITMAN ST FROM STA 5+75 TO STA 15+30. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).
4. CONSTRUCT PROPOSED BIKE DELINEATORS ALONG QUITMAN STREET FROM STA 6+05 TO STA 21+23.

## PHASE 2 STEP 1

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC BETWEEN SOUTH STREET AND FULTON STREET (STA 22+00 TO STA 48+72.69) TO THE EB SIDE OF QUITMAN STREET IN ORDER TO MAINTAIN TWO 11' LANES FOR EB AND WB TRAFFIC.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING SIDEWALK, CURB & GUTTER, DRAINAGE, AND DRIVEWAYS ALONG THE WB SIDE OF QUITMAN STREET FROM STA 22+00 TO STA 48+72.69. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).

## PHASE 2 STEP 2

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC BETWEEN SOUTH STREET AND FULTON STREET (STA 22+00 TO STA 48+72.69) TO THE WB SIDE OF QUITMAN STREET IN ORDER TO MAINTAIN TWO 11' LANES FOR EB AND WB TRAFFIC.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING SIDEWALK, CURB & GUTTER, PEDESTRIAN CURB RAMPS, FLOATING BUS STATION, PROPOSED DRAINAGE AND DRIVEWAYS ALONG THE EB SIDE OF QUITMAN ST FROM STA 22+00 TO STA 48+72.69. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).
4. CONSTRUCT PROPOSED BIKE DELINEATORS ALONG QUITMAN STREET FROM STA 23+25 TO STA 48+72.69.

## PHASE 3 STEP 1

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CLOSE WB TRAFFIC ALONG QUITMAN STREET FROM FULTON STREET TO COCHRAN STREET. SEE "TRAFFIC CONTROL PLAN PHASE 3 STEP 1 DETOUR LAYOUT" FOR ADDITIONAL DETAILS.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING ROADWAY, SIDEWALK, AND CURB & GUTTER ALONG THE WB SIDE OF QUITMAN STREET FROM STA 48+72.69 TO STA 54+00. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).

## PHASE 3 STEP 2

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CLOSE EB TRAFFIC ALONG QUITMAN STREET FROM FULTON STREET TO COCHRAN STREET. SEE "TRAFFIC CONTROL PLAN PHASE 3 STEP 2 DETOUR LAYOUT" FOR ADDITIONAL DETAILS.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING ROADWAY, SIDEWALK, CURB & GUTTER, DRAINAGE, AND DRIVEWAYS ALONG THE EB SIDE OF QUITMAN STREET FROM STA 48+72.69 TO STA 54+00. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).
4. CONSTRUCT PROPOSED BIKE DELINEATORS ALONG QUITMAN STREET FROM STA 48+72.69 TO STA 54+00.

## PHASE 4 STEP 1

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC FROM STA 54+00 TO STA 78+23 TO THE EB SIDE OF QUITMAN STREET IN ORDER TO MAINTAIN TWO 11' LANES FOR EB AND WB TRAFFIC.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING SIDEWALK, CURB & GUTTER, DRAINAGE, AND DRIVEWAYS ALONG THE WB SIDE OF QUITMAN STREET FROM STA 54+00 TO STA 78+23. DURING CONSTRUCTION OF SIDEWALK, USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).

## PHASE 4 STEP 2

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC FROM STA 54+00 TO STA 78+23 TO THE WB SIDE OF QUITMAN STREET IN ORDER TO MAINTAIN TWO 11' LANES FOR EB AND WB TRAFFIC.
3. CONSTRUCT PROPOSED IMPROVEMENTS INCLUDING SIDEWALK, CURB & GUTTER, PEDESTRIAN CURB RAMPS, FLOATING BUS STATION, PROPOSED DRAINAGE AND DRIVEWAYS ALONG THE EB SIDE OF QUITMAN ST FROM STA 54+00 TO STA 78+23. USE TRAFFIC CONTROL DEVICES AND SIGNS PER TRAFFIC CONTROL PLAN STANDARD DRAWINGS (SHEET 185).
4. CONSTRUCT PROPOSED BIKE DELINEATORS ALONG QUITMAN STREET FROM STA 23+25 TO STA 48+72.69.

## PHASE 4 STEP 3

1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC ALONG QUITMAN STREET FROM STA 54+00 TO STA 78+23 TO THE EB TRAVEL LANE AND MAINTAIN ONE LANE TWO WAY TRAFFIC OPERATION DURING CONSTRUCTION HOURS. DURING NON-CONSTRUCTION HOURS OPEN THE WB TRAVEL LANE.
3. USING FLAGGING OPERATIONS, MILL AND OVERLAY AND CONSTRUCT ALL CURB & GUTTER AND DRIVEWAYS ALONG THE EB TRAVEL LANE OF QUITMAN STREET FROM STA 54+00 TO STA 78+23.

## PHASE 4 STEP 4

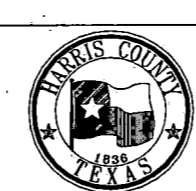
1. INSTALL/MOVE TRAFFIC CONTROL DEVICES, SIGNS, AND STORMWATER POLLUTION DEVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHIFT TRAFFIC ALONG QUITMAN STREET FROM STA 54+00 TO STA 78+23 TO THE WB TRAVEL LANE AND MAINTAIN ONE LANE TWO WAY TRAFFIC OPERATION DURING CONSTRUCTION HOURS. DURING NON-CONSTRUCTION HOURS OPEN THE EB TRAVEL LANE.
3. USING FLAGGING OPERATIONS, MILL AND OVERLAY AND CONSTRUCT ALL CURB & GUTTER AND DRIVEWAYS ALONG THE WB TRAVEL LANE OF QUITMAN STREET FROM STA 54+00 TO STA 78+23.
4. CONSTRUCT PROPOSED BIKE DELINEATORS ALONG THE SOUTH SIDE OF QUITMAN ST FROM STA 54+00 TO STA 78+23.
5. PLACE FINAL STRIPING ALONG QUITMAN ST FROM STA 6+00 TO STA 78+23.



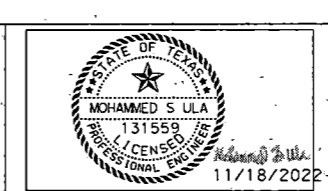
11/18/2022 QUITMAN RD\*TCP\*SOC.dgn

NO.	REVISIONS	DATE	NAME
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








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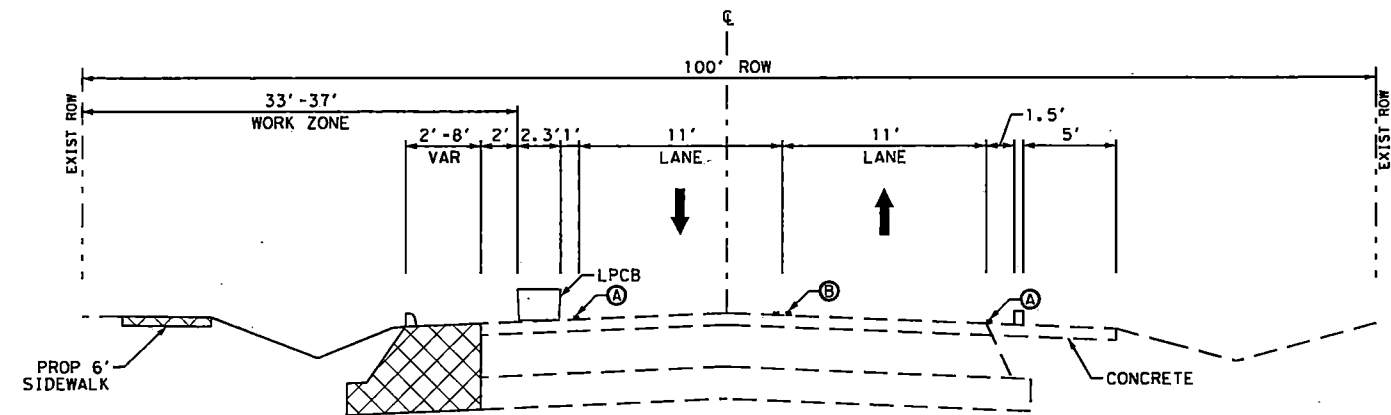


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TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

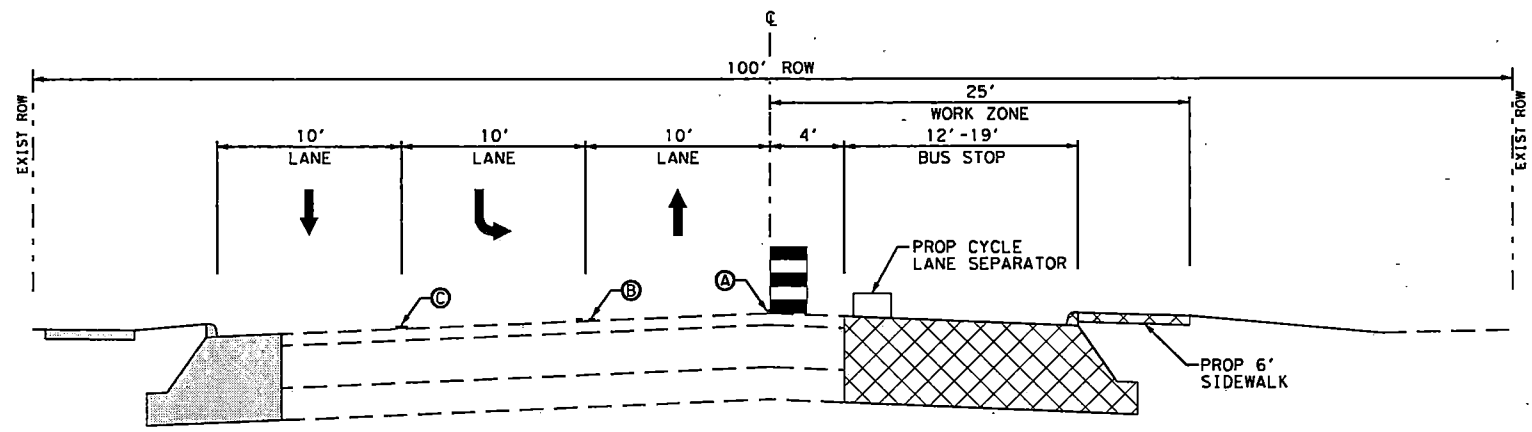


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		SEQUENCE OF CONSTRUCTION (SHEET 1 OF 1)	
LB	SCALE:	DATE:	11/18/2022
CK'D BY:	SU	SHEET NO:	161

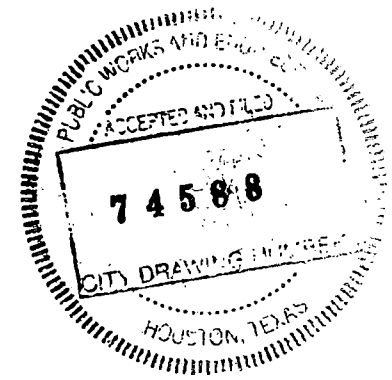
- TRAFFIC CONTROL PLAN LEGEND**
-  CONSTRUCTION THIS PHASE
  -  COMPLETED CONSTRUCTION IN PREVIOUS PHASE
  -  DIRECTION OF TRAFFIC
  -  LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
  -  DRUM
  -  TUBULAR MARKER
  -  WRK ZN PAV MRK REMOV 4" (W) (SLD)
  -  WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
  -  WRK ZN PAV MRK REMOV 8" (W) (SLD)



**PHASE 1 STEP 1**  
 WHITE OAK DRIVE/QUITMAN STREET  
 FROM 200 FT EAST OF HOUSTON AVE TO 600 FT EAST OF HOUSTON AVE  
 STA 7+18.49 TO STA 11+58.63



**PHASE 1 STEP 2**  
 WHITE OAK DRIVE/QUITMAN STREET  
 FROM 25 FT EAST OF HOUSTON AVE TO 200 FT EAST OF HOUSTON AVE  
 STA 6+05 TO STA 7+30



11/18/2022 QUITMAN RD\*TCP\*TYPE\*SHEET 1.dgn

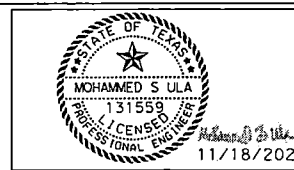
NO.	REVISIONS	DATE	NAME
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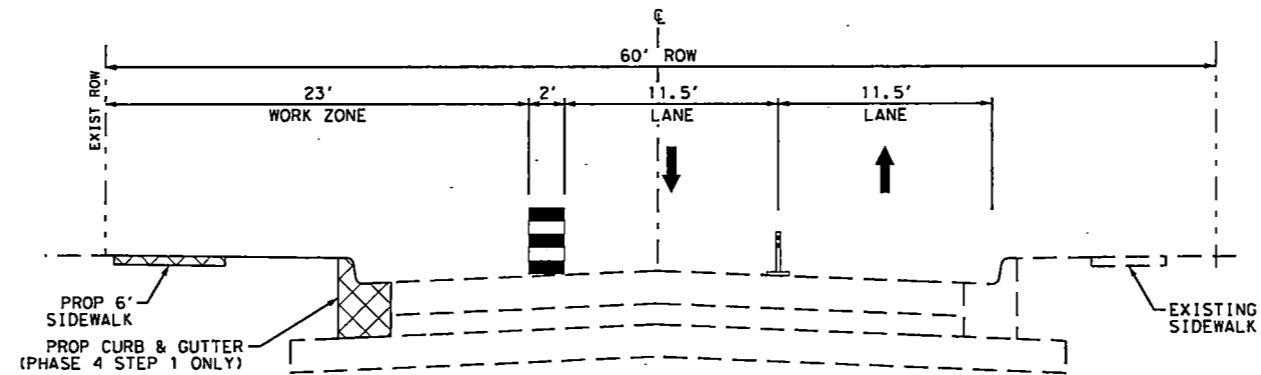
Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



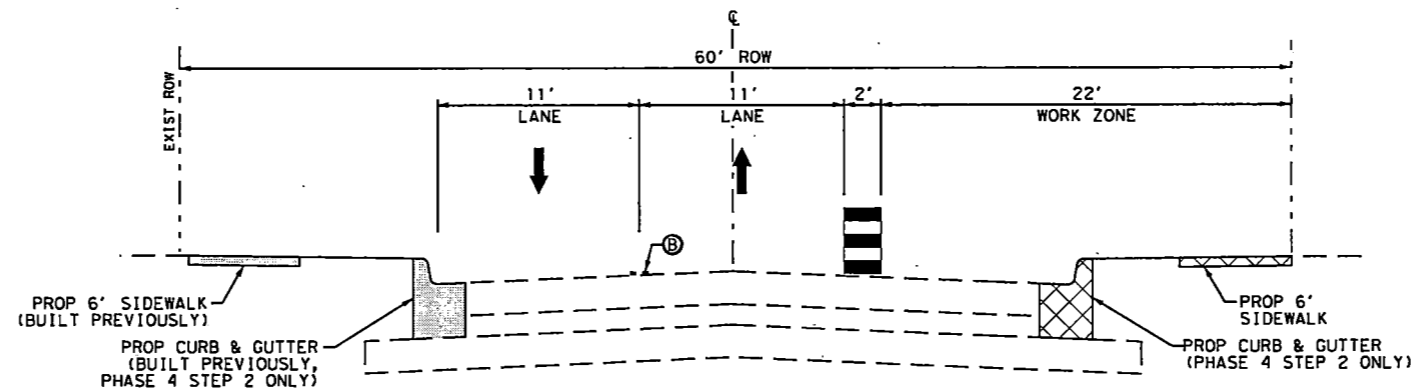
PROJECT TITLE: <b>QUITMAN STREET</b>	
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
TRAFFIC CONTROL PLAN	
DRAWN BY: LB	DATE: 11/18/2022
CK'D BY: SU	SHEET NO: 162
TYPICAL SECTIONS (SHEET 1 OF 3)	
SCALE: N.T.S.	

**TRAFFIC CONTROL PLAN LEGEND**

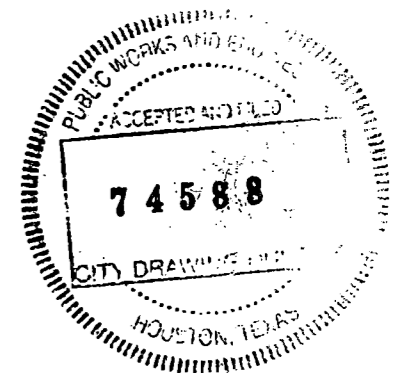
-  CONSTRUCTION THIS PHASE
-  COMPLETED CONSTRUCTION IN PREVIOUS PHASE
-  DIRECTION OF TRAFFIC
-  LOW PROFILE CONCRETE BARRIER (TYPE 1) (LPCB)
-  DRUM
-  TUBULAR MARKER
-  WRK ZN PAV MRK REMOV 4" (W) (SLD)
-  WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
-  WRK ZN PAV MRK REMOV 8" (W) (SLD)



PHASE 2 STEP 1 & PHASE 4 STEP 1  
 STA 22+00 TO STA 48+72.69  
 STA 54+00 TO STA 78+23



PHASE 2 STEP 2 & PHASE 4 STEP 2  
 STA 22+00 TO STA 48+72.69  
 STA 54+00 TO STA 78+23



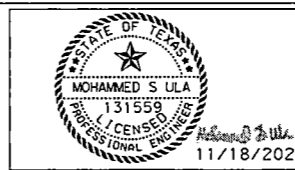
11/18/2022 QUITMAN RD\*TCP\*1\*2\* SHEET 2.dgn

NO.	REVISIONS	DATE	NAME
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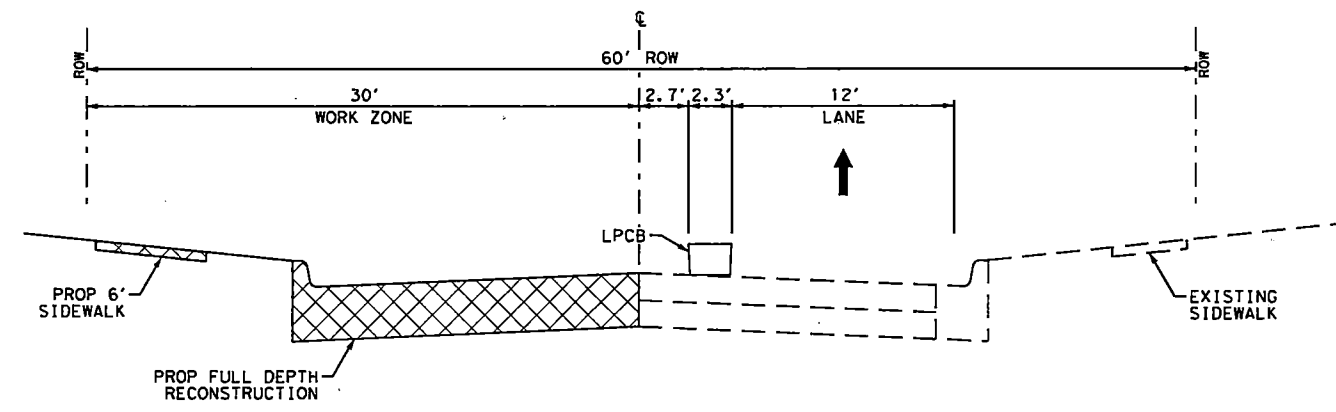
**infraTECH**  
 Engineers & Innovators, LLC  
 TPBE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



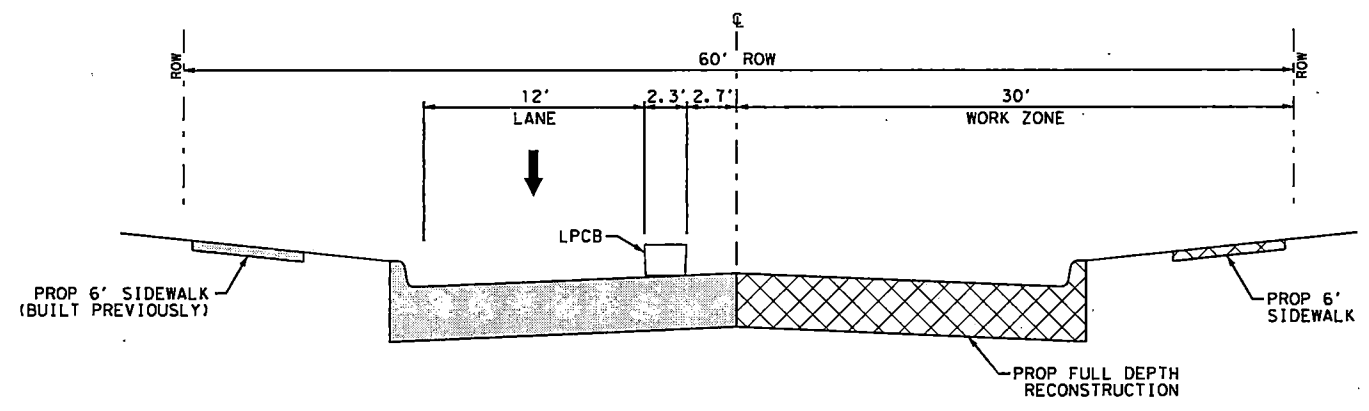
PROJECT TITLE: QUITMAN STREET		DATE: 11/18/2022
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 163
DRAWN BY: LB	TYPICAL SECTIONS (SHEET 2 OF 3)	
CK'D BY: SU	SCALE: N.T.S.	

**TRAFFIC CONTROL PLAN LEGEND**

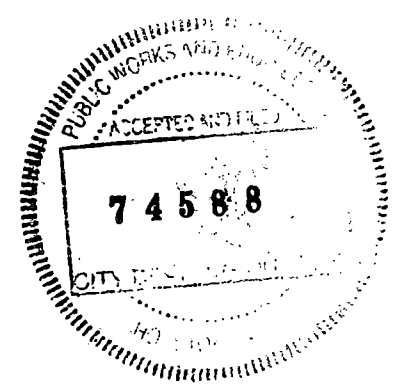
-  CONSTRUCTION THIS PHASE
-  COMPLETED CONSTRUCTION IN PREVIOUS PHASE
-  DIRECTION OF TRAFFIC
-  LOW PROFILE CONCRETE BARRIER (TYPE 1) (LPCB)
-  DRUM
-  TUBULAR MARKER
-  WRK ZN PAV MRK REMOV 4" (W) (SLD)
-  WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
-  WRK ZN PAV MRK REMOV 8" (W) (SLD)



**PHASE 3 STEP 1**  
STA 48+72.69 TO STA 54+00



**PHASE 3 STEP 2**  
STA 48+72.69 TO STA 54+00



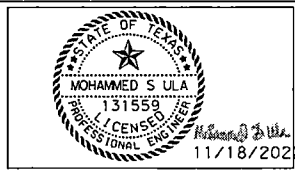
11/18/2022 QUITMAN RD\*TCP\*TYP\*SHEET\_3.dgn

NO.	REVISIONS	DATE	NAME
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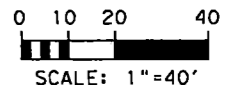
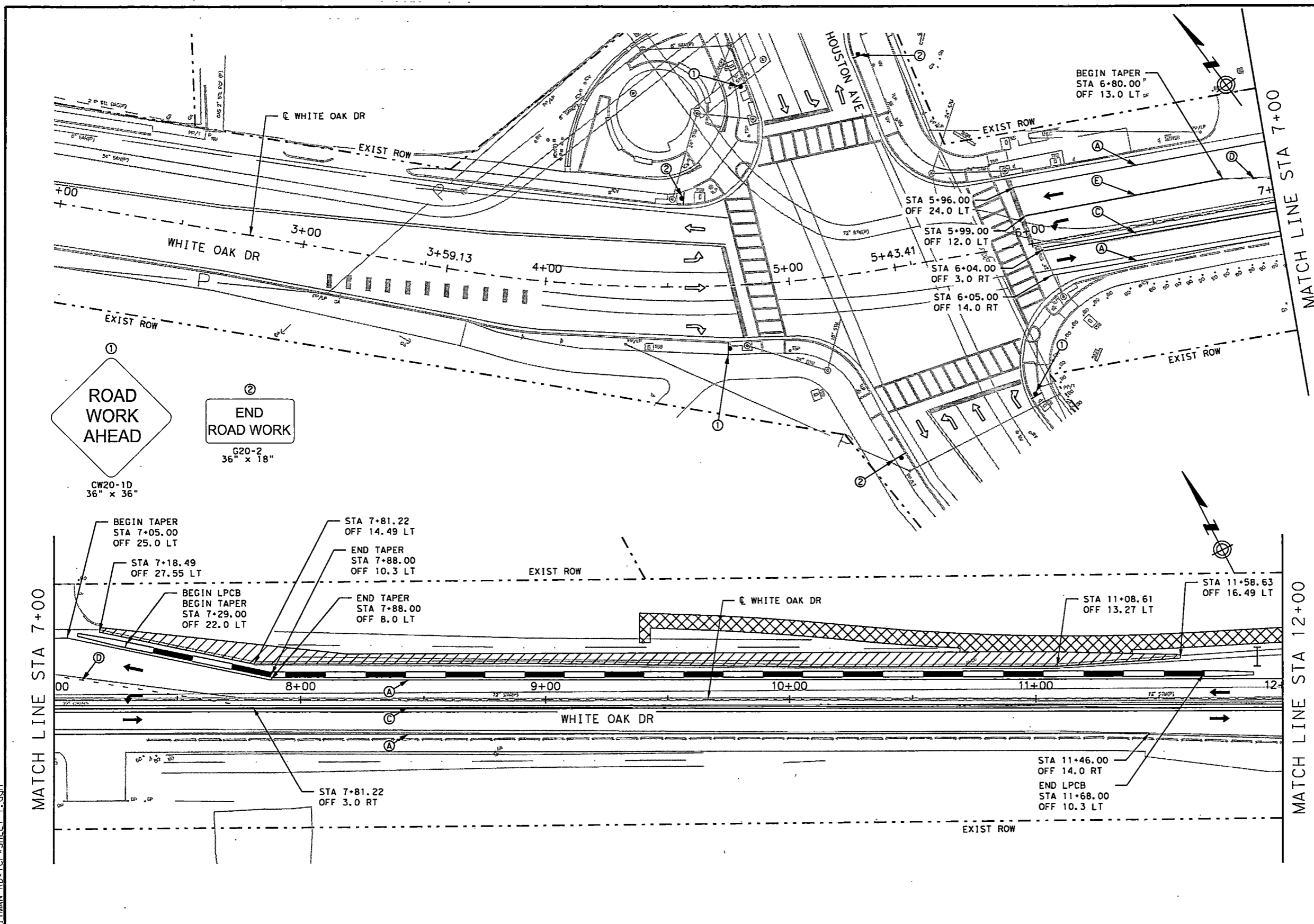


**infraTECH**  
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TYPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
TRAFFIC CONTROL PLAN	
DRAWN BY: LB	TYPICAL SECTIONS (SHEET 3 OF 3)
DATE: 11/18/2022	SHEET NO: 164
CK'D BY: SU	SCALE: N.T.S.

- TRAFFIC CONTROL PLAN LEGEND**
- ROADWAY CONSTRUCTION THIS PHASE
  - SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
  - COMPLETED CONSTRUCTION IN PREVIOUS PHASE
  - EXIST DIRECTION OF TRAFFIC
  - PROP DIRECTION OF TRAFFIC
  - LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
  - LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
  - CONSTRUCTION SIGN
  - TYPE III BARRICADE
  - DRUM
  - WRK ZN PAV MRK REMOV 4" (W) (SLD)
  - WRK ZN PAV MRK REMOV 24" (W) (SLD)
  - WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
  - WRK ZN PAV MRK REMOV 4" (W) (DOT)
  - WRK ZN PAV MRK REMOV 6" (W) (SLD)
  - WRK ZN PAV MRK REMOV 4" (Y) (DOT)



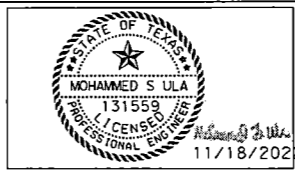
11/18/2022 QUITMAN RD\*TCP\*SHEET 1.dgn

NO.	REVISIONS	DATE	NAME

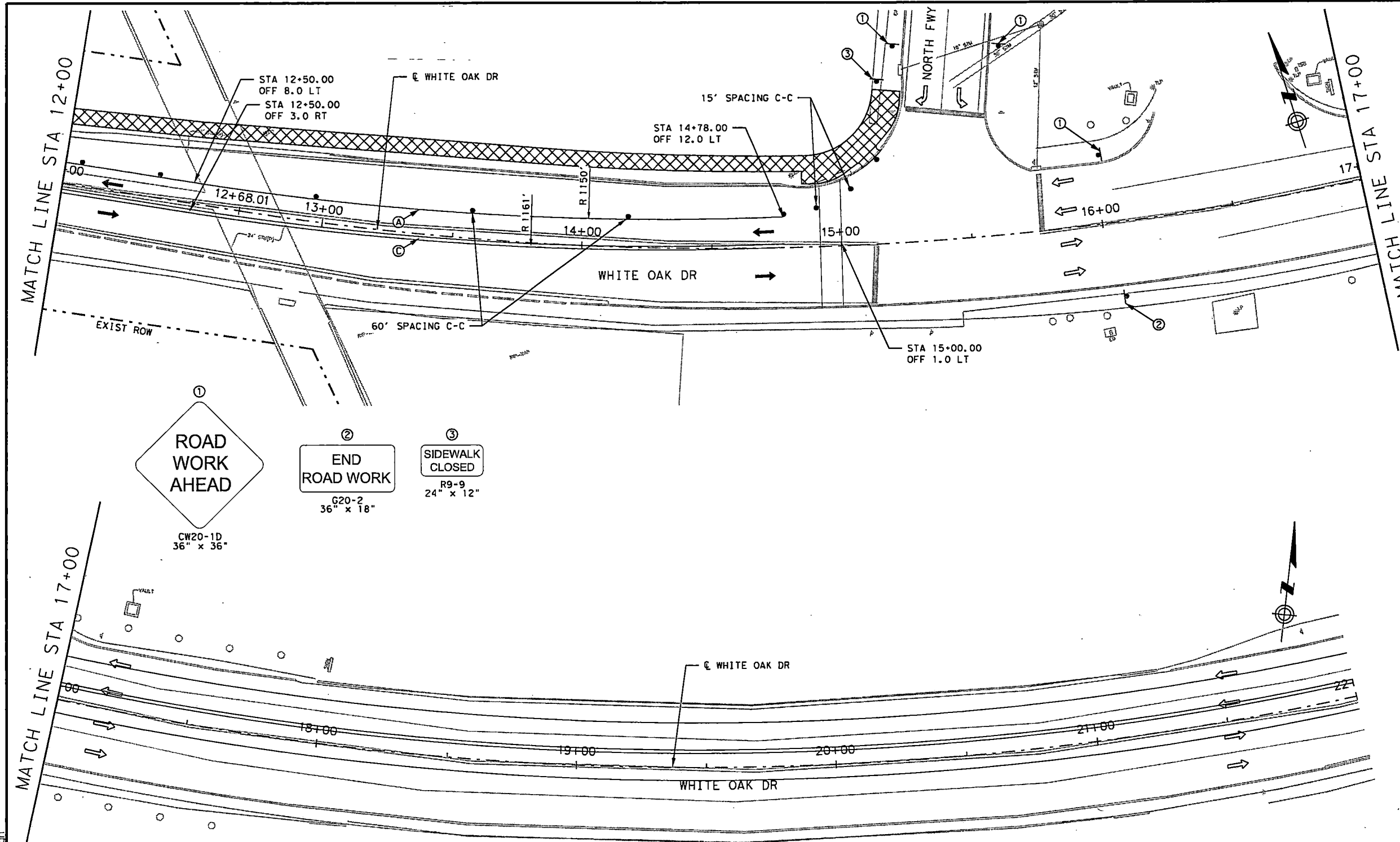
HARRIS COUNTY  
ENGINEERING DEPARTMENT



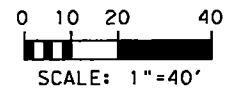
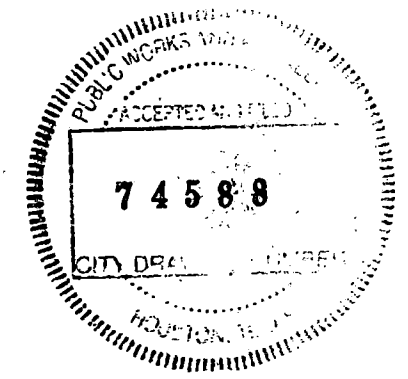
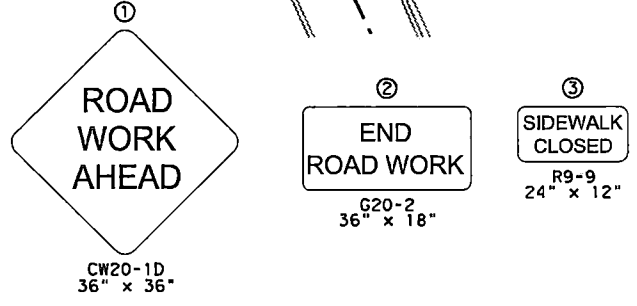
**infraTECH**  
Engineers & Innovators, LLC  
TBP&E REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET		DATE: 11/18/2022
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS		SHEET NO: 165
DRAWN BY: LB	PHASE 1 STEP 1 (SHEET 1 OF 2)	SCALE: 1"=40'
CK'D BY: SU		



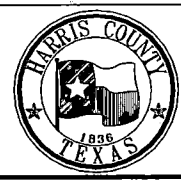
- TRAFFIC CONTROL PLAN LEGEND**
- ROADWAY CONSTRUCTION THIS PHASE
  - SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
  - COMPLETED CONSTRUCTION IN PREVIOUS PHASE
  - EXIST DIRECTION OF TRAFFIC
  - PROP DIRECTION OF TRAFFIC
  - LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
  - LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
  - CONSTRUCTION SIGN
  - TYPE III BARRICADE
  - DRUM
  - WRK ZN PAV MRK REMOV 4" (W) (SLD)
  - WRK ZN PAV MRK REMOV 24" (W) (SLD)
  - WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
  - WRK ZN PAV MRK REMOV 4" (W) (DOT)
  - WRK ZN PAV MRK REMOV 6" (W) (SLD)
  - WRK ZN PAV MRK REMOV 4" (Y) (DOT)



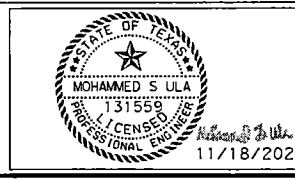
11/18/2022 QUILTMAN RD\*TCP\*SHEET 2.dgn

NO.	REVISIONS	DATE	NAME
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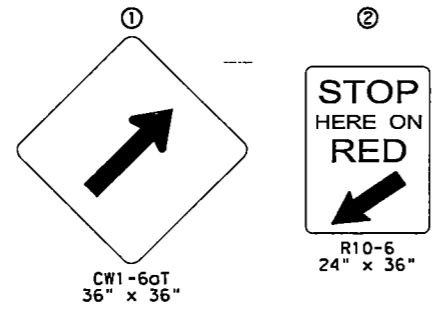


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11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

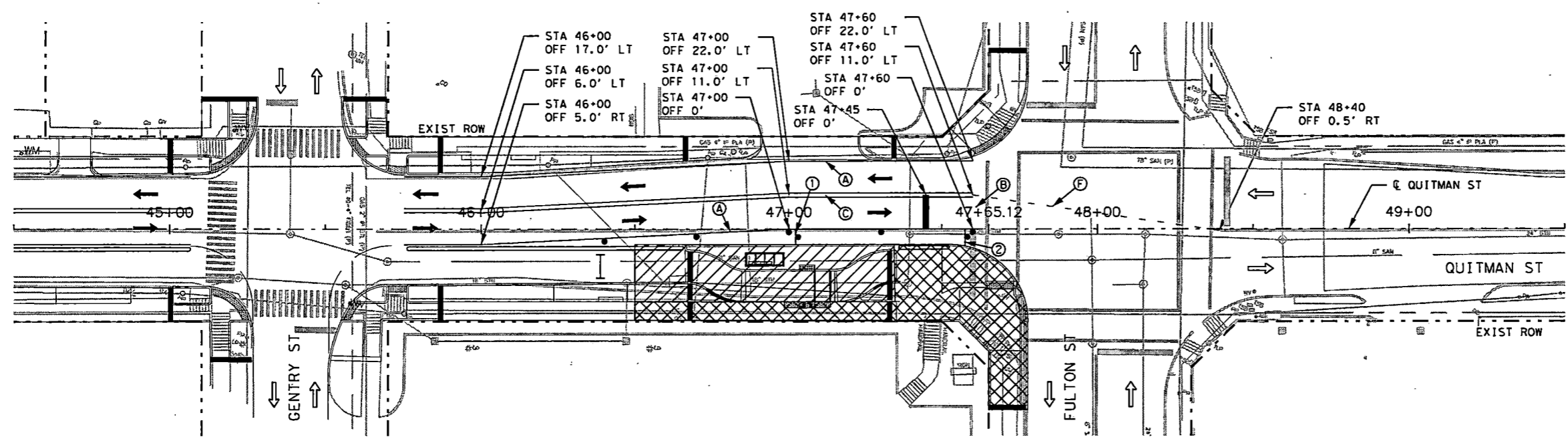


PROJECT TITLE: <b>QUITMAN STREET</b>		DATE: 11/18/2022
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>		SHEET NO: 166
DRAWN BY: LB	PHASE 1 STEP 1 (SHEET 2 OF 2)	
CK'D BY: SU	SCALE: 1" = 40'	





- TRAFFIC CONTROL PLAN LEGEND**
- ROADWAY CONSTRUCTION THIS PHASE
  - SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
  - COMPLETED CONSTRUCTION IN PREVIOUS PHASE
  - EXIST DIRECTION OF TRAFFIC
  - PROP DIRECTION OF TRAFFIC
  - LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
  - LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
  - CONSTRUCTION SIGN
  - TYPE III BARRICADE
  - DRUM
  - WRK ZN PAV MRK REMOV 4" (W) (SLD)
  - WRK ZN PAV MRK REMOV 24" (W) (SLD)
  - WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
  - WRK ZN PAV MRK REMOV 4" (W) (DOT)
  - WRK ZN PAV MRK REMOV 6" (W) (SLD)
  - WRK ZN PAV MRK REMOV 4" (Y) (DOT)



ACCEPTED AND FILED

**74588**

CITY DRAWING NUMBER

HOUSTON, TEXAS

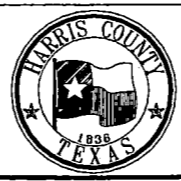
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SCALE: 1" = 40'

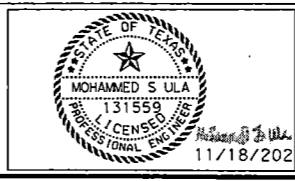
11/18/2022 QUITMAN RD\*TCP\*SHEET\_3A.dgn

NO.	REVISIONS	DATE	NAME
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

















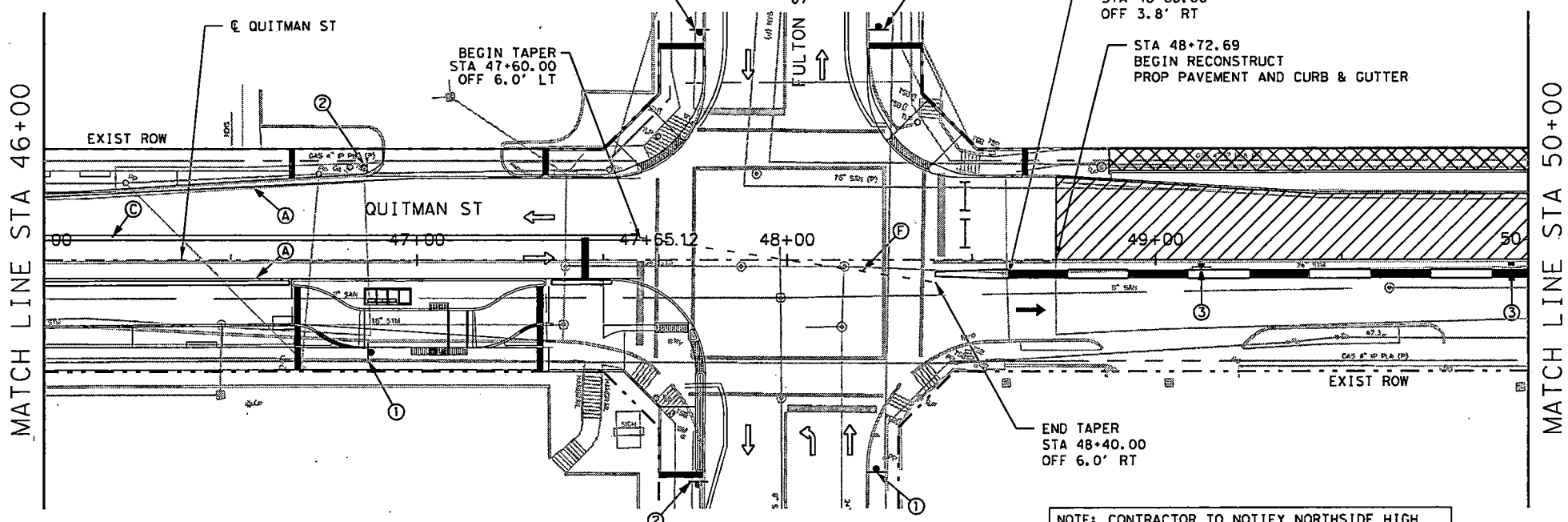
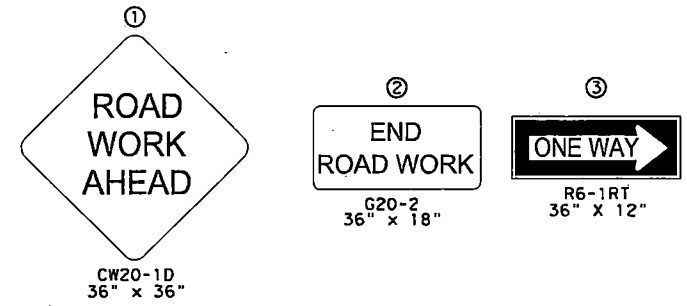
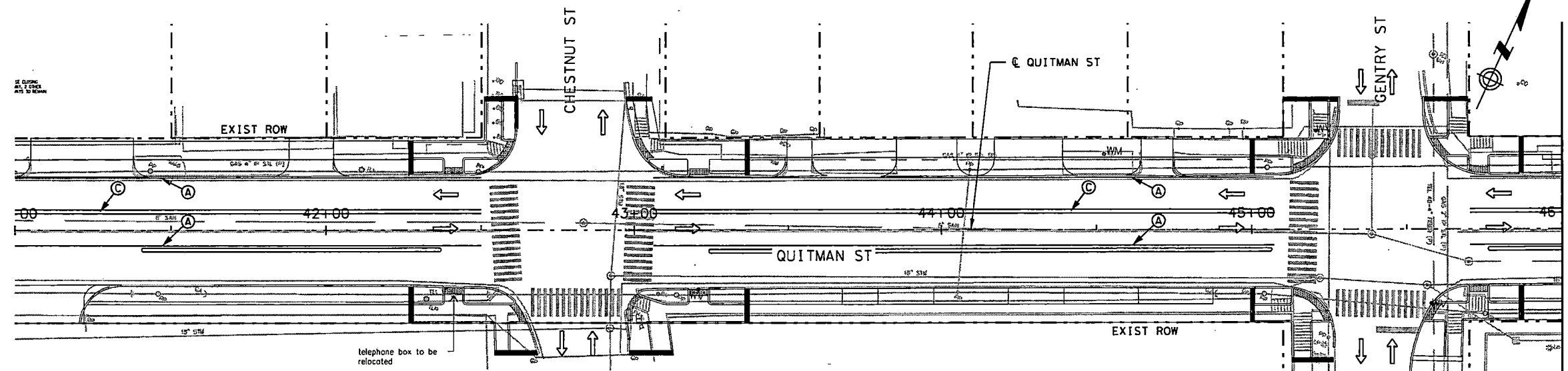
**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18388  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



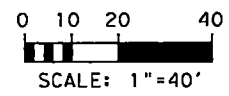
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	LB	PHASE 2 STEP 2 (SHEET 1 OF 1)	DATE:
CK'D BY:	SU	SCALE: 1" = 40'	11/18/2022
			SHEET NO:
			166A

**TRAFFIC CONTROL PLAN LEGEND**

-  ROADWAY CONSTRUCTION THIS PHASE
-  SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
-  COMPLETED CONSTRUCTION IN PREVIOUS PHASE
-  EXIST DIRECTION OF TRAFFIC
-  PROP DIRECTION OF TRAFFIC
-  LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
-  LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
-  CONSTRUCTION SIGN
-  TYPE III BARRICADE
-  DRUM
-  WRK ZN PAV MRK REMOVE 4" (W) (SLD)
-  WRK ZN PAV MRK REMOVE 24" (W) (SLD)
-  WRK ZN PAV MRK REMOVE 4" (Y) (SLD) DBL
-  WRK ZN PAV MRK REMOVE 4" (W) (DOT)
-  WRK ZN PAV MRK REMOVE 6" (W) (SLD)
-  WRK ZN PAV MRK REMOVE 4" (Y) (DOT)



NOTE: CONTRACTOR TO NOTIFY NORTHSIDE HIGH SCHOOL PRIOR TO CONSTRUCTION IN FRONT OF THE SCHOOL.



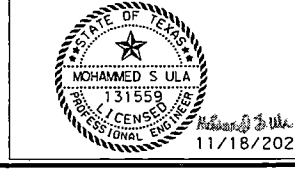
11/18/2022 QUITMAN RD\*TCP\*SHEET 3.dgn

NO.	REVISIONS	DATE	NAME

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ENGINEERING DEPARTMENT



















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Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



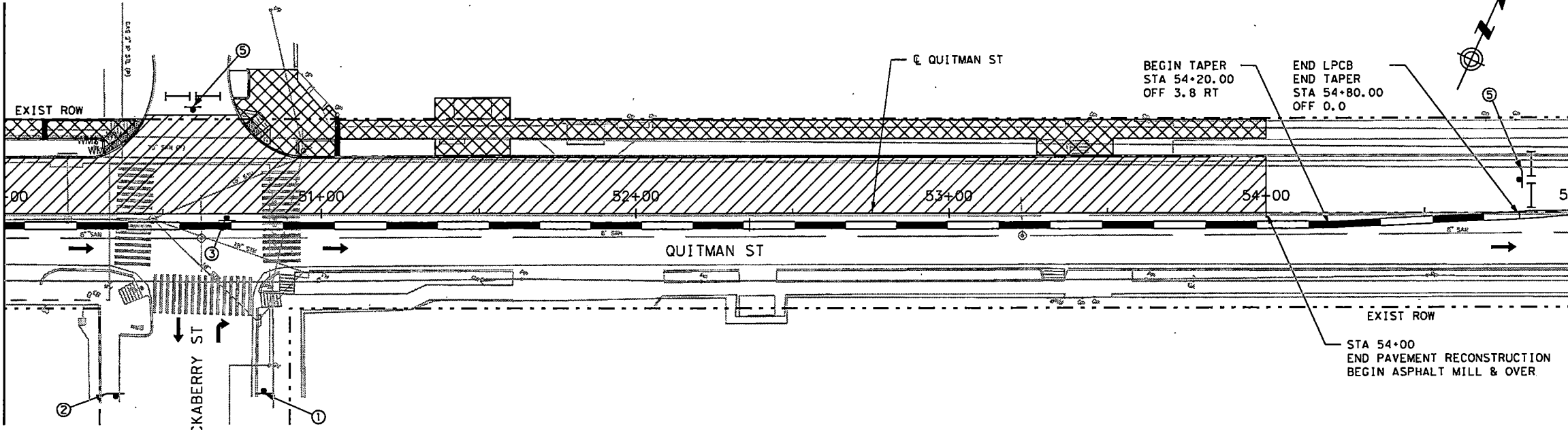
PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
TRAFFIC CONTROL PLAN	
DRAWN BY: LB	DATE: 11/18/2022
CK'D BY: SU	SHEET NO: 167
SCALE: 1" = 40'	PHASE 3 STEP 1 (SHEET 1 OF 2)

**TRAFFIC CONTROL PLAN LEGEND**

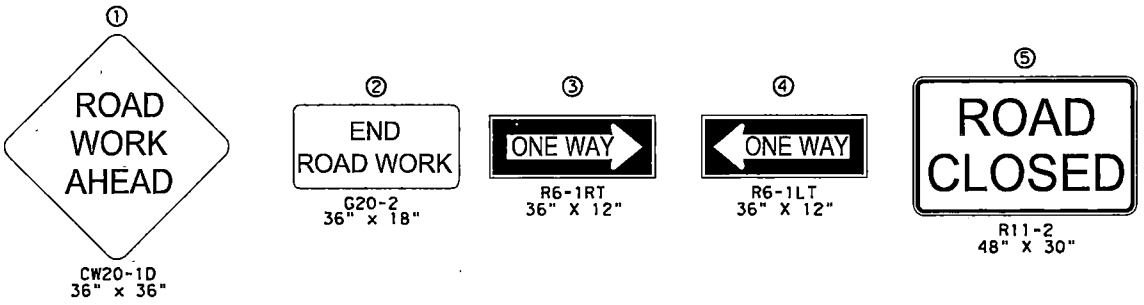
-  ROADWAY CONSTRUCTION THIS PHASE
-  SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
-  COMPLETED CONSTRUCTION IN PREVIOUS PHASE
-  EXIST DIRECTION OF TRAFFIC
-  PROP DIRECTION OF TRAFFIC
-  LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
-  LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
-  CONSTRUCTION SIGN
-  TYPE III BARRICADE
-  DRUM
-  WRK ZN PAV MRK REMOV 4" (W) (SLD)
-  WRK ZN PAV MRK REMOV 24" (W) (SLD)
-  WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
-  WRK ZN PAV MRK REMOV 4" (W) (DOT)
-  WRK ZN PAV MRK REMOV 6" (W) (SLD)
-  WRK ZN PAV MRK REMOV 4" (Y) (DOT)

MATCH LINE STA 50+00

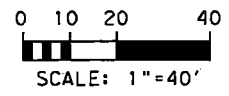
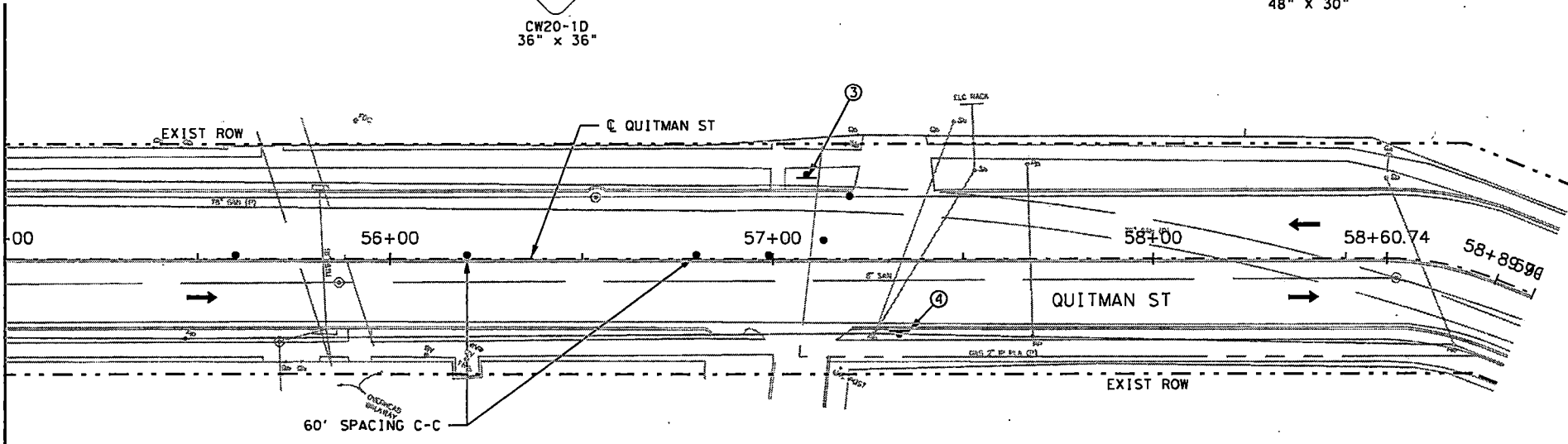
MATCH LINE STA 55+00



NOTE: CONTRACTOR TO NOTIFY NORTHSIDE HIGH SCHOOL PRIOR TO CONSTRUCTION IN FRONT OF THE SCHOOL.



MATCH LINE STA 55+00



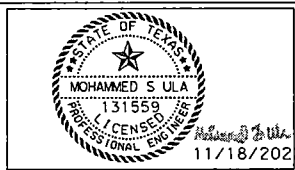
QUITMAN RD\*TCP\*SHEET 4.dgn  
11/18/2022

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



















**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



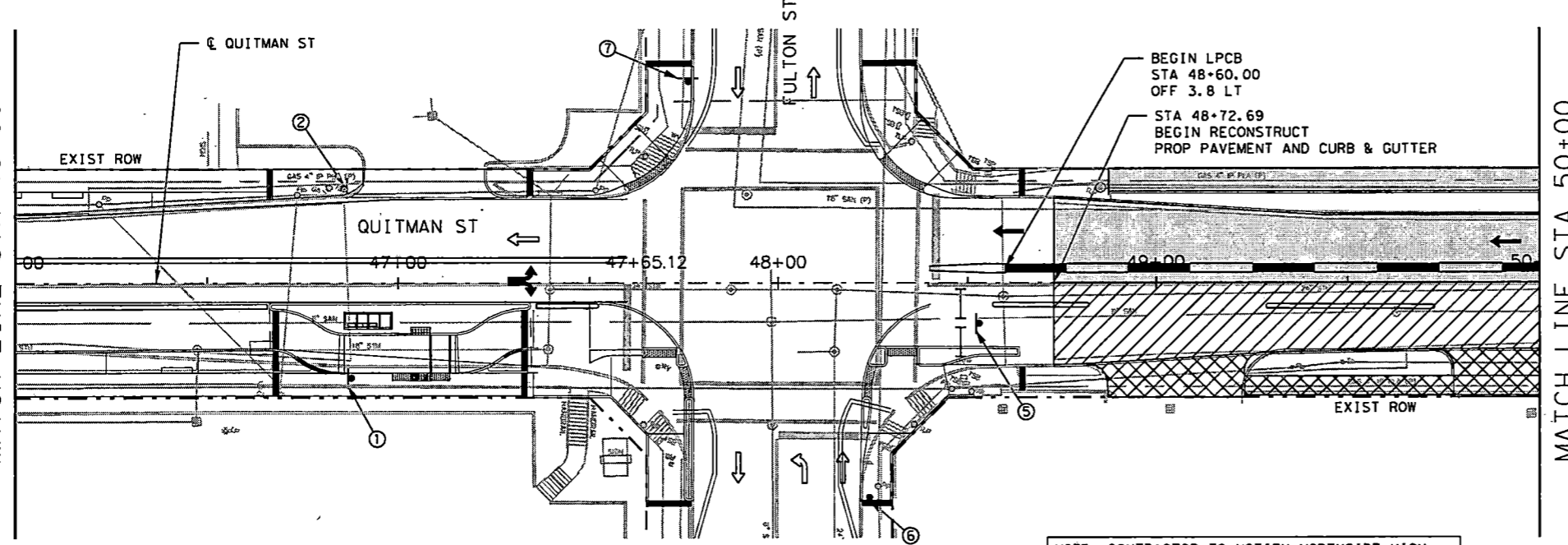
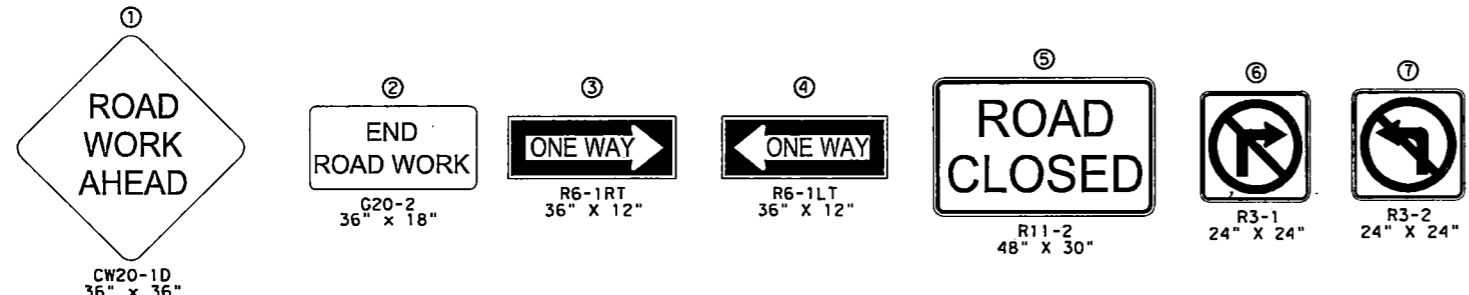
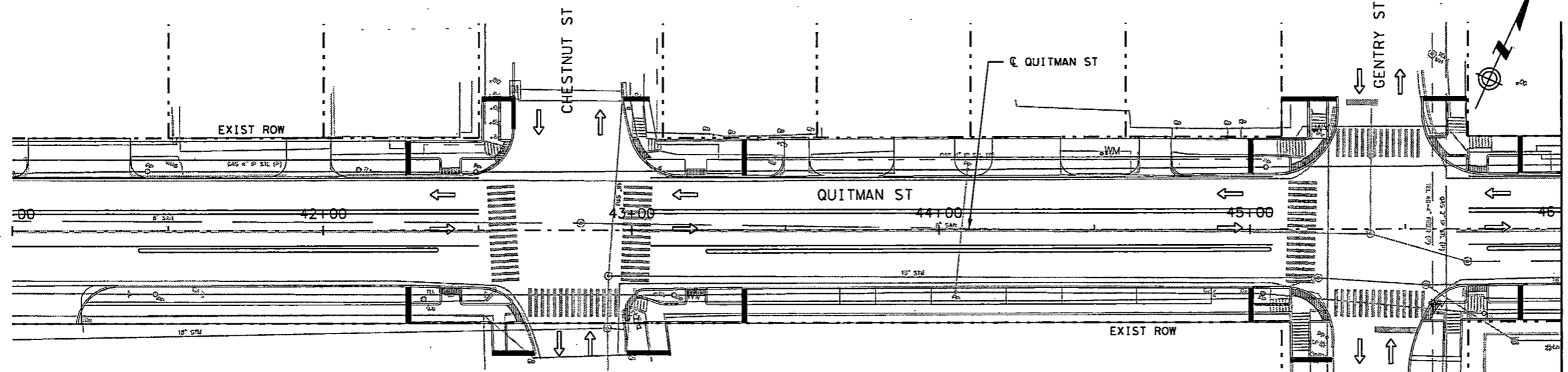
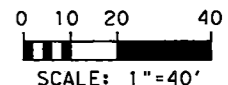
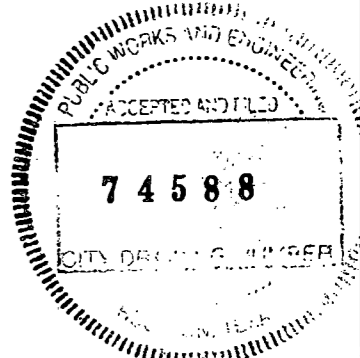
PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	PHASE 3 STEP 1 (SHEET 2 OF 2)
DATE: 11/18/2022	SHEET NO: 168
CK'D BY: SU	SCALE: 1"=40'

**TRAFFIC CONTROL PLAN LEGEND**

-  ROADWAY CONSTRUCTION THIS PHASE
-  SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
-  COMPLETED CONSTRUCTION IN PREVIOUS PHASE
-  EXIST DIRECTION OF TRAFFIC
-  PROP DIRECTION OF TRAFFIC
-  LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
-  LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
-  CONSTRUCTION SIGN
-  TYPE III BARRICADE
-  DRUM
-  WRK ZN PAV MRK REMOV 4" (W) (SLD)
-  WRK ZN PAV MRK REMOV 24" (W) (SLD)
-  WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
-  WRK ZN PAV MRK REMOV 4" (W) (DOT)
-  WRK ZN PAV MRK REMOV 6" (W) (SLD)
-  WRK ZN PAV MRK REMOV 4" (Y) (DOT)

**NOTES:**

1. SEE CITY OF HOUSTON STANDARD "TCP ONE LANE CLOSURE" SHEET FOR ADVANCED WARNING SIGN DETAILS.

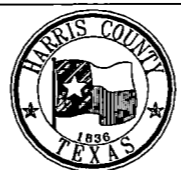


NOTE: CONTRACTOR TO NOTIFY NORTHSIDE HIGH SCHOOL PRIOR TO CONSTRUCTION IN FRONT OF THE SCHOOL.

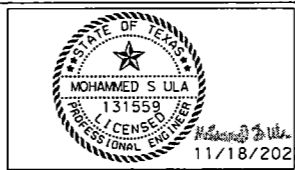
QUITMAN RD \* TCP \* SHEET 5.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



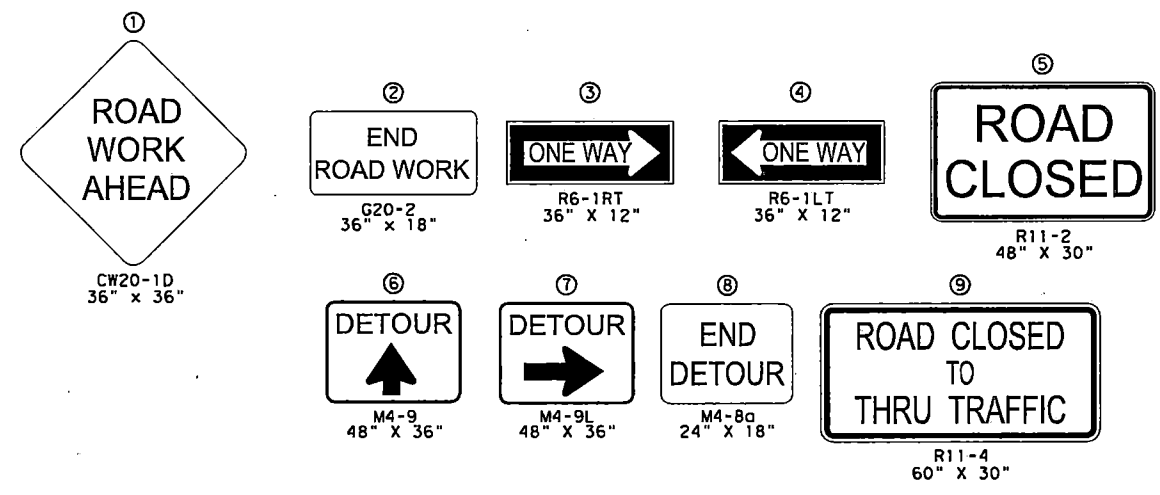
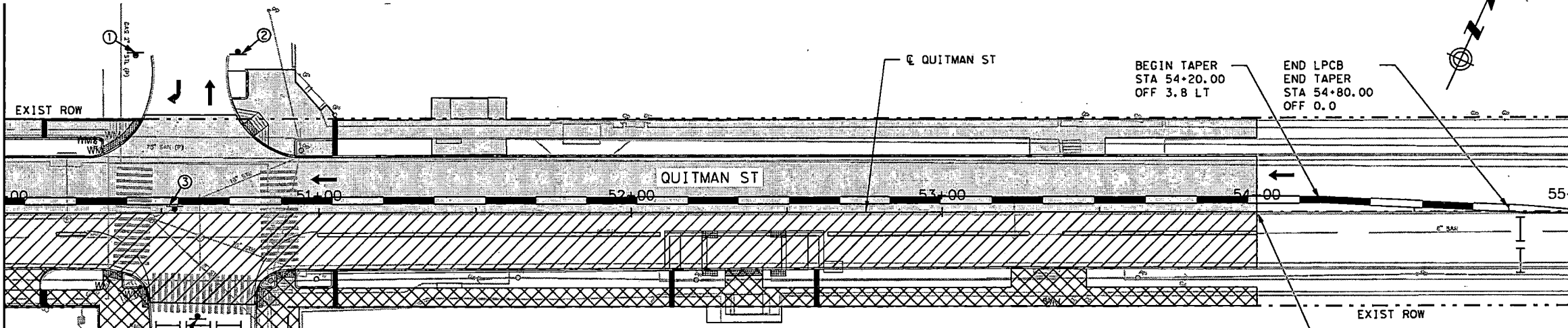
PROJECT TITLE: <b>QUITMAN STREET</b>		DATE: <b>11/18/2022</b>
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>		SHEET NO.: <b>169</b>
DRAWN BY: <b>LB</b>	PHASE 3 STEP 2 (SHEET 1 OF 2)	SCALE: <b>1" = 40'</b>
CK'D BY: <b>SU</b>		

**TRAFFIC CONTROL PLAN LEGEND**

- ROADWAY CONSTRUCTION THIS PHASE
- SIDEWALK/DRIVEWAY CONSTRUCTION THIS PHASE
- COMPLETED CONSTRUCTION IN PREVIOUS PHASE
- EXIST DIRECTION OF TRAFFIC
- PROP DIRECTION OF TRAFFIC
- LOW PROFILE CONCRETE BARRIER (TYPE I) (LPCB)
- LOW PROFILE CONCRETE BARRIER (TYPE II) (LPCB)
- CONSTRUCTION SIGN
- TYPE III BARRICADE
- DRUM
- WRK ZN PAV MRK REMOV 4" (W) (SLD)
- WRK ZN PAV MRK REMOV 24" (W) (SLD)
- WRK ZN PAV MRK REMOV 4" (Y) (SLD) DBL
- WRK ZN PAV MRK REMOV 4" (W) (DOT)
- WRK ZN PAV MRK REMOV 6" (W) (SLD)
- WRK ZN PAV MRK REMOV 4" (Y) (DOT)

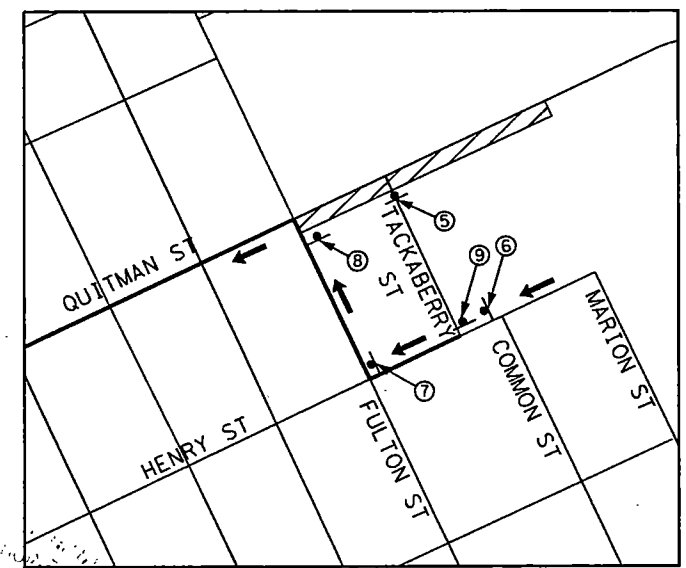
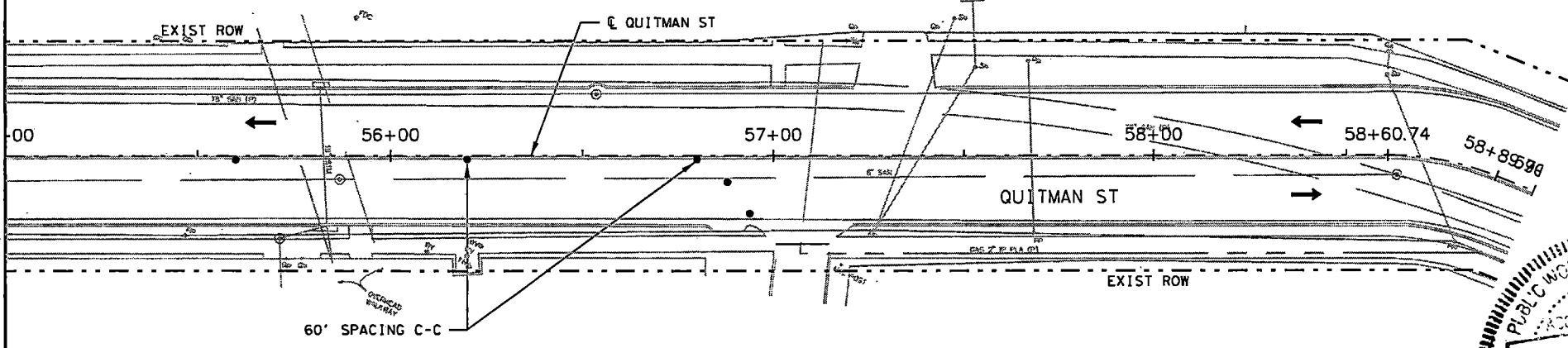
MATCH LINE STA 50+00

MATCH LINE STA 55+00

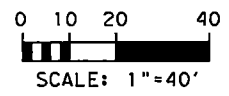
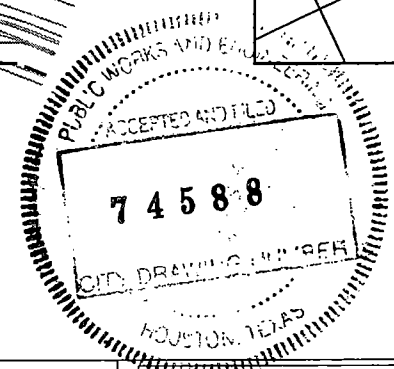


NOTE: CONTRACTOR TO NOTIFY NORTHSIDE HIGH SCHOOL PRIOR TO CONSTRUCTION IN FRONT OF THE SCHOOL.

MATCH LINE STA 55+00



TACKABERRY STREET DETOUR



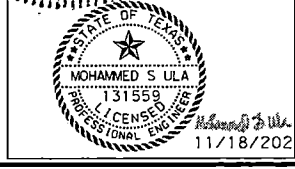
QUITMAN RD.TCP.SHEET 6.dgn

NO.	REVISIONS	DATE	NAME

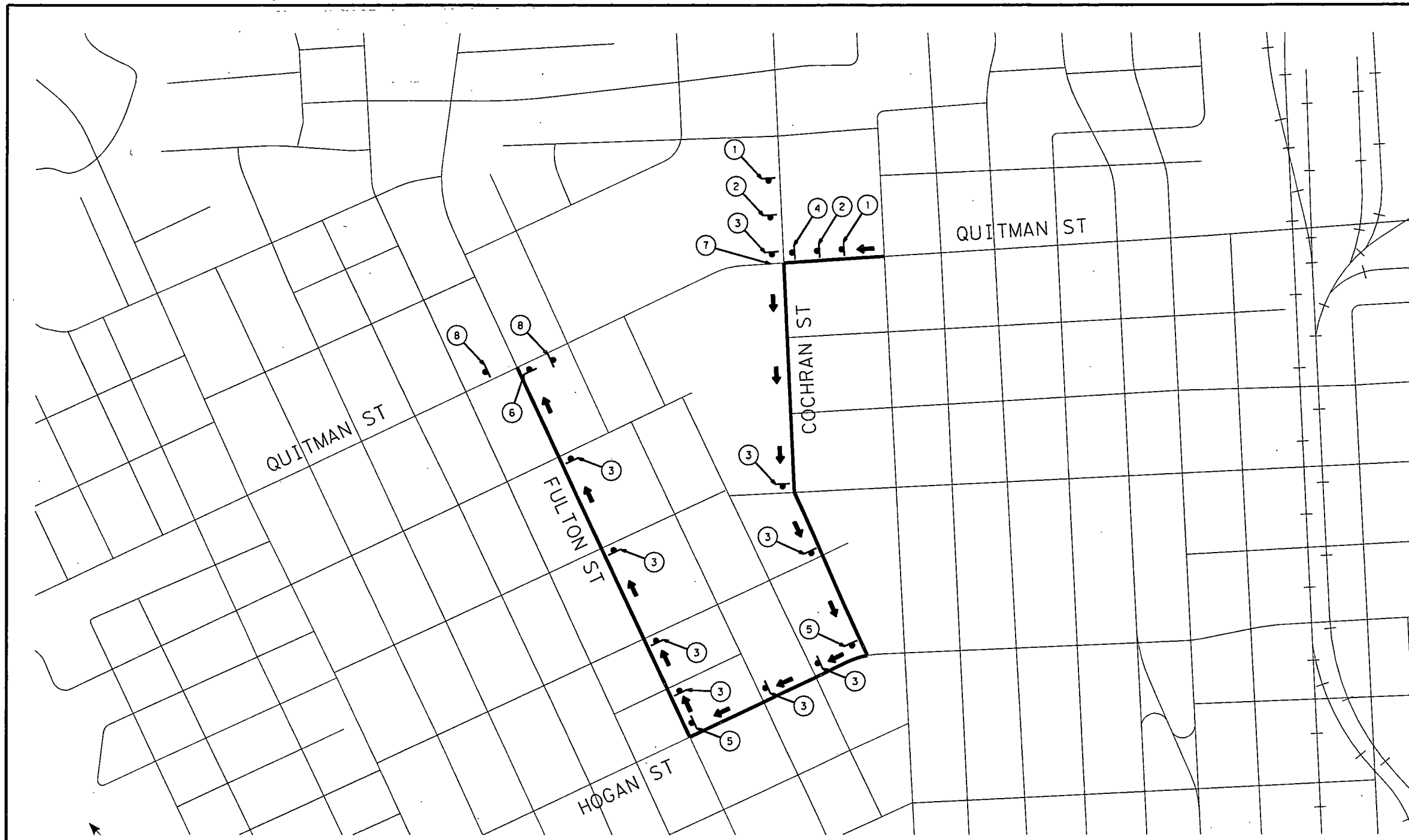
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	DATE: 11/18/2022
CK'D BY: SU	SHEET NO: 170
PHASE 3 STEP 2 (SHEET 2 OF 2)	SCALE: 1"=40'



**DETOUR LEGEND**  
 DETOUR TRAFFIC DIRECTION  
 CONSTRUCTION SIGN

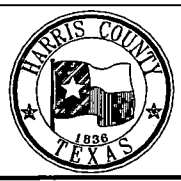


①	②	③	④	⑤	⑥	⑦	⑧
QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	END DETOUR M4-8a 24" X 18"
ROAD CLOSED AHEAD CW20-2D 48" X 48"	DETOUR AHEAD CW20-2D 48" X 48"	DETOUR ↑ M4-9 48" X 36"	DETOUR ← M4-9L 48" X 36"	DETOUR → M4-9R 48" X 36"	DETOUR ↔ M4-9 48" X 36"	ROAD CLOSED TO THRU TRAFFIC R11-4 60" X 30"	
						 TYPE III (B) BARRICADE	

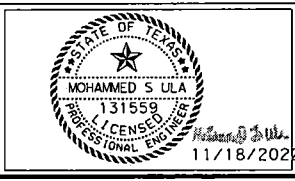
11/18/2022 QUITMAN RD\*TCP\*P3S1\*DETOUR.dgn

NO.	REVISIONS	DATE	NAME

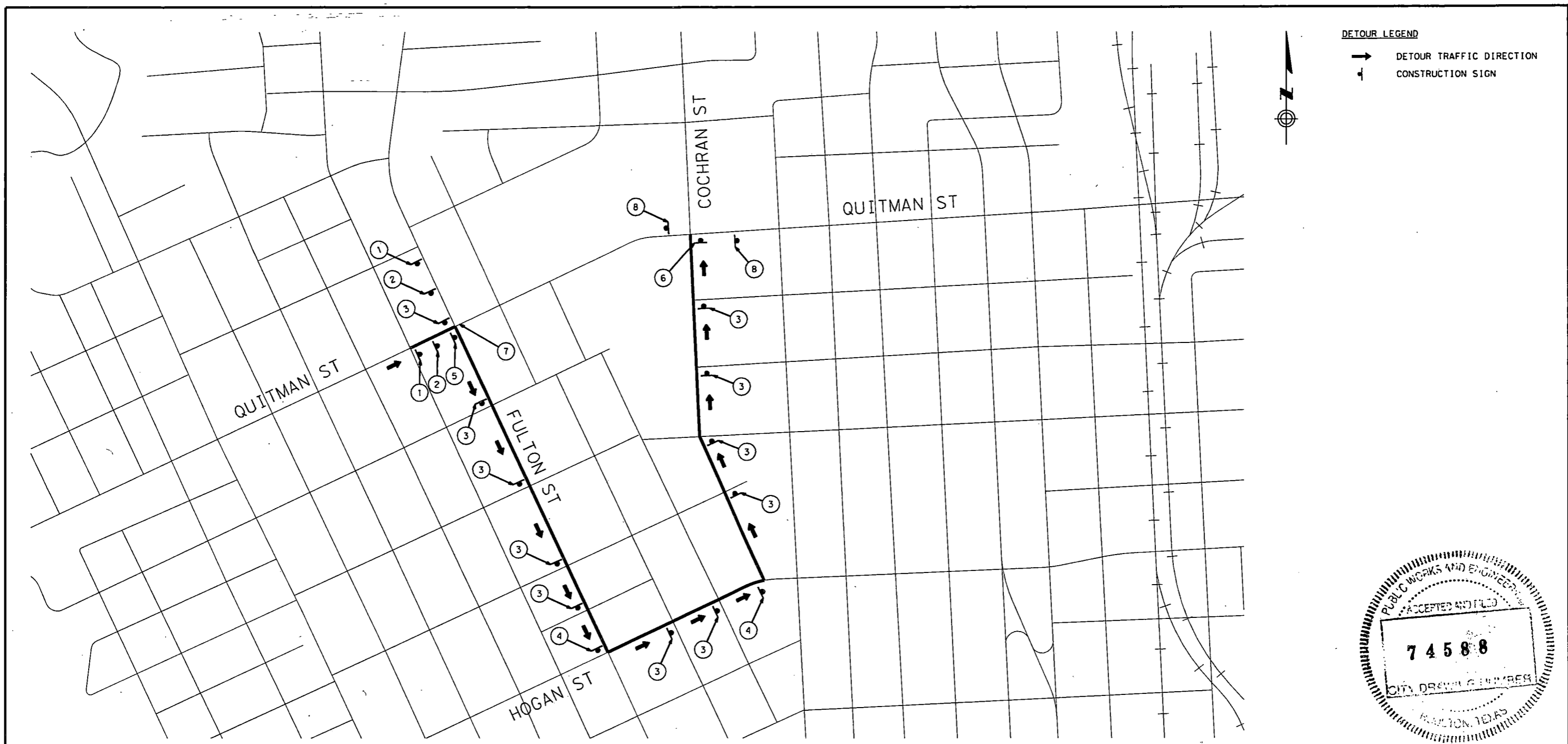
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TYPE REGISTRATION NO. F-18388  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		PHASE 3 STEP 1 DETOUR LAYOUT (SHEET 1 OF 1)	
LB	SCALE:	N.T.S.	DATE: 11/18/2022
SU			SHEET NO: 171



**DETOUR LEGEND**  
 DETOUR TRAFFIC DIRECTION  
 CONSTRUCTION SIGN



①	②	③	④	⑤	⑥	⑦	⑧
QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	QUITMAN ST M4-12T 54" X 12"	ROAD CLOSED R11-2 48" X 30"
ROAD CLOSED AHEAD CW20-2D 48" X 48"	DETOUR AHEAD CW20-2D 48" X 48"	QUITMAN ST DETOUR M4-9 48" X 36"	QUITMAN ST DETOUR M4-9L 48" X 36"	QUITMAN ST DETOUR M4-9R 48" X 36"	QUITMAN ST DETOUR M4-9R 48" X 36"	QUITMAN ST DETOUR M4-9 48" X 36"	TYPE III (B) BARRICADE
							END DETOUR M4-8a 24" X 18"

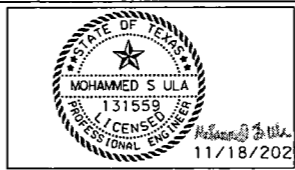
11/18/2022 QUITMAN RD\*TCP\*P352\*DETOUR.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		PHASE 3 STEP 2 DETOUR LAYOUT (SHEET 1 OF 1)	
CK'D BY:		SCALE: N.T.S.	
DATE:		11/18/2022	
SHEET NO:		172	

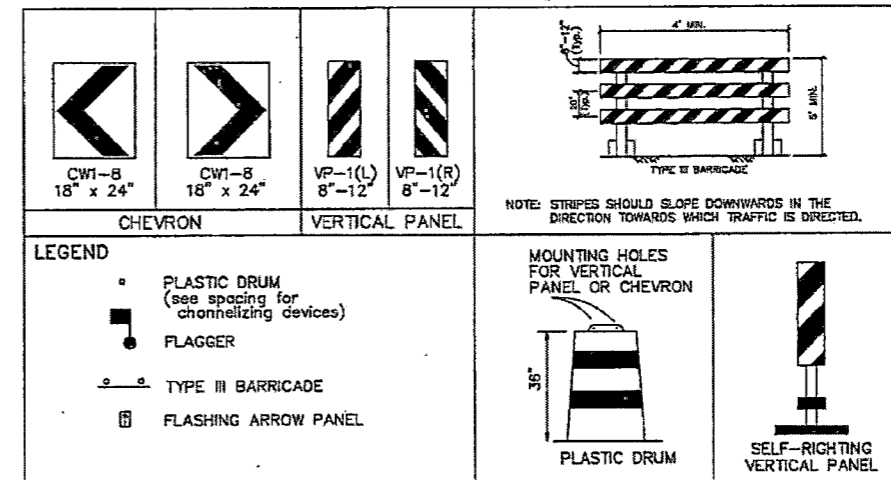
## GENERAL NOTES

1. The Contractor shall provide and install traffic control devices in conformance with Part VI of the Texas Manual on Traffic Control Devices (TMUTCD).
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 plate 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 for 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 and reproducible in mylar and shall be sealed by a Licensed Engineer in the State of Texas. Transportation & Drainage Operations representative approval is required to accept the proposed changes.
9. Contractor shall secure lane/sidewalk/bicycle facility closure permits from Transportation & Drainage Operations (Mobility Permit Section at <http://www.gims.houstontx.gov/portal/WSS/MainPortal.aspx>) before implementing the 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 Transportation & Drainage Operations (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 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 delineators may be required to delineate the driveway access route through the construction zone. A minimum of a 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 (832-393-8630) 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.

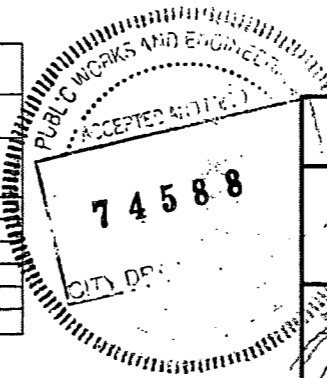
## SPACING FOR CHANNELIZING DEVICES

- A. Plastic drums on merging taper @ 30' c-c with chevron sign @ 50' 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 for median openings.

## CHANNELIZATION AND BARRICADES

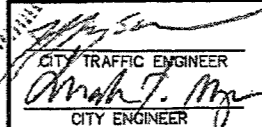



Posted Speed (mph)	Sign Spacing "X"	Min. Desirable Taper Length "L"			Suggested Maximum Spacing Of Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	120'	150'	165'	180'	30'	60' - 75'
35	160'	205'	225'	245'	35'	70' - 90'
40	240'	285'	295'	320'	40'	80' - 100'
45	320'	450'	495'	540'	45'	90' - 110'
50	400'	600'	650'	690'	50'	100' - 125'
55	500'	650'	705'	760'	55'	110' - 140'



**CITY OF HOUSTON,**  
HOUSTON PUBLIC WORKS

TOP NOTES  
CHANNELIZING DEVICES  
AND BARRICADES  
(NOT TO SCALE)

  
 CITY TRAFFIC ENGINEER  
 CITY ENGINEER

  
 DIRECTOR OF  
 HOUSTON PUBLIC WORKS

EFF DATE: JUL-01-2018      DWG NO: 01512-01

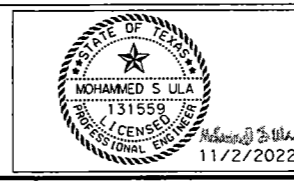
11/2/2022 QUITMAN RD COH STD. DGN

NO.	REVISIONS	DATE	NAME
▲			
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▲			
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

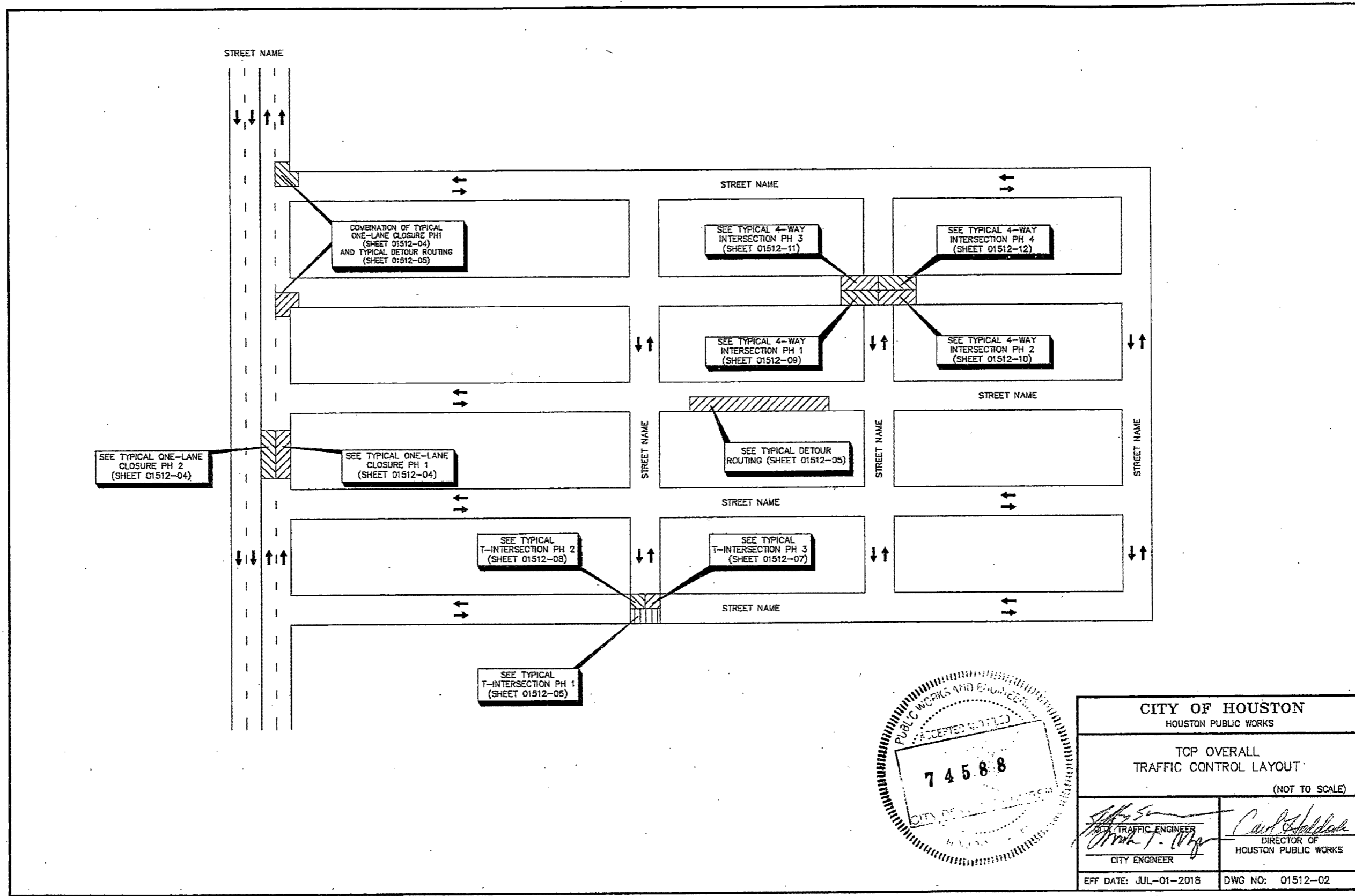


**infraTECH**  
Engineers & Innovators, LLC  
T&PE REGISTRATION NO. F-16388  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: <b>QUITMAN STREET</b>	
<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
SHEET DESCRIPTION: <b>TRAFFIC CONTROL PLAN</b>	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 1 OF 14)
CK'D BY: SU	SCALE:
DATE: 11/2/2022	SHEET NO: 173





<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
TCP OVERALL TRAFFIC CONTROL LAYOUT (NOT TO SCALE)	
<i>[Signature]</i> TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-02

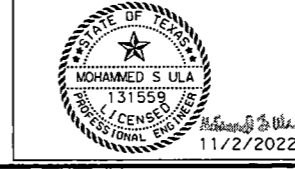
11/2/2022 QUITMAN RD-COH-KSTD-500

NO.	REVISIONS	DATE	NAME
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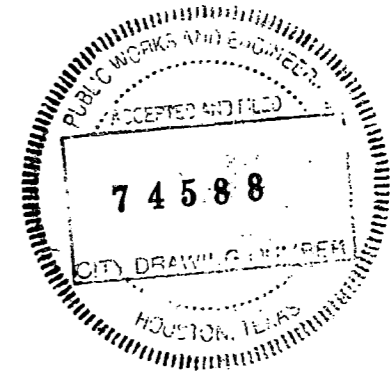
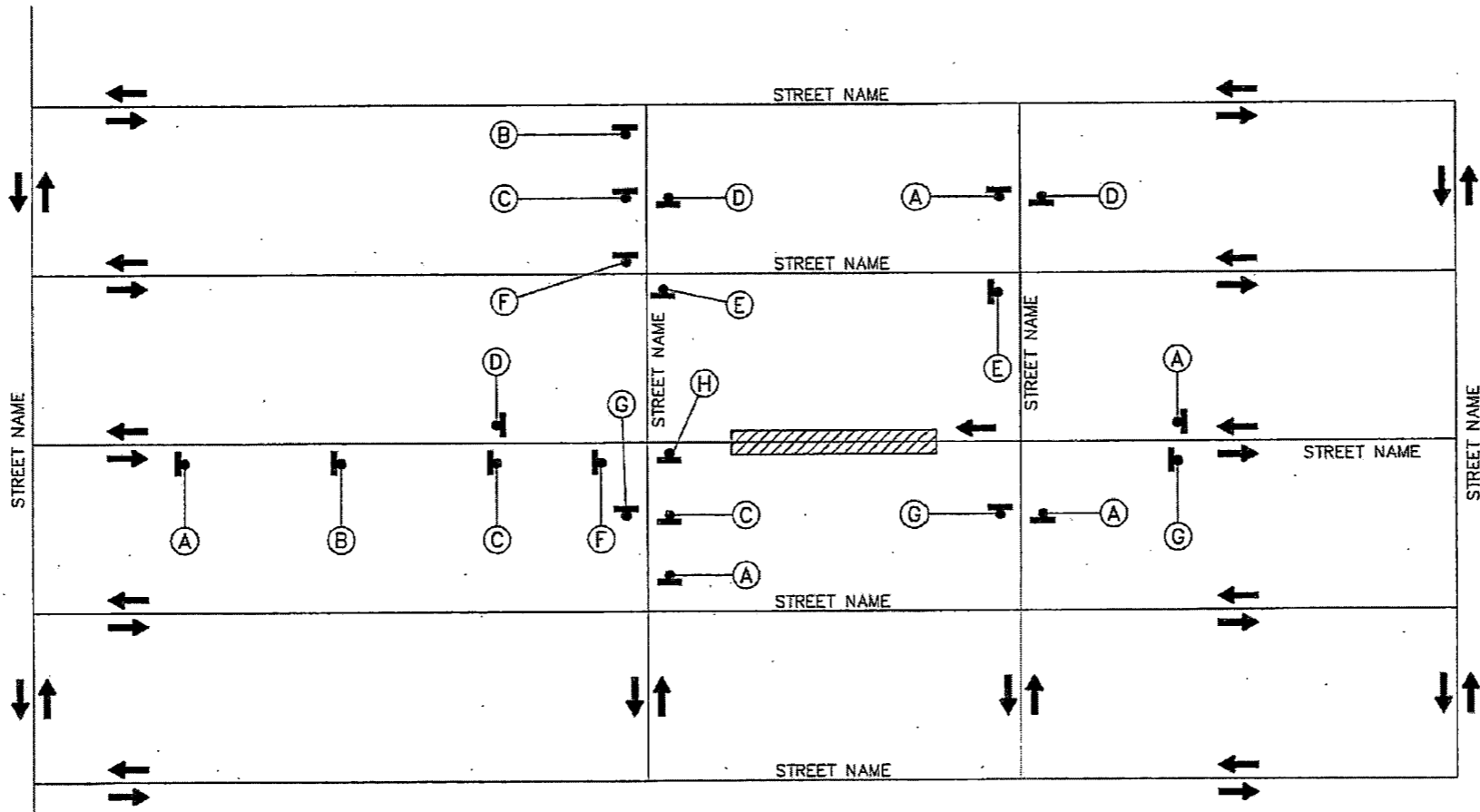
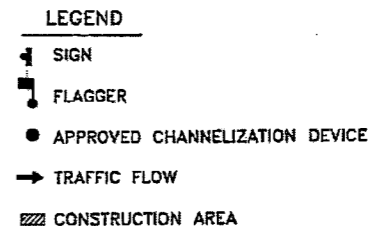
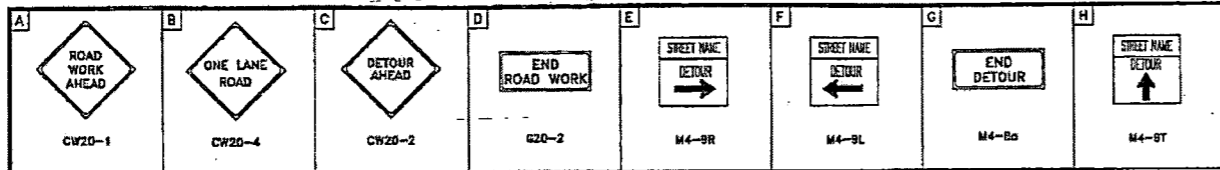
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: <b>TRAFFIC CONTROL PLAN</b>	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 2 OF 14)
CK'D BY: SU	SCALE:
DATE: 11/2/2022	SHEET NO: 174



**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

TRAFFIC CONTROL LAYOUT  
(NOT TO SCALE)

*[Signature]*  
CITY TRAFFIC ENGINEER  
CITY ENGINEER

*[Signature]*  
DIRECTOR OF  
HOUSTON PUBLIC WORKS

EFF DATE: JUL-01-2018    DWG. NO: 01512-03

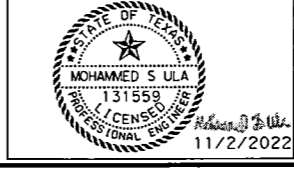
11/2/2022 QUILTMAN RD\*COH\*STD.dgn

NO.	REVISIONS	DATE	NAME
▲			
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



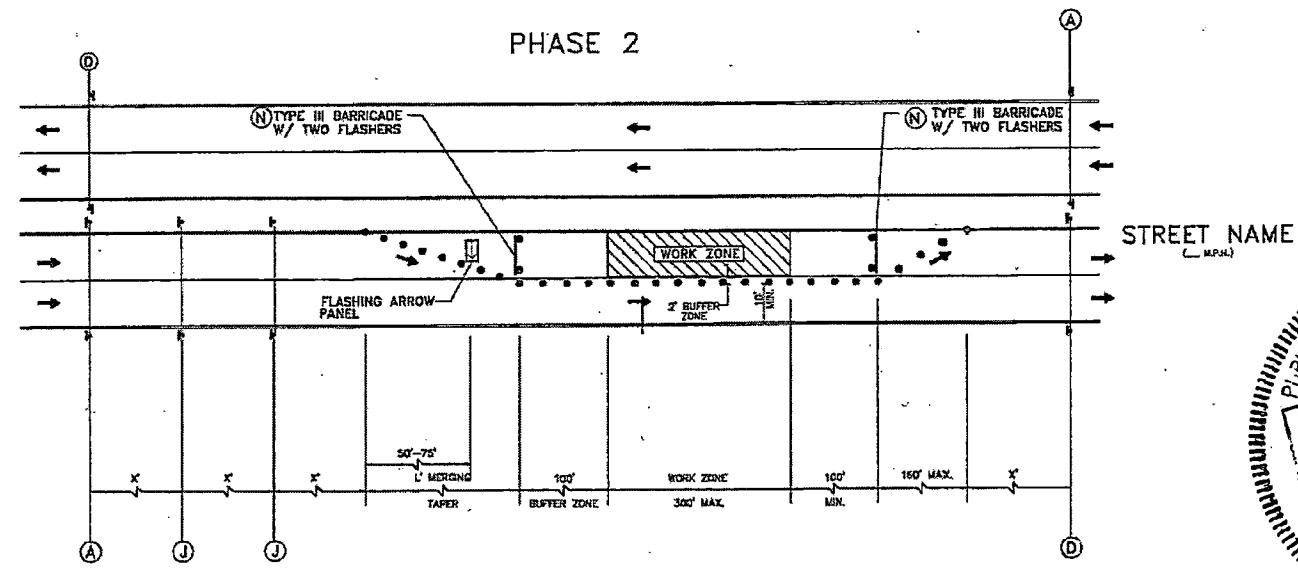
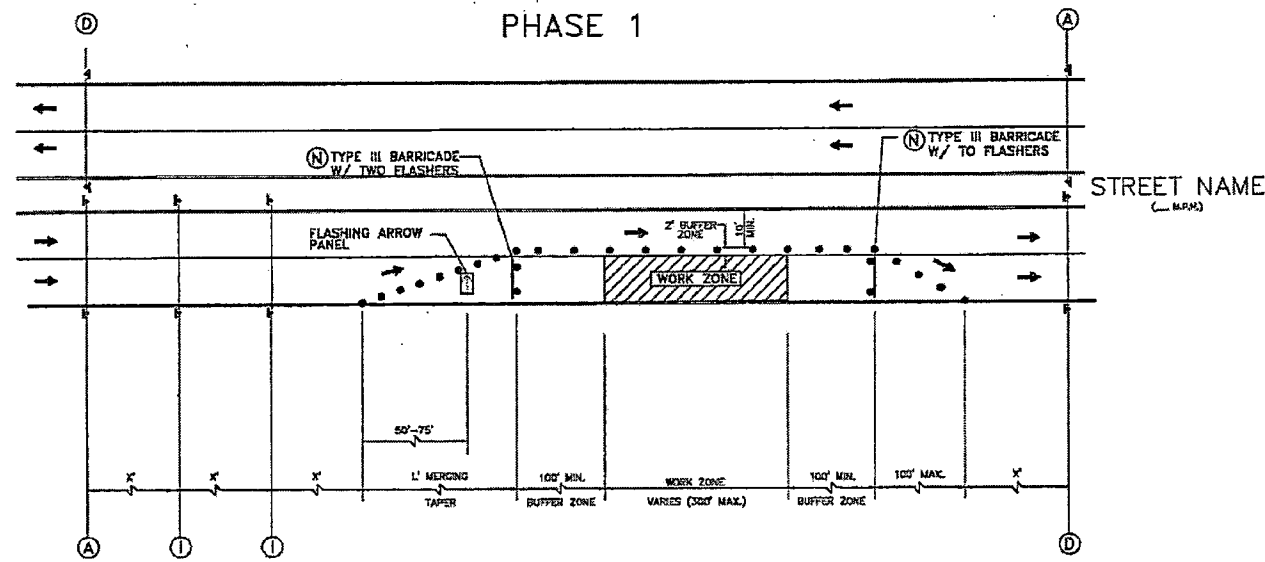
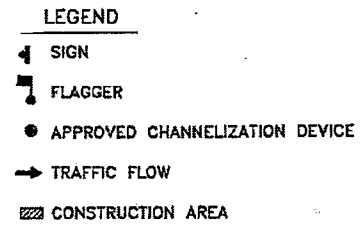
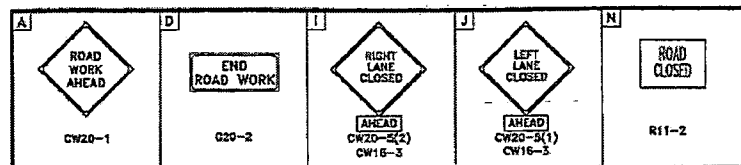
PROJECT TITLE: **QUITMAN STREET**

**ON-STREET BIKEWAY AND SIDEWALKS**

SHEET DESCRIPTION: **TRAFFIC CONTROL PLAN**

DRAWN BY: LB    STANDARD DRAWINGS (SHEET 3 OF 14)    DATE: 11/2/2022

CK'D BY: SU    SCALE:    SHEET NO: 175



- NOTE:**
1. RETURN TAPERS AND DOWNSTREAM BARRICADES ARE OPTIONAL ON A DIVIDED ROADWAY SECTION.
  2. DOUBLE SIGNS SHALL BE USED ONLY ON ROADWAYS WITH MEDIANS.
  3. FOR DIMENSIONS REFER TO SHEET 01512-01.



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
TOP ONE LANE CLOSURE PHASE 1 & 2 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-04

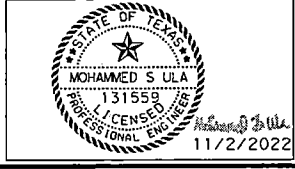
QUITMAN RD\*COH\*STD.dgn 11/2/2022

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



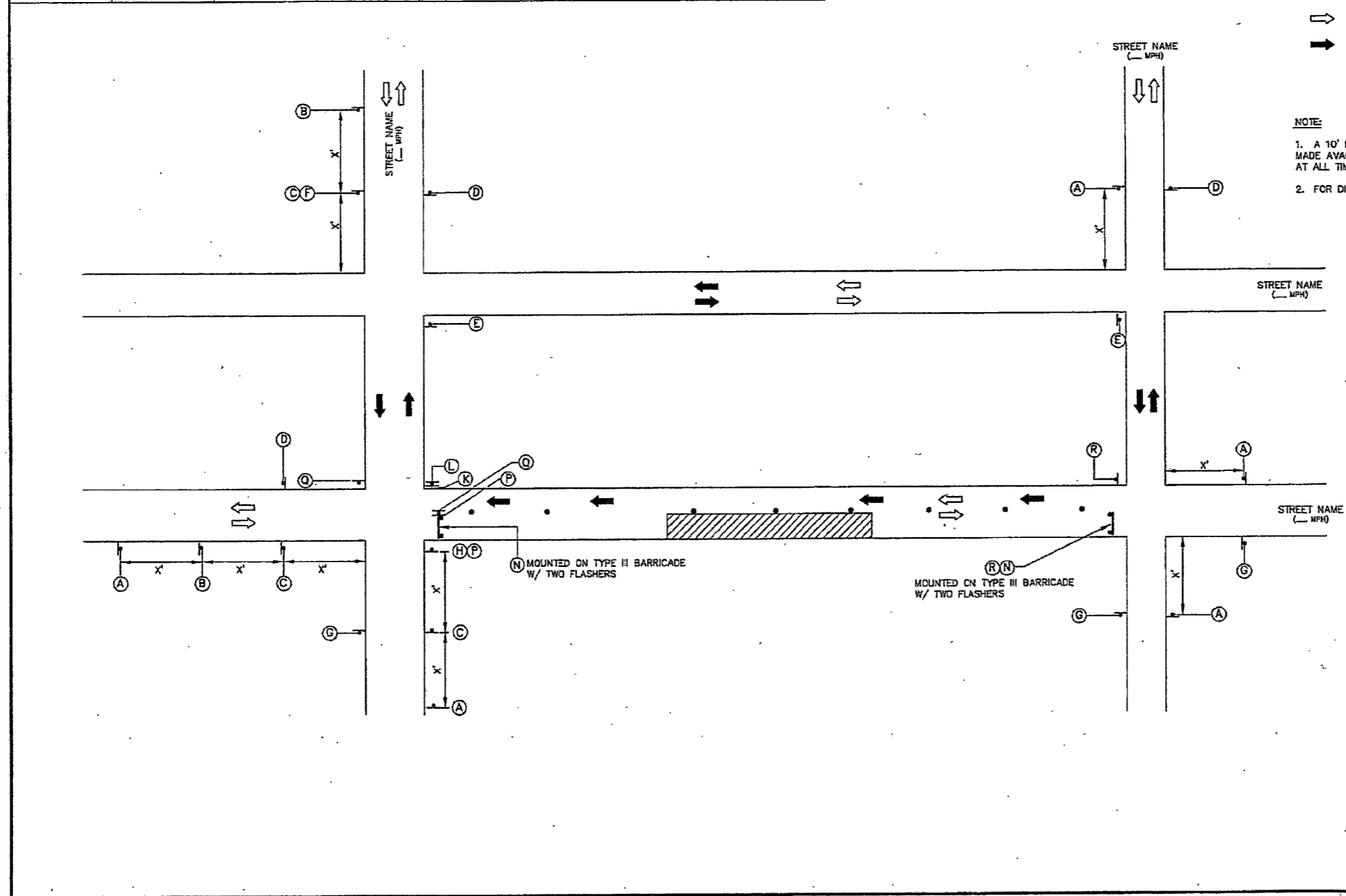
PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY: LB	DATE: 11/2/2022
CK'D BY: SU	SHEET NO: 176
STANDARD DRAWINGS (SHEET 4 OF 14)	
SCALE:	

A	B	C	D	E	F	G	H	I	J
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8c	M4-9T	[AHEAD] CW20-5(2) CW18-3	[AHEAD] CW20-5(1) CF16-3
K	L	M	N	O	P	Q	R		
R6-2(L)	R6-2(R)	R5-1	R11-2	M4-10(L)	R5-1	R3-2	R8-8		

- LEGEND**
- SIGN
  - FLAGGER
  - APPROVED CHANNELIZATION DEVICE
  - BARRICADE
  - FLASHING ARROW PANEL
  - AREA UNDER CONSTRUCTION
  - EXISTING TRAVELWAY
  - TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

**NOTE:**

- A 10' MINIMUM LANE WIDTH FOR EMERGENCY SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
- FOR DIMENSIONS REFER TO SHEET 01512-01.



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
TCP ONE LANE CLOSURE (NOT TO SCALE)	
 CITY TRAFFIC ENGINEER CITY ENGINEER	 DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-05

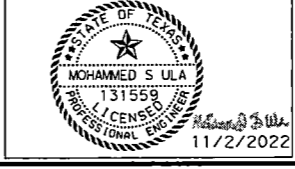
QUITMAN RD-COH-STD.dgn

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
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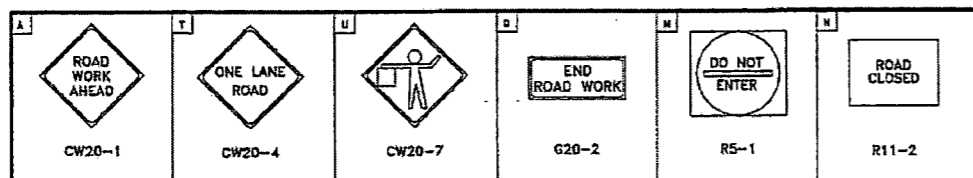
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



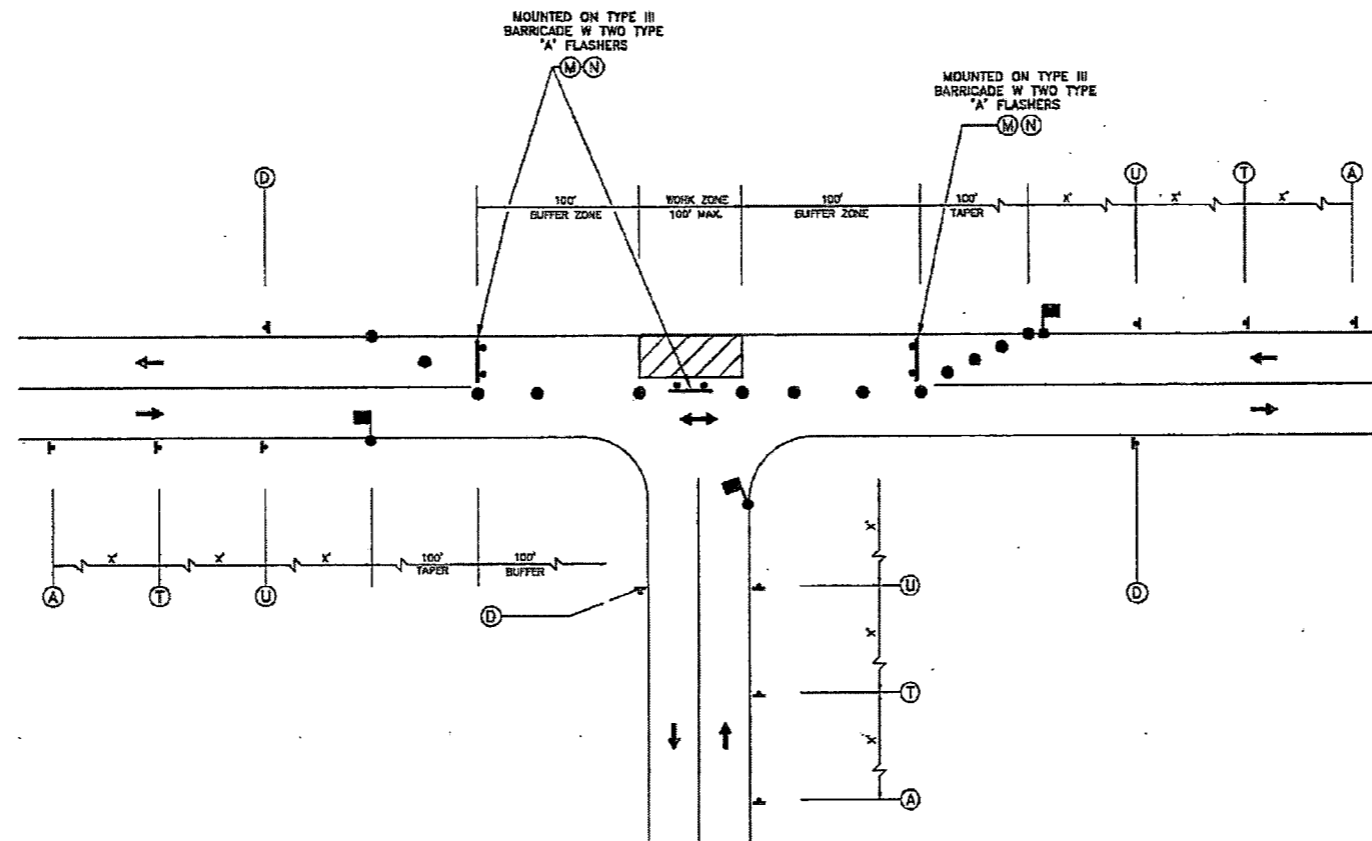
**infraTECH**  
Engineers & Innovators, LLC  
TYPE REGISTRATION NO. F-16368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
TRAFFIC CONTROL PLAN	
DRAWN BY: LB	DATE: 11/2/2022
CK'D BY: SU	SHEET NO: 177
SCALE: STANDARD DRAWINGS (SHEET 5 OF 14)	



- LEGEND**
- SIGN
  - FLAGGER
  - APPROVED CHANNELIZATION DEVICE
  - TRAFFIC FLOW
  - BARRICADE
  - FLASHING ARROW PANEL



STREET NAME  
(\_\_\_ M.P.H.)

STREET NAME  
(\_\_\_ M.P.H.)

- NOTE:**
1. MINOR WORK ONLY.
  2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
  3. FOR DIMENSIONS REFER TO SHEET 01512-01

**PHASE 1 OF 3  
TYPICAL CONSTRUCTION ZONE  
AT A T-INTERSECTION**



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
TCP TYPICAL 3-WAY INTERSECTION PHASE 1 OF 3 (NOT TO SCALE)	
<i>John S...</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>Carl Haddad</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-06

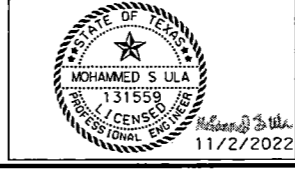
11/2/2022 QUITMAN RD\*COH\*STD.dgn

NO.	REVISIONS	DATE	NAME
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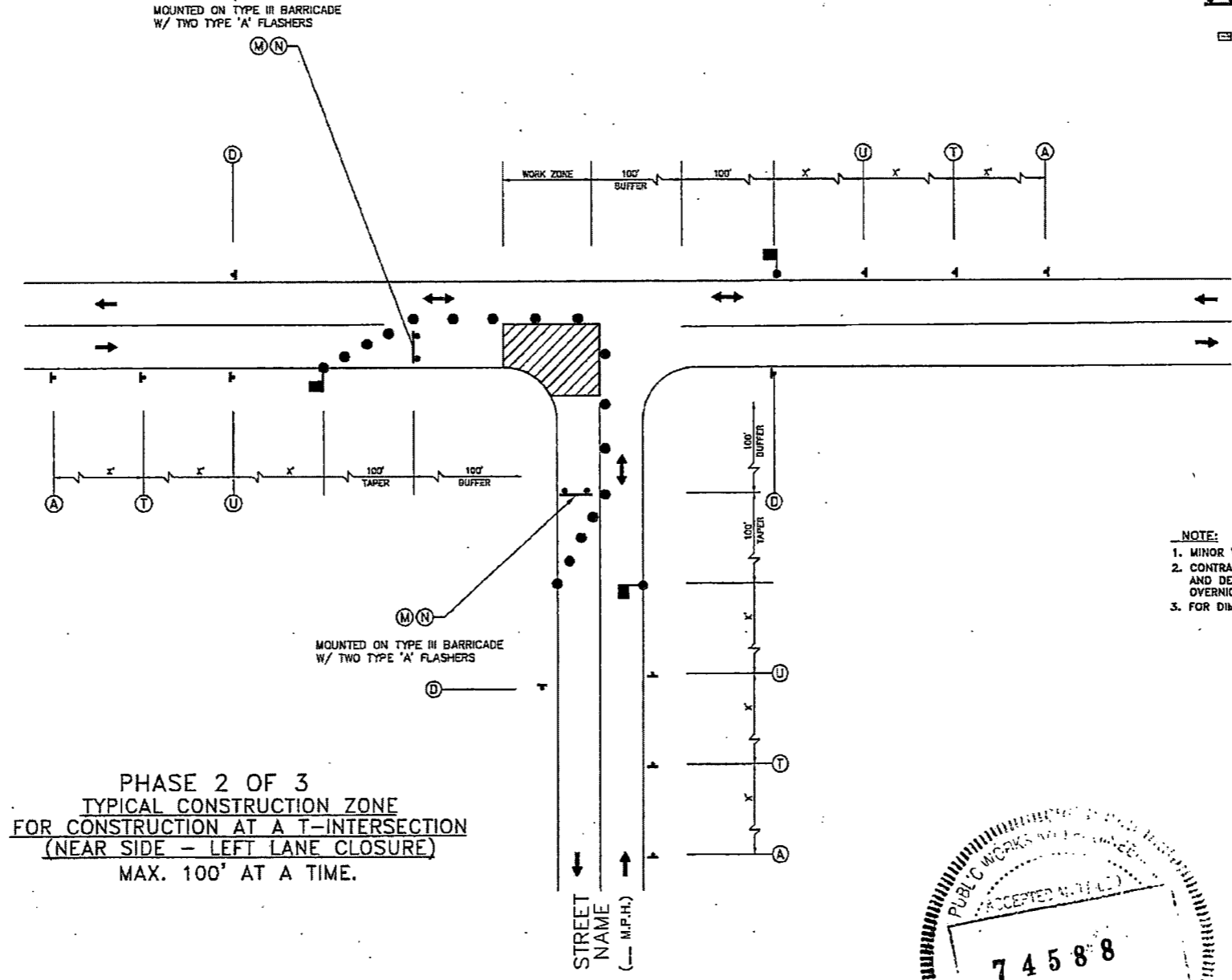
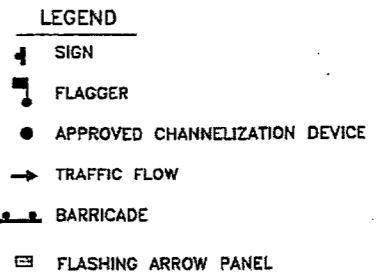
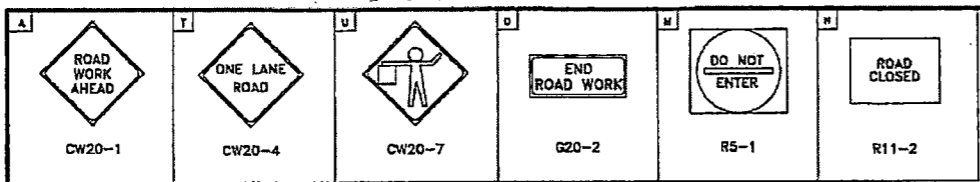
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: <b>TRAFFIC CONTROL PLAN</b>	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 6 OF 14)
CK'D BY: SU	SCALE:
DATE: 11/2/2022	SHEET NO: 178



**NOTE:**  
 1. MINOR WORK ONLY.  
 2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.  
 3. FOR DIMENSIONS REFER TO SHEET 01512-01

PHASE 2 OF 3  
 TYPICAL CONSTRUCTION ZONE  
 FOR CONSTRUCTION AT A T-INTERSECTION  
 (NEAR SIDE - LEFT LANE CLOSURE)  
 MAX. 100' AT A TIME.



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
TCP TYPICAL 3-WAY INTERSECTION PHASE 2 OF 3 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-07

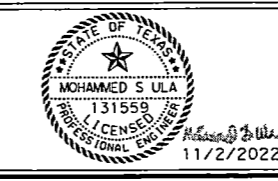
QUITMAN\_RD\*COH\*STD.dgn 11/2/2022

NO.	REVISIONS	DATE	NAME
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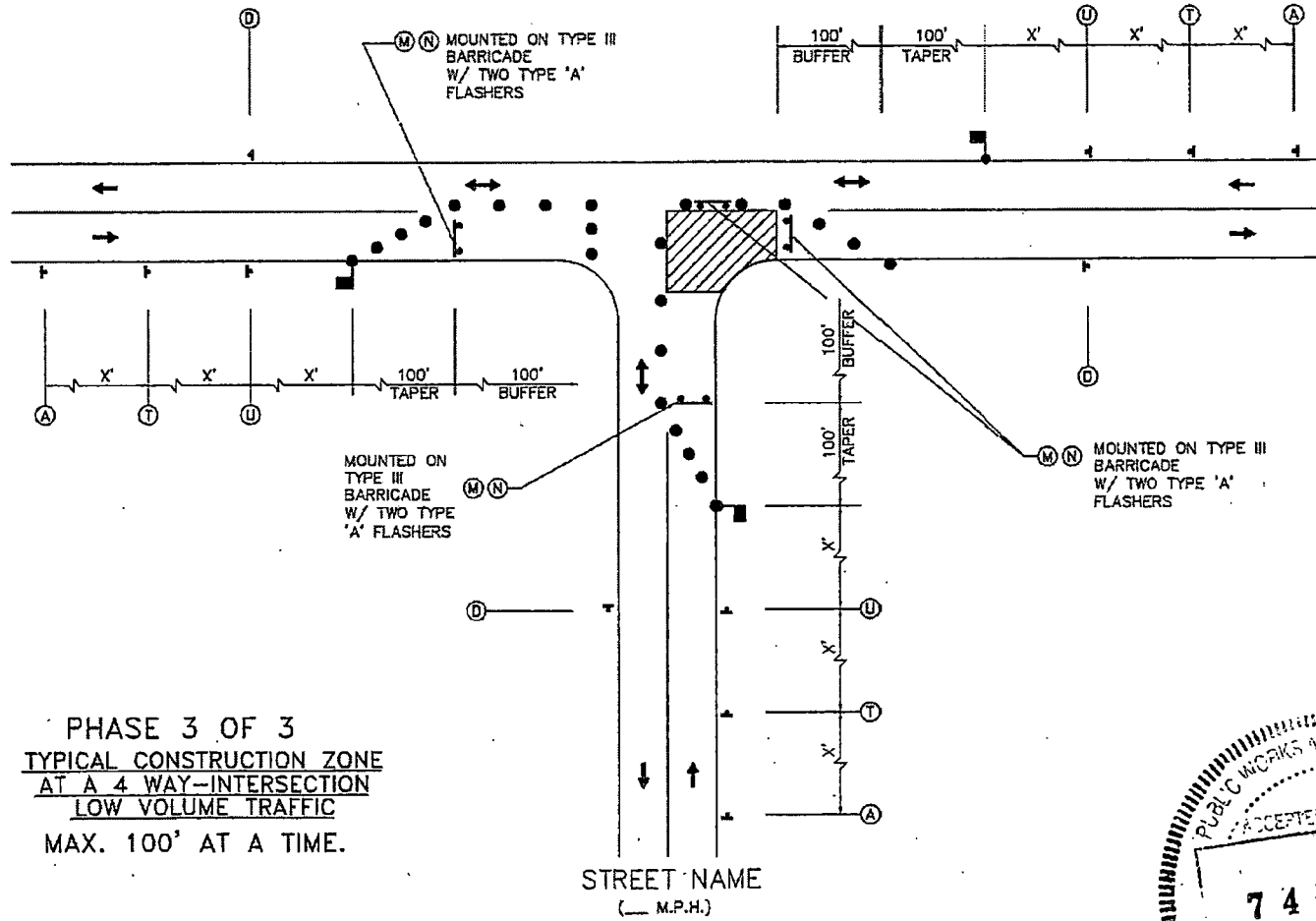
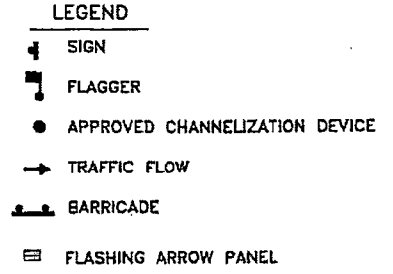
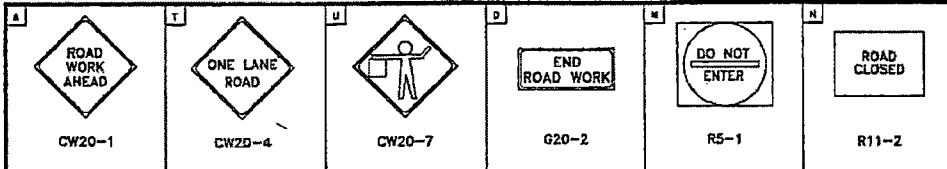
**HARRIS COUNTY  
 ENGINEERING DEPARTMENT**



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 7 OF 14)
CK'D BY: SU	SCALE:
DATE: 11/2/2022	SHEET NO: 179



PHASE 3 OF 3  
 TYPICAL CONSTRUCTION ZONE  
 AT A 4 WAY-INTERSECTION  
 LOW VOLUME TRAFFIC  
 MAX. 100' AT A TIME.

NOTE:  
 1. MINOR WORK ONLY.  
 2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.  
 3. FOR DIMENSIONS REFER TO SHEET 01512-01



CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TCP TYPICAL 3-WAY INTERSECTION PHASE 3 OF 3 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-08

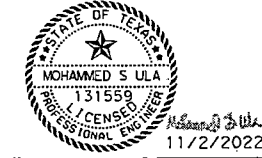
QUITMAN RD\*COH\*STD.dgn 11/2/2022

NO.	REVISIONS	DATE	NAME

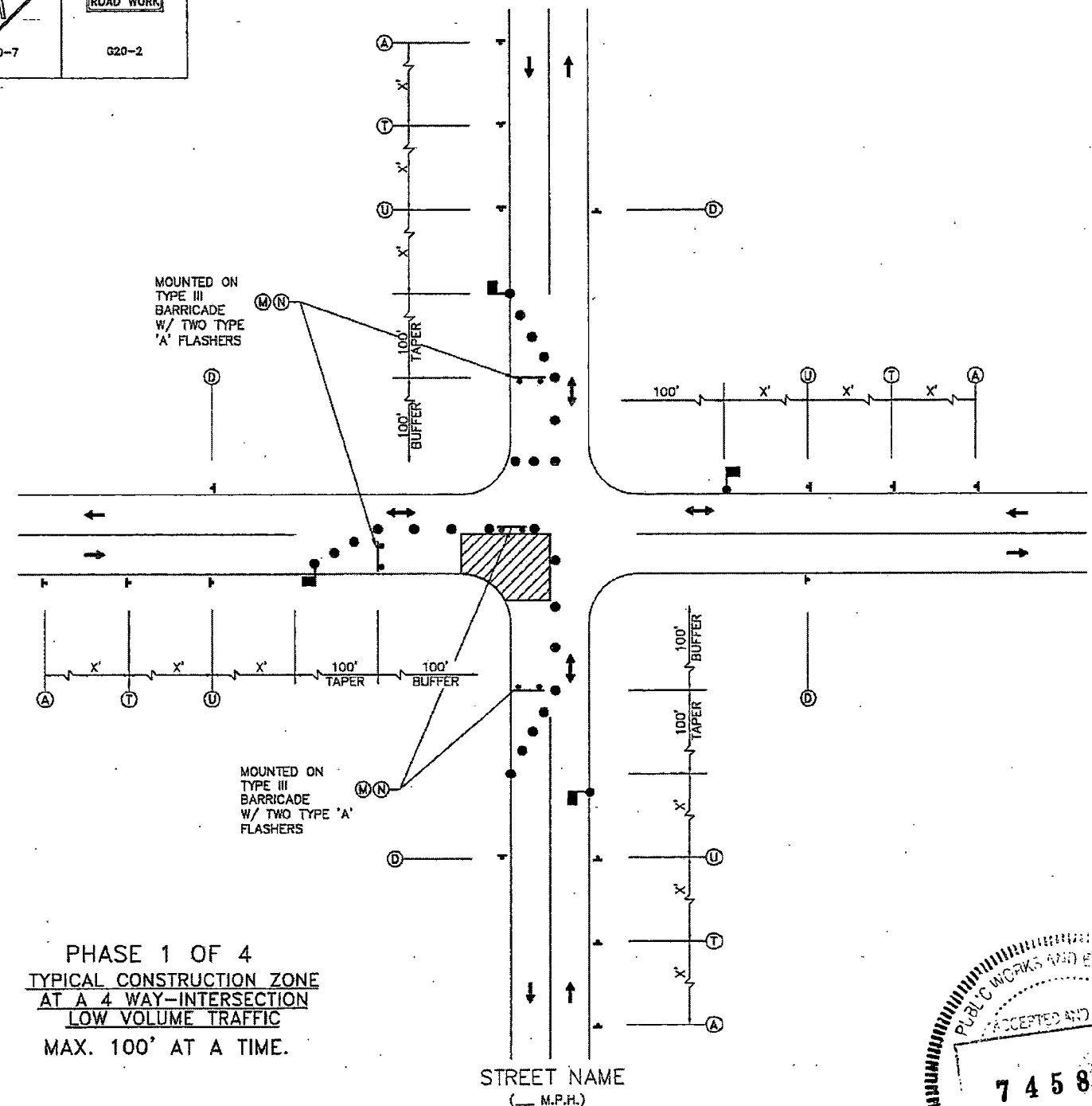
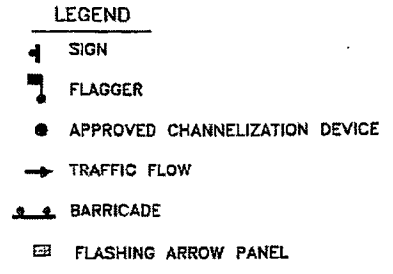
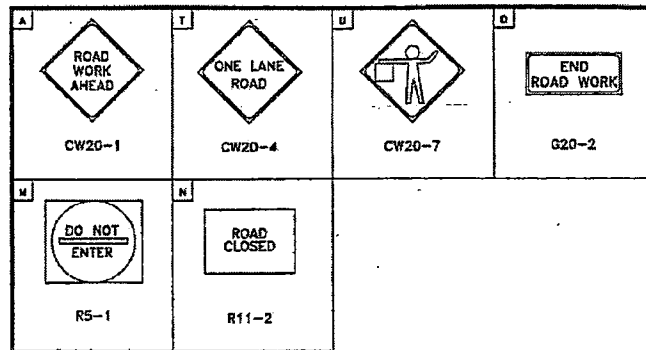
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 8 OF 14)
DATE: 11/2/2022	DATE: 11/2/2022
CK'D BY: SU	SHEET NO: 180

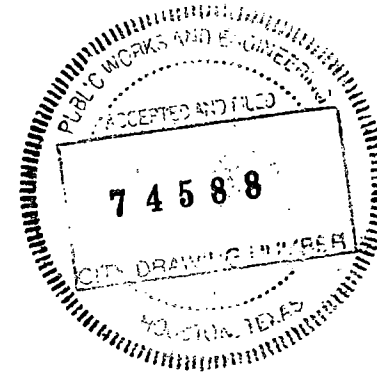


STREET NAME  
(\_\_\_ M.P.H.)

- NOTE:**
1. MINOR WORK ONLY.
  2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
  3. FOR DIMENSIONS REFER TO SHEET 01512-01

PHASE 1 OF 4  
TYPICAL CONSTRUCTION ZONE  
AT A 4 WAY-INTERSECTION  
LOW VOLUME TRAFFIC  
MAX. 100' AT A TIME.

STREET NAME  
(\_\_\_ M.P.H.)



<b>CITY OF HOUSTON</b> HOUSTON PUBLIC WORKS	
TOP 4-WAY INTERSECTION PHASE 1 OF 4 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-09

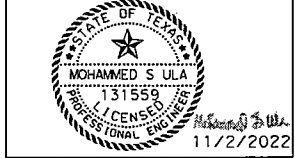
11/2/2022 QUITMAN RD\*COH\*STD.dgn

NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

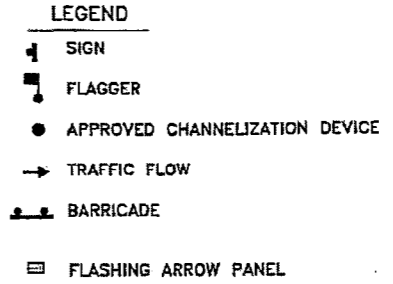
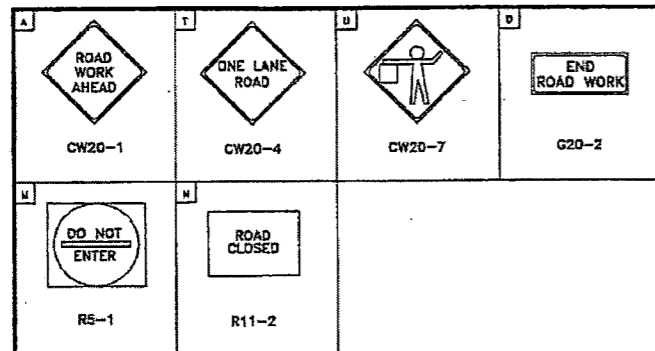


**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 9 OF 14)
DATE: 11/2/2022	DATE: 11/2/2022
CK'D BY: SU	SCALE: SHEET NO: 181





MOUNTED ON TYPE III BARRICADE (M) (N)  
W/ TWO TYPE 'A' FLASHERS

MOUNTED ON TYPE III BARRICADE (M) (N)  
W/ TWO TYPE 'A' FLASHERS

MOUNTED ON TYPE III BARRICADE (M) (N)  
W/ TWO TYPE 'A' FLASHERS

PHASE 2 OF 4  
TYPICAL CONSTRUCTION ZONE  
AT A 4-WAY-INTERSECTION  
LOW VOLUME TRAFFIC  
MAX. 100' AT A TIME.

- NOTE:
1. MINOR WORK ONLY.
  2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
  3. FOR DIMENSIONS REFER TO SHEET 01512-01



CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TCP 4-WAY INTERSECTION PHASE 2 OF 4 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-10

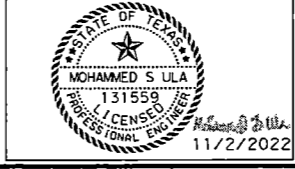
QUITMAN RD\*COH\*STD.dgn 11/2/2022

NO.	REVISIONS	DATE	NAME

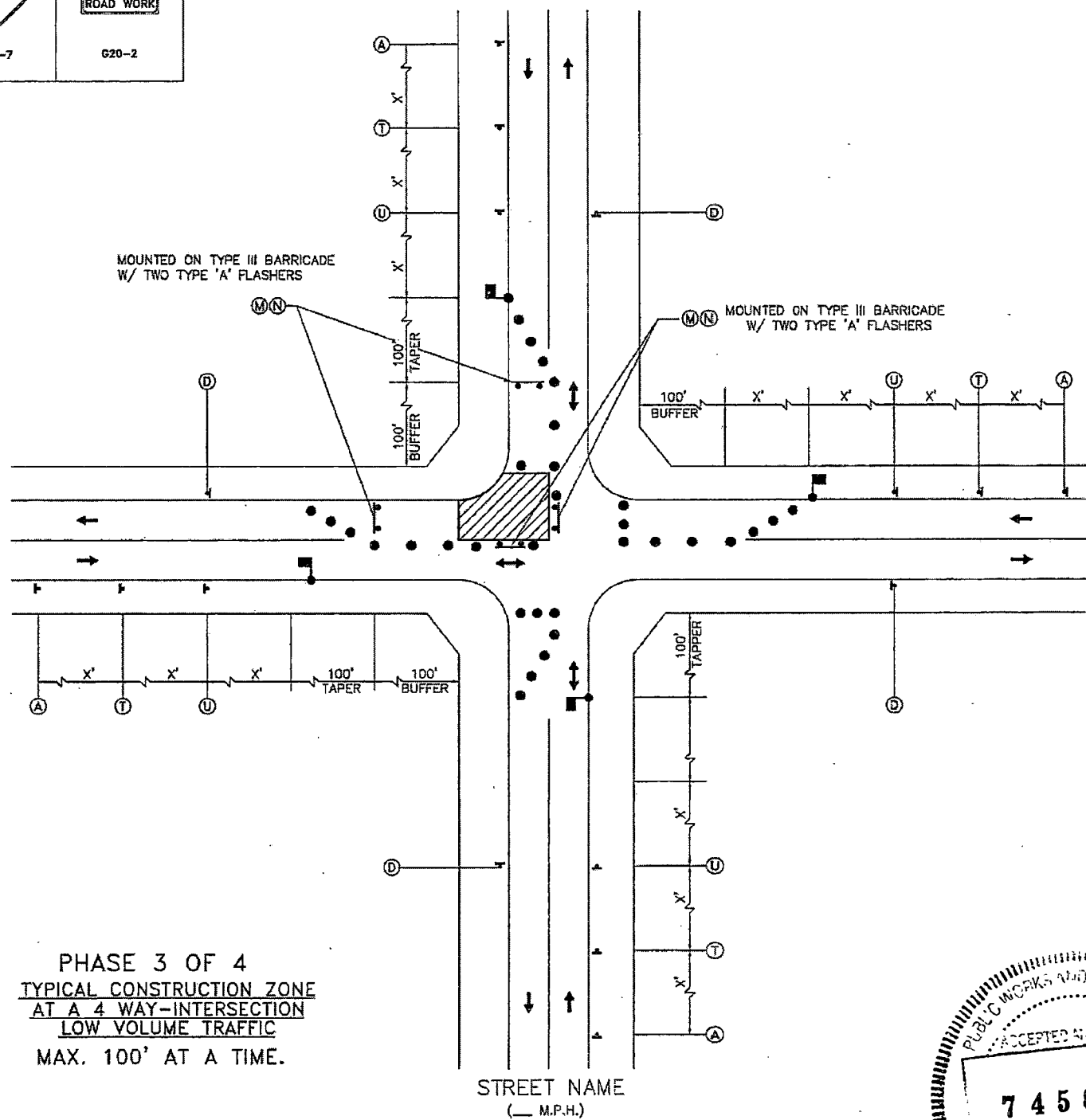
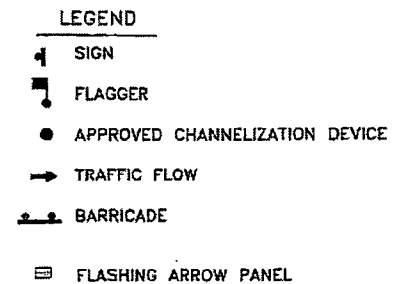
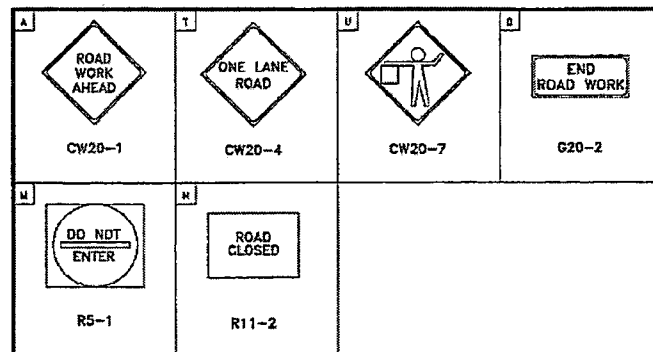
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

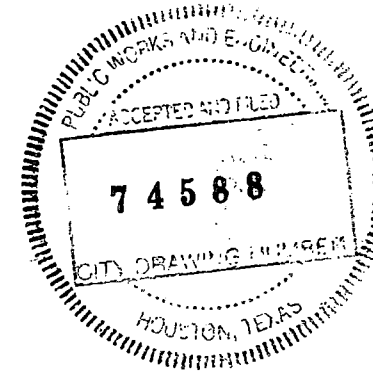


PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 10 OF 14)
DATE: 11/2/2022	DATE: 11/2/2022
CK'D BY: SU	SCALE: 182



PHASE 3 OF 4  
 TYPICAL CONSTRUCTION ZONE  
 AT A 4 WAY-INTERSECTION  
 LOW VOLUME TRAFFIC  
 MAX. 100' AT A TIME.

- NOTE:**
- MINOR WORK ONLY.
  - CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
  - FOR DIMENSIONS REFER TO SHEET 01512-01



CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TCP 4-WAY INTERSECTION PHASE 3 OF 4 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-11

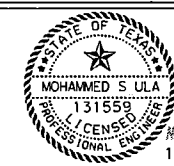
QUITMAN RD COH STD.dgn

NO.	REVISIONS	DATE	NAME

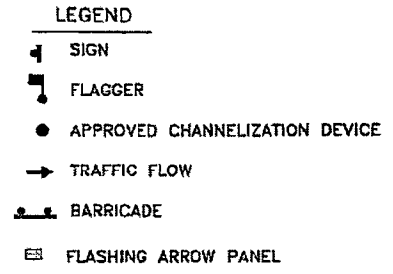
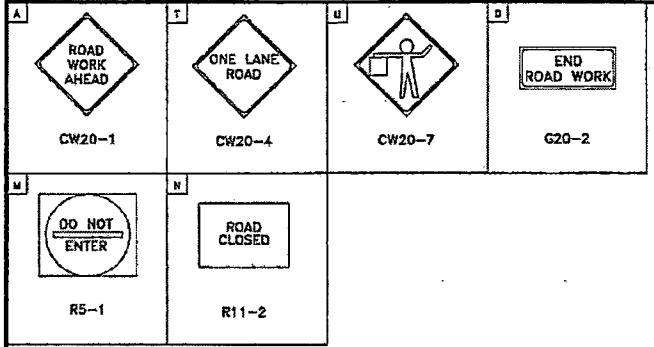
HARRIS COUNTY  
ENGINEERING DEPARTMENT



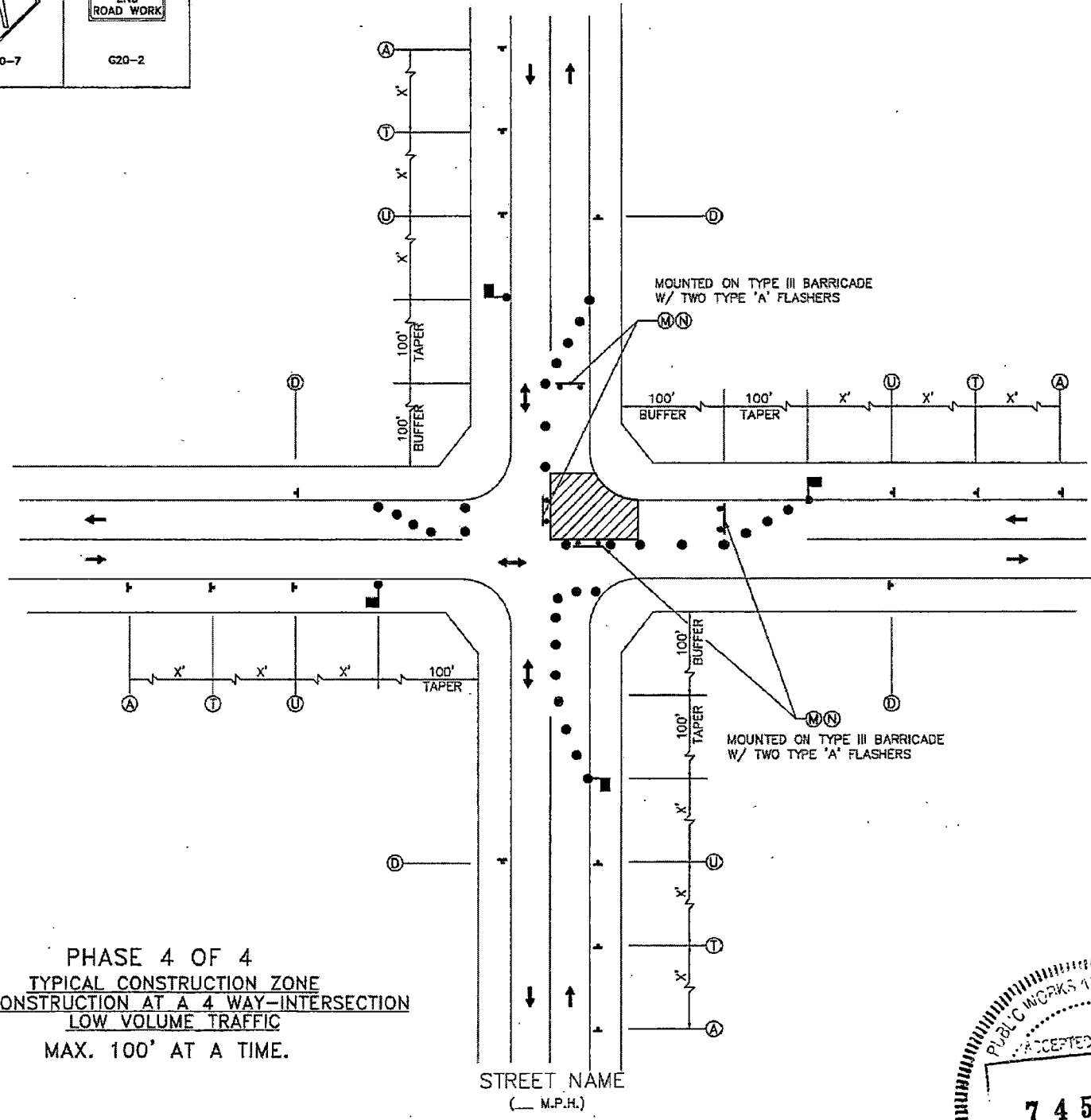
**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 1111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 11 OF 14)
DATE: 11/2/2022	DATE: 11/2/2022
CK'D BY: SU	SHEET NO: 183



PHASE 4 OF 4  
 TYPICAL CONSTRUCTION ZONE  
 FOR CONSTRUCTION AT A 4 WAY-INTERSECTION  
 LOW VOLUME TRAFFIC  
 MAX. 100' AT A TIME.



STREET NAME  
 (\_\_\_ M.P.H.)

- NOTE:
1. MINOR WORK ONLY.
  2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
  3. FOR DIMENSIONS REFER TO SHEET 01512-01

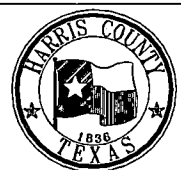


CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TCP 4-WAY INTERSECTION PHASE 4 OF 4 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-12

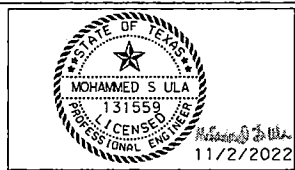
QUITMAN RD\*COH\*STD.dgn  
11/2/2022

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
 ENGINEERING DEPARTMENT

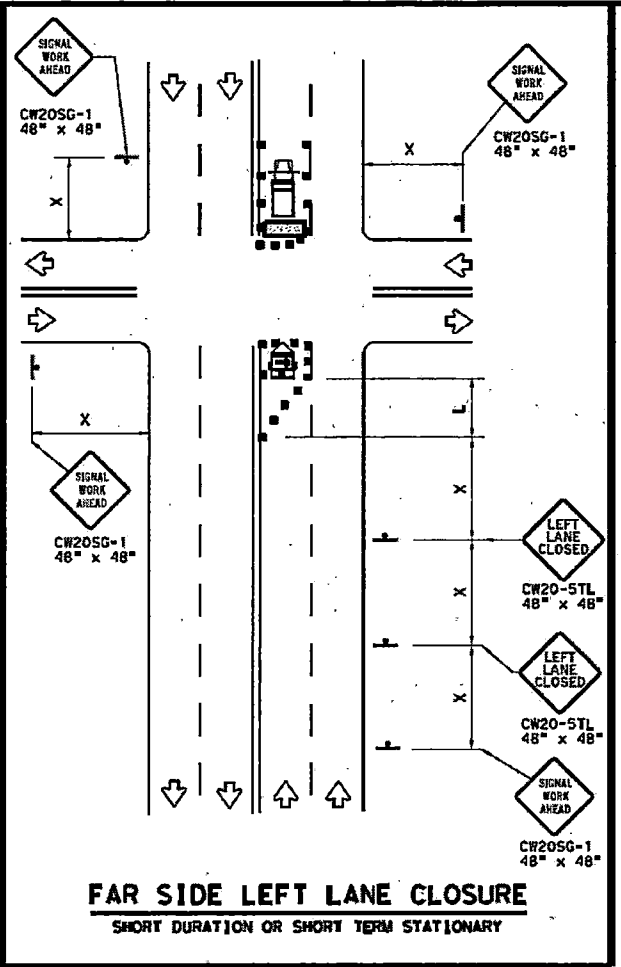
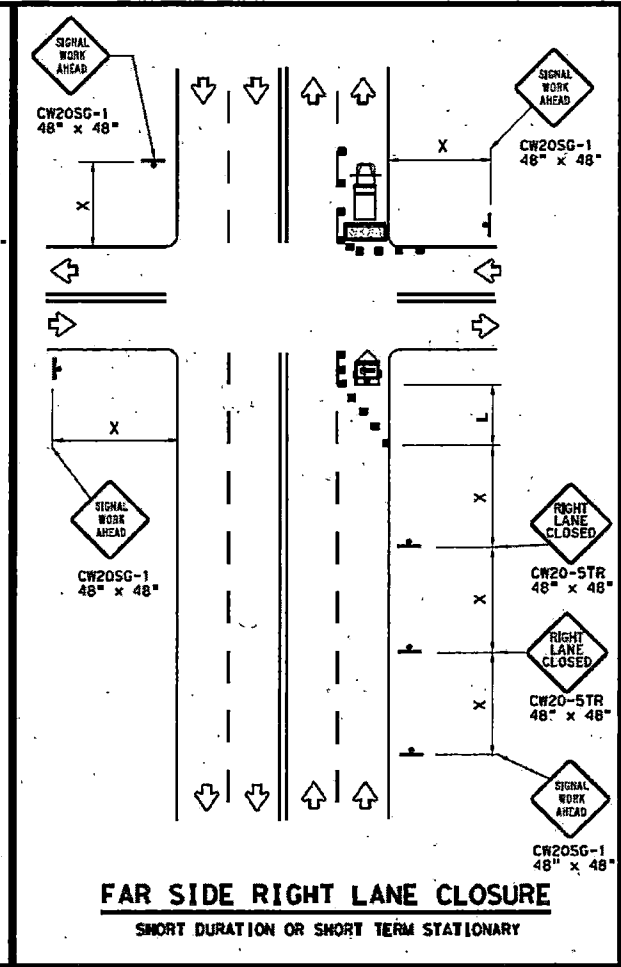
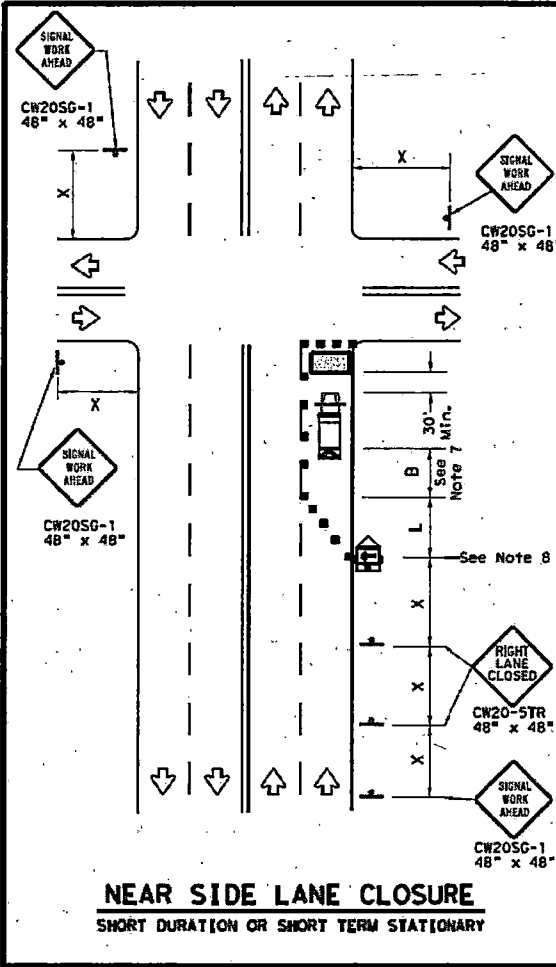


**infraTECH**  
 Engineers & Innovators, LLC  
 TPBE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: TRAFFIC CONTROL PLAN	
DRAWN BY: LB	STANDARD DRAWINGS (SHEET 12 OF 14)
DATE: 11/2/2022	DATE: 11/2/2022
CK'D BY: SU	SCALE: 184

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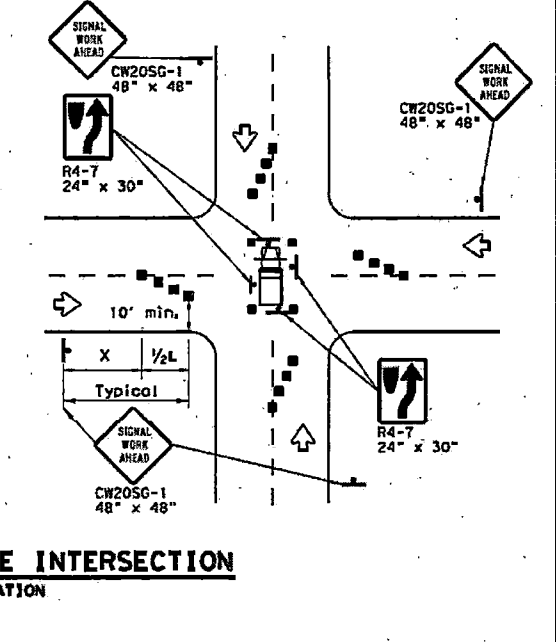
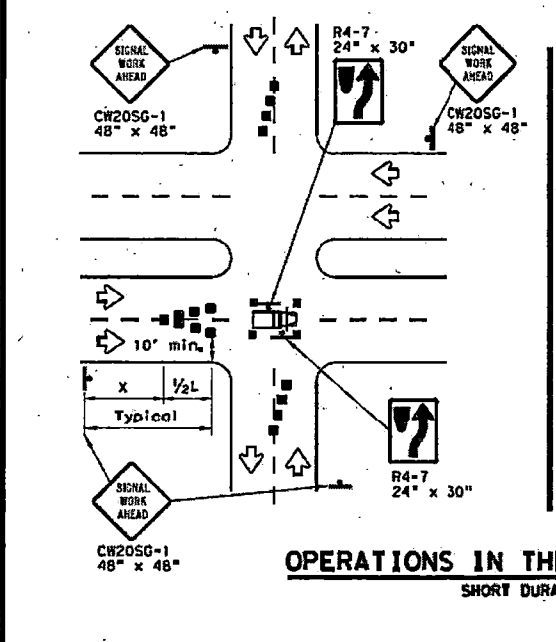
**LEGEND**

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed X	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS <sup>2</sup> / 60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40	L = WS	265'	295'	320'	40'	80'	240'	155'
45		450'	495'	540'	45'	90'	320'	195'
50	L = WS	500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60	L = WS	600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70	L = WS	700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

\* Conventional Roads Only  
\*\* Taper lengths have been rounded off.  
L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

**WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.**



**GENERAL NOTES**

- The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
- Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
- Flagger and Flagger Symbol (CW20-7) signs may be required according to field conditions.
- Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
- High level warning devices (flag trees) may be used at corners of the vehicle.
- When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
- For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
- The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
- Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-STL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.



SHEET 1 OF 2

Texas Department of Transportation  
Traffic Operations Division Standard

**TRAFFIC SIGNAL WORK TYPICAL DETAILS**

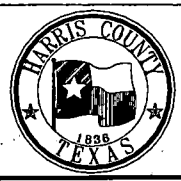
**WZ (BTS-1) - 13**

FILE: wz018-13.dgn  
DATE: 11/2/2022  
DRAWN BY: LB  
CHECKED BY: SU

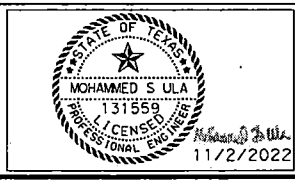
QUITMAN RD WZBTS-13 STD.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18388  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

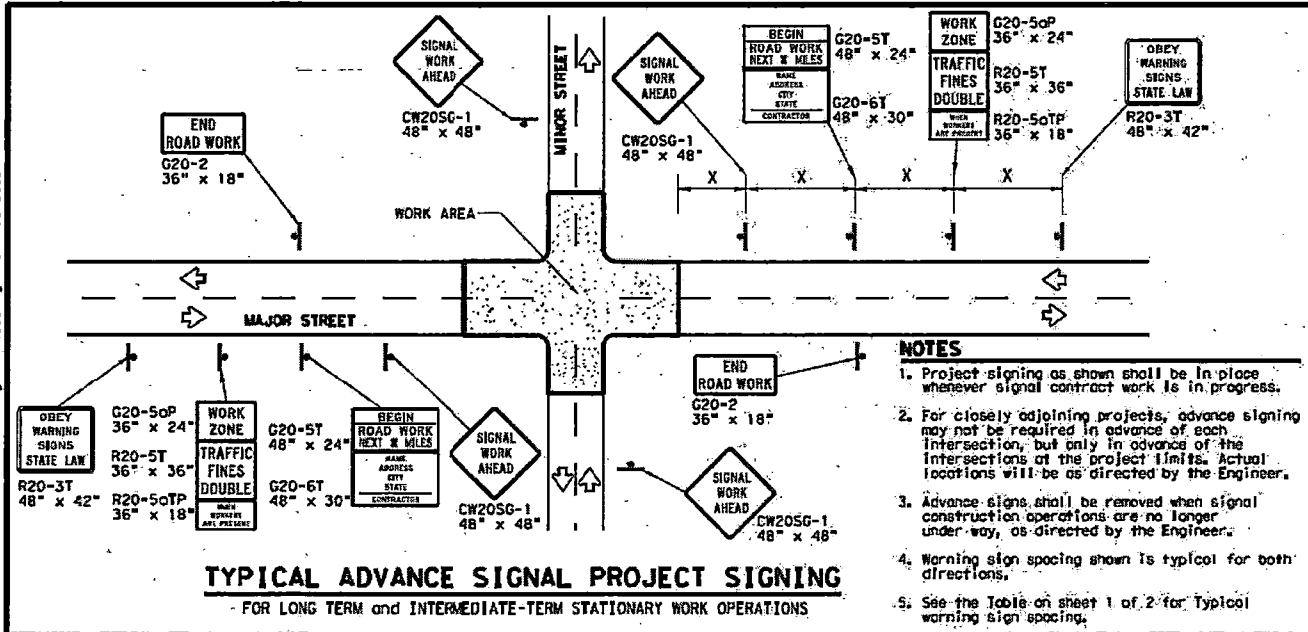


PROJECT TITLE: **QUITMAN STREET ON-STREET BIKEWAY AND SIDEWALKS**

SHEET DESCRIPTION: **TRAFFIC CONTROL PLAN**

DRAWN BY: LB  
SCALE: STANDARD DRAWINGS (SHEET 13 OF 14)  
DATE: 11/2/2022  
SHEET NO.: 185

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**TYPICAL ADVANCE SIGNAL PROJECT SIGNING**  
FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

- NOTES**
1. Project signing as shown shall be in place whenever signal contract work is in progress.
  2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
  3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
  4. Warning sign spacing shown is typical for both directions.
  5. See the Table on sheet 1 of 2 for typical warning sign spacing.

**GENERAL NOTES FOR WORK ZONE SIGNS**

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

**DURATION OF WORK**

1. Work zone durations are defined in Part 6, Section 66.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

**SIGN MOUNTING HEIGHT**

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

**REMOVING OR COVERING**

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

**REFLECTIVE SHEETING**

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

**SIGN SUPPORT WEIGHTS**

1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs. and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber, such as fire inner tubes, shall not be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

**LEGEND**

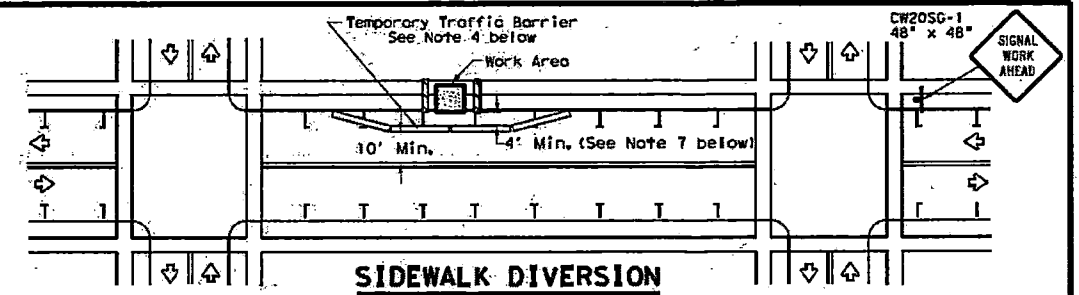
	Sign
	Channelizing Devices
	Type 3 Barricade

**DEPARTMENTAL MATERIAL SPECIFICATIONS**

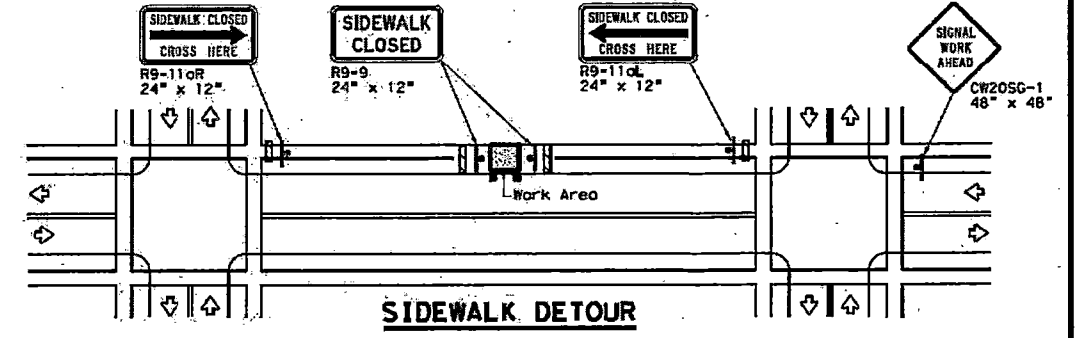
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B <sub>FL</sub> OR TYPE C <sub>FL</sub> SHEETING
WHITE	BACKGROUND	TYPE A SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

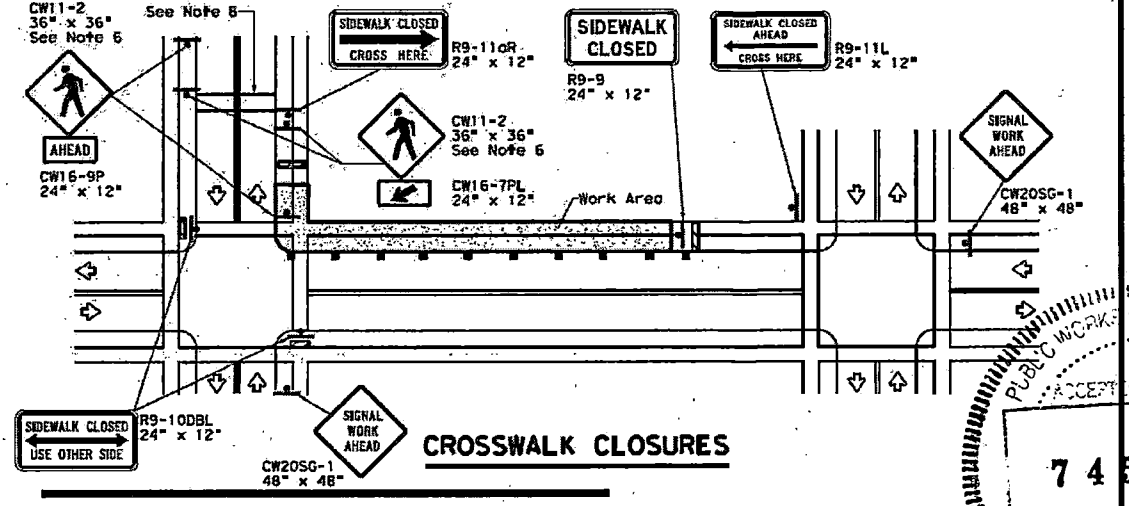
Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:  
[http://www.txdot.gov/txdot\\_library/publications/construction.htm](http://www.txdot.gov/txdot_library/publications/construction.htm)



**SIDEWALK DIVERSION**



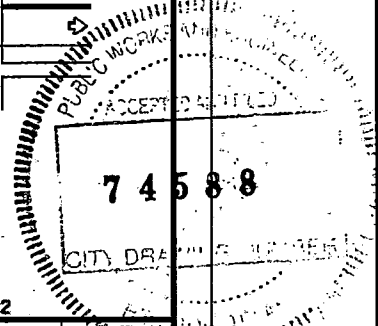
**SIDEWALK DETOUR**



**CROSSWALK CLOSURES**

**PEDESTRIAN CONTROL**

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.



SHEET 2 OF 2

**TRAFFIC SIGNAL WORK BARRICADES AND SIGNS**

**WZ(BTS-2)-13**

FILE: w2019-13.dgn	DR: TxDOT	CR: TxDOT	DL: TxDOT	CD: TxDOT
© TxDOT April 1992	CDPT	SECT	JOB	HIGHWAY
2-98 10-99 7-13	REVISONS			
4-98 3-03	DIST	COUNTY	SHEET NO.	

Texas Department of Transportation  
Traffic Operations Division  
Standard

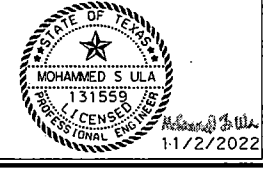
QUITMAN RD WZBTS-13 STD.dgn

NO.	REVISIONS	DATE	NAME

**HARRIS COUNTY ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-16369  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: **QUITMAN STREET ON-STREET BIKEWAY AND SIDEWALKS**

SHEET DESCRIPTION: **TRAFFIC CONTROL PLAN**

DRAWN BY: **LB**      STANDARD DRAWINGS (SHEET 14 OF 14)      DATE: **11/2/2022**

CK'D BY: **SU**      SCALE:      SHEET NO.: **186**

TRAFFIC SIGNAL GENERAL NOTES:

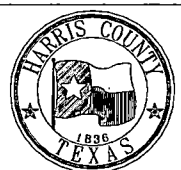
1. ALL EQUIPMENT/MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT CITY OF HOUSTON STANDARD SPECIFICATIONS AND STANDARD DRAWINGS, THE PROJECT SPECIFIC SPECIFICATIONS AND THE PLANS.
2. ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE PROVISIONS AND REQUIREMENTS OF THE CITY ELECTRICAL CODE.
3. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE TEXAS MANUALS ON UNIFORM TRAFFIC CONTROL DEVICES.
4. THE CONTRACTOR SHALL ARRANGE THE INSTALLATION OF SIGNALS, POLES AND CONDUITS 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 MATERIALS RESULTING FROM CONTRACT OPERATIONS EACH DAY PRIOR TO WORK BEING SUSPENDED FOR THAT DAY.
6. 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.
7. 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.
8. NO POLES SHALL BE LOCATED IN WHEELCHAIR RAMPS OR SUCH THAT THEY ARE AN OBSTRUCTION TO PEDESTRIANS OR WHEELCHAIRS.
9. THE TOP OF THE POLE FOUNDATION SHALL BE LEVELED WITH THE FINISHED GRADE. IF THERE IS 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 FOUR (4) INCHES ABOVE SURROUNDING GRADE. GROUTING SHALL BE USED TO FILL ANY GAP BETWEEN THE POLE BASE AND FOUNDATION.
10. 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 (NESEC).
11. ALL CONCRETE USED FOR TRAFFIC SIGNAL POLE AND CABINET FOUNDATIONS SHALL BE CLASS "A" (REFER TO THE CITY OF HOUSTON SPECIFICATION FOR CONCRETE).
12. ALL UNDERGROUND CONSTRUCTION (CONDUITS, 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 UNTILL THE ENGINEER AND/OR APPROVED CITY OF HOUSTON REPRESENTATIVE HAVE CONFIRMED THAT THE MATERIALS FOR A COMPLETE INSTALLATION ARE AVAILABLE.
13. UNDERGROUND CONDUITS 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.
14. ALL ABOVEGROUND CONDUITS 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.
15. ONLY NEW CONDUIT AND CABLE SHALL BE INSTALLED.
16. 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.
17. 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.
18. 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.
19. A 5/8 IN. X 10 FT. GROUND ROD SHALL BE INSTALLED IN THE NO. 7 PULL BOX LOCATED ON EACH CORNER. TWO GROUND ROD CLAMPS SHALL BE FURNISHED FOR GROUNDING THE GROUND WIRE.
20. 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 INSTALLTION.
21. 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.
22. 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.
23. ALL CABLES SHALL BE STRIPPED, FORMED AND TERMINATED IN A NEAT AND UNIFORM MANNER WHETHER IN THE SIGNAL HEAD OR CONTROLLER CABINET. ALL CABLES 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.
24. HIGH VOLTAGE CABLES SHOULD BE SEPARATED FROM THE LOW VOLTAGE CABLES AS MUCH AS POSSIBLE.
25. 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.
26. 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.
27. DETECTION LOOP SAW CUTS SHALL BE FLUSHED WITH WATER UNDER PRESSURE AND THEN DRIED WITH AIR UNDER PRESSURE.
28. 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.
29. ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED.
30. THE CONTRACTOR SHALL BAG ALL NEWLY INSTALLED VEHICULAR AND/OR PEDESTRIAN TRAFFIC SIGNAL HEADS WITH BURLAP OR OTHER APPROVED MATERIAL UNTILL THE FINAL INSPECTION AND ACCEPTANCE BY THE CITY TRAFFIC ENGINEER AN/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 UNTILL THE TRAFFIC SIGNAL IS PLACED IN OPERATION. DURING CONSTRUCTION, THE TRAFFIC SIGNAL WILL BE DE-ENERGIZED WHILE NOT IN USE FOR TESTING.
31. THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.
32. 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.



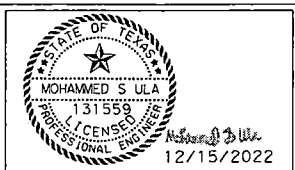
12/15/2022 Prop Bike Signal Traffic Signal Notes.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18388  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
HJ		12/15/2022	
CK'D BY:	SCALE: N.T.S.	SHEET NO.:	
SU		187	

**UTILITY NOTES:**

CONTRACTOR IS MADE AWARE THAT CENTERPOINT, AT&T AND COMCAST ARE PRESENT IN THE VICINITY AND MAY BE IN CONFLICT WITH TRAFFIC SIGNAL POLES, CABLES/ CONDUITS MAY NEED TO BE RELOCATED IF IN CONFLICT WITH TRAFFIC SIGNAL POLE.

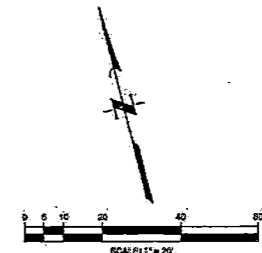
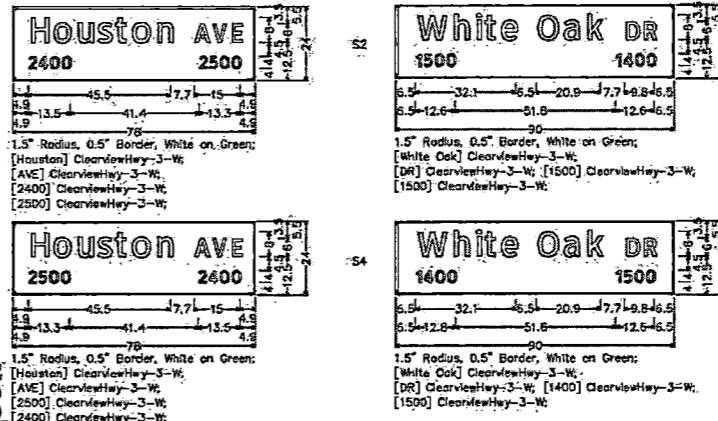
**SPECIAL NOTES:**

1. THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE DURING CONSTRUCTION, INFRASTRUCTURE INCLUDED, BUT NOT LIMITED TO, FIBER CABLE, COPPER, ETHERNET SWITCHED, WIMAX, BLUE TOOTH, ETC. INTERRUPTION OF ITS OPERATIONS SHALL REQUIRE APPROVAL FROM THE CITY OF HOUSTON TRAFFIC OPERATIONS DIVISION/ITS SECTION AT A MINIMUM OF ONE WEEK IN ADVANCE. PLEASE CONTACT THE TRAFFIC OPERATIONS DIVISION/ITS SECTION FOR QUESTIONS AT 713-981-3172.
2. THE CONTRACTOR SHALL MAINTAIN ALL SIGNAL POLES 4' HORIZONTAL AND 6' VERTICAL CLEARANCE FROM WATERLINE.

- S1 = STREET NAME "Houston Ave", BLOCK NUMBERS 2400 AND 2500
- S2 = STREET NAME "White Oak Dr", BLOCK NUMBERS 1500 AND 1400
- S3 = STREET NAME "Houston Ave", BLOCK NUMBERS 2500 AND 2400
- S4 = STREET NAME "White Oak Dr", BLOCK NUMBERS 1400 AND 1500
- S5 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S6 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S7 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S8 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S9 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S10 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S11 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"
- S12 = R10-171 (36"x42") SIGN, "LEFT TURN YIELD ON FLASHING YELLOW ARROW"

**POSTED SPEED LIMIT**  
HOUSTON AVE = 30 MPH  
WHITE OAK DR = 30 MPH

**PROPOSED STREET NAME SIGNS**



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT 713-207-2222.

**PRIVATE UTILITY LINES SHOWN**

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

CenterPoint Energy/Natural Gas Facilities Verification ONLY  
 This signature verifies that you have shown "811" Natural Gas (gas company) that is used for location verification. Gas service lines are not shown. Signature valid for six months.

Date: 5-24-18

Approved for AT&T Texas "BEST" underground conduit facilities ONLY.  
 Signature valid for one year.

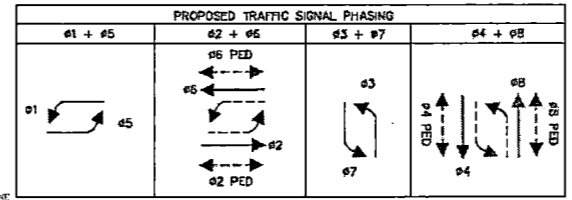
Date: 5-24-18

Underground Electrical Facilities Verification ONLY  
 This signature verifies existing underground facilities. Not to be used for conflict verification. Signature valid for six months.

Date: 5-24-18

DATE	REVISIONS	APP.

STOP LINE AND DETECTOR LOCATIONS		
ITEM BY DIRECTION	STATION HOUSTON AVENUE	OFFSET
<b>WESTBOUND</b>		
STOP LINE @ GUTTER	6+34.0	59' RT
STOP LINE @ CENTERLINE	6+05.5	59' RT
PHASE 1 PRESENCE LOOP L1-1A LEADING EDGE (6'x50')	6+14.2	CENTERED IN LANE
PHASE 6 PRESENCE LOOP L8-1A LEADING EDGE (6'x20')	6+21.8	CENTERED IN LANE
<b>EASTBOUND</b>		
STOP LINE @ GUTTER	6+14.6	67' LT
STOP LINE @ CENTERLINE	6+52.0	80.6' LT
PHASE 5 PRESENCE LOOP L5-1A LEADING EDGE (6'x50')	6+41.7	CENTERED IN LANE
PHASE 2 PRESENCE LOOPS L2-1A LEADING EDGE (6'x20')	6+35.8	CENTERED IN LANE
L2-2A LEADING EDGE (6'x20')	6+20.3	CENTERED IN LANE
<b>SOUTHBOUND</b>		
STOP LINE @ GUTTER	6+93.2	25.6' LT
STOP LINE @ CENTERLINE	6+67.8	2.0' RT
PHASE 7 PRESENCE LOOP L7-1A LEADING EDGE (6'x50')	6+72.7	CENTERED IN LANE
PHASE 4 CALL LOOPS L4-1A LEADING EDGE (6'x6')	6+94.4	CENTERED IN LANE
PHASE 4 PULSE LOOPS L4-1B LEADING EDGE (6'x6')	270' FROM STOP BAR	CENTERED IN LANE
<b>NORTHBOUND</b>		
STOP LINE @ GUTTER	5+45.7	30.6' RT
STOP LINE @ CENTERLINE	5+57.7	8.5' LT
PHASE 7 PRESENCE LOOP L7-1A LEADING EDGE (6'x50')	5+73.0	CENTERED IN LANE
PHASE 8 CALL LOOPS L8-1A LEADING EDGE (6'x6')	5+50.4	CENTERED IN LANE
L8-2A LEADING EDGE (6'x6')	5+44.3	CENTERED IN LANE
PHASE 8 PULSE LOOPS L8-1B LEADING EDGE (6'x6')	270' FROM STOP BAR	CENTERED IN LANE

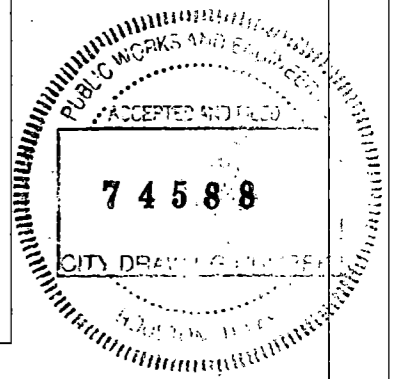


**JONES CARTER**  
 SURVEYED BY:  
 UNITED ENGINEERS, INC.  
 FB NO. P-6086

**CITY OF HOUSTON**  
 HOUSTON PUBLIC WORKS  
 HOUSTON AVENUE & WHITE OAK DRIVE  
 INTERSECTION IMPROVEMENTS

**TRAFFIC SIGNAL PLAN**

WBS NUMBER: N-T05000-0004-3  
 DRAWING SCALE: 1"=20'  
 CITY OF HOUSTON PM: GARY HILL, P.E.  
 SHEET NO. 57 OF 64



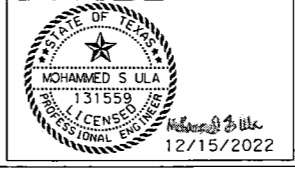
12/15/2022 Prop Bike Signal Houston Ave @ White Oak Dr Existing Condition.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPB REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042

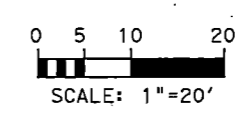


PROJECT TITLE:	QUITMAN STREET	
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:	HJ	DATE: 12/15/2022
CK'D BY:	SU	SHEET NO: 188
CITY OF HOUSTON PM:	GARY HILL, P.E.	SCALE: N.T.S.

12/15/2022 Prop Bike Signal-Houston Ave @ White Oak Dr-Proposed Signal-01.dgn

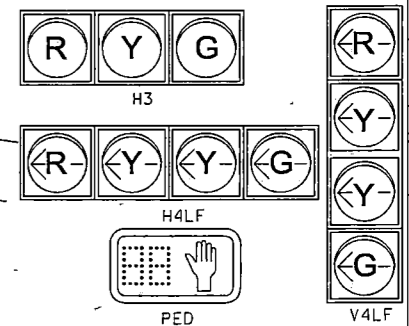
PROPOSED TRAFFIC SIGNAL PHASING			
Ø1+Ø5	Ø2+Ø6+Ø2B+Ø6B	Ø3+Ø7	Ø4+Ø8+Ø4B+Ø8B

MATCH LINE SEE LAYOUT SHEET 2

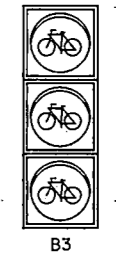


- POLE SCHEDULE**
- A - EXISTING SERVICE POLE
  - B - EXISTING TRAFFIC SIGNAL CABINET (TYPE 342 ITS W/POLYMER BASE AND MODIFIED FOUNDATION W/HANDRAILS ON BOTH SIDES)
  - C - EXISTING TRAFFIC SIGNAL POLE
  - D - EXISTING PEDESTRIAN SIGNAL POLE
  - E - EXISTING TRAFFIC SIGNAL POLE
  - F - EXISTING PEDESTRIAN SIGNAL POLE
  - G - EXISTING TRAFFIC SIGNAL POLE
  - H - EXISTING PEDESTRIAN SIGNAL POLE
  - I - EXISTING TRAFFIC SIGNAL POLE
  - J - EXISTING PEDESTRIAN SIGNAL POLE
  - K - PROPOSED PEDESTRIAN SIGNAL POLE

**EXISTING SIGNAL HEAD SCHEDULE**



**PROPOSED SIGNAL HEAD SCHEDULE WITH LOUVERED BLACK BACKPLATES**

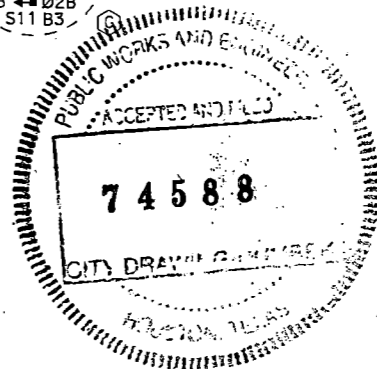
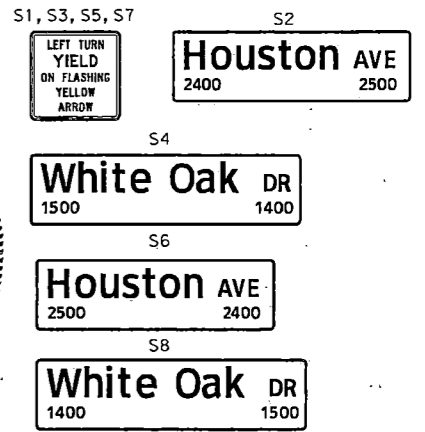


**PROPOSED SIGNS**  
S9, S10, S11, S12, S13



R10-10b  
30X24

**EXISTING SIGN SCHEDULE**



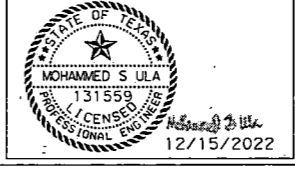
**NOTE:**  
EXISTING WIRING SHOWN IN ELECTRICAL CHART IS PER RECORD DRAWINGS.  
THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED. INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

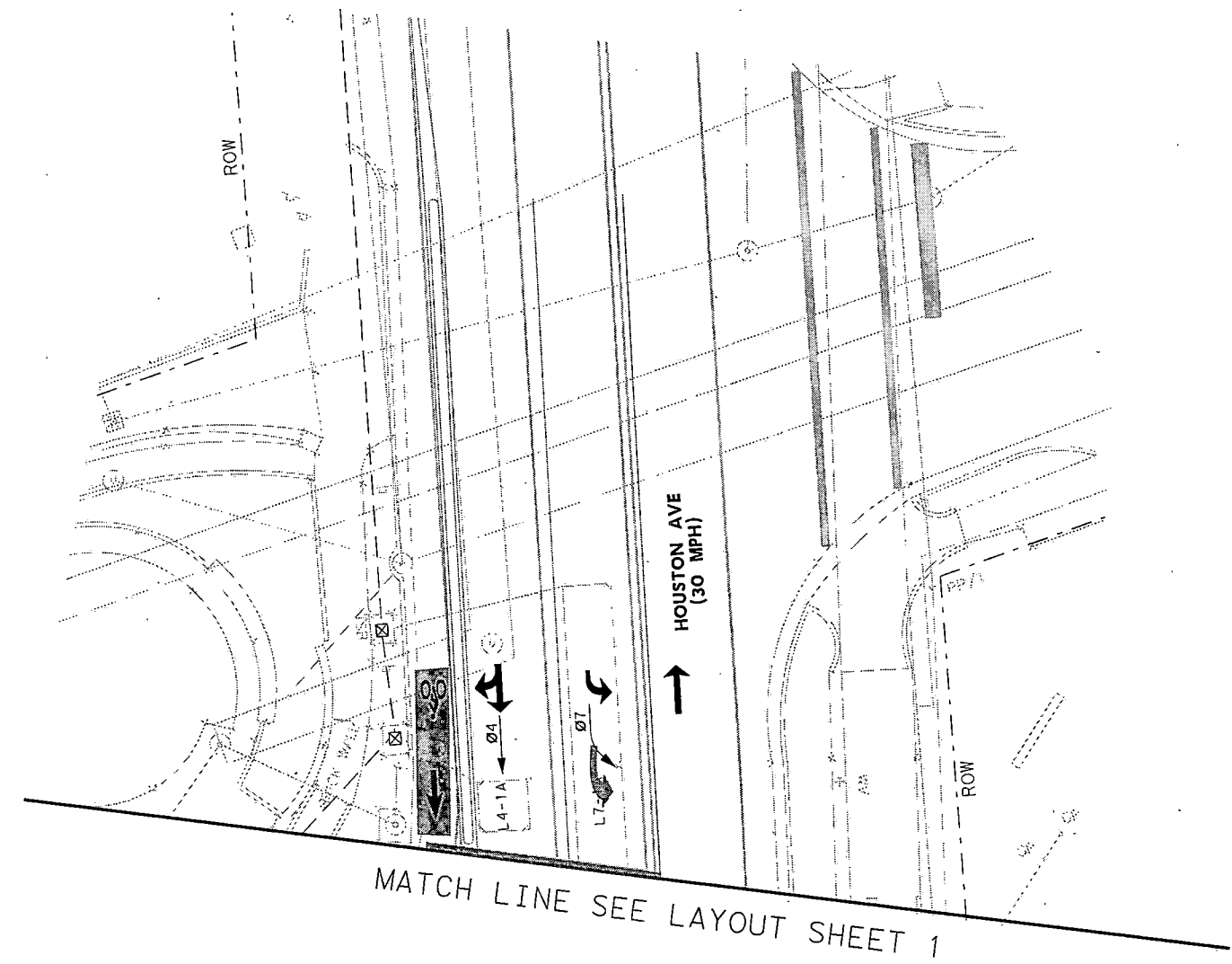
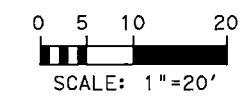


**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: <b>WHITE OAK DR AT HOUSTON AVE</b>	
DRAWN BY: HJ	DATE: 12/15/2022
CK'D BY: SU	SHEET NO: 189





NOTE:  
 EXISTING WIRING SHOWN IN ELECTRICAL CHART IS PER RECORD DRAWINGS.  
 THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED. INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.  
 EXISTING CABINET AND CONTROLLER INFORMATION ARE BASED ON RECORD DRAWINGS.



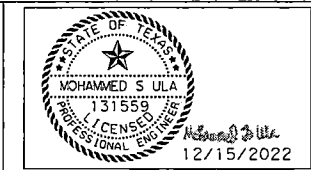
12/15/2022 Prop Bike Signal\*Houston Ave @ White Oak Dr\*Proposed Signal\*02.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TYPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		HJ	
CK'D BY:		SU	
DATE:		12/15/2022	
SCALE:		1" = 20'	
SHEET NO.:		190	

TRAFFIC SIGNAL POLE SCHEDULE

POLE NUMBER	POLE TYPE	MAST ARM		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
	EXISTING	EXISTING	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S9 = R10-10b	-	02893-02 02893-03 02893-08
D	EXISTING	EXISTING	-	-	-	-	-	-	-	-
E	EXISTING	EXISTING	-	-	-	-	-	-	-	-
F	EXISTING	EXISTING	-	-	-	-	-	-	-	-
	EXISTING	EXISTING	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S11 = R10-10b	-	02893-02 02893-03 02893-08
H	EXISTING	EXISTING	-	-	-	-	-	-	-	-
	EXISTING	EXISTING	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S12 = R10-10b	-	02893-02 02893-03 02893-08
J	EXISTING	EXISTING	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S12 = R10-10b	-	02893-02 02893-03 02893-08
K	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S10 = R10-10b	STA 06+26, 48' LT HOUSTON AVE, CONSTANT E	02893-02 02893-03 02893-07 02893-08



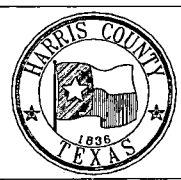
EXISTING TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
	EXISTING	-	-	-	-	-
	TYPE 342 ITS W/POLYMER BASE AND MODIFIED FOUNDATIONS W/HANDRAILS ON BOTH SIDES (EXISTING)	2070 LX CONTROLLER UNIT WITH 2070-1C CPU MODULE W/GPS SERIAL COMMUNICATIONS MODULE AND UPS SYSTEM (EXISTING)	-	-	-	-

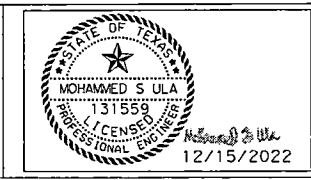
Prop Bike Signal-Houston Ave @ White Oak Dr-Detail.sx06.dgn 12/15/2022

NO.	REVISIONS	DATE	NAME
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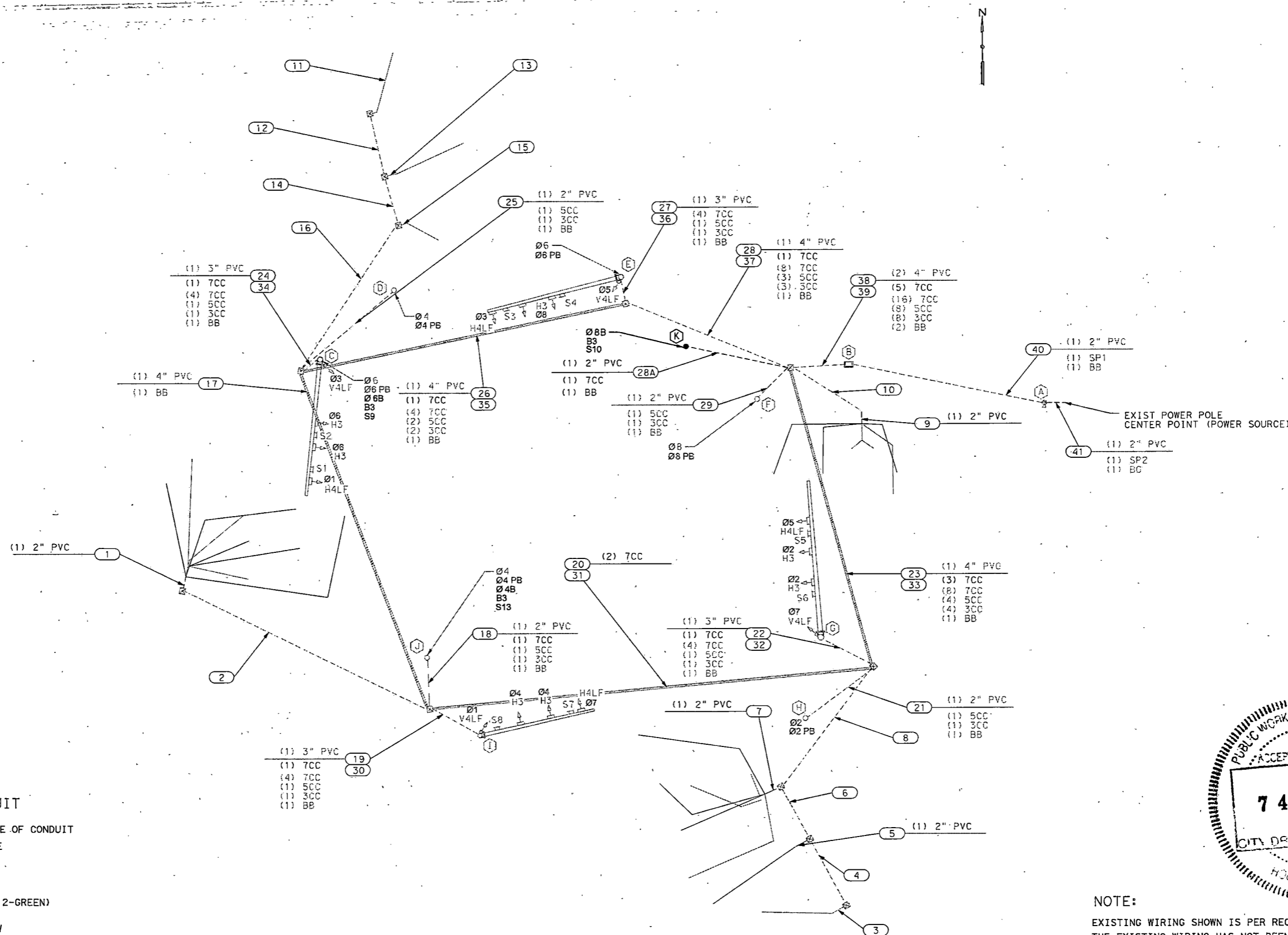
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:	QUITMAN STREET		
	ON-STREET BIKEWAY AND SIDEWALKS		
SHEET DESCRIPTION:	WHITE OAK DR AT HOUSTON AVE		
DRAWN BY:	HJ	TRAFFIC SIGNAL POLE SCHEDULE (SHEET 1 OF 1)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 191



**HIGH VOLTAGE CIRCUIT**

- (1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
- CC = 14 AWG SOLID CONDUCTOR CABLE
- BB = BARE BOND 8 AWG SOLID
- BG = BARE GROUND, 8 AWG SOLID
- SP1 = SIGNAL POWER, 6 AWG XHHW (2-WHITE, 1-BLACK, 1-RED, & 2-GREEN)
- SP2 = 4 - #4 AWG XHHW
- SL = STREET LIGHTING, 10 AWG XHHW
- PC = PHOTO CELL, 10 AWG XHHW



**NOTE:**  
 EXISTING WIRING SHOWN IS PER RECORD DRAWINGS.  
 THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED.  
 INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.

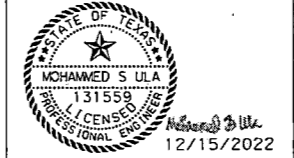
Prop Bike Signal\*Houston Ave @ White Oak Dr\*Details\*04.dgn  
12/15/2022

NO.	REVISIONS	DATE	NAME
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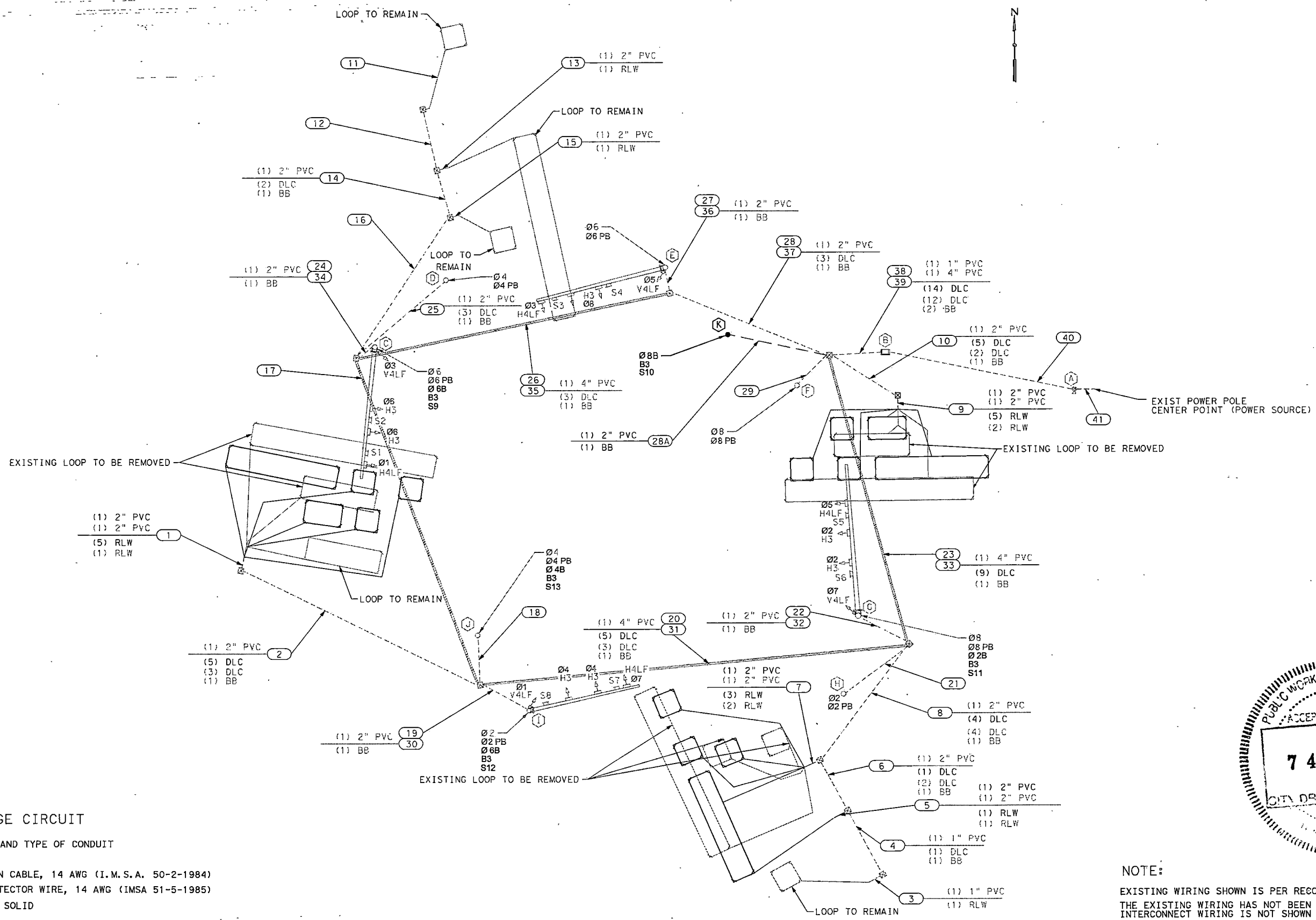
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-16368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: <b>QUITMAN STREET</b>	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: <b>WHITE OAK DR AT HOUSTON AVE</b>	
DRAWN BY: HJ	DATE: 12/15/2022
CK'D BY: SU	SHEET NO: 192
SCALE: N.T.S.	



**LOW VOLTAGE CIRCUIT**

- (X)Y\"C = NUMBER, SIZE AND TYPE OF CONDUIT
- (X) = NUMBER OF CABLES
- DLC = DETECTOR LEAD-IN CABLE, 14 AWG (I.M.S.A. 50-2-1984)
- RLW = ROADWAY LOOP DETECTOR WIRE, 14 AWG (IMSA 51-5-1985)
- BB = BARE BOND #8 AWG SOLID

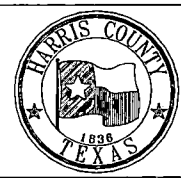
**NOTE:**  
 EXISTING WIRING SHOWN IS PER RECORD DRAWINGS.  
 THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED.  
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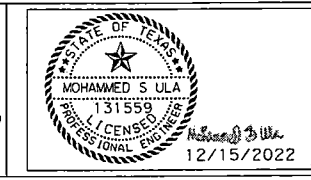
12/15/2022 Prop Bike Signal Houston Ave @ White Oak Dr Details\*05.dgn

NO.	REVISIONS	DATE	NAME

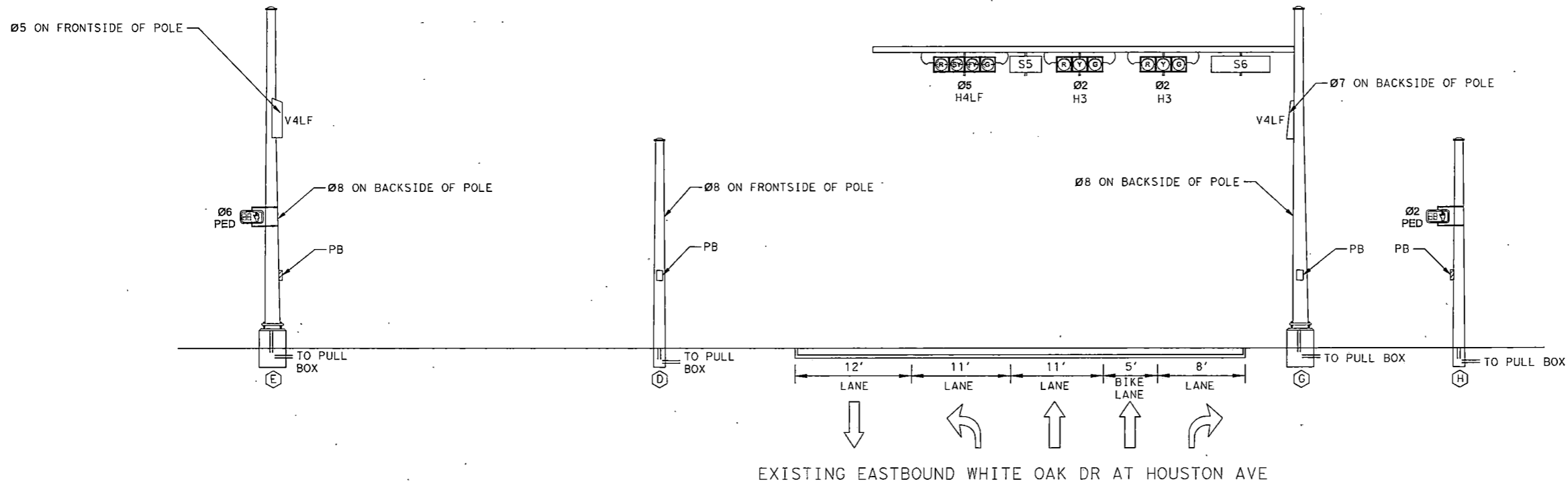
**HARRIS COUNTY  
 ENGINEERING DEPARTMENT**



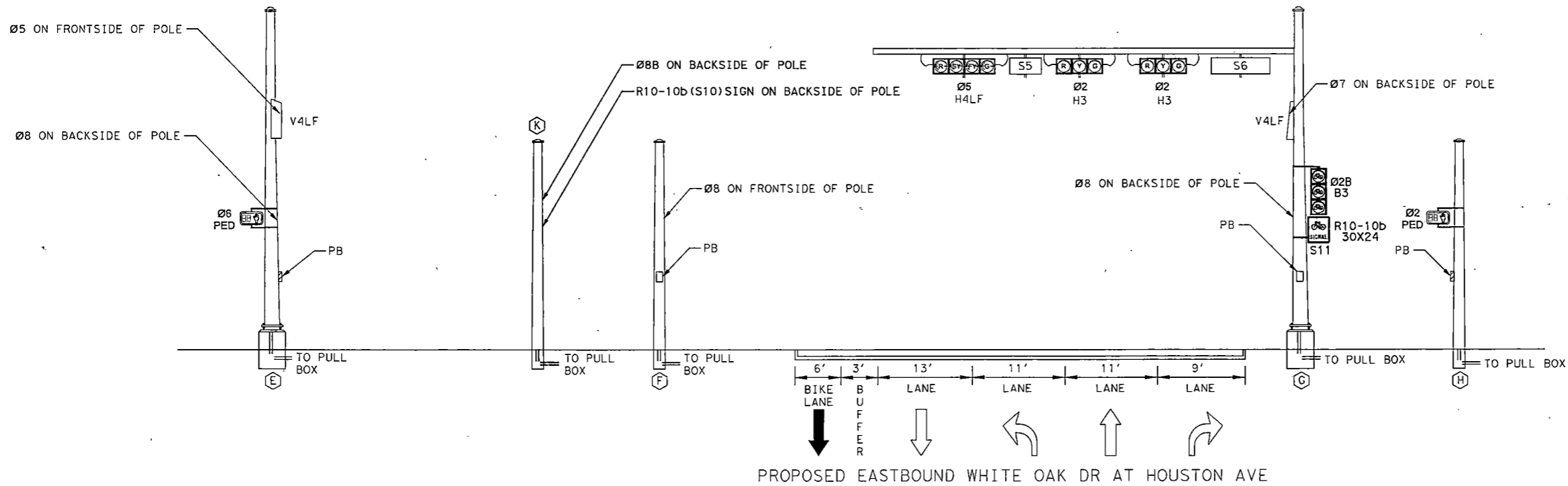
**infraTECH**  
 Engineers & Innovators, LLC  
 TBPB REGISTRATION NO. F-163668  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: <b>QUITMAN STREET</b>	
SHEET DESCRIPTION: <b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
DRAWN BY: HJ	
SCALE: N.T.S.	
DATE: 12/15/2022	SHEET NO: 193



EXISTING EASTBOUND WHITE OAK DR AT HOUSTON AVE



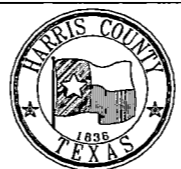
PROPOSED EASTBOUND WHITE OAK DR AT HOUSTON AVE



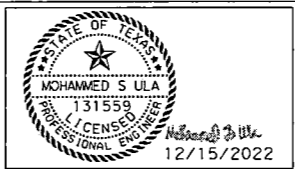
12/15/2022 Prop Bike Signal-Houston Ave @ White Oak Dr-Detail.s\*02.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

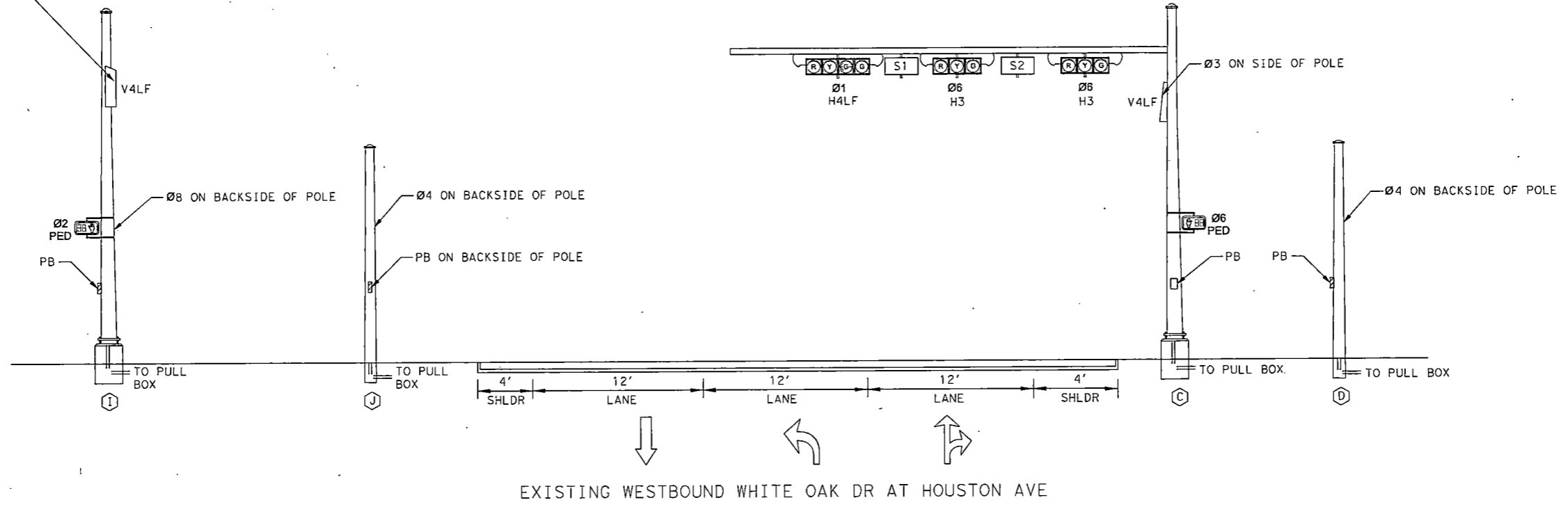


**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



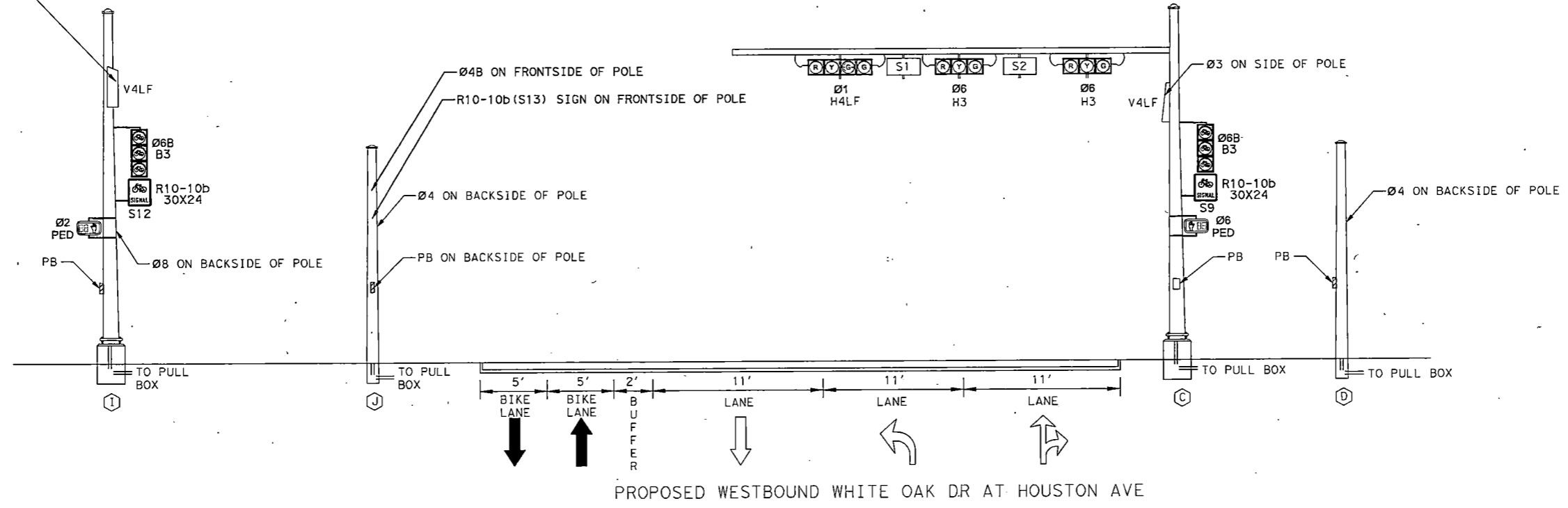
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		WHITE OAK DR AT HOUSTON AVE	
DRAWN BY:	PROPOSED SIGNAL ELEVATION - EASTBOUND	DATE:	12/15/2022
CK'D BY:	(SHEET 1 OF 2)	SHEET NO.:	194
SU	SCALE: N.T.S.		

Ø1 ON FRONTSIDE OF POLE



EXISTING WESTBOUND WHITE OAK DR AT HOUSTON AVE

Ø1 ON FRONTSIDE OF POLE



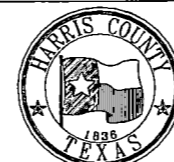
PROPOSED WESTBOUND WHITE OAK DR AT HOUSTON AVE



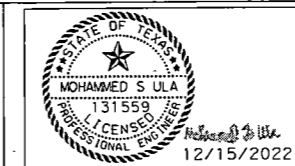
12/15/2022 Prop Bike Signal-Houston Ave @ White Oak Dr-Details\*03.dgn

NO.	REVISIONS	DATE	NAME
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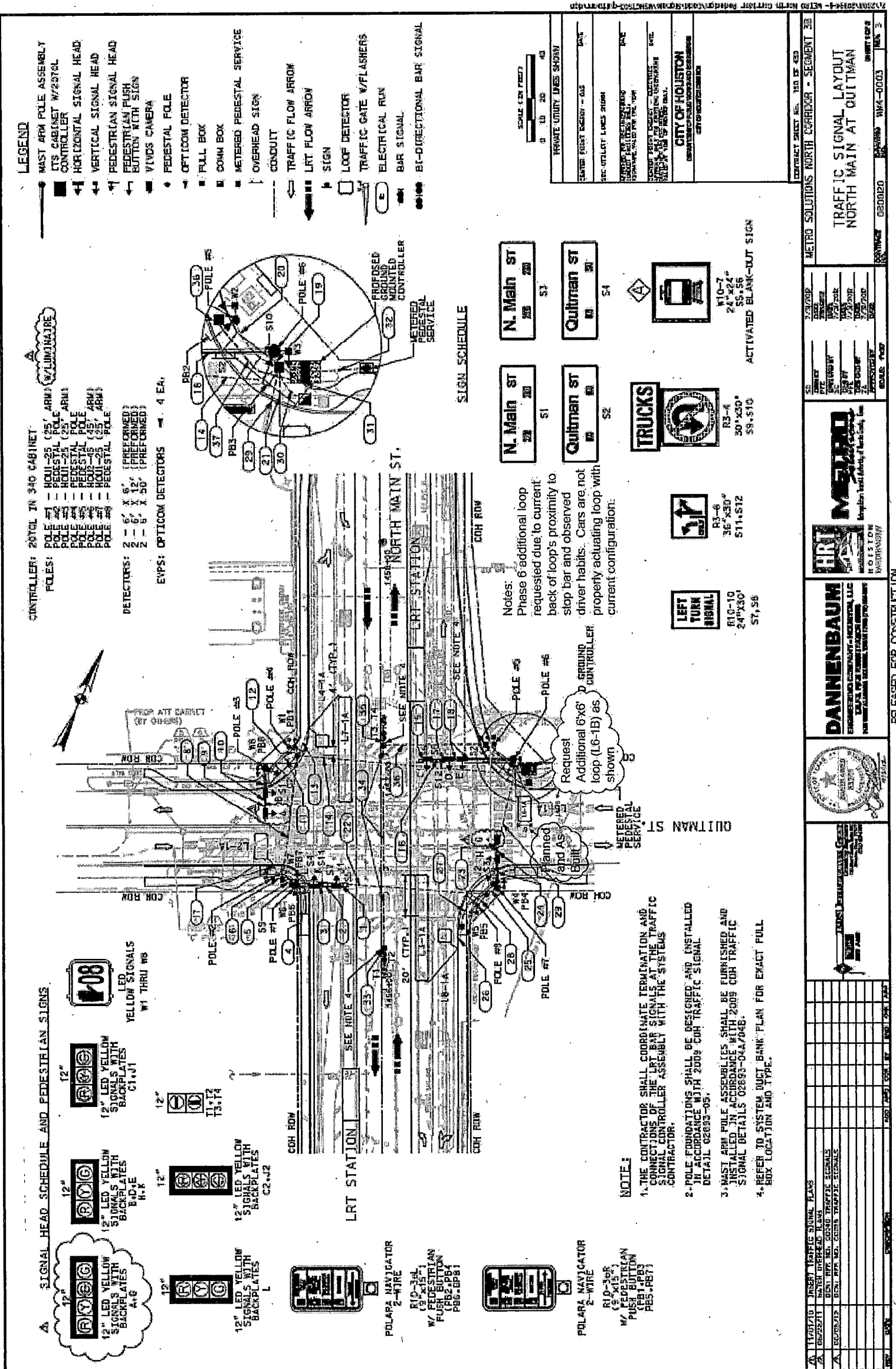
HARRIS COUNTY  
ENGINEERING DEPARTMENT



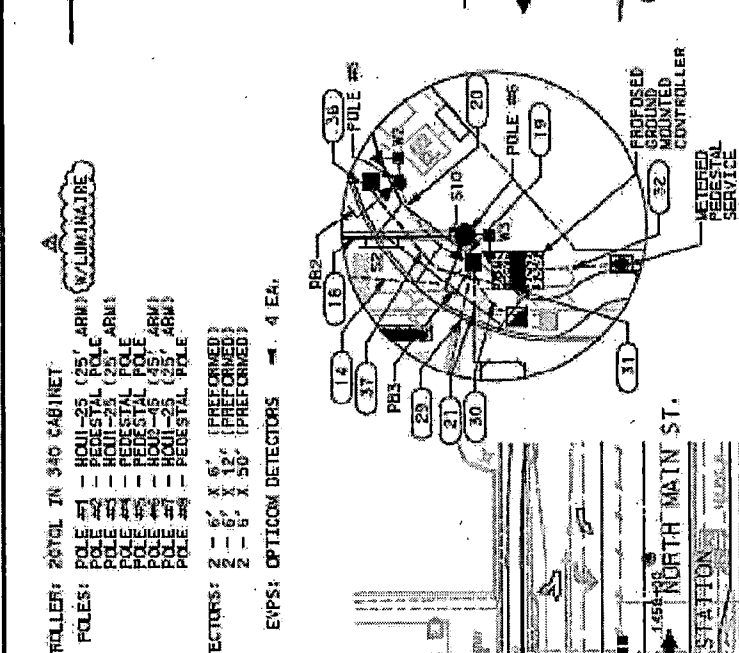
**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		WHITE OAK DR AT HOUSTON AVE	
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - WESTBOUND (SHEET 2 OF 2)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 195



- LEGEND**
- MAST ARM POLE ASSEMBLY
  - CTS CABINET W/208L CONTROLLER
  - HORIZONTAL SIGNAL HEAD
  - VERTICAL SIGNAL HEAD
  - PEDESTRIAN SIGNAL HEAD
  - PEDESTRIAN PUSH BUTTON WITH SIGN
  - VIVID CAMERA
  - PEDESTAL POLE
  - OPTICOM DETECTOR
  - PULL BOX
  - CONV BOX
  - METERED PEDESTAL SERVICE OVERHEAD SIGN
  - CONDUIT
  - TRAFFIC FLOW ARROW
  - LRT FLOW ARROW
  - TRAFFIC GATE W/FLASHERS
  - ELECTRICAL RUN
  - BAR SIGNAL
  - BI-DIRECTIONAL BAR SIGNAL



**CONTROLLER:** 208L IN 340 CABINET

**POLES:**

- POLE #1 - HOU-25 (25' ARM) W/LUMINAJDE
- POLE #2 - PEDESTAL POLE ARM
- POLE #3 - HOU-25 (25' ARM)
- POLE #4 - PEDESTAL POLE
- POLE #5 - HOU-15 (15' ARM)
- POLE #6 - PEDESTAL POLE
- POLE #7 - HOU-25 (25' ARM)
- POLE #8 - PEDESTAL POLE

**DETECTORS:**

- 2 - 6" X 6" (PREFORMED)
- 2 - 6" X 15" (PREFORMED)
- 2 - 6" X 30" (PREFORMED)

**EXPS:** OPTICOM DETECTORS - 4 EA.

**NOTES:**

1. THE CONTRACTOR SHALL COORDINATE TERMINATION AND CONNECTIONS OF THE LRT BAR SIGNALS AT THE TRAFFIC SIGNAL CONTROLLER ASSEMBLY WITH THE SYSTEMS CONTRACTOR.
2. POLE FOUNDATIONS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH 2009 COH TRAFFIC SIGNAL DETAIL 02893-05.
3. MAST ARM POLE ASSEMBLIES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH 2009 COH TRAFFIC SIGNAL DETAILS 02893-04 & 04B.
4. REFER TO SYSTEM DUCT BANK PLAN FOR EXACT PULL BOX LOCATION AND TYPE.

**Request Additional 6'x6' GROUND CONTROLLER loop (L6-1B) as shown**

**Planned and As-Built**

**METERED PEDESTAL SERVICE**

**LEFT TURN SIGNAL** R3-6 36"x30" 511-572 S1, 36

**TRUCKS** R3-4 20"x30" 58, 510

**ACTIVATED BLANK-OUT SIGN** R10-7 24"x24" 55, 56

**REVISIONS**

NO.	DATE	NAME

**TRAFFIC SIGNAL LAYOUT NORTH MAIN AT QUITMAN**

**CITY OF HOUSTON**  
DEPARTMENT OF TRANSPORTATION  
CONTRACT NO. 2009-00003

**CONTRACT DISTRICT NO. 150 OF 400**

**METRO SOLUTIONS NORTH CORRIDOR - SEGMENT 2B**

**DATE**

**SCALE (IN FEET)**

**PROJECT TITLE:** QUITMAN STREET ON-STREET BIKEWAY AND SIDEWALKS

**SHEET DESCRIPTION:** QUITMAN ST AT N MAIN ST

**DRAWN BY:** EXISTING TRAFFIC SIGNAL LAYOUT (SHEET 1 OF 1)

**CHK'D BY:** SCALE: N.T.S.

**DATE:** 12/15/2022

**SHEET NO.:** 199

**RELEASED FOR CONSTRUCTION**

**HARRIS COUNTY ENGINEERING DEPARTMENT**

**infraTECH**  
Engineers & Innovators, LLC  
TYPE REGISTRATION NO. F-1988  
11111 WALCREST GREEN DR. SUITE 410  
HOUSTON, TEXAS 77042

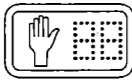
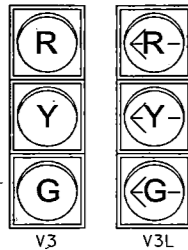
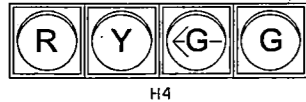
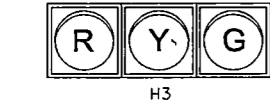
**DANNENBAUM**  
ENGINEERING ARCHITECTURE INTERIOR DESIGN  
11111 WALCREST GREEN DR. SUITE 410  
HOUSTON, TEXAS 77042

**METRO**  
METRO TEXAS  
11111 WALCREST GREEN DR. SUITE 410  
HOUSTON, TEXAS 77042

**MOHAMMED S. ULLA**  
131559  
12/15/2022

EXISTING SIGNAL HEAD SCHEDULE

PROPOSED SIGNAL HEAD SCHEDULE WITH LOUVERED BLACK BACKPLATES



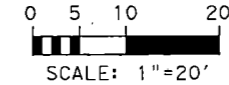
PED



PROPOSED SIGNS S11, S12



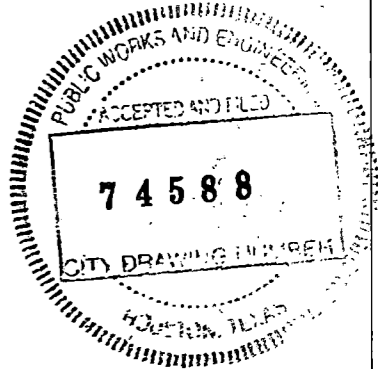
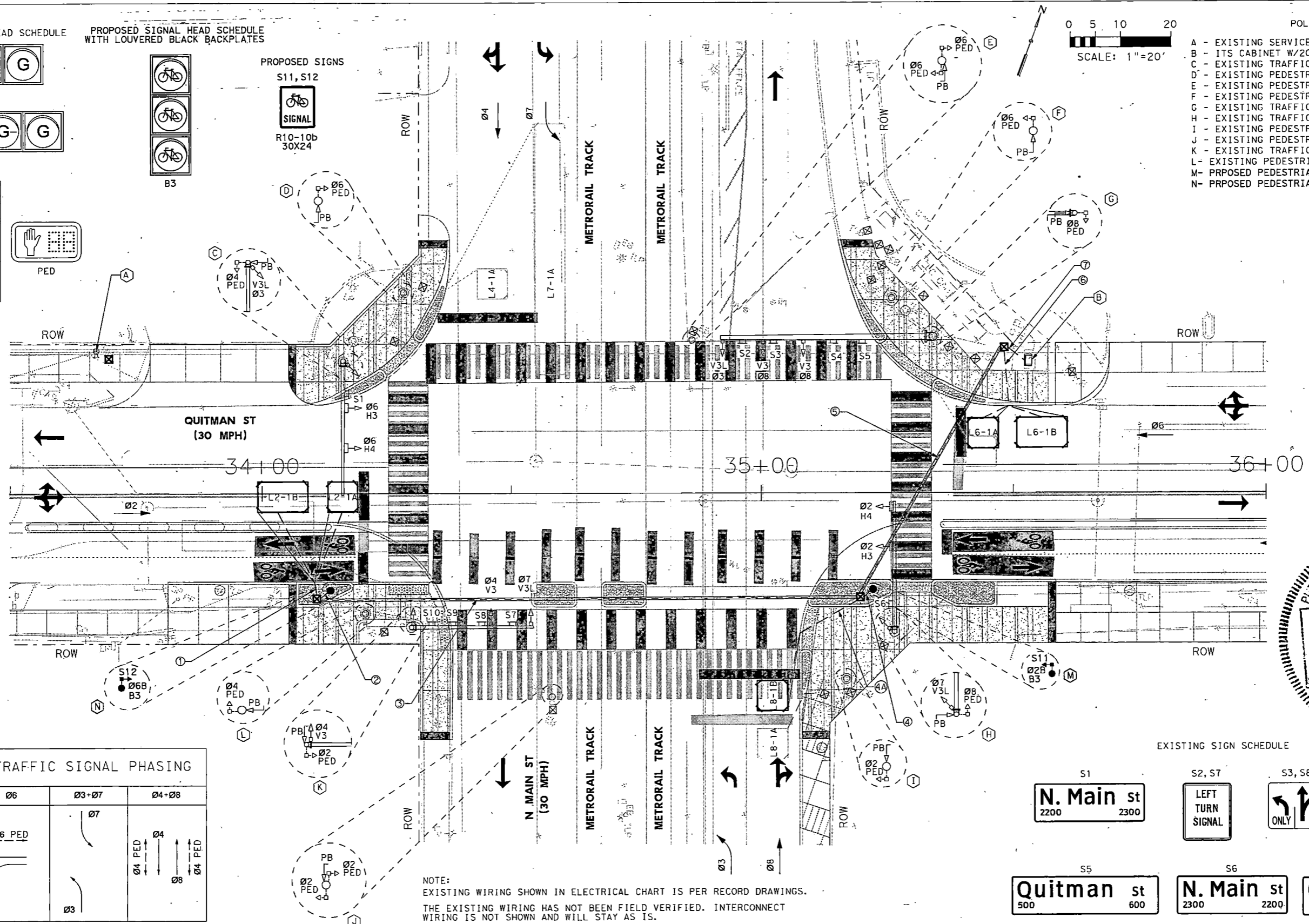
R10-10b 30x24



SCALE: 1"=20'

POLE SCHEDULE

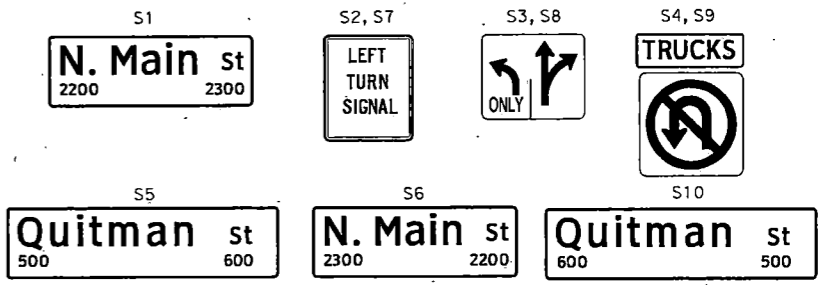
- A - EXISTING SERVICE POLE
- B - ITS CABINET W/2070 L CONTROLLER (EXISTING)
- C - EXISTING TRAFFIC SIGNAL POLE
- D - EXISTING PEDESTRIAN SIGNAL POLE
- E - EXISTING PEDESTRIAN SIGNAL POLE
- F - EXISTING PEDESTRIAN SIGNAL POLE
- G - EXISTING TRAFFIC SIGNAL POLE
- H - EXISTING TRAFFIC SIGNAL POLE
- I - EXISTING PEDESTRIAN SIGNAL POLE
- J - EXISTING PEDESTRIAN SIGNAL POLE
- K - EXISTING TRAFFIC SIGNAL POLE
- L - EXISTING PEDESTRIAN SIGNAL POLE
- M - PROPOSED PEDESTRIAN SIGNAL POLE
- N - PROPOSED PEDESTRIAN SIGNAL POLE



PROPOSED TRAFFIC SIGNAL PHASING

Ø2+Ø2B	Ø6	Ø3+Ø7	Ø4+Ø8
Ø2 Ø2B Ø2 PED	Ø6 PED Ø6	Ø7 Ø3	Ø4 PED Ø8 Ø4 PED

NOTE:  
EXISTING WIRING SHOWN IN ELECTRICAL CHART IS PER RECORD DRAWINGS.  
THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED. INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.  
EXISTING CABINET AND CONTROLLER INFORMATION ARE BASED ON RECORD DRAWINGS.



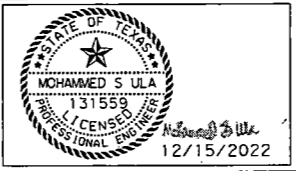
12/15/2022 Prop Bike Signal\*Quitman St @ North Main St\*Proposed Signal\*01.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TPE REGISTRATION NO. F-16368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
QUITMAN ST AT N MAIN ST	
DRAWN BY: HJ	PROPOSED TRAFFIC SIGNAL LAYOUT (SHEET 1 OF 1)
CK'D BY: SU	SCALE: 1"=20'
DATE: 12/15/2022	SHEET NO: 197

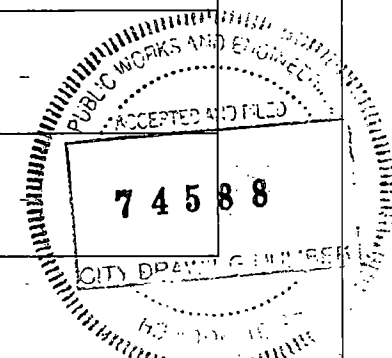


TRAFFIC SIGNAL POLE SCHEDULE

POLE NUMBER	POLE TYPE	MAST ARM		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
C	EXISTING	EXISTING	-	-	-	-	-	RELOCATE EXISTING H3, H4, & S1	-	02893-03 02893-09
D	EXISTING	EXISTING	-	-	-	-	-	-	-	-
E	EXISTING	EXISTING	-	-	-	-	-	-	-	-
F	EXISTING	EXISTING	-	-	-	-	-	-	-	-
G	EXISTING	EXISTING	-	-	-	-	-	-	-	-
H	EXISTING	EXISTING	-	-	-	-	-	RELOCATE EXISTING H3, H4, & S6	-	02893-03 02893-09
I	EXISTING	EXISTING	-	-	-	-	-	-	-	-
J	EXISTING	EXISTING	-	-	-	-	-	-	-	-
K	EXISTING	EXISTING	-	-	-	-	-	-	-	-
L	EXISTING	EXISTING	-	-	-	-	-	-	-	-
M	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - B3	-	R10-10b	-	STA 35+22, 24' RT N MAIN ST, CONSTANT C	02893-02 02893-03 02893-07 02893-08
N	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - B3	-	R10-10b	-	STA 34+13, 24' RT N MAIN ST, CONSTANT C	02893-02 02893-03 02893-07 02893-08

EXISTING TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
A	EXISTING	-	-	-	-	-
B	ITS CABINET (EXISTING)	2070 L CONTROLLER (EXISTING)	-	-	-	-



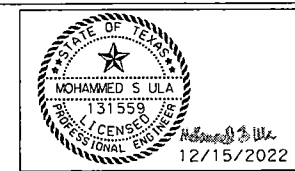
12/15/2022 Prop Bike Signal\*Quitman St @ North Main St\*Details\*06.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

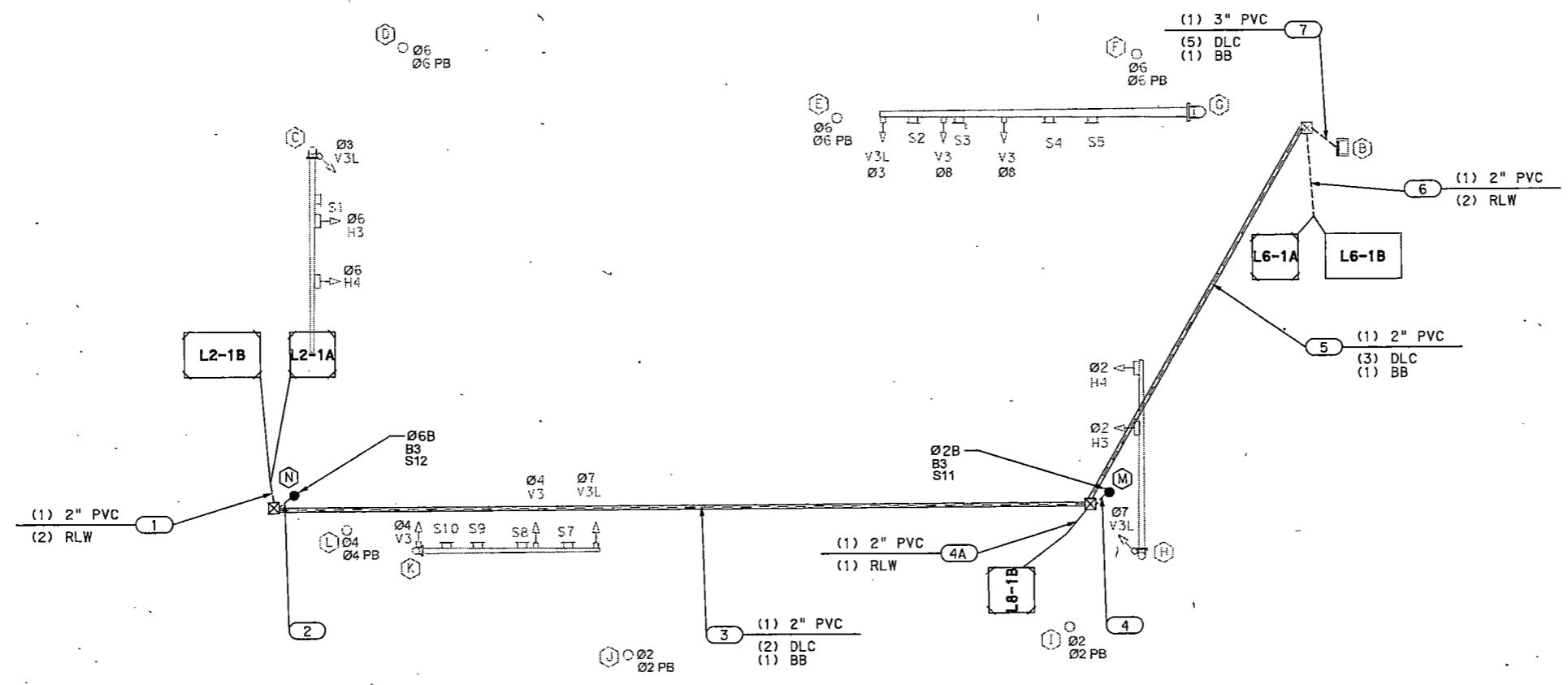


**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		QUITMAN ST AT N MAIN ST	
DATE:	12/15/2022		
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 198





**LOW VOLTAGE CIRCUIT**

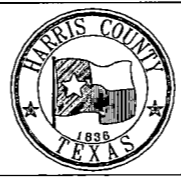
(X)Y"C = NUMBER, SIZE AND TYPE OF CONDUIT  
 (X) = NUMBER OF CABLES  
 DLC = DETECTOR LEAD-IN CABLE, 14 AWG (I.M.S.A. 50-2-1984)  
 RLW = ROADWAY LOOP DETECTOR WIRE, 14 AWG (IMSA 51-5-1985)  
 BB = BARE BOND #8 AWG SOLID

**NOTE:**  
 NO WIRING INFORMATION AVAILABLE FOR EXISTING RUNS.

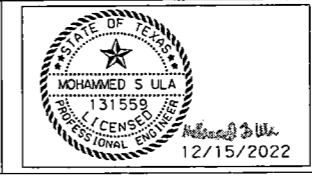
12/15/2022 Prop Bike Signal\*Quitman St @ North Main St\*Details\*05.dgn

NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY  
 ENGINEERING DEPARTMENT**

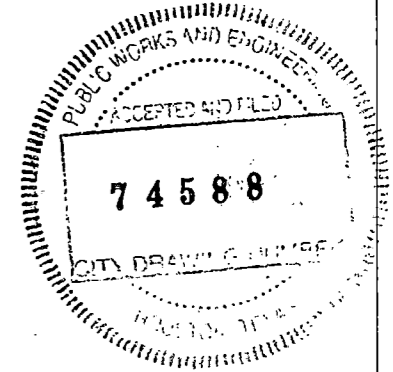
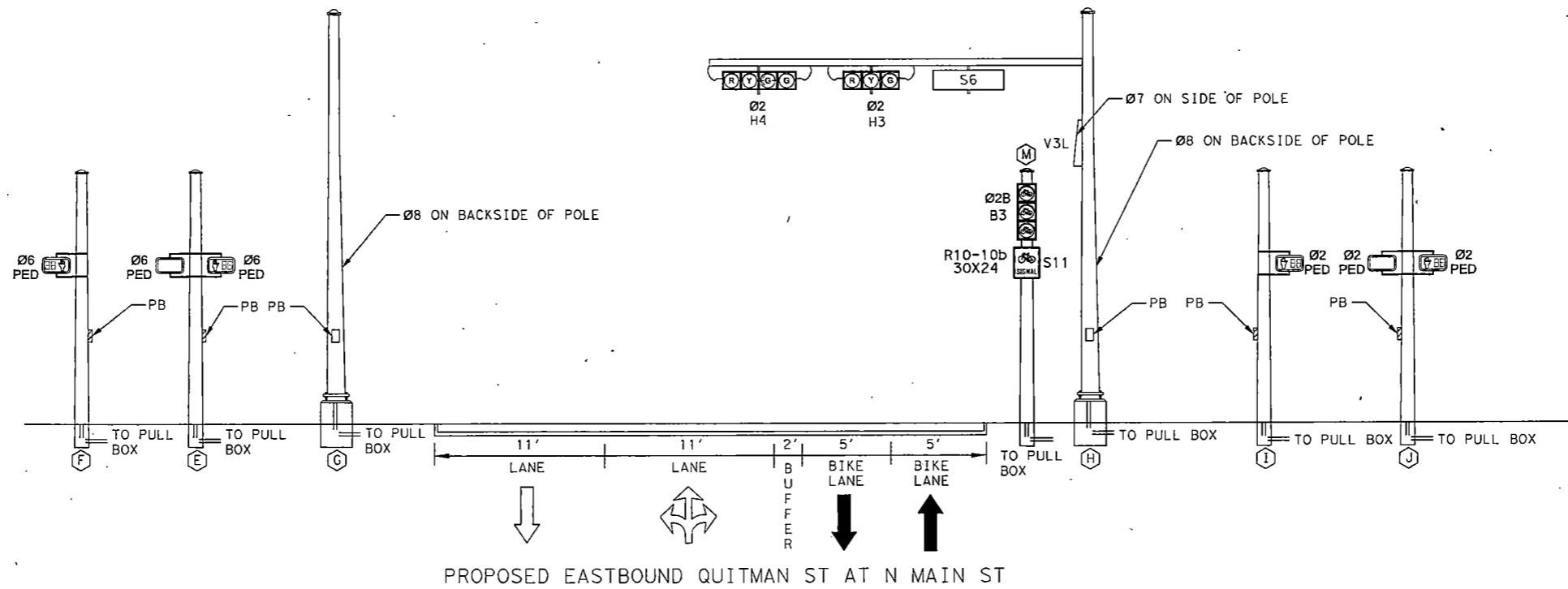
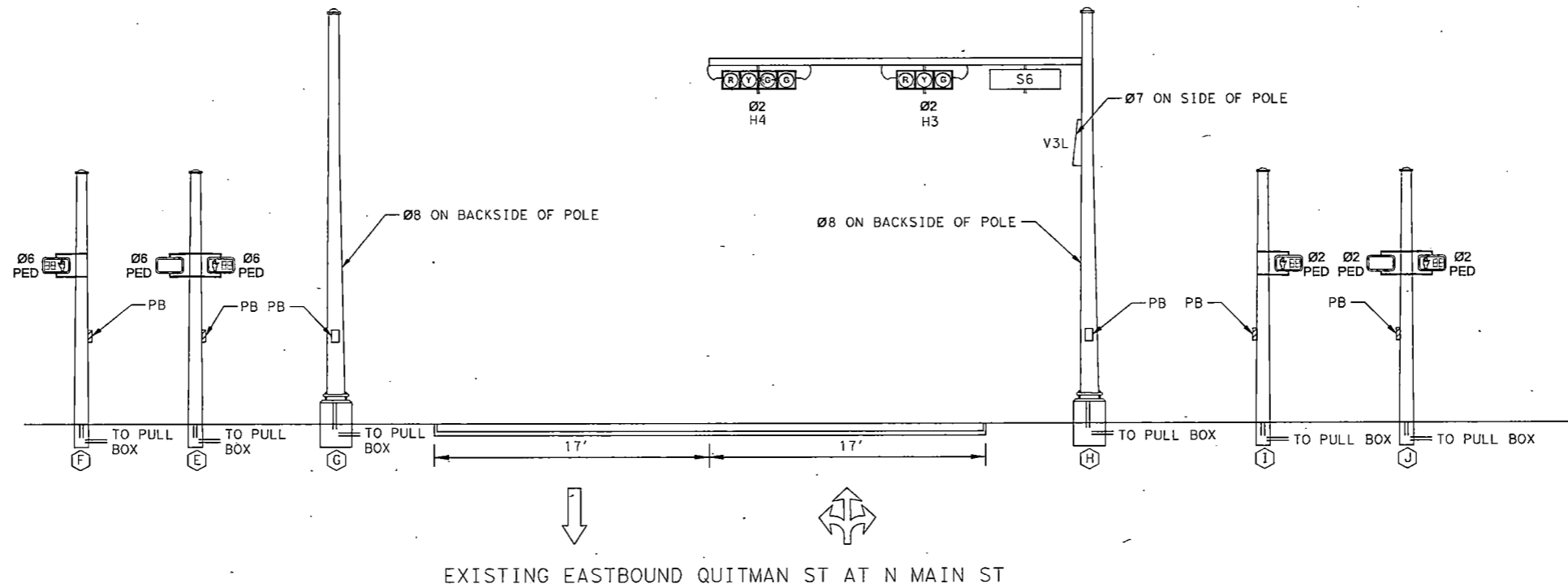


**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE:		<b>QUITMAN STREET</b>	
		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
SHEET DESCRIPTION:		QUITMAN ST AT N MAIN ST	
DRAWN BY:	HJ	DATE:	12/15/2022
CK'D BY:	SU	SCALE:	N.T.S.
		SHEET NO.:	200

12/15/2022 Prop Bike Signal\*Quitman St @ North Main St\*Details\*02.dgn

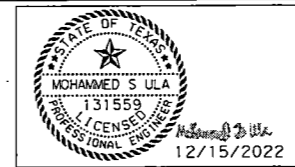


NO.	REVISIONS	DATE	NAME
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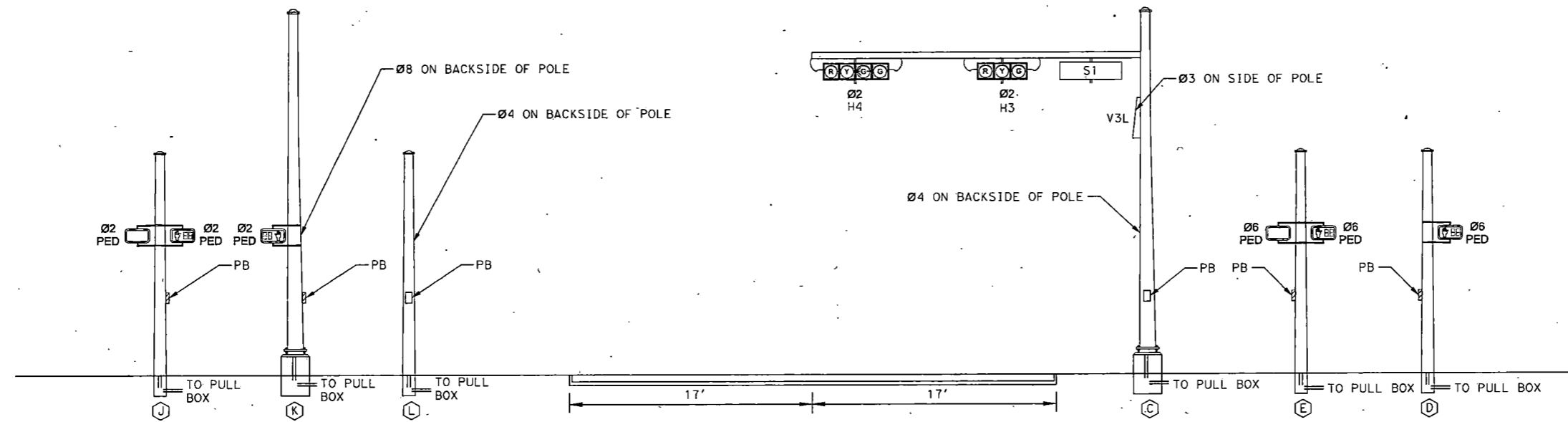
HARRIS COUNTY  
ENGINEERING DEPARTMENT



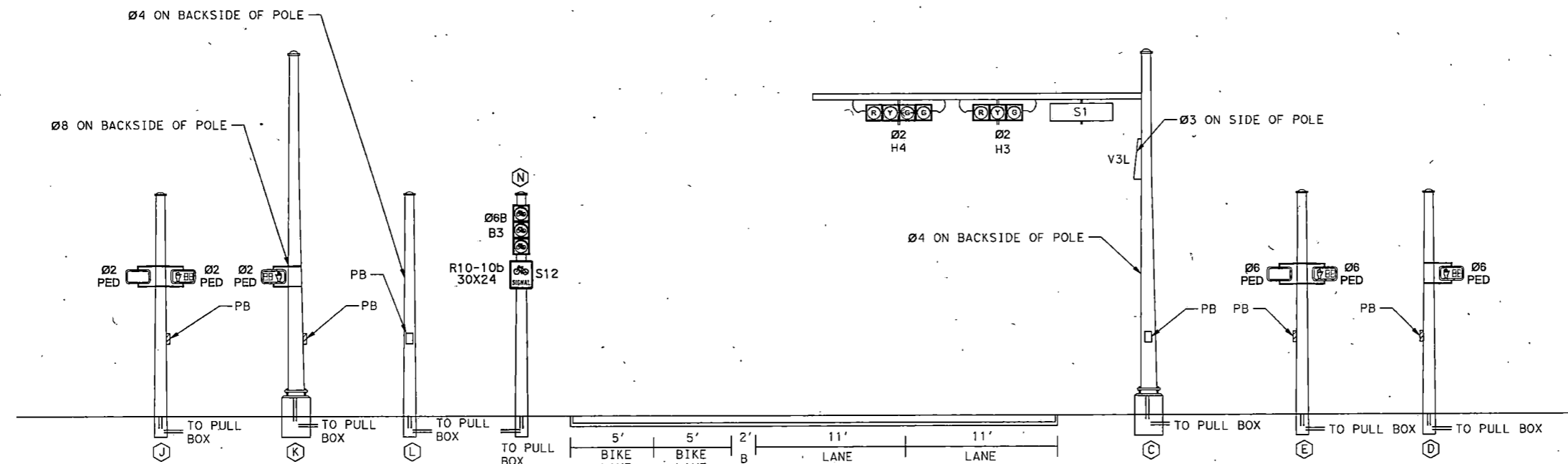
**infraTECH**  
Engineers & Innovators, LLC  
TYPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR. SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
		ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:		QUITMAN ST AT N MAIN ST	
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - EASTBOUND	DATE:
CR'D BY:	SU	(SHEET 1 OF 2)	12/15/2022
SCALE: N.T.S.		SHEET NO:	
		201	



EXISTING WESTBOUND QUITMAN ST AT N MAIN ST



PROPOSED WESTBOUND QUITMAN ST AT N MAIN ST



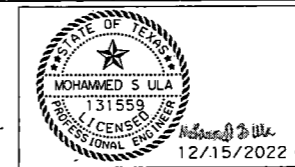
12/15/2022 Prop Bike Signal\*Quitman St @ North Main St\*Details\*03.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

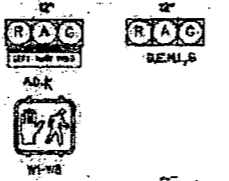


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		QUITMAN ST AT N MAIN ST	
CK'D BY:		PROPOSED SIGNAL ELEVATION - WESTBOUND (SHEET 2 OF 2)	
DATE:	SCALE: N.T.S.	DATE:	12/15/2022
SHEET NO:		SHEET NO:	202

**SPECIAL NOTES**

1. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
4. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
6. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
7. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
8. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
9. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
10. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
11. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
12. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
13. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
14. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
15. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
16. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
17. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.

**SIGNAL HEAD SCHEDULE**



**SIGN DETAILS**



**INTERCONNECT**

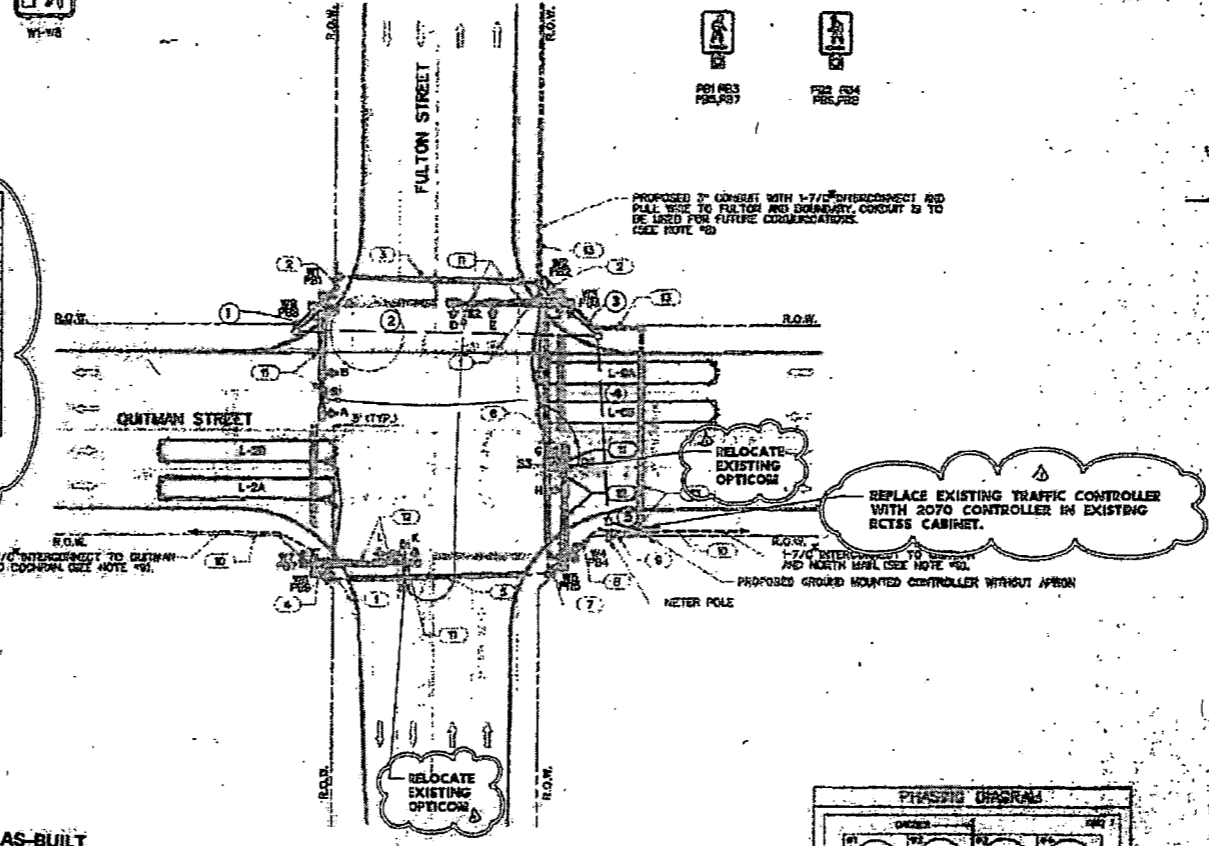
- TO MASTER BY WATSON ST INTERSECTION
- CONTROLLED: 0 PHASE WITH COORDINATED CAPABILITY
- POLES: 1250
- DETECTORS: 4-200' CI WINGS
- GRAND: OPTICOM DETECTORS 01-24

**LEGEND**

- CONTROLLER CABINET
- FULL BOX
- W-400 PEDESTRIAN CROSSING SIGNAL HEAD
- TRAFFIC SIGNAL HEAD
- MAST ARM
- POLE
- METER POLE
- CONDUIT, COMPLETE-IN-PLACE
- OPTICOM DETECTOR

**ELECTRICAL CHART**

ITEM	PLUM NUMBER	1	2	3	4	5	6
SIGNAL WIRE	(S/C) TRAFFIC SIGNAL CABLE FOR OPTICOM	1	1	1	2	2	
WIRE SIZE & TYPE	7/C SIGNAL CABLE						
	06 BOND WIRE						
	08 BOND WIRE	1	1	1	1	1	
POWER	04 XHHW POWER CONDUCTOR						
CONDUIT	1 1/2" CONDUIT, COMPLETE-IN-PLACE						
	2" CONDUIT, COMPLETE-IN-PLACE	1	1	1	1	1	
	3" CONDUIT, COMPLETE-IN-PLACE						

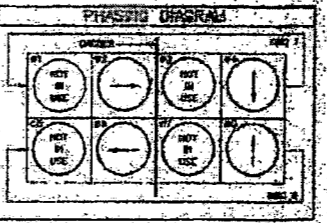


**ELECTRICAL SCHEDULE**

NO.	DESCRIPTION	QUANTITY	UNIT	MARKING
1	TRAFFIC SIGNAL CABLE			
2	BOND WIRE			
3	POWER CONDUCTOR			
4	CONDUIT			

**AS-BUILT**  
 EINA L. SCHWARTZ  
 03014  
 THIS SEAL REPRESENTS AS-BUILT CONDITIONS ABOVE GROUND AS NOTED IN FIELD VISITS UNDER ANY DIRECTION AND FOR UNDERGROUND CONDITIONS AS INDICATED BY CONSTRUCTION CONTRACTOR RED LINES.

THIS SEAL REPRESENTS AS-BUILT CONDITIONS ABOVE GROUND AS NOTED IN FIELD VISITS UNDER ANY DIRECTION AND FOR UNDERGROUND CONDITIONS AS INDICATED BY CONSTRUCTION CONTRACTOR RED LINES.



PUBLIC WORKS AND ENGINEERING  
 ACCEPTED AND FILED  
**74588**  
 CITY OF HOUSTON

Prop Bike Signal\*Quitman St @ Fulton St\*Existing Condition\*00.dgn

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			

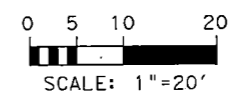
**HARRIS COUNTY ENGINEERING DEPARTMENT**



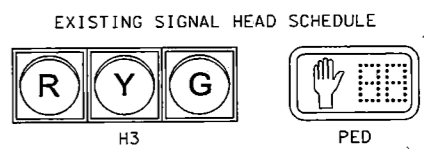
**infraTECH**  
 Engineers & Innovators, LLC  
 TPE REGISTRATION NO. F-18398  
 11111 WLCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042

STATE OF TEXAS  
 MOHAMMED S. ULA  
 131559  
 LICENSED PROFESSIONAL ENGINEER  
 12/15/2022

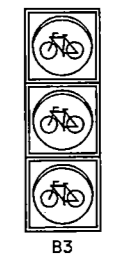
PROJECT TITLE: QUITMAN STREET	
SHEET DESCRIPTION: ON-STREET BIKEWAY AND SIDEWALKS	
QUITMAN ST AT FULTON ST	
DRAWN BY: HJ	EXISTING TRAFFIC SIGNAL LAYOUT (SHEET 1 OF 1)
CK'D BY: SU	SCALE: N.T.S.
DATE: 12/15/2022	SHEET NO: 203



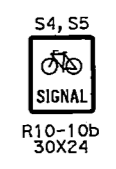
- POLE SCHEDULE**
- A - EXISTING SERVICE POLE
  - B - EXISTING TRAFFIC SIGNAL CABINET W/2070 CONTROLLER
  - C - EXISTING TRAFFIC SIGNAL POLE
  - D - EXISTING TRAFFIC SIGNAL POLE
  - E - EXISTING TRAFFIC SIGNAL POLE
  - F - EXISTING TRAFFIC SIGNAL POLE
  - G - PROPOSED PEDESTRIAN SIGNAL POLE
  - H - PROPOSED PEDESTRIAN SIGNAL POLE



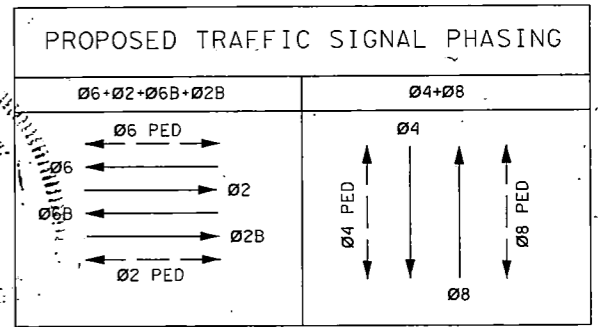
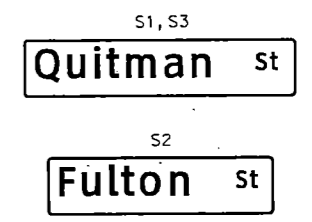
**PROPOSED SIGNAL HEAD SCHEDULE WITH LOUVERED BLACK BACKPLATES**



**PROPOSED SIGNS**



**EXISTING SIGN SCHEDULE**



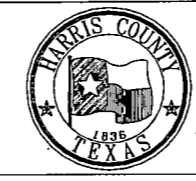
12/15/2022 Prop Bike Signal\*Quitman St @ Fulton St\*Proposed Signal\*01.dgn

**NOTE:**  
 EXISTING WIRING SHOWN IN ELECTRICAL CHART IS PER RECORD DRAWINGS. THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED. INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.  
 EXISTING CABINET AND CONTROLLER INFORMATION ARE BASED ON RECORD DRAWINGS.

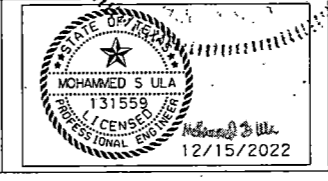


NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: **QUITMAN STREET**

SHEET DESCRIPTION: **ON-STREET BIKEWAY AND SIDEWALKS**

SHEET: **QUITMAN ST AT FULTON ST**

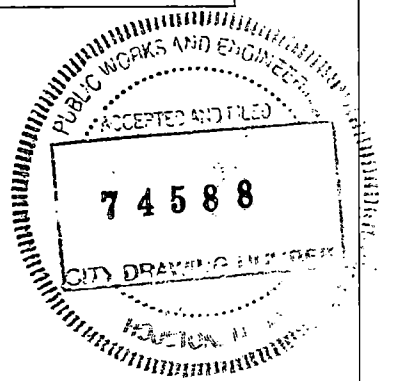
DRAWN BY: HJ	PROPOSED TRAFFIC SIGNAL LAYOUT (SHEET 1 OF 1)	DATE: 12/15/2022
CK'D BY: SU	SCALE: 1"=20'	SHEET NO: 204

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	EXISTING	EXISTING	-	-	-	-	-	RELOCATE EXISTING H3	-	02893-03 02893-09
D	EXISTING	EXISTING	-	-	-	-	-	-	-	-
E	EXISTING	EXISTING	-	-	-	-	-	-	-	-
F	EXISTING	EXISTING	-	-	-	-	-	-	-	-
G	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S4 = R10-10b	STA 48+38, 19' RT. FULTON ST, CONSTANT C	02893-02 02893-03 02893-07 02893-08
H	PED POLE 15'	-	-	1 - SIDE OF POLE	1 - B3	-	-	SIGNS: S5 = R10-10b	STA 47+62, 26' RT. FULTON ST, CONSTANT C	02893-02 02893-03 02893-07 02893-08

EXISTING TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
A	EXISTING	-	-	-	-	-
B	EXISTING	2070 CONTROLLER (EXISTING)	-	-	-	-



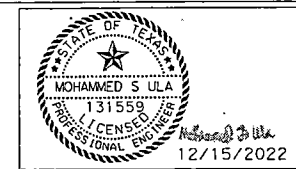
12/15/2022 Prop Bike Signal\*Quitman St @ Fulton St\*\*Details\*06.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

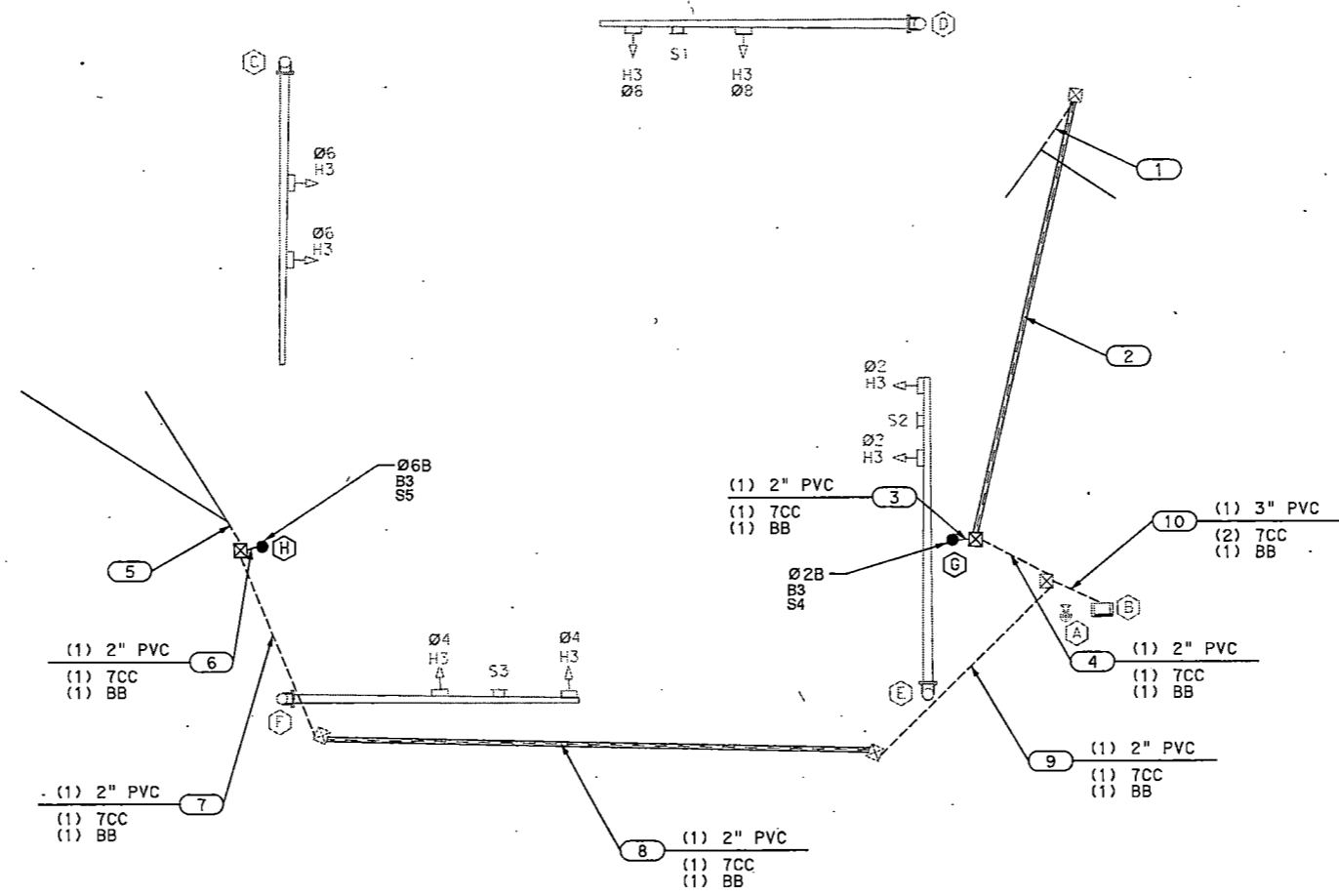


**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-16368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT FULTON ST	
DRAWN BY:	HJ	TRAFFIC SIGNAL POLE SCHEDULE (SHEET 1 OF 1)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 205





**HIGH VOLTAGE CIRCUIT**

- (1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
- CC = 14 AWG SOLID CONDUCTOR CABLE
- BB = BARE BOND 8 AWG SOLID
- BG = BARE GROUND, 8 AWG SOLID
- SP1 = SIGNAL POWER, 6 AWG XHHW (2-WHITE, 1-BLACK, 1-RED, & 2-GREEN)
- SP2 = 4 - #4 AWG XHHW
- SL = STREET LIGHTING, 10 AWG XHHW
- PC = PHOTO CELL, 10 AWG XHHW



NOTE:  
NO WIRING INFORMATION AVAILABLE FOR EXISTING RUNS.

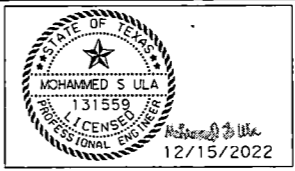
12/15/2022 Prop Bike Signal\*Quitman St @ Fulton St\*Details\*04.dgn

NO.	REVISIONS	DATE	NAME
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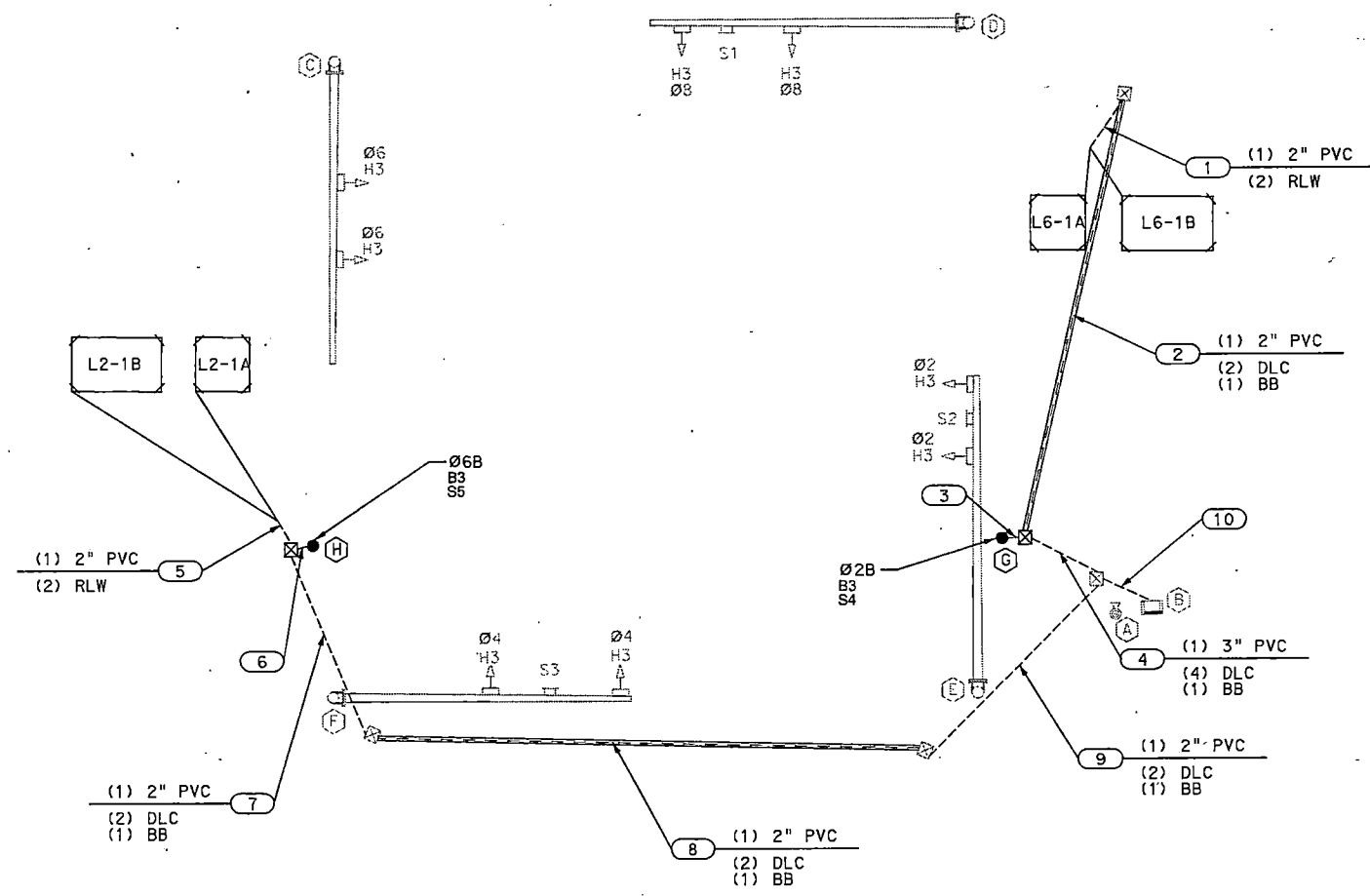
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



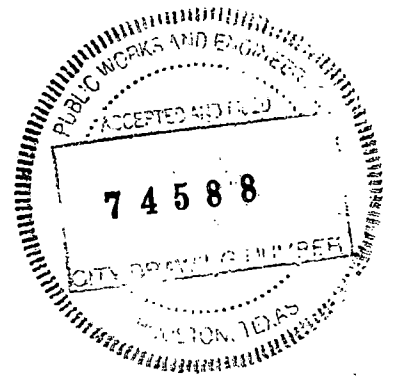
PROJECT TITLE:		QUITMAN STREET	
		ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:		QUITMAN ST AT FULTON ST	
DRAWN BY:	HJ	SCALE:	N.T.S.
CK'D BY:	SU	DATE:	12/15/2022
		SHEET NO.:	206



**LOW VOLTAGE CIRCUIT**

- (X)Y"C = NUMBER, SIZE AND TYPE OF CONDUIT
- (X) = NUMBER OF CABLES
- DLC = DETECTOR LEAD-IN CABLE, 14 AWG (I.M.S.A. 50-2-1984)
- RLW = ROADWAY LOOP DETECTOR WIRE, 14 AWG (IMSA 51-5-1985)
- BB = BARE BOND #8 AWG SOLID

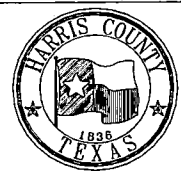
**NOTE:**  
NO WIRING INFORMATION AVAILABLE FOR EXISTING RUNS.



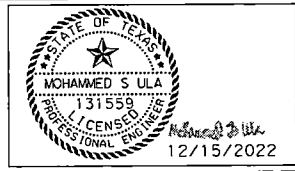
12/15/2022 Prop Bike Signal\*Quitman St @ Fulton St\*Detail.s\*05.dgn

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HARRIS COUNTY  
ENGINEERING DEPARTMENT

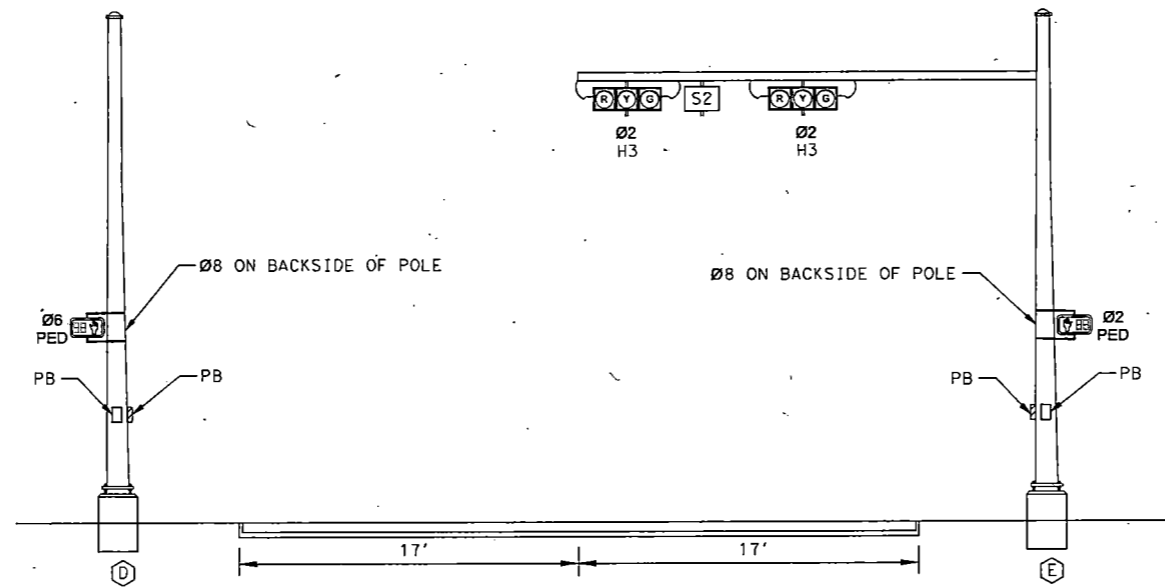


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TPE REGISTRATION NO. F-18398  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

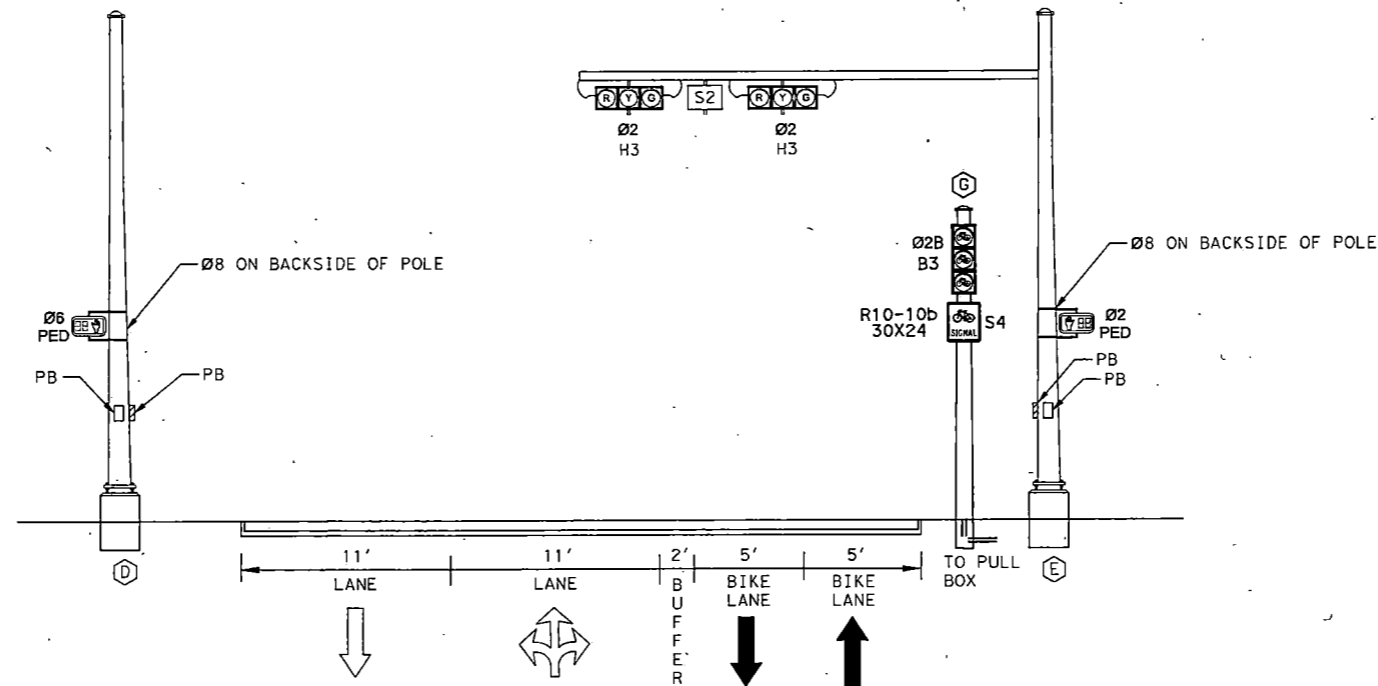


PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT FULTON ST	
DRAWN BY:	HJ	CABLE SCHEMATIC (SHEET 2 OF 2)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 207

12/15/2022 Prop Bike Signal\*Quitman St @ Fulton St\*Details\*02.dgn



EXISTING EASTBOUND QUITMAN ST AT FULTON ST

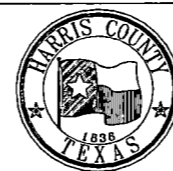


PROPOSED EASTBOUND QUITMAN ST AT FULTON ST

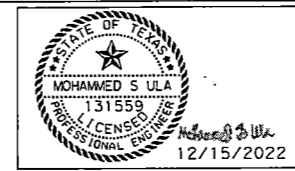


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HARRIS COUNTY  
ENGINEERING DEPARTMENT

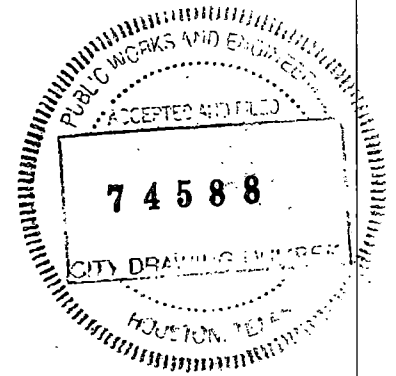
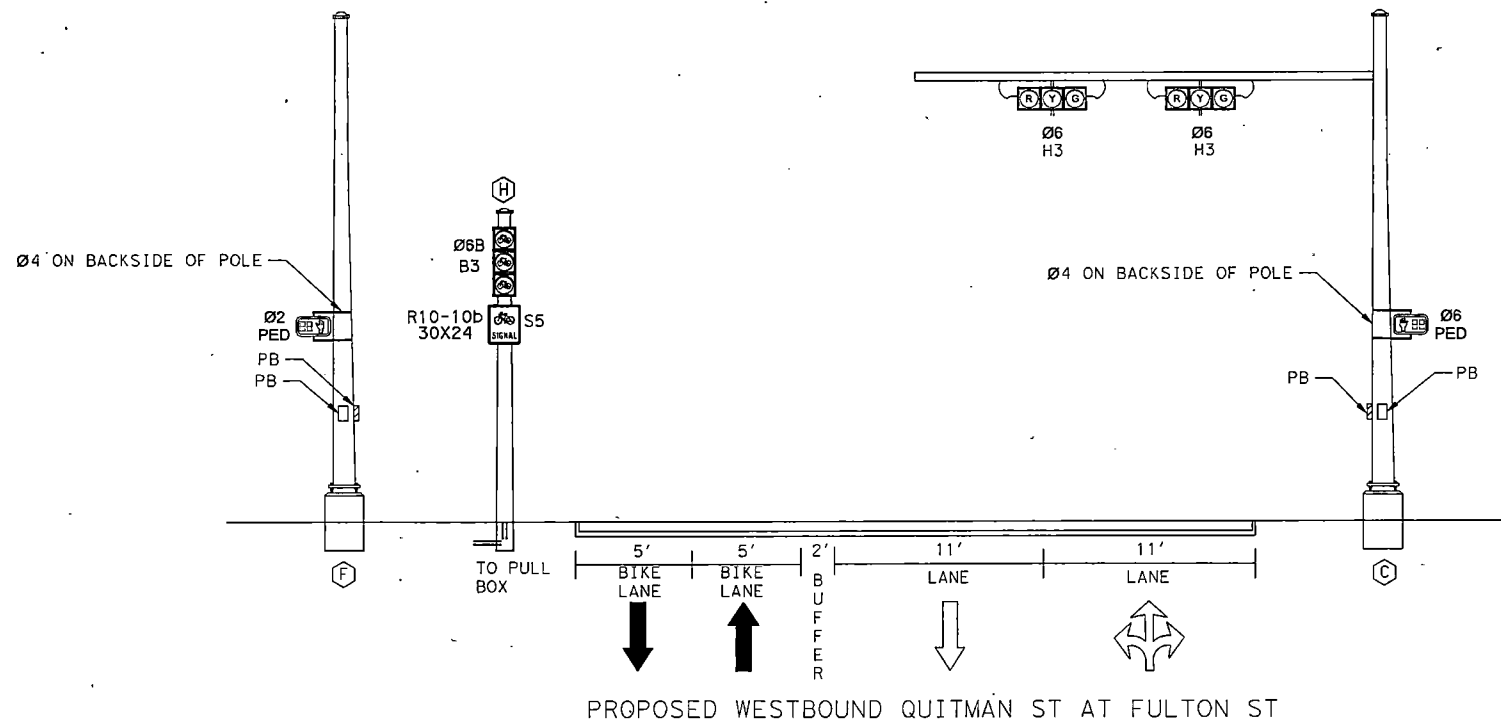
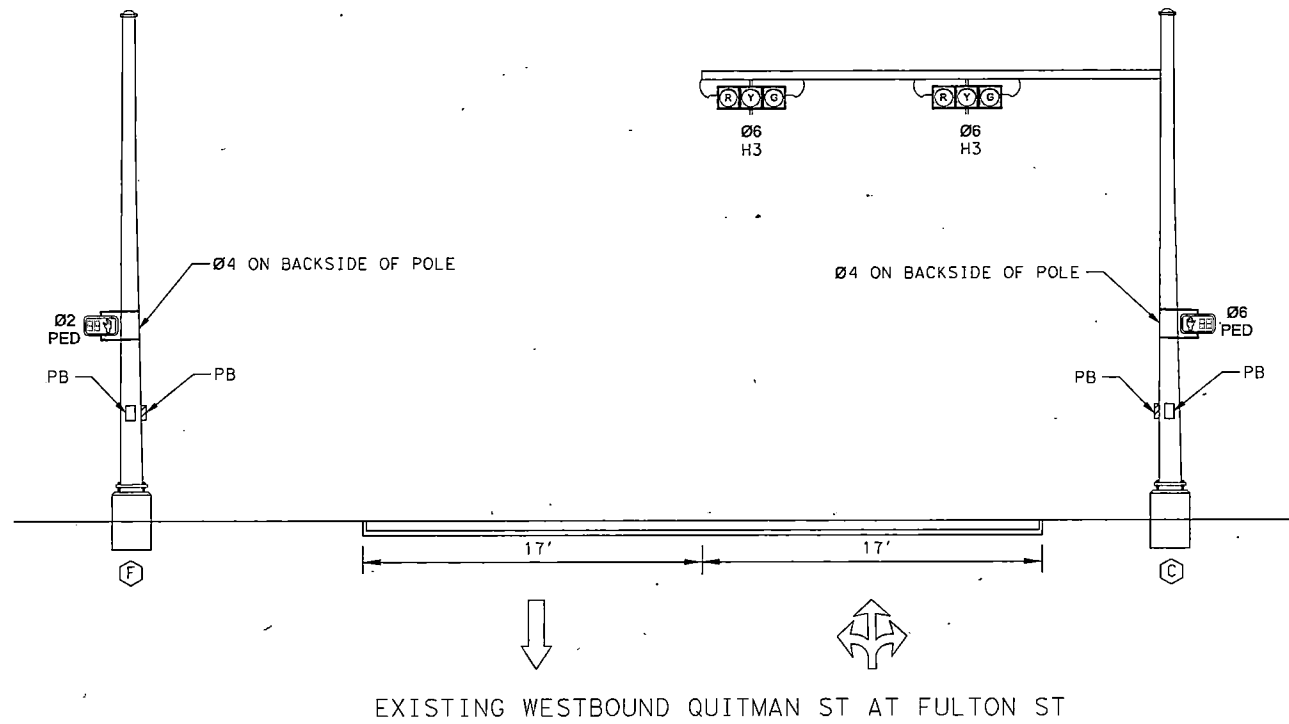


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TBP&E REGISTRATION NO. F-16368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT FULTON ST	
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - EASTBOUND	DATE:
CK'D BY:	SU	(SHEET 1 OF 2)	12/15/2022
SCALE: N.T.S.		SHEET NO:	
		208	

12/15/2022 Prop Bike Signal\*Quitman St @ Fulton St\*Details\*03.dgn

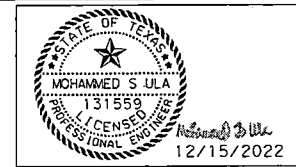


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HARRIS COUNTY  
ENGINEERING DEPARTMENT



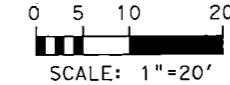
**infraTECH**  
Engineers & Innovators, LLC  
TYPE REGISTRATION NO. F-16368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
		ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION:		QUITMAN ST AT FULTON ST	
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - WESTBOUND	DATE:
CR'D BY:	SU	(SHEET 2 OF 2)	12/15/2022
SCALE: N.T.S.		SHEET NO:	
		209	

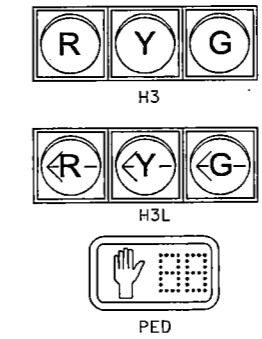


12/15/2022 Prop Bike Signal\*Quitman St @ Hardy St\*Proposed Signal\*01.dgn

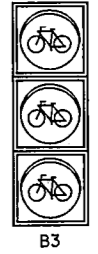


- POLE SCHEDULE**
- A - EXISTING SERVICE POLE
  - B - TYPE 332 CABINET W/2070 CONTROLLER (EXISTING)
  - C - EXISTING STRAIN POLE
  - D - EXISTING STRAIN POLE
  - E - EXISTING STRAIN POLE
  - F - EXISTING STRAIN POLE

**EXISTING SIGNAL HEAD SCHEDULE**



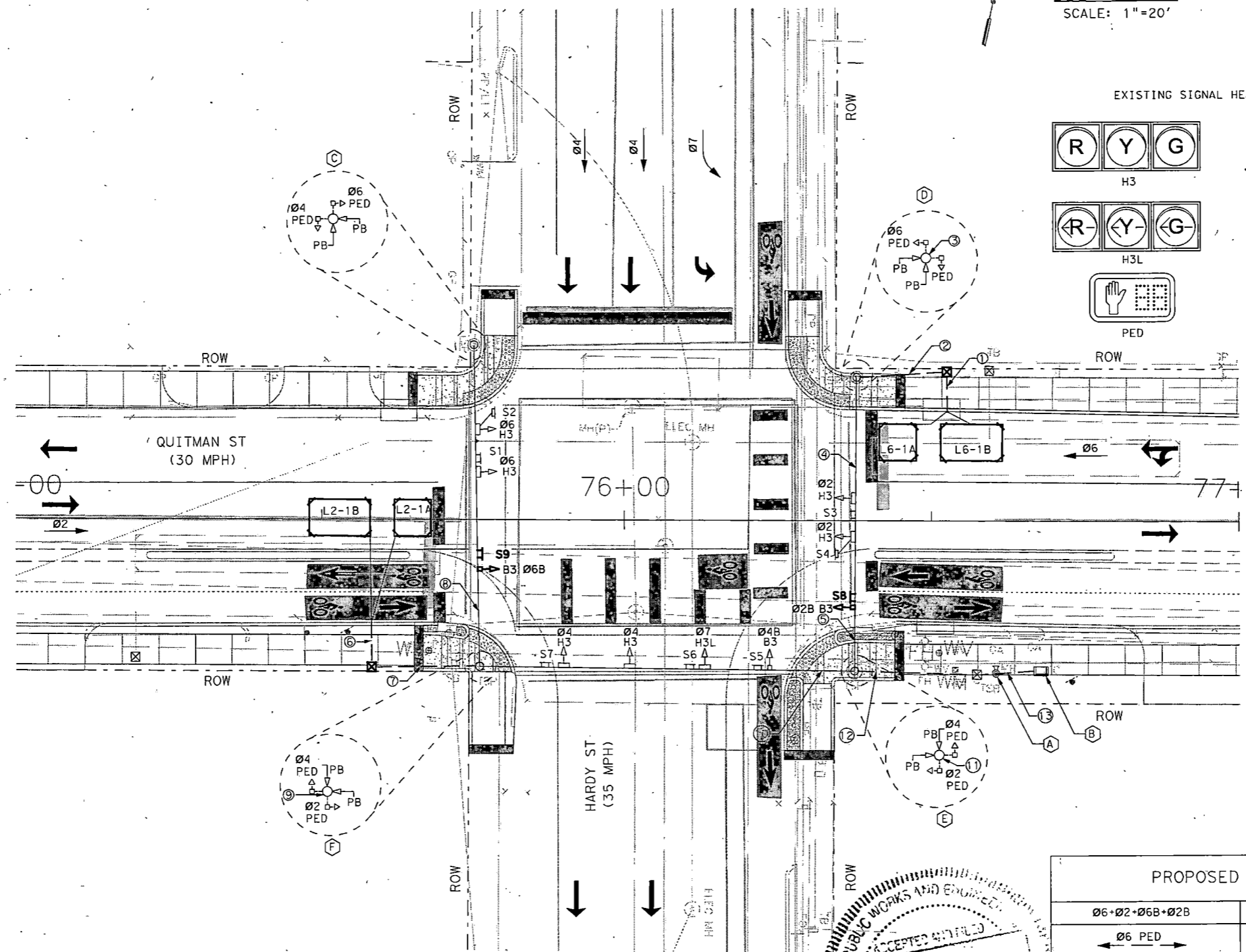
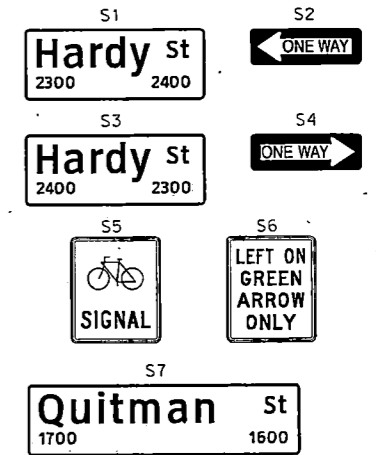
**PROPOSED SIGNAL HEAD SCHEDULE WITH LOUVERED BLACK BACKPLATES**



**PROPOSED SIGNS**



**EXISTING SIGN SCHEDULE**



**NOTE:**  
 EXISTING WIRING SHOWN IN ELECTRICAL CHART IS PER RECORD DRAWINGS.  
 THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED. INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.  
 EXISTING CABINET AND CONTROLLER INFORMATION ARE BASED ON RECORD DRAWINGS.



**PROPOSED TRAFFIC SIGNAL PHASING**

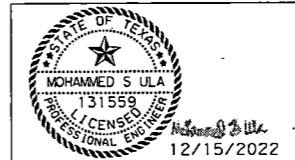
Ø6+Ø2+Ø6B+Ø2B	Ø4+Ø4B	Ø4+Ø7
Ø6 PED Ø6 ← → Ø2 Ø6B ← → Ø2B Ø2 PED	Ø4 PED Ø4 Ø4B Ø4 PED	Ø4 Ø7

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



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 Engineers & Innovators, LLC  
 TYPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR., SUITE 410  
 HOUSTON, TEXAS 77042

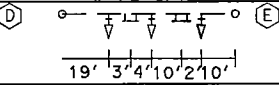
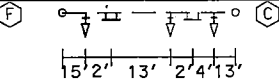


**PROJECT TITLE:** QUITMAN STREET  
**ON-STREET BIKEWAY AND SIDEWALKS**

**SHEET DESCRIPTION:** QUITMAN ST AT HARDY ST



<b>DRAWN BY:</b> HJ	<b>PROPOSED TRAFFIC SIGNAL LAYOUT (SHEET 1 OF 1)</b>	<b>DATE:</b> 12/15/2022
<b>CK'D BY:</b> SU	<b>SCALE:</b> 1"=20'	<b>SHEET NO.:</b> 211

TRAFFIC SIGNAL POLE SCHEDULE

POLE NUMBER	POLE TYPE	STRAIN POLE		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
D 	EXISTING	EXISTING	-	SPAN WIRE	1 - B3	-	-	RELOCATE EXISTING H3, S3, S4 SIGNS: S8 = R10-10b	-	02893-02 02893-09
F 	EXISTING	EXISTING	-	SPAN WIRE	1 - B3	-	-	RELOCATE EXISTING H3, S1, S2 SIGNS: S9 = R10-10b	-	02893-02 02893-09



EXISTING TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
A 	EXISTING	-	-	-	-	-
B 	TYPE 332 CABINET (EXISTING)	2070 CONTROLLER (EXISTING)	-	-	-	-

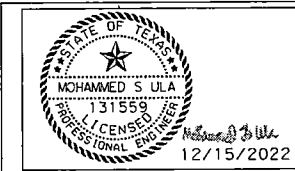
12/15/2022 Prop Bike Signal\*Quitman St @ Hardy St\*Detail1.s\*06.dgn

NO.	REVISIONS	DATE	NAME
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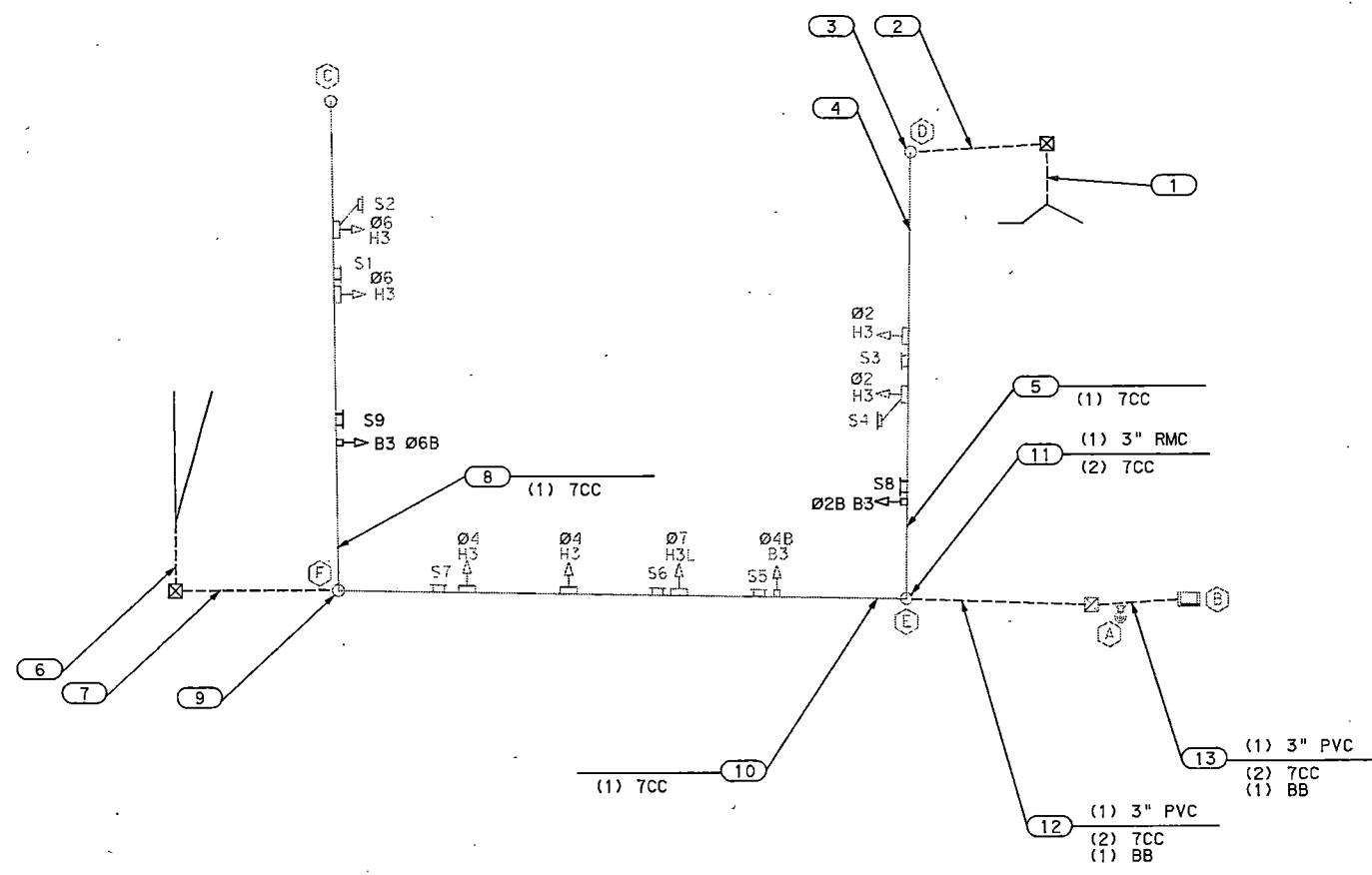
HARRIS COUNTY  
ENGINEERING DEPARTMENT



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Engineers & Innovators, LLC  
TPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT HARDY ST	
DRAWN BY:	HJ	TRAFFIC SIGNAL POLE SCHEDULE (SHEET 1 OF 1)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 212



**HIGH VOLTAGE CIRCUIT**

- (1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
- CC = 14 AWG SOLID CONDUCTOR CABLE
- BB = BARE BOND 8 AWG SOLID
- BG = BARE GROUND, 8 AWG SOLID
- SP1 = SIGNAL POWER, 6 AWG XHHW (2-WHITE, 1-BLACK, 1-RED, & 2-GREEN)
- SP2 = 4 - #4 AWG XHHW
- SL = STREET LIGHTING, 10 AWG XHHW
- PC = PHOTO CELL, 10 AWG XHHW



NOTE:  
NO WIRING INFORMATION AVAILABLE FOR EXISTING RUNS.

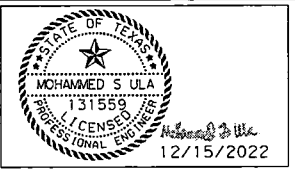
12/15/2022 Prop Bike Signal\*Quitman St @ Hardy St\*Detail1.s\*04.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

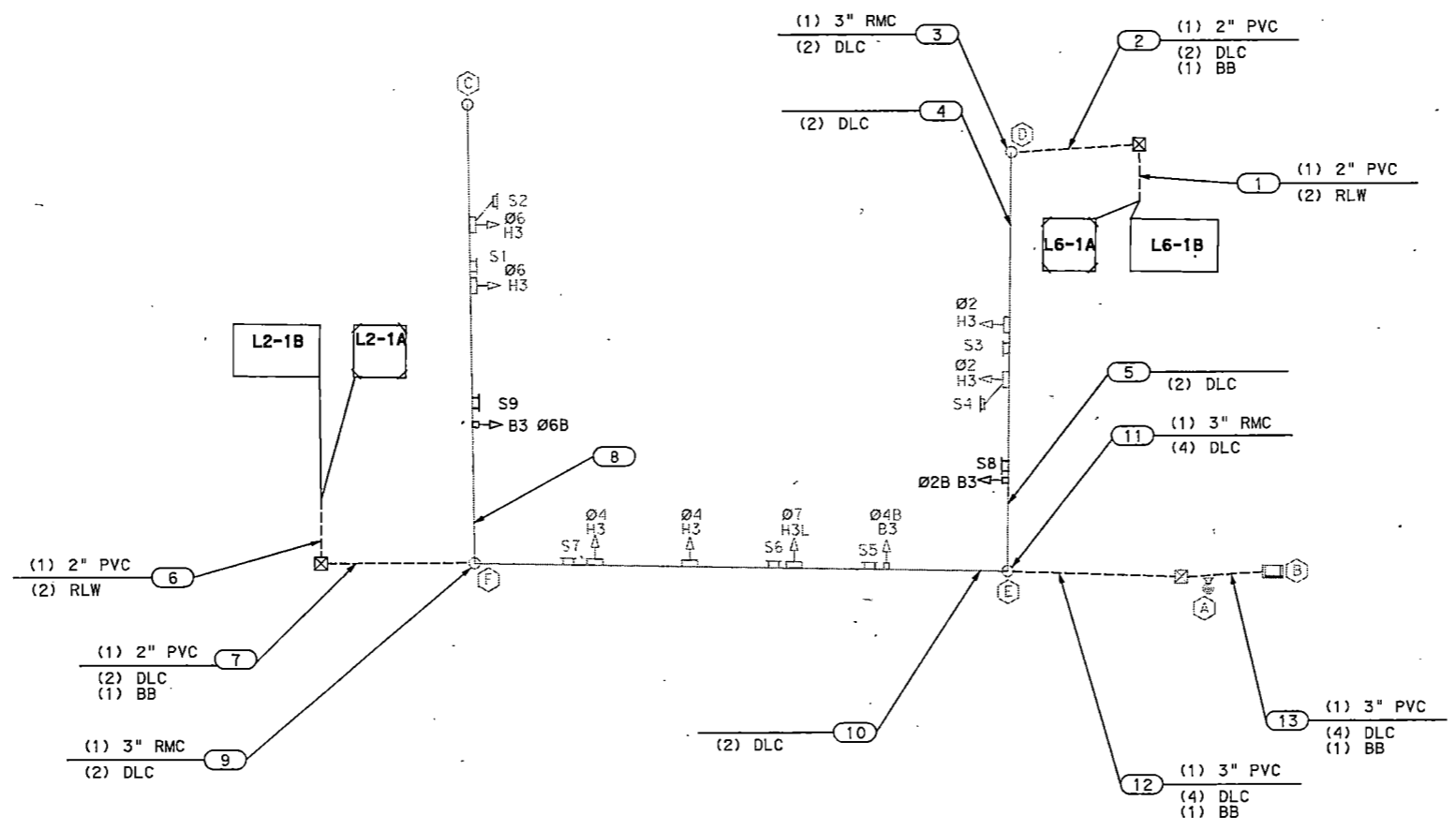


**infraTECH**  
Engineers & Innovators, LLC  
78PE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



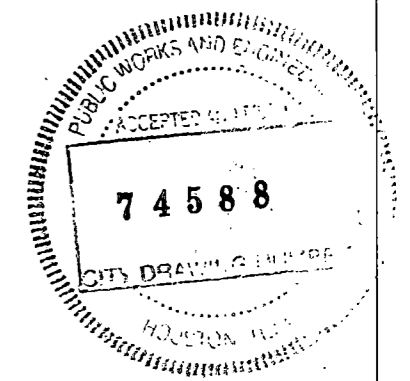
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		QUITMAN ST AT HARDY ST	
DATE:	12/15/2022	DATE:	12/15/2022
CK'D BY:	SU	SCALE:	N.T.S.
SHEET NO.:		213	





**LOW VOLTAGE CIRCUIT**

(X)Y"C = NUMBER, SIZE AND TYPE OF CONDUIT  
 (X) = NUMBER OF CABLES  
 DLC = DETECTOR LEAD-IN CABLE, 14 AWG (I.M.S.A. 50-2-1984)  
 RLW = ROADWAY LOOP DETECTOR WIRE, 14 AWG (IMSA 51-5-1985)  
 BB = BARE BOND #8 AWG SOLID



**NOTE:**  
 NO WIRING INFORMATION AVAILABLE FOR EXISTING RUNS.

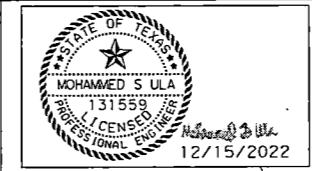
12/15/2022 Prop Bike Signal\*Quitman St @ Hardy St\*Details\*05.dgn

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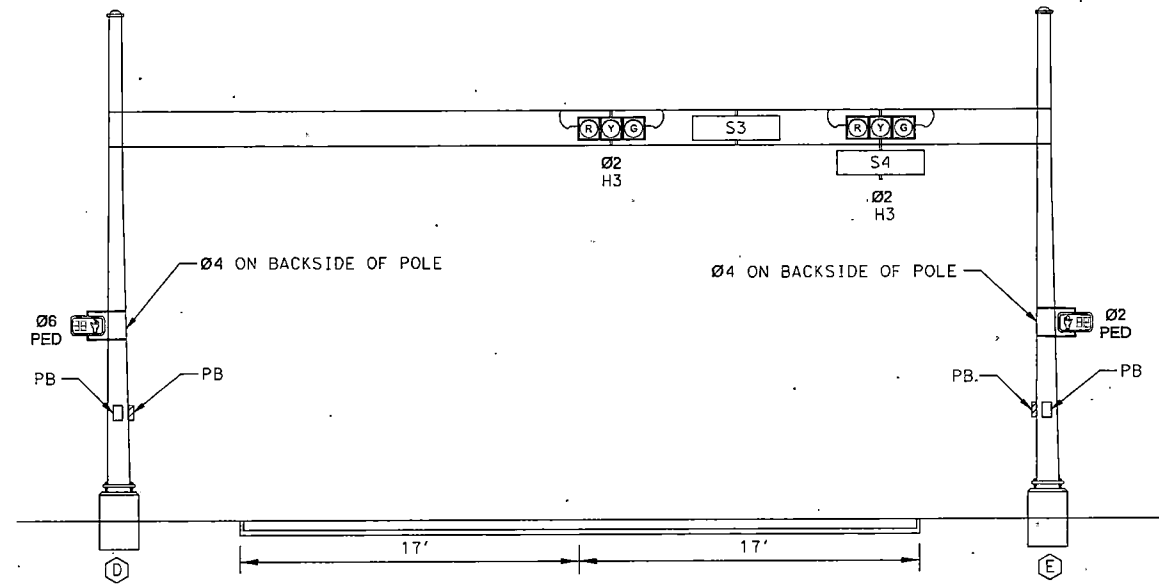
**HARRIS COUNTY  
 ENGINEERING DEPARTMENT**



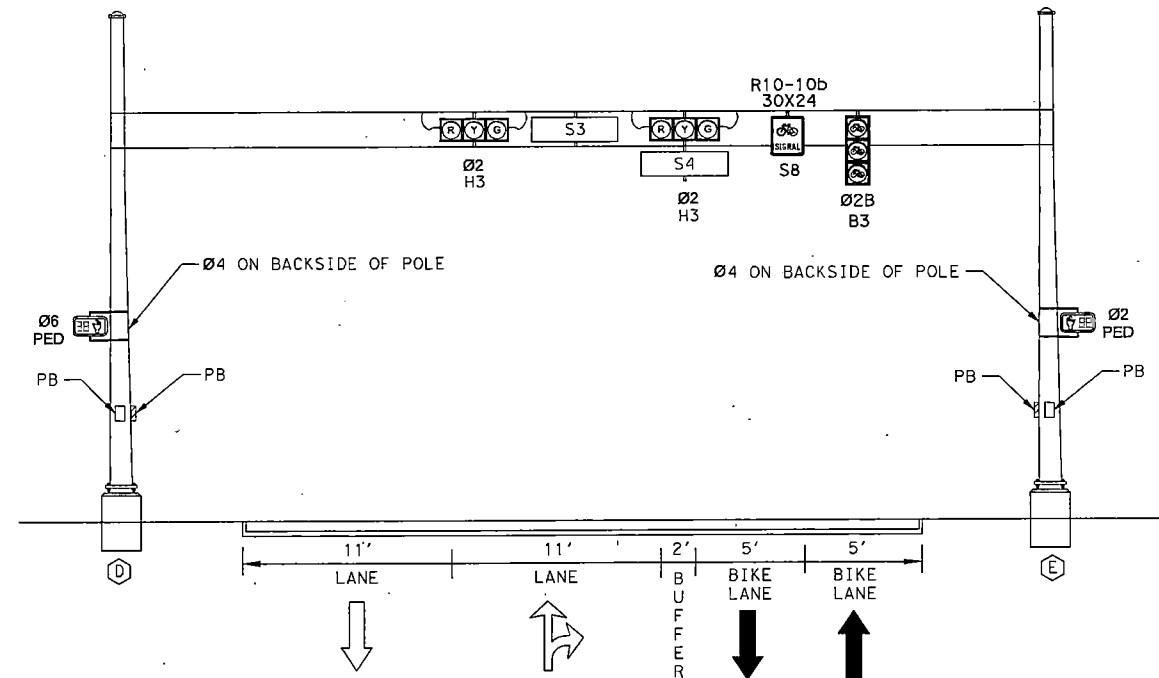
**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE:		<b>QUITMAN STREET</b>	
		<b>ON-STREET BIKEWAY AND SIDEWALKS</b>	
SHEET DESCRIPTION:		QUITMAN ST AT HARDY ST.	
DRAWN BY:	HJ	DATE:	12/15/2022
CK'D BY:	SU	SCALE:	N.T.S.
		SHEET NO: 214	



EXISTING EASTBOUND QUITMAN ST AT HARDY ST



PROPOSED EASTBOUND QUITMAN ST AT HARDY ST



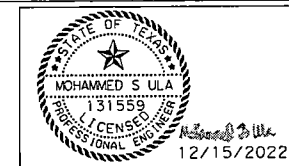
12/15/2022 Prop Bike Signal\*Quitman St @ Hardy St\*Details\*02.dgn

NO.	REVISIONS	DATE	NAME
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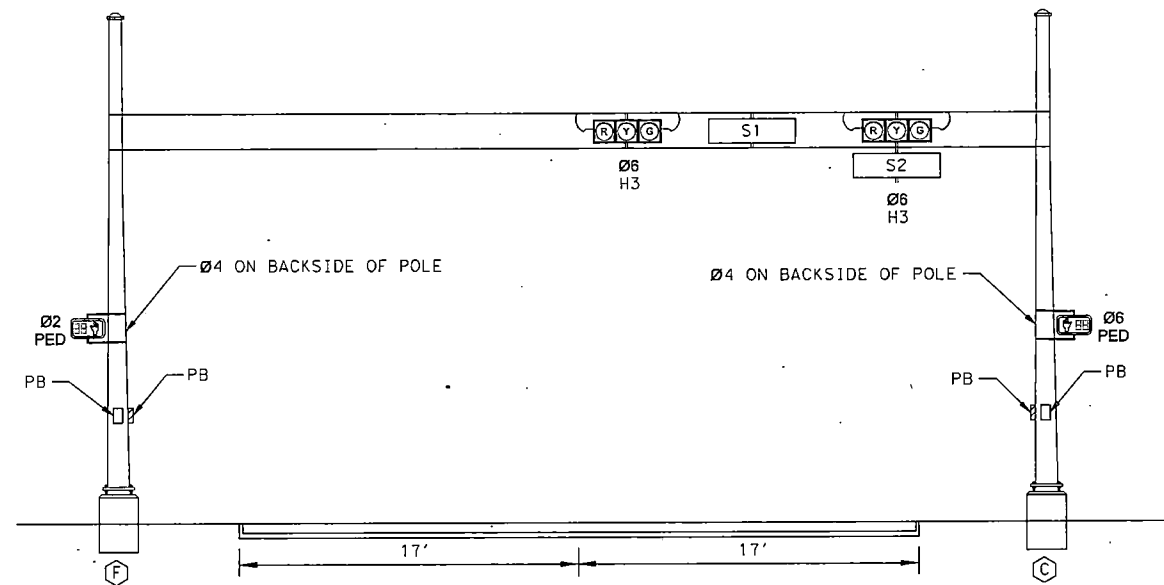
HARRIS COUNTY  
ENGINEERING DEPARTMENT



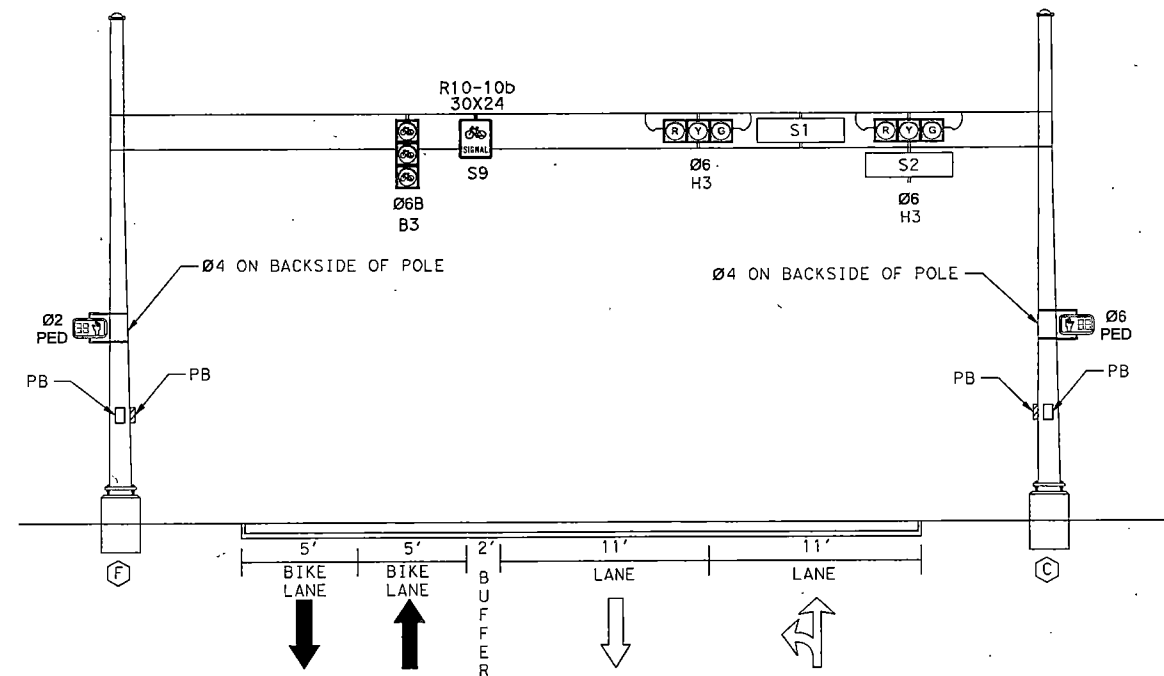
**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT HARDY ST	
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - EASTBOUND	DATE:
CK'D BY:	SU	(SHEET 1 OF 2)	12/15/2022
SCALE: N.T.S.		SHEET NO:	
		215	



EXISTING WESTBOUND QUITMAN ST AT HARDY ST



PROPOSED WESTBOUND QUITMAN ST AT HARDY ST



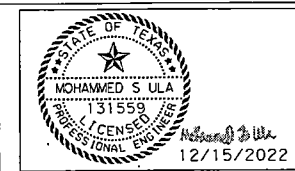
12/15/2022 Prop Bike Signal\*Quitman St @ Hardy St\*Detail1.s\*03.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

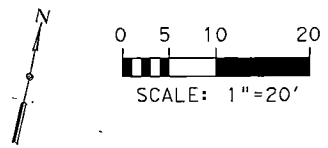


**infraTECH**  
Engineers & Innovators, LLC  
TBPB REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



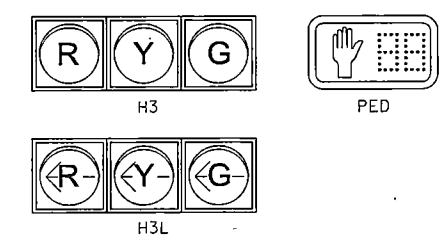
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
QUITMAN ST AT HARDY ST			
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - WESTBOUND (SHEET 2 OF 2)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 216



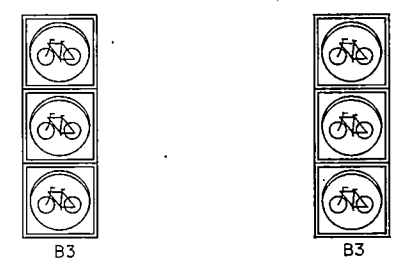


- POLE SCHEDULE**  
 A - EXISTING SERVICE POLE  
 B - TYPE 332 CABINET W/2070 CONTROLLER (EXISTING)  
 C - EXISTING STRAIN POLE  
 D - EXISTING STRAIN POLE  
 E - EXISTING STRAIN POLE  
 F - EXISTING STRAIN POLE

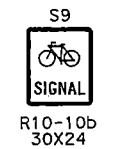
**EXISTING SIGNAL HEAD SCHEDULE**



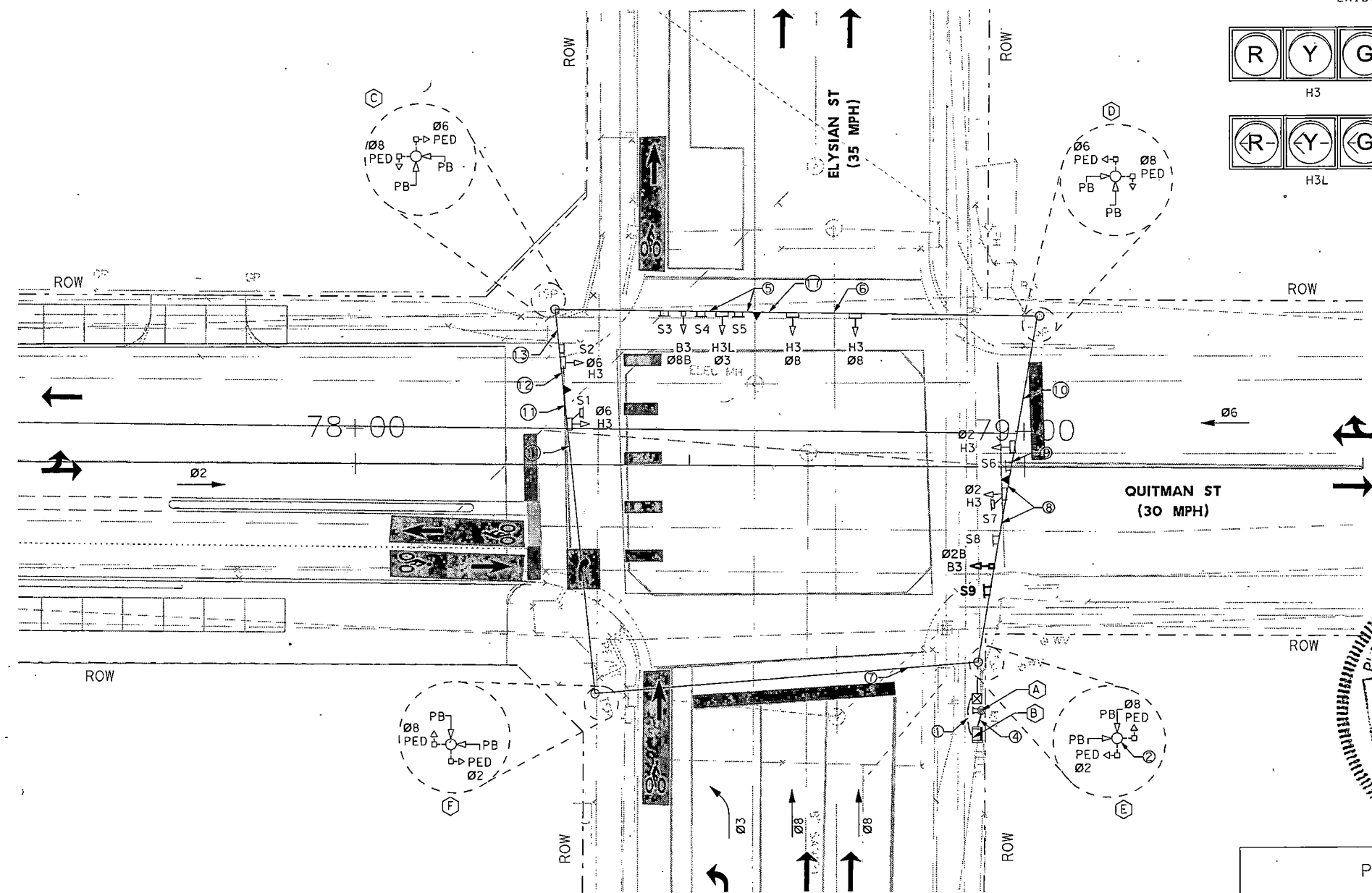
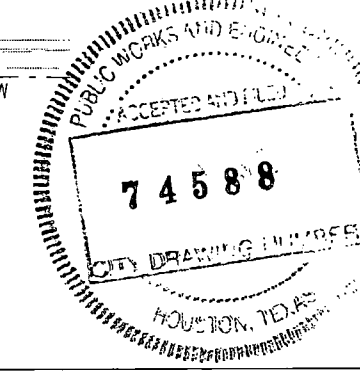
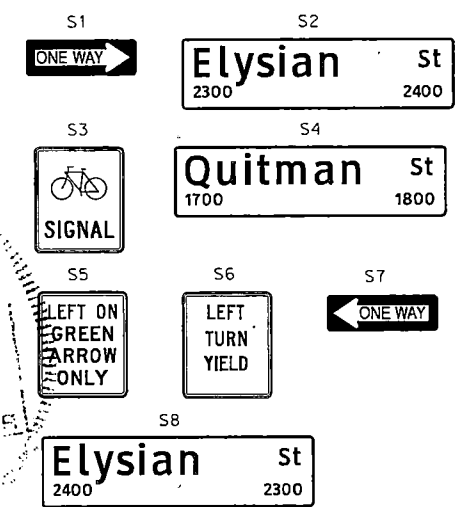
**PROPOSED SIGNAL HEAD SCHEDULE WITH LOUVERED BLACK BACKPLATES**



**PROPOSED SIGNS**



**EXISTING SIGN SCHEDULE**



**PROPOSED TRAFFIC SIGNAL PHASING**

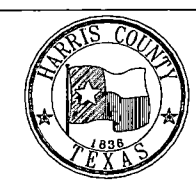
Ø6+Ø2+Ø6B+Ø2B	Ø8+Ø8B	Ø3+Ø8
Ø6 PED Ø6 ← → Ø2 Ø6B ← → Ø2B Ø2 PED	Ø8 PED Ø8B Ø8 Ø8 PED	Ø3 Ø8

**NOTE:**  
 EXISTING WIRING SHOWN IN ELECTRICAL CHART IS PER RECORD DRAWINGS.  
 THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED. INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.  
 EXISTING CABINET AND CONTROLLER INFORMATION ARE BASED ON RECORD DRAWINGS.

12/15/2022 Prop Bike Signal\*Quitman St @ Elysian St\*Proposed Signal\*01.dgn

NO.	REVISIONS	DATE	NAME
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HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042

STATE OF TEXAS  
 MOHAMMED S ULA  
 131559  
 LICENSED PROFESSIONAL ENGINEER  
 12/15/2022

PROJECT TITLE:	QUITMAN STREET		
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS		
	QUITMAN ST AT ELYSIAN ST		
DRAWN BY:	HJ	PROPOSED TRAFFIC SIGNAL LAYOUT (SHEET 1 OF 1)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: 1"=20'	SHEET NO: 218

TRAFFIC SIGNAL POLE SCHEDULE

POLE NUMBER	POLE TYPE	STRAIN POLE		SIGNALS		LUMINAIRE TYPE	PED PB TYPE/SIGN	REMARKS	LOCATION	STANDARDS
		SIGNAL	LUMINAIRE	MOUNTING	FACE					
	EXISTING	EXISTING	-	SPAN WIRE	1 - B3	-	-	RELOCATE EXISTING H3, S6, S7, AND S8 SIGNS: S9 = R10-10b	-	02893-02 02893-09
	EXISTING	EXISTING	-	-	-	-	-	-	-	-



EXISTING TRAFFIC SIGNAL CONTROLLER

CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
	EXISTING	-	-	-	-	-
	TYPE 332 CABINET (EXISTING)	2070 CONTROLLER (EXISTING)	-	-	-	-

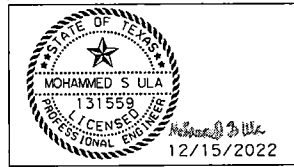
12/15/2022 Prop Bike Signal\*Quitman St @ Elysian St\*Details\*04.dgn

NO.	REVISIONS	DATE	NAME
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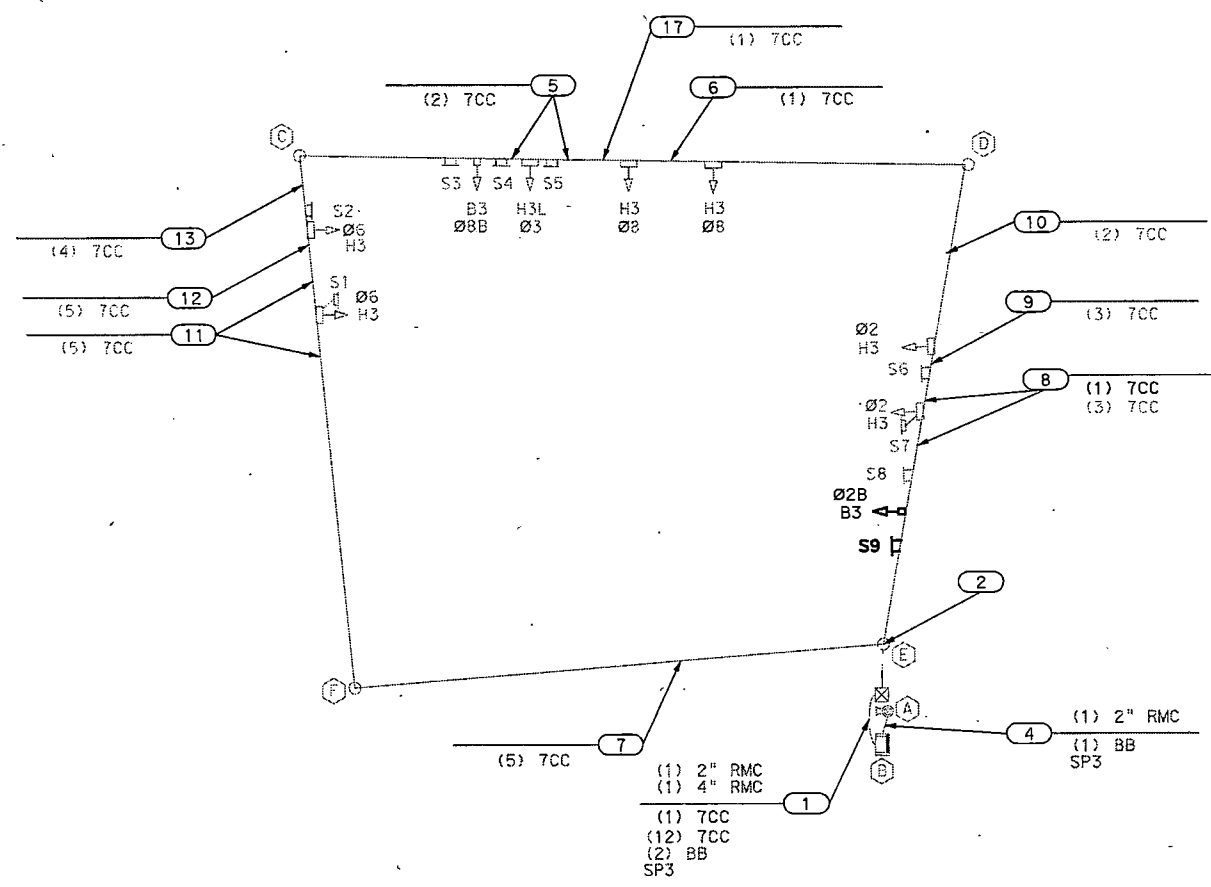
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TPE REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT ELYSIAN ST	
DRAWN BY:	HJ	DATE:	12/15/2022
CK'D BY:	SU	SHEET NO.:	219
SCALE: N.T.S.		TRAFFIC SIGNAL POLE SCHEDULE (SHEET 1 OF 1)	



**HIGH VOLTAGE CIRCUIT**

- (1) 4" PVC = NUMBER, SIZE AND TYPE OF CONDUIT
- CC = 14 AWG SOLID CONDUCTOR CABLE
- BB = BARE BOND 8 AWG SOLID
- BG = BARE GROUND, 8 AWG SOLID
- SP1 = SIGNAL POWER, 6 AWG XHHW (2-WHITE, 1-BLACK, 1-RED, & 2-GREEN)
- SP2 = 4 - #4 AWG XHHW
- SL = STREET LIGHTING, 10 AWG XHHW
- PC = PHOTO CELL, 10 AWG XHHW



**NOTE:**  
 EXISTING WIRING SHOWN IS PER RECORD DRAWINGS.  
 THE EXISTING WIRING HAS NOT BEEN FIELD VERIFIED.  
 INTERCONNECT WIRING IS NOT SHOWN AND WILL STAY AS IS.

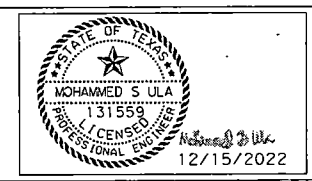
12/15/2022 Prop Bike Signal\*Quitman St @ Elysian St\*Details\*03.dgn

NO.	REVISIONS	DATE	NAME
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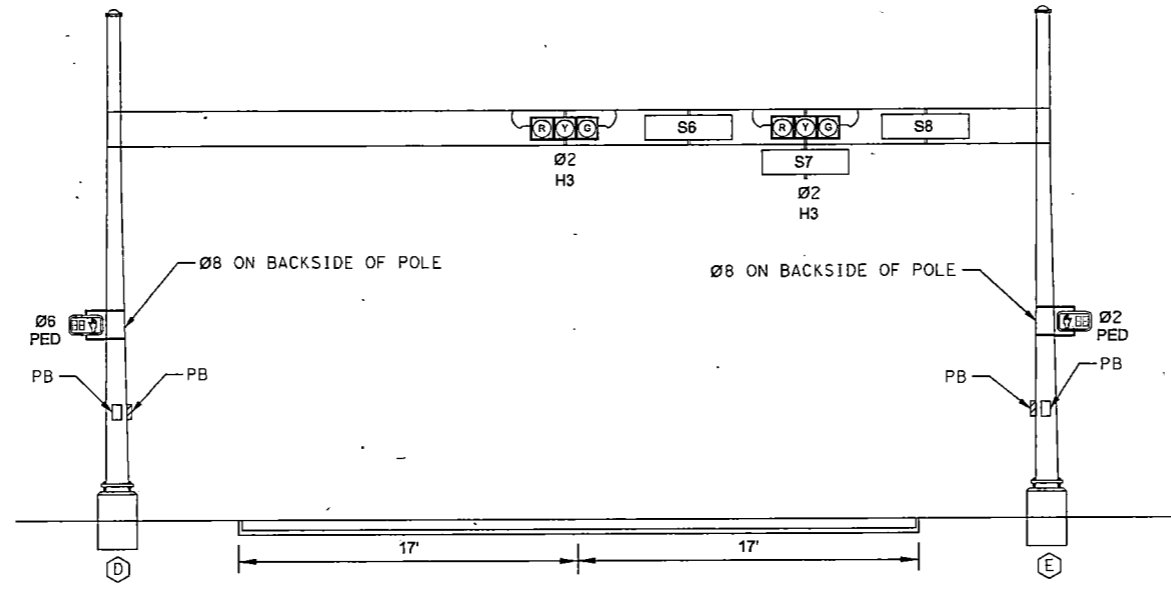
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



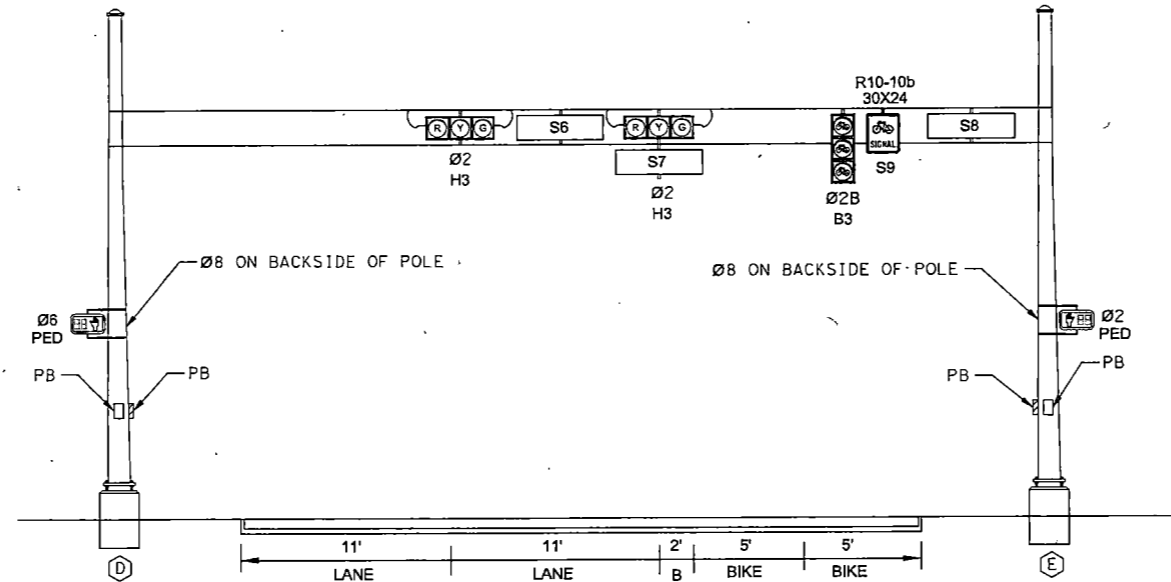
**infraTECH**  
 Engineers & Innovators, LLC  
 TBPB REGISTRATION NO. F-19388  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



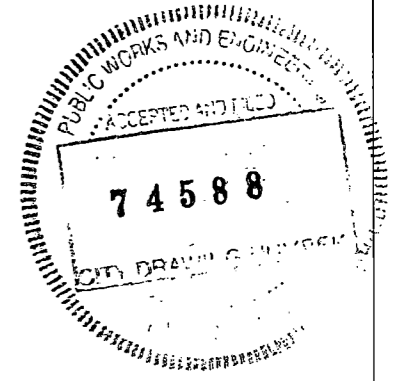
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SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
QUITMAN ST AT ELYSIAN ST			
DRAWN BY:	HJ	CABLE SCHEMATIC (SHEET 1 OF 1)	DATE:
CK'D BY:	SU	SCALE: N.T.S.	12/15/2022
			SHEET NO:
			220



EXISTING EASTBOUND QUITMAN ST AT ELYSIAN ST



PROPOSED EASTBOUND QUITMAN ST AT ELYSIAN ST



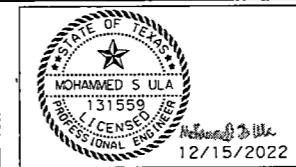
12/15/2022 Prop Bike Signal\*Quitman St @ Elysian St\*Detail.sxd.dgn

NO.	REVISIONS	DATE	NAME
▲			
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HARRIS COUNTY  
ENGINEERING DEPARTMENT

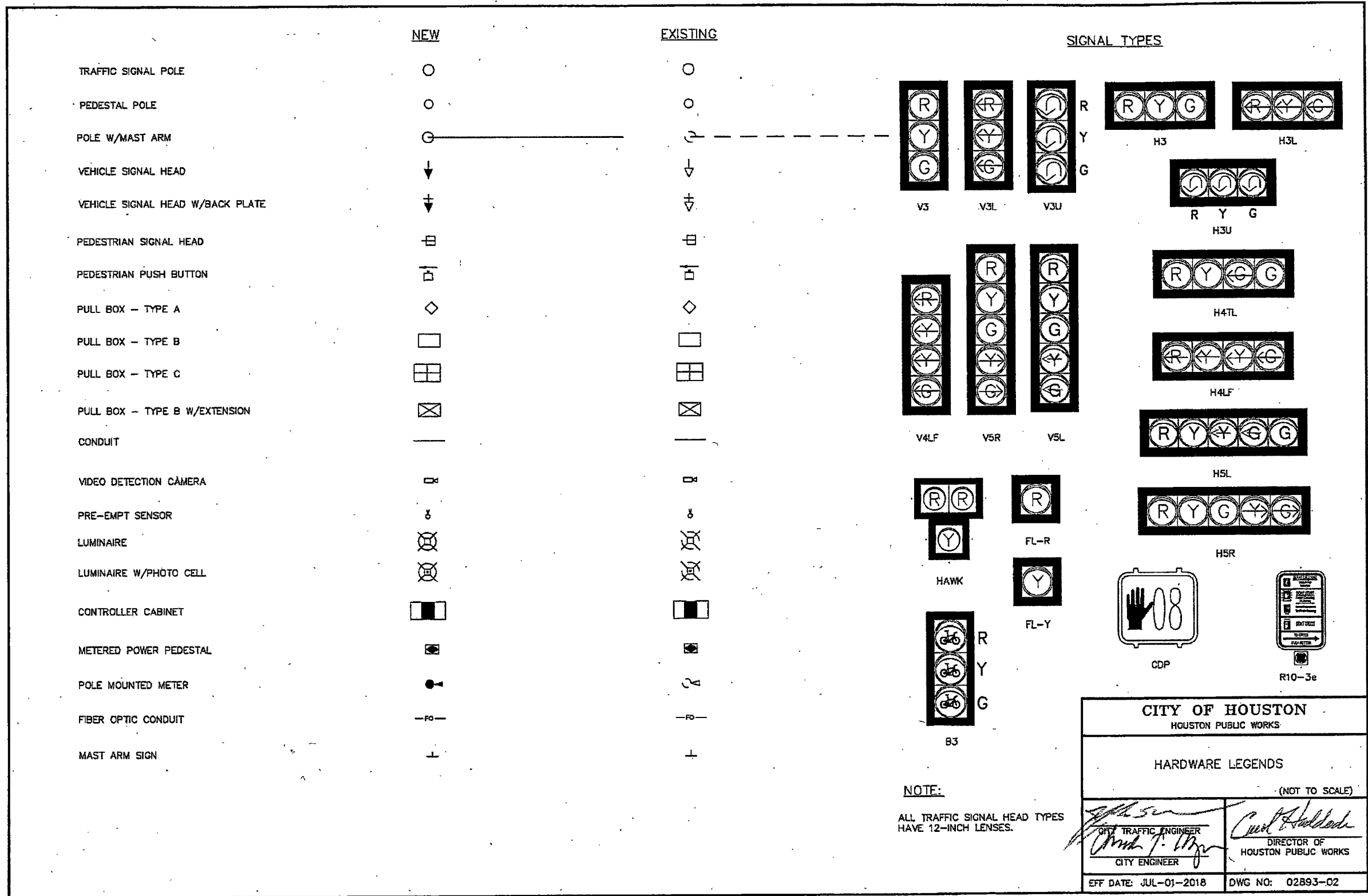


**infraTECH**  
Engineers & Innovators, LLC  
TBPPE REGISTRATION NO. F-18388  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
		QUITMAN ST AT ELYSIAN ST.	
DRAWN BY:	HJ	PROPOSED SIGNAL ELEVATION - EASTBOUND (SHEET 1 OF 1)	DATE: 12/15/2022
CK'D BY:	SU	SCALE: N.T.S.	SHEET NO: 221





**NOTE:**  
ALL TRAFFIC SIGNAL HEAD TYPES HAVE 12-INCH LENSES.

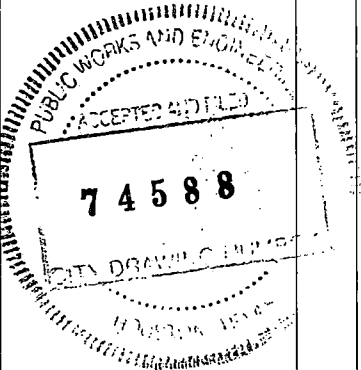
**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

**HARDWARE LEGENDS**                      (NOT TO SCALE)

*[Signature]*  
CITY TRAFFIC ENGINEER  
CITY ENGINEER

*[Signature]*  
DIRECTOR OF  
HOUSTON PUBLIC WORKS

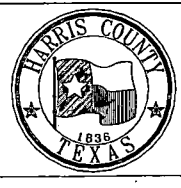
EFF DATE: JUL-01-2018    DWG NO: 02893-02



12/15/2022 COH\*STD.dgn

NO.	REVISIONS	DATE	NAME
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**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**



**infraTECH**  
Engineers & Innovators, LLC  
TBP&E REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042

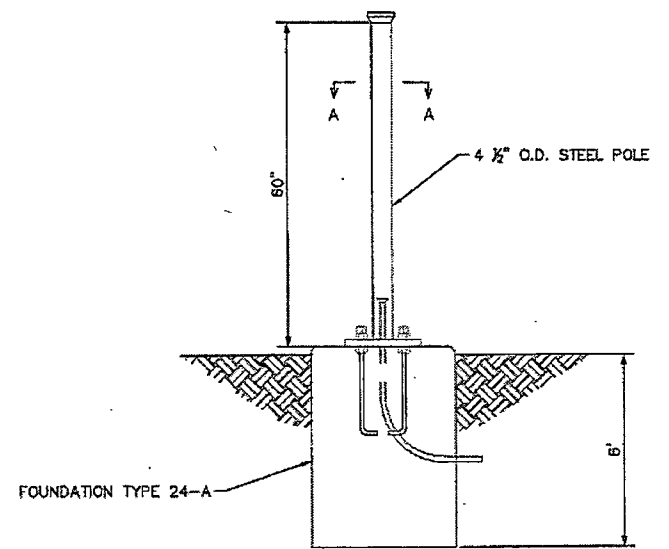
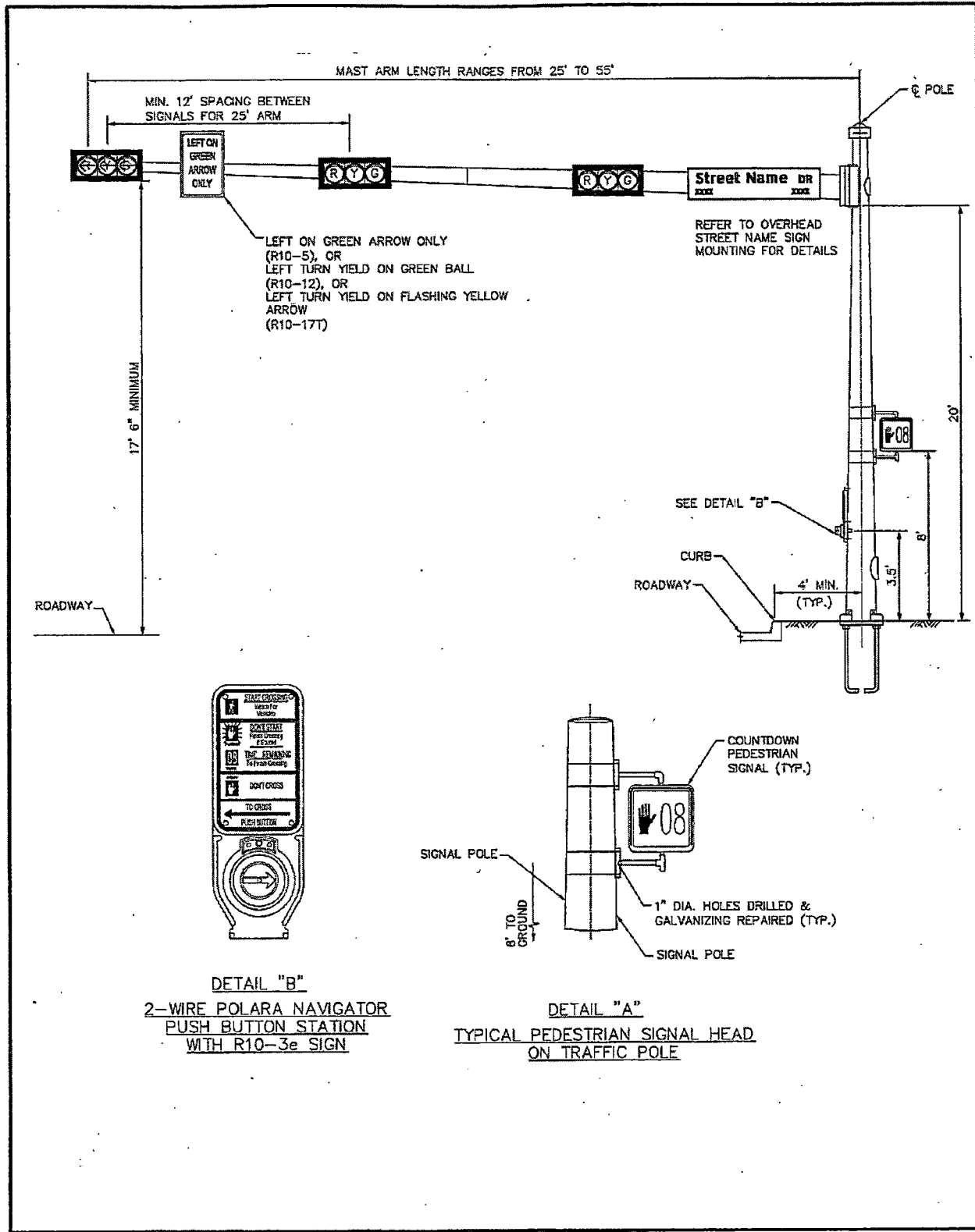
STATE OF TEXAS  
MOHAMMED S. ULA  
131559  
LICENSED PROFESSIONAL ENGINEER  
12/15/2022

PROJECT TITLE: **QUITMAN STREET**

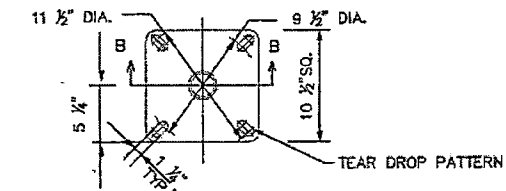
SHEET DESCRIPTION: **ON-STREET BIKEWAY AND SIDEWALKS**

SHEET NO: STANDARD DRAWINGS (SHEET 1 OF 6)

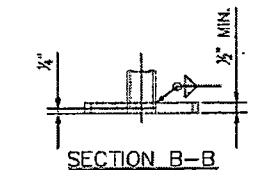
DRAWN BY: HJ	DATE: 12/15/2022
CHECKED BY: SU	SHEET NO: 222
SCALE: N.T.S.	



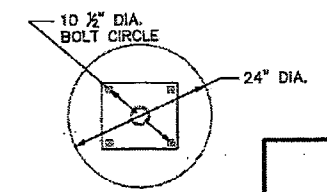
PEDESTRIAN PUSH BUTTON POLE



SECTION A-A



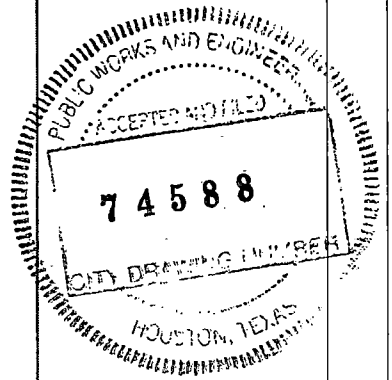
SECTION B-B



FOUNDATION PLAN

**NOTE:**  
 1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS STATED ON "PEDESTAL POLE WITH DRILLED SHAFT FOUNDATION" STANDARD.  
 2. REFER TO "PEDESTAL POLE WITH DRILLED SHAFT FOUNDATION" STANDARD DETAIL FOR ANCHOR BOLT DETAILS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TYPICAL MAST ARM / POLE FIXTURE CONFIGURATION (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 02893-03



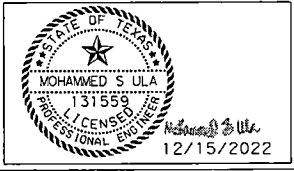
12/15/2022 COH\*STD.dgn

NO.	REVISIONS	DATE	NAME
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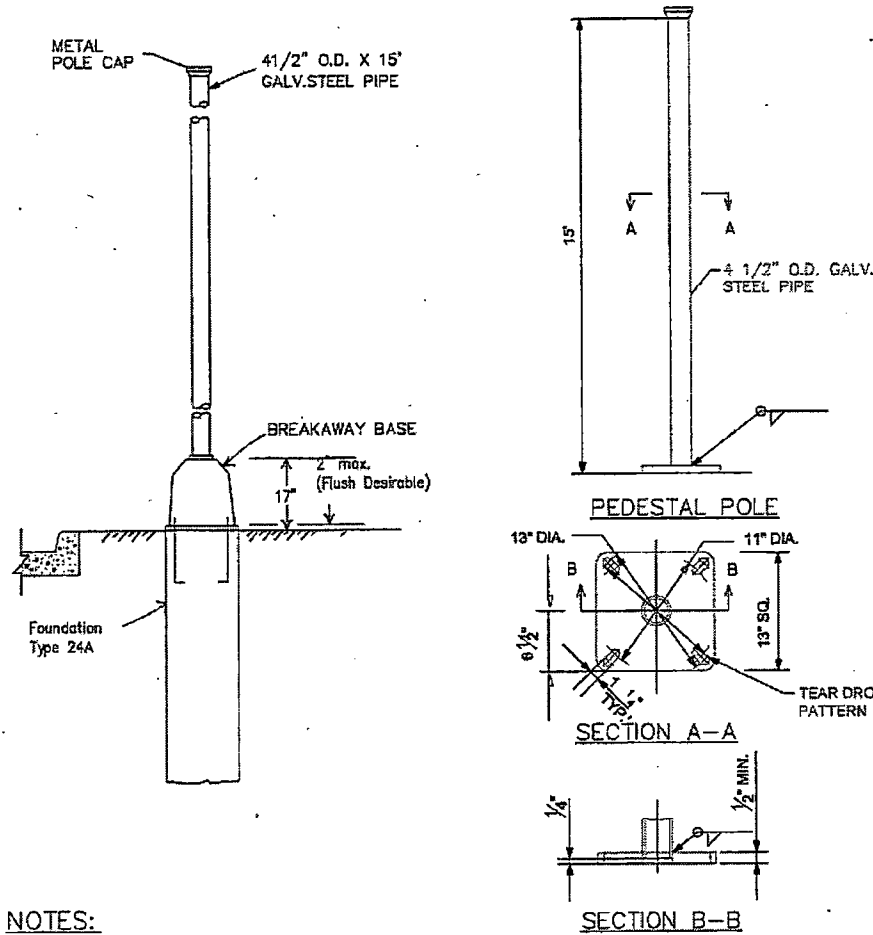
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
 Engineers & Innovators, LLC  
 TBPE REGISTRATION NO. F-18368  
 11111 WILCREST GREEN DR, SUITE 410  
 HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: STANDARD DRAWINGS (SHEET 2 OF 6)	
DRAWN BY: HJ	DATE: 12/15/2022
CK'D BY: SU	SHEET NO: 223
SCALE: N.T.S.	



**NOTES:**

1. DETAILS DEPICTED ON THIS SHEET SHOW A TYPICAL PEDESTAL POLE ASSEMBLY WITH A DRILLED SHAFT FOUNDATION.
2. USE 24 IN. DRILLED SHAFT FOUNDATION AS SHOWN.
3. 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 800V OR LESS. PROVIDE BREAKAWAY FUSE HOLDER FROM MANUFACTURERS PRE-QUALIFIED BY THE TRAFFIC OPERATIONS DIVISION. SEE HTTP://WWW.DOT.STATE.TX.US/BUSINESS/PRODUCER\_LIST.HTM FOR LIST OF PRE-QUALIFIED MANUFACTURERS. CATEGORY IS "ROADWAY ILLUMINATION AND ELECTRICAL SUPPLIES." PROVIDE 10 AMP TIME DELAY FUSES.
4. 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.
5. PER MANUFACTURER'S RECOMMENDATIONS, ENGAGE ALL THREADS ON THE PEDESTAL POLE BASE AND PIPE UNLESS THE PIPE IS FULLY SEATED INTO BASE.
6. PROVIDE NON-FUSED WATERTIGHT BREAKAWAY ELECTRICAL CONNECTORS FOR BREAKAWAY POLES. (BUSSMANN HET, LITTELFUSE LET, FERRAZ-SHAWMUT FEBN, OR APPROVED EQUAL).
7. PROVIDE SIGNAL HEADS AND MOUNTING AS SHOWN ELSEWHERE ON THE PLANS.

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		DRILLED SHAFT LENGTH-FT	ANCHOR BOLT DESIGN				FOUNDATION DESIGN LOAD	
		VERT BARS	SPIRAL & PITCH		ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips
24-A	24"	4-#5	#2 at 12"	6	3/4"	36	13"	1	10	1

\* 10 1/2" B.C. FOR PUSH BUTTON POLE

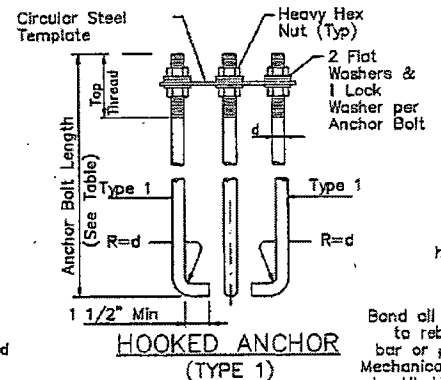
**ANCHOR BOLT ASSEMBLY**

**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.

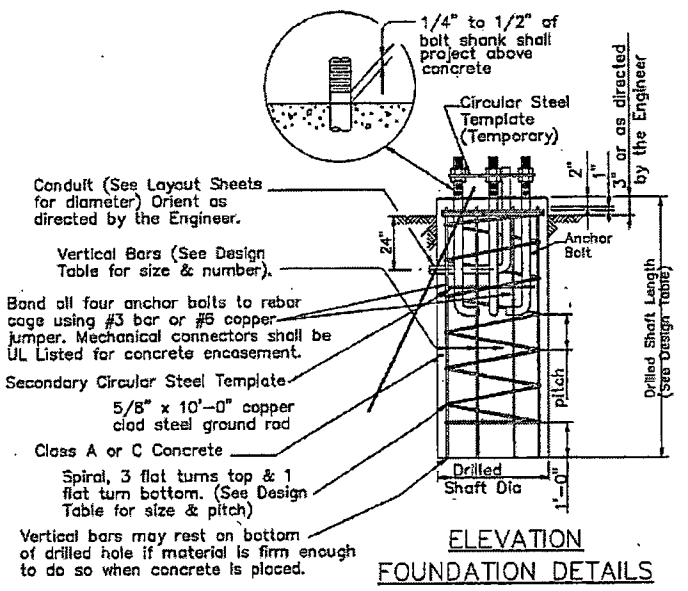
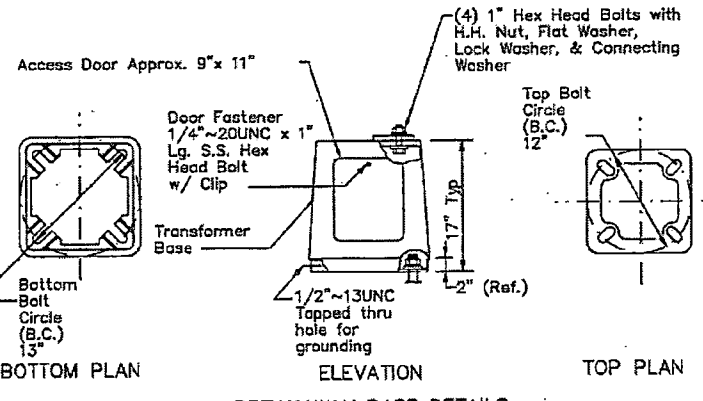
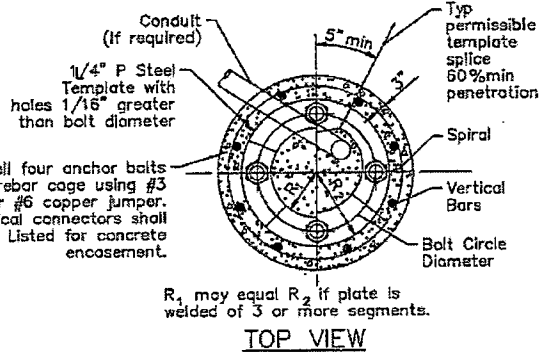
**GENERAL NOTES**

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto. Concrete shall be Class A or C. 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. 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 embed nuts need not be galvanized.



BOLT DIA IN	BOLT LENGTH	TOP THREAD	BOTT THREAD	BOLT CIRCLE	R <sub>2</sub>	R <sub>1</sub>
3/4"	1'-6"	3"	—	13"	7 1/8"	5 5/8"

① Min dimensions given, longer bolts are acceptable.



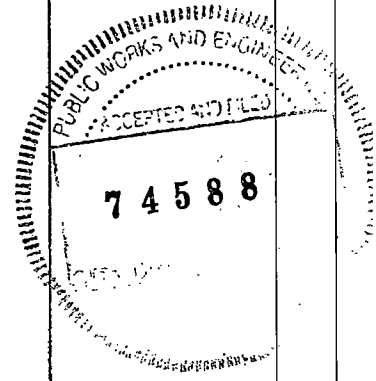
**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

**PEDESTAL POLE WITH DRILLED SHAFT FOUNDATION**  
(NOT TO SCALE)

*[Signature]*  
CITY TRAFFIC ENGINEER  
CITY ENGINEER

*[Signature]*  
DIRECTOR OF HOUSTON PUBLIC WORKS

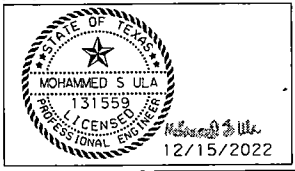
EFF DATE: JUL-01-2018    DWG NO: Q2893-07



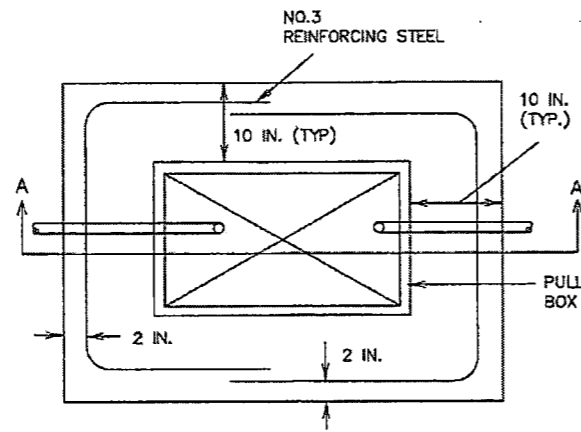
12/15/2022 COH\*STD.dgn

NO.	REVISIONS	DATE	NAME
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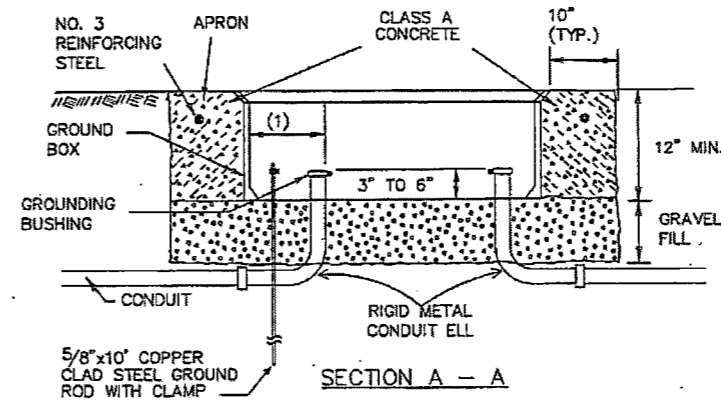
HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:	QUITMAN STREET		
SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS		
	STANDARD DRAWINGS (SHEET 3 OF 6)		
DRAWN BY:	HJ	DATE:	12/15/2022
CK'D BY:	SU	SHEET NO.:	224
SCALE:	N.T.S.		

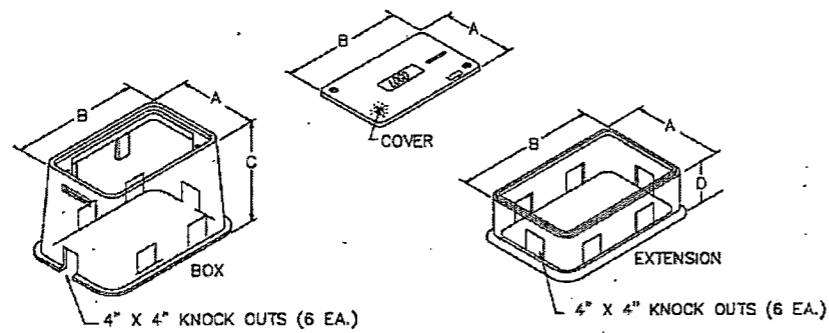


PLAN VIEW

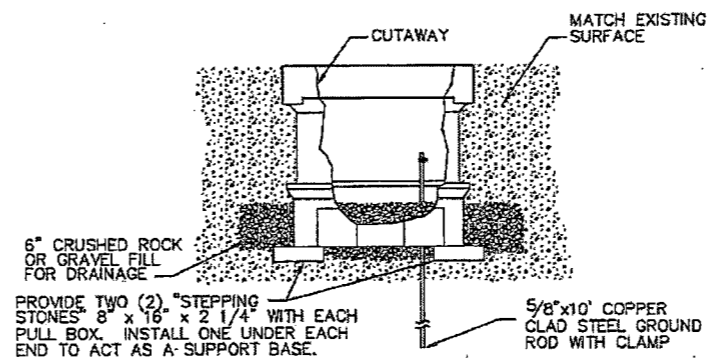


APRON FOR PULL BOXES

- (1) FINAL POSITION OF END OF CONDUIT SHALL NOT EXCEED ONE-HALF THE DISTANCE TO THE SIDE OF BOX OPPOSITE THE CONDUIT ENTRY.
- (2) PLACE GRAVEL "UNDER" THE BOX, NOT "IN" THE BOX. GRAVEL SHOULD NOT ENCR OACH ON THE INTERIOR VOLUME OF THE BOX.
- (3) INSTALL BUSHING ON THE UPPER END OF ALL ELLS.
- (4) PROVIDE A 5/8" GROUND ROD IN ALL PULL BOXES AND CONNECT IT TO ANY AND ALL EQUIPMENT GROUNDING CONDUCTORS USING A LISTED CONNECTOR.
- (5) MAINTAIN SUFFICIENT SPACE BETWEEN ALL CONDUITS SO AS TO ALLOW FOR PROPER INSTALLATION OF BUSHINGS.
- (6) ALL CONDUITS SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
- (7) ALL CONDUITS INSTALLED IN THE GROUND BOX SHALL BE SEALED AFTER COMPLETION OF CONDUCTOR INSTALLATION AND ANY REQUIRED PULL TESTS. SILICONE SHALL NOT BE USED AS THE SEALANT.

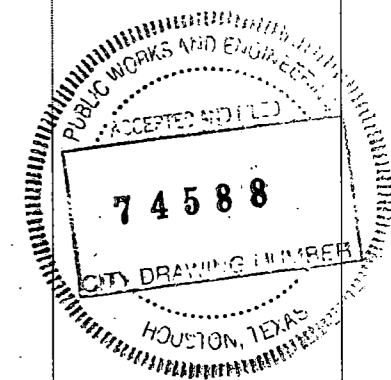


NOMINAL DIMENSIONS FOR TRAFFIC SIGNAL PULL BOXES				
Type	A	B	C	D
DETECTOR TYPE A	13"	18"	24"	12"
TRAFFIC SIGNAL TYPE B	17"	30"	24"	12"
COMMUNICATION TYPE C	26"	38"	24"	12"



SIDE VIEW  
ELECTRICAL PULL BOX ASSEMBLY

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
PULL BOXES	
(NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: Q2893-08



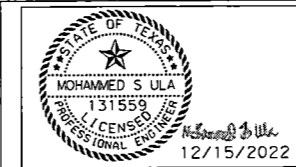
12/15/2022 COH\*STD.dgn

NO.	REVISIONS	DATE	NAME

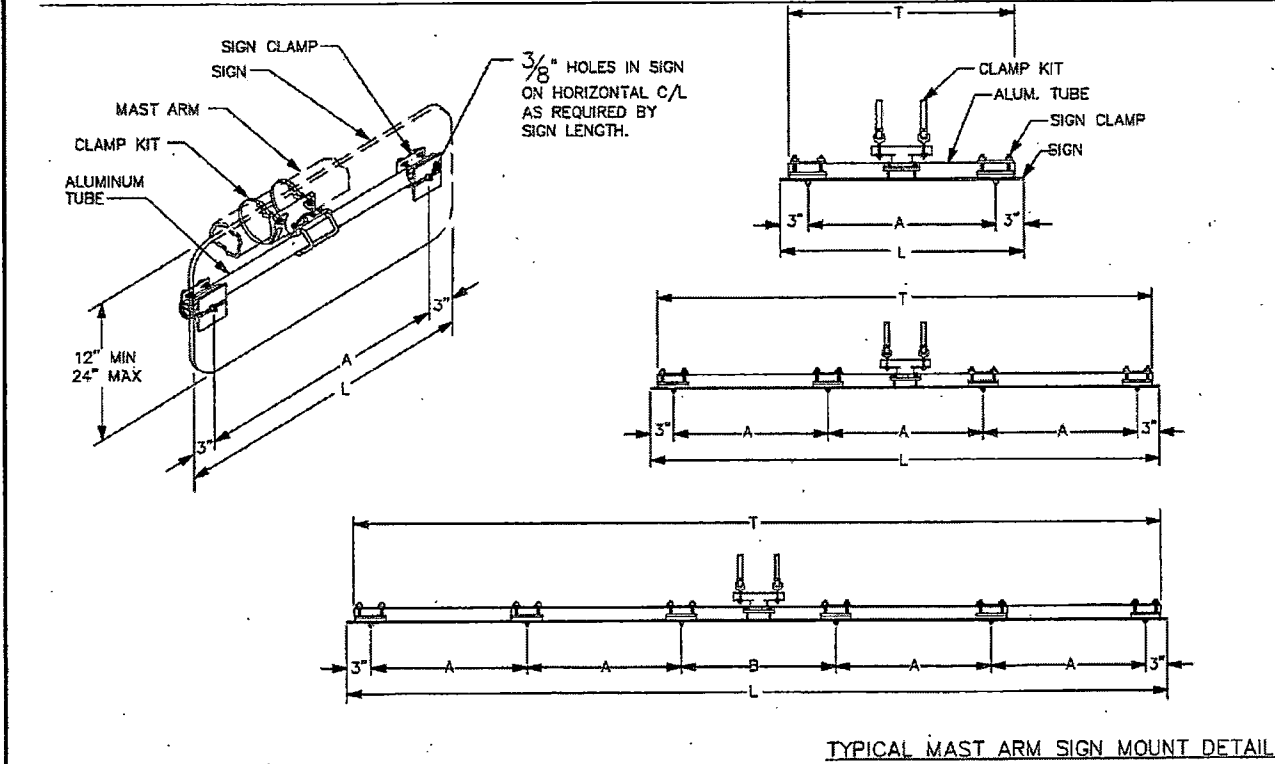
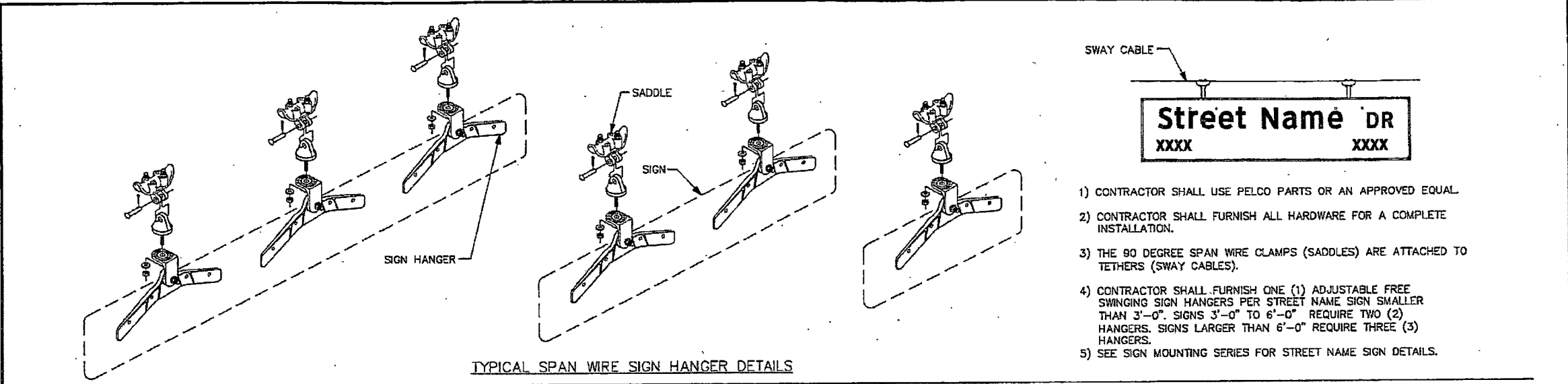
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18388  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: STANDARD DRAWINGS (SHEET 4 OF 6)	
DRAWN BY: HJ	DATE: 12/15/2022
CK'D BY: SU	SHEET NO: 225
SCALE: N.T.S.	



**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)**

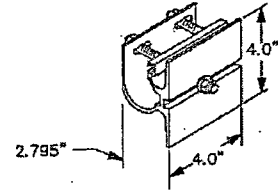
SIGN LENGTH (L)	TUBE LENGTH (T)	A	B
8'-6"	100"	18"	20"
9'-0"	106"	20"	22"
9'-6"	112"	21"	24"
10'-0"	118"	22"	25"

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

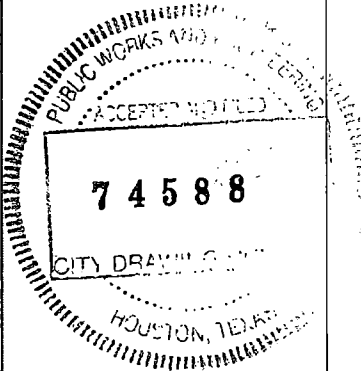
**OVERHEAD STREET NAME SIGN MOUNTING DETAILS**  
(NOT TO SCALE)

*Alan S. ...*  
CITY TRAFFIC ENGINEER

*Mark T. ...*  
CITY ENGINEER

*Carl ...*  
DIRECTOR OF HOUSTON PUBLIC WORKS

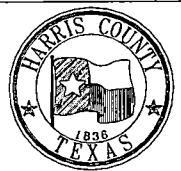
EFF DATE: JUL-01-2018    DWG NO: 02893-09



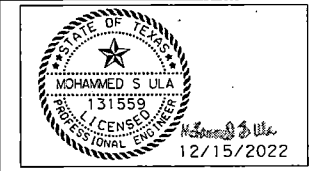
12/15/2022 COH\*STD.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBP# REGISTRATION NO. F-18368  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: **QUITMAN STREET**

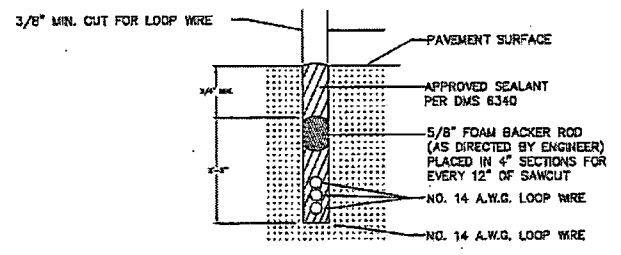
**ON-STREET BIKEWAY AND SIDEWALKS**

SHEET DESCRIPTION: STANDARD DRAWINGS (SHEET 5 OF 6)

DRAWN BY: HJ  
CK'D BY: SU

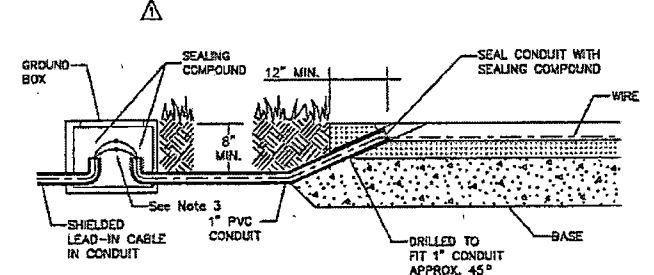
SCALE: N.T.S.

DATE: 12/15/2022  
SHEET NO: 226

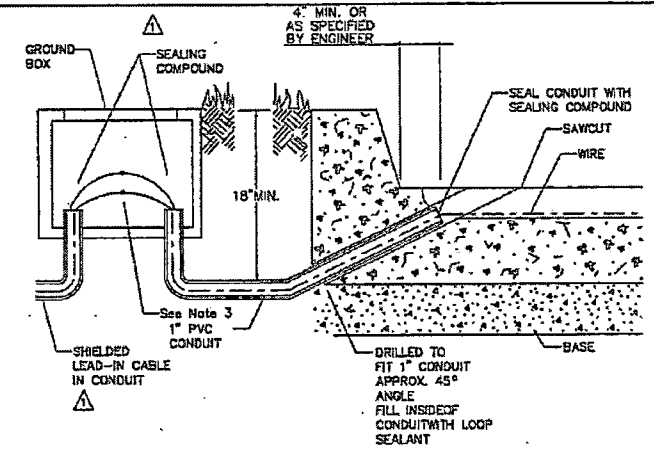


LOOP SAW CUT CROSS-SECTION

\* SAWCUTS IN BRIDGE DECKS ARE TYPICALLY 1" DEPTH MAXIMUM. SAWCUTS IN BRIDGE DECKS AND ACROSS EXPANSION JOINTS SHALL BE AS APPROVED BY ENGINEER.

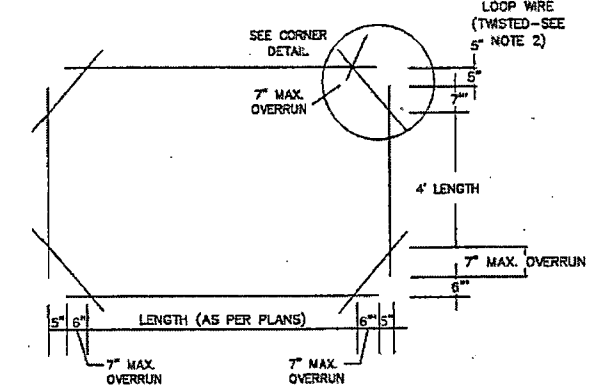


TYPICAL LEAD IN CONFIGURATION (WITHOUT CURBING)

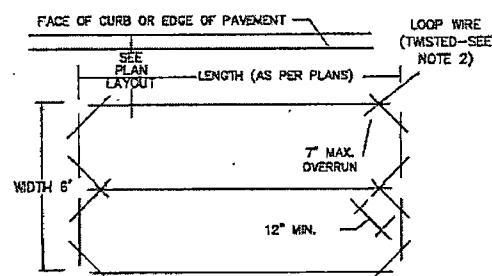


TYPICAL LEAD IN CONFIGURATION (WITH CURBING)

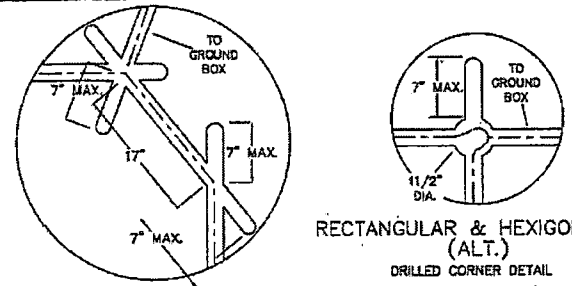
TYPICAL VEHICULAR LOOP DETECTOR LAYOUT (AS SPECIFIED IN PLANS)



RECTANGULAR



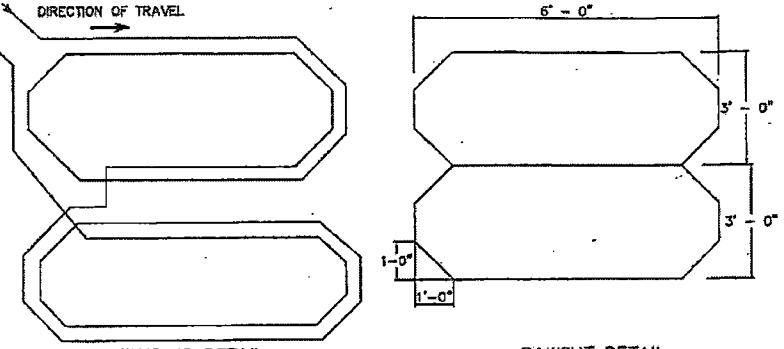
QUADRAPOLE



RECTANGULAR & HEXAGON LOOP SAWCUT CORNER DETAIL 7" OVERRUN BASED ON 24" DIAMETER SAW BLADE

TYPICAL CORNER DETAILS

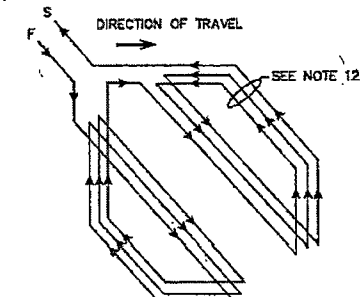
TYPICAL BICYCLE LOOP DETECTOR LAYOUT (AS SPECIFIED IN PLANS. See Pavement Markings Details for location relative to bicycle symbol)



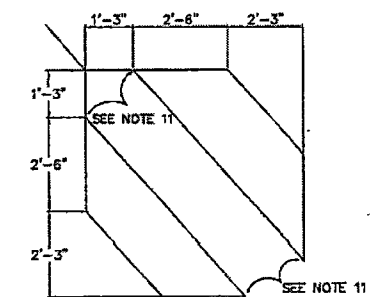
WINDING DETAIL

SAWCUT DETAIL

QUADRUPOLE (Q) TYPE LOOP DETECTOR CONFIGURATION



WINDING DETAIL



SAWCUT DETAIL

DIAGONAL SLASHED (D) TYPE LOOP DETECTOR CONFIGURATION

GENERAL NOTES:

- 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.
- 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.
- 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 Scotocast 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.
- 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.
- 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 PERMETER 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
- A separate saw cut shall be made from each loop to the edge of pavement or as specified by the Engineer.
- Splices between the loop lead-in cable and loop detector shall be made only in the ground box near the loop it is serving.
- Circular loops may use prewound loops encased in continuous pvc tubing. Sawcut width may be adjusted to accommodate tubing.
- The lead-in wire in the circular loop shall be coiled at the 3 inch drilled corner to reduce bending stress.
- Loop duct may be used as specified by Engineer. For additional information refer to "Texas Traffic Signal Detector" manual, TTI Report 1163-1.
- Round corners of acute angles to prevent damage to conductors.
- 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.

CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

LOOP DETECTOR INSTALLATION  
DETAILS

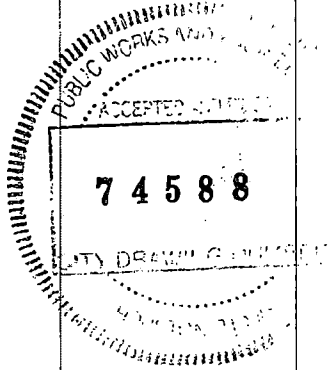
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*[Signature]*  
CITY TRAFFIC ENGINEER  
*[Signature]*  
CITY ENGINEER

*[Signature]*  
DIRECTOR OF  
HOUSTON PUBLIC WORKS

EFF. DATE: JUL-01-2016

DWG NO: 02893-11



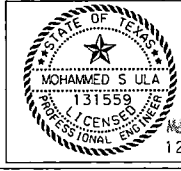
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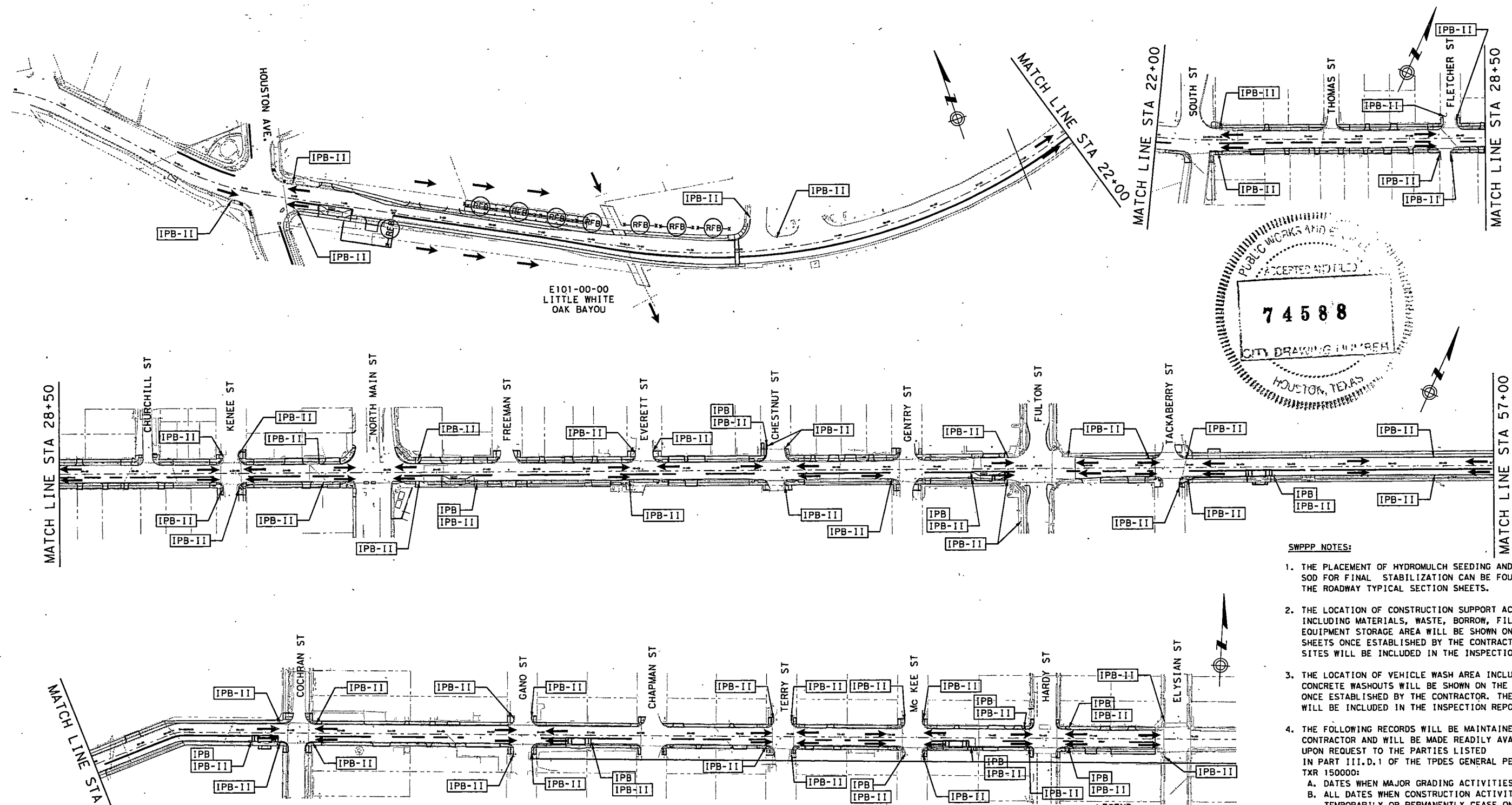
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**infraTECH**  
Engineers & Innovators, LLC  
TBPE REGISTRATION NO. F-18398  
11111 WILCREST GREEN DR, SUITE 410  
HOUSTON, TEXAS 77042



PROJECT TITLE: QUITMAN STREET	
ON-STREET BIKEWAY AND SIDEWALKS	
SHEET DESCRIPTION: STANDARD DRAWINGS (SHEET 6 OF 6)	
DRAWN BY: HJ	DATE: 12/15/2022
CR'D BY: SU	SHEET NO: 227
SCALE: N.T.S.	



**SWPPP NOTES:**

1. THE PLACEMENT OF HYDROMULCH SEEDING AND BLOCK SOD FOR FINAL STABILIZATION CAN BE FOUND ON THE ROADWAY TYPICAL SECTION SHEETS.
2. THE LOCATION OF CONSTRUCTION SUPPORT ACTIVITIES INCLUDING MATERIALS, WASTE, BORROW, FILL AND EQUIPMENT STORAGE AREA WILL BE SHOWN ON THE PLAN SHEETS ONCE ESTABLISHED BY THE CONTRACTOR. THESE SITES WILL BE INCLUDED IN THE INSPECTION REPORT.
3. THE LOCATION OF VEHICLE WASH AREA INCLUDING CONCRETE WASHOUTS WILL BE SHOWN ON THE PLANS ONCE ESTABLISHED BY THE CONTRACTOR. THESE SITES WILL BE INCLUDED IN THE INSPECTION REPORT.
4. THE FOLLOWING RECORDS WILL BE MAINTAINED BY THE CONTRACTOR AND WILL BE MADE READILY AVAILABLE UPON REQUEST TO THE PARTIES LISTED IN PART III.D.1 OF THE TPDES GENERAL PERMIT TXR 150000:
  - A. DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
  - B. ALL DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON PORTION OF THE SITE; AND
  - C. THE DATES WHEN STABILIZATION (BOTH TEMPORARY AND/OR PERMANENT) MEASURES ARE INITIATED.
  - D. CHECKLIST TO BE ON ALL SWPPP SHEETS.

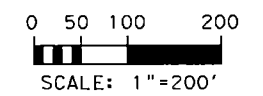
**NOTES:**

1. PROTECT EXISTING INLETS ON ADJACENT STREETS WITH GRAVEL BAGS (GB) ON EITHER SIDE OF INLET IN THE GUTTER OR WITH INLET PROTECTION BARRIERS (IPB) AROUND INLETS IN ROADSIDE DITCHES. GRAVEL BAGS AND INLET PROTECTION BARRIERS SHALL REMAIN UNTIL CONSTRUCTION IS COMPLETED.
2. CONTRACTOR SHALL MAINTAIN DAILY, ALL SANDBAGS (SB) AND INLET PROTECTION BARRIERS (IPB). (IPB) SHALL REMAIN IN PLACE UNTIL VEGETATION IS WELL ESTABLISHED, PER SPECIFICATION.
3. OTHER EROSION AND SEDIMENTATION CONTROLS INCLUDE:
  - A) STABILIZED MAIN CONSTRUCTION ACCESS AT ALL ENTRANCES TO THE PROJECT.
  - B) DAILY STREET SWEEPING.
  - C) INSPECTION AND MAINTENANCE PER APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
4. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL REMOVE EROSION AND SEDIMENTATION CONTROLS WITH APPROVAL FROM ENGINEER.

5. PROTECT ALL STAGE 1 INLETS AND MANHOLES WITH INLET PROTECTION BARRIERS (IPB) AND GRAVEL BAGS.

**LEGEND**

- [IPB-I] INLET PROTECTION BARRIER (STAGE I)
- [IPB-II] INLET PROTECTION BARRIER (STAGE II)
- [RFB] REINFORCED FILTER FABRIC BARRIER
- [→] DIRECTION OF FLOW
- [CONCRETE PIT] CONCRETE WASHOUT PIT
- [\*] LOCATION SUBJECT TO CHANGE



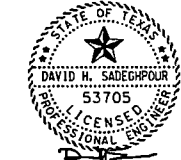
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NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
STORM WATER POLLUTION PREVENTION LAYOUT			
DRAWN BY:	AD	DATE:	08-19-2022
CK'D BY:	DHS	SHEET NO.:	228 /
SCALE:	1"=200'		

## STORM WATER POLLUTION PREVENTION PLAN

PROJECT NAME: ON-STREET BIKEWAY AND SIDEWALKS -QUITMAN STREET

LOCATION & LIMITS: QUITMAN STREET  
FROM WEST OF HOUSTON AVE TO WEST OF ELYSIAN ST.

See plan cover sheet for vicinity map.

**PROJECT SCOPE:**

Activity (check all that apply)	
Roadway Expansion	✓
Roadway New Construction	
Underground Storm Sewer	✓
Detention Pond	
Bridge Expansion	
Bridge New Construction	
Roadway Reconstruction	✓
Sidewalk Reconstruction	✓

TOTAL PROJECT AREA: 9.87 Acres 7,550 Linear Feet

TOTAL AREA DISTURBED: 1.05 Acres

**EXISTING CONDITIONS OF SOIL, VEGETATION, AND DRAINAGE:**

CLAY WITH SAND, AVERAGE VEGETATION  
SURFACE DRAINS TO EXISTING STORM SEWER SYSTEM AND TO HCFCD E101-00-00

**PHASED CONSTRUCTION ACTIVITIES:**

ALL WORK TO BE PERFORMED BY THE CONTRACTOR  
IMPLEMENT SEDIMENT CONTROLS BEFORE DISTURBING EXISTING VEGETATION  
PROTECT ALL STORM WATER DRAINAGE STRUCTURES.  
WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND SITE IS STABILIZED  
AND APPROVED BY THE ENGINEER, REMOVE ALL TEMPORARY STRUCTURAL CONTROLS  
AND SEED ANY AREAS DISTURBED.

**DESCRIPTION OF DRAINAGE AREAS AND OUTFALLS:**

DRAINAGE ARE IS MIX OF RESIDENTIAL AND COMMERCIAL FLOW TO SOUTH THROUGH STORM  
STORM SEWERS SYSTEM TO LITTLE WHITE OAK BAYOU, WHITE OAK BAYOU AND BUFFALO BAYOU  
All outfall structures will be constructed in accordance to Harris County Specification 461  
and any applicable specification referenced by it. Drainage pathways will shown on plan  
sheets stored with other attachments to this SWPPP.

TCEQ 303(d) listed water

**RECEIVING WATERS/CONVEYANCE:**

EXISTING STORM SEWER SYSTEM (CITY OF HOUSTON)  
HCFCD UNIT E101-00-00

**MAJOR SOIL DISTURBING ACTIVITIES:**

ACTIVITY (CHECK ALL THAT APPLY)	
SPEC 102 - Clearing & Grubbing	✓
SPEC 104/110/400 - Excavating	✓
SPEC 400 - Fill	✓
Leveling/Grading	✓

**NOTES:**

See Site Plan for detailed planning drawings.

**SOIL STABILIZATION AND SEDIMENT CONTROL MEASURE:**

MEASURES	TEMPORARY	PERMANENT
SPEC 164 - Seeding		✓
SPEC 162 - Sodding		✓
SPEC 165 - Hydro-mulch		✓
SPEC 164 - Soil Retention Blanket		
SPEC 713 - Reinforced Filter Fabric Barrier	✓	
SPEC 719 - Inlet Protection Barrier	✓	
SPEC 724 - Stabilized Construction Access	✓	
SPEC 730 - Concrete Truck Washout Structures	✓	
SPEC 741 - Inlet Protection Barrier	✓	
SPEC 750 - Rock Filter Dam		
SPEC 725 - Watering for Dust Control		

**NOTES:**

If sediment escapes off site, these accumulations will be removed to minimize impact. Rock filter dams  
will be cleared before the reach 1/3 the height of the dam, other control measures will be cleared before  
their capacity has been reduced by 50%. As required in CGP TXR 150000, soil stabilization  
measures will be initiated in portions of the site where activities have ceased for a period exceeding  
14 days. This stabilization will commence no later than the day following completion of work in these  
areas. If prompt repair or replacement is not feasible, the reason will be documented in the SWPPP.  
Records of dates for major grading activities, and initiation of stabilization measures will be maintained  
in the SWPPP. Daily work logs related to this section will be kept in CAPTRAC. The Harris County SWPPP  
detail sheet will be used when implementing BMP's and included with this document.

**INSPECTION & MAINTENANCE:**

Inspection and Maintenance will be performed according to SPEC 751. Inspections will be  
conducted at least every 7 calendar days. Inspection forms will be filed with SWPPP  
supporting documents. If repair or replacement of stabilization or erosion control features  
is necessary, it must be completed at the earliest date possible. Amendments will be  
tracked on the SWPPP Amendment Log. Daily work logs related to this section will be  
kept in CAPTRAC.

**POTENTIAL POLLUTION SOURCES:**

Concrete	✓	Cleaning Solvents	✓
Fertilizer	✓	Curing Compounds	✓
Pesticides	✓	Hydraulic Fluid	✓
Asphalt	✓	Motor Oil	✓
Paint	✓		
Gasoline	✓		
Diesel Fuel	✓		
Sanitary Toilets	✓		

**POLLUTION PREVENTION BMPS**

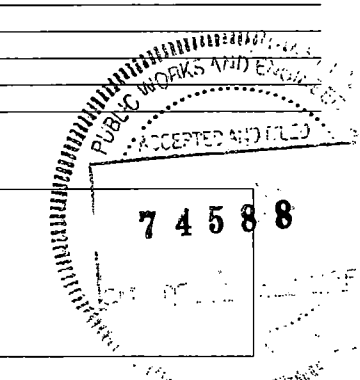
Whenever possible all materials will be stored in their original containers in secure areas  
where spillage is protected from runoff. Stockpiles and work areas will be constructed  
in such a way to minimize the amount of sediment that enters receiving waters and  
wetlands. Spill prevention and control measures are included on attached site maps.  
Records of spills will be maintained with SWPPP supporting documents. Additional required  
BMPs can be found in SPEC 725. Temporary materials and structures will be removed  
from waterways as soon as feasible once they are no longer required.

**WASTE MATERIAL:**

All solid waste materials will be collected and stored in secure metal dumpsters, then  
transported to appropriate disposal facilities. Collection will be completed often enough  
to ensure that no waste materials will be lost due to overfilling of collection containers.  
Liquid wastes will be stored in sealed containers in designated areas and disposed of  
according to all applicable regulations. All wasted containers should meet all state and  
local requirements.

**RESPONSIBLE PARTY/CONTRACTOR**

Name	
Title	
Company	
Signature	



Current construction specification documents can be found at:  
<http://www.eng.hctx.net/Consultants/Standards-Specifications/Standard-Engineering-Design-Specifications>

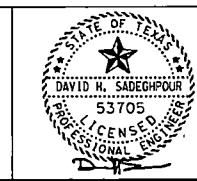
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HARRIS COUNTY  
ENGINEERING DEPARTMENT



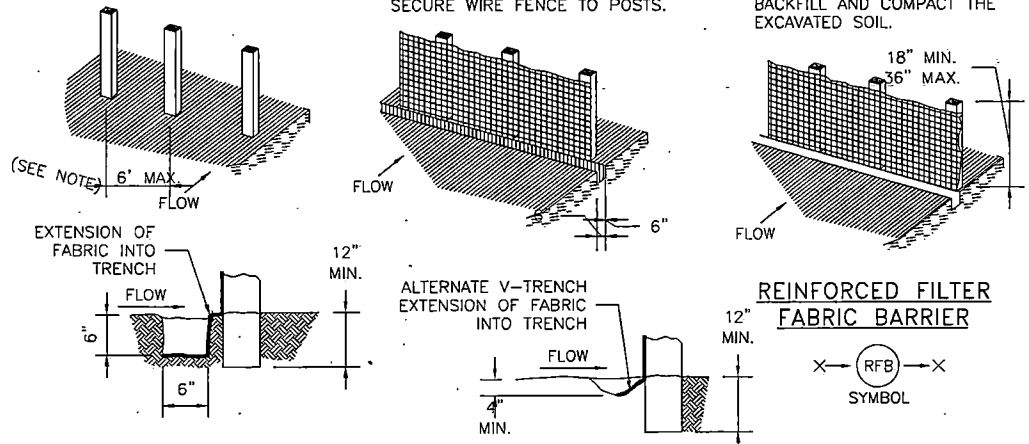
**SCIENTECH**  
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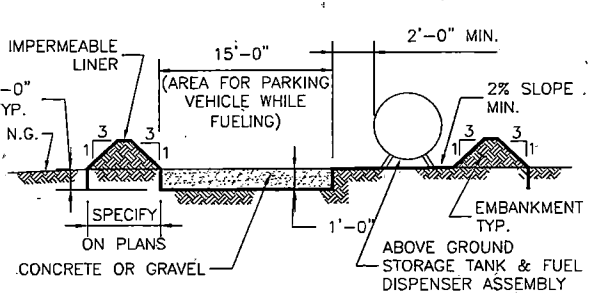
PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
AD	DHS	08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	NTS	229 /	



1. SET POSTS AT REQUIRED SPACING
2. EXCAVATE A 6"x6" TRENCH UPSLOPE ALONG THE LINE OF POSTS AND SECURE WIRE FENCE TO POSTS.
3. ATTACH FILTER FABRIC TO POSTS AND EXTEND IT INTO THE TRENCH. BACKFILL AND COMPACT THE EXCAVATED SOIL.

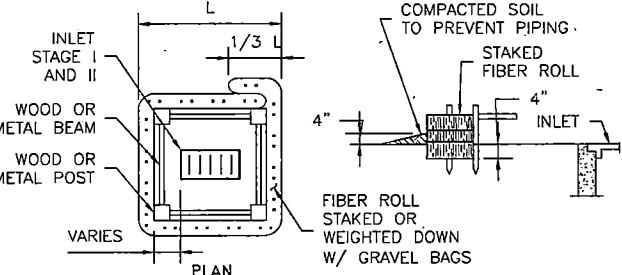
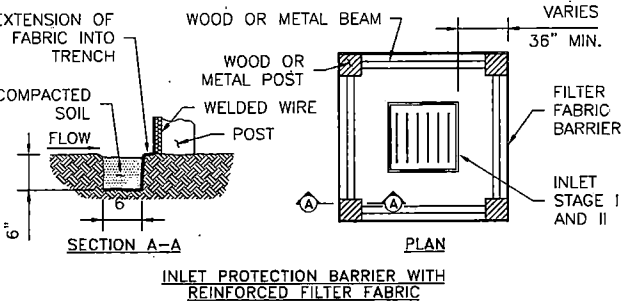


- GENERAL NOTES:**
1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
  2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
  3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
  4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

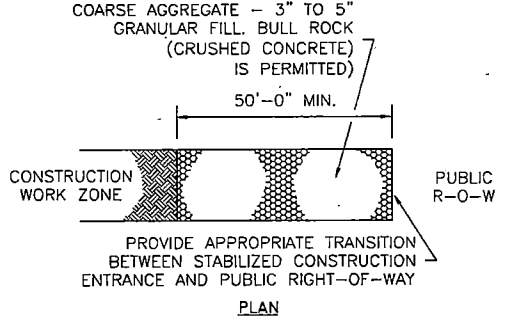
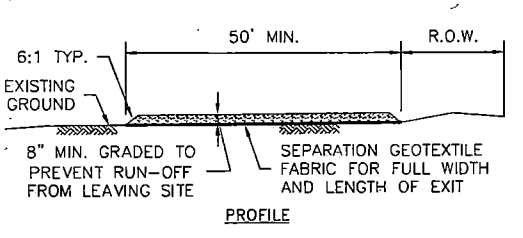


**ABOVE GROUND TEMP. VEHICLE & EQUIPMENT FUELING AREA WITH TANK**

- GENERAL NOTES:**
1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
  2. PROVIDE A MINIMUM SLOPE OF 2% TOWARD THE SUMP PIT.
  3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.

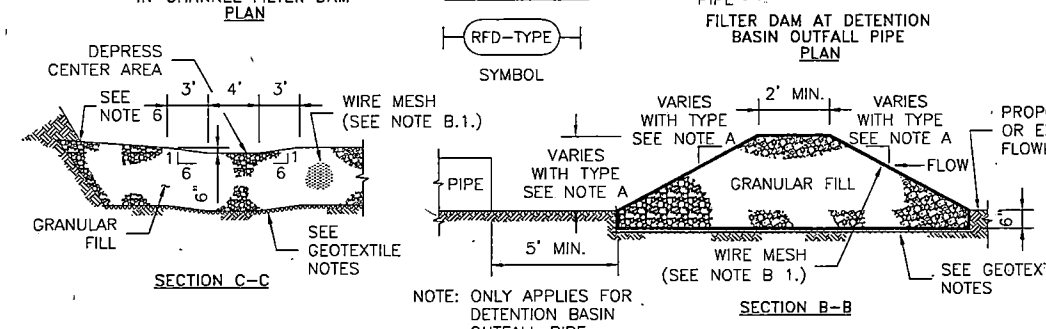
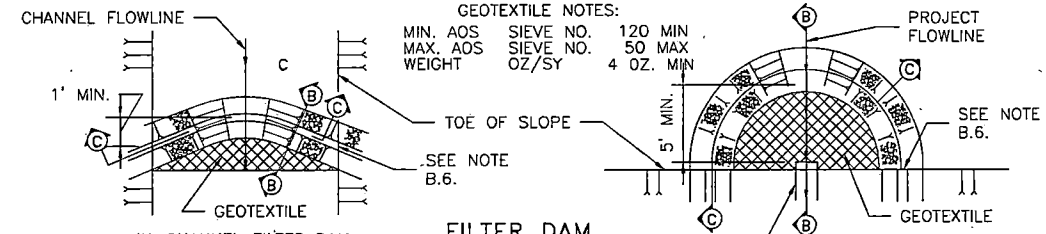


- GENERAL NOTES:**
1. FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.

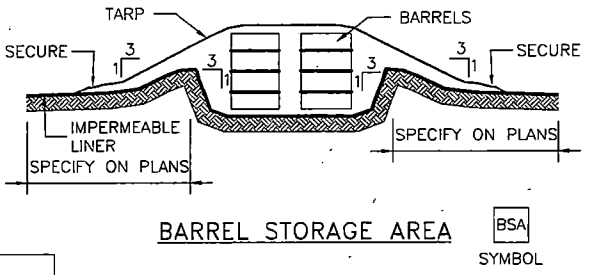


**STABILIZED CONSTRUCTION ACCESS**

- GENERAL NOTES:**
1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
  2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
  3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
  4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
  5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
  6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
  7. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.

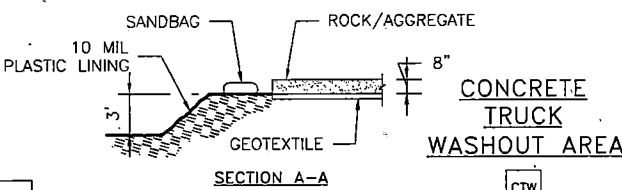


- A. TYPES OF FILTER DAMS**
1. TYPE 1 (NON-REINFORCED)
    - a. HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - b. TOP WIDTH - 2 FEET (MINIMUM)
    - c. SLOPES - 2:1 (MAXIMUM).
  2. TYPE 2 (REINFORCED)
    - a. HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - b. TOP WIDTH - 2 FEET (MINIMUM).
    - c. SLOPES - 2:1 (MAXIMUM).
  3. TYPE 3 (REINFORCED)
    - a. HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - b. TOP WIDTH - 2 FEET (MINIMUM).
    - c. SLOPES - 3:1 (MAXIMUM).
  4. TYPE 4 (GABION)
    - a. HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - b. TOP WIDTH - 2 FEET (MINIMUM).
  5. TYPE 5. AS SHOWN ON THE PLANS.
- B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.**
1. TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGONAL OPENINGS.
  2. PLACE GRANULAR FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
    - a. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
    - b. 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION No. 02378 RIPRAP AND GRANULAR FILL.
  3. FOLD WIRE MESH AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
  4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
  5. SEE HCFCD SPECIFICATION SECTION No. 02364-FILTER DAMS.
  6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

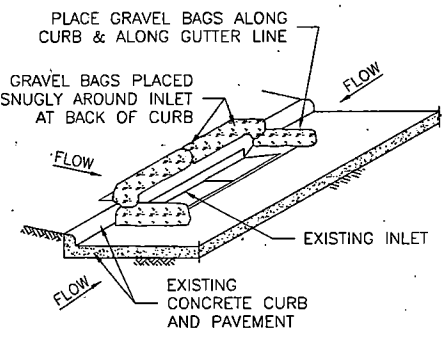
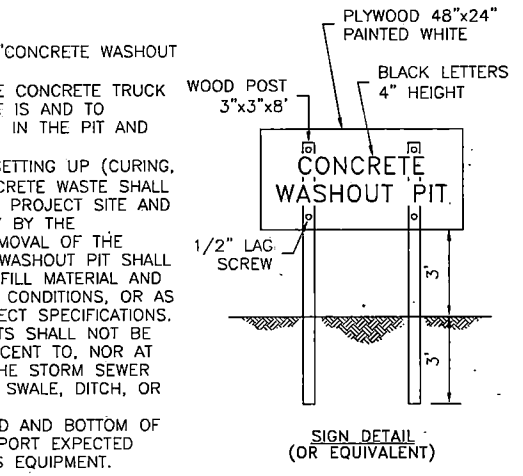
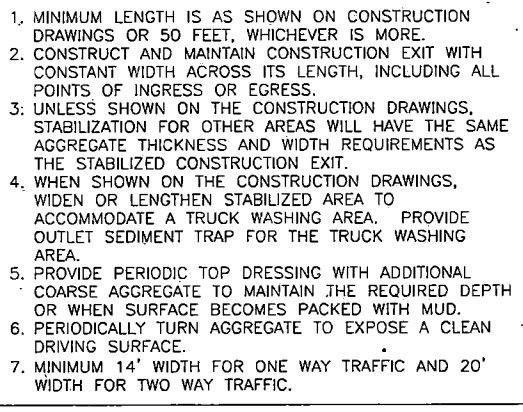


- GENERAL NOTES:**
1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
  2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 MIL MINIMUM.
  3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.

**INLET PROTECTION BARRIERS FOR STAGE I INLETS**



- GENERAL NOTES:**
1. POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
  2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASHOUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
  3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASHOUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
  4. CONCRETE WASHOUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
  5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS.



**INLET PROTECTION BARRIERS FOR STAGE II INLETS**

- GENERAL NOTES:**
1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
  2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.

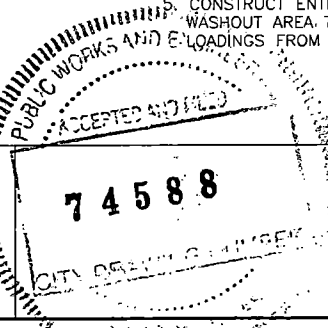
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NO.	REVISIONS	DATE	NAME

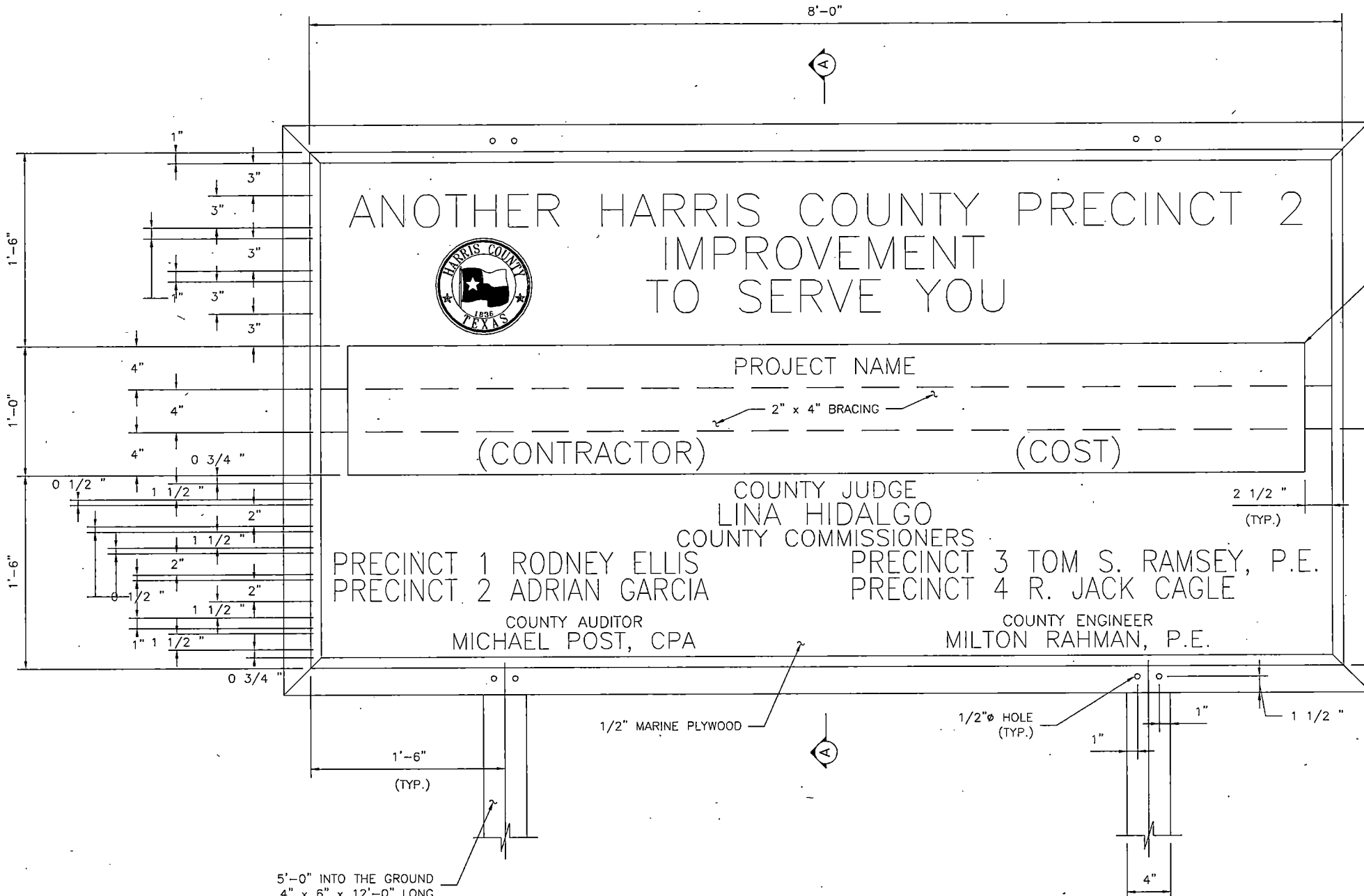
HARRIS COUNTY  
ENGINEERING DEPARTMENT



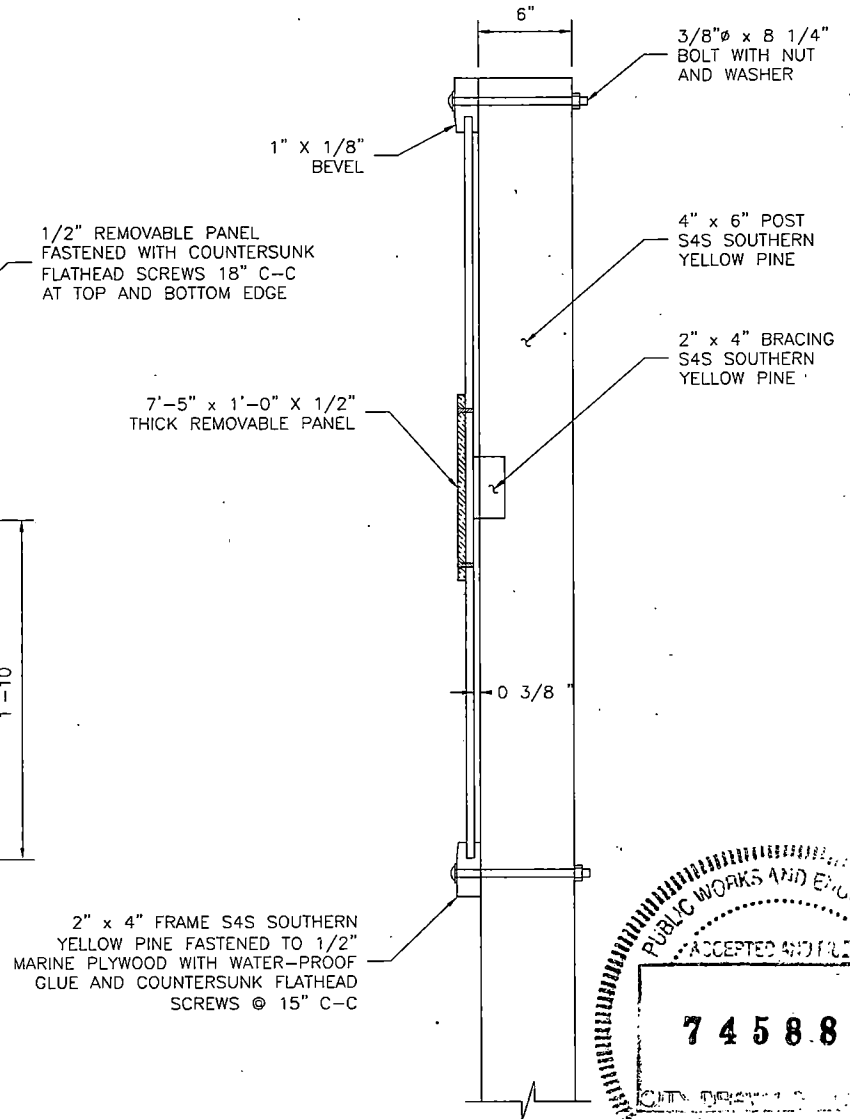
**SCIENTEC**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



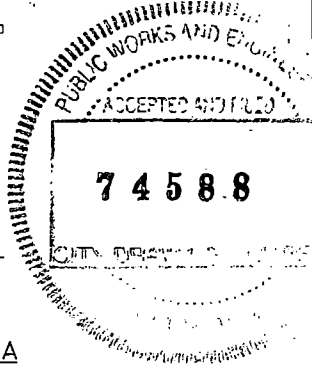
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SHEET DESCRIPTION:	ON-STREET BIKEWAY AND SIDEWALKS		
DRAWN BY:	AD	DATE:	08-19-2022
CK'D BY:	DHS	SCALE:	NTS
SHEET NO.:	230		



ELEVATION VIEW



SECTION A-A



GENERAL NOTES:

1. THE SIGN SHALL HAVE BLACK LETTERS WITH WHITE BACKGROUND.
2. SIGN SHALL BE MOUNTED ON 4" x 6" POSTS AND LOCATED BY THE ENGINEER.
3. REMOVABLE PANEL SHALL BE 1/2" MARINE PLYWOOD.
4. ALL BOLTS, SCREWS, NAILS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
5. 4" x 6" POST SHALL BE WOLMANIZED OR PENTACHLOROPHENOL TREATED.
6. ALL WOOD SURFACES SHALL HAVE PRIME COAT AND TWO (2) COATS OF SHERWIN-WILLIAMS KEM-LUSTRA ENAMEL OR EQUAL.

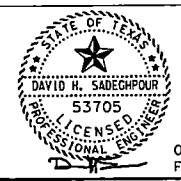
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NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

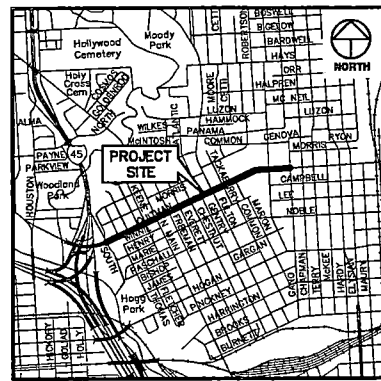


**SCIENTECH**  
ENGINEERS, INC.  
701 SHEPHERD DRIVE, SUITE 200  
HOUSTON, TX 77007  
TEXAS FIRM REGISTRATION NO. 4014



08-19-22  
FIRM#: F-4014

PROJECT TITLE:		QUITMAN STREET	
SHEET DESCRIPTION:		ON-STREET BIKEWAY AND SIDEWALKS	
DRAWN BY:		DATE:	
AD	DHS	08-19-2022	
CK'D BY:	SCALE:	SHEET NO:	
DHS	1"=6"	231/	



CITY OF HOUSTON, HARRIS COUNTY, TEXAS  
**VICINITY MAP**  
 SCALE: 1" = 2,000'



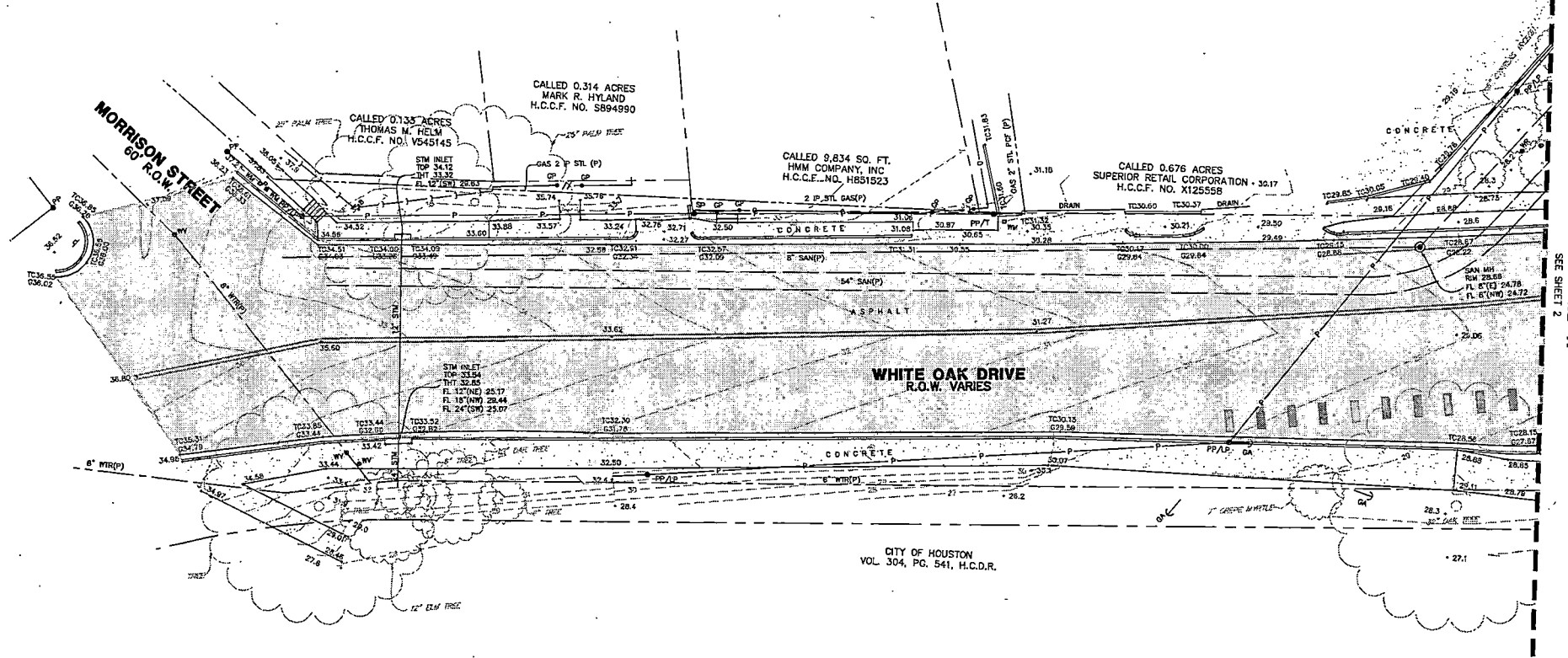
GRAPHIC SCALE: 1" = 20'  
 20 0 20 40 60 Feet

**LEGEND**

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- |                                 |                                 |  |                                       |
|---------------------------------|---------------------------------|--|---------------------------------------|
| BO - BOLLARD                    | PP - POWER POLE                 | UCS - UNDERGROUND CABLE SIGN           | FND - FOUND                           |
| HC - HANDICAP                   | PP/T - POWER POLE W/TRANSFORMER | UTL - CATHODIC TEST LEAD               | H.C.C.F. - HARRIS COUNTY CLERK FILE   |
| GM - GAS METER                  | PP/L - POWER POLE W/LIGHT       | MM - MONITORING WELL                   | H.C.D.R. - HARRIS COUNTY DEED RECORDS |
| GV - GAS VALVE                  | PP/CT - POWER POLE W/CONDUIT    | P - PIN FLAG/PAINT MARK                | H.C.M.R. - HARRIS COUNTY MAP RECORDS  |
| GH - FIRE HYDRANT               | MP - METER POLE                 | TC - TOP OF CURB                       | IP - IRON PIPE                        |
| WM - WATER METER                | SP - SERVICE POLE               | G - GUTTER                             | IR - IRON ROD                         |
| WV - WATER VALVE                | CA - CITY ANCHOR                | TD - TOP OF DRAIN                      | NO. - NUMBER                          |
| ICV - IRRIGATION CONTROL VALVE  | OL - OVERHEAD POWER LINE        | FL - FLOW LINE                         | PL - PAGE                             |
| GI - GRATE INLET                | BF - BARBED WIRE FENCE          | HB - HIGHBANK                          | R.O.W. - RIGHT-OF-WAY                 |
| CI - CRATE INLET                | WIF - WROUGHT IRON FENCE        | SAN - SANITARY SEWER                   | SQ. FT. - SQUARE FEET                 |
| MN - MANHOLE                    | WF - WOOD FENCE                 | STM - STORM SEWER                      | VOL. - VOLUME                         |
| CN - CLEANOUT                   | CF - CHAINLINK FENCE            | CMP - CORRUGATED METAL PIPE            | F.E. - FEM CODE                       |
| TP - TELEPHONE PEDESTAL         | GP - GATE POST                  | CPP - CORRUGATED PLASTIC PIPE          | BL - BUILDING LINE                    |
| EB - ELECTRIC BOX               | P - PER PLANS                   | RCP - REINFORCED CONCRETE PIPE         | U.E. - UTILITY EASEMENT               |
| TSCB - TRAFFIC SIGNAL BOX       | APPROX - APPROXIMATE            | TEL - TELEPHONE                        | ○ - TREE/SHRUB                        |
| LP - LIGHT POLE                 | H - HIGHBANK                    | SWBT - SOUTHWESTERN BELL TELEPHONE CO. |                                       |
| TSLP - TRAFFIC LIGHT POLE       | S - SIGN                        | WTR - WATER                            |                                       |
| GL - GROUND/SPOT LIGHT          | PLM - PIPELINE MARKER           | UG - UNDERGROUND                       |                                       |
| MB - MAIL BOX                   | TSP - TRAFFIC SIGNAL POLE       | ER - ELECTRIC RACK                     |                                       |
| WR - WATER RISER                | GR - GUARD RAIL                 | EC - ELECTRICAL CABINET                |                                       |
| FD - FIRE DEPARTMENT CONNECTION |                                 | MI - SANITARY MANHOLE INTERCEPTOR      |                                       |
| TB - TELEPHONE BOX              |                                 |  |                                       |

**GENERAL NOTES**

- SURVEYOR DID NOT ABSTRACT SUBJECT PROPERTY. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT OR ABSTRACTOR'S CERTIFICATE AND WOULD BE SUBJECT TO ANY AND ALL CONDITIONS OR RESTRICTIONS THAT A CURRENT TITLE REPORT OR ABSTRACTOR'S CERTIFICATE MAY DISCLOSE.
- BEARINGS WERE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ALL DISTANCES SHOWN HEREON ARE SURFACE DISTANCES AND MAY BE BROUGHT TO GRID BY APPLYING THE FOLLOWING SCALE FACTOR: 0.999995533.
- ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM) FOR HARRIS COUNTY, TEXAS, MAP NO. 48201C0590N REVISED/DATED JANUARY 5, 2017, THE SUBJECT TRACT APPEARS TO LIE WITHIN 'UNSHADED ZONE X'. THIS DETERMINATION WAS DONE BY GRAPHIC PLOTTING AND IS APPROXIMATE ONLY, AND HAS NOT BEEN FIELD VERIFIED. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF WINDROSE LAND SERVICES.
- DEVELOPMENT OF THIS TRACT IS SUBJECT TO REQUIREMENTS PER CITY OF HOUSTON ORDINANCE NO. 2013-343 WHICH STIPULATES PLATTING AND SETBACK CONSTRAINTS. PROPOSED USAGE OF THIS TRACT WILL DETERMINE ACTUAL BUILDING SETBACK LINE(S) ALONG ANY ADJOINING STREETS. REFER TO CITY OF HOUSTON BUILDING CODES TO ESTABLISH MINIMUM PUBLISHED SETBACK REQUIREMENTS. ULTIMATELY THE CITY OF HOUSTON PLANNING COMMISSION WILL DETERMINE REQUIRED SETBACKS UPON REVIEW OF PLANS OR PLATS SUBMITTED TO SAID COMMISSION. THIS TRACT MAY REQUIRE PLATTING AS A CONDITION FOR RECEIVING BUILDING PERMITS.
- READILY VISIBLE IMPROVEMENTS AND UTILITIES WERE LOCATED WITH THIS SURVEY. NO SUBSURFACE PROBING, EXCAVATION OR EXPLORATION WAS PERFORMED BY WINDROSE LAND SERVICES.
- ENVIRONMENTAL AND DRAINAGE ISSUES ARE BEYOND THE SCOPE OF THIS SURVEY.
- THE SQUARE FOOTAGE TOTALS SHOWN HEREON ARE BASED ON THE MATHEMATICAL CLOSURE OF THE COURSES AND DISTANCES REFLECTED ON THE SURVEY. IT DOES NOT INCLUDE THE TOLERANCES THAT MAY BE PRESENT DUE TO THE POSITIONAL ACCURACY OF THE BOUNDARY MONUMENTATION.
- THE WORD "CERTIFY" OR "CERTIFICATE" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THE SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE EXPRESSED OR IMPLIED.
- ELEVATIONS SHOWN TO THE NEAREST TENTH ARE NATURAL GROUND SURFACE ELEVATIONS AND ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE SOLID SURFACE ELEVATIONS.
- GAS, SANITARY, STORM, TELEPHONE AND WATER LINES SHOWN HEREON ARE BASED ON UTILITY PLANS ACQUIRED FROM CITY OF HOUSTON AND WERE FIELD VERIFIED WHERE POSSIBLE. OTHER UTILITY PLANS OR INFORMATION MAY EXIST NOT KNOWN TO THIS COMPANY.
- SURVEYOR DID NOT PHYSICALLY ENTER MANHOLES, UNDERGROUND PIPE SIZES WERE DETERMINED BY A "MEASURE DOWN" METHOD FROM TOP OF MANHOLE RIM OR TOP OF GRATE OR TOP OF CURB AND WERE COMPARED WITH UTILITY PLANS WHERE POSSIBLE.
- SURVEYOR HAS CONTACTED DIGTESS FOR LOCATION OF BURIED UTILITY AND FIBER OPTIC LINES PRIOR TO THIS SURVEY. SURVEYOR CANNOT CERTIFY OR GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS REQUEST. OTHER UNDERGROUND UTILITY LINES MAY EXIST NOT KNOWN TO THIS COMPANY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT DIGTESS OR OTHER UTILITY NOTIFICATION SERVICES FOR LOCATION OF UNDERGROUND UTILITIES, PRIOR TO CONSTRUCTION.



**SURVEYOR'S CERTIFICATION**

I DO HEREBY CERTIFY TO THE ABOVE LISTED THAT THIS SURVEY WAS THIS DAY MADE ON THE GROUND AND WAS PERFORMED UNDER MY SUPERVISION. THAT THIS PLAT CORRECTLY REPRESENTS THE PROPERTY LEGALLY DESCRIBED HEREON, THAT THE FACTS FOUND AT THE TIME OF THIS SURVEY SHOW THE IMPROVEMENTS AND THAT THERE ARE NO VISIBLE ENCROACHMENTS APPARENT ON THE GROUND, EXCEPT AS SHOWN. THIS SURVEY SUBSTANTIALLY CONFORMS TO THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 6, CONDITION II SURVEY, TO THE BEST OF MY KNOWLEDGE.

*Robert Kness*  
 ROBERT KNESS  
 Registered Professional Land Surveyor  
 Texas Registration No. 6486  
 DATE: 02-25-2021

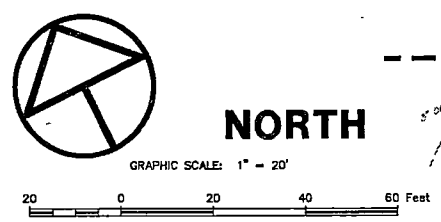
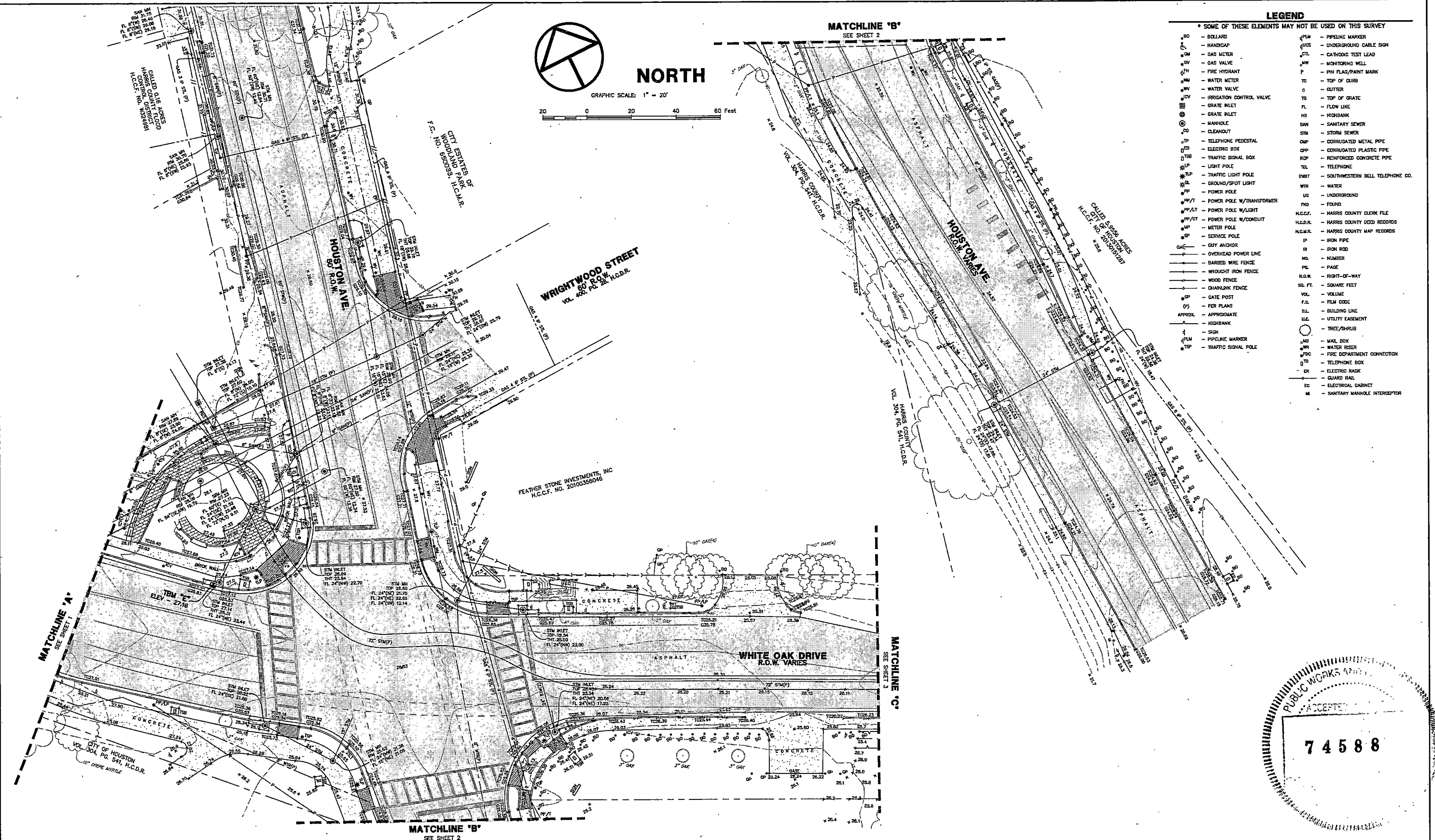
NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

**HARRIS COUNTY ENGINEERING DEPARTMENT**

HARRIS COUNTY TEXAS

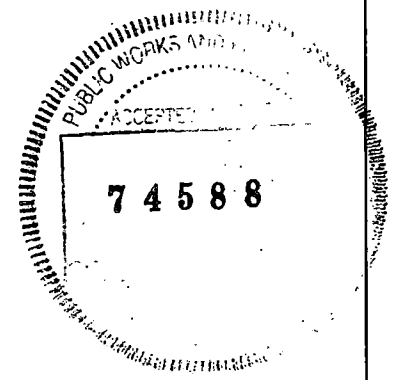
**WINDROSE**  
 LAND SURVEYING & PLATTING  
 11111 WINDINGWAY AVE, SUITE 110 | HOUSTON, TX 77062 | 713.458.2281  
 FIRM REGISTRATION NO. 10108800 | WINDROSEINC.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 02-02-2021
CK'D BY: TW	SHEET NO: 232
SCALE: 1"=20'	



**LEGEND**  
 \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

BO - BOLLARD	PLM - PIPELINE MARKER
CH - HANDICAP	UCS - UNDERGROUND CABLE SIGN
GM - GAS METER	CTL - CATHODIC TEST LEAD
GV - GAS VALVE	MW - MONITORING WELL
FH - FIRE HYDRANT	P - PIN FLAG/PIN MARK
WM - WATER METER	TC - TOP OF CURB
WV - WATER VALVE	G - GUTTER
ICV - IRRIGATION CONTROL VALVE	TO - TOP OF GRATE
GI - GRATE INLET	FL - FLOW LINE
MI - MANHOLE	HB - HIGHBANK
CO - CLEANOUT	SS - SANITARY SEWER
TP - TELEPHONE PEDESTAL	SSM - STORM SEWER
EB - ELECTRIC BOX	OMP - CORRUGATED METAL PIPE
TSB - TRAFFIC SIGNAL BOX	OPP - CORRUGATED PLASTIC PIPE
LP - LIGHT POLE	ROP - REINFORCED CONCRETE PIPE
TLP - TRAFFIC LIGHT POLE	TEL - TELEPHONE
GL - GROUND/SPOT LIGHT	SWT - SOUTHWESTERN BELL TELEPHONE CO.
PP - POWER POLE	WTR - WATER
PP/T - POWER POLE W/TRANSFORMER	UG - UNDERGROUND
PP/LT - POWER POLE W/LIGHT	FND - FOUND
PP/CT - POWER POLE W/CONDUIT	H.C.C.F. - HARRIS COUNTY CLERK FILE
MP - METER POLE	H.C.D.R. - HARRIS COUNTY DEED RECORDS
SP - SERVICE POLE	H.C.M.R. - HARRIS COUNTY MAP RECORDS
CA - CUY ANCHOR	IP - IRON PIPE
OP - OVERHEAD POWER LINE	IR - IRON ROD
BF - BARBED WIRE FENCE	NO. - NUMBER
WIF - WROUGHT IRON FENCE	PG. - PAGE
WF - WOOD FENCE	R.O.W. - RIGHT-OF-WAY
CF - CHAINLINK FENCE	SS. FT. - SQUARE FEET
GP - GATE POST	VOL. - FILM CODE
PL - PER PLANS	B.L. - BUILDING LINE
APPROX. - APPROXIMATE	U.E. - UTILITY EASEMENT
NH - HIGHBANK	T - TREE/SHRUB
PLM - PIPELINE MARKER	MB - MAIL BOX
TSB - TRAFFIC SIGNAL BOX	WR - WATER RESSER
	FDC - FIRE DEPARTMENT CONNECTION
	TEB - TELEPHONE BOX
	ER - ELECTRIC RACK
	GR - GUARD RAIL
	EC - ELECTRICAL CABINET
	M - SANITARY MANHOLE INTERCEPTOR



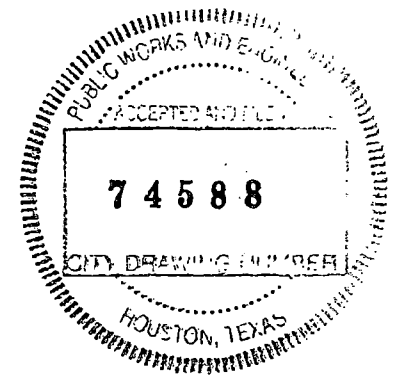
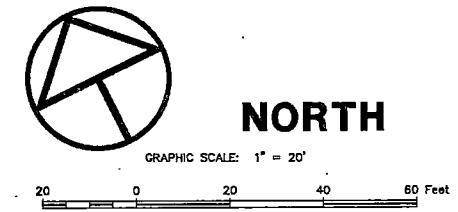
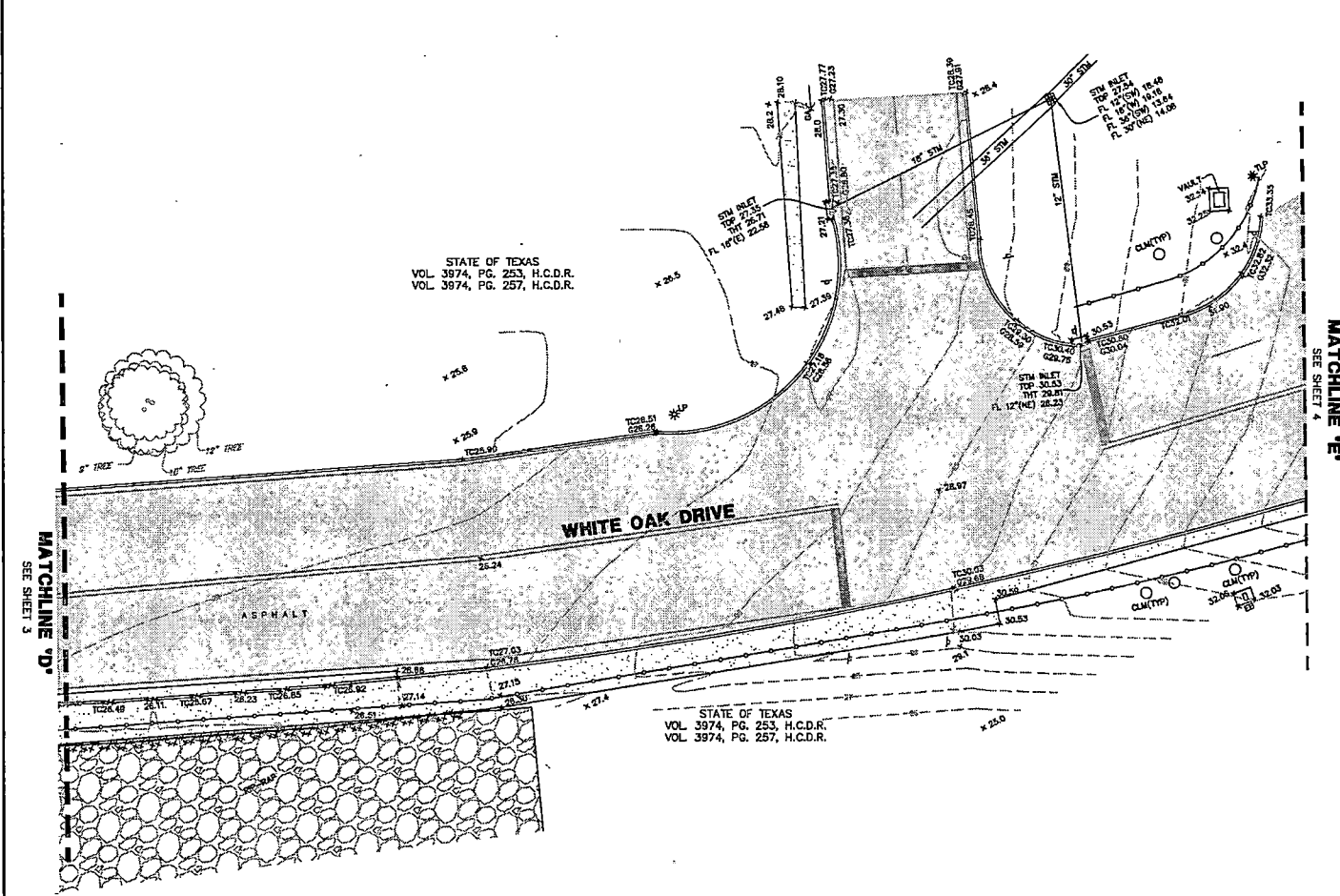
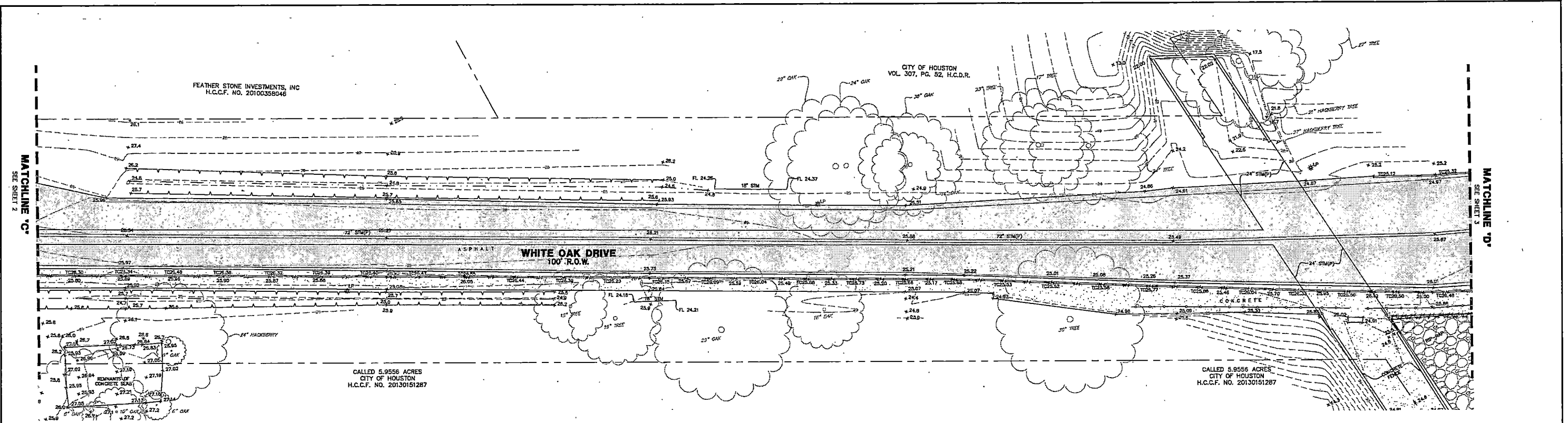
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY  
 ENGINEERING DEPARTMENT**



**WINDROSE**  
 LAND SURVEYING & PLATING  
 11111 RICHMOND AVE, STE 100 | HOUSTON, TX 77062 | 713-458-2391  
 FIRM REGISTRATION NO. 10102800 | WINDROSESERVICES.COM

QUILTMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUILTMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 233 /
SCALE: 1"=20'	



**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

BO - BOLLARD	PP - POWER POLE	UCS - UNDERGROUND CABLE SIGN	FO - FOUND
HC - HANDICAP	PP/T - POWER POLE W/TRANSFORMER	CTL - CATHODIC TEST LEAD	H.C.C.F. - HARRIS COUNTY CLERK FILE
GM - GAS METER	PP/LT - POWER POLE W/LIGHT	MW - MONITORING WELL	H.C.D.R. - HARRIS COUNTY DEED RECORDS
GV - GAS VALVE	PP/CT - POWER POLE W/CONDUIT	P - PIN FLAG/PAIN MARK	H.C.M.R. - HARRIS COUNTY MAP RECORDS
FH - FIRE HYDRANT	MP - METER POLE	TC - TOP OF CURB	IP - IRON PIPE
WM - WATER METER	SP - SERVICE POLE	G - GUTTER	IR - IRON ROD
WV - WATER VALVE	CAC - CUY ANCHOR	TO - TOP OF GRATE	NQ - NUMBER
ICV - IRRIGATION CONTROL VALVE	OP - OVERHEAD POWER LINE	FL - FLOW LINE	PG - PAGE
GI - GRATE INLET	BWF - BARBED WIRE FENCE	HB - HIGHBANK	R.O.W. - RIGHT-OF-WAY
MI - MANHOLE	WIF - WROUGHT IRON FENCE	SAN - SANITARY SEWER	SQ. FT. - SQUARE FEET
CL - CLEANOUT	WF - WOOD FENCE	STM - STORM SEWER	VOL. - VOLUME
TP - TELEPHONE PEDESTAL	CF - CHAINLINK FENCE	CMP - CORRUGATED METAL PIPE	F.C. - FILM CODE
EB - ELECTRIC BOX	GP - GATE POST	CPP - CORRUGATED PLASTIC PIPE	BL - BUILDING LINE
TSB - TRAFFIC SIGNAL BOX	(P) - PER PLANS	RCP - REINFORCED CONCRETE PIPE	UE - UTILITY EASEMENT
LP - LIGHT POLE	APPROX - APPROXIMATE	TEL - TELEPHONE	TR - TREE/SHRUB
TLP - TRAFFIC LIGHT POLE	HQBANK - HIGHBANK	SWT - SOUTHWESTERN BELL TELEPHONE CO.	EC - ELECTRICAL CABINET
GL - GROUND/SPOT LIGHT	S - SIGN	WTR - WATER	MI - SANITARY MANHOLE INTERCEPTOR
MB - MAIL BOX	PLM - PIPELINE MARKER	UG - UNDERGROUND	
WR - WATER RISER	TSP - TRAFFIC SIGNAL POLE	ER - ELECTRIC RACK	
FDC - FIRE DEPARTMENT CONNECTION	GR - GUARD RAIL		
TB - TELEPHONE BOX			

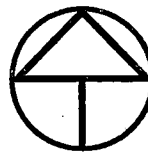
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**

**WINDROSE**  
LAND SURVEYING | PLATTING

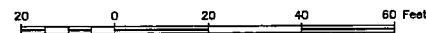
11111 RICHMOND AVE. STE 100 | HOUSTON, TX 77066 | TEL: 468-2291  
FIRM REGISTRATION NO. 10106000 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 234 /
SCALE: 1"=20'	



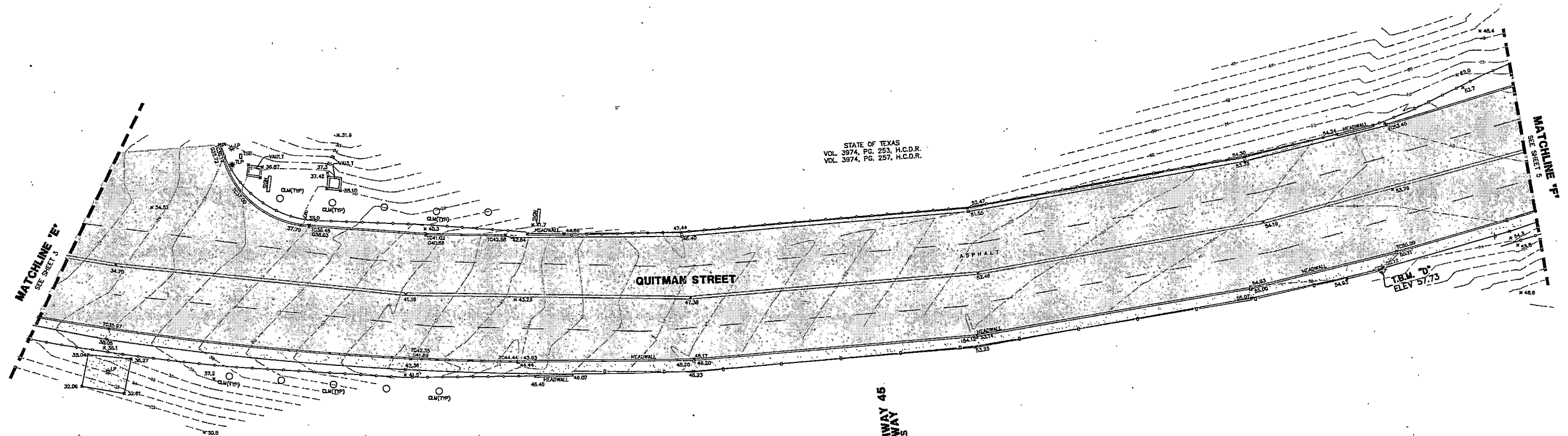
NORTH

GRAPHIC SCALE: 1" = 20'



LEGEND

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- BO - BOLLARD
  - HC - HANDICAP
  - GM - GAS METER
  - GV - GAS VALVE
  - FH - FIRE HYDRANT
  - WM - WATER METER
  - WV - WATER VALVE
  - ICV - IRRIGATION CONTROL VALVE
  - GI - GRATE INLET
  - MI - MANHOLE
  - CO - CLEANOUT
  - TP - TELEPHONE PEDESTAL
  - EB - ELECTRIC BOX
  - TSB - TRAFFIC SIGNAL BOX
  - LP - LIGHT POLE
  - TLP - TRAFFIC LIGHT POLE
  - GL - GROUND/SPOT LIGHT
  - MB - MAIL BOX
  - WR - WATER RISER
  - FDC - FIRE DEPARTMENT CONNECTION
  - TB - TELEPHONE BOX
  - PP - POWER POLE
  - PP/T - POWER POLE W/TRANSFORMER
  - PP/LT - POWER POLE W/LIGHT
  - PP/PT - POWER POLE W/CONDUIT
  - MP - METER POLE
  - SP - SERVICE POLE
  - GAC - GUY ANCHOR
  - OP - OVERHEAD POWER LINE
  - BWF - BARBED WIRE FENCE
  - WIF - WROUGHT IRON FENCE
  - WF - WOOD FENCE
  - CF - CHAINLINK FENCE
  - GP - GATE POST
  - P - PER PLANS
  - APPRX - APPROXIMATE
  - H - HIGHBANK
  - S - SIGN
  - PLM - PIPELINE MARKER
  - TSP - TRAFFIC SIGNAL POLE
  - G - GUARD RAIL
  - UCS - UNDERGROUND CABLE SIGN
  - CTL - CATHODIC TEST LEAD
  - MW - MONITORING WELL
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  - TC - TOP OF CURB
  - G - GUTTER
  - TO - TOP OF GRATE
  - FL - FLOW LINE
  - HS - HIGHBANK
  - SS - SANITARY SEWER
  - STM - STORM SEWER
  - CMP - CORRUGATED METAL PIPE
  - CPP - CORRUGATED PLASTIC PIPE
  - ROP - REINFORCED CONCRETE PIPE
  - TEL - TELEPHONE
  - SWBT - SOUTHWESTERN BELL TELEPHONE CO.
  - WTR - WATER
  - UD - UNDERGROUND
  - ER - ELECTRIC RACK
  - EC - ELECTRICAL CABINET
  - FND - FOUND
  - H.C.C.F. - HARRIS COUNTY CLERK FILE
  - H.C.D.R. - HARRIS COUNTY DEED RECORDS
  - H.C.M.R. - HARRIS COUNTY MAP RECORDS
  - IP - IRON PIPE
  - IR - IRON ROD
  - N.O. - NUMBER
  - PG. - PAGE
  - R.O.W. - RIGHT-OF-WAY
  - SQ. FT. - SQUARE FEET
  - VOL. - VOLUME
  - F.C. - FILM CODE
  - B.L. - BUILDING LINE
  - U.E. - UTILITY EASEMENT
  - T/S - TREE/SHRUB
  - M - SANITARY MANHOLE INTERCEPTOR



STATE OF TEXAS VOL. 3974, PG. 253, H.C.D.R. VOL. 3974, PG. 257, H.C.D.R.

STATE OF TEXAS VOL. 3974, PG. 253, H.C.D.R. VOL. 3974, PG. 257, H.C.D.R.

INTERSTATE HIGHWAY 45 NORTH FREEWAY NORTH R.O.W. VARIES



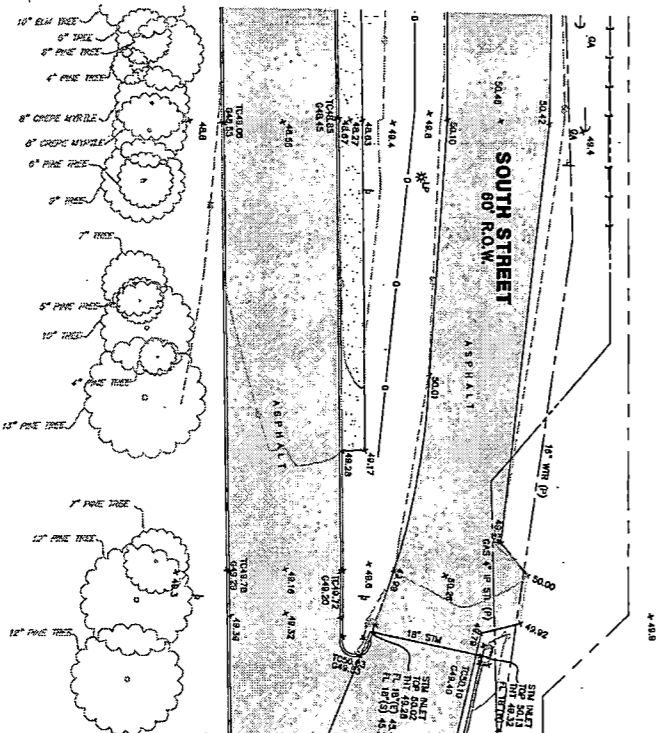
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY ENGINEERING DEPARTMENT

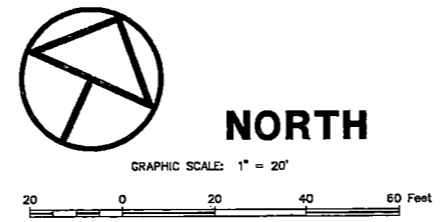


WINDROSE LAND SURVEYING & PLATTING 11111 MCJONOMO AVE. STE 150 | HOUSTON, TX 77061 | 713.455.2291

QUITMAN STREET IMPROVEMENTS			
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET			
DRAWN BY: AT	DATE: 03-11-2021		
CK'D BY: TW	SCALE: 1"=20'	SHEET NO: 235	/



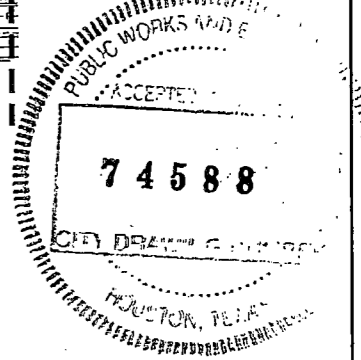
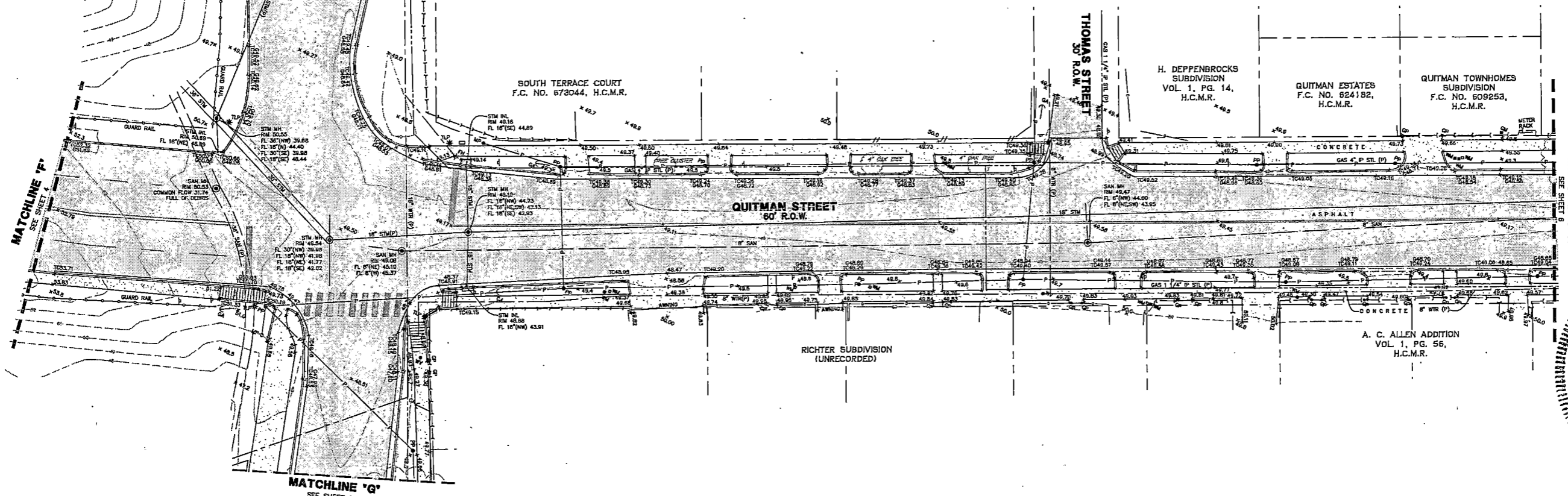
SOUTH TERRACE COURT  
F.C. NO. 873044,  
H.C.M.R.



**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

BO - BOLLARD	PP - POWER POLE	UCS - UNDERGROUND CABLE SIGN	FND - FOUND
CH - HANDICAP	PP/T - POWER POLE W/TRANSFORMER	CTL - CATHODIC TEST LEAD	H.C.C.F. - HARRIS COUNTY CLERK FILE
GM - GAS METER	PP/LT - POWER POLE W/LIGHT	MW - MONITORING WELL	H.C.D.R. - HARRIS COUNTY DEED RECORDS
GV - GAS VALVE	PP/CT - POWER POLE W/CONDUIT	P - PIN FLAG/PAIN MARK	H.C.M.R. - HARRIS COUNTY MAP RECORDS
FH - FIRE HYDRANT	MP - METER POLE	TC - TOP OF CURB	P - IRON PIPE
WM - WATER METER	SP - SERVICE POLE	G - GUTTER	R - IRON ROD
WV - WATER VALVE	GAC - GUY ANCHOR	TC - TOP OF GRATE	NL - NUMBER
ICV - IRRIGATION CONTROL VALVE	OP - OVERHEAD POWER LINE	FL - FLOW LINE	PG - PAGE
GI - GRATE INLET	BWF - BARBED WIRE FENCE	HB - HIGHBANK	R.O.W. - RIGHT-OF-WAY
GI - GRATE INLET	WIF - WROUGHT IRON FENCE	SS - SANITARY SEWER	SQ. FT. - SQUARE FEET
MH - MANHOLE	WF - WOOD FENCE	STM - STORM SEWER	VOL. - VOLUME
CO - CLEANOUT	CF - CHAINLINK FENCE	CMP - CORRUGATED METAL PIPE	F.C. - FILM CODE
TP - TELEPHONE PEDESTAL	GP - GATE POST	CPP - CORRUGATED PLASTIC PIPE	BL - BUILDING LINE
EB - ELECTRIC BOX	P - PER PLANS	RCR - REINFORCED CONCRETE PIPE	ULE - UTILITY EASEMENT
TSB - TRAFFIC SIGNAL BOX	APPROX. - APPROXIMATE	TEL - TELEPHONE	T - TREE/SHRUB
LP - LIGHT POLE	HIGHBANK - HIGHBANK	SWT - SOUTHWESTERN BELL TELEPHONE CO.	MI - SANITARY MANHOLE INTERCEPTOR
TLP - TRAFFIC LIGHT POLE	SIGN - SIGN	WTR - WATER	
GL - GROUND/SPOT LIGHT	PLM - PIPELINE MARKER	UG - UNDERGROUND	
MB - MAIL BOX	TSP - TRAFFIC SIGNAL POLE	ER - ELECTRIC RACK	
WR - WATER RESER	GR - GUARD RAIL	EC - ELECTRICAL CABINET	
FDC - FIRE DEPARTMENT CONNECTION			
TB - TELEPHONE BOX			



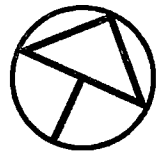
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**



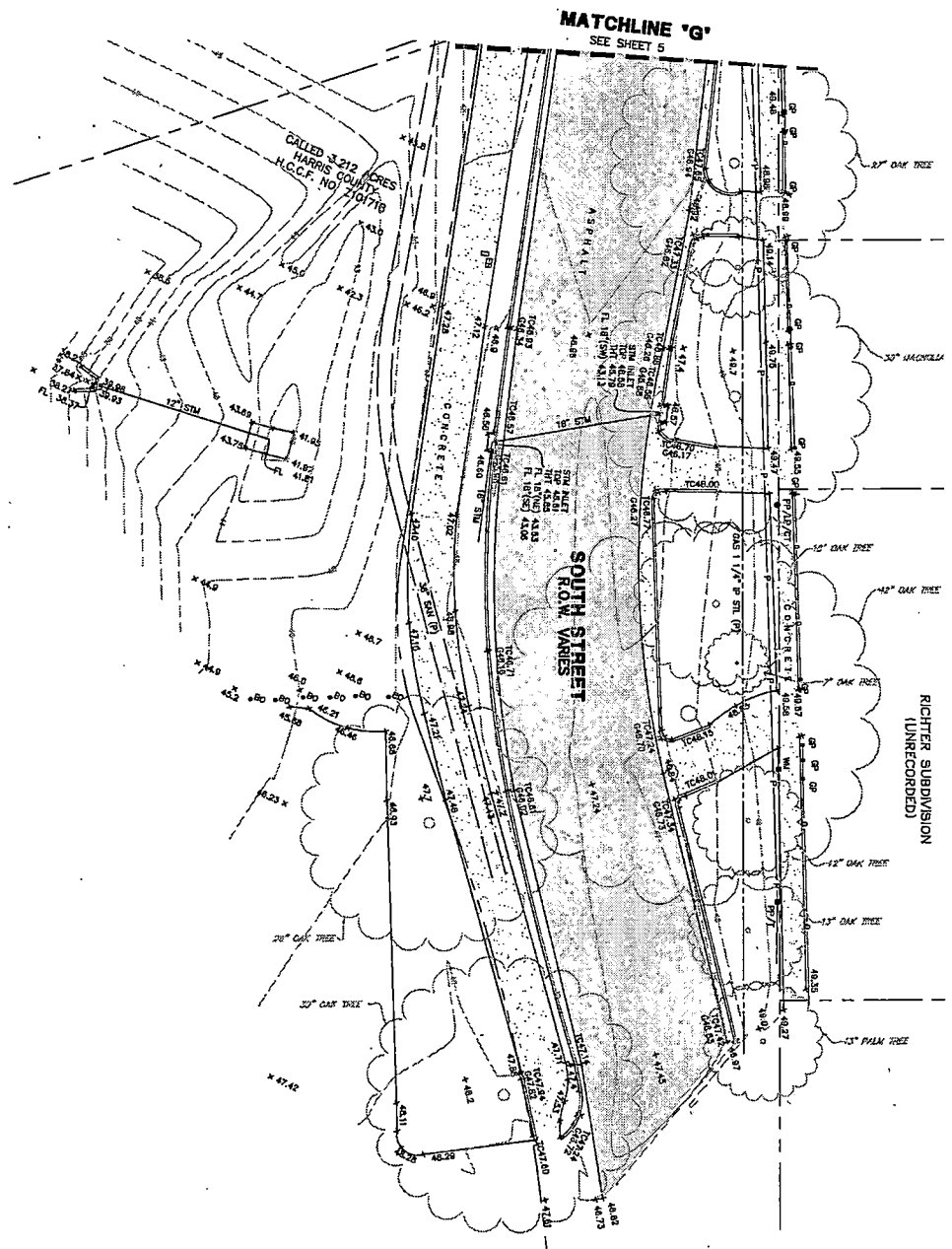
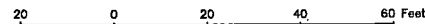
**WINDROSE**  
LAND SURVEYING & PLATTING  
11111 RICHMOND AVE. STE 150 | HOUSTON, TX 77036 | 713.458.2291  
TAM REGISTRATION NO. 10106890 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 236
SCALE: 1"=20'	



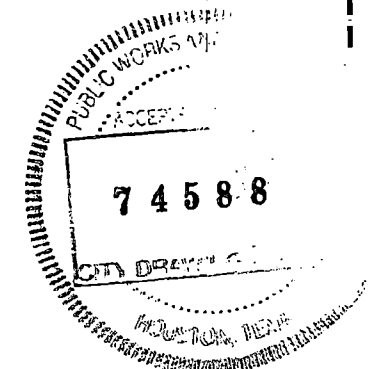
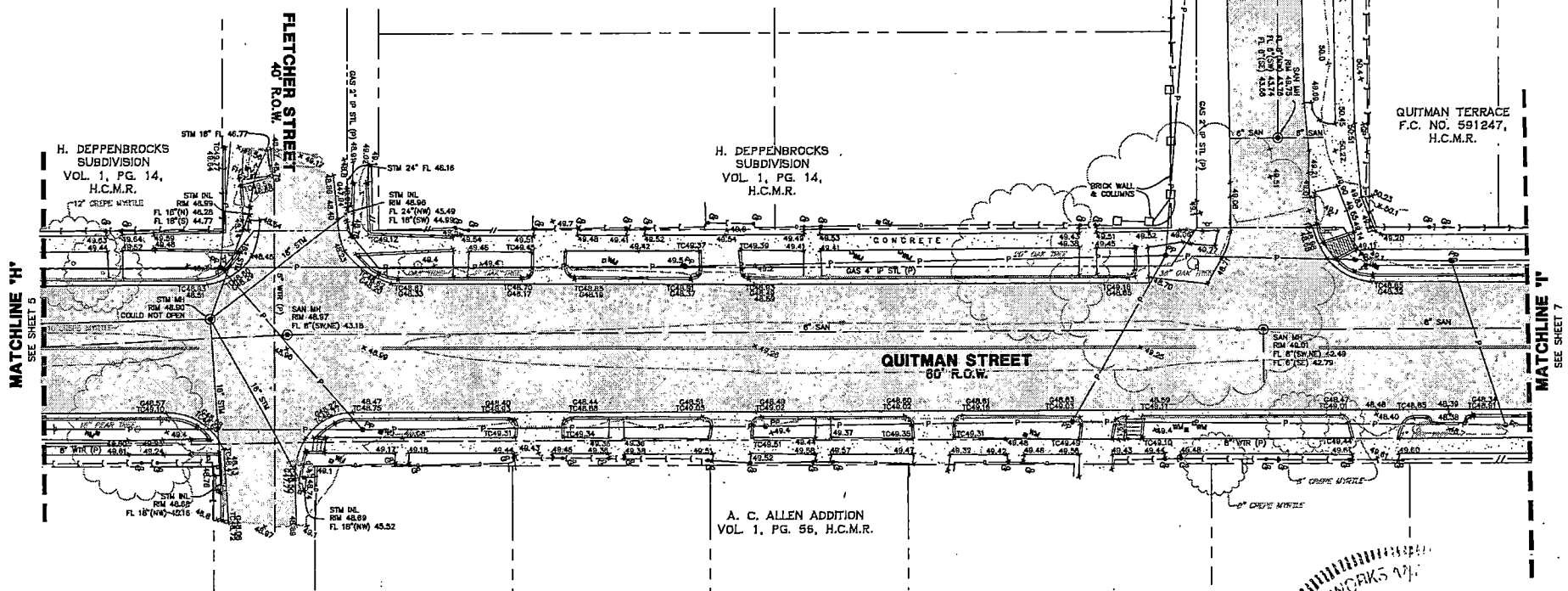
NORTH

GRAPHIC SCALE: 1" = 20'



**LEGEND**  
\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

BO - BOLLARD	PP - POWER POLE	UCS - UNDERGROUND CABLE SIGN	FRD - FOUND
HC - HANDICAP	PP/T - POWER POLE W/TRANSFORMER	CTL - CATHODIC TEST LEAD	H.C.C.F. - HARRIS COUNTY CLERK FILE
GM - GAS METER	PP/LT - POWER POLE W/LIGHT	MW - MONITORING WELL	H.C.D.R. - HARRIS COUNTY DEED RECORDS
GV - GAS VALVE	PP/CT - POWER POLE W/CONDUIT	P - PIN FLAG/PAIN MARK	H.C.M.R. - HARRIS COUNTY MAP RECORDS
FH - FIRE HYDRANT	MP - METER POLE	TC - TOP OF CURB	IP - IRON PIPE
WM - WATER METER	SP - SERVICE POLE	G - GUTTER	IR - IRON ROD
WV - WATER VALVE	GA - GUY ANCHOR	TO - TOP OF GRATE	NO - NUMBER
ICV - IRRIGATION CONTROL VALVE	OP - OVERHEAD POWER LINE	FL - FLOW LINE	PG - PAGE
GI - GRATE INLET	BF - BARBED WIRE FENCE	HB - HIGHBANK	RO - RIGHT-OF-WAY
MI - MANSHOLE	WIF - WROUGHT IRON FENCE	SS - SANITARY SEWER	SG - SQUARE FEET
CL - CLEANOUT	WF - WOOD FENCE	ST - STORM SEWER	VL - VOLUME
TP - TELEPHONE PEDESTAL	CF - CHAINLINK FENCE	CM - CORRUGATED METAL PIPE	F.C. - FILM CODE
EB - ELECTRIC BOX	GP - GATE POST	CP - CORRUGATED PLASTIC PIPE	BL - BUILDING LINE
TSD - TRAFFIC SIGNAL BOX	PL - PER PLANS	RC - REINFORCED CONCRETE PIPE	UE - UTILITY EASEMENT
LP - LIGHT POLE	APPR - APPROXIMATE	TEL - TELEPHONE	TR - TREE/SHRUB
TLP - TRAFFIC LIGHT POLE	HB - HIGHBANK	SWB - SOUTHWESTERN BELL TELEPHONE CO.	MI - SANITARY MANHOLE INTERCEPTOR
CSL - CROWN/SPOT LIGHT	S - SIGN	WTR - WATER	
MB - MAIL BOX	PLM - PIPELINE MARKER	UG - UNDERGROUND	
WR - WATER RISER	TSP - TRAFFIC SIGNAL POLE	ER - ELECTRICAL RACK	
FDC - FIRE DEPARTMENT CONNECTION	GR - GUARD RAIL	EC - ELECTRICAL CABINET	
TB - TELEPHONE BOX			



NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

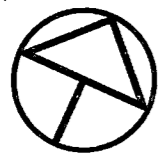
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**WINDROSE**  
LAND SURVEYING & PLATING  
11111 RICHMOND AVE, STE 100 | HOUSTON, TX 77061 | 713.458.2811  
IRAN REGISTRATION NO. 10106800 | WINDROSESERVICES.COM

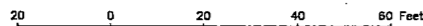
QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 237
SCALE: 1"=20'	





NORTH

GRAPHIC SCALE: 1" = 20'



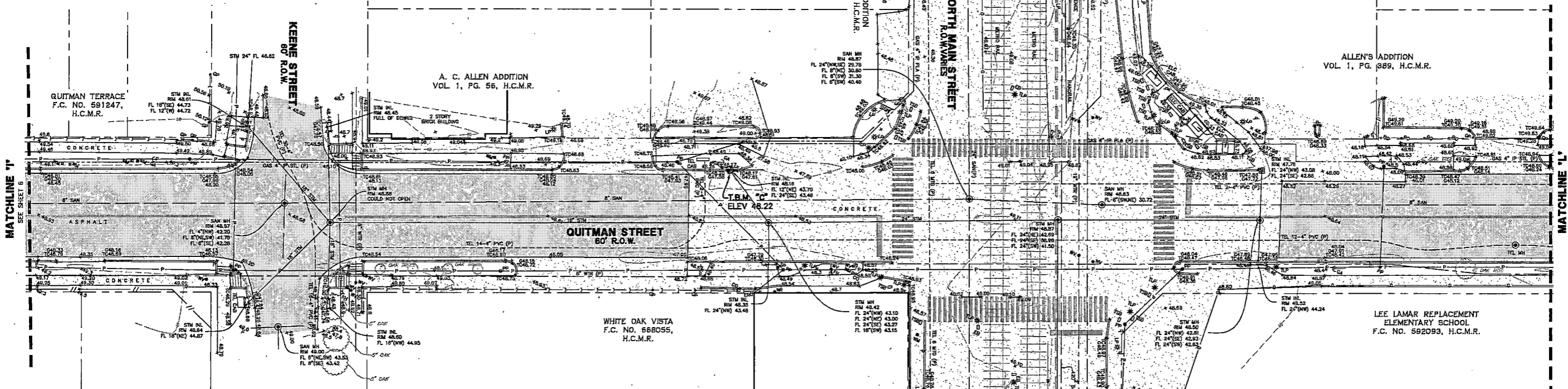
MATCHLINE 'J'

SEE SHEET 8

NORTH MAIN STREET  
R.O.W. MARKERS

MATCHLINE 'K'

SEE SHEET 8



MATCHLINE 'I'

MATCHLINE 'L'

A. C. ALLEN ADDITION  
VOL. 1, PG. 56, H.C.M.R.

ALLEN'S ADDITION  
VOL. 1, PG. 989, H.C.M.R.

QUITMAN STREET  
60' R.O.W.

WHITE OAK VISTA  
F.C. NO. 668055,  
H.C.M.R.

LEE LAMAR REPLACEMENT  
ELEMENTARY SCHOOL  
F.C. NO. 592093, H.C.M.R.

LEGEND

- Legend items including symbols for bollards, power poles, manholes, and various utility lines.

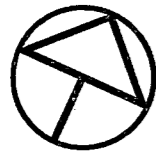


Table with 4 columns: NO., REVISIONS, DATE, NAME. Contains revision history for additional trees and topography.

HARRIS COUNTY ENGINEERING DEPARTMENT

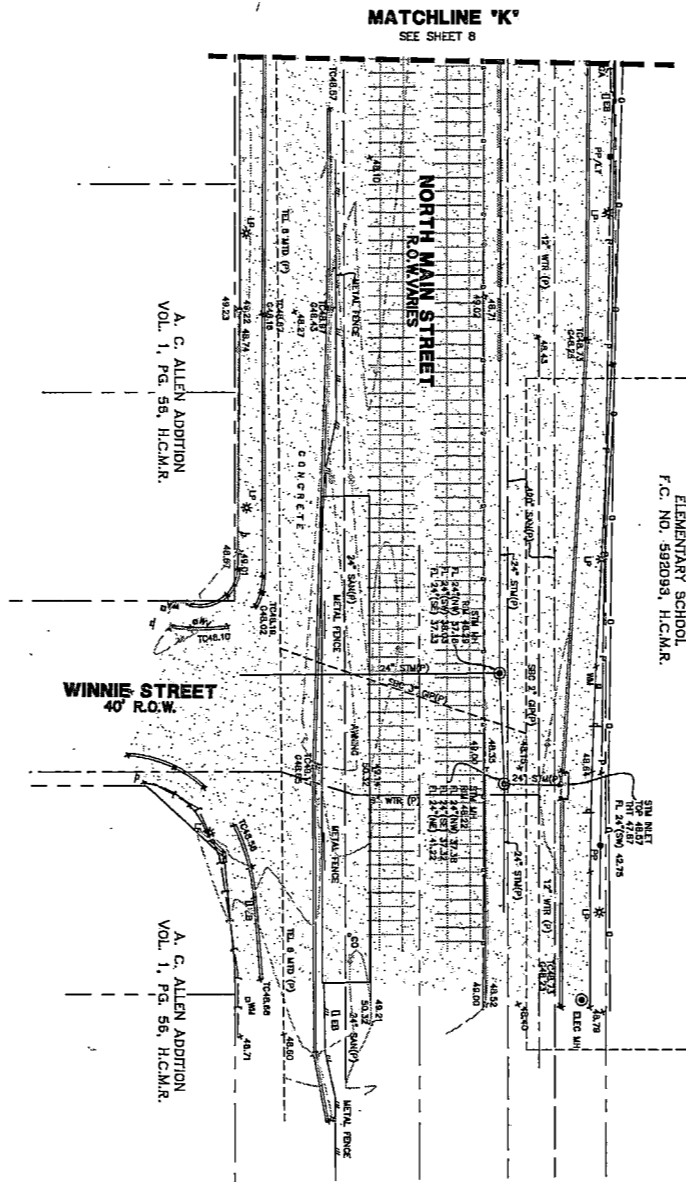
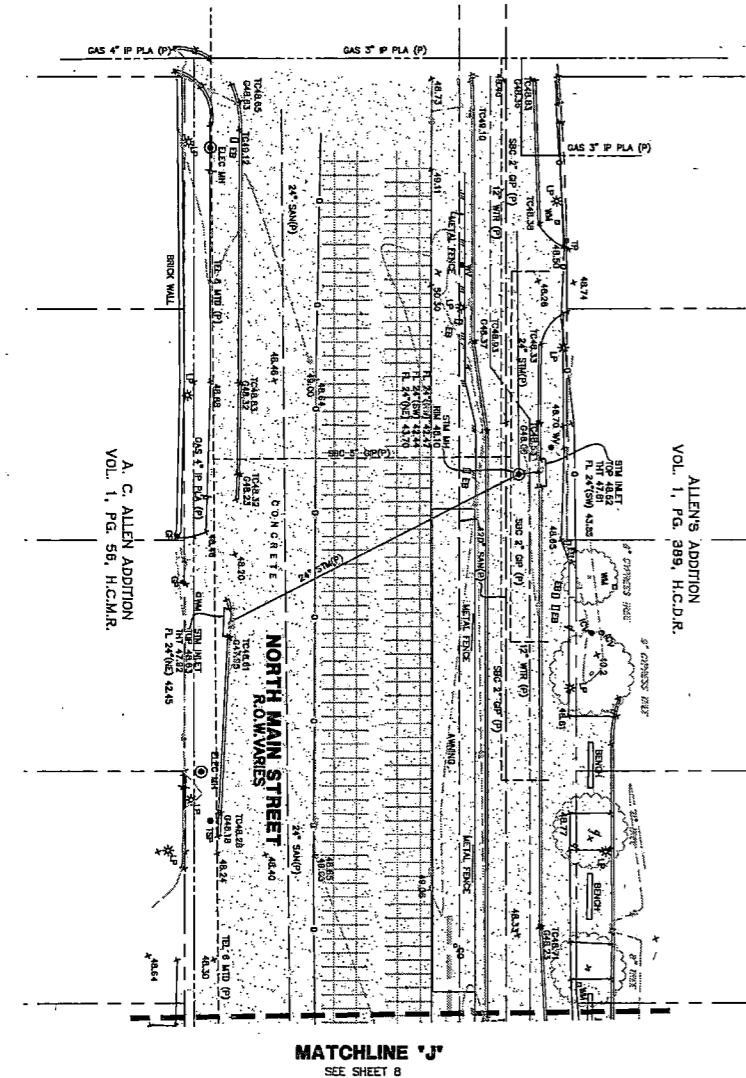
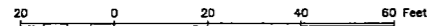


Table with project details: QUITMAN STREET IMPROVEMENTS, SHEET DESCRIPTION, DRAWN BY, DATE, CR'D BY, SCALE, SHEET NO.



**NORTH**

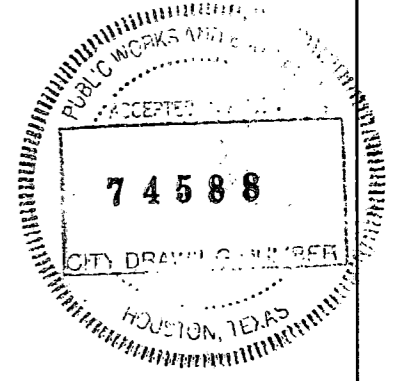
GRAPHIC SCALE: 1" = 20'



**LEGEND**


\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

BO - BOLLARD	PP - POWER POLE	UCS - UNDERGROUND CABLE SIGN	FND - FOUND
CH - HANDICAP	PP/T - POWER POLE W/TRANSFORMER	CTL - CATHODIC TEST LEAD	H.C.C.F. - HARRIS COUNTY CLERK FILE
GM - GAS METER	PP/LT - POWER POLE W/LIGHT	JMW - MONITORING WELL	H.C.D.R. - HARRIS COUNTY DEED RECORDS
GV - GAS VALVE	PP/CT - POWER POLE W/CONDUIT	P - PIN FLAG/PAINT MARK	H.C.M.R. - HARRIS COUNTY MAP RECORDS
PH - FIRE HYDRANT	MP - METER POLE	TC - TOP OF CURB	IP - IRON PIPE
WM - WATER METER	SP - SERVICE POLE	G - GUTTER	IR - IRON ROD
WV - WATER VALVE	GAC - GUY ANCHOR	TO - TOP OF GRADE	NO - NUMBER
ICV - IRRIGATION CONTROL VALVE	OP - OVERHEAD POWER LINE	FL - FLOW LINE	PG - PAGE
GI - GRATE INLET	BWF - BARBED WIRE FENCE	HB - HIGHBANK	R.O.W. - RIGHT-OF-WAY
GR - GRATE INLET	WIF - WROUGHT IRON FENCE	SS - SANITARY SEWER	SQ. FT. - SQUARE FEET
M - MANHOLE	WF - WOOD FENCE	STM - STORM SEWER	VOL. - VOLUME
CH - CLEANHOLE	CF - CHAINLINK FENCE	OMP - CORRUGATED METAL PIPE	F.C. - FILM CODE
TP - TELEPHONE PEDESTAL	GP - GATE POST	CPP - CORRUGATED PLASTIC PIPE	B.L. - BUILDING LINE
EB - ELECTRIC BOX	P - PER PLANS	RCP - REINFORCED CONCRETE PIPE	U.E. - UTILITY EASEMENT
TSCB - TRAFFIC SIGNAL BOX	APPROX - APPROXIMATE	TSL - TELEPHONE	TR - TREE/SHRUB
LP - LIGHT POLE	HB - HIGHBANK	SWBT - SOUTHWESTERN BELL TELEPHONE CO.	M - SANITARY MANHOLE INTERCEPTOR
TLP - TRAFFIC LIGHT POLE	S - SIGN	WR - WATER	
GL - GROUND/SPOT LIGHT	PLM - PIPELINE MARKER	UC - UNDERGROUND	
MB - MAIL BOX	TSP - TRAFFIC SIGNAL POLE	ER - ELECTRICAL RACK	
WR - WATER RISER	GR - GUARD RAIL	EC - ELECTRICAL CABINET	
FDC - FIRE DEPARTMENT CONNECTION			
TB - TELEPHONE BOX			



NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

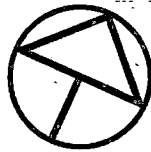
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**WINDROSE**  
LAND SURVEYING & PLATTING  
11111 BECHTOLD AVE. SUITE 101 | HOUSTON, TX 77060 | 713.458.2251  
HARRIS COUNTY REGISTRATION NO. 10108000 | WINDROSESERVICES.COM

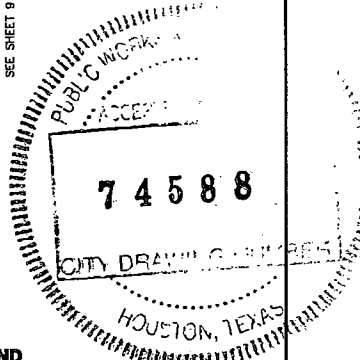
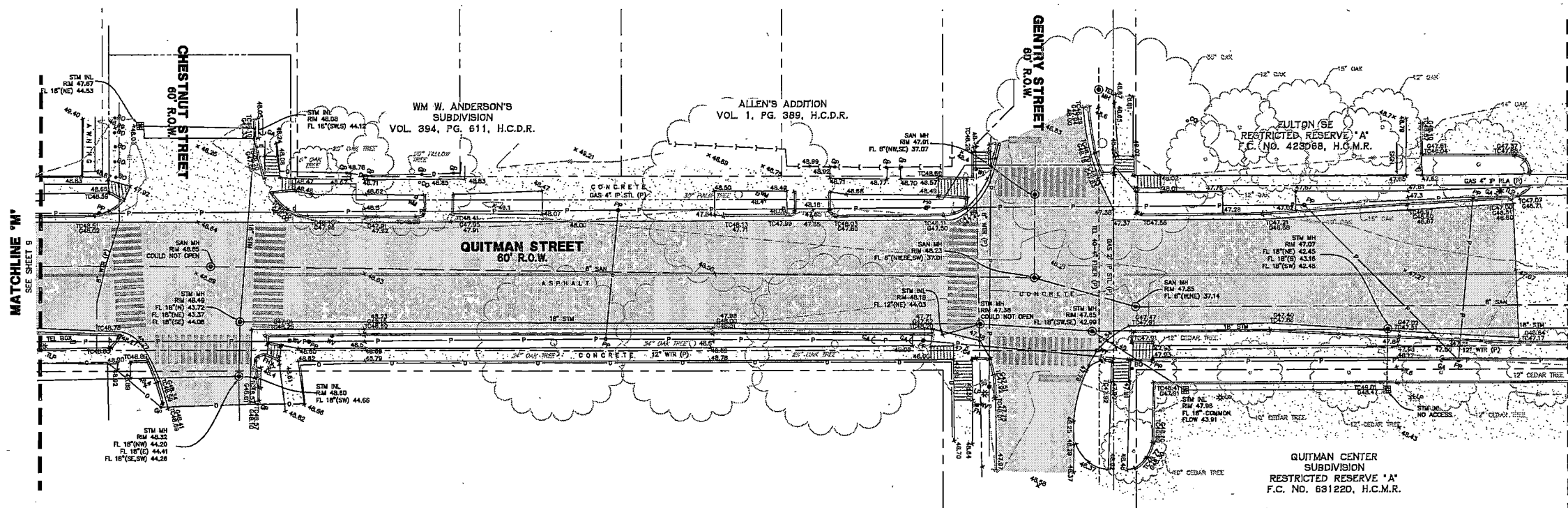
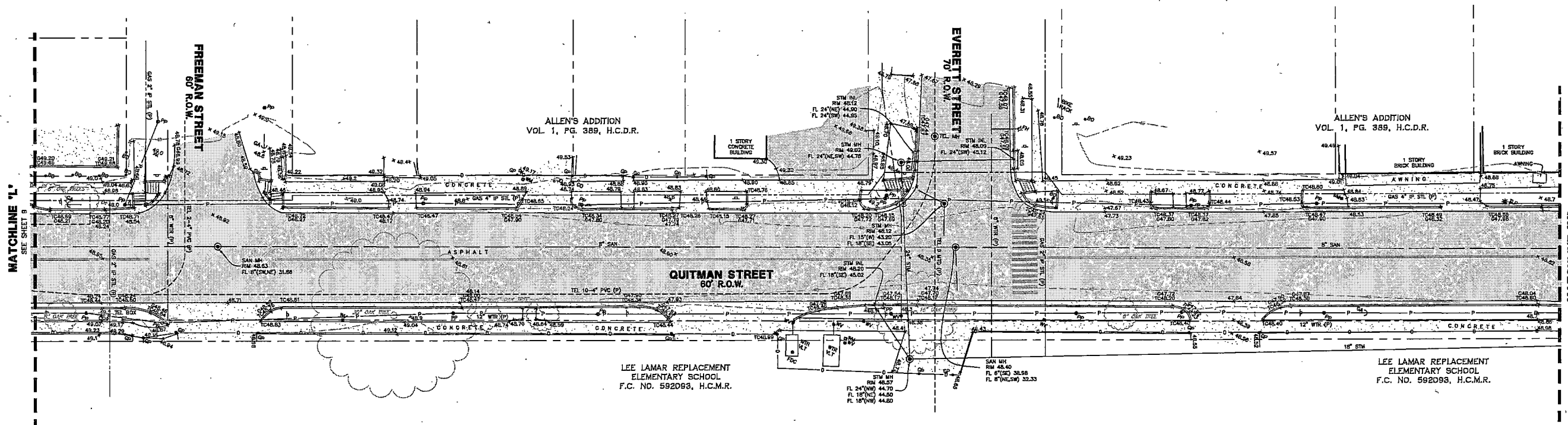
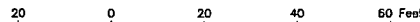


QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SCALE: 1"=20'
	SHEET NO: 239 /



NORTH

GRAPHIC SCALE: 1" = 20'



LEGEND

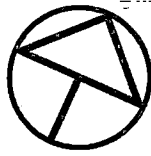
- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- BOLLARD
- HANDICAP
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- GRATE INLET
- GRATE INLET
- MANHOLE
- CLEANOUT
- TELEPHONE PEDESTAL
- ELECTRIC BOX
- TRAFFIC SIGNAL BOX
- LIGHT POLE
- TRAFFIC LIGHT POLE
- GROUND/SPDT LIGHT
- POWER POLE
- POWER POLE W/TRANSFORMER
- POWER POLE W/LIGHT
- POWER POLE W/CONDUIT
- METER POLE
- SERVICE POLE
- CITY ANCHOR
- OVERHEAD POWER LINE
- BARBED WIRE FENCE
- WROUGHT IRON FENCE
- WOOD FENCE
- CHAINLINK FENCE
- GATE POST
- PER PLANS
- APPROXIMATE
- HIGHBANK
- SIGN
- MAIL BOX
- WATER RISER
- FIRE DEPARTMENT CONNECTION
- TELEPHONE BOX
- SANITARY MANHOLE INTERCEPTOR
- PIPELINE MARKER
- UNDERGROUND CABLE SIGN
- CATHODIC TEST LEAD
- MONITORING WELL
- PIN FLAG/PAINT MARK
- TOP OF CURB
- GUTTER
- TOP OF GRATE
- FLOW LINE
- HIGHBANK
- SANITARY SEWER
- STORM SEWER
- CORRUGATED METAL PIPE
- CORRUGATED PLASTIC PIPE
- REINFORCED CONCRETE PIPE
- TELEPHONE
- SOUTHWESTERN BELL TELEPHONE CO.
- WATER
- UNDERGROUND
- FOUND
- HARRIS COUNTY CLERK FILE
- HARRIS COUNTY DEED RECORDS
- HARRIS COUNTY MAP RECORDS
- IRON PIPE
- IRON ROD
- NUMBER
- PAGE
- RIGHT-OF-WAY
- SQUARE FEET
- VOLUME
- FILM CODE
- BUILDING LINE
- UTILITY EASEMENT
- TREE/SHRUB
- PIPELINE MARKER
- TRAFFIC SIGNAL POLE
- GUARD RAIL
- UNDERGROUND
- ELECTRIC RACK
- ELECTRICAL CABINET

NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

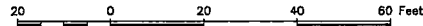
WINDROSE  
LAND SURVEYING & PLATTING  
11111 RICHMOND AVE. STE 101 | HOUSTON, TX 77066 | 713.468.2071  
FLW REGISTRATION NO. 10104000 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 240
SCALE: 1"=20'	

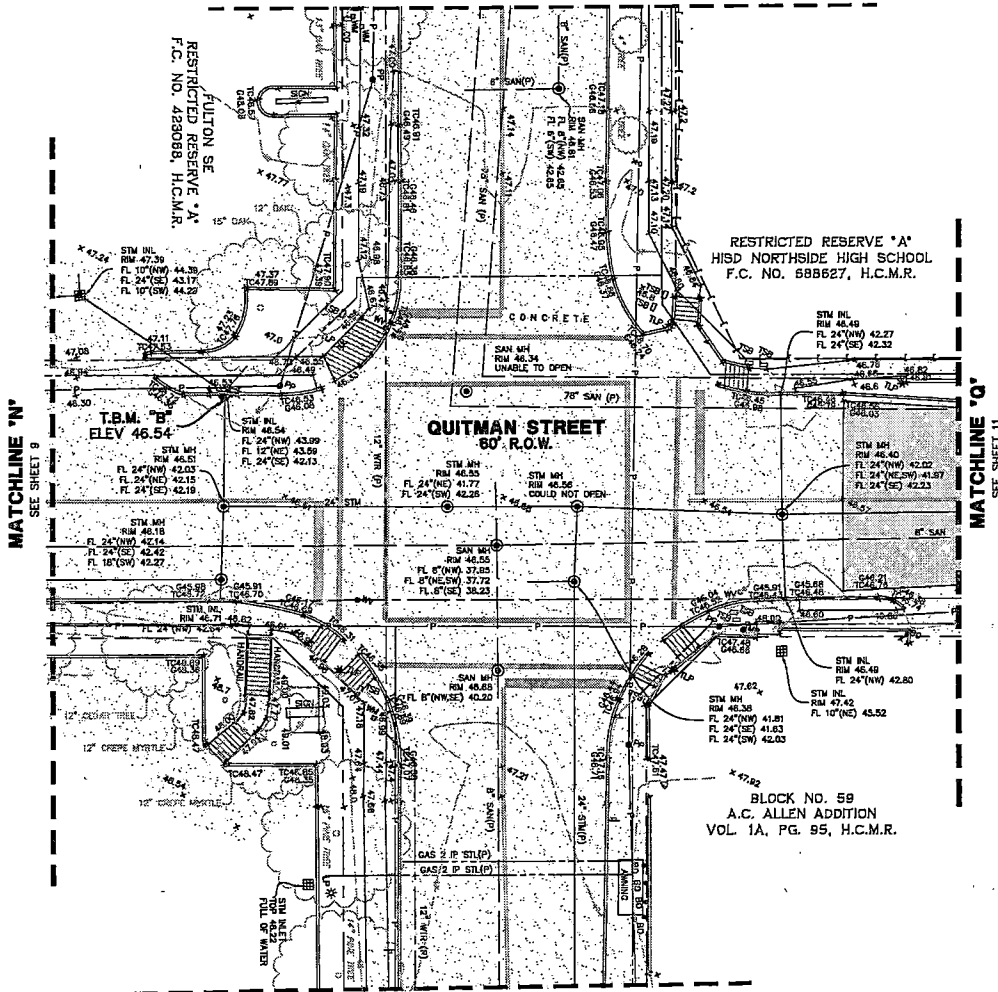


NORTH

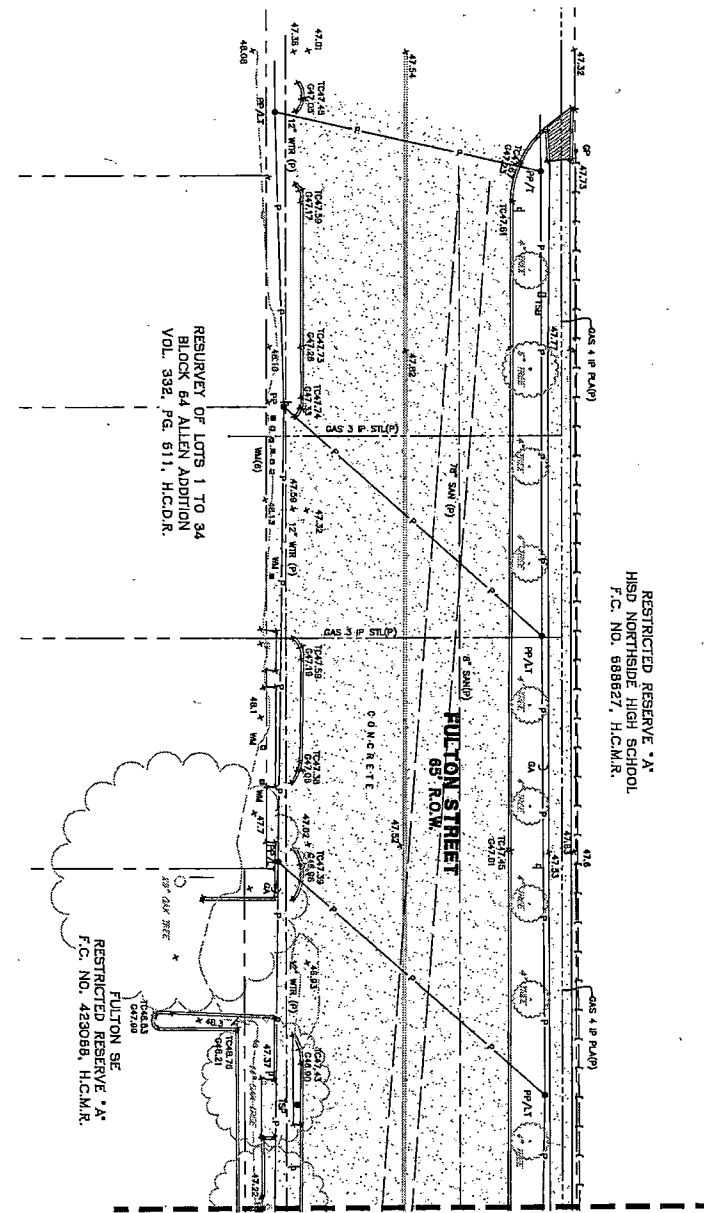
GRAPHIC SCALE: 1" = 20'



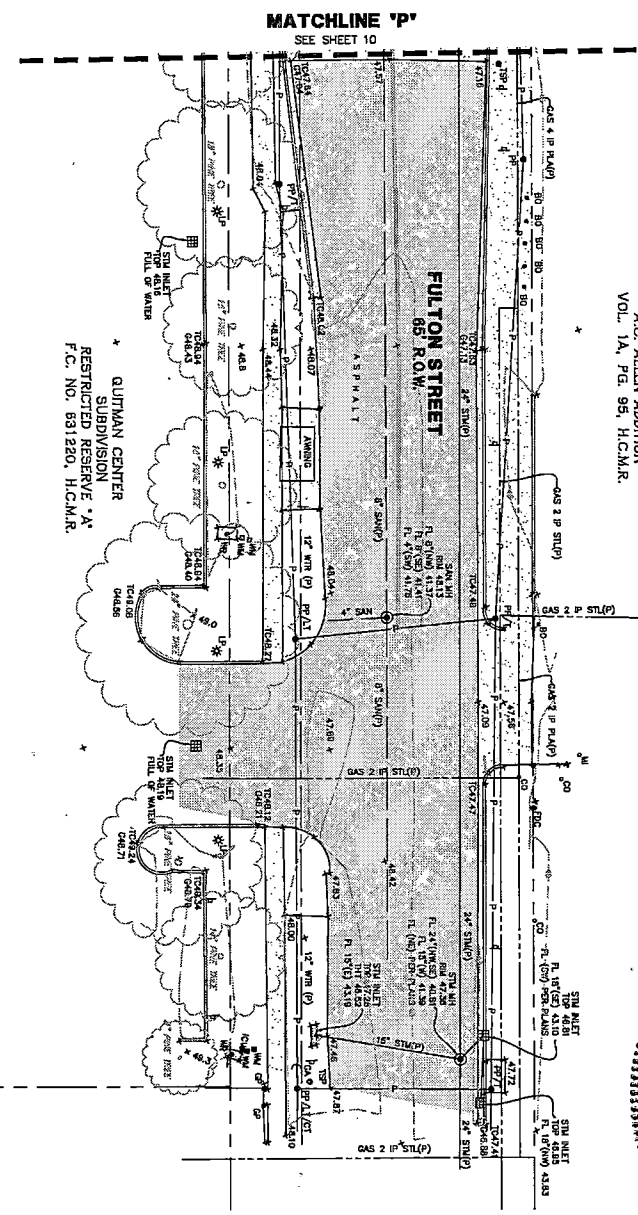
MATCHLINE 'O'  
SEE SHEET 10



MATCHLINE 'P'  
SEE SHEET 10



MATCHLINE 'O'  
SEE SHEET 10



BLOCK NO. 59  
A.C. ALLEN ADDITION  
VOL. 1A, PG. 59, H.C.M.R.



LEGEND

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- |                                 |                                 |                                       |                                       |
|---------------------------------|---------------------------------|---------------------------------------|---------------------------------------|
| BO - BOLLARD                    | PP - POWER POLE                 | UCS - UNDERGROUND CABLE SIGN          | FD - FOUND                            |
| HC - HANDICAP                   | PP/T - POWER POLE W/TRANSFORMER | UTL - CATHODIC TEST LEAD              | H.C.C.F. - HARRIS COUNTY CLERK FILE   |
| GM - GAS METER                  | PP/AT - POWER POLE W/LIGHT      | MON - MONITORING WELL                 | H.C.D.R. - HARRIS COUNTY DEED RECORDS |
| GV - GAS VALVE                  | PP/CT - POWER POLE W/CONDUIT    | F - FIN FLAG/PAINT MARK               | H.C.M.R. - HARRIS COUNTY MAP RECORDS  |
| HY - FIRE HYDRANT               | MP - METER POLE                 | TD - TOP OF CURB                      | IP - IRON PIPE                        |
| WM - WATER METER                | SP - SERVICE POLE               | G - GUTTER                            | R - IRON ROD                          |
| WV - WATER VALVE                | CA - GUY ANCHOR                 | TG - TOP OF GRATE                     | N - NUMBER                            |
| ICV - IRRIGATION CONTROL VALVE  | OP - OVERHEAD POWER LINE        | FL - FLOW LINE                        | FL - PAGE                             |
| GI - GRATE INLET                | BWF - BARBED WIRE FENCE         | HB - HIGHBANK                         | ROW - RIGHT-OF-WAY                    |
| GR - GRATE POLET                | WIF - WROUGHT IRON FENCE        | SAN - SANITARY SEWER                  | SQ. FT. - SQUARE FEET                 |
| M - MANHOLE                     | WF - WOOD FENCE                 | STM - STORM SEWER                     | VOL. - VOLUME                         |
| CO - CLEANOUT                   | CF - CHAINLINK FENCE            | CMP - CORRUGATED METAL PIPE           | F.C. - FILM CODE                      |
| TP - TELEPHONE PEDESTAL         | GP - GATE POST                  | CPP - CORRUGATED PLASTIC PIPE         | B.L. - BUILDING LINE                  |
| EB - ELECTRIC BOX               | P - PER PLANS                   | RCPP - REINFORCED CONCRETE PIPE       | U.E. - UTILITY EASEMENT               |
| TBS - TRAFFIC SIGNAL BOX        | APPROX. - APPROXIMATE           | TDL - TELEPHONE                       | T/S - TREE/SHRUB                      |
| LP - LIGHT POLE                 | H - HIGHBANK                    | SWT - SOUTHWESTERN BELL TELEPHONE CO. | M - SANITARY MANHOLE INTERCEPTOR      |
| TLP - TRAFFIC LIGHT POLE        | S - SIGN                        | WTR - WATER                           |                                       |
| GL - GROUND/SPOT LIGHT          | PM - PIPELINE MARKER            | UG - UNDERGROUND                      |                                       |
| MB - MAIL BOX                   | TR - TRAFFIC SIGNAL POLE        | ER - ELECTRICAL RACK                  |                                       |
| WR - WATER RISER                | CR - GUARD RAIL                 | EC - ELECTRICAL CABINET               |                                       |
| DC - FIRE DEPARTMENT CONNECTION |                                 |                                       |                                       |
| TB - TELEPHONE BOX              |                                 |                                       |                                       |

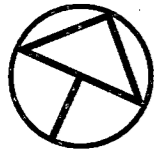
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

WINDROSE  
LAND SURVEYING & PLATTING

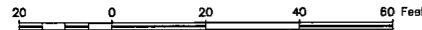
11111 RICHMOND AVE. STE 150 | HOUSTON, TX 77061 | 713.458.2211  
FLAK REGISTRATION NO. 1010880 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 241
SCALE: 1"=20'	



**NORTH**

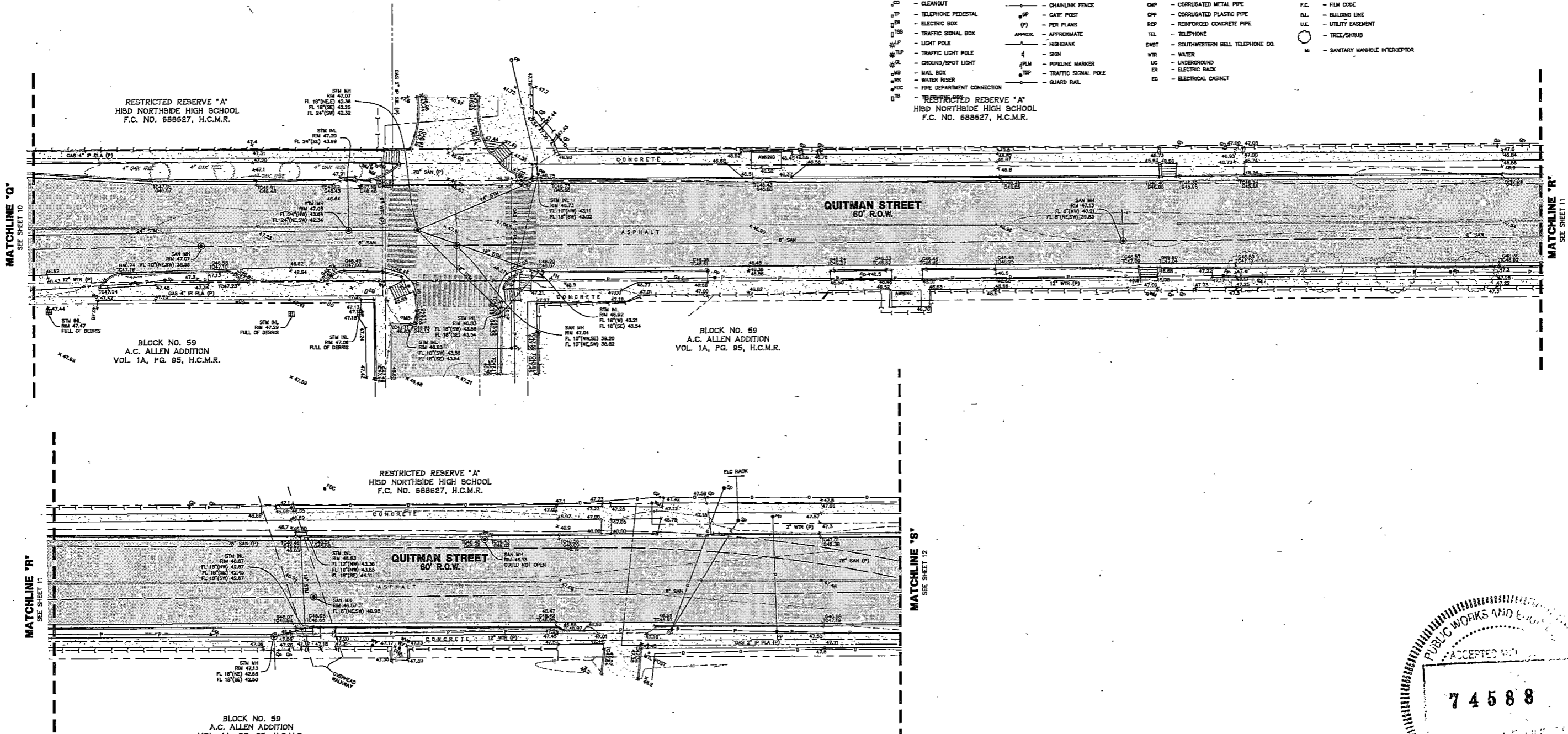
GRAPHIC SCALE: 1" = 20'



**LEGEND**

- BOLLARD
- HANDICAP
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- GRATE INLET
- GRATE INLET
- MANHOLE
- CLEANOUT
- TELEPHONE PEDESTAL
- ELECTRIC BOX
- TRAFFIC SIGNAL BOX
- LIGHT POLE
- TRAFFIC LIGHT POLE
- GROUND/SPOT LIGHT
- MAIL BOX
- WATER RISER
- FIRE DEPARTMENT CONNECTION
- POWER POLE
- POWER POLE W/TRANSFORMER
- POWER POLE W/LIGHT
- POWER POLE W/CONDUIT
- METER POLE
- SERVICE POLE
- GUY ANCHOR
- OVERHEAD POWER LINE
- BARBED WIRE FENCE
- WROUGHT IRON FENCE
- WOOD FENCE
- CHAINLINK FENCE
- GATE POST
- PER PLANS
- APPROXIMATE
- HIGHBANK
- SIGN
- PIPELINE MARKER
- TRAFFIC SIGNAL POLE
- GUARD RAIL
- UNDERGROUND CABLE SIGN
- CATHODIC TEST LEAD
- MONITORING WELL
- PIN FLAG/PAINT MARK
- TOP OF CURB
- GUTTER
- TOP OF GRATE
- FLOW LINE
- HIGHBANK
- SANITARY SEWER
- STORM SEWER
- CORRUGATED METAL PIPE
- CORRUGATED PLASTIC PIPE
- REINFORCED CONCRETE PIPE
- TELEPHONE
- SOUTHWESTERN BELL TELEPHONE CO.
- WATER
- UNDERGROUND
- ELECTRIC RACK
- ELECTRICAL CABINET
- FOUND
- H.C.C.F. - HARRIS COUNTY CLERK FILE
- H.C.D.R. - HARRIS COUNTY DEED RECORDS
- H.C.M.A. - HARRIS COUNTY MAP RECORDS
- IRON PIPE
- IRON ROD
- NUMBER
- PAGE
- RIGHT-OF-WAY
- SQUARE FEET
- VOLUME
- FILM CODE
- BUILDING LINE
- UTILITY EASEMENT
- TREE/SHRUB
- SANITARY MANHOLE INTERCEPTOR

RESTRICTED RESERVE "A"  
HISD NORTHSIDE HIGH SCHOOL  
F.C. NO. 688627, H.C.M.R.



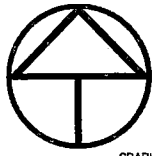
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



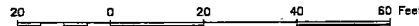
**WINDROSE**  
LAND SURVEYING I PLATING  
11111 BUCHHEIM AVE, STE 100 | HOUSTON, TX 77060 | 713.458.2281  
TJRW REGISTRATION NO. 101088001 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS			
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET			
DRAWN BY:	AT	DATE:	03-11-2021
CK'D BY:	TW	SCALE:	1"=20'
			SHEET NO.: 242



**NORTH**

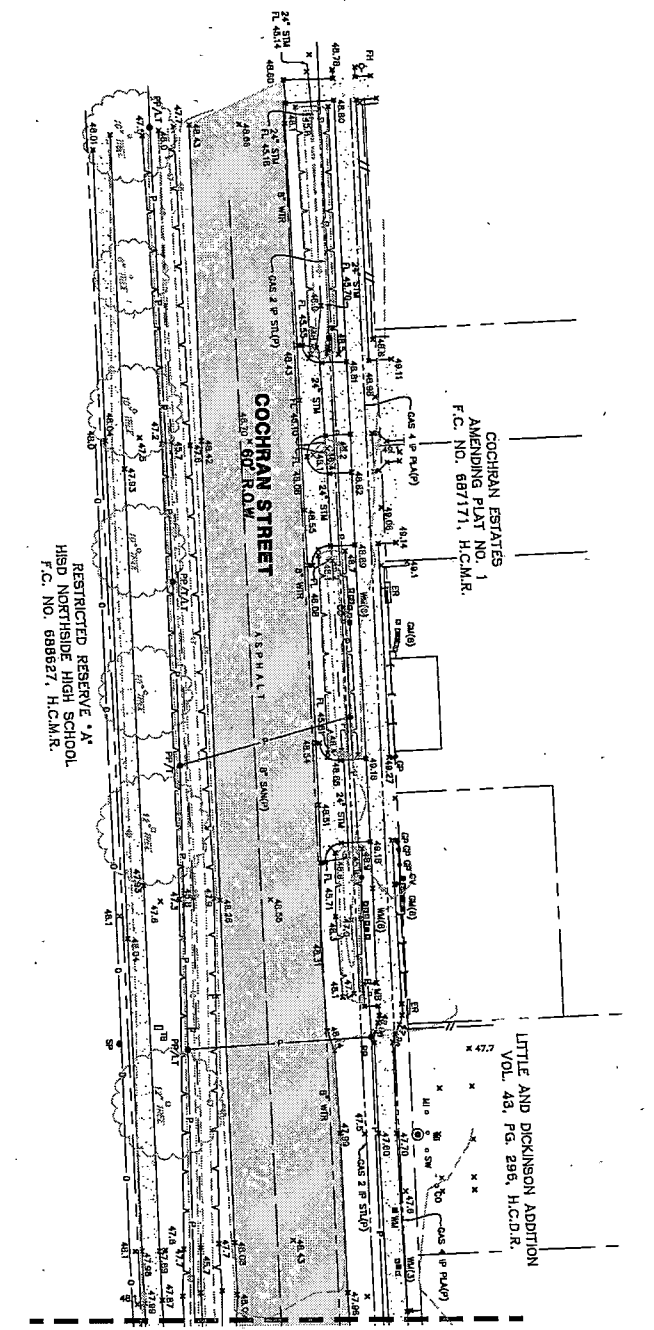
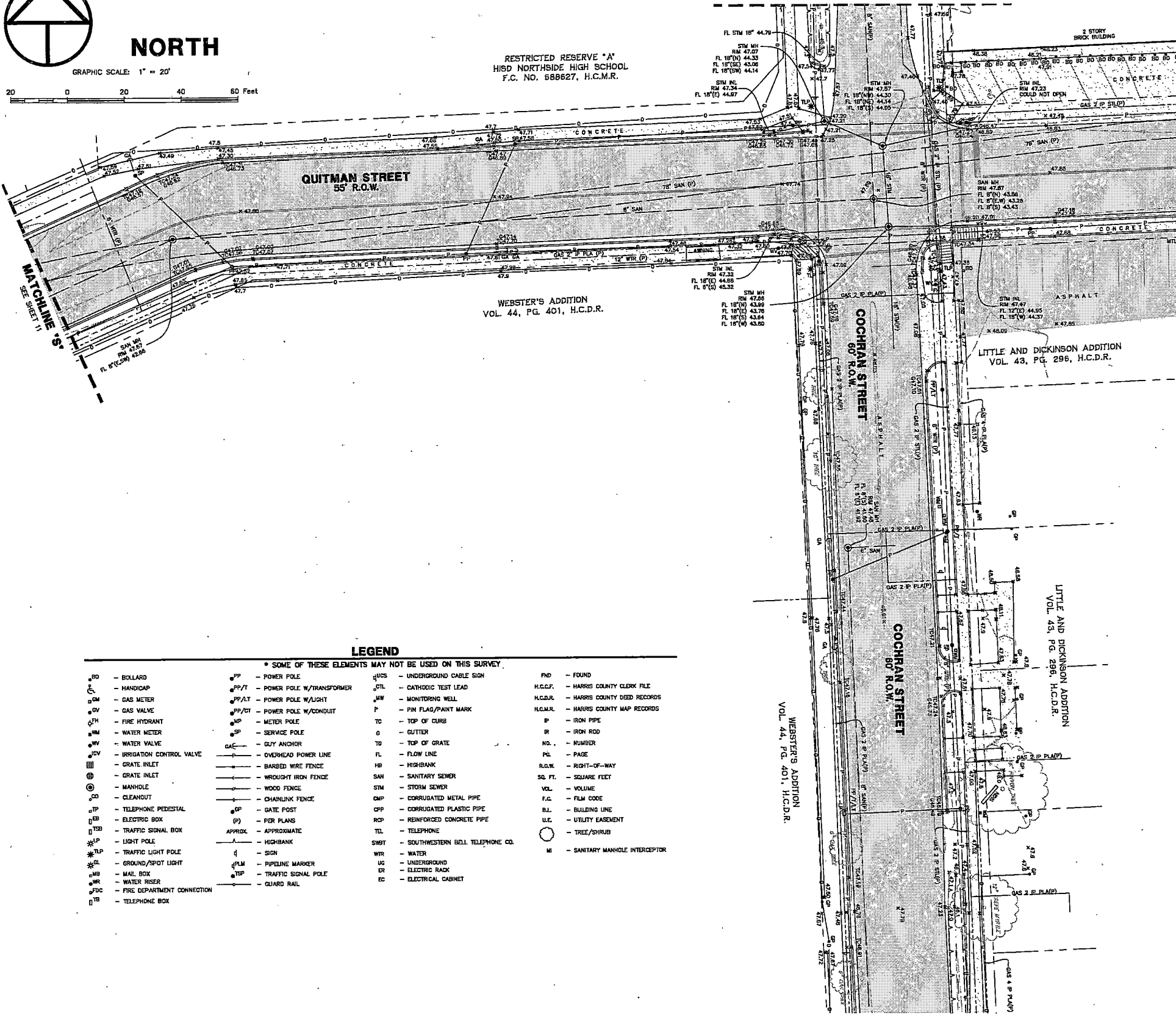
GRAPHIC SCALE: 1" = 20'



MATCHLINE "T"  
SEE SHEET 12

MATCHLINE "S"  
SEE SHEET 11

MATCHLINE "U"  
SEE SHEET 13



MATCHLINE "T"  
SEE SHEET 12

**LEGEND**

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY.
- |                                  |                                 |  |                                       |
|----------------------------------|---------------------------------|--|---------------------------------------|
| BO - BOLLARD                     | PP - POWER POLE                 | UCS - UNDERGROUND CABLE SIGN           | FO - FOUND                            |
| HA - HANDICAP                    | PP/T - POWER POLE W/TRANSFORMER | UTL - CATHODIC TEST LEAD               | H.C.C.F. - HARRIS COUNTY CLERK FILE   |
| GM - GAS METER                   | PP/LT - POWER POLE W/LIGHT      | MW - MONITORING WELL                   | H.C.D.R. - HARRIS COUNTY DEED RECORDS |
| GV - GAS VALVE                   | PP/CT - POWER POLE W/CONDUIT    | P - PIN FLAG/PAINT MARK                | H.C.M.R. - HARRIS COUNTY MAP RECORDS  |
| FH - FIRE HYDRANT                | MP - METER POLE                 | TC - TOP OF CURB                       | IP - IRON PIPE                        |
| WM - WATER METER                 | SP - SERVICE POLE               | G - GUTTER                             | IR - IRON ROD                         |
| WV - WATER VALVE                 | GA - GUY ANCHOR                 | TO - TOP OF GRATE                      | NO. - NUMBER                          |
| ICV - IRRIGATION CONTROL VALVE   | OP - OVERHEAD POWER LINE        | FL - FLOW LINE                         | PG. - PAGE                            |
| GI - GRATE INLET                 | BWF - BARBED WIRE FENCE         | HB - HIGHBANK                          | R.O.W. - RIGHT-OF-WAY                 |
| MI - MANHOLE                     | WIF - WROUGHT IRON FENCE        | SAN - SANITARY SEWER                   | SQ. FT. - SQUARE FEET                 |
| CL - CLEANOUT                    | WF - WOOD FENCE                 | STM - STORM SEWER                      | VDL - VOLUME                          |
| TP - TELEPHONE PEDESTAL          | CF - CHAINLINK FENCE            | CMP - CORRUGATED METAL PIPE            | F.C. - FILM CODE                      |
| EB - ELECTRIC BOX                | GP - GATE POST                  | CPF - CORRUGATED PLASTIC PIPE          | BL - BUILDING LINE                    |
| TSB - TRAFFIC SIGNAL BOX         | P - PER PLANS                   | RCP - REINFORCED CONCRETE PIPE         | ULC - UTILITY EASMENT                 |
| LP - LIGHT POLE                  | APPROX - APPROXIMATE            | TEL - TELEPHONE                        | T - TREE/SHRUB                        |
| TLP - TRAFFIC LIGHT POLE         | H - HIGHBANK                    | SWBT - SOUTHWESTERN BELL TELEPHONE CO. | M - SANITARY MANHOLE INTERCEPTOR      |
| GL - GROUND/SPOT LIGHT           | S - SIGN                        | WR - WATER                             |                                       |
| MB - MAIL BOX                    | PLM - PIPELINE MARKER           | UG - UNDERGROUND                       |                                       |
| WR - WATER RISER                 | TSP - TRAFFIC SIGNAL POLE       | EN - ELECTRIC RACK                     |                                       |
| FDC - FIRE DEPARTMENT CONNECTION | CR - GUARD RAIL                 | EC - ELECTRICAL CABINET                |                                       |
| TEB - TELEPHONE BOX              |                                 |  |                                       |

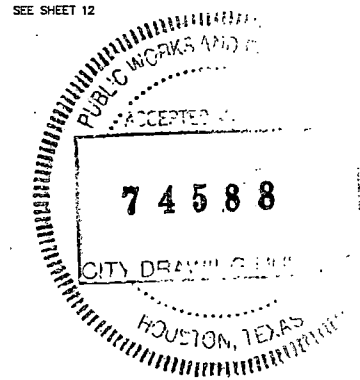
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			

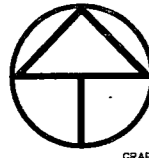
**HARRIS COUNTY  
ENGINEERING DEPARTMENT**

**WINDROSE**  
LAND SURVEYING I PLATING

11111 RICHMOND AVE. STE 150 | HOUSTON, TX 77062 | 713.458.2291  
FIRM REGISTRATION NO. 101086000 | WINDROSESERVICES.COM

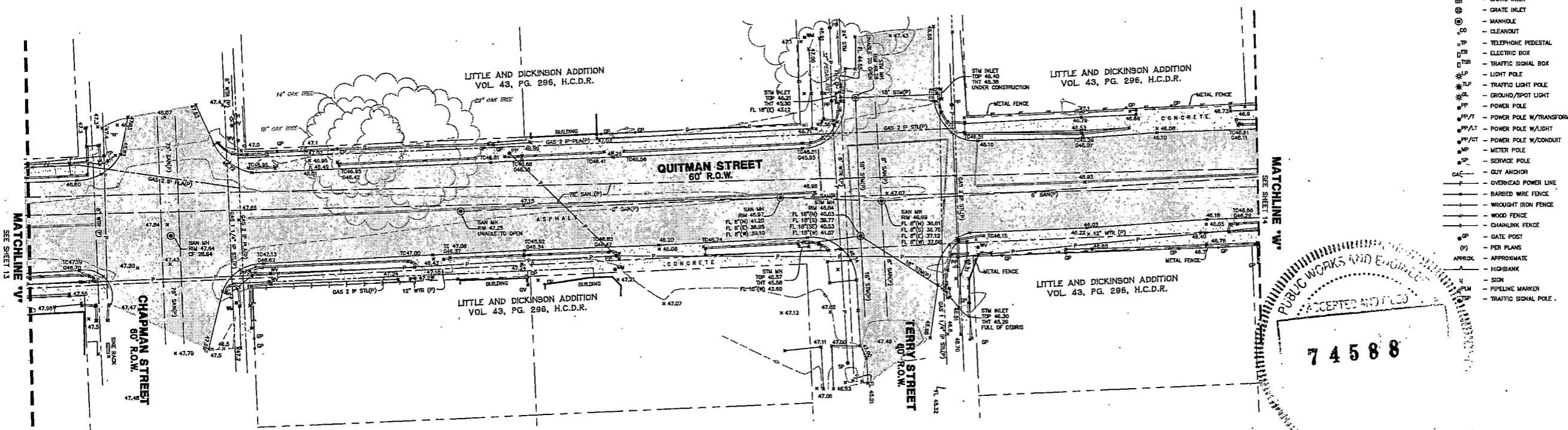
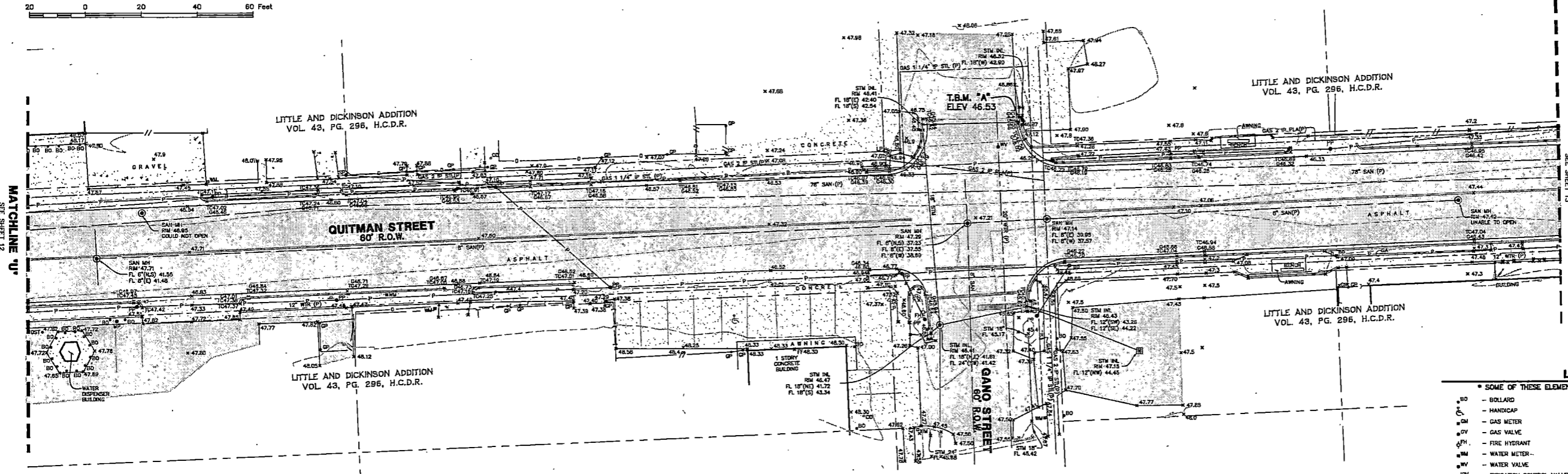
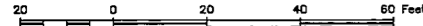
QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CHK'D BY: TW	SHEET NO: 243 /





NORTH

GRAPHIC SCALE: 1" = 20'



LEGEND

- \* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY
- BOLLARD
- HANDICAP
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- GRATE INLET
- GRATE INLET
- MANHOLE
- CLEANOUT
- TELEPHONE PEDESTAL
- ELECTRIC BOX
- TRAFFIC SIGNAL BOX
- LIGHT POLE
- TRAFFIC LIGHT POLE
- GROUND/SPOT LIGHT
- POWER POLE
- POWER POLE W/TRANSFORMER
- POWER POLE W/LIGHT
- POWER POLE W/CONDUIT
- METER POLE
- SERVICE POLE
- CLY ANCHOR
- OVERHEAD POWER LINE
- BARBED WIRE FENCE
- WROUGHT IRON FENCE
- WOOD FENCE
- CHAINLINK FENCE
- GATE POST
- PER PLANS
- APPROXIMATE
- HIGHBANK
- PIPELINE MARKER
- UNDERGROUND CABLE SIGN
- CATHODIC TEST LEAD
- MONITORING WELL
- PIN FLAG/PAINT MARK
- TOP OF CURB
- GUTTER
- TOP OF GRATE
- FLOW LINE
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- CORRUGATED METAL PIPE
- CORRUGATED PLASTIC PIPE
- REINFORCED CONCRETE PIPE
- TELEPHONE
- SOUTHWESTERN BELL TELEPHONE CO.
- WATER
- UNDERGROUND
- FOUND
- HARRIS COUNTY CLERK FILE
- HARRIS COUNTY DEED RECORDS
- HARRIS COUNTY MAP RECORDS
- IRON PIPE
- IRON ROD
- NUMBER
- PAVE
- RIGHT-OF-WAY
- CHAINLINK FENCE
- VOLUME
- FILM CODE
- BUILDING LINE
- UTILITY EASEMENT
- TREE/SHRUB
- MAIL BOX
- WATER RISER
- FIRE DEPARTMENT CONNECTION
- TELEPHONE BOX
- ELECTRIC RACK
- GUARD RAIL
- ELECTRICAL CABINET
- SANITARY MANHOLE INTERCEPTOR



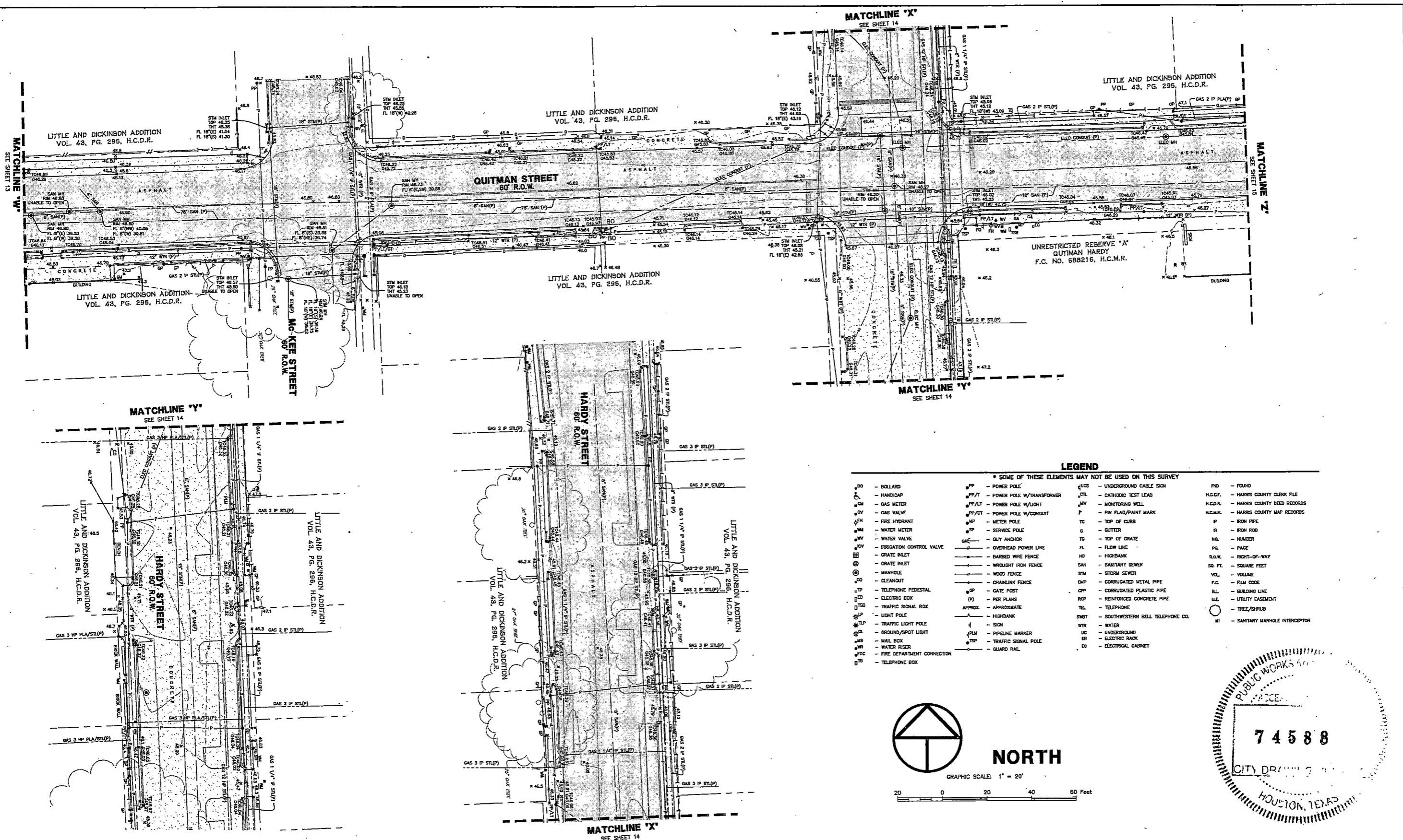
NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

WINDROSE  
LAND SURVEYING & PLATTING

11111 RICHMOND AVE. STE 100 | HOUSTON, TX 77062 | 713.688.2291  
FLM REGISTRATION NO. 101066001 | WINDROSEENGINEERING.COM

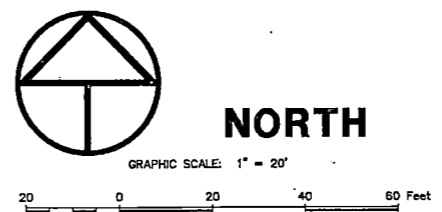
QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 244
SCALE: 1"=20'	



**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

<ul style="list-style-type: none"> <li>⊙ - BOLLARD</li> <li>⊙ - HANDICAP</li> <li>⊙ - GAS METER</li> <li>⊙ - GAS VALVE</li> <li>⊙ - FIRE HYDRANT</li> <li>⊙ - WATER METER</li> <li>⊙ - WATER VALVE</li> <li>⊙ - IRRIGATION CONTROL VALVE</li> <li>⊙ - GRATE INLET</li> <li>⊙ - GRATE INLET</li> <li>⊙ - MANHOLE</li> <li>⊙ - CLEANOUT</li> <li>⊙ - TELEPHONE PERESTAL</li> <li>⊙ - ELECTRIC BOX</li> <li>⊙ - TRAFFIC SIGNAL BOX</li> <li>⊙ - LIGHT POLE</li> <li>⊙ - TRAFFIC LIGHT POLE</li> <li>⊙ - GROUND/SPOT LIGHT</li> <li>⊙ - MAIL BOX</li> <li>⊙ - WATER RISER</li> <li>⊙ - FIRE DEPARTMENT CONNECTION</li> <li>⊙ - TELEPHONE BOX</li> </ul>	<ul style="list-style-type: none"> <li>PP - POWER POLE</li> <li>PP/T - POWER POLE W/TRANSFORMER</li> <li>PP/LT - POWER POLE W/LIGHT</li> <li>PP/CT - POWER POLE W/CONDUIT</li> <li>METER - METER</li> <li>SP - SERVICE POLE</li> <li>CLY - CLY ANCHOR</li> <li>OPW - OVERHEAD POWER LINE</li> <li>WFO - WROUGHT IRON FENCE</li> <li>WF - WOOD FENCE</li> <li>CF - CHAINLINK FENCE</li> <li>GP - GATE POST</li> <li>PF - PER PLANS</li> <li>APPROX - APPROXIMATE</li> <li>H/B - HIGHBANK</li> <li>S - SIGN</li> <li>PLM - PIPELINE MARKER</li> <li>TRP - TRAFFIC SIGNAL POLE</li> <li>GR - GUARD RAIL</li> </ul>	<ul style="list-style-type: none"> <li>UCS - UNDERGROUND CABLE SIGN</li> <li>CTL - CATHOOD TEST LEAD</li> <li>MW - MONITORING WELL</li> <li>PF - PIN FLAG/PAIN MARK</li> <li>TC - TOP OF CURB</li> <li>G - GUTTER</li> <li>TG - TOP OF GRATE</li> <li>FL - FLOW LINE</li> <li>HB - HIGHBANK</li> <li>SAN - SANITARY SEWER</li> <li>STM - STORM SEWER</li> <li>CMP - CORRUGATED METAL PIPE</li> <li>CPP - CORRUGATED PLASTIC PIPE</li> <li>RCP - REINFORCED CONCRETE PIPE</li> <li>TEL - TELEPHONE</li> <li>SWT - SOUTHWESTERN BELL TELEPHONE CO.</li> <li>WTR - WATER</li> <li>UG - UNDERGROUND</li> <li>ER - ELECTRIC RACK</li> <li>EC - ELECTRICAL CABINET</li> </ul>	<ul style="list-style-type: none"> <li>FD - FOUND</li> <li>H.C.C.F. - HARRIS COUNTY CLERK FILE</li> <li>H.C.D.R. - HARRIS COUNTY DEED RECORDS</li> <li>H.C.M.R. - HARRIS COUNTY MAP RECORDS</li> <li>P - IRON PIPE</li> <li>R - IRON ROD</li> <li>NO. - NUMBER</li> <li>PG. - PAGE</li> <li>R.O.W. - RIGHT-OF-WAY</li> <li>SG. FT. - SQUARE FEET</li> <li>VEL. - VOLUME</li> <li>F.C. - FILM CODE</li> <li>BL. - BUILDING LINE</li> <li>UL. - UTILITY EASEMENT</li> <li>○ - TREE/SHRUB</li> <li>MI - SANITARY MANHOLE INTERCEPTOR</li> </ul>
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NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

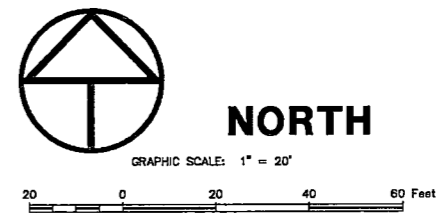
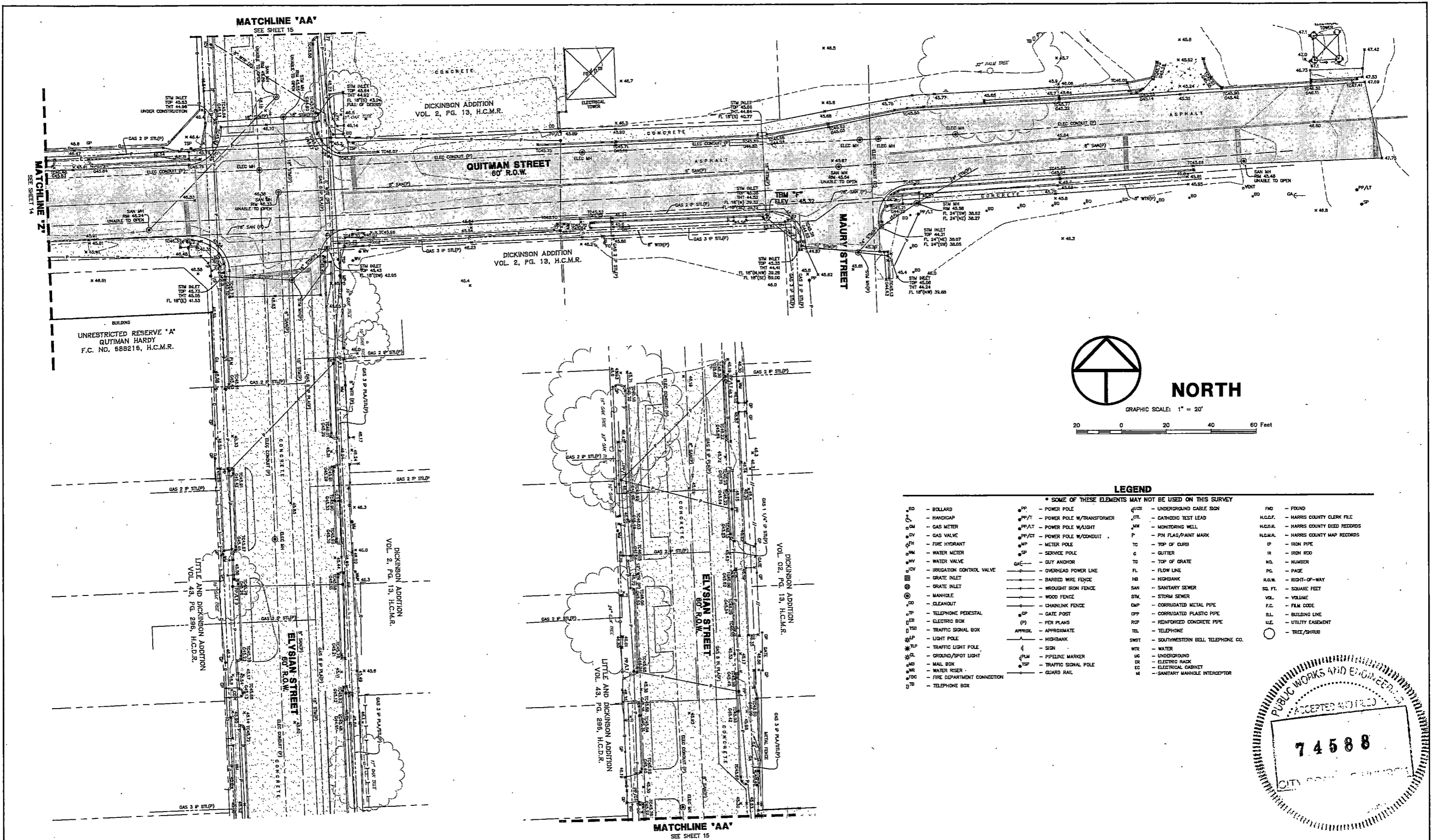
**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**

**WINDROSE**  
LAND SURVEYING I PLATTING

11111 RICHMOND AVE. STE 150 | HOUSTON, TX 77062 | 713.455.2281  
FIRM REGISTRATION NO. 101050000 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 245 /
SCALE: 1"=20'	





**LEGEND**

\* SOME OF THESE ELEMENTS MAY NOT BE USED ON THIS SURVEY

BO - BOLLARD	PP - POWER POLE	UCS - UNDERGROUND CABLE SIGN	FO - FOUND
HA - HANDICAP	PP/T - POWER POLE W/TRANSFORMER	CTL - CATHODIC TEST LEAD	H.C.C.F. - HARRIS COUNTY CLERK FILE
GM - GAS METER	PP/LT - POWER POLE W/LIGHT	MW - MONITORING WELL	H.C.D.R. - HARRIS COUNTY DEED RECORDS
GV - GAS VALVE	PP/CT - POWER POLE W/CONDUIT	PM - PIN FLAG/PAIN MARK	H.C.M.R. - HARRIS COUNTY MAP RECORDS
FH - FIRE HYDRANT	MP - METER POLE	TC - TOP OF CURB	IP - IRON PIPE
WM - WATER METER	SP - SERVICE POLE	G - GUTTER	IR - IRON ROD
WV - WATER VALVE	GA - GUY ANCHOR	TO - TOP OF GRATE	NO - NUMBER
ICV - IRRIGATION CONTROL VALVE	OL - OVERHEAD POWER LINE	FL - FLOW LINE	PG - PAGE
GI - GRATE INLET	BWF - BARBED WIRE FENCE	HB - HIGHBANK	R.O.W. - RIGHT-OF-WAY
GR - GRATE INLET	WIF - WROUGHT IRON FENCE	SAN - SANITARY SEWER	SQ. FT. - SQUARE FEET
MH - MANHOLE	WF - WOOD FENCE	STM - STORM SEWER	VOL. - VOLUME
CL - CLEANOUT	CF - CHAINLINK FENCE	CMP - CORRUGATED METAL PIPE	F.C. - FILM CODE
TP - TELEPHONE PEDestal	GP - GATE POST	CPP - CORRUGATED PLASTIC PIPE	BL - BUILDING LINE
EB - ELECTRIC BOX	P - PER PLANS	RCP - REINFORCED CONCRETE PIPE	UL - UTILITY EASEMENT
TSB - TRAFFIC SIGNAL BOX	APPROX - APPROXIMATE	TEL - TELEPHONE	○ - TREE/SHRUB
TL - LIGHT POLE	H - HIGHBANK	SMT - SOUTHWESTERN BELL TELEPHONE CO.	
TLP - TRAFFIC LIGHT POLE	S - SIGN	WTR - WATER	
GL - GROUND/SPOT LIGHT	PM - PIPELINE MARKER	UC - UNDERGROUND	
MB - MAIL BOX	TR - TRAFFIC SIGNAL POLE	ER - ELECTRIC RACK	
WR - WATER RISER	G - GUARD RAIL	EC - ELECTRICAL CABINET	
FD - FIRE DEPARTMENT CONNECTION		M - SANITARY MANHOLE INTERCEPTOR	
TB - TELEPHONE BOX			



NO.	REVISIONS	DATE	NAME
1	ADDITIONAL TREES	05-20-2021	AT
2	ADDITIONAL TOPO	01-14-2022	AT
3			
4			
5			

**HARRIS COUNTY**  
**ENGINEERING DEPARTMENT**

**WINDROSE**  
LAND SURVEYING | PLATTING

1111 RICHMOND AVE. STE 100 | HOUSTON, TX 77002 | 713.466.2211  
EPA REGISTRATION NO. 10106000 | WINDROSESERVICES.COM

QUITMAN STREET IMPROVEMENTS	
SHEET DESCRIPTION: R.O.W. TOPO OF QUITMAN STREET/WHITE OAK DRIVE BETWEEN MORRISON STREET AND MAURY STREET	
DRAWN BY: AT	DATE: 03-11-2021
CK'D BY: TW	SHEET NO: 246
SCALE: 1"=20'	